

UP **2** DATE

Breaks All Records

WTX – HFDS

The first and only four-edged
solid carbide drilling tool on
the market!

MONSTERMILL

Masters one of the most challenging
areas of machining – nickel-based
alloys

KUB CENTRON

The cost-effective variant for large and
deep holes is now available from stock

TEAM CUTTING TOOLS



KLENK

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

Tooling the Future

www.ceratzit.com

Welcome!



Placing your order is quick and easy

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It couldn't be easier

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On-site technical support

Your Local Technical Sales Engineer

Your customer number



WTX – HFDS

The first four-edged drilling tool
on the market!



The innovative, pyramid geometry of the WTX – HFDS ensures extremely aggressive and precise drilling performance. In this case, the cutting force is distributed to four cutting edges, meaning that longer service lives are possible. The core stability of the drill is retained due to the optimum cooling via four internal spiral coolant holes and makes the drilling process particularly safe and effective.



Further information on the
product can be found on
→ Page **16–19**



Reduce your machining time with **four effective cutting edges!**

The innovative, pyramid point thinning guarantees **ultimate positioning accuracy of ~ 0.03 mm, aggressive drilling performance and excellent centring properties.**

Four chip flutes **ensure secure and quick chip removal.**

Four cutting edges allow for **extremely high feeds.**

Each cutting edge is **optimally cooled** by the four spiral coolant holes. The tool core nonetheless remains very stable.

DRAGONSKIN

DPX14S – Dragonskin coating:

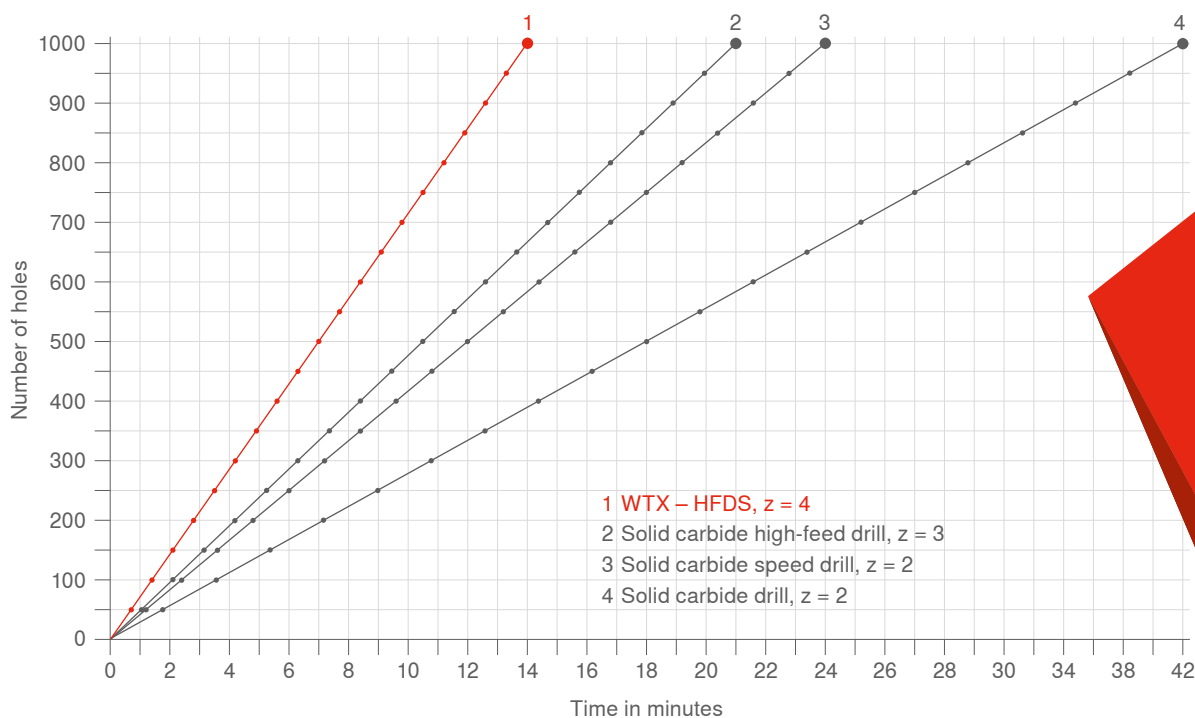
- + TiAlN nanolayer coating
- + Coefficient of friction (dry, against steel) = 0.35
- + Maximum application temperature: 1000 °C

Features

- ▲ The WTX – HFDS achieves new levels of drilling quality, hole tolerance and positioning accuracy. This means that component quality is increased to the extent that there is no need for potential reworking.
- ▲ Four continuous spiral thro' coolant holes guarantee optimum cooling of each cutting edge, meaning that considerably higher tool service lives can be achieved. This also results in a noticeable reduction in tool costs.
- ▲ Low burr formation when entering and exiting the hole. This means that there is no need for time-consuming subsequent deburring.

Drilling test in 1.7225/42CroMoV4, hole depth 30 mm:

Tools:	Ø (mm)	V _c (m/min.)	f (mm/rev.)	V _f (mm/min.)
WTX – HFDS, z = 4	10	100	0,7	2228,17
Solid carbide high-feed drill, z = 3	10	110	0,44	1540,62
Solid carbide speed drill, z = 2	10	160	0,26	1324,17
Solid carbide drill, z = 2	10	100	0,24	763,94



Result

1 WTX – HFDS
(for 1000 holes)
= 14 Minutes

up to
66 %
Time savings

3 Solid carbide speed drill
(for 1000 holes)
= 24 Minutes

2 Solid carbide high-feed drill
(for 1000 holes)
= 21 Minutes

4 Solid carbide drill
(for 1000 holes)
= 42 Minutes



cuttingtools.ceratzit.com/gb/en/wtx-hfds



24

Stock around the clock!
Tool Supply 24/7

If you install a Tool-O-Mat it means that we take on all the procurement and stocking costs for you. You have 100 % availability of all tools at all times and without expenditure.

MonsterMill NCR

Masters one of the most
challenging areas of machining
– nickel-based alloys



The special properties of nickel-based alloys often push machine operators and tools to their limits. Manufacturing facilities that use state-of-the-art machining processes can only remain process-secure and efficient by using tools that have been specially designed for this application.

With the MonsterMill NCR, we have developed a milling cutter that takes the fear out of working with nickel-based alloys. The perfect combination of carbide, coating and geometry makes the difficulties associated with machining nickel-based alloys a thing of the past.

See for yourself!

- ▲ Specially designed tool geometry for nickel-based alloys
Guarantees stable and reliable processes
- ▲ Reinforced core diameter and increasing tapered core
Counteracts tool wear
- ▲ Specially adapted carbide and coating
Exhibits excellent wear properties with regard to scale layers and roll skin

= 13.2 m tool life

You can find more information on the product tests on our homepage:

cuttingtools.ceratzit.com/gb/en/ncr



DRAGONSKIN

The new Dragonskin coating, which has been adapted for the MonsterMill NCR, was specially developed for use on nickel-based alloys.

✚ High heat resistance

✚ High tool wear resistance



Products can be found
on Page 104–108

800°C –
Nickel-based alloys
(NiCr19Fe18Nb5Mg)

400°C –
Titanium

400°C –
Stainless steels

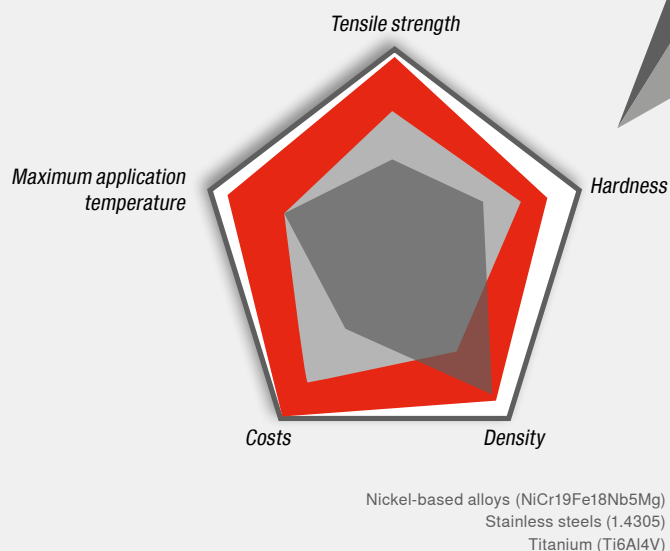
Maximum application temperature

Nickel-based alloys

The machining of nickel-based alloys is considerably more demanding than conventional materials.

The high tensile strength of the material, combined with its extreme hardness, causes tools to wear much more quickly. It is therefore essential to choose the right tool.

Only tools designed specifically for this material can minimise wear, maximise tool life and guarantee reliable processes.



Typical application ranges

Due to their special properties, nickel-based alloys are used in applications with high thermal and mechanical loads. Its high corrosion resistance makes the metal extremely versatile.

- ▲ Chemical industry
- ▲ Furnace construction and combustion chambers
- ▲ Aerospace industry
- ▲ Automotive industry
- ▲ Power generation



KUB Centron

The cost-effective variant for large and deep holes is now available from stock



The KUB Centron is the ideal tool for holes with a large length to diameter ratio. Cost-effective and process-secure drilling in hole depths of up to 9xD and virtually all materials is no problem at all with the modular drill.

The best thing of all: The indexable insert drill with exchangeable head is now available from stock in our standard range.



Application

- ▲ For large and deep holes from 4xD to 9xD.
- ▲ Suitable for rotating and stationary as well as for vertical and horizontal applications.
- ▲ The drill bits of the KUB Centron are available with a diameter from Ø 20.00 to Ø 81.00 mm. From a diameter of Ø 65.00 mm and above, the drill head is available with 4 indexable inserts and therefore a slightly different design.
- ▲ Suitable, for example, to transverse holes in housings, cylinder blocks and forged parts.
- ▲ The KUB Centron is designed for use with WOEX indexable inserts and is therefore universal, powerful and process-secure.



Centring tip

EXACT POSITIONING

HSS or solid carbide centring tips ensure exact positioning. The KUB Centron cutting data is also selected using the centring tips.



Drill bit

STABILITY THROUGHOUT THE MACHINING PROCESS

Carbide guide pads give the modular drill stability when drilling and exiting the hole. This counteracts deflection.



Tool holder

TRIED-AND-TESTED ABS CONNECTION

An ABS connection is particularly advantageous when drilling large, deep holes. The improved force transmission produces optimised machining results.

HIGH FLEXIBILITY

Thanks to its modular design, the holder covers multiple diameter ranges.

COST REDUCTION

Tool costs can be reduced by combining drill bits, indexable inserts and holders.

Inserts

UNIVERSAL APPLICATION

The tried-and-tested, specialised high-performance grades of the WOEX indexable inserts enable use in virtually all materials. They can also be used for all KUB Trigon drilling systems.



Interface

PRECISE, CENTRAL POSITIONING

Interface with custom-fit centring pins on the drill bit.



Further information on the product can be found on
→ Page 20–33



cuttingtools.ceratizit.com/gb/en/kub-centron

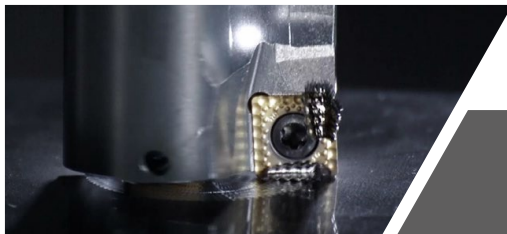


SPECIALIST FOR INDEXABLE INSERT TOOLS FOR TURNING, MILLING AND GROOVING

Product Range:

- ▲ Turning Tools
- ▲ EcoCut Multifunction Tools
- ▲ Grooving Tools
- ▲ Milling Tools with Indexable Inserts
- ▲ Tools made from ultra-hard cutting materials

The product brand CERATIZIT stands for high-quality indexable insert tools. The products are characterized by their high quality and contain the DNA of many years of experience in the development and production of carbide tools.



THE QUALITY LABEL FOR EFFICIENT BORE PRODUCTION

Product Range:

- ▲ Indexable Insert Drilling
- ▲ Reaming and Countersinking
- ▲ Spindle Tooling
- ▲ Actuating Tools

High-precision drilling, reaming, countersinking and boring is a matter of expertise: efficient tooling solutions for drilling and mechatronic tools are therefore part of the KOMET brand name.



EXPERTS FOR ROTATING TOOLS, TOOL HOLDERS AND CLAMPING SOLUTIONS

Product Range:

- ▲ HSS Drilling
- ▲ Solid Carbide Drilling
- ▲ Taps and Thread Formers
- ▲ Circular and Thread Milling
- ▲ Thread Turning
- ▲ Miniature Turning Tools
- ▲ HSS Milling Cutters
- ▲ Solid Carbide Milling Cutters
- ▲ Adapters
- ▲ Workpiece Clamping

WNT is synonymous with product diversity: solid carbide and HSS rotating tools, tool holders and efficient workholding solutions are all part of this brand.



Klenk

CUTTING TOOLS FOR THE AEROSPACE INDUSTRY

Product Range:

- ▲ Solid Carbide Drilling for the Aerospace Industry

Solid carbide drills specially developed for the aerospace industry bear the product name KLENK. The highly specialized products are specifically designed for machining lightweight materials.

DRAGONSKIN

by CERATIZIT

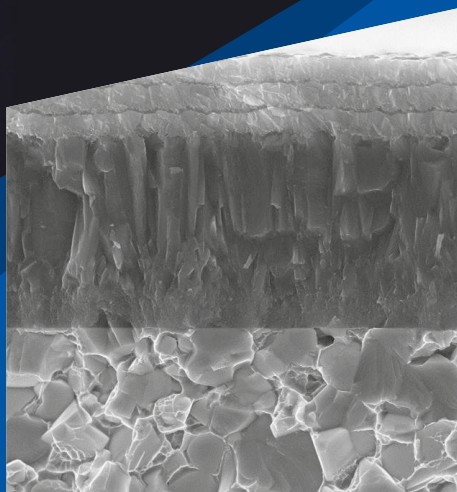


The latest generation of coating technology

Decades of experience coupled to consistent and constant development are in the unique Dragonskin coating technology. Thanks to our innovative design and expertise in powder metallurgy, we – and above all you – achieve an unmatched level of performance in machining.

Like the Dragon's invulnerability, Dragonskin Coating Technology offers the highest levels of protection against wear and is designed with its impermeable layer for the most adverse requirements. The result is an extremely hard and durable surface with a satin finish.

The perfect combination of state-of-the-art high-performance substrates and new coating structures enable high cutting speeds and increased process reliability. **A proven – up to 80 % – increased performance** through the latest Dragonskin coating technology offers you a significant competitive advantage.



Dragonskin – The coatings for the highest performance

The product category Dragonskin is intended to help make tools easily recognizable and quick to find using CERATIZIT's high-performance coating technology. All products that are marked with the Dragonskin icon represent unmatched performance, maximum tool life and maximum process reliability.

Dragonskin Coating



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KOMET Indexable insert drills

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Circular and Thread Milling

54+55 HPC solid carbide thread milling cutters



MonsterMill – NCR



Turning Tools

56–103 CBN-PCD indexable inserts



Solid Carbide milling cutters

104–113 **MonsterMill – NCR**

114–119 S-Cut – rough milling cutters

120+129 NC deburring cutters

- ▲ AluLine
- ▲ SilverLine
- ▲ BlueLine



Milling tools with indexable inserts

130–135 MaxiMill 211-11/15 – KN – porcupine cutters



Adapters

136–148 ABS tool holders

149–165 ABS adapters

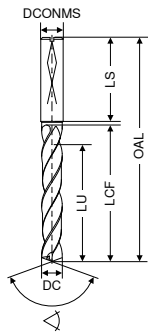
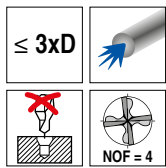
167 ER collets

WTX – High-feed drills, DIN 6537

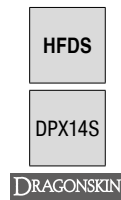
- ▲ Four fluted high-feed drill
- ▲ Specialises in steel processing
- ▲ Has four spiral coolant holes

- ▲ Innovative cutting edge geometry guarantees high positioning accuracy

- ▲ Outstanding drilling quality in terms of tolerance, surface finish and position



WTX – HFDS = four cutting edges



130°
Solid carbide

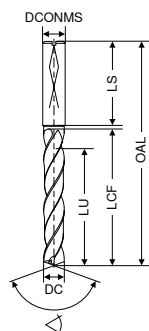
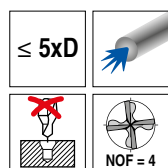
DC _{m7}	DCONMS _{h6}	OAL	LCF	LU	LS	NEW T4 Article no. 10 797 ... £
14.0	16	115	65	45	48	270.82 14000
14.3	18	123	73	51	48	337.37 14300
14.5	18	123	73	51	48	337.37 14500
15.0	18	123	73	51	48	337.37 15000
16.0	18	123	73	51	48	337.37 16000

Steel	●
Stainless steel	○
Cast iron	●
Non ferrous metals	○
Heat resistant alloys	○
Hardened materials	○

DC _{m7}	DCONMS _{h6}	OAL	LCF	LU	LS	NEW T4 Article no. 10 797 ... £
6.0	8	79	41	29	36	81.26 06000
6.1	10	89	47	35	40	110.77 06100
6.2	10	89	47	35	40	110.77 06200
6.3	10	89	47	35	40	110.77 06300
6.4	10	89	47	35	40	110.77 06400
6.5	10	89	47	35	40	110.77 06500
6.6	10	89	47	35	40	110.77 06600
6.7	10	89	47	35	40	110.77 06700
6.8	10	89	47	35	40	110.77 06800
6.9	10	89	47	35	40	110.77 06900
7.0	10	89	47	35	40	110.77 07000
7.1	10	89	47	35	40	110.77 07100
7.2	10	89	47	35	40	110.77 07200
7.3	10	89	47	35	40	110.77 07300
7.4	10	89	47	35	40	110.77 07400
7.5	10	89	47	35	40	110.77 07500
7.6	10	89	47	35	40	110.77 07600
7.7	10	89	47	35	40	110.77 07700
7.8	10	89	47	35	40	110.77 07800
7.9	10	89	47	35	40	110.77 07900
8.0	10	89	47	35	40	110.77 08000
8.1	12	102	55	40	45	150.26 08100
8.2	12	102	55	40	45	150.26 08200
8.3	12	102	55	40	45	150.26 08300
8.4	12	102	55	40	45	150.26 08400
8.5	12	102	55	40	45	150.26 08500
8.6	12	102	55	40	45	150.26 08600
8.7	12	102	55	40	45	150.26 08700
8.8	12	102	55	40	45	150.26 08800
8.9	12	102	55	40	45	150.26 08900
9.0	12	102	55	40	45	150.26 09000
9.1	12	102	55	40	45	150.26 09100
9.2	12	102	55	40	45	150.26 09200
9.3	12	102	55	40	45	150.26 09300
9.4	12	102	55	40	45	150.26 09400
9.5	12	102	55	40	45	150.26 09500
9.6	12	102	55	40	45	150.26 09600
9.7	12	102	55	40	45	150.26 09700
9.8	12	102	55	40	45	150.26 09800
9.9	12	102	55	40	45	150.26 09900
10.0	12	102	55	40	45	150.26 10000
10.2	14	107	60	43	45	199.43 10200
10.5	14	107	60	43	45	199.43 10500
11.0	14	107	60	43	45	199.43 11000
11.5	14	107	60	43	45	199.43 11500
12.0	14	107	60	43	45	199.43 12000
12.5	16	115	65	45	48	270.82 12500
13.0	16	115	65	45	48	270.82 13000

WTX – High-feed drills, DIN 6537

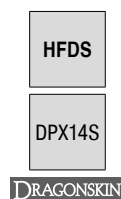
- ▲ Four fluted high-feed drill
- ▲ Specialises in steel processing
- ▲ Has four spiral coolant holes



WTX – HFDS = four cutting edges

- ▲ Innovative cutting edge geometry guarantees high positioning accuracy

- ▲ Outstanding drilling quality in terms of tolerance, surface finish and position



130°

Solid carbide

DC _{m7}	DCONMS _{h6}	OAL	LCF	LU	LS	Article no.	£
mm	mm	mm	mm	mm	mm		
6.0	8	89	51	40	36	96.03	06000
6.1	10	102	59	47	40	128.04	06100
6.2	10	102	59	47	40	128.04	06200
6.3	10	102	59	47	40	128.04	06300
6.4	10	102	59	47	40	128.04	06400
6.5	10	102	59	47	40	128.04	06500
6.6	10	102	59	47	40	128.04	06600
6.7	10	102	59	47	40	128.04	06700
6.8	10	102	59	47	40	128.04	06800
6.9	10	102	59	47	40	128.04	06900
7.0	10	102	59	47	40	128.04	07000
7.1	10	102	59	47	40	128.04	07100
7.2	10	102	59	47	40	128.04	07200
7.3	10	102	59	47	40	128.04	07300
7.4	10	102	59	47	40	128.04	07400
7.5	10	102	59	47	40	128.04	07500
7.6	10	102	59	47	40	128.04	07600
7.7	10	102	59	47	40	128.04	07700
7.8	10	102	59	47	40	128.04	07800
7.9	10	102	59	47	40	128.04	07900
8.0	10	102	59	47	40	128.04	08000
8.1	12	118	70	55	45	180.29	08100
8.2	12	118	70	55	45	180.29	08200
8.3	12	118	70	55	45	180.29	08300
8.4	12	118	70	55	45	180.29	08400
8.5	12	118	70	55	45	180.29	08500
8.6	12	118	70	55	45	180.29	08600
8.7	12	118	70	55	45	180.29	08700
8.8	12	118	70	55	45	180.29	08800
8.9	12	118	70	55	45	180.29	08900
9.0	12	118	70	55	45	180.29	09000
9.1	12	118	70	55	45	180.29	09100
9.2	12	118	70	55	45	180.29	09200
9.3	12	118	70	55	45	180.29	09300
9.4	12	118	70	55	45	180.29	09400
9.5	12	118	70	55	45	180.29	09500
9.6	12	118	70	55	45	180.29	09600
9.7	12	118	70	55	45	180.29	09700
9.8	12	118	70	55	45	180.29	09800
9.9	12	118	70	55	45	180.29	09900
10.0	12	118	70	55	45	180.29	10000
10.2	14	124	76	60	45	239.36	10200
10.5	14	124	76	60	45	239.36	10500
11.0	14	124	76	60	45	239.36	11000
11.5	14	124	76	60	45	239.36	11500
12.0	14	124	76	60	45	239.36	12000
12.5	16	142	91	73	48	325.05	12500
13.0	16	142	91	73	48	325.05	13000

DC _{m7}	DCONMS _{h6}	OAL	LCF	LU	LS	Article no.	£
mm	mm	mm	mm	mm	mm		
14.0	16	142	91	73	48	325.05	14000
14.3	16	142	91	73	48	404.80	14300
14.5	16	142	91	73	48	404.80	14500
15.0	18	142	91	73	48	404.80	15000
16.0	18	142	91	73	48	404.80	16000

Steel	●
Stainless steel	○
Cast iron	●
Non ferrous metals	○
Heat resistant alloys	○
Hardened materials	○

Cutting data standard values – WTX – HFDS – high-feed drill

				Drilling depth 3xD WTX – HFDS 10 797 ...						
	Index	Material	Strength	v _c m/min with through coolant	Ø 6-8 f	Ø 8-10 f	Ø 10-12 f	Ø 12-14 f	Ø 14-16 f	
			N/mm² / HB / HRC		mm/rev.	mm/rev.	mm/rev.	mm/rev.	mm/rev.	
P	1.1	General construction steel	< 800 N/mm²	80–120	0,3–0,4	0,5–0,6	0,7–0,8	0,8–0,9	0,8–0,9	
	1.2	Free cutting steel	< 800 N/mm²	100–120	0,3–0,4	0,5–0,6	0,7–0,8	0,8–0,9	0,8–0,9	
	1.3	Hardened steel, non alloyed	< 800 N/mm²	100–120	0,3–0,4	0,5–0,6	0,7–0,8	0,8–0,9	0,8–0,9	
	1.4	Alloyed hardened steel	< 1000 N/mm²	80–110	0,3–0,4	0,45–0,5	0,5–0,6	0,65–0,7	0,75–0,8	
	1.5	Tempering steel, unalloyed	< 850 N/mm²	80–110	0,3–0,4	0,45–0,5	0,5–0,6	0,65–0,7	0,75–0,8	
	1.6	Tempering steel, unalloyed	< 1000 N/mm²	70–90	0,3–0,4	0,4–0,45	0,5–0,55	0,6–0,65	0,7–0,75	
	1.7	Tempering steel, alloyed	< 800 N/mm²	80–100	0,3–0,4	0,5–0,6	0,7–0,8	0,8–0,85	0,8–0,9	
	1.8	Tempering steel, alloyed	< 1300 N/mm²	70–90	0,4–0,4	0,3–0,4	0,5–0,6	0,7–0,8	0,8–0,8	
	1.9	Steel castings	< 850 N/mm²	80–100	0,3–0,4	0,5–0,6	0,7–0,8	0,8–0,9	0,8–0,9	
	1.10	Nitriding steel	< 1000 N/mm²	70–90	0,25–0,35	0,4–0,45	0,5–0,55	0,55–0,6	0,6–0,65	
	1.11	Nitriding steel	< 1200 N/mm²	60–80	0,2–0,3	0,35–0,4	0,45–0,6	0,6–0,6	0,65–0,7	
	1.12	Roller bearing steel	< 1200 N/mm²	60–80	0,2–0,3	0,35–0,4	0,45–0,6	0,6–0,6	0,65–0,7	
	1.13	Spring steel	< 1200 N/mm²	60–70	0,2–0,3	0,35–0,4	0,45–0,6	0,6–0,6	0,65–0,7	
	1.14	High-speed steel	< 1300 N/mm²	60–80	0,2–0,3	0,35–0,4	0,45–0,6	0,6–0,6	0,65–0,7	
	1.15	Cold working tool steel	< 1300 N/mm²	60–80	0,2–0,3	0,35–0,4	0,45–0,6	0,6–0,6	0,65–0,7	
	1.16	Hot working tool steel	< 1300 N/mm²	60–80	0,2–0,3	0,35–0,4	0,45–0,6	0,6–0,6	0,65–0,7	
M	2.1	Cast steel and sulphured stainless steel	< 850 N/mm²	80–100	0,25–0,3	0,3–0,35	0,4–0,45	0,5–0,55	0,55–0,6	
	2.2	Stainless steel, ferritic	< 750 N/mm²	60–70	0,25–0,3	0,3–0,35	0,4–0,45	0,5–0,55	0,55–0,6	
	2.3	Stainless steel, martensitic	< 900 N/mm²	60–70	0,25–0,3	0,3–0,35	0,4–0,45	0,5–0,55	0,55–0,6	
	2.4	Stainless steel, ferritic / martensitic	< 1100 N/mm²	50–60	0,2–0,25	0,3–0,35	0,4–0,45	0,5–0,45	0,5–0,6	
	2.5	Stainless steel, austenitic / ferritic	< 850 N/mm²	60–70	0,2–0,3	0,35–0,4	0,45–0,5	0,45–0,5	0,6–0,7	
	2.6	Stainless steel, austenitic	< 750 N/mm²	60–70	0,2–0,25	0,3–0,35	0,4–0,4	0,5–0,5	0,6–0,6	
	2.7	Heat resistant steel	< 1100 N/mm²	50–60	0,2–0,25	0,3–0,35	0,4–0,4	0,5–0,5	0,6–0,6	
K	3.1	Grey cast iron with lamellar graphite	100–350 N/mm²	120–140	0,4–0,6	0,5–0,8	0,6–0,8	0,7–0,9	0,8–1	
	3.2	Grey cast iron with lamellar graphite	300–500 N/mm²	120–140	0,4–0,6	0,5–0,8	0,6–0,8	0,7–0,9	0,8–1	
	3.3	Gray cast iron with spheroidal graphite	300–500 N/mm²	120–140	0,4–0,6	0,5–0,8	0,6–0,8	0,7–0,9	0,8–1	
	3.4	Gray cast iron with spheroidal graphite	500–900 N/mm²	100–120	0,4–0,6	0,5–0,7	0,6–0,8	0,7–0,9	0,8–1	
	3.5	White malleable cast iron	270–450 N/mm²	120–140	0,4–0,6	0,5–0,7	0,6–0,8	0,7–0,85	0,85–0,95	
	3.6	White malleable cast iron	500–650 N/mm²	120–140	0,4–0,6	0,5–0,6	0,65–0,7	0,7–0,8	0,7–0,85	
	3.7	Black malleable cast iron	300–450 N/mm²	120–140	0,4–0,6	0,5–0,6	0,6–0,8	0,7–0,9	0,8–1	
	3.8	Black malleable cast iron	500–800 N/mm²	120–140	0,4–0,5	0,5–0,6	0,6–0,8	0,7–0,9	0,8–1	
N	4.1	Aluminium (non alloyed, low alloyed)	< 350 N/mm²							
	4.2	Aluminium alloys < 0.5 % Si	< 500 N/mm²							
	4.3	Aluminium alloy 0.5–10 % Si	< 400 N/mm²							
	4.4	Aluminium alloys 10–15 % Si	< 400 N/mm²							
	4.5	Aluminum alloys > 15 % Si	< 400 N/mm²							
	4.6	Copper (non alloyed, low alloyed)	< 350 N/mm²							
	4.7	Copper wrought alloys	< 700 N/mm²							
	4.8	Special copper alloys	< 200 HB							
	4.9	Special copper alloys	< 300 HB							
	4.10	Special copper alloys	> 300 HB							
	4.11	Short-chipping brass, bronze, red bronze	< 600 N/mm²	120–140	0,4–0,6	0,5–0,6	0,7–0,9	0,9–1,01	1,01–1,2	
	4.12	Long-chipping brass	< 600 N/mm²							
	4.13	Thermoplastics								
	4.14	Duroplastics								
	4.15	Fibre-reinforced plastics								
	4.16	Magnesium and magnesium alloys	< 850 N/mm²							
	4.17	Graphite		100–120	0,6–0,6	0,8–1,01	0,9–1,1	1,01–1,2	1,1–1,4	
	4.18	Tungsten and tungsten alloys								
	4.19	Molybdenum and molybdenum alloys								
S	5.1	Pure nickel								
	5.2	Nickel alloys								
	5.3	Nickel alloys	< 850 N/mm²							
	5.4	Nickel molybdenum alloys								
	5.5	Nickel-chromium alloys	< 1300 N/mm²							
	5.6	Cobalt Chrome Alloys	< 1300 N/mm²							
	5.7	Heat resistant alloys	< 1300 N/mm²							
	5.8	Nickel-cobalt-chromium alloys	< 1400 N/mm²							
	5.9	Pure titanium	< 900 N/mm²							
	5.10	Titanium alloys	< 700 N/mm²	40–60	0,1–0,2	0,15–0,25	0,2–0,25	0,25–0,3	0,3–0,4	
	5.11	Titanium alloys	< 1200 N/mm²	40–60	0,1–0,2	0,15–0,25	0,2–0,25	0,25–0,3	0,3–0,4	
H	6.1	Tempered steel	< 45 HRC	50–70	0,1–0,2	0,15–0,25	0,2–0,25	0,25–0,3	0,3–0,4	
	6.2		46–55 HRC	40–60	0,1–0,2	0,15–0,25	0,2–0,25	0,25–0,3	0,3–0,4	
	6.3		56–60 HRC	40–60	0,1–0,2	0,15–0,25	0,2–0,25	0,25–0,3	0,3–0,4	
	6.4		61–65 HRC							
	6.5		65–70 HRC							



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.

		Drilling depth 5xD WTX - HFDS 10 798 ...					
	Index	v _c m/min with through coolant	Ø 6-8 f mm/rev.	Ø 8-10 f mm/rev.	Ø 10-12 f mm/rev.	Ø 12-14 f mm/rev.	Ø 14-16 f mm/rev.
	1.1	80-120	0,3-0,4	0,5-0,6	0,7-0,8	0,8-0,9	0,8-0,9
	1.2	100-120	0,3-0,4	0,5-0,6	0,7-0,8	0,8-0,9	0,8-0,9
	1.3	100-120	0,3-0,4	0,5-0,6	0,7-0,8	0,8-0,9	0,8-0,9
	1.4	80-110	0,3-0,4	0,45-0,5	0,5-0,6	0,65-0,7	0,75-0,8
	1.5	80-110	0,3-0,4	0,45-0,5	0,5-0,6	0,65-0,7	0,75-0,8
	1.6	70-90	0,3-0,4	0,4-0,45	0,5-0,55	0,6-0,65	0,7-0,75
	1.7	80-100	0,3-0,4	0,5-0,6	0,7-0,8	0,8-0,85	0,8-0,9
	1.8	70-90	0,4-0,4	0,3-0,4	0,5-0,6	0,7-0,8	0,8-0,8
	1.9	80-100	0,3-0,4	0,5-0,6	0,7-0,8	0,8-0,9	0,8-0,9
	1.10	70-90	0,25-0,35	0,4-0,45	0,5-0,55	0,55-0,6	0,6-0,65
	1.11	60-80	0,2-0,3	0,35-0,4	0,45-0,6	0,6-0,6	0,65-0,7
	1.12	60-80	0,2-0,3	0,35-0,4	0,45-0,6	0,6-0,6	0,65-0,7
	1.13	60-70	0,2-0,3	0,35-0,4	0,45-0,6	0,6-0,6	0,65-0,7
	1.14	60-80	0,2-0,3	0,35-0,4	0,45-0,6	0,6-0,6	0,65-0,7
	1.15	60-80	0,2-0,3	0,35-0,4	0,45-0,6	0,6-0,6	0,65-0,7
	1.16	60-80	0,2-0,3	0,35-0,4	0,45-0,6	0,6-0,6	0,65-0,7
	2.1	80-100	0,25-0,3	0,3-0,35	0,4-0,45	0,5-0,55	0,55-0,6
	2.2	60-70	0,25-0,3	0,3-0,35	0,4-0,45	0,5-0,55	0,55-0,6
	2.3	60-70	0,25-0,3	0,3-0,35	0,4-0,45	0,5-0,55	0,55-0,6
	2.4	50-60	0,2-0,25	0,3-0,35	0,4-0,45	0,5-0,45	0,5-0,6
	2.5	60-70	0,2-0,3	0,35-0,4	0,45-0,5	0,45-0,5	0,6-0,7
	2.6	60-70	0,2-0,25	0,3-0,35	0,4-0,4	0,5-0,5	0,6-0,6
	2.7	50-60	0,2-0,25	0,3-0,35	0,4-0,4	0,5-0,5	0,6-0,6
	3.1	120-140	0,4-0,6	0,5-0,8	0,6-0,8	0,7-0,9	0,8-1
	3.2	120-140	0,4-0,6	0,5-0,8	0,6-0,8	0,7-0,9	0,8-1
	3.3	120-140	0,4-0,6	0,5-0,8	0,6-0,8	0,7-0,9	0,8-1
	3.4	100-120	0,4-0,6	0,5-0,7	0,6-0,8	0,7-0,9	0,8-1
	3.5	120-140	0,4-0,6	0,5-0,7	0,6-0,8	0,7-0,85	0,85-0,95
	3.6	120-140	0,4-0,6	0,5-0,6	0,65-0,7	0,7-0,8	0,7-0,85
	3.7	120-140	0,4-0,6	0,5-0,6	0,6-0,8	0,7-0,9	0,8-1
	3.8	120-140	0,4-0,5	0,5-0,6	0,6-0,8	0,7-0,9	0,8-1
	4.1						
	4.2						
	4.3						
	4.4						
	4.5						
	4.6						
	4.7						
	4.8						
	4.9						
	4.10						
	4.11	120-140	0,4-0,6	0,5-0,6	0,7-0,9	0,9-1,01	1,01-1,2
	4.12						
	4.13						
	4.14						
	4.15						
	4.16						
	4.17	100-120	0,6-0,6	0,8-1,01	0,9-1,1	1,01-1,2	1,1-1,4
	4.18						
	4.19						
	5.1						
	5.2						
	5.3						
	5.4						
	5.5						
	5.6						
	5.7						
	5.8						
	5.9						
	5.10	40-60	0,1-0,2	0,15-0,25	0,2-0,25	0,25-0,3	0,3-0,4
	5.11	40-60	0,1-0,2	0,15-0,25	0,2-0,25	0,25-0,3	0,3-0,4
	6.1	50-70	0,1-0,2	0,15-0,25	0,2-0,25	0,25-0,3	0,3-0,4
	6.2	40-60	0,1-0,2	0,15-0,25	0,2-0,25	0,25-0,3	0,3-0,4
	6.3	40-60	0,1-0,2	0,15-0,25	0,2-0,25	0,25-0,3	0,3-0,4
	6.4						
	6.5						

Toolfinder

● = Main Application
○ = Extended application
- = Not possible

KUB Centron

The specialist for holes with a large length to diameter ratio



- ▲ Cost-effective and process-secure drilling
- ▲ Hole depths up to 9xD in virtually all materials
- ▲ HSS or solid carbide centring tip for optimum positioning accuracy
- ▲ Suitable for rotating and stationary as well as for vertical and horizontal applications

	Boring depth	Drilling through a transverse hole	Stack plate drilling	Drilling on uneven surfaces	Drilling	Spot drilling an edge	Spot drilling on convex surfaces	Spot drilling angled surfaces	Spot drilling a pointed contour	Chain drilling	Spot drilling through a centre in the pre-op
4xD	○	-	●	-	-	○	○	-	○	●	
6xD	○	-	●	-	-	○	○	-	○	●	
9xD	○	-	●	-	-	○	○	-	○	●	

Drill bits



- ▲ Drill head with interchangeable indexable insert for universal application



- ▲ Drill head with interchangeable indexable insert for universal application

KUB Pentron

The specialist for large hole depths



- ▲ The all-rounder for process-secure drilling under a wide variety of conditions
- ▲ Ideal for extreme machining situations

2xD	●	●	●	○	●	●	●	●	●	●	
3xD	●	●	●	○	●	●	●	●	●	●	
4xD	●	○	○	-	●	●	●	●	○	●	
5xD	●	○	○	-	●	○	●	○	-	○	
2xD	●	●	●	○	●	●	●	●	●	●	
3xD	●	●	●	○	●	●	●	●	●	●	
4xD	●	○	○	-	●	●	●	●	○	●	
5xD	●	○	○	-	●	○	●	○	-	○	

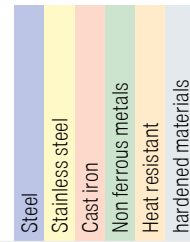
KUB Trigon

The solution for unstable conditions and high accuracy



- ▲ Ideal for machining under unstable conditions
- ▲ Well-suited to machining on less powerful machines
- ▲ The first choice for creating dimensionally accurate holes
- ▲ Left-hand version

2xD	●	-	●	○	○	●	●	○	●	○	
3xD	○	-	○	○	○	○	○	○	○	○	



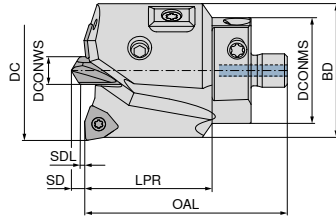
Shank	Pages		Insert type	No. of cutting edges	Grade		Pages
ABS	28			WOEX 3	-01 BK8425		
ABS	28			WOEX 3	-03 BK8425		
ABS	28			WOEX 3	-13 BK8425		
				WOEX 3	-01 BK7935		
				WOEX 3	-01 BK6115		27
				WOEX 3	-01 BK7615		
				WOEX 3	-01 BK62		
				WOEX 3	-11 BK77		
				WOEX 3	-13 BK79		
Ø DC	Pages		Centring tip	Ø DC	Coating		Pages
20–64	22+23			5–12	TiAlN		
				5–12	TiN		26
65–81	24+25			5–12	TiAlN/TiN		
Shank	Ø DC	Pages	Insert type	No. of cutting edges	Grade		Pages
C	30,5–45,5	34		SOGX 4	-01 BK8425		
C	30,5–45,5	35		SOGX 4	-03 BK8430		
C	30,5–45,5	36		SOGX 4	-01 BK7935		
C	30,5–45,5	37		SOGX 4	-01 BK6115		43
ABS	14–46	38+39		SOGX 4	-01 BK6115		
ABS	30,5–46	40		SOGX 4	-01 BK6425		
ABS	30,5–46	41		SOGX 4	-01 BK7710		
ABS	30,5–46	42		SOGX 4	-01 BK7710		
Shank	Ø DC	Pages	Insert type	No. of cutting edges	Grade		Pages
ABS	14–44	48		WOEX 3	-01 BK8425		
ABS	14–44	49		WOEX 3	-03 BK8425		
				WOEX 3	-13 BK8425		
				WOEX 3	-01 BK7935		
				WOEX 3	-01 BK6115		50
				WOEX 3	-01 BK7615		
				WOEX 3	-01 BK62		
				WOEX 3	-11 BK77		
				WOEX 3	-13 BK79		

KUB Centron – drill bit Ø 20–64 mm

- ▲ The pre-assembled drill bit is ready to use
- ▲ The indexable inserts and centring tip must be professionally assembled
- ▲ KLG = Coupling size

Scope of supply:

- ▲ Drill bit incl. screws, guide pads and shim set
- ▲ Order centring tip and indexable inserts separately

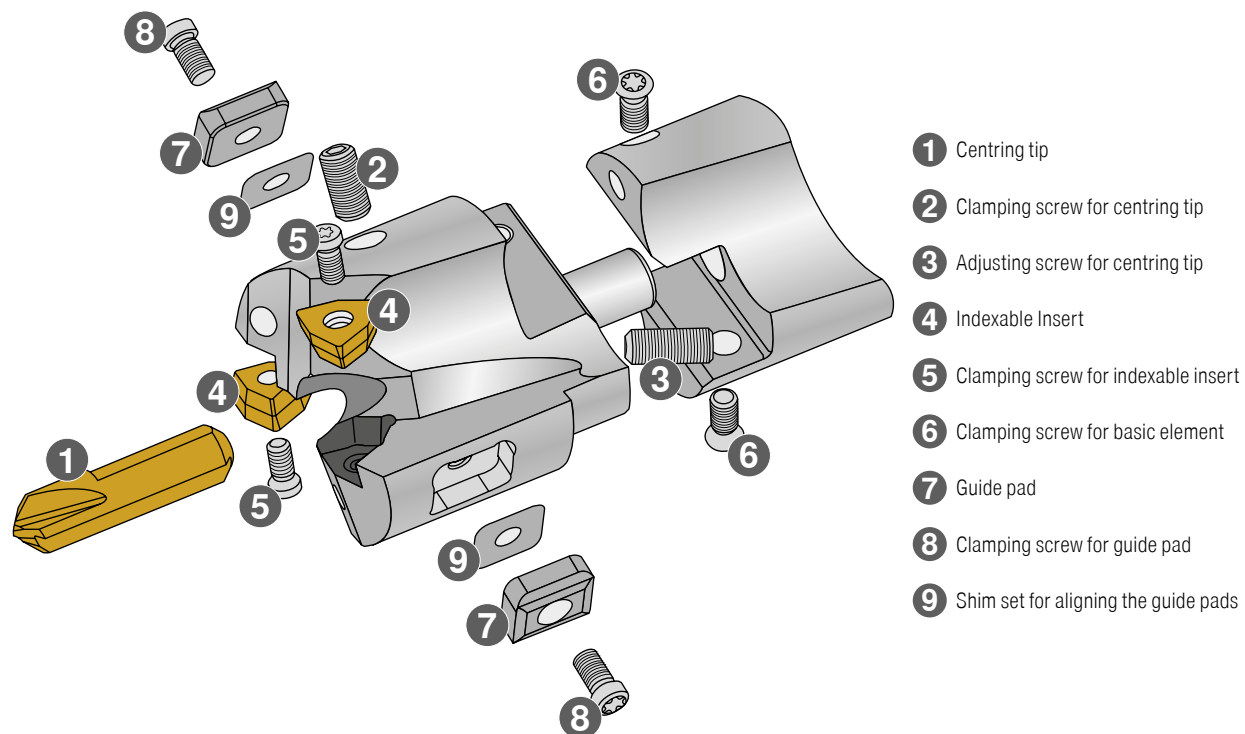


Designation	KOMET no.	DC	OAL	LPR	SD	BD	SDL	DCONMS	DCONWS	KLG	torque moment Nm	Insert	NEW 2B/6# Article no. 10 860 ... £	
KUB-C.BK.200.R.03-19	V46 50201	20	36.5	23	2.25	19.0	1.00	19.0	5	19	0,62	WOEX 030204	321.64	20000
KUB-C.BK.210.R.03-19	V46 50211	21	36.5	23	2.25	20.0	1.00	19.0	5	19	0,62	WOEX 030204	321.64	21000
KUB-C.BK.220.R.03-19	V46 50221	22	36.5	23	2.25	21.0	1.00	19.0	5	19	0,62	WOEX 030204	321.64	22000
KUB-C.BK.230.R.03-19	V46 50231	23	36.5	23	2.25	22.0	1.00	19.0	5	19	0,62	WOEX 030204	321.64	23000
KUB-C.BK.240.R.03-19	V46 50241	24	36.5	23	2.25	23.0	1.00	19.0	5	19	0,62	WOEX 030204	321.64	24000
KUB-C.BK.250.R.03-19	V46 50251	25	36.5	23	2.25	24.0	1.00	19.0	5	19	0,62	WOEX 030204	321.64	25000
KUB-C.BK.260.R.04-25	V46 50260	26	38.0	23	2.65	25.0	1.10	25.0	6	25	1,01	WOEX 040304	367.82	26000
KUB-C.BK.270.R.04-25	V46 50270	27	38.0	23	2.65	26.0	1.10	25.0	6	25	1,01	WOEX 040304	367.82	27000
KUB-C.BK.280.R.04-25	V46 50280	28	38.0	23	2.65	27.0	1.10	25.0	6	25	1,01	WOEX 040304	367.82	28000
KUB-C.BK.290.R.04-25	V46 50290	29	38.0	23	2.65	28.0	1.10	25.0	6	25	1,01	WOEX 040304	367.82	29000
KUB-C.BK.300.R.04-25	V46 50300	30	38.0	23	2.65	29.0	1.10	25.0	6	25	1,01	WOEX 040304	367.82	30000
KUB-C.BK.310.R.04-25	V46 50310	31	38.0	23	2.65	30.0	1.10	25.0	6	25	1,01	WOEX 040304	367.82	31000
KUB-C.BK.320.R.04-25	V46 50320	32	38.0	23	2.65	31.0	1.10	25.0	6	25	1,01	WOEX 040304	367.82	32000
KUB-C.BK.330.R.05-32	V46 50330	33	39.2	23	2.65	32.0	1.10	32.0	6	32	1,28	WOEX 05T304	476.55	33000
KUB-C.BK.340.R.05-32	V46 50340	34	39.2	23	2.65	33.0	1.10	32.0	6	32	1,28	WOEX 05T304	476.55	34000
KUB-C.BK.350.R.05-32	V46 50350	35	39.2	23	2.65	34.0	1.10	32.0	6	32	1,28	WOEX 05T304	476.55	35000
KUB-C.BK.360.R.05-32	V46 50360	36	39.2	23	2.65	35.0	1.10	32.0	6	32	1,28	WOEX 05T304	476.55	36000
KUB-C.BK.370.R.05-32	V46 50370	37	39.2	23	2.65	36.0	1.10	32.0	6	32	1,28	WOEX 05T304	476.55	37000
KUB-C.BK.380.R.05-32	V46 50380	38	39.2	23	2.65	37.0	1.10	32.0	6	32	1,28	WOEX 05T304	476.55	38000
KUB-C.BK.390.R.05-32	V46 50390	39	39.2	23	2.65	38.0	1.10	32.0	6	32	1,28	WOEX 05T304	476.55	39000
KUB-C.BK.400.R.05-38,5	V46 50400	40	43.1	25	3.38	38.5	1.25	38.5	8	38,5	1,28	WOEX 05T304	489.73	40000
KUB-C.BK.410.R.05-38,5	V46 50410	41	43.1	25	3.38	39.5	1.25	38.5	8	38,5	1,28	WOEX 05T304	489.73	41000
KUB-C.BK.420.R.05-38,5	V46 50420	42	43.1	25	3.38	40.5	1.25	38.5	8	38,5	1,28	WOEX 05T304	489.73	42000
KUB-C.BK.430.R.05-38,5	V46 50430	43	43.1	25	3.38	41.5	1.25	38.5	8	38,5	1,28	WOEX 05T304	489.73	43000
KUB-C.BK.440.R.05-38,5	V46 50440	44	43.1	25	3.38	42.5	1.25	38.5	8	38,5	1,28	WOEX 05T304	489.73	44000
KUB-C.BK.450.R.05-38,5	V46 50450	45	43.1	25	3.38	43.5	1.25	38.5	8	38,5	1,28	WOEX 05T304	489.73	45000
KUB-C.BK.460.R.06-44,5	V46 50460	46	47.0	25	3.86	44.5	1.25	44.5	10	44,5	2,8	WOEX 06T304	524.73	46000
KUB-C.BK.470.R.06-44,5	V46 50470	47	47.0	25	3.86	45.5	1.25	44.5	10	44,5	2,8	WOEX 06T304	524.73	47000
KUB-C.BK.480.R.06-44,5	V46 50480	48	47.0	25	3.86	46.5	1.25	44.5	10	44,5	2,8	WOEX 06T304	524.73	48000
KUB-C.BK.490.R.06-44,5	V46 50490	49	47.0	25	3.86	47.5	1.25	44.5	10	44,5	2,8	WOEX 06T304	524.73	49000
KUB-C.BK.500.R.06-44,5	V46 50500	50	47.0	25	3.86	48.5	1.25	44.5	10	44,5	2,8	WOEX 06T304	524.73	50000
KUB-C.BK.510.R.06-44,5	V46 50510	51	47.0	25	3.86	49.5	1.25	44.5	10	44,5	2,8	WOEX 06T304	524.73	51000
KUB-C.BK.520.R.06-44,5	V46 50520	52	47.0	25	3.86	50.5	1.25	44.5	10	44,5	2,8	WOEX 06T304	524.73	52000
KUB-C.BK.530.R.06-44,5	V46 50530	53	47.0	25	3.86	51.5	1.25	44.5	10	44,5	2,8	WOEX 06T304	543.64	53000
KUB-C.BK.540.R.06-44,5	V46 50540	54	47.0	25	3.86	52.5	1.25	44.5	10	44,5	2,8	WOEX 06T304	543.64	54000
KUB-C.BK.550.R.08-53,5	V46 50550	55	52.0	30	3.86	53.5	1.25	53.5	10	53,5	6,25	WOEX 080404	562.55	55000
KUB-C.BK.560.R.08-53,5	V46 50560	56	52.0	30	3.86	54.5	1.25	53.5	10	53,5	6,25	WOEX 080404	562.55	56000
KUB-C.BK.570.R.08-53,5	V46 50570	57	52.0	30	3.86	55.5	1.25	53.5	10	53,5	6,25	WOEX 080404	562.55	57000
KUB-C.BK.580.R.08-53,5	V46 50580	58	52.0	30	3.86	56.5	1.25	53.5	10	53,5	6,25	WOEX 080404	562.55	58000
KUB-C.BK.590.R.08-53,5	V46 50590	59	52.0	30	3.86	57.5	1.25	53.5	10	53,5	6,25	WOEX 080404	562.55	59000
KUB-C.BK.600.R.08-53,5	V46 50600	60	52.0	30	3.86	58.5	1.25	53.5	10	53,5	6,25	WOEX 080404	562.55	60000
KUB-C.BK.610.R.08-53,5	V46 50610	61	52.0	30	3.86	59.5	1.25	53.5	10	53,5	6,25	WOEX 080404	562.55	61000
KUB-C.BK.620.R.08-53,5	V46 50620	62	52.0	30	3.86	60.5	1.25	53.5	10	53,5	6,25	WOEX 080404	562.55	62000
KUB-C.BK.630.R.08-53,5	V46 50630	63	52.0	30	3.86	61.5	1.25	53.5	10	53,5	6,25	WOEX 080404	562.55	63000
KUB-C.BK.640.R.08-53,5	V46 50640	64	52.0	30	3.86	62.5	1.25	53.5	10	53,5	6,25	WOEX 080404	562.55	64000

			W7		W7		W7		W7	
										
Spare parts DC			Article no. 10 950 ...		Article no. 10 950 ...		Article no. 10 950 ...		Article no. 10 950 ...	
			£		£		£		£	
20	M2,5x4,2 - 8IP - 1,28Nm	2.60 11900	M2,0x4,3 - 06IP	2.15 10000	65.44 14600	20.25 15200				
21 - 22	M2,5x4,2 - 8IP - 1,28Nm	2.60 11900	M2,0x4,3 - 06IP	2.15 10000	65.44 14600	20.25 15200				
23 - 25	M2,5x4,5 - 8IP - 1,28Nm	2.98 11700	M2,0x4,3 - 06IP	2.15 10000	55.83 14700	20.25 15200				
26 - 29	M2,5x4,5 - 8IP - 1,28Nm	2.98 11700	M2,2x5,5 - 06IP	2.15 10700	55.83 14700	20.25 15200				
30 - 32	M2,5x4,5 - 8IP - 1,28Nm	2.98 11700	M2,2x5,5 - 06IP	2.15 10700	55.83 14800	20.25 15200				
33 - 36	M2,5x4,5 - 8IP - 1,28Nm	2.98 11700	M2,5x7,2 - 08IP	2.15 10500	55.83 14800	20.25 15200				
37 - 39	M2,5x4,5 - 8IP - 1,28Nm	2.98 11700	M2,5x7,2 - 08IP	2.15 10500	55.83 14900	20.25 15200				
40 - 45	M2,5x4,5 - 8IP - 1,28Nm	2.98 11700	M2,5x7,2 - 08IP	2.15 10500	55.83 14900	20.25 15200				
46 - 54	M3,5x5,0 - 8IP - 2,25Nm	2.60 11800	M3,5x7,3 - 10IP	2.15 10600	68.30 15000	20.25 15300				
55 - 64	M3,5x5,0 - 8IP - 2,25Nm	2.60 11800	M4,5x9 - 15IP	2.31 12700	68.30 15100	20.25 15300				

			W7		W7	
						
Spare parts DC			Article no. 10 950 ...		Article no. 10 950 ...	
			£		£	
20	M2,5x6,4 - 08IP - 1,28Nm	2.60 12400	M4x6 - SW2 - 1,5Nm	2.98 12800		
21 - 22	M2,5x6,4 - 08IP - 1,28Nm	2.60 12400	M4x8 - SW2 - 1,5Nm	2.98 12900		
23 - 25	M2,5x6,4 - 08IP - 1,28Nm	2.60 12400	M4x8 - SW2 - 1,5Nm	2.98 12900		
26 - 29	M3x7,4 - 08IP - 2,25Nm	2.60 12500	M5x10 - SW2,5 - 2,5Nm	2.98 13000		
30 - 32	M3x7,4 - 08IP - 2,25Nm	2.60 12500	M5x10 - SW2,5 - 2,5Nm	2.98 13000		
33 - 36	M4x8,9 - 15IP - 4,3Nm	2.60 12000	M5x12 - SW2,5 - 2,5Nm	2.98 13100		
37 - 39	M4x8,9 - 15IP - 4,3Nm	2.60 12000	M5x12 - SW2,5 - 2,5Nm	2.98 13100		
40 - 45	M4,5x10,5 - 20IP - 6,25Nm	2.60 12600	M6x12 - SW3 - 5Nm	2.98 13200		
46 - 54	M5x11,5 - 20IP - 6,25Nm	2.60 12100	M8x16 - SW4 - 8Nm	2.98 13300		
55 - 64	M5,5x14 - 20IP - 6,25Nm	2.60 12200	M8x16 - SW4 - 8Nm	2.98 13300		

Exploded drawing of the drill head Ø 20–64 mm



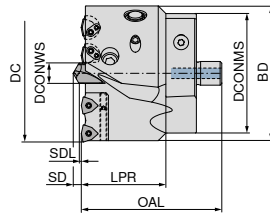
i For correct assembly, please observe the operating instructions provided.

KUB Centron – drill bit Ø 65-81 mm

- ▲ The pre-assembled drill bit is ready to use
- ▲ The indexable inserts and centring tip must be professionally assembled
- ▲ KLG = Coupling size

Scope of supply:

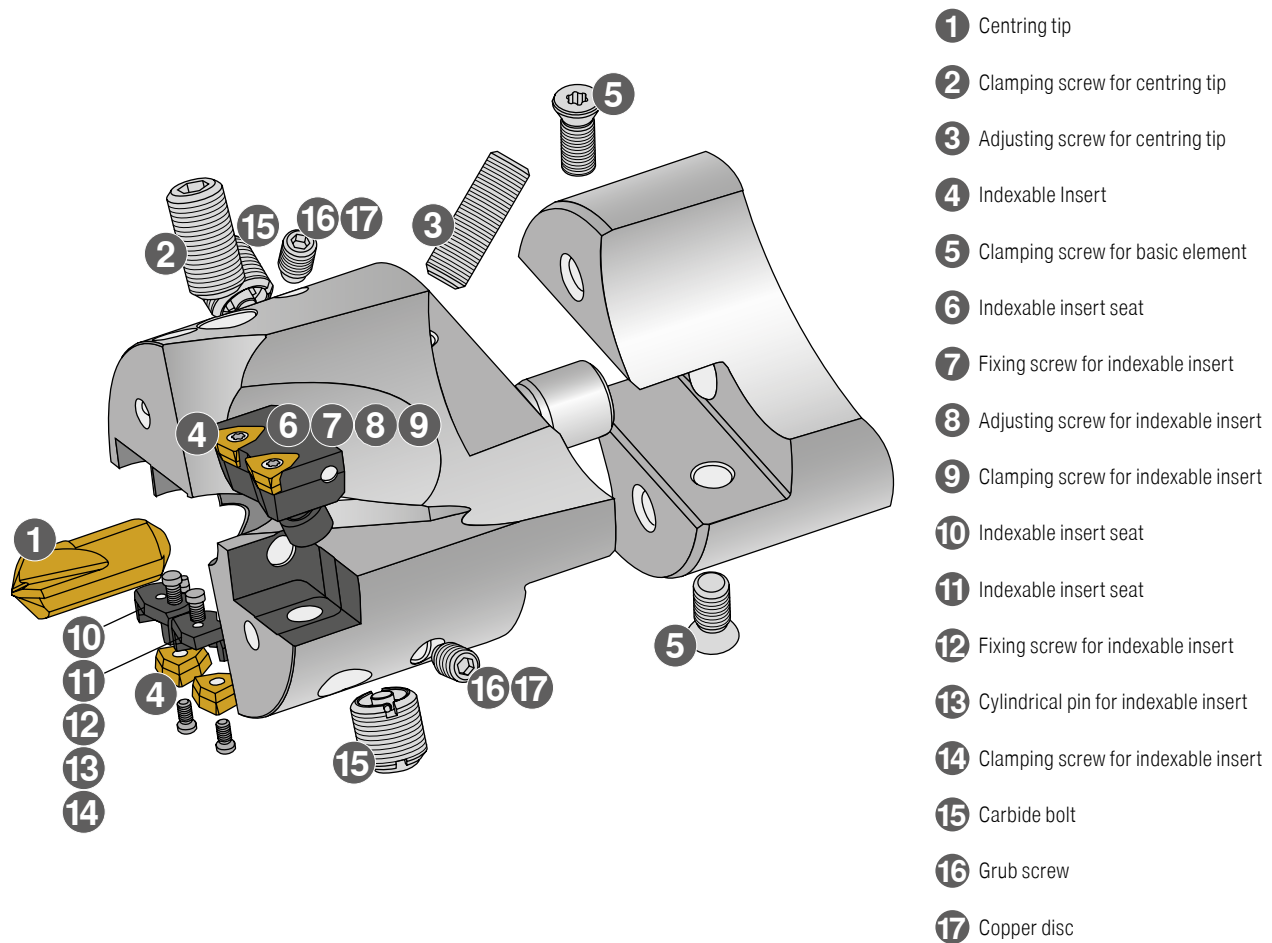
- ▲ Drill bit incl. screws, indexable insert, carbide bolt, key, grub screw and copper disc
- ▲ Order centring tip and indexable inserts separately



Designation	KOMET no.	DC	OAL	LPR	SD	BD	SDL	DCONMS	DCONWS	KLG	torque moment Nm	Insert	Article no. 10 860 ... EUR
KUB-C.BK.650.R.08-63,5	V46 50650	65	63.0	35	4.67	63.5	1.45	63.5	12	63,5	6,25	WOEX 05T304	732.20 65000
KUB-C.BK.660.R.08-63,5	V46 50660	66	63.0	35	4.67	64.5	1.45	63.5	12	63,5	6,25	WOEX 05T304	732.20 66000
KUB-C.BK.670.R.08-63,5	V46 50670	67	63.0	35	4.67	65.5	1.45	63.5	12	63,5	6,25	WOEX 05T304	732.20 67000
KUB-C.BK.680.R.08-63,5	V46 50680	68	63.0	35	4.67	66.5	1.45	63.5	12	63,5	6,25	WOEX 05T304	732.20 68000
KUB-C.BK.690.R.08-63,5	V46 50690	69	63.0	35	4.67	67.5	1.45	63.5	12	63,5	6,25	WOEX 05T304	732.20 69000
KUB-C.BK.700.R.08-63,5	V46 50700	70	63.0	35	4.67	68.5	1.45	63.5	12	63,5	6,25	WOEX 05T304	732.20 70000
KUB-C.BK.710.R.08-70,5	V46 50710	71	63.0	35	4.67	69.5	1.45	70.5	12	70,5	6,25	WOEX 05T304	732.20 71000
KUB-C.BK.720.R.08-70,5	V46 50720	72	80.5	50	4.67	70.5	1.45	70.5	12	70,5	6,25	WOEX 05T304	859.00 72000
KUB-C.BK.730.R.08-70,5	V46 50730	73	80.5	50	4.67	71.5	1.45	70.5	12	70,5	6,25	WOEX 05T304	859.00 73000
KUB-C.BK.740.R.08-70,5	V46 50740	74	80.5	50	4.67	72.5	1.45	70.5	12	70,5	6,25	WOEX 05T304	859.00 74000
KUB-C.BK.750.R.08-70,5	V46 50750	75	80.5	50	4.67	73.5	1.45	70.5	12	70,5	6,25	WOEX 05T304	859.00 75000
KUB-C.BK.760.R.08-70,5	V46 50760	76	80.5	50	4.67	74.5	1.45	70.5	12	70,5	6,25	WOEX 05T304	859.00 76000
KUB-C.BK.770.R.08-70,5	V46 50770	77	80.5	50	4.67	75.5	1.45	70.5	12	70,5	6,25	WOEX 05T304	859.00 77000
KUB-C.BK.780.R.08-70,5	V46 50780	78	80.5	50	4.67	76.5	1.45	70.5	12	70,5	6,25	WOEX 05T304	859.00 78000
KUB-C.BK.790.R.08-70,5	V46 50790	79	80.5	50	4.67	77.5	1.45	70.5	12	70,5	6,25	WOEX 05T304	859.00 79000
KUB-C.BK.800.R.08-70,5	V46 50800	80	80.5	50	4.67	78.5	1.45	70.5	12	70,5	6,25	WOEX 05T304	859.00 80000
KUB-C.BK.810.R.08-70,5	V46 50810	81	80.5	50	4.67	79.5	1.45	70.5	12	70,5	6,25	WOEX 05T304	859.00 81000

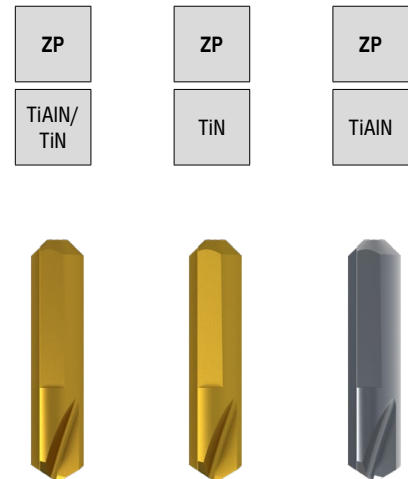
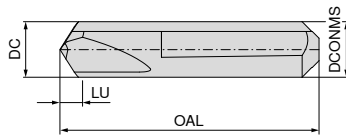
Spare parts DC	W7		W7		W7		W7	
	Grub screw	Article no. 10 950 ... EUR	Copper disc	Article no. 10 950 ... EUR	Indexable insert fixing screw	Article no. 10 950 ... EUR	Indexable insert fixing screw	Article no. 10 950 ... EUR
65 - 71	M6x8 - SW3	0.87 11300	Ø4,5x1,5	1.75 11400	M4,5x11,5 - T15	2.36 13500	M2,5x6 - 08IP - 1,28Nm	2.36 11600
72 - 75	M6x8 - SW3	0.87 11300	Ø4,5x1,5	1.75 11400	M5x12 - SW2,5	0.87 11000	M2,5x6 - 08IP - 1,28Nm	2.36 11600
76 - 78	M6x8 - SW3	0.87 11300	Ø4,5x1,5	1.75 11400	M5x12 - SW2,5	0.87 11000	M2,5x6 - 08IP - 1,28Nm	2.36 11600
79 - 81	M6x8 - SW3	0.87 11300	Ø4,5x1,5	1.75 11400	M5x12 - SW2,5	0.87 11000	M2,5x6 - 08IP - 1,28Nm	2.36 11600
Spare parts DC	2B/6#		2B/6#		W7		W7	
	Indexable insert seat	Article no. 10 950 ... EUR	Indexable insert seat	Article no. 10 950 ... EUR	Indexable insert adjusting screw	Article no. 10 950 ... EUR	Basic element clamping screw	Article no. 10 950 ... EUR
65 - 71		73.11 13700		73.11 13600	M4x8 - SW2	0.87 11100	M6x16 - 20IP - 6,25Nm	2.44 12300
72 - 75		73.11 13700		73.11 13600	M4x10 - SW2	0.87 11200	M6x16 - 20IP - 6,25Nm	2.44 12300
76 - 78		73.11 13700		73.11 13600	M4x10 - SW2	0.87 11200	M6x16 - 20IP - 6,25Nm	2.44 12300
79 - 81		73.11 13700		73.11 13600	M4x10 - SW2	0.87 11200	M6x16 - 20IP - 6,25Nm	2.44 12300
Spare parts DC	W7		W7		W7		W7	
	Carbide bolt key	Article no. 10 950 ... EUR	Carbide bolt	Article no. 10 950 ... EUR	Indexable insert clamping screw	Article no. 10 950 ... EUR	Centring tip clamping screw	Article no. 10 950 ... EUR
65 - 71		25.37 15500	M12x1	116.50 15400	M2,5x7,2 - 08IP	2.36 10500	M10x20 - SW5 - 16Nm	2.71 13400
72 - 75		25.37 15500	M12x1	116.50 15400	M2,5x7,2 - 08IP	2.36 10500	M10x20 - SW5 - 16Nm	2.71 13400
76 - 78		25.37 15500	M12x1	116.50 15400	M2,5x7,2 - 08IP	2.36 10500	M10x20 - SW5 - 16Nm	2.71 13400
79 - 81		25.37 15500	M12x1	116.50 15400	M2,5x7,2 - 08IP	2.36 10500	M10x20 - SW5 - 16Nm	2.71 13400

Exploded drawing of the drill head Ø 65–81 mm



i For correct assembly, please observe the operating instructions provided.

KUB Centron – centring tip



DC	KOMET no.	OAL	LU	DCONMS	120° Solid carbide		120° HSS		120° HSS	
					NEW T2	Article no.	NEW T2	Article no.	NEW T2	Article no.
mm		mm	mm	mm	£	10 863 ...	£	10 862 ...	£	10 862 ...
5	V95 10012.0089	21.5	2.25	5			35.40	00500	35.40	10500
5	V95 10012.0090	21.5	2.25	5						
5	V95 10310.8450	21.5	2.25	5	81.72	20500				
6	V95 10022.0089	23.0	2.65	6			35.40	00600	35.40	10600
6	V95 10022.0090	23.0	2.65	6						
6	V95 10320.8450	23.0	2.65	6	81.72	20600				
8	V95 10032.0089	27.0	3.38	8			38.63	00800	38.63	10800
8	V95 10032.0090	27.0	3.38	8						
8	V95 10330.8450	27.0	3.38	8	100.80	20800				
10	V95 10042.0089	28.0	3.86	10			43.54	01000	43.54	11000
10	V95 10042.0090	28.0	3.86	10						
10	V95 10340.8450	28.0	3.86	10	109.51	21000				
12	V95 10050.0089	30.8	4.67	12			55.13	01200	55.13	11200
12	V95 10050.0090	30.8	4.67	12						
Steel					•		•			
Stainless steel					•				•	
Cast iron					•				•	
Non ferrous metals					•		•		•	
Heat resistant alloys							○			
Hardened materials										

→ v_c/fz Page 30+31

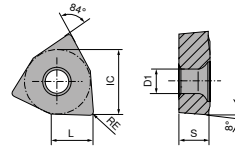
i The cutting data of the KUB Centron depends on the centring tip and not on the indexable inserts. Please select the cutting data of the centring tip.

i For correct assembly, please observe the operating instructions provided.

i Article No. 10 863 ... is only suitable up to drilling depth 6xD.

WOEX

Designation	L	IC	S	D1
	mm	mm	mm	mm
WOEX 0302..	3.2	5.00	2.30	2.30
WOEX 0403..	4.1	6.35	3.18	2.55
WOEX 05T3..	5.3	8.00	3.80	2.85
WOEX 06T3..	6.6	10.00	3.80	4.05



ISO	KOMET no.	RE	-01 BK8425		-03 BK8425		-13 BK8425		-01 BK7935		-01 BK6115	
												
			WOEX 1A/3# Article no. 10 821 ... £		WOEX 1A/3# Article no. 10 821 ... £		WOEX 1A/3# Article no. 10 821 ... £		WOEX 1A/3# Article no. 10 821 ... £		WOEX 1A/3# Article no. 10 821 ... £	
		mm										
030204	W29 10130.048425	0.4					12.48	30313				
030204	W29 10030.048425	0.4			10.59	30303			10.89	50301		
030204	W29 10010.047935	0.4	10.31	30301								
030204	W29 10010.048425	0.4									14.94	40301
030204	W29 10010.046115	0.4					12.57	30413				
040304	W29 18130.048425	0.4			11.25	30403			11.55	50401		
040304	W29 18030.048425	0.4										
040304	W29 18010.047935	0.4										
040304	W29 18010.048425	0.4	10.96	30401								
040304	W29 18010.046115	0.4									15.04	40401
040304	W29 24130.048425	0.4			15.88	30503	12.85	30513				
05T304	W29 24030.048425	0.4							11.72	50501		
05T304	W29 24010.047935	0.4										
05T304	W29 24010.048425	0.4	11.25	30501								
05T304	W29 24010.046115	0.4										
06T304	W29 34130.048425	0.4			16.64	30603	14.18	30613			14.46	40501
06T304	W29 34030.048425	0.4							13.31	50601		
06T304	W29 34010.047935	0.4										
06T304	W29 34010.048425	0.4	12.57	30601								
06T304	W29 34010.046115	0.4									16.07	40601
080404	W29 42130.048425	0.4					17.96	30813				
Steel			•		•		•		•		•	
Stainless steel			•		•		•		•		•	
Cast iron			•		•		•		•		•	
Non ferrous metals									○			
Heat resistant alloys									•			
Hardened materials											○	

ISO	KOMET no.	RE	-01 BK7615		-01 BK62		-11 BK77		-13 BK79	
										
			WOEX 1A/3# Article no. 10 821 ... £		WOEX 1A/3# Article no. 10 821 ... £		WOEX 1A/3# Article no. 10 821 ... £		WOEX 1A/3# Article no. 10 821 ... £	
		mm								
030204	W29 10010.0462	0.4								
030204	W29 10110.0477	0.4			10.73	20301				
030204	W29 10010.047615	0.4	17.21	05301			10.73	80311		
030204	W29 10130.0479	0.4							12.48	15313
040304	W29 18110.0477	0.4					11.28	80411		
040304	W29 18010.0462	0.4			11.28	20401				
040304	W29 18010.047615	0.4	17.30	05401						
040304	W29 18130.0479	0.4							12.57	15413
05T304	W29 24110.0477	0.4					11.39	80511		
05T304	W29 24010.0462	0.4			11.39	20501				
05T304	W29 24010.047615	0.4	18.05	05501						
05T304	W29 24130.0479	0.4							12.85	15513
06T304	W29 34110.0477	0.4					12.76	80611		
06T304	W29 34010.0462	0.4			12.87	20601				
06T304	W29 34010.047615	0.4	19.38	05601					14.18	15613
06T304	W29 34130.0479	0.4								
080404	W29 42110.0477	0.4					16.35	80811		
080404	W29 42010.047615	0.4	23.64	05801					18.15	15813
080404	W29 42130.0479	0.4								
Steel									•	
Stainless steel									•	
Cast iron					•	•				
Non ferrous metals								•		
Heat resistant alloys								•		
Hardened materials					○	○				

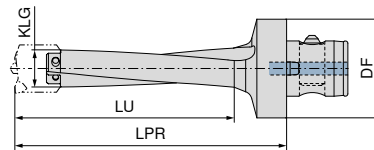
KUB Centron – basic element

▲ KLG = Coupling Size

≤ 4xD



ABS

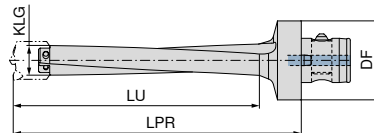


Designation	KOMET no.	DF	LU	LPR	KLG	NEW 2B/6# Article no. 10 864 ... £	
		mm	mm	mm			
KUB-C.GH.4D.190-ABS50	V47 20201	50	113	145	19	365.91	19095
KUB-C.GH.4D.250-ABS50	V47 20261	50	130	160	25	365.91	25095
KUB-C.GH.4D.320-ABS50	V47 20331	50	160	195	32	365.91	32095
KUB-C.GH.4D.385-ABS63	V47 20401	63	185	235	38,5	547.45	38596
KUB-C.GH.4D.445-ABS80	V47 20461	80	215	280	44,5	547.45	44598
KUB-C.GH.4D.535-ABS80	V47 20551	80	260	325	53,5	679.82	53598
KUB-C.GH.4D.635-ABS80	V47 20651	80	295	375	63,5	761.09	63598
KUB-C.GH.4D.705-ABS100	V47 20721	100	325	405	70,5	811.18	70591

≤ 6xD



ABS

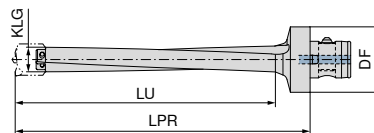


Designation	KOMET no.	DF	LU	LPR	KLG	NEW 2B/6# Article no. 10 866 ... £	
		mm	mm	mm			
KUB-C.GH.6D.190-ABS50	V47 40201	50	150	185	19	435.82	19095
KUB-C.GH.6D.250-ABS50	V47 40261	50	175	210	25	435.82	25095
KUB-C.GH.6D.320-ABS50	V47 40331	50	215	255	32	435.82	32095
KUB-C.GH.6D.385-ABS63	V47 40401	63	260	310	38,5	598.45	38596
KUB-C.GH.6D.445-ABS80	V47 40461	80	310	375	44,5	598.45	44598
KUB-C.GH.6D.535-ABS80	V47 40551	80	370	435	53,5	811.18	53598
KUB-C.GH.6D.635-ABS80	V47 40651	80	420	500	63,5	854.73	63598
KUB-C.GH.6D.705-ABS100	V47 40721	100	460	540	70,5	909.09	70591

≤ 9xD



ABS



Designation	KOMET no.	DF	LU	LPR	KLG	NEW 2B/6# Article no. 10 869 ... £	
		mm	mm	mm			
KUB-C.GH.9D.190-ABS50	V47 60201	50	200	235	19	481.27	19095
KUB-C.GH.9D.250-ABS50	V47 60261	50	230	260	25	481.27	25095
KUB-C.GH.9D.320-ABS50	V47 60331	50	290	330	32	481.27	32095
KUB-C.GH.9D.385-ABS63	V47 60401	63	340	390	38,5	651.45	38596
KUB-C.GH.9D.445-ABS80	V47 60461	80	415	480	44,5	651.45	44598
KUB-C.GH.9D.535-ABS80	V47 60551	80	495	560	53,5	902.91	53598
KUB-C.GH.9D.635-ABS80	V47 60651	80	560	640	63,5	975.45	63598
KUB-C.GH.9D.705-ABS100	V47 60721	100	610	690	70,5	1,023.64	70591

i For correct assembly, please observe the operating instructions provided.

Material examples referring to the cutting data tables

	Index	Material	Strength N/mm ² / HB / HRC	Material number	Material designation	Material number	Material designation	Material number	Material designation
P	1.1	General construction steel	< 800 N/mm ²	1.0402	EN3B				
	1.2	Free cutting steel	< 800 N/mm ²	1.0711	EN1A				
	1.3	Hardened steel, non alloyed	< 800 N/mm ²	1.0401	EN32C				
	1.4	Alloyed hardened steel	< 1000 N/mm ²	1.7325	25 CD4				
	1.5	Tempering steel, unalloyed	< 850 N/mm ²	1.5752	EN36	1.0535	EN9		
	1.6	Tempering steel, unalloyed	< 1000 N/mm ²	1.6582	EN24				
	1.7	Tempering steel, alloyed	< 800 N/mm ²	1.7225	EN19				
	1.8	Tempering steel, alloyed	< 1300 N/mm ²	1.8515	EN40B				
	1.9	Steel castings	< 850 N/mm ²	0.9650	G-X 260 Cr 27	1.6750	GS-20 NiCrMo 3.7	1.6582	GS-34 CrNiMo 6
	1.10	Nitriding steel	< 1000 N/mm ²	1.8509	EN41B				
	1.11	Nitriding steel	< 1200 N/mm ²	1.1186	EN8	1.1160	EN14A		
	1.12	Roller bearing steel	< 1200 N/mm ²	1.3505	534A99				
	1.13	Spring steel	< 1200 N/mm ²		EN45		EN47		EN43
	1.14	High-speed steel	< 1300 N/mm ²	1.3343	M2	1.3249	M34		
	1.15	Cold working tool steel	< 1300 N/mm ²	1.2379	D2	1.2311	P20		
	1.16	Hot working tool steel	< 1300 N/mm ²	1.2344	H13				
M	2.1	Cast steel and sulphured stainless steel	< 850 N/mm ²	1.4581	318				
	2.2	Stainless steel, ferritic	< 750 N/mm ²	1.4000	403				
	2.3	Stainless steel, martensitic	< 900 N/mm ²	1.4057	EN57				
	2.4	Stainless steel, ferritic / martensitic	< 1100 N/mm ²	1.4028	EN56B				
	2.5	Stainless steel, austenitic / ferritic	< 850 N/mm ²	1.4542	17-4PH				
	2.6	Stainless steel, austenitic	< 750 N/mm ²	1.4305	303	1.4401	316	1.4301	304
	2.7	Heat resistant steel	< 1100 N/mm ²	1.4876	Incoloy 800				
K	3.1	Grey cast iron with lamellar graphite	100–350 N/mm ²	0.6015	Grade 150	0.6020	Grade 220	0.6025	Grade 260
	3.2	Grey cast iron with lamellar graphite	300–500 N/mm ²	0.6030	Grade 300	0.6035	Grade 350	0.6040	Grade 400
	3.3	Gray cast iron with spheroidal graphite	300–500 N/mm ²	0.7040	SG 400-12	0.7043	SG 370-17	0.7050	SG 500-7
	3.4	Gray cast iron with spheroidal graphite	500–900 N/mm ²	0.7060	SG 600-3	0.7070	SG 700-2	0.7080	SG 800-2
	3.5	White malleable cast iron	270–450 N/mm ²	0.8035	GTW-35	0.8045	GTW-45		
	3.6	White malleable cast iron	500–650 N/mm ²	0.8055	GTW-55	0.8065	GTW-65		
	3.7	Black malleable cast iron	300–450 N/mm ²	0.8135	GTS-35	0.8145	GTS-45		
	3.8	Black malleable cast iron	500–800 N/mm ²	0.8155	GTS-55	0.8170	GTS-70		
N	4.1	Aluminium (non alloyed, low alloyed)	< 350 N/mm ²	3.0255	1050 A	3.0275	1070 A	3.0285	1080 A (A8)
	4.2	Aluminium alloys < 0.5 % Si	< 500 N/mm ²	3.1325	2017 A (AU4G)	3.4335	7005 (AZ5G)	3.4365	7075 (AZ5GU)
	4.3	Aluminium alloy 0.5–10 % Si	< 400 N/mm ²	3.2315	A-G S1	3.2373	A-S9 G	3.2151	A-S 6 U4
	4.4	Aluminium alloys 10–15 % Si	< 400 N/mm ²	3.2581	A-S12	3.2583	A-S12 U		
	4.5	Aluminum alloys > 15 % Si	< 400 N/mm ²		A-S18	A-S17 U4			
	4.6	Copper (non alloyed, low alloyed)	< 350 N/mm ²	2.0040	Cu-c1	2.0060	Cu-a1	2.0090	Cu-b1
	4.7	Copper wrought alloys	< 700 N/mm ²	2.1247	Cub2 (Beryllium Copper)	2.0855	CuN2S (Nickel Copper)	2.1310	CU-Fe2P
	4.8	Special copper alloys	< 200 HB	2.0916	Cu-A5	2.1525	Cu-S3 M		Ampco 8 (Cu-A6Fe2)
	4.9	Special copper alloys	< 300 HB	2.0978	Cu-A11 Fe5 Ni5		Ampco 18 (Cu- A10 Fe3)		
	4.10	Special copper alloys	> 300 HB	2.1247	Cu Be2		Ampco M4		
	4.11	Short-chipping brass, bronze, red bronze	< 600 N/mm ²	2.0331	Cu Zn36 Pb1,5	2.0380	Cu Zn39 Pb2 (Ms 56)	2.0410	Cu Zn44 Pb2
	4.12	Long-chipping brass	< 600 N/mm ²	2.0335	Cu Zn 36 (Ms63)	2.1293	Cu Cr1 Zr		
	4.13	Thermoplastics		PE	PVC	PS	Polystyrene		Plexiglas
	4.14	Duroplastics		PF	Bakelite		Pertinax		
	4.15	Fibre-reinforced plastics			Carbon Fibre		Fibreglass		Aramid Fibre (Kevlar)
	4.16	Magnesium and magnesium alloys	< 850 N/mm ²	3.5812	Mg A7 Z1	3.5662	Mg A9	3.5105	Mg Tr3 Z2 Zn 1
	4.17	Graphite			R8500X		R8650		Technograph 15
	4.18	Tungsten and tungsten alloys			W-Ni Fe (Densimet)		W- Ni Cu (Inermet)		Denal
	4.19	Molybdenum and molybdenum alloys			TZM		MHQ		Mo W
S	5.1	Pure nickel		2.4066	Ni99 (Nickel 200)	2.4068	Lc Ni99 (Nickel 201)		
	5.2	Nickel alloys		1.3912	Fe-Ni36 (Invar)	1.3917	Fe- Ni42 (N42)	1.3922	Fe-Ni48 (N48)
	5.3	Nickel alloys	< 850 N/mm ²	2.4375	Ni Cu30 Al (Monel K500)	2.4360	Ni Cu30Fe (Monel 400)	2.4668	
	5.4	Nickel molybdenum alloys		2.4600	Ni Mo30Cr2 (Hastelloy B4)	2.4617	Ni Mo28 (Hastelloy B2)	2.4819	Ni Mo16Cr16 Hastell. C276
	5.5	Nickel-chromium alloys	< 1300 N/mm ²	2.4951	Ni Cr20TiAl (Nimonic 80A)	2.4858	Ni Cr21Mo (Inconel 825)	2.4856	Ni Cr22Mo9Nb Inconel 625
	5.6	Cobalt Chrome Alloys	< 1300 N/mm ²	2.4964	Co Cr20 W15 Ni10		Co Cr20 Ni16 Mo7		Co Cr28 Mo 6
	5.7	Heat resistant alloys	< 1300 N/mm ²	1.4718	Z45 C S 9-3	1.4747	Z80 CSN 20-02	1.4845	Z12 CN 25-20
	5.8	Nickel-cobalt-chromium alloys	< 1400 N/mm ²	2.4851	Ni Cr23Fe (Inconel 601)	2.4668	Ni Cr19NbMo (Inconel 718)	2.4602	Ni Cr21Mo14 Hastelloy C22
	5.9	Pure titanium	< 900 N/mm ²	3.7025	T35 (Titanium Grade 1)	3.7034	T40 (Titanium Grade 2)	3.7064	T60 (Titanium Grade 4)
	5.10	Titanium alloys	< 700 N/mm ²		T-A6-Nb7 (367)		T-A5-Sn2-Mo4-Cr4 (Ti17)		T-A3-V2,5 (Gr18)
	5.11	Titanium alloys	< 1200 N/mm ²	3.7165	T-A6-V4 (Ta6V)		T-A4-3V-Mo2-Fe2 (SP700)		T-A5-Sn1-Zr1-V1-Mo (Gr32)
H	6.1		< 45 HRC						
	6.2		46–55 HRC						
	6.3	Tempered steel	56–60 HRC						
	6.4		61–65 HRC						
	6.5		65–70 HRC						

Cutting data standard values – KUB Centron

		Drill bit diameter											
		Ø 20–25 mm				Ø 26–32 mm				Ø 33–45 mm			
Index	f mm/rev.	Centring tip V _c			f mm/rev.	Centring tip V _c			f mm/rev.	Centring tip V _c			
		10 863 ...	10 862 ... (TiN)	10 862 ... (TiAlN)		10 863 ...	10 862 ... (TiN)	10 862 ... (TiAlN)		10 863 ...	10 862 ... (TiN)	10 862 ... (TiAlN)	
P	1.1	0,06–0,09	250	160	0,06–0,09	250	170		0,06–0,10	250	200		
	1.2	0,08–0,12	250	160	0,08–0,14	250	170		0,08–0,14	250	200		
	1.3	0,08–0,12	180	140	0,10–0,14	180	170		0,10–0,14	180	180		
	1.4	0,08–0,12	180	140	0,10–0,14	180	170		0,10–0,14	180	180		
	1.5	0,06–0,10	200	160	0,06–0,12	200	170		0,06–0,12	200	200		
	1.6	0,08–0,12	180	140	0,10–0,14	180	170		0,10–0,14	180	180		
	1.7	0,08–0,12	180	140	0,10–0,14	180	170		0,10–0,14	180	180		
	1.8	0,08–0,12	180	140	0,10–0,14	180	160		0,10–0,14	180	180		
	1.9	0,08–0,12	180	140	0,10–0,14	180	160		0,10–0,14	180	180		
	1.10	0,08–0,10	180	140	0,08–0,10	180	140		0,08–0,10	180	140		
	1.11	0,06–0,10	160	120	0,06–0,10	160	120		0,06–0,10	160	120		
	1.12	0,06–0,10	160	120	0,06–0,10	160	120		0,06–0,10	160	120		
	1.13	0,06–0,08	160	120	0,06–0,08	160	120		0,06–0,08	160	120		
	1.14	0,05–0,07	80	80	0,05–0,07	80	80		0,05–0,07	80	80		
	1.15	0,04–0,08	160	120	0,06–0,10	160	160		0,06–0,10	160	160		
	1.16	0,04–0,08	160	120	0,06–0,10	160	160		0,06–0,10	160	160		
M	2.1	0,05–0,07	180		70	0,06–0,10	180	70	0,06–0,10	180		90	
	2.2	0,05–0,07	180		70	0,06–0,10	180	70	0,06–0,10	180		90	
	2.3	0,05–0,07	160		70	0,06–0,10	160	70	0,06–0,10	160		90	
	2.4	0,05–0,07	160		70	0,06–0,10	160	70	0,06–0,10	160		90	
	2.5	0,06–0,10	160		70	0,08–0,12	160	70	0,08–0,12	160		90	
	2.6	0,06–0,10	160		70	0,08–0,12	160	70	0,08–0,12	160		90	
	2.7	0,05–0,08	120		70	0,06–0,10	120	70	0,06–0,10	120		90	
K	3.1	0,08–0,14	200		100	0,10–0,16	200	110	0,10–0,16	200		120	
	3.2	0,06–0,12	160		100	0,08–0,14	160	110	0,08–0,14	160		120	
	3.3	0,06–0,12	160		100	0,08–0,14	160	110	0,08–0,14	160		120	
	3.4	0,06–0,12	140		100	0,08–0,14	140	110	0,08–0,14	140		110	
	3.5	0,06–0,12	120		100	0,08–0,14	120	110	0,08–0,14	120		120	
	3.6	0,06–0,10	100		100	0,08–0,12	100	100	0,08–0,12	100		100	
	3.7	0,06–0,12	120		100	0,08–0,14	120	110	0,08–0,14	120		120	
	3.8	0,06–0,10	100		100	0,08–0,12	100	100	0,08–0,12	100		100	
N	4.1	0,05–0,07	450	350	350	0,05–0,07	450	350	350	0,05–0,07	450	350	350
	4.2	0,05–0,07	350	350	350	0,05–0,07	350	350	350	0,05–0,07	350	350	350
	4.3	0,05–0,07	350	350	350	0,05–0,07	350	350	350	0,05–0,07	350	350	350
	4.4	0,06–0,10	250	250	250	0,08–0,12	250	250	250	0,10–0,14	250	250	250
	4.5	0,08–0,12	200	200	200	0,08–0,14	200	200	200	0,08–0,14	200	200	200
	4.6	0,08–0,14	250	200	200	0,10–0,16	250	200	200	0,10–0,16	250	200	200
	4.7	0,08–0,14	250	200	200	0,10–0,16	250	200	200	0,10–0,16	250	200	200
	4.8	0,08–0,14	250	200	200	0,10–0,16	250	200	200	0,10–0,16	250	200	200
	4.9	0,08–0,12	250	200	200	0,08–0,14	250	200	200	0,08–0,14	250	200	200
	4.10	0,08–0,12	250	200	200	0,08–0,14	250	200	200	0,08–0,14	250	200	200
	4.11	0,08–0,14	250	200	200	0,10–0,16	250	200	200	0,10–0,16	250	200	200
	4.12	0,08–0,14	250	200	200	0,10–0,16	250	200	200	0,10–0,16	250	200	200
	4.13												
	4.14												
	4.15	0,02–0,06	50	25	25	0,02–0,06	50	25	25	0,02–0,06	50	25	25
	4.16												
	4.17												
	4.18												
	4.19												
S	5.1												
	5.2	0,02–0,06		25		0,02–0,06		25		0,02–0,06		25	
	5.3	0,02–0,06		25		0,02–0,06		25		0,02–0,06		25	
	5.4	0,02–0,06		25		0,02–0,06		25		0,02–0,06		25	
	5.5	0,02–0,06		25		0,02–0,06		25		0,02–0,06		25	
	5.6	0,02–0,06		25		0,02–0,06		25		0,02–0,06		25	
	5.7	0,02–0,05		25		0,02–0,05		25		0,02–0,05		25	
	5.8	0,02–0,05		25		0,02–0,05		25		0,02–0,05		25	
	5.9	0,03–0,07		50		0,03–0,07		50		0,03–0,07		50	
	5.10	0,03–0,07		40		0,03–0,07		40		0,03–0,07		40	
	5.11	0,03–0,07		40		0,03–0,07		40		0,03–0,07		40	
H	6.1												
	6.2												
	6.3												
	6.4												
	6.5												



During the drilling operation on through holes a sharp disk will be produced. Safety precautions must be observed. A safety guard has to be provided as protection.



The cutting data of the KUB Centron depends on the centring tip and not on the indexable inserts. Please select the cutting data of the centring tip.

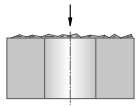
Drill bit diameter													
Ø 46–54 mm				Ø 55–64 mm				Ø 65–71 mm			Ø 72–81 mm		
f	Centring tip V _c			f	Centring tip V _c			f	Centring tip V _c		f	Centring tip V _c	
mm/rev.	10 863 ...	10 862 ... (TiN)	10 862 ... (TiAlN)	mm/rev.	10 863 ...	10 862 ... (TiN)	10 862 ... (TiAlN)	mm/rev.	10 862 ... (TiN)	10 862 ... (TiAlN)	mm/rev.	10 862 ... (TiN)	10 862 ... (TiAlN)
0,06–0,12	250	180		0,06–0,12	250	180		0,06–0,10	210		0,06–0,12	210	
0,08–0,14	250	180		0,10–0,16	250	180		0,08–0,14	210		0,10–0,16	210	
0,10–0,14	180	180		0,10–0,16	180	180		0,08–0,14	180		0,10–0,16	180	
0,10–0,14	180	180		0,10–0,16	180	180		0,08–0,14	180		0,10–0,16	180	
0,06–0,14	200	180		0,08–0,16	200	180		0,08–0,12	210		0,08–0,14	210	
0,10–0,14	180	180		0,10–0,16	180	180		0,08–0,14	180		0,10–0,16	180	
0,10–0,14	180	180		0,10–0,16	180	180		0,08–0,14	180		0,10–0,16	180	
0,10–0,14	180	180		0,10–0,16	180	180		0,08–0,14	180		0,10–0,16	180	
0,10–0,14	180	180		0,10–0,16	180	180		0,08–0,14	180		0,10–0,16	180	
0,08–0,10	180	140		0,08–0,10	180	140		0,08–0,10	140		0,08–0,10	140	
0,06–0,10	160	120		0,06–0,10	160	120		0,06–0,10	120		0,06–0,10	120	
0,06–0,10	160	120		0,06–0,10	160	120		0,06–0,10	120		0,06–0,10	120	
0,06–0,08	160	120		0,06–0,08	160	120		0,06–0,08	120		0,06–0,08	120	
0,05–0,07	80	80		0,05–0,08	80	80		0,05–0,08	80		0,05–0,08	80	
0,08–0,12	160	160		0,08–0,12	160	160		0,06–0,10	160		0,06–0,12	160	
0,08–0,12	160	160		0,08–0,12	160	160		0,06–0,10	160		0,06–0,12	160	
0,06–0,10	180		90	0,06–0,12	180		90	0,06–0,10		100	0,06–0,12		100
0,06–0,10	180		90	0,06–0,12	180		90	0,06–0,10		100	0,06–0,12		100
0,06–0,10	160		90	0,06–0,12	160		90	0,06–0,10		100	0,06–0,12		100
0,06–0,10	160		90	0,06–0,12	160		90	0,06–0,10		100	0,06–0,12		100
0,08–0,12	160		90	0,08–0,14	160		90	0,08–0,14		100	0,08–0,14		100
0,08–0,12	160		90	0,08–0,14	160		90	0,08–0,14		100	0,08–0,14		100
0,06–0,10	120		90	0,06–0,12	120		90	0,06–0,10		100	0,06–0,12		100
0,12–0,18	200		120	0,15–0,25	200		120	0,10–0,16		140	0,15–0,20		140
0,10–0,15	160		120	0,12–0,20	160		120	0,10–0,16		140	0,12–0,20		140
0,10–0,18	160		120	0,12–0,25	160		120	0,10–0,16		140	0,15–0,20		140
0,10–0,18	140		110	0,12–0,25	140		110	0,10–0,16		140	0,15–0,20		140
0,10–0,18	120		120	0,12–0,25	120		120	0,10–0,14		120	0,12–0,16		120
0,10–0,15	100		100	0,12–0,20	100		100	0,10–0,14		100	0,10–0,14		120
0,10–0,18	120		120	0,12–0,25	120		120	0,10–0,14		120	0,12–0,16		120
0,10–0,15	100		100	0,12–0,20	100		100	0,10–0,14		100	0,10–0,14		120
0,06–0,10	450	350	350	0,06–0,12	450	350	350	0,06–0,08	350	350	0,06–0,10	350	350
0,06–0,10	350	350	350	0,06–0,12	350	350	350	0,06–0,08	350	350	0,06–0,10	350	350
0,06–0,10	350	350	350	0,06–0,12	350	350	350	0,06–0,08	350	350	0,06–0,10	350	350
0,12–0,18	250	250	250	0,15–0,25	250	250	250	0,08–0,14	250	250	0,10–0,16	250	250
0,09–0,15	200	200	200	0,14–0,20	200	200	200	0,06–0,12	200	200	0,08–0,14	200	200
0,12–0,20	250	200	200	0,12–0,20	250	200	200	0,10–0,16	200	200	0,12–0,20	200	200
0,12–0,20	250	200	200	0,12–0,20	250	200	200	0,10–0,16	200	200	0,12–0,20	200	200
0,12–0,20	250	200	200	0,12–0,20	250	200	200	0,10–0,16	200	200	0,12–0,20	200	200
0,10–0,16	250	200	200	0,10–0,16	250	200	200	0,10–0,16	200	200	0,10–0,16	200	200
0,10–0,16	250	200	200	0,10–0,16	250	200	200	0,10–0,16	200	200	0,10–0,16	200	200
0,12–0,20	250	200	200	0,12–0,20	250	200	200	0,10–0,16	200	200	0,12–0,20	200	200
0,12–0,20	250	200	200	0,12–0,20	250	200	200	0,10–0,16	200	200	0,12–0,20	200	200
0,02–0,06	50	25	25	0,02–0,06	50	25	25	0,02–0,06	25	25	0,02–0,06	25	25
0,02–0,06		25		0,02–0,06		25		0,02–0,06	25		0,02–0,06	25	
0,02–0,06		25		0,02–0,06		25		0,02–0,06	25		0,02–0,06	25	
0,02–0,06		25		0,02–0,06		25		0,02–0,06	25		0,02–0,06	25	
0,02–0,06		25		0,02–0,06		25		0,02–0,06	25		0,02–0,06	25	
0,02–0,05		25		0,02–0,05		25		0,02–0,06	25		0,02–0,06	25	
0,02–0,05		25		0,02–0,05		25		0,02–0,06	25		0,02–0,06	25	
0,03–0,07		50		0,03–0,07		50		0,02–0,06	25		0,02–0,06	25	
0,03–0,07		40		0,03–0,07		40		0,02–0,06	25		0,02–0,06	25	
0,03–0,07		40		0,03–0,07		40		0,02–0,06	25		0,02–0,06	25	



In order to ensure efficient chip evacuation, coolant pressure must be at least 5 bar. Optimum pressure is > 15 bar.

Notes on drilling technology

1.



Spot drilling on uneven surfaces (casting surfaces)

- ▲ Generally possible
- ▲ Reduce feed when spot drilling

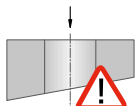
2.



Spot drilling on angled surfaces

- ▲ The spot drilling location must be spot faced in advance
- ▲ Avoid chips jamming on the drill shank

3.



Angled drill exit

- ▲ Possible under certain conditions
- ▲ If necessary, reduce feed
- ▲ Drilling angle max. 3°

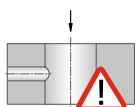
4.



Spot drilling on convex surfaces

- ▲ Central spot drilling possible with reduced feed
- ▲ If the spot drilling location is outside the centre of the radius, spot facing is required

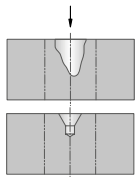
5.



Drilling through a transverse hole

- ▲ Halve the feed for interrupted cut
- ▲ Transverse hole max. 1/3 of the bore diameter
- ▲ Eccentric transverse hole not possible

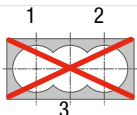
6.



Spot drilling in a pre-op or large centring hole

- ▲ Possible under certain conditions
- ▲ If necessary, reduce feed
- ▲ In the case of a large centre, face turning is required in advance
- ▲ If necessary, optimise the basic setting of the centring tip

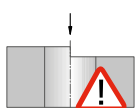
7.



Drilling a cavity

- ▲ Not possible

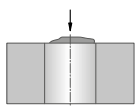
8.



Spot drilling on an edge

- ▲ Not possible with 4xD tools
- ▲ Preparation required due to undefined spot drilling location (spot facing, face milling)
- ▲ Then continue as described under Point 1

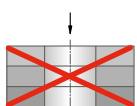
9.



Spot drilling on a forging/welding/casting seam

- ▲ Reduce feed when spot drilling
- ▲ If necessary, carry out facing in advance

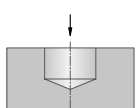
10.



Drilling through stacks

- ▲ Not possible

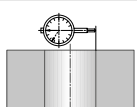
11.



Blind hole

- ▲ Possible
- ▲ Set guide rails 0.5 mm below actual x

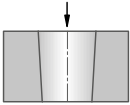
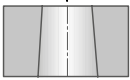
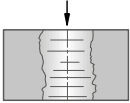
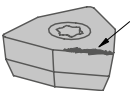
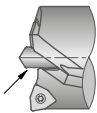
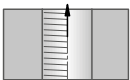
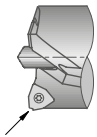
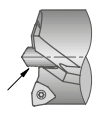
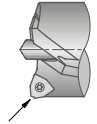
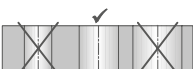
12.



Adjustable

- ▲ Adjustable from a diameter of 65 mm

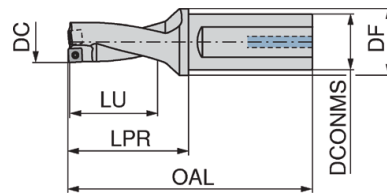
Problems / possible causes / solutions

Rotating and stationary application		Short service life / types of wear of indexable inserts ▲ Cutting speed too high → select the correct cutting speed ▲ Grade has too little wear resistance → select a wear-resistant grade ▲ Tool overhang too large → if possible, use a shorter tool ▲ Damaged insert seat → check tool, replace if necessary ▲ Clamping device stability too low → increase stability
		Hole tapers in ▲ Chip jam on the outer cutting edge → use a different chip breakage geometry, increase the feed if necessary ▲ Material very soft → increase the cutting speed, reduce the feed ▲ Use positive cutting edge geometry ▲ Axial adjustment of the centring tip not optimal → adjust according to the setting sheet in the operating instructions
		Hole tapers out ▲ Chip jam on the inner cutting edge → use a different chip breakage geometry, increase the feed if necessary
		Poor surface quality ▲ Poor chip evacuation → optimise the cutting parameters: Increase the cutting speed, reduce the feed
		Built-up edge ▲ Cutting speed too low → increase cutting speed ▲ Indexable insert too negative → use positive geometry ▲ Unsuitable coating → select the correct coating
		Friction marks on the tool shank ▲ Bore diameter too small → check the setting ▲ Chip evacuation problems → optimise the cutting parameters, check the geometry of the indexable insert ▲ Cutting radius too large → use the correct cutting radius ▲ Chips stuck on the supporting element, broken supporting elements, the supporting element does not have to be used for base elements of < 6xD
Stationary application		Significant wear on one side of the centring tip ▲ Tool not centred → tool turret/adaptor may have moved → recalibrate the machine
		Single-sided retraction scoring ▲ Tool not centred → tool turret/adaptor may have moved → recalibrate the machine
		Edge breakage on the outer cutting edge ▲ Feed too high → reduce feed ▲ Interrupted cut → switch to a tougher grade of indexable insert ▲ Cutting radius too small → use an indexable insert with a larger cutting radius
		Hole too small / too large ▲ Machine is not in the X-0 position → move axis to correct position ▲ Machine axis has been moved → recalibrate the machine
Rotating application		Significant wear on one side of the centring tip ▲ Guidance insufficient → check length adjustment of the centring tip
		Edge breakage on the outer cutting edge ▲ Feed too high → reduce feed ▲ Interrupted cut → switch to a tougher grade of indexable insert ▲ Cutting radius too small → use an indexable insert with a larger cutting radius
		Hole too small / too large ▲ Incorrect cutting radius used → use the correct cutting radius ▲ Incorrect setting → use the correct tool setting

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Scope of supply:

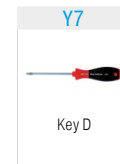
Indexable Insert Drill incl. clamping screws



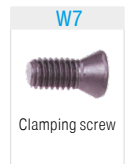
Designation	KOMET no.	DC	DCONMS	DF	OAL	LU	LPR	torque moment Nm	Insert	NEW 2B/6# Article no. 10 872 ... £	
		mm	mm	mm	mm	mm	mm				
KUB-P.2D.305.R.10-C40	U42 33050	30.5	40	50	154	62	86	2.8	SOGX 100408	401.82	30504
KUB-P.2D.315.R.10-C40	U42 33150	31.5	40	50	156	64	88	2.8	SOGX 100408	401.82	31504
KUB-P.2D.325.R.10-C40	U42 33250	32.5	40	50	159	66	91	2.8	SOGX 100408	401.82	32504
KUB-P.2D.335.R.11-C40	U42 33350	33.5	40	50	161	68	93	2.8	SOGX 110408	420.73	33504
KUB-P.2D.345.R.11-C40	U42 33450	34.5	40	50	164	70	96	2.8	SOGX 110408	420.73	34504
KUB-P.2D.355.R.11-C40	U42 33550	35.5	40	50	166	72	98	2.8	SOGX 110408	420.73	35504
KUB-P.2D.365.R.11-C40	U42 33650	36.5	40	50	169	74	101	2.8	SOGX 110408	420.73	36504
KUB-P.2D.375.R.12-C40	U42 33750	37.5	40	50	171	76	103	6.25	SOGX 120408	433.00	37504
KUB-P.2D.385.R.12-C40	U42 33850	38.5	40	50	174	78	106	6.25	SOGX 120408	433.00	38504
KUB-P.2D.395.R.12-C40	U42 33950	39.5	40	50	176	80	108	6.25	SOGX 120408	433.00	39504
KUB-P.2D.405.R.12-C40	U42 34050	40.5	40	50	179	82	111	6.25	SOGX 120408	433.00	40504
KUB-P.2D.415.R.12-C40	U42 34150	41.5	40	50	181	84	113	6.25	SOGX 120408	433.00	41504
KUB-P.2D.425.R.13-C40	U42 34250	42.5	40	50	184	86	116	6.25	SOGX 130508	433.00	42504
KUB-P.2D.435.R.13-C40	U42 34350	43.5	40	50	186	88	118	6.25	SOGX 130508	433.00	43504
KUB-P.2D.445.R.13-C40	U42 34450	44.5	40	50	189	90	121	6.25	SOGX 130508	433.00	44504
KUB-P.2D.455.R.13-C40	U42 34550	45.5	40	50	191	92	123	6.25	SOGX 130508	433.00	45504

Spare parts
DC

		Article no. 80 950 ... £			Article no. 10 950 ... £	
30,5 - 36,5	T15 - IP	15.77	128	M3,5x7,5 - 15IP	2.15	10300
37,5 - 45,5	T20 - IP	16.56	129	M4,5x10 - 20IP	2.15	10400



Key D



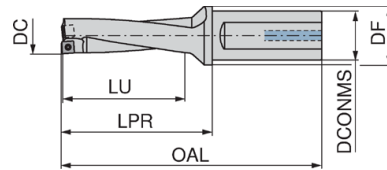
Clamping screw

i Further diameters can be found in the main catalogue → Section 3, Indexable insert drilling

KUB Pentron

Scope of supply:

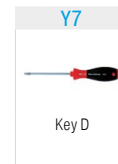
Indexable Insert Drill incl. clamping screws



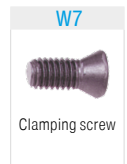
Designation	KOMET no.	DC	DCONMS	DF	OAL	LU	LPR	torque moment Nm	Insert	NEW 2B/6# Article no. 10 873 ... £	
		mm	mm	mm	mm	mm	mm				
KUB-P.3D.305.R.10-C40	U43 33050	30.5	40	50	185	93	117	2.8	SOGX 100408	421.64	30504
KUB-P.3D.315.R.10-C40	U43 33150	31.5	40	50	188	96	120	2.8	SOGX 100408	421.64	31504
KUB-P.3D.325.R.10-C40	U43 33250	32.5	40	50	192	99	124	2.8	SOGX 100408	421.64	32504
KUB-P.3D.335.R.11-C40	U43 33350	33.5	40	50	195	102	127	2.8	SOGX 110408	441.55	33504
KUB-P.3D.345.R.11-C40	U43 33450	34.5	40	50	199	105	131	2.8	SOGX 110408	441.55	34504
KUB-P.3D.355.R.11-C40	U43 33550	35.5	40	50	202	108	134	2.8	SOGX 110408	441.55	35504
KUB-P.3D.365.R.11-C40	U43 33650	36.5	40	50	206	111	138	2.8	SOGX 110408	441.55	36504
KUB-P.3D.375.R.12-C40	U43 33750	37.5	40	50	209	114	141	6.25	SOGX 120408	454.73	37504
KUB-P.3D.385.R.12-C40	U43 33850	38.5	40	50	213	117	145	6.25	SOGX 120408	454.73	38504
KUB-P.3D.395.R.12-C40	U43 33950	39.5	40	50	216	120	148	6.25	SOGX 120408	454.73	39504
KUB-P.3D.405.R.12-C40	U43 34050	40.5	40	50	220	123	152	6.25	SOGX 120408	454.73	40504
KUB-P.3D.415.R.12-C40	U43 34150	41.5	40	50	223	126	155	6.25	SOGX 120408	454.73	41504
KUB-P.3D.425.R.13-C40	U43 34250	42.5	40	50	227	129	159	6.25	SOGX 130508	454.73	42504
KUB-P.3D.435.R.13-C40	U43 34350	43.5	40	50	230	132	162	6.25	SOGX 130508	454.73	43504
KUB-P.3D.445.R.13-C40	U43 34450	44.5	40	50	234	135	166	6.25	SOGX 130508	454.73	44504
KUB-P.3D.455.R.13-C40	U43 34550	45.5	40	50	237	138	169	6.25	SOGX 130508	454.73	45504

Spare parts
DC

		Article no. 80 950 ... £			Article no. 10 950 ... £	
30,5 - 36,5	T15 - IP	15.77	128	M3,5x7,5 - 15IP	2.15	10300
37,5 - 45,5	T20 - IP	16.56	129	M4,5x10 - 20IP	2.15	10400



Key D



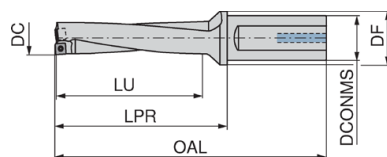
Clamping screw

i Further diameters can be found in the main catalogue → Section 3, Indexable insert drilling

KUB Pentron

Scope of supply:

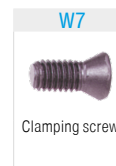
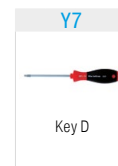
Indexable Insert Drill incl. clamping screws



Designation	KOMET no.	DC	DCONMS	DF	OAL	LU	LPR	torque moment Nm	Insert	NEW 2B/6# Article no. 10 874 ...	
		mm	mm	mm	mm	mm	mm			£	
KUB-P.4D.305.R.10-C40	U44 33050	30.5	40	50	216	124	148	2.8	SOGX 100408	523.82	30504
KUB-P.4D.315.R.10-C40	U44 33150	31.5	40	50	220	128	152	2.8	SOGX 100408	523.82	31504
KUB-P.4D.325.R.10-C40	U44 33250	32.5	40	50	225	132	157	2.8	SOGX 100408	523.82	32504
KUB-P.4D.335.R.11-C40	U44 33350	33.5	40	50	229	136	161	2.8	SOGX 110408	538.91	33504
KUB-P.4D.345.R.11-C40	U44 33450	34.5	40	50	234	140	166	2.8	SOGX 110408	538.91	34504
KUB-P.4D.355.R.11-C40	U44 33550	35.5	40	50	238	144	170	2.8	SOGX 110408	538.91	35504
KUB-P.4D.365.R.11-C40	U44 33650	36.5	40	50	243	148	175	2.8	SOGX 110408	538.91	36504
KUB-P.4D.375.R.12-C40	U44 33750	37.5	40	50	247	152	179	6.25	SOGX 120408	555.91	37504
KUB-P.4D.385.R.12-C40	U44 33850	38.5	40	50	252	156	184	6.25	SOGX 120408	555.91	38504
KUB-P.4D.395.R.12-C40	U44 33950	39.5	40	50	256	160	188	6.25	SOGX 120408	555.91	39504
KUB-P.4D.405.R.12-C40	U44 34050	40.5	40	50	261	164	193	6.25	SOGX 120408	555.91	40504
KUB-P.4D.415.R.12-C40	U44 34150	41.5	40	50	265	166	197	6.25	SOGX 120408	555.91	41504
KUB-P.4D.425.R.13-C40	U44 34250	42.5	40	50	270	172	202	6.25	SOGX 130508	597.55	42504
KUB-P.4D.435.R.13-C40	U44 34350	43.5	40	50	274	176	206	6.25	SOGX 130508	597.55	43504
KUB-P.4D.445.R.13-C40	U44 34450	44.5	40	50	279	180	211	6.25	SOGX 130508	597.55	44504
KUB-P.4D.455.R.13-C40	U44 34550	45.5	40	50	283	184	215	6.25	SOGX 130508	597.55	45504

Spare parts
DC

		Article no. 80 950 ...		Article no. 10 950 ...	
		£		£	
30,5 - 36,5	T15 - IP	15.77	128	M3,5x7,5 - 15IP	2.15 10300
37,5 - 45,5	T20 - IP	16.56	129	M4,5x10 - 20IP	2.15 10400

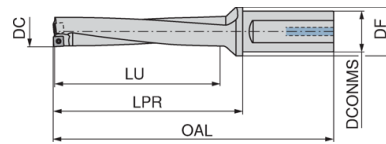


i Further diameters can be found in the main catalogue → **Section 3, Indexable insert drilling**

KUB Pentron

Scope of supply:

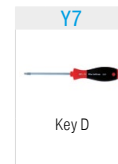
Indexable Insert Drill incl. clamping screws



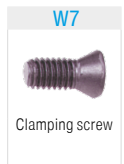
Designation	KOMET no.	DC	DCONMS	DF	OAL	LU	LPR	torque moment Nm	Insert	NEW 2B/6# Article no. 10 875 ... £	
KUB-P.5D.305.R.10-C40	U45 33050	30.5	40	50	247	155	179	2.8	SOGX 100408	565.36	30504
KUB-P.5D.315.R.10-C40	U45 33150	31.5	40	50	252	160	184	2.8	SOGX 100408	565.36	31504
KUB-P.5D.325.R.10-C40	U45 33250	32.5	40	50	258	165	190	2.8	SOGX 100408	565.36	32504
KUB-P.5D.335.R.11-C40	U45 33350	33.5	40	50	263	170	195	2.8	SOGX 110408	581.45	33504
KUB-P.5D.345.R.11-C40	U45 33450	34.5	40	50	269	175	201	2.8	SOGX 110408	581.45	34504
KUB-P.5D.355.R.11-C40	U45 33550	35.5	40	50	274	180	206	2.8	SOGX 110408	581.45	35504
KUB-P.5D.365.R.11-C40	U45 33650	36.5	40	50	280	185	212	2.8	SOGX 110408	581.45	36504
KUB-P.5D.375.R.12-C40	U45 33750	37.5	40	50	285	190	217	6.25	SOGX 120408	597.55	37504
KUB-P.5D.385.R.12-C40	U45 33850	38.5	40	50	291	195	223	6.25	SOGX 120408	597.55	38504
KUB-P.5D.395.R.12-C40	U45 33950	39.5	40	50	296	200	228	6.25	SOGX 120408	597.55	39504
KUB-P.5D.405.R.12-C40	U45 34050	40.5	40	50	302	205	234	6.25	SOGX 120408	597.55	40504
KUB-P.5D.415.R.12-C40	U45 34150	41.5	40	50	307	210	239	6.25	SOGX 120408	597.55	41504
KUB-P.5D.425.R.13-C40	U45 34250	42.5	40	50	313	215	245	6.25	SOGX 130508	651.45	42504
KUB-P.5D.435.R.13-C40	U45 34350	43.5	40	50	318	220	250	6.25	SOGX 130508	651.45	43504
KUB-P.5D.445.R.13-C40	U45 34450	44.5	40	50	324	225	256	6.25	SOGX 130508	651.45	44504
KUB-P.5D.455.R.13-C40	U45 34550	45.5	40	50	329	230	261	6.25	SOGX 130508	651.45	45504

Spare parts
DC

			Article no. 80 950 ... £			Article no. 10 950 ... £	
30,5 - 36,5	T15 - IP	15.77	128		M3,5x7,5 - 15IP	2.15	10300
37,5 - 45,5	T20 - IP	16.56	129		M4,5x10 - 20IP	2.15	10400



Key D



Clamping screw

i Further diameters can be found in the main catalogue → Section 3, Indexable insert drilling

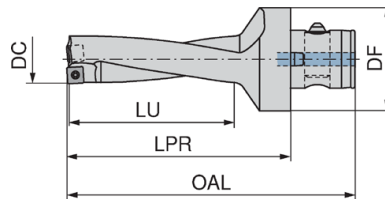
KUB Pentron

Scope of supply:

Indexable Insert Drill incl. clamping screws



ABS



Designation	KOMET no.	DC	DF	OAL	LU	LPR	torque moment Nm	Insert	NEW 2B/6# Article no. 10 872 ... £	
KUB-P.2D.140.R.04-ABS50	U42 51400	14.0	50	86	26	55	0.38	SOGX 040204	345.09	14095
KUB-P.2D.145.R.04-ABS50	U42 51450	14.5	50	89	28	58	0.38	SOGX 040204	345.09	14595
KUB-P.2D.150.R.04-ABS50	U42 51500	15.0	50	89	28	58	0.38	SOGX 040204	345.09	15095
KUB-P.2D.155.R.04-ABS50	U42 51550	15.5	50	93	32	62	0.38	SOGX 040204	345.09	15595
KUB-P.2D.160.R.04-ABS50	U42 51600	16.0	50	93	32	62	0.38	SOGX 040204	345.09	16095
KUB-P.2D.165.R.05-ABS50	U42 51650	16.5	50	96	34	65	0.62	SOGX 050204	345.09	16595
KUB-P.2D.170.R.05-ABS50	U42 51700	17.0	50	96	34	65	0.62	SOGX 050204	351.73	17095
KUB-P.2D.175.R.05-ABS50	U42 51750	17.5	50	98	36	67	0.62	SOGX 050204	351.73	17595
KUB-P.2D.180.R.05-ABS50	U42 51800	18.0	50	98	36	67	0.62	SOGX 050204	351.73	18095
KUB-P.2D.185.R.06-ABS50	U42 51850	18.5	50	101	38	70	1.01	SOGX 060206	351.73	18595
KUB-P.2D.190.R.06-ABS50	U42 51900	19.0	50	101	38	70	1.01	SOGX 060206	362.09	19095
KUB-P.2D.195.R.06-ABS50	U42 51950	19.5	50	103	40	72	1.01	SOGX 060206	362.09	19595
KUB-P.2D.200.R.06-ABS50	U42 52000	20.0	50	103	40	72	1.01	SOGX 060206	362.09	20095
KUB-P.2D.205.R.07-ABS50	U42 52050	20.5	50	105	42	74	1.01	SOGX 07T208	374.36	20595
KUB-P.2D.210.R.07-ABS50	U42 52100	21.0	50	105	42	74	1.01	SOGX 07T208	374.36	21095
KUB-P.2D.215.R.07-ABS50	U42 52150	21.5	50	107	44	76	1.01	SOGX 07T208	374.36	21595
KUB-P.2D.220.R.07-ABS50	U42 52200	22.0	50	107	44	76	1.01	SOGX 07T208	374.36	22095
KUB-P.2D.225.R.07-ABS50	U42 52250	22.5	50	109	46	78	1.01	SOGX 07T208	374.36	22595
KUB-P.2D.230.R.07-ABS50	U42 52300	23.0	50	109	46	78	1.01	SOGX 07T208	374.36	23095
KUB-P.2D.235.R.08-ABS50	U42 52350	23.5	50	111	48	80	1.28	SOGX 080308	385.73	23595
KUB-P.2D.240.R.08-ABS50	U42 52400	24.0	50	111	48	80	1.28	SOGX 080308	385.73	24095
KUB-P.2D.245.R.08-ABS50	U42 52450	24.5	50	114	50	83	1.28	SOGX 080308	385.73	24595
KUB-P.2D.250.R.08-ABS50	U42 52500	25.0	50	114	50	83	1.28	SOGX 080308	385.73	25095
KUB-P.2D.255.R.08-ABS50	U42 52550	25.5	50	116	52	85	1.28	SOGX 080308	385.73	25595
KUB-P.2D.260.R.08-ABS50	U42 52600	26.0	50	116	52	85	1.28	SOGX 080308	385.73	26095
KUB-P.2D.265.R.09-ABS50	U42 52650	26.5	50	119	54	88	2.25	SOGX 09T308	428.27	26595
KUB-P.2D.270.R.09-ABS50	U42 52700	27.0	50	119	54	88	2.25	SOGX 09T308	428.27	27095
KUB-P.2D.275.R.09-ABS50	U42 52750	27.5	50	121	56	90	2.25	SOGX 09T308	428.27	27595
KUB-P.2D.280.R.09-ABS50	U42 52800	28.0	50	121	56	90	2.25	SOGX 09T308	428.27	28095
KUB-P.2D.285.R.09-ABS50	U42 52850	28.5	50	124	58	93	2.25	SOGX 09T308	428.27	28595
KUB-P.2D.290.R.09-ABS50	U42 52900	29.0	50	124	58	93	2.25	SOGX 09T308	428.27	29095
KUB-P.2D.295.R.09-ABS50	U42 52950	29.5	50	126	60	95	2.25	SOGX 09T308	428.27	29595
KUB-P.2D.300.R.09-ABS50	U42 53000	30.0	50	126	60	95	2.25	SOGX 09T308	428.27	30095
KUB-P.2D.305.R.10-ABS63	U42 63050	30.5	63	139	62	101	2.8	SOGX 100408	451.00	30596
KUB-P.2D.310.R.10-ABS63	U42 63100	31.0	63	139	62	101	2.8	SOGX 100408	451.00	31096
KUB-P.2D.315.R.10-ABS63	U42 63150	31.5	63	141	64	103	2.8	SOGX 100408	451.00	31596
KUB-P.2D.320.R.10-ABS63	U42 63200	32.0	63	141	64	103	2.8	SOGX 100408	451.00	32096
KUB-P.2D.325.R.10-ABS63	U42 63250	32.5	63	144	66	106	2.8	SOGX 100408	451.00	32596
KUB-P.2D.330.R.10-ABS63	U42 63300	33.0	63	144	66	106	2.8	SOGX 100408	451.00	33096
KUB-P.2D.335.R.11-ABS63	U42 63350	33.5	63	146	68	108	2.8	SOGX 110408	481.27	33596
KUB-P.2D.340.R.11-ABS63	U42 63400	34.0	63	146	68	108	2.8	SOGX 110408	481.27	34096
KUB-P.2D.345.R.11-ABS63	U42 63450	34.5	63	149	70	111	2.8	SOGX 110408	481.27	34596
KUB-P.2D.350.R.11-ABS63	U42 63500	35.0	63	149	70	111	2.8	SOGX 110408	481.27	35096
KUB-P.2D.355.R.11-ABS63	U42 63550	35.5	63	152	72	113	2.8	SOGX 110408	481.27	35596
KUB-P.2D.360.R.11-ABS63	U42 63600	36.0	63	152	72	113	2.8	SOGX 110408	481.27	36096

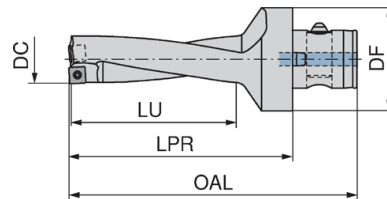
KUB Pentron

Scope of supply:

Indexable Insert Drill incl. clamping screws



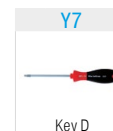
ABS



Designation	KOMET no.	DC	DF	OAL	LU	LPR	torque moment Nm	Insert	NEW 2B/6# Article no. 10 872 ... £	
KUB-P.2D.365.R.11-ABS63	U42 63650	36.5	63	154	74	116	2.8	SOGX 110408	481.27	36596
KUB-P.2D.370.R.11-ABS63	U42 63700	37.0	63	154	74	116	2.8	SOGX 110408	481.27	37096
KUB-P.2D.375.R.12-ABS63	U42 63750	37.5	63	156	76	118	6.25	SOGX 120408	503.91	37596
KUB-P.2D.380.R.12-ABS63	U42 63800	38.0	63	156	76	118	6.25	SOGX 120408	503.91	38096
KUB-P.2D.385.R.12-ABS63	U42 63850	38.5	63	159	78	121	6.25	SOGX 120408	503.91	38596
KUB-P.2D.390.R.12-ABS63	U42 63900	39.0	63	159	78	121	6.25	SOGX 120408	503.91	39096
KUB-P.2D.395.R.12-ABS63	U42 63950	39.5	63	161	80	123	6.25	SOGX 120408	503.91	39596
KUB-P.2D.400.R.12-ABS63	U42 64000	40.0	63	161	80	123	6.25	SOGX 120408	503.91	40096
KUB-P.2D.405.R.12-ABS63	U42 64050	40.5	63	164	82	126	6.25	SOGX 120408	503.91	40596
KUB-P.2D.410.R.12-ABS63	U42 64100	41.0	63	164	82	126	6.25	SOGX 120408	503.91	41096
KUB-P.2D.415.R.12-ABS63	U42 64150	41.5	63	166	84	128	6.25	SOGX 120408	503.91	41596
KUB-P.2D.420.R.12-ABS63	U42 64200	42.0	63	166	84	128	6.25	SOGX 120408	503.91	42096
KUB-P.2D.425.R.13-ABS63	U42 64250	42.5	63	169	86	131	6.25	SOGX 130508	503.91	42596
KUB-P.2D.430.R.13-ABS63	U42 64300	43.0	63	169	86	131	6.25	SOGX 130508	503.91	43096
KUB-P.2D.435.R.13-ABS63	U42 64350	43.5	63	171	88	133	6.25	SOGX 130508	503.91	43596
KUB-P.2D.440.R.13-ABS63	U42 64400	44.0	63	171	88	133	6.25	SOGX 130508	503.91	44096
KUB-P.2D.445.R.13-ABS63	U42 64450	44.5	63	174	90	136	6.25	SOGX 130508	503.91	44596
KUB-P.2D.450.R.13-ABS63	U42 64500	45.0	63	174	90	136	6.25	SOGX 130508	503.91	45096
KUB-P.2D.455.R.13-ABS63	U42 64550	45.5	63	173	92	135	6.25	SOGX 130508	503.91	45596
KUB-P.2D.460.R.13-ABS63	U42 64600	46.0	63	173	92	135	6.25	SOGX 130508	503.91	46096



Screwdriver



Key D



Clamping screw

Spare parts
DC

	Article no. 80 950 ... £	057	Article no. 80 950 ... £	123	Article no. 10 950 ... £	10100
14 - 16	T05 - IP	7.67			M1,8x3,8 - 05IP	2.15
16,5 - 18					M2,0x4,3 - 06IP	2.15
18,5 - 23					M2,2x5,5 - 06IP	2.15
23,5 - 26					M2,5x6,3 - 08IP	2.15
26,5 - 30					M3,0x7,6 - 08IP	2.15
30,5 - 37					M3,5x7,5 - 15IP	2.15
37,5 - 46					M4,5x10 - 20IP	2.15

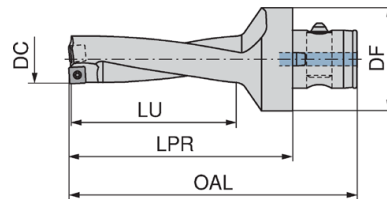
KUB Pentron

Scope of supply:

Indexable Insert Drill incl. clamping screws



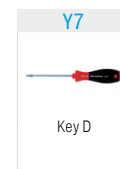
ABS



Designation	KOMET no.	DC	DF	OAL	LU	LPR	torque moment Nm	Insert	NEW 2B/6# Article no. 10 873 ... £	
KUB-P.3D.305.R.10-ABS63	U43 63050	30.5	63	170	93	132	2.8	SOGX 100408	479.36	30596
KUB-P.3D.310.R.10-ABS63	U43 63100	31.0	63	170	93	132	2.8	SOGX 100408	479.36	31096
KUB-P.3D.315.R.10-ABS63	U43 63150	31.5	63	173	96	135	2.8	SOGX 100408	479.36	31596
KUB-P.3D.320.R.10-ABS63	U43 63200	32.0	63	173	96	135	2.8	SOGX 100408	479.36	32096
KUB-P.3D.325.R.10-ABS63	U43 63250	32.5	63	177	99	139	2.8	SOGX 100408	479.36	32596
KUB-P.3D.330.R.10-ABS63	U43 63300	33.0	63	177	99	139	2.8	SOGX 100408	479.36	33096
KUB-P.3D.335.R.11-ABS63	U43 63350	33.5	63	180	102	142	2.8	SOGX 110408	510.55	33596
KUB-P.3D.340.R.11-ABS63	U43 63400	34.0	63	180	102	142	2.8	SOGX 110408	510.55	34096
KUB-P.3D.345.R.11-ABS63	U43 63450	34.5	63	184	105	146	2.8	SOGX 110408	510.55	34596
KUB-P.3D.350.R.11-ABS63	U43 63500	35.0	63	184	105	146	2.8	SOGX 110408	510.55	35096
KUB-P.3D.355.R.11-ABS63	U43 63550	35.5	63	187	108	149	2.8	SOGX 110408	510.55	35596
KUB-P.3D.360.R.11-ABS63	U43 63600	36.0	63	187	108	149	2.8	SOGX 110408	510.55	36096
KUB-P.3D.365.R.11-ABS63	U43 63650	36.5	63	191	111	153	2.8	SOGX 110408	510.55	36596
KUB-P.3D.370.R.11-ABS63	U43 63700	37.0	63	191	111	153	2.8	SOGX 110408	510.55	37096
KUB-P.3D.375.R.12-ABS63	U43 63750	37.5	63	194	114	156	6.25	SOGX 120408	535.09	37596
KUB-P.3D.380.R.12-ABS63	U43 63800	38.0	63	194	114	156	6.25	SOGX 120408	535.09	38096
KUB-P.3D.385.R.12-ABS63	U43 63850	38.5	63	198	117	160	6.25	SOGX 120408	535.09	38596
KUB-P.3D.390.R.12-ABS63	U43 63900	39.0	63	198	117	160	6.25	SOGX 120408	535.09	39096
KUB-P.3D.395.R.12-ABS63	U43 63950	39.5	63	201	120	163	6.25	SOGX 120408	535.09	39596
KUB-P.3D.400.R.12-ABS63	U43 64000	40.0	63	201	120	163	6.25	SOGX 120408	535.09	40096
KUB-P.3D.405.R.12-ABS63	U43 64050	40.5	63	205	123	167	6.25	SOGX 120408	535.09	40596
KUB-P.3D.410.R.12-ABS63	U43 64100	41.0	63	205	123	167	6.25	SOGX 120408	535.09	41096
KUB-P.3D.415.R.12-ABS63	U43 64150	41.5	63	208	126	170	6.25	SOGX 120408	535.09	41596
KUB-P.3D.420.R.12-ABS63	U43 64200	42.0	63	208	126	170	6.25	SOGX 120408	535.09	42096
KUB-P.3D.425.R.13-ABS63	U43 64250	42.5	63	212	129	174	6.25	SOGX 130508	535.09	42596
KUB-P.3D.430.R.13-ABS63	U43 64300	43.0	63	212	129	174	6.25	SOGX 130508	535.09	43096
KUB-P.3D.435.R.13-ABS63	U43 64350	43.5	63	215	132	177	6.25	SOGX 130508	535.09	43596
KUB-P.3D.440.R.13-ABS63	U43 64400	44.0	63	215	132	177	6.25	SOGX 130508	535.09	44096
KUB-P.3D.445.R.13-ABS63	U43 64450	44.5	63	219	135	181	6.25	SOGX 130508	535.09	44596
KUB-P.3D.450.R.13-ABS63	U43 64500	45.0	63	219	135	181	6.25	SOGX 130508	535.09	45096
KUB-P.3D.455.R.13-ABS63	U43 64550	45.5	63	219	138	181	6.25	SOGX 130508	535.09	45596
KUB-P.3D.460.R.13-ABS63	U43 64600	46.0	63	219	138	181	6.25	SOGX 130508	535.09	46096

Spare parts
DC

		Article no. 80 950 ... £		Article no. 10 950 ... £	
30,5 - 37	T15 - IP	15.77	128	M3,5x7,5 - 15IP	2.15 10300
37,5 - 46	T20 - IP	16.56	129	M4,5x10 - 20IP	2.15 10400



i Further diameters can be found in the main catalogue → **Section 3, Indexable insert drilling**

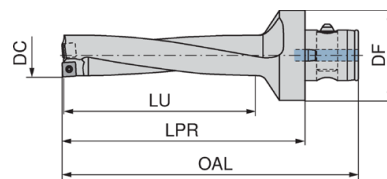
KUB Pentron

Scope of supply:

Indexable Insert Drill incl. clamping screws



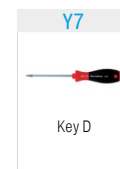
ABS



Designation	KOMET no.	DC	DF	OAL	LU	LPR	torque moment Nm	Insert	NEW 2B/6# Article no. 10 874 ... £	
KUB-P.4D.305.R.10-ABS63	U44 63050	30.5	63	201	124	163	2.8	SOGX 100408	577.64	30596
KUB-P.4D.310.R.10-ABS63	U44 63100	31.0	63	201	124	163	2.8	SOGX 100408	577.64	31096
KUB-P.4D.315.R.10-ABS63	U44 63150	31.5	63	205	128	167	2.8	SOGX 100408	577.64	31596
KUB-P.4D.320.R.10-ABS63	U44 63200	32.0	63	205	128	167	2.8	SOGX 100408	577.64	32096
KUB-P.4D.325.R.10-ABS63	U44 63250	32.5	63	210	132	172	2.8	SOGX 100408	577.64	32596
KUB-P.4D.330.R.10-ABS63	U44 63300	33.0	63	210	132	172	2.8	SOGX 100408	577.64	33096
KUB-P.4D.335.R.11-ABS63	U44 63350	33.5	63	214	136	176	2.8	SOGX 110408	590.91	33596
KUB-P.4D.340.R.11-ABS63	U44 63400	34.0	63	214	136	176	2.8	SOGX 110408	590.91	34096
KUB-P.4D.345.R.11-ABS63	U44 63450	34.5	63	219	140	181	2.8	SOGX 110408	590.91	34596
KUB-P.4D.350.R.11-ABS63	U44 63500	35.0	63	219	140	181	2.8	SOGX 110408	590.91	35096
KUB-P.4D.355.R.11-ABS63	U44 63550	35.5	63	223	144	185	2.8	SOGX 110408	590.91	35596
KUB-P.4D.360.R.11-ABS63	U44 63600	36.0	63	223	144	185	2.8	SOGX 110408	590.91	36096
KUB-P.4D.365.R.11-ABS63	U44 63650	36.5	63	228	148	190	2.8	SOGX 110408	590.91	36596
KUB-P.4D.370.R.11-ABS63	U44 63700	37.0	63	228	148	190	2.8	SOGX 110408	590.91	37096
KUB-P.4D.375.R.12-ABS63	U44 63750	37.5	63	232	152	194	6.25	SOGX 120408	607.91	37596
KUB-P.4D.380.R.12-ABS63	U44 63800	38.0	63	232	152	194	6.25	SOGX 120408	607.91	38096
KUB-P.4D.385.R.12-ABS63	U44 63850	38.5	63	237	156	199	6.25	SOGX 120408	607.91	38596
KUB-P.4D.390.R.12-ABS63	U44 63900	39.0	63	237	156	199	6.25	SOGX 120408	607.91	39096
KUB-P.4D.395.R.12-ABS63	U44 63950	39.5	63	241	160	203	6.25	SOGX 120408	607.91	39596
KUB-P.4D.400.R.12-ABS63	U44 64000	40.0	63	241	160	203	6.25	SOGX 120408	607.91	40096
KUB-P.4D.405.R.12-ABS63	U44 64050	40.5	63	246	164	208	6.25	SOGX 120408	607.91	40596
KUB-P.4D.410.R.12-ABS63	U44 64100	41.0	63	246	164	208	6.25	SOGX 120408	607.91	41096
KUB-P.4D.415.R.12-ABS63	U44 64150	41.5	63	250	168	212	6.25	SOGX 120408	607.91	41596
KUB-P.4D.420.R.12-ABS63	U44 64200	42.0	63	250	168	212	6.25	SOGX 120408	607.91	42096
KUB-P.4D.425.R.13-ABS63	U44 64250	42.5	63	255	172	217	6.25	SOGX 130508	651.45	42596
KUB-P.4D.430.R.13-ABS63	U44 64300	43.0	63	255	172	217	6.25	SOGX 130508	651.45	43096
KUB-P.4D.435.R.13-ABS63	U44 64350	43.5	63	259	176	221	6.25	SOGX 130508	651.45	43596
KUB-P.4D.440.R.13-ABS63	U44 64400	44.0	63	259	176	221	6.25	SOGX 130508	651.45	44096
KUB-P.4D.445.R.13-ABS63	U44 64450	44.5	63	264	180	226	6.25	SOGX 130508	651.45	44596
KUB-P.4D.450.R.13-ABS63	U44 64500	45.0	63	264	180	226	6.25	SOGX 130508	651.45	45096
KUB-P.4D.455.R.13-ABS63	U44 64550	45.5	63	268	184	230	6.25	SOGX 130508	651.45	45596
KUB-P.4D.460.R.13-ABS63	U44 64600	46.0	63	268	184	230	6.25	SOGX 130508	651.45	46096

Spare parts
DC

		Article no. 80 950 ... £		Article no. 10 950 ... £	
30,5 - 37	T15 - IP	15.77	128	M3,5x7,5 - 15IP	2.15 10300
37,5 - 46	T20 - IP	16.56	129	M4,5x10 - 20IP	2.15 10400



i Further diameters can be found in the main catalogue → **Section 3, Indexable insert drilling**

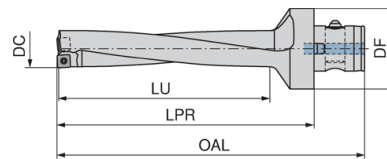
KUB Pentron

Scope of supply:

Indexable Insert Drill incl. clamping screws



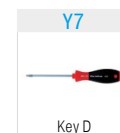
ABS



Designation	KOMET no.	DC	DF	OAL	LU	LPR	torque moment Nm	Insert	NEW 2B/6# Article no. 10 875 ... £	
KUB-P.5D.305.R.10-ABS63	U45 63050	30.5	63	232	155	194	2.8	SOGX 100408	619.27	30596
KUB-P.5D.310.R.10-ABS63	U45 63100	31.0	63	232	155	194	2.8	SOGX 100408	619.27	31096
KUB-P.5D.315.R.10-ABS63	U45 63150	31.5	63	237	160	199	2.8	SOGX 100408	619.27	31596
KUB-P.5D.320.R.10-ABS63	U45 63200	32.0	63	237	160	199	2.8	SOGX 100408	619.27	32096
KUB-P.5D.325.R.10-ABS63	U45 63250	32.5	63	243	165	205	2.8	SOGX 100408	619.27	32596
KUB-P.5D.330.R.10-ABS63	U45 63300	33.0	63	243	165	205	2.8	SOGX 100408	619.27	33096
KUB-P.5D.335.R.11-ABS63	U45 63350	33.5	63	248	170	210	2.8	SOGX 110408	634.36	33596
KUB-P.5D.340.R.11-ABS63	U45 63400	34.0	63	248	170	210	2.8	SOGX 110408	634.36	34096
KUB-P.5D.345.R.11-ABS63	U45 63450	34.5	63	254	175	216	2.8	SOGX 110408	634.36	34596
KUB-P.5D.350.R.11-ABS63	U45 63500	35.0	63	254	175	216	2.8	SOGX 110408	634.36	35096
KUB-P.5D.355.R.11-ABS63	U45 63550	35.5	63	259	180	221	2.8	SOGX 110408	634.36	35596
KUB-P.5D.360.R.11-ABS63	U45 63600	36.0	63	259	180	221	2.8	SOGX 110408	634.36	36096
KUB-P.5D.365.R.11-ABS63	U45 63650	36.5	63	265	185	227	2.8	SOGX 110408	634.36	36596
KUB-P.5D.370.R.11-ABS63	U45 63700	37.0	63	265	185	227	2.8	SOGX 110408	634.36	37096
KUB-P.5D.375.R.12-ABS63	U45 63750	37.5	63	270	190	232	6.25	SOGX 120408	651.45	37596
KUB-P.5D.380.R.12-ABS63	U45 63800	38.0	63	270	190	232	6.25	SOGX 120408	651.45	38096
KUB-P.5D.385.R.12-ABS63	U45 63850	38.5	63	276	195	238	6.25	SOGX 120408	651.45	38596
KUB-P.5D.390.R.12-ABS63	U45 63900	39.0	63	276	195	238	6.25	SOGX 120408	651.45	39096
KUB-P.5D.395.R.12-ABS63	U45 63950	39.5	63	281	200	243	6.25	SOGX 120408	651.45	39596
KUB-P.5D.400.R.12-ABS63	U45 64000	40.0	63	281	200	243	6.25	SOGX 120408	651.45	40096
KUB-P.5D.405.R.12-ABS63	U45 64050	40.5	63	287	205	249	6.25	SOGX 120408	651.45	40596
KUB-P.5D.410.R.12-ABS63	U45 64100	41.0	63	287	205	249	6.25	SOGX 120408	651.45	41096
KUB-P.5D.415.R.12-ABS63	U45 64150	41.5	63	292	210	254	6.25	SOGX 120408	651.45	41596
KUB-P.5D.420.R.12-ABS63	U45 64200	42.0	63	292	210	254	6.25	SOGX 120408	651.45	42096
KUB-P.5D.425.R.13-ABS63	U45 64250	42.5	63	298	215	260	6.25	SOGX 130508	704.36	42596
KUB-P.5D.430.R.13-ABS63	U45 64300	43.0	63	298	215	260	6.25	SOGX 130508	704.36	43096
KUB-P.5D.435.R.13-ABS63	U45 64350	43.5	63	303	220	265	6.25	SOGX 130508	704.36	43596
KUB-P.5D.440.R.13-ABS63	U45 64400	44.0	63	303	220	265	6.25	SOGX 130508	704.36	44096
KUB-P.5D.445.R.13-ABS63	U45 64450	44.5	63	309	225	271	6.25	SOGX 130508	704.36	44596
KUB-P.5D.450.R.13-ABS63	U45 64500	45.0	63	309	225	271	6.25	SOGX 130508	704.36	45096
KUB-P.5D.455.R.13-ABS63	U45 64550	45.5	63	314	230	276	6.25	SOGX 130508	704.36	45596
KUB-P.5D.460.R.13-ABS63	U45 64600	46.0	63	314	230	276	6.25	SOGX 130508	704.36	46096

Spare parts
DC

		Article no. 80 950 ... £		Article no. 10 950 ... £	
30,5 - 37	T15 - IP	15.77	128	M3,5x7,5 - 15IP	2.15 10300
37,5 - 46	T20 - IP	16.56	129	M4,5x10 - 20IP	2.15 10400



Key D

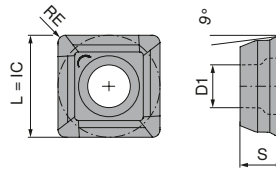


Clamping screw

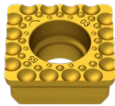
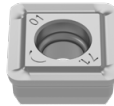
i Further diameters can be found in the main catalogue → **Section 3, Indexable insert drilling**

SOGX

Designation	L	IC	D1	S
	mm	mm	mm	mm
SOGX 0402..	4.8	4.8	2.05	2.20
SOGX 0502..	5.5	5.5	2.30	2.40
SOGX 0602..	6.2	6.2	2.60	2.75
SOGX 07T2..	7.1	7.1	2.60	2.97
SOGX 0803..	8.0	8.0	2.85	3.40
SOGX 09T3..	8.9	8.9	3.40	3.90
SOGX 1004..	9.8	9.8	4.10	4.20
SOGX 1104..	10.9	10.9	4.10	4.50
SOGX 1204..	12.0	12.0	5.20	4.80
SOGX 1305..	13.2	13.2	5.20	5.20



SOGX

			-01 BK8425	-03 BK8430	-01 BK7935	-01 BK6115	-01 BK6425	-01 BK7710
								
			SOGX NEW 1A/3# Article no. 10 820 ...	SOGX NEW 1A/3# Article no. 10 820 ...	SOGX NEW 1A/3# Article no. 10 820 ...	SOGX NEW 1A/3# Article no. 10 820 ...	SOGX NEW 1A/3# Article no. 10 820 ...	SOGX NEW 1A/3# Article no. 10 820 ...
ISO	KOMET no.	RE mm	£	£	£	£	£	£
040204	W80 10010.047935	0.4			14.66 50401	14.65 40401		
040204	W80 10010.046115	0.4		14.65 00403			14.66 60401	
040204	W80 10030.048430	0.4						14.66 90401
040204	W80 10010.046425	0.4	14.65 30401					
040204	W80 10010.048425	0.4						
040204	W80 10010.047710	0.4				14.75 40501		
050204	W80 12010.046115	0.4			14.76 50501			
050204	W80 12010.047935	0.4		14.75 00503			14.76 60501	
050204	W80 12030.048430	0.4						14.76 90501
050204	W80 12010.046425	0.4	14.75 30501					
050204	W80 12010.048425	0.4						
050204	W80 12010.047710	0.4				14.85 40601		
060206	W80 18010.066115	0.6			14.87 50601			
060206	W80 18010.067935	0.6		14.85 00603			14.87 60601	
060206	W80 18030.068430	0.6						14.87 90601
060206	W80 18010.066425	0.6	14.85 30601					
060206	W80 18010.068425	0.6						
060206	W80 18010.067710	0.6				14.94 40701		
07T208	W80 20010.086115	0.8			14.97 50701			14.97 90701
07T208	W80 20010.087935	0.8		14.94 00703			14.97 60701	
07T208	W80 20030.088430	0.8						
07T208	W80 20010.086425	0.8	14.94 30701					
07T208	W80 20010.088425	0.8						
07T208	W80 20010.087710	0.8				15.04 40801		
080308	W80 24010.086115	0.8			15.03 50801			15.03 90801
080308	W80 24010.087935	0.8		15.04 00803			15.03 60801	
080308	W80 24030.088430	0.8						
080308	W80 24010.086425	0.8	15.04 30801					
080308	W80 24010.088425	0.8				15.60 40901		
080308	W80 24010.087710	0.8						15.59 90901
09T308	W80 28010.086115	0.8			15.59 50901			
09T308	W80 28010.087935	0.8		15.60 00903			15.59 60901	
09T308	W80 28030.088430	0.8						
09T308	W80 28010.086425	0.8	15.60 30901					
09T308	W80 28010.088425	0.8						
09T308	W80 28010.087710	0.8						
100408	W80 32010.087935	0.8			16.10 51001			16.10 91001
100408	W80 32010.086425	0.8		16.07 01003			16.10 61001	
100408	W80 32030.088430	0.8						
100408	W80 32010.087710	0.8						
110408	W80 38010.086425	0.8			16.55 51101		16.55 61101	16.55 91101
110408	W80 38010.087935	0.8		16.55 01103				
110408	W80 38030.088430	0.8						
110408	W80 38010.087710	0.8						
120408	W80 42010.086425	0.8			17.38 51201		17.38 61201	17.38 91201
120408	W80 42010.087935	0.8		17.40 01203				
120408	W80 42030.088430	0.8						
120408	W80 42010.087710	0.8						
130508	W80 46010.087935	0.8			20.29 51301		20.29 61301	
130508	W80 46010.086425	0.8						
130508	W80 46030.088430	0.8	20.24 01303					20.29 91301
130508	W80 46010.087710	0.8						
Steel			●	●	●	●	●	●
Stainless steel			●	●	●	●	●	●
Cast iron			●	●	○	●	○	○
Non ferrous metals					○			●
Heat resistant alloys					●			○
Hardened materials						○		

Material examples referring to the cutting data tables

	Index	Material	Strength N/mm ² / HB / HRC	Material number	Material designation	Material number	Material designation	Material number	Material designation
P	1.1	General construction steel	< 800 N/mm ²	1.0402	EN3B				
	1.2	Free cutting steel	< 800 N/mm ²	1.0711	EN1A				
	1.3	Hardened steel, non alloyed	< 800 N/mm ²	1.0401	EN32C				
	1.4	Alloyed hardened steel	< 1000 N/mm ²	1.7325	25 CD4				
	1.5	Tempering steel, unalloyed	< 850 N/mm ²	1.5752	EN36	1.0535	EN9		
	1.6	Tempering steel, unalloyed	< 1000 N/mm ²	1.6582	EN24				
	1.7	Tempering steel, alloyed	< 800 N/mm ²	1.7225	EN19				
	1.8	Tempering steel, alloyed	< 1300 N/mm ²	1.8515	EN40B				
	1.9	Steel castings	< 850 N/mm ²	0.9650	G-X 260 Cr 27	1.6750	GS-20 NiCrMo 3.7	1.6582	GS-34 CrNiMo 6
	1.10	Nitriding steel	< 1000 N/mm ²	1.8509	EN41B				
	1.11	Nitriding steel	< 1200 N/mm ²	1.1186	EN8	1.1160	EN14A		
	1.12	Roller bearing steel	< 1200 N/mm ²	1.3505	534A99				
	1.13	Spring steel	< 1200 N/mm ²		EN45		EN47		EN43
	1.14	High-speed steel	< 1300 N/mm ²	1.3343	M2	1.3249	M34		
	1.15	Cold working tool steel	< 1300 N/mm ²	1.2379	D2	1.2311	P20		
	1.16	Hot working tool steel	< 1300 N/mm ²	1.2344	H13				
M	2.1	Cast steel and sulphured stainless steel	< 850 N/mm ²	1.4581	318				
	2.2	Stainless steel, ferritic	< 750 N/mm ²	1.4000	403				
	2.3	Stainless steel, martensitic	< 900 N/mm ²	1.4057	EN57				
	2.4	Stainless steel, ferritic / martensitic	< 1100 N/mm ²	1.4028	EN56B				
	2.5	Stainless steel, austenitic / ferritic	< 850 N/mm ²	1.4542	17-4PH				
	2.6	Stainless steel, austenitic	< 750 N/mm ²	1.4305	303	1.4401	316	1.4301	304
	2.7	Heat resistant steel	< 1100 N/mm ²	1.4876	Incoloy 800				
K	3.1	Grey cast iron with lamellar graphite	100–350 N/mm ²	0.6015	Grade 150	0.6020	Grade 220	0.6025	Grade 260
	3.2	Grey cast iron with lamellar graphite	300–500 N/mm ²	0.6030	Grade 300	0.6035	Grade 350	0.6040	Grade 400
	3.3	Gray cast iron with spheroidal graphite	300–500 N/mm ²	0.7040	SG 400-12	0.7043	SG 370-17	0.7050	SG 500-7
	3.4	Gray cast iron with spheroidal graphite	500–900 N/mm ²	0.7060	SG 600-3	0.7070	SG 700-2	0.7080	SG 800-2
	3.5	White malleable cast iron	270–450 N/mm ²	0.8035	GTW-35	0.8045	GTW-45		
	3.6	White malleable cast iron	500–650 N/mm ²	0.8055	GTW-55	0.8065	GTW-65		
	3.7	Black malleable cast iron	300–450 N/mm ²	0.8135	GTS-35	0.8145	GTS-45		
	3.8	Black malleable cast iron	500–800 N/mm ²	0.8155	GTS-55	0.8170	GTS-70		
N	4.1	Aluminium (non alloyed, low alloyed)	< 350 N/mm ²	3.0255	1050 A	3.0275	1070 A	3.0285	1080 A (A8)
	4.2	Aluminium alloys < 0.5 % Si	< 500 N/mm ²	3.1325	2017 A (AU4G)	3.4335	7005 (AZ5G)	3.4365	7075 (AZ5GU)
	4.3	Aluminium alloy 0.5–10 % Si	< 400 N/mm ²	3.2315	A-G S1	3.2373	A-S9 G	3.2151	A-S 6 U4
	4.4	Aluminium alloys 10–15 % Si	< 400 N/mm ²	3.2581	A-S12	3.2583	A-S12 U		
	4.5	Aluminum alloys > 15 % Si	< 400 N/mm ²		A-S18		A-S17 U4		
	4.6	Copper (non alloyed, low alloyed)	< 350 N/mm ²	2.0040	Cu-c1	2.0060	Cu-a1	2.0090	Cu-b1
	4.7	Copper wrought alloys	< 700 N/mm ²	2.1247	Cub2 (Beryllium Copper)	2.0855	CuN2S (Nickel Copper)	2.1310	CU-Fe2P
	4.8	Special copper alloys	< 200 HB	2.0916	Cu-A5	2.1525	Cu-S3 M		Ampco 8 (Cu-A6Fe2)
	4.9	Special copper alloys	< 300 HB	2.0978	Cu-A11 Fe5 Ni5		Ampco 18 (Cu- A10 Fe3)		
	4.10	Special copper alloys	> 300 HB	2.1247	Cu Be2		Ampco M4		
	4.11	Short-chipping brass, bronze, red bronze	< 600 N/mm ²	2.0331	Cu Zn36 Pb1,5	2.0380	Cu Zn39 Pb2 (Ms 56)	2.0410	Cu Zn44 Pb2
	4.12	Long-chipping brass	< 600 N/mm ²	2.0335	Cu Zn 36 (Ms63)	2.1293	Cu Cr1 Zr		
	4.13	Thermoplastics		PE	PVC	PS	Polystyrene		Plexiglas
	4.14	Duroplastics		PF	Bakelite		Pertinax		
	4.15	Fibre-reinforced plastics			Carbon Fibre		Fibreglass		Aramid Fibre (Kevlar)
	4.16	Magnesium and magnesium alloys	< 850 N/mm ²	3.5812	Mg A7 Z1	3.5662	Mg A9	3.5105	Mg Tr3 Z2 Zn 1
	4.17	Graphite			R8500X		R8650		Technograph 15
	4.18	Tungsten and tungsten alloys			W-Ni Fe (Densimet)		W- Ni Cu (Inermet)		Denal
	4.19	Molybdenum and molybdenum alloys			TZM		MHQ		Mo W
S	5.1	Pure nickel		2.4066	Ni99 (Nickel 200)	2.4068	Lc Ni99 (Nickel 201)		
	5.2	Nickel alloys		1.3912	Fe-Ni36 (Invar)	1.3917	Fe- Ni42 (N42)	1.3922	Fe-Ni48 (N48)
	5.3	Nickel alloys	< 850 N/mm ²	2.4375	Ni Cu30 Al (Monel K500)	2.4360	Ni Cu30Fe (Monel 400)	2.4668	
	5.4	Nickel molybdenum alloys		2.4600	Ni Mo30Cr2 (Hastelloy B4)	2.4617	Ni Mo28 (Hastelloy B2)	2.4819	Ni Mo16Cr16 Hastell. C276
	5.5	Nickel-chromium alloys	< 1300 N/mm ²	2.4951	Ni Cr20TiAl (Nimonic 80A)	2.4858	Ni Cr21Mo (Inconel 825)	2.4856	Ni Cr22Mo9Nb Inconel 625
	5.6	Cobalt Chrome Alloys	< 1300 N/mm ²	2.4964	Co Cr20 W15 Ni10		Co Cr20 Ni16 Mo7		Co Cr28 Mo 6
	5.7	Heat resistant alloys	< 1300 N/mm ²	1.4718	Z45 C S 9-3	1.4747	Z80 CSN 20-02	1.4845	Z12 CN 25-20
	5.8	Nickel-cobalt-chromium alloys	< 1400 N/mm ²	2.4851	Ni Cr23Fe (Inconel 601)	2.4668	Ni Cr19NbMo (Inconel 718)	2.4602	Ni Cr21Mo14 Hastelloy C22
	5.9	Pure titanium	< 900 N/mm ²	3.7025	T35 (Titanium Grade 1)	3.7034	T40 (Titanium Grade 2)	3.7064	T60 (Titanium Grade 4)
	5.10	Titanium alloys	< 700 N/mm ²		T-A6-Nb7 (367)		T-A5-Sn2-Mo4-Cr4 (Ti17)		T-A3-V2,5 (Gr18)
	5.11	Titanium alloys	< 1200 N/mm ²	3.7165	T-A6-V4 (Ta6V)		T-A4-3V-Mo2-Fe2 (SP700)		T-A5-Sn1-Zr1-V1-Mo (Gr32)
H	6.1		< 45 HRC						
	6.2		46–55 HRC						
	6.3	Tempered steel	56–60 HRC						
	6.4		61–65 HRC						
	6.5		65–70 HRC						

Cutting data standard values – KUB Pentron – SOGX indexable inserts

		BK8425	BK8430	BK7935	BK6115	BK6425	BK7710
	Index	V _c m/min	V _c m/min	V _c m/min	V _c m/min	V _c m/min	V _c m/min
P	1.1	200–320	200–300	200–300	250–350	270–370	
	1.2	200–320	200–320	200–300	250–350	270–370	
	1.3	250–300	250–300	250–300	250–300	250–320	
	1.4	250–300	250–300	250–300	250–300	250–320	
	1.5	250–300	250–300	250–300	250–300	250–320	
	1.6	140–220	140–220	120–200	200–280	220–300	
	1.7	140–220	140–220	120–200	200–280	220–300	
	1.8	140–220	140–220	120–200	200–280	220–300	
	1.9	250–300	250–300	250–300	250–300	250–320	
	1.10	140–220	140–220	120–200	200–280	220–300	
	1.11	140–220	140–220	120–200	200–280	220–300	
	1.12	140–220	140–220	120–200	200–280	220–300	
	1.13	140–220	140–220	120–200	200–280	220–300	
	1.14	50–90	140–220	120–200	70–110	220–300	
	1.15	120–200	120–200	100–180	170–230	190–250	
	1.16	120–200	120–200	100–180	170–230	190–250	
M	2.1	150–210	150–210	140–220		190–250	
	2.2	150–210	150–210	140–220		190–250	
	2.3	150–210	150–210	140–220		190–250	
	2.4	120–200	120–200	120–200		170–230	
	2.5	110–190	110–190	120–200		170–230	
	2.6	120–200	120–200	120–200		170–230	
	2.7	110–190	110–190	120–200		170–230	
K	3.1	140–220	140–220	110–190	160–320	150–250	
	3.2	140–220	140–220	110–190	160–320	150–250	
	3.3	140–220	140–220	110–190	120–200	120–200	
	3.4	120–180	120–180	80–140	100–180	90–150	
	3.5	110–170	110–170	80–140	90–150	90–150	
	3.6	110–170	110–170	80–140	90–150	90–150	
	3.7	110–170	110–170	80–140	90–150	90–150	
	3.8	110–170	110–170	80–140	90–150	90–150	
N	4.1			300–500			300–700
	4.2			300–500			300–700
	4.3			180–320			210–350
	4.4			150–250			140–300
	4.5			150–250			140–300
	4.6			200–400			250–450
	4.7			200–400			250–450
	4.8			200–400			250–450
	4.9			200–400			250–450
	4.10			200–400			250–450
	4.11			200–400			250–450
	4.12			200–400			250–450
	4.13						
	4.14						
	4.15						
	4.16						
	4.17						
	4.18						
	4.19						
S	5.1			20–80			
	5.2			20–80			
	5.3			20–80			
	5.4			20–80			
	5.5			20–80			
	5.6			20–80			
	5.7			20–80			
	5.8			20–80			
	5.9			40–100			
	5.10			40–80			40–80
	5.11			40–80			40–80
H	6.1				50–90		
	6.2				30–50		
	6.3						
	6.4						
	6.5						

i During the drilling operation on through holes a sharp disk will be produced. Safety precautions must be observed.
A safety guard has to be provided as protection.

i In order to ensure efficient chip evacuation, coolant pressure must be at least 5 bar. Optimum pressure is > 15 bar.

Cutting data standard values – KUB Pentron

[illegible]

i During the drilling operation on through holes a sharp disk will be produced. Safety precautions must be observed. A safety guard has to be provided as protection.

[illegible][illegible]

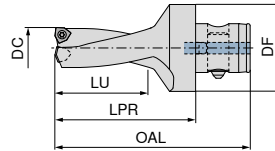
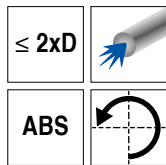
In order to ensure efficient chip evacuation, coolant pressure must be at least 5 bar. Optimum pressure is > 15 bar.

KUB Trigon

▲ left-hand cutting

Scope of supply:

Indexable Insert Drill incl. clamping screws



Designation	KOMET no.	DC	DF	OAL	LU	LPR	torque moment Nm	Insert	NEW 2B/6# Article no. 11 892 ... £	
KUB-T.2D.140.L.03-ABS50	V30 21402	14	50	94	28	63	0,62	WOEX 030204	324.27	14095
KUB-T.2D.150.L.03-ABS50	V30 21502	15	50	96	30	65	0,62	WOEX 030204	324.27	15095
KUB-T.2D.160.L.03-ABS50	V30 21600	16	50	98	32	67	0,62	WOEX 030204	324.27	16095
KUB-T.2D.170.L.03-ABS50	V30 21700	17	50	100	34	69	0,62	WOEX 030204	324.27	17095
KUB-T.2D.180.L.03-ABS50	V30 21800	18	50	102	36	71	0,62	WOEX 030204	324.27	18095
KUB-T.2D.190.L.03-ABS50	V30 21900	19	50	104	38	73	0,62	WOEX 030204	324.27	19095
KUB-T.2D.200.L.04-ABS50	V30 22000	20	50	106	40	75	1,01	WOEX 040304	326.18	20095
KUB-T.2D.210.L.04-ABS50	V30 22100	21	50	108	42	77	1,01	WOEX 040304	326.18	21095
KUB-T.2D.220.L.04-ABS50	V30 22200	22	50	110	44	79	1,01	WOEX 040304	326.18	22095
KUB-T.2D.230.L.04-ABS50	V30 22300	23	50	112	46	81	1,01	WOEX 040304	326.18	23095
KUB-T.2D.240.L.04-ABS50	V30 22400	24	50	114	48	83	1,01	WOEX 040304	326.18	24095
KUB-T.2D.250.L.05-ABS50	V30 22500	25	50	116	50	85	1,28	WOEX 05T304	330.91	25095
KUB-T.2D.260.L.05-ABS50	V30 22600	26	50	118	52	87	1,28	WOEX 05T304	330.91	26095
KUB-T.2D.270.L.05-ABS50	V30 22700	27	50	120	54	89	1,28	WOEX 05T304	330.91	27095
KUB-T.2D.280.L.05-ABS50	V30 22800	28	50	122	56	91	1,28	WOEX 05T304	330.91	28095
KUB-T.2D.290.L.05-ABS50	V30 22900	29	50	124	58	93	1,28	WOEX 05T304	330.91	29095
KUB-T.2D.300.L.05-ABS50	V30 23000	30	50	131	60	100	1,28	WOEX 05T304	330.91	30095
KUB-T.2D.310.L.05-ABS50	V30 23100	31	50	133	62	102	1,28	WOEX 05T304	330.91	31095
KUB-T.2D.320.L.05-ABS50	V30 23200	32	50	135	64	104	1,28	WOEX 05T304	330.91	32095
KUB-T.2D.330.L.05-ABS50	V30 23300	33	50	137	66	106	1,28	WOEX 05T304	330.91	33095
KUB-T.2D.340.L.05-ABS50	V30 23400	34	50	139	68	108	1,28	WOEX 05T304	330.91	34095
KUB-T.2D.350.L.05-ABS50	V30 23500	35	50	141	70	110	1,28	WOEX 05T304	330.91	35095
KUB-T.2D.360.L.05-ABS50	V30 23600	36	50	143	72	112	1,28	WOEX 05T304	330.91	36095
KUB-T.2D.370.L.06-ABS50	V30 23700	37	50	155	74	124	2,8	WOEX 06T304	347.91	37095
KUB-T.2D.380.L.06-ABS50	V30 23800	38	50	157	76	126	2,8	WOEX 06T304	347.91	38095
KUB-T.2D.390.L.06-ABS50	V30 23900	39	50	159	78	128	2,8	WOEX 06T304	347.91	39095
KUB-T.2D.400.L.06-ABS50	V30 24000	40	50	161	80	130	2,8	WOEX 06T304	347.91	40095
KUB-T.2D.410.L.06-ABS50	V30 24100	41	50	163	82	132	2,8	WOEX 06T304	347.91	41095
KUB-T.2D.420.L.06-ABS50	V30 24200	42	50	165	84	134	2,8	WOEX 06T304	347.91	42095
KUB-T.2D.430.L.06-ABS50	V30 24300	43	50	167	86	136	2,8	WOEX 06T304	347.91	43095
KUB-T.2D.440.L.06-ABS50	V30 24400	44	50	169	88	138	2,8	WOEX 06T304	347.91	44095

Y7



Key D

W7



Clamping screw

DC

14 - 19

20 - 24

25 - 36

37 - 44

Article no.
80 950 ...
£

T08 - IP

13.49

125

Article no.
10 950 ...
£

M2,0x4,3 - 06IP

2.15

10000

M2,2x5,5 - 06IP

2.15

10700

M2,5x7,2 - 08IP

2.15

10500

M3,5x7,3 - 10IP

2.15

10600

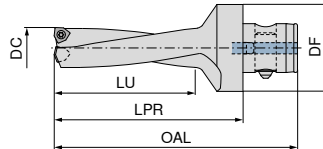
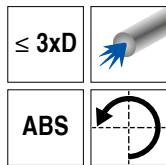
i Further diameters can be found in the main catalogue → Section 3, Indexable insert drilling

KUB Trigon

▲ left-hand cutting

Scope of supply:

Indexable Insert Drill incl. clamping screws



Designation	KOMET no.	DC	DF	OAL	LU	LPR	torque moment Nm	Insert	NEW 2B/6# Article no. 11 893 ... £	
KUB-T.3D.140.L.03-ABS50	V30 61402	14	50	108	42	77	0,62	WOEX 030204	356.45	14095
KUB-T.2D.430.L.06-ABS50	V30 61502	15	50	111	45	80	0,62	WOEX 030204	356.45	15095
KUB-T.3D.160.L.03-ABS50	V30 61600	16	50	114	48	83	0,62	WOEX 030204	356.45	16095
KUB-T.3D.170.L.03-ABS50	V30 61700	17	50	117	51	86	0,62	WOEX 030204	356.45	17095
KUB-T.3D.180.L.03-ABS50	V30 61800	18	50	120	54	89	0,62	WOEX 030204	356.45	18095
KUB-T.3D.190.L.03-ABS50	V30 61900	19	50	123	57	92	0,62	WOEX 030204	356.45	19095
KUB-T.3D.200.L.04-ABS50	V30 62000	20	50	126	60	95	1,01	WOEX 040304	363.09	20095
KUB-T.3D.210.L.04-ABS50	V30 62100	21	50	129	63	98	1,01	WOEX 040304	363.09	21095
KUB-T.3D.220.L.04-ABS50	V30 62200	22	50	132	66	101	1,01	WOEX 040304	363.09	22095
KUB-T.3D.230.L.04-ABS50	V30 62300	23	50	135	69	104	1,01	WOEX 040304	363.09	23095
KUB-T.3D.240.L.04-ABS50	V30 62400	24	50	138	72	107	1,01	WOEX 040304	363.09	24095
KUB-T.3D.250.L.05-ABS50	V30 62500	25	50	141	75	110	1,28	WOEX 05T304	371.55	25095
KUB-T.3D.260.L.05-ABS50	V30 62600	26	50	144	78	113	1,28	WOEX 05T304	371.55	26095
KUB-T.3D.270.L.05-ABS50	V30 62700	27	50	147	81	116	1,28	WOEX 05T304	371.55	27095
KUB-T.3D.280.L.05-ABS50	V30 62800	28	50	150	84	119	1,28	WOEX 05T304	371.55	28095
KUB-T.3D.290.L.05-ABS50	V30 62900	29	50	153	87	122	1,28	WOEX 05T304	371.55	29095
KUB-T.3D.300.L.05-ABS50	V30 63000	30	50	161	90	130	1,28	WOEX 05T304	371.55	30095
KUB-T.3D.310.L.05-ABS50	V30 63100	31	50	164	93	133	1,28	WOEX 05T304	371.55	31095
KUB-T.3D.320.L.05-ABS50	V30 63200	32	50	167	96	136	1,28	WOEX 05T304	371.55	32095
KUB-T.3D.330.L.05-ABS50	V30 63300	33	50	170	99	139	1,28	WOEX 05T304	371.55	33095
KUB-T.3D.340.L.05-ABS50	V30 63400	34	50	173	102	142	1,28	WOEX 05T304	371.55	34095
KUB-T.3D.350.L.05-ABS50	V30 63500	35	50	176	105	145	1,28	WOEX 05T304	371.55	35095
KUB-T.3D.360.L.05-ABS50	V30 63600	36	50	179	108	148	1,28	WOEX 05T304	371.55	36095
KUB-T.3D.370.L.06-ABS50	V30 63700	37	50	192	111	161	2,8	WOEX 06T304	403.73	37095
KUB-T.3D.380.L.06-ABS50	V30 63800	38	50	195	114	164	2,8	WOEX 06T304	403.73	38095
KUB-T.3D.390.L.06-ABS50	V30 63900	39	50	198	117	167	2,8	WOEX 06T304	403.73	39095
KUB-T.3D.400.L.06-ABS50	V30 64000	40	50	201	120	170	2,8	WOEX 06T304	403.73	40095
KUB-T.3D.410.L.06-ABS50	V30 64100	41	50	204	123	173	2,8	WOEX 06T304	403.73	41095
KUB-T.3D.420.L.06-ABS50	V30 64200	42	50	207	126	176	2,8	WOEX 06T304	403.73	42095
KUB-T.3D.430.L.06-ABS50	V30 64300	43	50	210	129	179	2,8	WOEX 06T304	403.73	43095
KUB-T.3D.440.L.06-ABS50	V30 64400	44	50	213	132	182	2,8	WOEX 06T304	403.73	44095

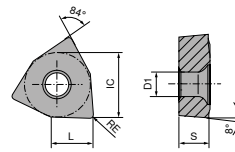
Spare parts
DC

		Article no. 80 950 ... £		Article no. 10 950 ... £	
14 - 19	T06 - IP	13.68	123	M2,0x4,3 - 06IP	2.15 10000
20 - 24	T06 - IP	13.68	123	M2,2x5,5 - 06IP	2.15 10700
25 - 36	T08 - IP	13.49	125	M2,5x7,2 - 08IP	2.15 10500
37 - 44				M3,5x7,3 - 10IP	2.15 10600

i Further diameters can be found in the main catalogue → Section 3, Indexable insert drilling

WOEX

Designation	L	IC	S	D1
	mm	mm	mm	mm
WOEX 0302..	3.2	5.00	2.30	2.30
WOEX 0403..	4.1	6.35	3.18	2.55
WOEX 05T3..	5.3	8.00	3.80	2.85
WOEX 06T3..	6.6	10.00	3.80	4.05



ISO	KOMET no.	RE	-01 BK8425		-03 BK8425		-13 BK8425		-01 BK7935		-01 BK6115	
			WOEX 1A/3# Article no. 10 821 ... £		WOEX 1A/3# Article no. 10 821 ... £		WOEX 1A/3# Article no. 10 821 ... £		WOEX 1A/3# Article no. 10 821 ... £		WOEX 1A/3# Article no. 10 821 ... £	
		mm										
030204	W29 10130.048425	0.4					12.48	30313				
030204	W29 10030.048425	0.4			10.59	30303			10.89	50301		
030204	W29 10010.047935	0.4	10.31	30301								
030204	W29 10010.048425	0.4									14.94	40301
030204	W29 10010.046115	0.4					12.57	30413				
040304	W29 18130.048425	0.4			11.25	30403			11.55	50401		
040304	W29 18030.048425	0.4										
040304	W29 18010.047935	0.4										
040304	W29 18010.048425	0.4	10.96	30401								
040304	W29 18010.046115	0.4									15.04	40401
040304	W29 24130.048425	0.4			15.88	30503			11.72	50501		
05T304	W29 24030.048425	0.4										
05T304	W29 24010.047935	0.4										
05T304	W29 24010.048425	0.4	11.25	30501								
05T304	W29 24010.046115	0.4										
06T304	W29 34130.048425	0.4			16.64	30603	14.18	30613			14.46	40501
06T304	W29 34030.048425	0.4							13.31	50601		
06T304	W29 34010.047935	0.4										
06T304	W29 34010.048425	0.4	12.57	30601								
06T304	W29 34010.046115	0.4									16.07	40601
080404	W29 42130.048425	0.4					17.96	30813				
Steel			•		•		•		•		•	
Stainless steel			•		•		•		•		•	
Cast iron			•		•		•		•		•	
Non ferrous metals									○			
Heat resistant alloys									•			
Hardened materials											○	

ISO	KOMET no.	RE	-01 BK7615		-01 BK62		-11 BK77		-13 BK79	
			WOEX 1A/3# Article no. 10 821 ... £		WOEX 1A/3# Article no. 10 821 ... £		WOEX 1A/3# Article no. 10 821 ... £		WOEX 1A/3# Article no. 10 821 ... £	
		mm								
030204	W29 10010.0462	0.4			10.73	20301				
030204	W29 10110.0477	0.4					10.73	80311		
030204	W29 10010.047615	0.4	17.21	05301					12.48	15313
030204	W29 10130.0479	0.4								
040304	W29 18110.0477	0.4			11.28	20401		11.28	80411	
040304	W29 18010.0462	0.4								
040304	W29 18010.047615	0.4	17.30	05401						
040304	W29 18130.0479	0.4							12.57	15413
05T304	W29 24110.0477	0.4					11.39	80511		
05T304	W29 24010.0462	0.4			11.39	20501				
05T304	W29 24010.047615	0.4	18.05	05501						
05T304	W29 24130.0479	0.4							12.85	15513
06T304	W29 34110.0477	0.4					12.76	80611		
06T304	W29 34010.0462	0.4			12.87	20601				
06T304	W29 34010.047615	0.4	19.38	05601					14.18	15613
06T304	W29 34130.0479	0.4								
080404	W29 42110.0477	0.4					16.35	80811		
080404	W29 42010.047615	0.4	23.64	05801						
080404	W29 42130.0479	0.4							18.15	15813
Steel									•	
Stainless steel									•	
Cast iron					•	•				
Non ferrous metals								•		
Heat resistant alloys								•		
Hardened materials			○		○					

i BK8425 -03 and BK6115 -01 are exclusively recommended for use on the peripheral cutting edge!

Cutting data standard values – KUB Trigon – WOEX indexable inserts

	Index	Material	Strength N/mm ² / HB / HRC	BK8425	BK79	BK77	BK7935	BK7615	BK62
				V _c m/min	V _c m/min	V _c m/min	V _c m/min	V _c m/min	V _c m/min
P	1.1	General construction steel	< 800 N/mm ²	200–320	160–280		200–300		
	1.2	Free cutting steel	< 800 N/mm ²	200–320	160–280		200–300		
	1.3	Hardened steel, non alloyed	< 800 N/mm ²	250–300	210–260		250–300		
	1.4	Alloyed hardened steel	< 1000 N/mm ²	250–300	210–260		250–300		
	1.5	Tempering steel, unalloyed	< 850 N/mm ²	250–300	210–260		250–300		
	1.6	Tempering steel, unalloyed	< 1000 N/mm ²	140–220	100–180		120–200		
	1.7	Tempering steel, alloyed	< 800 N/mm ²	140–220	100–180		120–200		
	1.8	Tempering steel, alloyed	< 1300 N/mm ²	140–220	100–180		120–200		
	1.9	Steel castings	< 850 N/mm ²	250–300	210–260		250–300		
	1.10	Nitriding steel	< 1000 N/mm ²	140–220	100–180		120–200		
	1.11	Nitriding steel	< 1200 N/mm ²	140–220	100–180		120–200		
	1.12	Roller bearing steel	< 1200 N/mm ²	140–220	100–180		120–200		
	1.13	Spring steel	< 1200 N/mm ²	140–220	100–180		120–200		
	1.14	High-speed steel	< 1300 N/mm ²	50–90	30–70		120–200		
	1.15	Cold working tool steel	< 1300 N/mm ²	120–200	80–160		100–180		
	1.16	Hot working tool steel	< 1300 N/mm ²	120–200	80–160		100–180		
M	2.1	Cast steel and sulphured stainless steel	< 850 N/mm ²	150–210	120–190		140–220		
	2.2	Stainless steel, ferritic	< 750 N/mm ²	150–210	120–190		140–220		
	2.3	Stainless steel, martensitic	< 900 N/mm ²	150–210	120–190		140–220		
	2.4	Stainless steel, ferritic / martensitic	< 1100 N/mm ²	120–200	100–170		120–200		
	2.5	Stainless steel, austenitic / ferritic	< 850 N/mm ²	110–190	80–160		120–200		
	2.6	Stainless steel, austenitic	< 750 N/mm ²	120–200	100–170		120–200		
	2.7	Heat resistant steel	< 1100 N/mm ²	110–190	80–160		120–200		
K	3.1	Grey cast iron with lamellar graphite	100–350 N/mm ²	140–220			110–190	180–350	140–220
	3.2	Grey cast iron with lamellar graphite	300–500 N/mm ²	140–220			110–190	180–350	140–220
	3.3	Gray cast iron with spheroidal graphite	300–500 N/mm ²	140–220			110–190	140–240	140–220
	3.4	Gray cast iron with spheroidal graphite	500–900 N/mm ²	120–180			80–140	120–200	120–180
	3.5	White malleable cast iron	270–450 N/mm ²	110–170			80–140	100–180	110–170
	3.6	White malleable cast iron	500–650 N/mm ²	110–170			80–140	100–180	110–170
	3.7	Black malleable cast iron	300–450 N/mm ²	110–170			80–140	100–180	110–170
	3.8	Black malleable cast iron	500–800 N/mm ²	110–170			80–140	100–180	110–170
N	4.1	Aluminium (non alloyed, low alloyed)	< 350 N/mm ²			300–700	300–500		
	4.2	Aluminium alloys < 0.5 % Si	< 500 N/mm ²			300–700	300–500		
	4.3	Aluminium alloy 0.5–10 % Si	< 400 N/mm ²			210–350	180–320		
	4.4	Aluminium alloys 10–15 % Si	< 400 N/mm ²			140–300	150–250		
	4.5	Aluminum alloys > 15 % Si	< 400 N/mm ²			140–300	150–250		
	4.6	Copper (non alloyed, low alloyed)	< 350 N/mm ²			250–450	200–400		
	4.7	Copper wrought alloys	< 700 N/mm ²			250–450	200–400		
	4.8	Special copper alloys	< 200 HB			250–450	200–400		
	4.9	Special copper alloys	< 300 HB			250–450	200–400		
	4.10	Special copper alloys	> 300 HB			250–450	200–400		
	4.11	Short-chipping brass, bronze, red bronze	< 600 N/mm ²			250–450	200–400		
	4.12	Long-chipping brass	< 600 N/mm ²			250–450	200–400		
	4.13	Thermoplastics							
	4.14	Duroplastics							
	4.15	Fibre-reinforced plastics							
	4.16	Magnesium and magnesium alloys	< 850 N/mm ²						
	4.17	Graphite							
	4.18	Tungsten and tungsten alloys							
	4.19	Molybdenum and molybdenum alloys							
S	5.1	Pure nickel			25–50	20–80	20–80		
	5.2	Nickel alloys			25–50	20–80	20–80		
	5.3	Nickel alloys	< 850 N/mm ²		25–50	20–80	20–80		
	5.4	Nickel molybdenum alloys			25–50	20–80	20–80		
	5.5	Nickel-chromium alloys	< 1300 N/mm ²		25–50	20–80	20–80		
	5.6	Cobalt Chrome Alloys	< 1300 N/mm ²		25–50	20–80	20–80		
	5.7	Heat resistant alloys	< 1300 N/mm ²		25–50	20–80	20–80		
	5.8	Nickel-cobalt-chromium alloys	< 1400 N/mm ²		25–50	20–80	20–80		
	5.9	Pure titanium	< 900 N/mm ²		35–100	40–100	40–100		
	5.10	Titanium alloys	< 700 N/mm ²		35–80	40–80	40–80		
	5.11	Titanium alloys	< 1200 N/mm ²		35–80	40–80	40–80		
H	6.1	Tempered steel	< 45 HRC					50–90	50–90
	6.2		46–55 HRC					30–50	30–50
	6.3		56–60 HRC						
	6.4		61–65 HRC						
	6.5		65–70 HRC						

i During the drilling operation on through holes a sharp disk will be produced. Safety precautions must be observed. A safety guard has to be provided as protection.

i In order to ensure efficient chip evacuation, coolant pressure must be at least 5 bar. Optimum pressure is > 15 bar.

Cutting data standard values – KUB Trigon

		2xD – ABS							
		Ø 14–16 mm	Ø 17–19 mm	Ø 20–24 mm	Ø 25–29 mm	Ø 30–36 mm	Ø 37–40 mm	Ø 41–44 mm	
Index		f in mm/rev.							
P	1.1	0,04–0,08	0,04–0,10	0,04–0,10	0,06–0,12	0,06–0,12	0,06–0,12	0,06–0,12	
	1.2	0,04–0,08	0,04–0,10	0,04–0,10	0,06–0,12	0,06–0,12	0,06–0,12	0,06–0,12	
	1.3	0,04–0,06	0,04–0,08	0,06–0,12	0,07–0,14	0,07–0,14	0,07–0,14	0,08–0,16	
	1.4	0,04–0,06	0,04–0,08	0,06–0,12	0,07–0,14	0,07–0,14	0,07–0,14	0,08–0,16	
	1.5	0,04–0,06	0,04–0,08	0,06–0,12	0,07–0,14	0,07–0,14	0,07–0,14	0,08–0,16	
	1.6	0,04–0,06	0,04–0,08	0,06–0,10	0,07–0,14	0,08–0,16	0,08–0,16	0,08–0,16	
	1.7	0,04–0,06	0,04–0,08	0,06–0,10	0,07–0,14	0,08–0,16	0,08–0,16	0,08–0,16	
	1.8	0,04–0,06	0,04–0,08	0,06–0,10	0,07–0,14	0,08–0,16	0,08–0,16	0,08–0,16	
	1.9	0,04–0,06	0,04–0,08	0,06–0,12	0,07–0,14	0,07–0,14	0,07–0,14	0,08–0,16	
	1.10	0,04–0,06	0,04–0,08	0,06–0,10	0,07–0,14	0,08–0,16	0,08–0,16	0,08–0,16	
	1.11	0,04–0,06	0,04–0,08	0,06–0,10	0,07–0,14	0,08–0,16	0,08–0,16	0,08–0,16	
	1.12	0,04–0,06	0,04–0,08	0,06–0,10	0,07–0,14	0,08–0,16	0,08–0,16	0,08–0,16	
	1.13	0,04–0,06	0,04–0,08	0,06–0,10	0,07–0,14	0,08–0,16	0,08–0,16	0,08–0,16	
	1.14	0,03–0,05	0,03–0,06	0,04–0,08	0,06–0,10	0,07–0,10	0,08–0,12	0,08–0,12	
	1.15	0,04–0,06	0,04–0,08	0,06–0,10	0,07–0,12	0,08–0,12	0,08–0,12	0,08–0,14	
	1.16	0,04–0,06	0,04–0,08	0,06–0,10	0,07–0,12	0,08–0,12	0,08–0,12	0,08–0,14	
M	2.1	0,04–0,06	0,04–0,08	0,06–0,10	0,08–0,14	0,08–0,14	0,08–0,14	0,08–0,14	
	2.2	0,04–0,06	0,04–0,08	0,06–0,10	0,08–0,14	0,08–0,14	0,08–0,14	0,08–0,14	
	2.3	0,04–0,06	0,04–0,08	0,06–0,10	0,08–0,14	0,08–0,14	0,08–0,14	0,08–0,14	
	2.4	0,04–0,06	0,04–0,06	0,06–0,08	0,08–0,12	0,08–0,12	0,08–0,12	0,08–0,14	
	2.5	0,04–0,06	0,04–0,06	0,06–0,08	0,08–0,12	0,08–0,12	0,08–0,12	0,08–0,12	
	2.6	0,04–0,06	0,04–0,06	0,06–0,08	0,08–0,12	0,08–0,12	0,08–0,12	0,08–0,14	
	2.7	0,04–0,06	0,04–0,06	0,06–0,08	0,08–0,12	0,08–0,12	0,08–0,12	0,08–0,12	
K	3.1	0,06–0,10	0,06–0,12	0,08–0,14	0,10–0,20	0,10–0,20	0,10–0,20	0,10–0,25	
	3.2	0,06–0,10	0,06–0,12	0,08–0,14	0,10–0,20	0,10–0,20	0,10–0,20	0,10–0,25	
	3.3	0,06–0,08	0,06–0,10	0,08–0,14	0,10–0,20	0,10–0,20	0,10–0,20	0,10–0,25	
	3.4	0,06–0,08	0,06–0,10	0,08–0,14	0,10–0,20	0,10–0,20	0,10–0,20	0,10–0,25	
	3.5	0,06–0,10	0,06–0,12	0,08–0,16	0,10–0,25	0,10–0,25	0,10–0,25	0,10–0,25	
	3.6	0,06–0,10	0,06–0,12	0,08–0,16	0,10–0,25	0,10–0,25	0,10–0,25	0,10–0,25	
	3.7	0,06–0,10	0,06–0,12	0,08–0,16	0,10–0,25	0,10–0,25	0,10–0,25	0,10–0,25	
	3.8	0,06–0,10	0,06–0,12	0,08–0,16	0,10–0,25	0,10–0,25	0,10–0,25	0,10–0,25	
N	4.1	0,06–0,14	0,08–0,15	0,10–0,16	0,10–0,16	0,10–0,16	0,10–0,16	0,10–0,16	
	4.2	0,06–0,14	0,08–0,15	0,10–0,16	0,10–0,16	0,10–0,16	0,10–0,16	0,10–0,16	
	4.3	0,06–0,14	0,08–0,15	0,10–0,16	0,10–0,16	0,10–0,16	0,10–0,16	0,10–0,16	
	4.4	0,06–0,14	0,08–0,15	0,10–0,16	0,10–0,16	0,10–0,16	0,10–0,16	0,10–0,16	
	4.5	0,06–0,14	0,08–0,15	0,10–0,16	0,10–0,16	0,10–0,16	0,10–0,16	0,10–0,16	
	4.6	0,06–0,14	0,08–0,15	0,10–0,16	0,10–0,16	0,10–0,16	0,10–0,16	0,10–0,16	
	4.7	0,06–0,14	0,08–0,15	0,10–0,16	0,10–0,16	0,10–0,16	0,10–0,16	0,10–0,16	
	4.8	0,06–0,14	0,08–0,15	0,10–0,16	0,10–0,16	0,10–0,16	0,10–0,16	0,10–0,16	
	4.9	0,06–0,14	0,08–0,15	0,10–0,16	0,10–0,16	0,10–0,16	0,10–0,16	0,10–0,16	
	4.10	0,06–0,14	0,08–0,15	0,10–0,16	0,10–0,16	0,10–0,16	0,10–0,16	0,10–0,16	
	4.11	0,06–0,14	0,08–0,15	0,10–0,16	0,10–0,16	0,10–0,16	0,10–0,16	0,10–0,16	
	4.12	0,06–0,14	0,08–0,15	0,10–0,16	0,10–0,16	0,10–0,16	0,10–0,16	0,10–0,16	
	4.13	0,06–0,14	0,08–0,15	0,10–0,16	0,10–0,16	0,10–0,16	0,10–0,16	0,10–0,16	
	4.14	0,04–0,09	0,04–0,09	0,04–0,10	0,05–0,12	0,05–0,12	0,05–0,12	0,05–0,12	
	4.15	0,06–0,14	0,06–0,14	0,06–0,14	0,10–0,17	0,10–0,18	0,10–0,18	0,10–0,20	
	4.16								
	4.17								
	4.18								
	4.19								
S	5.1	0,03–0,07	0,04–0,08	0,05–0,10	0,05–0,10	0,05–0,10	0,05–0,10	0,05–0,10	
	5.2	0,03–0,07	0,04–0,08	0,05–0,10	0,05–0,10	0,05–0,10	0,05–0,10	0,05–0,10	
	5.3	0,03–0,07	0,04–0,08	0,05–0,10	0,05–0,10	0,05–0,10	0,05–0,10	0,05–0,10	
	5.4	0,03–0,07	0,04–0,08	0,05–0,10	0,05–0,10	0,05–0,10	0,05–0,10	0,05–0,10	
	5.5	0,03–0,07	0,04–0,08	0,05–0,10	0,05–0,10	0,05–0,10	0,05–0,10	0,05–0,10	
	5.6	0,03–0,07	0,04–0,08	0,05–0,10	0,05–0,10	0,05–0,10	0,05–0,10	0,05–0,10	
	5.7	0,03–0,07	0,04–0,08	0,05–0,10	0,05–0,10	0,05–0,10	0,05–0,10	0,05–0,10	
	5.8	0,03–0,07	0,04–0,08	0,05–0,10	0,05–0,10	0,05–0,10	0,05–0,10	0,05–0,10	
	5.9	0,03–0,07	0,04–0,08	0,05–0,10	0,05–0,10	0,05–0,10	0,05–0,10	0,05–0,10	
	5.10	0,04–0,10	0,04–0,10	0,04–0,10	0,05–0,10	0,05–0,10	0,05–0,10	0,05–0,10	
	5.11	0,04–0,10	0,04–0,10	0,04–0,10	0,05–0,10	0,05–0,10	0,05–0,10	0,05–0,10	
H	6.1	0,03–0,05	0,03–0,05	0,04–0,08	0,06–0,10	0,06–0,10	0,08–0,12	0,08–0,12	
	6.2	0,03–0,05	0,03–0,05	0,04–0,08	0,06–0,10	0,06–0,10	0,06–0,10	0,06–0,10	
	6.3								
	6.4								
	6.5								



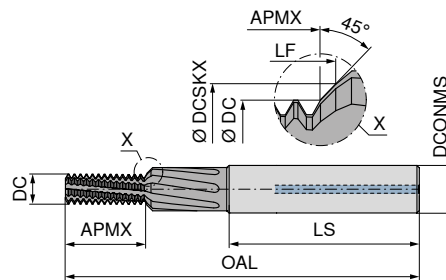
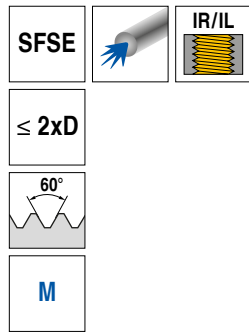
During the drilling operation on through holes a sharp disk will be produced. Safety precautions must be observed.
A safety guard has to be provided as protection.

3xD – ABS							
	Ø 14-16 mm	Ø 17-19 mm	Ø 20-24 mm	Ø 25-29 mm	Ø 30-36 mm	Ø 37-40 mm	Ø 41-44 mm
	f in mm/rev.						
	0,04-0,08	0,04-0,10	0,04-0,10	0,06-0,12	0,06-0,12	0,06-0,12	0,06-0,12
	0,04-0,08	0,04-0,10	0,04-0,10	0,06-0,12	0,06-0,12	0,06-0,12	0,06-0,12
	0,04-0,06	0,04-0,08	0,06-0,12	0,07-0,14	0,07-0,14	0,07-0,14	0,08-0,16
	0,04-0,06	0,04-0,08	0,06-0,12	0,07-0,14	0,07-0,14	0,07-0,14	0,08-0,16
	0,04-0,06	0,04-0,08	0,06-0,12	0,07-0,14	0,07-0,14	0,07-0,14	0,08-0,16
	0,04-0,06	0,04-0,08	0,06-0,10	0,07-0,14	0,08-0,16	0,08-0,16	0,08-0,16
	0,04-0,06	0,04-0,08	0,06-0,10	0,07-0,14	0,08-0,16	0,08-0,16	0,08-0,16
	0,04-0,06	0,04-0,08	0,06-0,10	0,07-0,14	0,08-0,16	0,08-0,16	0,08-0,16
	0,04-0,06	0,04-0,08	0,06-0,12	0,07-0,14	0,07-0,14	0,07-0,14	0,08-0,16
	0,04-0,06	0,04-0,08	0,06-0,10	0,07-0,14	0,08-0,16	0,08-0,16	0,08-0,16
	0,04-0,06	0,04-0,08	0,06-0,10	0,07-0,14	0,08-0,16	0,08-0,16	0,08-0,16
	0,04-0,06	0,04-0,08	0,06-0,10	0,07-0,14	0,08-0,16	0,08-0,16	0,08-0,16
	0,04-0,06	0,04-0,08	0,06-0,10	0,07-0,14	0,08-0,16	0,08-0,16	0,08-0,16
	0,03-0,05	0,03-0,06	0,04-0,08	0,06-0,1	0,07-0,1	0,08-0,12	0,08-0,12
	0,04-0,06	0,04-0,08	0,06-0,10	0,07-0,12	0,08-0,12	0,08-0,12	0,08-0,14
	0,04-0,06	0,04-0,08	0,06-0,10	0,07-0,12	0,08-0,12	0,08-0,12	0,08-0,14
	0,04-0,06	0,04-0,08	0,06-0,10	0,08-0,14	0,08-0,14	0,08-0,14	0,08-0,14
	0,04-0,06	0,04-0,08	0,06-0,10	0,08-0,14	0,08-0,14	0,08-0,14	0,08-0,14
	0,04-0,06	0,04-0,08	0,06-0,10	0,08-0,14	0,08-0,14	0,08-0,14	0,08-0,14
	0,04-0,06	0,04-0,06	0,06-0,08	0,08-0,12	0,08-0,12	0,08-0,12	0,08-0,14
	0,04-0,06	0,04-0,06	0,06-0,08	0,08-0,12	0,08-0,12	0,08-0,12	0,08-0,12
	0,04-0,06	0,04-0,06	0,06-0,08	0,08-0,12	0,08-0,12	0,08-0,12	0,08-0,12
	0,06-0,10	0,06-0,12	0,08-0,14	0,10-0,20	0,10-0,20	0,10-0,20	0,10-0,25
	0,06-0,10	0,06-0,12	0,08-0,14	0,10-0,20	0,10-0,20	0,10-0,20	0,10-0,25
	0,06-0,08	0,06-0,10	0,08-0,14	0,10-0,20	0,10-0,20	0,10-0,20	0,10-0,25
	0,06-0,08	0,06-0,10	0,08-0,14	0,10-0,20	0,10-0,20	0,10-0,20	0,10-0,25
	0,06-0,10	0,06-0,12	0,08-0,16	0,10-0,25	0,10-0,25	0,10-0,25	0,10-0,25
	0,06-0,10	0,06-0,12	0,08-0,16	0,10-0,25	0,10-0,25	0,10-0,25	0,10-0,25
	0,06-0,10	0,06-0,12	0,08-0,16	0,10-0,25	0,10-0,25	0,10-0,25	0,10-0,25
	0,06-0,14	0,08-0,15	0,10-0,16	0,10-0,16	0,10-0,16	0,10-0,16	0,10-0,16
	0,06-0,14	0,08-0,15	0,10-0,16	0,10-0,16	0,10-0,16	0,10-0,16	0,10-0,16
	0,06-0,14	0,08-0,15	0,10-0,16	0,10-0,16	0,10-0,16	0,10-0,16	0,10-0,16
	0,06-0,14	0,08-0,15	0,10-0,16	0,10-0,16	0,10-0,16	0,10-0,16	0,10-0,16
	0,06-0,14	0,08-0,15	0,10-0,16	0,10-0,16	0,10-0,16	0,10-0,16	0,10-0,16
	0,06-0,14	0,08-0,15	0,10-0,16	0,10-0,16	0,10-0,16	0,10-0,16	0,10-0,16
	0,06-0,14	0,08-0,15	0,10-0,16	0,10-0,16	0,10-0,16	0,10-0,16	0,10-0,16
	0,06-0,14	0,08-0,15	0,10-0,16	0,10-0,16	0,10-0,16	0,10-0,16	0,10-0,16
	0,06-0,14	0,08-0,15	0,10-0,16	0,10-0,16	0,10-0,16	0,10-0,16	0,10-0,16
	0,06-0,14	0,08-0,15	0,10-0,16	0,10-0,16	0,10-0,16	0,10-0,16	0,10-0,16
	0,06-0,14	0,08-0,15	0,10-0,16	0,10-0,16	0,10-0,16	0,10-0,16	0,10-0,16
	0,04-0,09	0,04-0,09	0,04-0,10	0,05-0,12	0,05-0,12	0,05-0,12	0,05-0,12
	0,06-0,14	0,06-0,14	0,06-0,14	0,10-0,17	0,10-0,18	0,10-0,18	0,10-0,20
	0,03-0,07	0,04-0,08	0,05-0,10	0,05-0,10	0,05-0,10	0,05-0,10	0,05-0,10
	0,03-0,07	0,04-0,08	0,05-0,10	0,05-0,10	0,05-0,10	0,05-0,10	0,05-0,10
	0,03-0,07	0,04-0,08	0,05-0,10	0,05-0,10	0,05-0,10	0,05-0,10	0,05-0,10
	0,03-0,07	0,04-0,08	0,05-0,10	0,05-0,10	0,05-0,10	0,05-0,10	0,05-0,10
	0,03-0,07	0,04-0,08	0,05-0,10	0,05-0,10	0,05-0,10	0,05-0,10	0,05-0,10
	0,03-0,07	0,04-0,08	0,05-0,10	0,05-0,10	0,05-0,10	0,05-0,10	0,05-0,10
	0,03-0,07	0,04-0,08	0,05-0,10	0,05-0,10	0,05-0,10	0,05-0,10	0,05-0,10
	0,03-0,07	0,04-0,08	0,05-0,10	0,05-0,10	0,05-0,10	0,05-0,10	0,05-0,10
	0,04-0,10	0,04-0,10	0,04-0,10	0,05-0,10	0,05-0,10	0,05-0,10	0,05-0,10
	0,04-0,10	0,04-0,10	0,04-0,10	0,05-0,10	0,05-0,10	0,05-0,10	0,05-0,10
	0,03-0,05	0,03-0,05	0,04-0,08	0,06-0,10	0,06-0,10	0,08-0,12	0,08-0,12
	0,03-0,05	0,03-0,05	0,04-0,08	0,06-0,10	0,06-0,10	0,06-0,10	0,06-0,10



In order to ensure efficient chip evacuation, coolant pressure must be at least 5 bar. Optimum pressure is > 15 bar.

Thread Milling Cutter with Chamfer Facet



Solid carbide

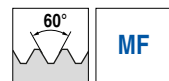
NEW W1

Article no.

50 806 ...

£

DC	Thread	KOMET no.	TP	OAL	APMX	LS	DCONMS _{h6}	DCSKX	LF	ZEFP	
mm			mm	mm	mm	mm	mm	mm	mm		
3.14	M4	88296001000015	0.70	49	8.0	36	6	4.3	8.6	5	166.98 04000
3.95	M5	88296001000017	0.80	55	9.9	36	6	5.3	10.6	5	171.60 05000
4.68	M6	88296001000018	1.00	62	12.3	36	8	6.3	13.2	6	183.04 06000
6.22	M8	88296001000020	1.25	74	16.6	40	10	8.3	17.8	7	219.67 08000
7.79	M10	88296001000022	1.50	79	19.9	45	12	10.3	21.3	7	260.81 10000
9.38	M12	88296001000024	1.75	89	24.9	45	14	12.3	26.6	7	369.49 12000
10.92	M14	88296001000025	2.00	102	28.5	48	16	14.3	30.4	7	432.41 14000
12.83	M16	88296001000026	2.00	102	32.4	48	18	16.3	34.4	8	538.78 16000



DC	Thread	KOMET no.	TP	OAL	APMX	LS	DCONMS _{h6}	DCSKX	LF	ZEFP	
mm			mm	mm	mm	mm	mm	mm	mm		
3.95	M5x0,5	88296002000037	0.50	55	10.2	36	6	5.3	10.8	5	189.86 05100
4.68	M6x0,75	88296002000048	0.75	62	12.2	36	8	6.3	13.0	5	209.33 06200
6.22	M8x1	88296002000070	1.00	74	16.2	40	10	8.3	17.3	6	245.96 08300
7.79	M10x1	88296002000094	1.00	79	20.1	45	12	10.3	21.5	7	286.00 10300
9.38	M12x1	88296002000111	1.00	89	24.0	45	14	12.3	25.6	7	388.96 12300
9.38	M12x1,5	88296002000113	1.50	89	24.3	45	14	12.3	25.9	7	398.09 12500
10.92	M14x1,5	88296002000131	1.50	102	28.7	48	16	14.3	30.6	7	437.03 14500
12.82	M16x1,5	88296002000147	1.50	102	31.7	48	18	16.3	33.6	8	546.81 16500

Steel	•
Stainless steel	•
Cast iron	•
Non ferrous metals	•
Heat resistant alloys	•
Hardened materials	•

i 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.
Details on → **Main catalogue Page 07/72+73.**

Cutting data approximate values

	Index	Material	Strength N/mm ² / HB / HRC	v _c m/min with through coolant	HPC solid carbide thread milling cutters 50 806..., 50 807...		
					Ø 3-5	Ø 6-10	Ø 10-13
					fz mm/tooth	fz mm/tooth	fz mm/tooth
P	1.1	General construction steel	< 800 N/mm ²	80-100	0,015-0,02	0,02-0,03	0,03-0,04
	1.2	Free cutting steel	< 800 N/mm ²	80-100	0,015-0,02	0,02-0,03	0,03-0,04
	1.3	Hardened steel, non alloyed	< 800 N/mm ²	80-100	0,015-0,02	0,02-0,03	0,03-0,04
	1.4	Alloyed hardened steel	< 1000 N/mm ²	80-100	0,015-0,02	0,02-0,03	0,03-0,04
	1.5	Tempering steel, unalloyed	< 850 N/mm ²	80-100	0,015-0,02	0,02-0,03	0,03-0,04
	1.6	Tempering steel, unalloyed	< 1000 N/mm ²	80-100	0,015-0,02	0,02-0,03	0,03-0,04
	1.7	Tempering steel, alloyed	< 800 N/mm ²	80-100	0,015-0,02	0,02-0,03	0,03-0,04
	1.8	Tempering steel, alloyed	< 1300 N/mm ²	80-100	0,015-0,02	0,02-0,03	0,03-0,04
	1.9	Steel castings	< 850 N/mm ²	80-100	0,015-0,02	0,02-0,03	0,03-0,04
	1.10	Nitriding steel	< 1000 N/mm ²	80-100	0,015-0,02	0,02-0,03	0,03-0,04
	1.11	Nitriding steel	< 1200 N/mm ²	80-100	0,015-0,02	0,02-0,03	0,03-0,04
	1.12	Roller bearing steel	< 1200 N/mm ²	80-100	0,015-0,02	0,02-0,03	0,03-0,04
	1.13	Spring steel	< 1200 N/mm ²	80-100	0,015-0,02	0,02-0,03	0,03-0,04
	1.14	High-speed steel	< 1300 N/mm ²	80-100	0,015-0,02	0,02-0,03	0,03-0,04
	1.15	Cold working tool steel	< 1300 N/mm ²	80-100	0,015-0,02	0,02-0,03	0,03-0,04
	1.16	Hot working tool steel	< 1300 N/mm ²	80-100	0,015-0,02	0,02-0,03	0,03-0,04
M	2.1	Cast steel and sulphured stainless steel	< 850 N/mm ²	60-80	0,015-0,03	0,04-0,06	0,06-0,10
	2.2	Stainless steel, ferritic	< 750 N/mm ²	60-80	0,015-0,03	0,04-0,06	0,06-0,10
	2.3	Stainless steel, martensitic	< 900 N/mm ²	60-80	0,015-0,03	0,04-0,06	0,06-0,10
	2.4	Stainless steel, ferritic / martensitic	< 1100 N/mm ²	60-80	0,015-0,03	0,04-0,06	0,06-0,10
	2.5	Stainless steel, austenitic / ferritic	< 850 N/mm ²	60-80	0,015-0,03	0,04-0,06	0,06-0,10
	2.6	Stainless steel, austenitic	< 750 N/mm ²	60-80	0,015-0,03	0,04-0,06	0,06-0,10
	2.7	Heat resistant steel	< 1100 N/mm ²				
K	3.1	Grey cast iron with lamellar graphite	100-350 N/mm ²	100-120	0,02-0,04	0,04-0,08	0,06-0,10
	3.2	Grey cast iron with lamellar graphite	300-500 N/mm ²	100-120	0,02-0,04	0,04-0,08	0,06-0,08
	3.3	Gray cast iron with spheroidal graphite	300-500 N/mm ²	100-120	0,02-0,04	0,04-0,08	0,06-0,08
	3.4	Gray cast iron with spheroidal graphite	500-900 N/mm ²	80-100	0,02-0,04	0,04-0,08	0,06-0,08
	3.5	White malleable cast iron	270-450 N/mm ²	80-100	0,02-0,04	0,04-0,08	0,06-0,08
	3.6	White malleable cast iron	500-650 N/mm ²	80-100	0,02-0,04	0,04-0,08	0,06-0,08
	3.7	Black malleable cast iron	300-450 N/mm ²	80-100	0,02-0,04	0,04-0,08	0,06-0,08
	3.8	Black malleable cast iron	500-800 N/mm ²	80-100	0,02-0,04	0,04-0,08	0,06-0,08
N	4.1	Aluminium (non alloyed, low alloyed)	< 350 N/mm ²				
	4.2	Aluminium alloys < 0.5 % Si	< 500 N/mm ²				
	4.3	Aluminium alloy 0.5-10 % Si	< 400 N/mm ²				
	4.4	Aluminium alloys 10-15 % Si	< 400 N/mm ²				
	4.5	Aluminum alloys > 15 % Si	< 400 N/mm ²				
	4.6	Copper (non alloyed, low alloyed)	< 350 N/mm ²				
	4.7	Copper wrought alloys	< 700 N/mm ²				
	4.8	Special copper alloys	< 200 HB				
	4.9	Special copper alloys	< 300 HB				
	4.10	Special copper alloys	> 300 HB				
	4.11	Short-chipping brass, bronze, red bronze	< 600 N/mm ²				
	4.12	Long-chipping brass	< 600 N/mm ²				
	4.13	Thermoplastics					
	4.14	Duroplastics					
	4.15	Fibre-reinforced plastics					
	4.16	Magnesium and magnesium alloys	< 850 N/mm ²				
	4.17	Graphite					
	4.18	Tungsten and tungsten alloys					
	4.19	Molybdenum and molybdenum alloys					
S	5.1	Pure nickel					
	5.2	Nickel alloys					
	5.3	Nickel alloys	< 850 N/mm ²				
	5.4	Nickel molybdenum alloys					
	5.5	Nickel-chromium alloys	< 1300 N/mm ²				
	5.6	Cobalt Chrome Alloys	< 1300 N/mm ²				
	5.7	Heat resistant alloys	< 1300 N/mm ²				
	5.8	Nickel-cobalt-chromium alloys	< 1400 N/mm ²				
	5.9	Pure titanium	< 900 N/mm ²	60-80	0,015-0,02	0,02-0,03	0,03-0,04
	5.10	Titanium alloys	< 700 N/mm ²	60-80	0,015-0,02	0,02-0,03	0,03-0,04
	5.11	Titanium alloys	< 1200 N/mm ²	60-80	0,01-0,015	0,015-0,02	0,025-0,035
H	6.1		< 45 HRC				
	6.2		46-55 HRC				
	6.3	Tempered steel	56-60 HRC				
	6.4		61-65 HRC				
	6.5		65-70 HRC				

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Cutting Data	94-101
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CERATIZIT \ Performance

Premium quality tools for high performance.

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

Application areas of the cutting materials

Cutting material grade	Cutting material designation	Properties		Application range	Interrupted cut	Material suitability/ ISO hardness				
						Cast iron	Sintered steels	Heat resistant	hardened	Non ferrous metals
						K	P	S	H	N
High PcBN content	CTB S05U	90 %		Chilled iron (NiHard), grey cast iron	Smooth to strongly interrupted cut	05		05		
	CTB S10C	95 %		Grey cast iron (GG252), sintered steels, super alloys	Smooth to medium interrupted cut	10	10	10		
	CTB S10U	95 %		Grey cast iron, sintered steels, super alloys		10	10	10		
	CTB S20C	90 %		Spheroidal graphite cast iron, sintered steels, super alloys		20	20	20		
Low PcBN content	CTB H15C	40 %	TiN	Tempered steels from 32 HRC	Smooth cut				15	
	CTB H15U	40 %	TiN		Smooth to slightly interrupted cut				15	
	CTB H20C	65 %	TiCN	48-62 HRC					20	
	CTB H21C	65 %	TiCN	52-65 HRC					20	
	CTB H21U	65 %	TiCN	52-65 HRC					20	
	CTB H40C	55 %	TiN	48-65 HRC	Interrupted cut				40	
	CTB H40U	65 %	TiN	54-65 HRC					40	
	CTB H41C	65 %	TiN	48-65 HRC	Strongly interrupted cut				40	
	CTB H41U	65 %	TiN	54-65 HRC					40	
PDC	CTD PD20	Medium	Co	Aluminium up to max. 12% Si content with smooth cut, plastics	Medium to strongly interrupted					20
	CTD PS30	Medium	Co	Aluminium up to max. 12% Si content with interrupted cut, plastics						30
	CTD PU20	high	WC	For roughing extremely abrasive materials, fibre-reinforced plastics	Smooth to slightly interrupted cut					20
CVD-D	CTD CD10			Non-ferrous metals with abrasive reinforcement, aluminium from 8% Si content, fibre-reinforced plastics	Smooth cut, interrupted cuts possible to a limited extent					10
MDC	CTD MD05			Superfinish machining, polishing	Smooth cut					05

Toolfinder



Indexable inserts, negative

		Cast iron K	Sintered steels P	Heat resistant S	hardened H	Non ferrous metals N	Geometry						
													
							CN..	DN..	KN..	SN..	TN..	VN..	WN..
CTBS05U		●											67
CTBS10U		●	●	●			59+60						
CTBS10C		●	●	●									
CTBS20C		●	●	●			58+59	62+63					
CTBH21U	52-65 HRC				●		59	63					
CTBH20C	48-62 HRC				●		58+59	62			65	66	67
CTBH40U	54-65 HRC				●		59	63			65	66	
CTBH40C	48-65 HRC				●		58+59	62				66	67
CTBH41U	48-65 HRC				●		60						
CTD PD20					●		61	64					
CTD PS30				○	●		64						
Tools can be found in the main catalogue in Section 09 on the following pages:							16-19	28+29			46+47	51	56
Boring bars can be found in the main catalogue in Section 09 on the following pages:							20+21	30+31			48		57+58



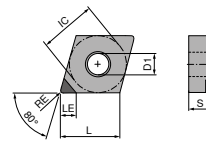
Indexable inserts, positive

s, positive

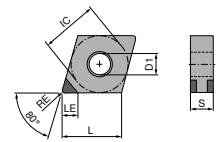
							Geometry									
																
		K	P	S	H	N	CC..	DC..	RC..	SC..	SP..	TC..	TP..	VC..	WC..	
CTBS10U		●	●	●			68-70		80	82						
CTBS10C		●	●	●				76								
CTBS20C		●	●	●			69	74+76				84		89		
CTBH21U	52-65 HRC				●		68+70	74+75				84		88+89		
CTBH21C	52-65 HRC				●			75								
CTBH20C	48-62 HRC				●									88		
CTBH40U	54-65 HRC				●		68+70	74				84		88	93	
CTBH40C	48-65 HRC				●		68									
CTBH41U	48-65 HRC				●									89		
CTBH41C	48-65 HRC				●			75								
CTD PD20					●		71-73	77+79	81	83		85-87		90+92		
CTD PS30				○	●		71-73	77-79	81	83		86		91+92		
CTD PU20				○	●		73	78+79				87		91		
CTD CD10					●		72+73	79				86		91+92		
CTD MD05				○	●		71	77						90		
Tools can be found in the main catalogue in Section 09 on the following pages:								71-74	91-93	102-104	108-110		120+121		134-137	
Bars can be found in the main catalogue in Section 09 on the following pages:								75-79	94-98		111+112		122		138-140	143

CNGA

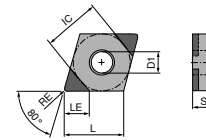
Designation	L	S	D1	IC
	mm	mm	mm	mm
CNGA 1204..	12.9	4.76	5.13	12.7



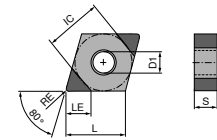
CNGA A



CNGA K



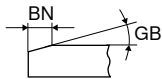
CNGA L



CNGA U

CNGA

▲ TCE(NOI) = Design and number of equipped cutting edge corners

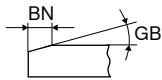


						CTBS20C	CTBH20C	CTBH20C	CTBH40C	CTBH40C
						F	F	F	F	F
						CBN	CBN	CBN	CBN	CBN
						CNGA	CNGA	CNGA	CNGA	CNGA
						Y0	Y0	Y0	Y0	Y0
ISO	RE	BN	GB	TCE (NOI)	LE	Article no. 71 401 ...	Article no. 71 400 ...	Article no. 71 401 ...	Article no. 71 400 ...	Article no. 71 401 ...
	mm	mm	°		mm	£	£	£	£	£
120404TN	0.4	0.09	15	L (4)	2.8			84.59 21200		
120404SN	0.4	0.11	15	L (4)	2.8	84.59 16200				
120404SN	0.4	0.11	20	K (2)	2.8		54.73 25800			
120404SN	0.4	0.11	20	L (4)	2.8					84.59 34200
120404SN	0.4	0.14	20	L (4)	2.8	84.59 17100				
120404TN	0.4	0.11	25	L (4)	2.8			84.59 25200		
120404FN	0.4			L (4)	2.8			84.59 20200		
120404SN	0.4	0.14	35	L (4)	2.8					84.59 38000
120408FN	0.8			L (4)	2.5			84.59 20300		
120408SN	0.8	0.09	15	L (4)	2.5					84.59 31200
120408SN	0.8	0.11	15	L (4)	2.5	84.59 16300				
120408SN	0.8	0.11	20	K (2)	2.5		54.73 26000		54.73 35800	
120408SN	0.8	0.11	20	L (4)	2.5					84.59 34300
120408SN	0.8	0.14	20	L (4)	2.5	84.59 17200				
120408TN	0.8	0.11	25	L (4)	2.5			84.59 25300		
120408SN	0.8	0.13	25	K (2)	2.5				54.73 36200	
120408SN	0.8	0.14	25	K (2)	2.5				54.73 38800	
120408SN	0.8	0.16	25	L (4)	2.5	84.59 18000				
120408SN	0.8	0.14	35	L (4)	2.5					84.59 38100
120408EN	0.8			L (4)	2.5					84.59 30200
120412SN	1.2	0.11	15	L (4)	2.2	84.59 16400				
120412SN	1.2	0.11	20	K (2)	2.2		54.73 26200			
120412SN	1.2	0.14	20	L (4)	2.2	84.59 17300				
120412TN	1.2	0.11	25	L (4)	2.2			84.59 25400		

Cast iron	•				
Sintered steels	•				
Heat resistant alloys	•				
hardened < 45 HRC					
hardened 46–55 HRC		•	•	•	•
hardened 56–60 HRC		•	•	•	•
hardened 61–65 HRC				•	•

CNGA

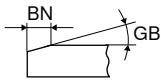
▲ TCE(NOI) = Design and number of equipped cutting edge corners



ISO	RE mm	BN mm	GB °	TCE (NOI)	LE mm	CTBS10U		CTBS20C		CTBH21U		CTBH40U		-Q CTBH20C		-Q CTBH40C	
						F		F		F		F		F		F	
						CBN CNGA		CBN CNGA		CBN CNGA		CBN CNGA		CBN CNGA		CBN CNGA	
						NEW	Y0	NEW	Y0	NEW	Y0	NEW	Y0	NEW	Y0	NEW	Y0
						Article no. 71 406 ...		Article no. 71 406 ...		Article no. 71 406 ...		Article no. 71 406 ...		Article no. 71 407 ...		Article no. 71 407 ...	
						£		£		£		£		£		£	
120402TN	0.2	0.14	20	A (1)	3.4	45.85	10100			45.85	40100	45.85	50100				
120402TN	0.2	0.12	25	A (1)	3.4												
120402EN	0.2			A (1)	3.4	45.85	10000										
120402FN	0.2			A (1)	3.4					45.85	40000	45.85	50000				
120404EN	0.4			A (1)	3.1	45.85	10200			45.85	40200						
120404SN	0.4	0.09	15	A (1)	3.1			45.85	20000								
120404TN	0.4	0.14	20	A (1)	3.1	45.85	10300			45.85	40300						
120404TN	0.4	0.12	25	A (1)	3.1							45.85	50300				
120404FN	0.4			A (1)	3.1							45.85	50200				
120408TN	0.8	0.14	20	A (1)	2.8	45.85	10500			45.85	40500						
120408TN	0.8	0.12	25	A (1)	2.8							45.85	50500				
120408FN	0.8			A (1)	2.8							45.85	50400				
120408FN	0.8			K (2)	2.5									46.32	30000		
120408EN	0.8			A (1)	2.8	45.85	10400			45.85	40400						
120408SN	0.8	0.14	30	K (2)	2.5											46.32	60000
120408SN	0.8	0.14	35	K (2)	2.5											83.39	60100
120412TN	1.2	0.14	20	A (1)	2.5	45.85	10700										
120412TN	1.2	0.12	25	A (1)	2.5							45.85	50700				
120412EN	1.2			A (1)	2.5	45.85	10600	45.85	20100								
120412FN	1.2			A (1)	2.5							45.85	50600				
Cast iron						•		•									
Sintered steels						•		•									
Heat resistant alloys						•		•									
hardened < 45 HRC																	
hardened 46–55 HRC										•		•		•		•	
hardened 56–60 HRC										•		•		•		•	
hardened 61–65 HRC												•				•	

CNGA

▲ TCE(NOI) = Design and number of equipped cutting edge corners

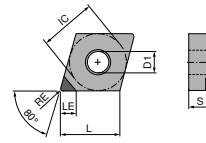


ISO	RE mm	BN mm	GB °	TCE (NOI)	LE mm				
120404TN	0.4	0.09	15	L (4)	2.8				
120404TN	0.4	0.15	25	L (4)	2.8				
120404TN	0.4	0.10	30	U (2)	2.8				
120408TN	0.8	0.09	10	L (4)	2.5				
120408TN	0.8	0.09	15	L (4)	2.5				
120408TN	0.8	0.11	15	L (4)	2.5				
120408TN	0.8	0.11	25	L (4)	2.5				
120408TN	0.8	0.10	30	U (2)	2.6				
120412TN	1.2	0.09	15	L (4)	2.2				
120412TN	1.2	0.11	25	L (4)	2.2				
120412TN	1.2	0.10	30	U (2)	2.4				
Cast iron								●	
Sintered steels								●	
Heat resistant alloys								●	
hardened < 45 HRC									
hardened 46–55 HRC									●
hardened 56–60 HRC									●
hardened 61–65 HRC									●

CTBS10C		CTBH41U	
F		F	
CBN		CBN	
CNGA		CNGA	
NEW	Y0	NEW	Y0
Article no.		Article no.	
71 408 ...		71 409 ...	
£		£	
83.39	80000		
83.39	80100		
		151.20	70000
83.39	80200		
83.39	80300		
83.39	80400		
83.39	80500		
		151.20	70100
83.39	80600		
83.39	80700		
		151.20	70200

CNGA

Designation	L	S	D1	IC
	mm	mm	mm	mm
CNGA 1204..	12.9	4.76	5.13	12.7



CNGA A

CNGA

▲ TCE(NOI) = Design and number of equipped cutting edge corners

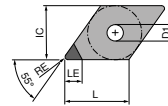
ISO	RE mm	TCE (NOI)	LE mm
120404FN	0.4	A (1)	6.3
120408FN	0.8	A (1)	6.0
120412FN	1.2	A (1)	5.7

CTDPD20	CTDPS30
F	F
DIAMOND CNGA	DIAMOND CNGA
NEW Y0	NEW Y0
Article no. 71 127 ...	Article no. 71 127 ...
£	£
80.29 10001	80.29 20001
80.29 10101	80.29 20101
91.12 10201	91.12 20201

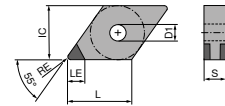
Steel	
Stainless steel	
Cast iron	
Non ferrous metals	●
Heat resistant alloys	○

DNGA

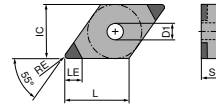
Designation	L	S	D1	IC
	mm	mm	mm	mm
DNGA 1504..	15.5	4.76	5.13	12.7
DNGA 1506..	15.5	6.35	5.13	12.7



DNGA A



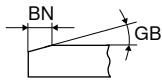
DNGA K



DNGA L

DNGA

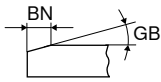
▲ TCE(NOI) = Design and number of equipped cutting edge corners



ISO	RE mm	BN mm	GB °	TCE (NOI)	LE mm	CTBS20C	CTBH20C	CTBH40C	CTBH20C	CTBH40C
						F CBN DNGA Y0 Article no. 71 403 ... £	F CBN DNGA Y0 Article no. 71 402 ... £	F CBN DNGA Y0 Article no. 71 402 ... £	F CBN DNGA Y0 Article no. 71 403 ... £	F CBN DNGA Y0 Article no. 71 403 ... £
150404SN	0.4	0.09	20	L (4)	2.8	84.59 10200				84.59 30200
150404SN	0.4	0.11	20	L (4)	2.8					84.59 30300
150404SN	0.4	0.11	25	L (4)	2.8					84.59 30400
150404TN	0.4	0.11	25	L (4)	2.8				84.59 20200	
150404SN	0.4	0.13	25	L (4)	2.8				84.59 20300	
150408FN	0.8			L (4)	2.6				84.59 20400	
150408SN	0.8	0.09	20	L (4)	2.6	84.59 10300				
150408SN	0.8	0.11	20	L (4)	2.6					84.59 30500
150408TN	0.8	0.11	25	L (4)	2.6				84.59 20500	
150408SN	0.8	0.11	25	L (4)	2.6					84.59 30600
150408SN	0.8	0.14	30	L (4)	2.6					84.59 30700
150604SN	0.4	0.09	20	K (2)	2.8			54.73 32600		
150604SN	0.4	0.11	20	K (2)	2.8		54.73 24200			
150604TN	0.4	0.11	25	L (4)	2.8				84.59 24800	
150604FN	0.4			L (4)	2.8				84.59 29300	
150604SN	0.4	0.14	35	L (4)	2.8					84.59 37500
150608FN	0.8			L (4)	2.6				84.59 29400	
150608SN	0.8	0.11	20	K (2)	2.6		54.73 24300	54.73 34200		
150608SN	0.8	0.11	20	L (4)	2.6					84.59 34400
150608TN	0.8	0.11	25	L (4)	2.6				84.59 24900	
150608SN	0.8	0.13	25	K (2)	2.6		54.73 26000			
150608SN	0.8	0.14	35	L (4)	2.6					84.59 37600
Cast iron						•				
Sintered steels						•				
Heat resistant alloys						•				
hardened < 45 HRC										
hardened 46–55 HRC							•	•	•	•
hardened 56–60 HRC							•	•	•	•
hardened 61–65 HRC								•		•

DNGA

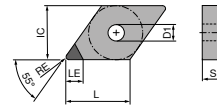
▲ TCE(NOI) = Design and number of equipped cutting edge corners



ISO	RE mm	BN mm	GB °	TCE (NOI)	LE mm	CTBS20C NEW Y0 Article no. 71 410 ... £	CTBS20C NEW Y0 Article no. 71 411 ... £	CTBH21U NEW Y0 Article no. 71 410 ... £	CTBH40U NEW Y0 Article no. 71 410 ... £
150404TN	0.4	0.14	20	A (1)	3.5			45.85 40100	45.85 50100
150404TN	0.4	0.12	25	A (1)	3.5			45.85 40000	45.85 50000
150404FN	0.4			A (1)	3.5				
150408TN	0.8	0.14	20	A (1)	3.0			45.85 40300	45.85 50300
150408TN	0.8	0.12	25	A (1)	3.0			45.85 40200	45.85 50200
150408FN	0.8			A (1)	3.0				
150604EN	0.4			A (1)	3.5			45.85 40400	
150604SN	0.4	0.09	15	A (1)	3.5	45.85 20000			
150604SN	0.4	0.09	20	K (2)	2.8		46.32 20000		
150604TN	0.4	0.14	20	A (1)	3.5			45.85 40500	45.85 50500
150604TN	0.4	0.12	25	A (1)	3.5				45.85 50400
150604FN	0.4			A (1)	3.5				
150608SN	0.8	0.09	15	A (1)	3.0	45.85 20100			
150608SN	0.8	0.09	15	A (1)	5.0	81.53 20200			
150608SN	0.8	0.11	15	K (2)	2.6		46.32 20100		
150608TN	0.8	0.14	20	A (1)	3.0			45.85 40700	
150608EN	0.8			A (1)	3.0			45.85 40600	
150608TN	0.8	0.12	25	A (1)	3.0				45.85 50700
150608SN	0.8	0.16	25	K (2)	2.6		46.32 20200		
150608FN	0.8			A (1)	3.0				45.85 50600
Cast iron						•	•		
Sintered steels						•	•		
Heat resistant alloys						•	•		
hardened < 45 HRC									
hardened 46–55 HRC								•	•
hardened 56–60 HRC								•	•
hardened 61–65 HRC									•

DNGA

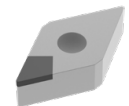
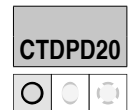
Designation	L	S	D1	IC
	mm	mm	mm	mm
DNGA 1504..	15.5	4.76	5.13	12.7
DNGA 1506..	15.5	6.35	5.13	12.7



DNGA A

DNGA

▲ TCE(NOI) = Design and number of equipped cutting edge corners



F

DIAMOND
DNGA

NEW Y0

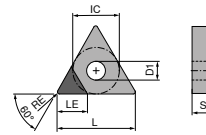
Article no.
71 128 ...

£

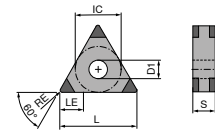
ISO	RE mm	TCE (NOI)	LE mm		
150404FN	0.4	A (1)	6.4	80.29	10001
150408FN	0.8	A (1)	6.0	80.29	10101
150412FN	1.2	A (1)	5.6	94.20	10201
150604FN	0.4	A (1)	6.4	80.29	10301
150608FN	0.8	A (1)	6.0	80.29	10401
150612FN	1.2	A (1)	5.6	94.20	10501
Steel					
Stainless steel					
Cast iron					
Non ferrous metals					
Heat resistant alloys					

TNGA

Designation	L	S	D1	IC
	mm	mm	mm	mm
TNGA 1604..	16.5	4.76	3.81	9.52



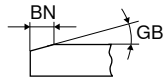
TNGA A



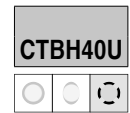
TNGA M

TNGA

▲ TCE(NOI) = Design and number of equipped cutting edge corners



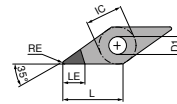
ISO	RE	BN	GB	TCE (NOI)	LE		
	mm	mm	°		mm		
160408SN	0.8	0.14	30	M (6)	2.5		
160408FN	0.8			A (1)	3.0		



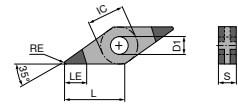
Cast iron							
Sintered steels							
Heat resistant alloys							
hardened < 45 HRC							
hardened 46-55 HRC						•	•
hardened 56-60 HRC						•	•
hardened 61-65 HRC							•

VNGA

Designation	L	S	D1	IC
	mm	mm	mm	mm
VNGA 1604..	16.6	4.76	3.81	9.52



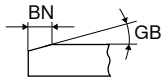
VNGA A



VNGA L

VNGA

▲ TCE(NOI) = Design and number of equipped cutting edge corners

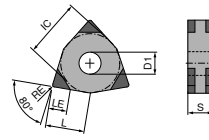


ISO	RE	BN	GB	TCE (NOI)	LE	CTBH20C		CTBH40U		CTBH40C	
	mm	mm	°		mm						
160404FN	0.4			A (1)	5.0						
160404SN	0.4	0.09	20	L (4)	2.8						
160404SN	0.4	0.11	20	L (4)	2.8	83.39	30100			83.39	60000
160404TN	0.4	0.11	25	L (4)	2.8	83.39	30200				
160404SN	0.4	0.11	25	L (4)	2.8					83.39	60100
160404TN	0.4	0.12	25	A (1)	5.0			66.24	50100		
160404SN	0.4	0.13	25	L (4)	2.8					83.39	60200
160404SN	0.4	0.14	30	L (4)	2.8					83.39	60300
160404SN	0.4	0.14	35	L (4)	2.8					83.39	60400
160404FN	0.4			L (4)	2.8	83.39	30000				
160408SN	0.8	0.09	15	L (4)	2.2					83.39	60500
160408SN	0.8	0.11	20	L (4)	2.2	83.39	30400			83.39	60600
160408SN	0.8	0.11	25	L (4)	2.2					83.39	60700
160408TN	0.8	0.11	25	L (4)	2.2	83.39	30500				
160408TN	0.8	0.12	25	A (1)	4.4			66.24	50300		
160408SN	0.8	0.13	25	L (4)	2.2	83.39	30600			83.39	60800
160408SN	0.8	0.14	30	L (4)	2.2					83.39	60900
160408SN	0.8	0.14	35	L (4)	2.2					83.39	61000
160408FN	0.8			L (4)	2.2	83.39	30300				
160408FN	0.8			A (1)	4.4			66.24	50200		

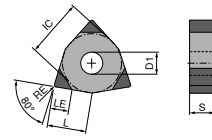
Cast iron			
Sintered steels			
Heat resistant alloys			
hardened < 45 HRC			
hardened 46–55 HRC	•	•	•
hardened 56–60 HRC	•	•	•
hardened 61–65 HRC		•	•

WNGA

Designation	L	S	D1	IC
	mm	mm	mm	mm
WNGA 0804..	8.5	4.76	5.13	12.7



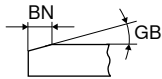
WNGA M



WNGA V

WNGA

▲ TCE(NOI) = Design and number of equipped cutting edge corners



ISO	RE	BN	GB	TCE (NOI)	LE	CTBS05U		CTBH20C		CTBH40C		-Q CTBH40C	
						NEW	Y0	NEW	Y0	NEW	Y0	NEW	Y0
	mm	mm	°		mm	Article no.	Article no.	Article no.	Article no.	Article no.	Article no.	Article no.	Article no.
080404TN	0.4	0.09	15	M (6)	2.8	71 415 ...	71 405 ...	71 405 ...	71 405 ...	71 414 ...	71 414 ...	71 414 ...	71 414 ...
080404TN	0.4	0.11	25	M (6)	2.8								
080404TN	0.4	0.20	30	V (3)	2.8	168.12	00100						
080404TN	0.4	0.20	30	V (3)	4.5	195.36	00200						
080404FN	0.4			M (6)	2.8			125.05	20200				
080408TN	0.8	0.09	15	M (6)	2.5			125.05	23300				
080408TN	0.8	0.11	25	M (6)	2.5			125.05	25300				
080408SN	0.8	0.11	25	M (6)	2.5							123.48	60100
080408TN	0.8	0.20	30	V (3)	2.6	168.12	00300						
080408TN	0.8	0.20	30	V (3)	4.2	195.36	00400						
080408SN	0.8	0.14	35	M (6)	2.5			125.05	38200				
080408EN	0.8			M (6)	2.5					123.48	60000		
080412SN	1.2	0.11	20	M (6)	2.2			125.05	34200				
080412SN	1.2	0.11	25	M (6)	2.2			125.05	35100				
080412SN	1.2	0.14	30	M (6)	2.2			125.05	36100				
080412TN	1.2	0.20	30	V (3)	4.0	195.36	00600						
080412TN	1.2	0.20	30	V (3)	2.4	168.12	00500						
080412SN	1.2	0.14	35	M (6)	2.2			125.05	38300				

Cast iron

Sintered steels

Heat resistant alloys

hardened < 45 HRC

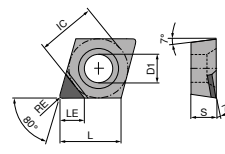
hardened 46–55 HRC

hardened 56–60 HRC

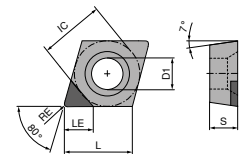
hardened 61–65 HRC

CCGW / CCGT

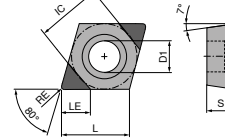
Designation	L	S	D1	IC
	mm	mm	mm	mm
CCGW 0602..	6.45	2.38	2.8	6.35
CCG. 09T3..	9.70	3.97	4.4	9.52
CCGW 1204..	12.90	4.76	5.5	12.70



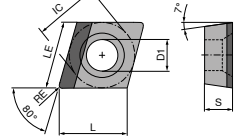
CCGT A



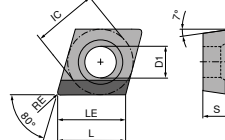
CCGW A



CCGW B



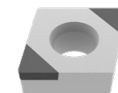
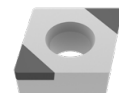
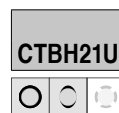
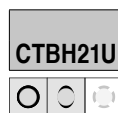
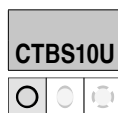
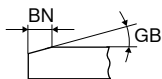
CCGW A LL



CCGW A RR

CCGW

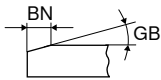
▲ TCE(NOI) = Design and number of equipped cutting edge corners



ISO	RE	BN	GB	TCE (NOI)	LE	Article no. 71 120 ...	Article no. 71 120 ...	Article no. 71 120 ...	Article no. 71 121 ...	Article no. 71 121 ...	Article no. 71 161 ...
	mm	mm	°		mm	£	£	£	£	£	£
060204TN	0.4	0.09	20	B (2)	3.1						73.32 32100
060208TN	0.8	0.14	20	A (1)	2.8	62.03 30300					
060208TN	0.8	0.12	25	A (1)	2.8			62.69 90300			
09T302TN	0.2	0.14	20	B (2)	3.4				103.14 50100		
09T302FN	0.2			B (2)	3.4					103.14 80100	
09T304EN	0.4			A (1)	3.1		62.03 40500				
Cast iron						•					
Sintered steels						•					
Heat resistant alloys						•					
hardened < 45 HRC											
hardened 46–55 HRC							•	•	•	•	•
hardened 56–60 HRC							•	•	•	•	•
hardened 61–65 HRC								•		•	•

CCGW

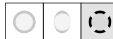
▲ TCE(NOI) = Design and number of equipped cutting edge corners



ISO	RE mm	BN mm	GB °	TCE (NOI)	LE mm	CTBS10U		CTBS20C		CTBS10U		CTBS10U		CTBS20C	
						F	CBN CCGW	F	CBN CCGW	F	CBN CCGW	F	CBN CCGW	F	CBN CCGW
						NEW	Y0	NEW	Y0	NEW	Y0	NEW	Y0	NEW	Y0
						Article no.	71 419 ...	Article no.	71 418 ...	Article no.	71 420 ...	Article no.	71 420 ...	Article no.	71 420 ...
						£		£		£		£		£	
060202SN	0.2	0.11	15	A (1)	3.4			45.85	20000						
060204EN	0.4			A (1)	3.1			45.85	20100						
060204SN	0.4	0.11	15	A (1)	3.1			45.85	20200						
09T304EN	0.4			A (1)	2.8			45.85	20300						
09T304SN	0.4	0.11	15	A (1)	2.8			45.85	20400						
09T304EN	0.4			B (2)	3.1	76.44	10000								
09T304TLL	0.4	0.14	20	A (1)	9.7					107.00	10000				
09T304TN	0.4	0.14	20	B (2)	3.1	76.44	10100								
09T304TRR	0.4	0.14	20	A (1)	9.7							107.00	10100		
09T308EN	0.8			A (1)	2.5			45.85	20500						
09T308SN	0.8	0.11	15	A (1)	2.5			45.85	20600						
09T308SLL	0.8	0.11	15	A (1)	9.7									107.00	20000
09T308TRR	0.8	0.14	20	A (1)	9.7							107.00	10300		
09T308TLL	0.8	0.14	20	A (1)	9.7					107.00	10200				
120404EN	0.4			A (1)	3.1			45.85	20700						
120404SN	0.4	0.11	15	A (1)	3.1			45.85	20800						
120408SN	0.8	0.11	15	A (1)	2.8			45.85	20900						
Cast iron						•		•		•		•		•	
Sintered steels						•		•		•		•		•	
Heat resistant alloys						•		•		•		•		•	
hardened < 45 HRC															
hardened 46–55 HRC															
hardened 56–60 HRC															
hardened 61–65 HRC															

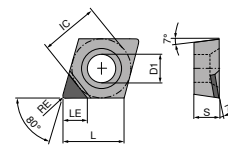
CCGT

▲ TCE(NOI) = Design and number of equipped cutting edge corners

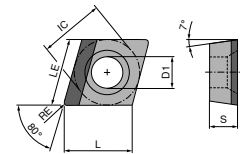
				CTBS10U   F CBN CCGT Y0 Article no. 71 124 ... £		CTBH21U   F CBN CCGT Y0 Article no. 71 124 ... £		CTBH40U   F CBN CCGT Y0 Article no. 71 124 ... £	
ISO	RE mm	TCE (NOI)	LE mm						
09T302EN	0.2	A (1)	3.4		76.10	25000			
09T304EN	0.4	A (1)	3.1		76.10	25200	76.10	45000	
09T304FN	0.4	A (1)	3.1						76.10 85000
09T308EN	0.8	A (1)	2.8				76.10	45200	
Cast iron					•				
Sintered steels					•				
Heat resistant alloys					•				
hardened < 45 HRC									
hardened 46–55 HRC							•		•
hardened 56–60 HRC							•		•
hardened 61–65 HRC									•

CCGW / CCGT

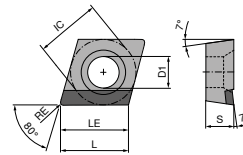
Designation	L	S	D1	IC
	mm	mm	mm	mm
CCG. 0602..	6.5	2.38	2.8	6.35
CCG. 09T3..	9.7	3.97	4.4	9.52
CCG. 1204..	12.9	4.76	5.5	12.70



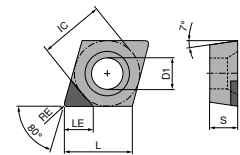
CCGT A



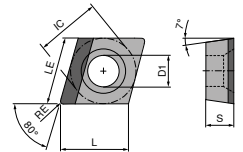
CCGT A LL



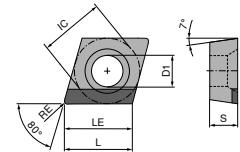
CCGT A RR



CCGW A



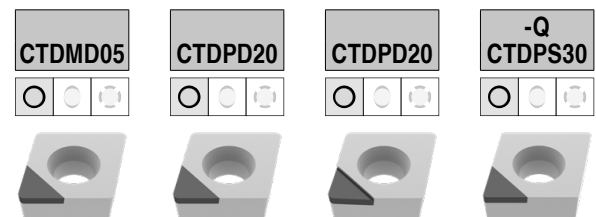
CCGW A LL



CCGW A RR

CCGW / CCGT

▲ TCE(NOI) = Design and number of equipped cutting edge corners



F
DIAMOND
CCGW
Y0

Article no.
71 120 ...
£

060201FN	0.1	A (1)	3.5	346.11	05300	91.24	10100	98.61	16300
060208FN	0.8	A (1)	2.5	97.26	10300	91.24	10300		
060208FN	0.8	A (1)	3.0						
09T301FN	0.1	A (1)	4.5	100.46	10500	93.41	10500		
09T302FN	0.2	A (1)	4.5						

Steel									
Stainless steel									
Cast iron									
Non ferrous metals									
Heat resistant alloys									

CCGT

▲ TCE(NOI) = Design and number of equipped cutting edge corners

ISO	RE mm	TCE (NOI)	LE mm	-CB2 CTDPD20		-Q-CB2 CTDPD20		CTDPS30		-Q-CB1 CTDCD10	
				M DIAMOND CCGT		M DIAMOND CCGT		F DIAMOND CCGT		F DIAMOND CCGT	
				NEW	YO	NEW	YO	NEW	YO	NEW	YO
				Article no. 71 168 ...		Article no. 71 169 ...		Article no. 71 166 ...		Article no. 71 167 ...	
				£		£		£		£	
060201FN	0.1	A (1)	3.5					66.41	20001		
060202FN	0.2	A (1)	2.3							101.92	40001
060202FN	0.2	A (1)	3.4					66.41	20101		
060204FN	0.4	A (1)	2.1							101.92	40101
060204EN	0.4	A (1)	3.2	72.59	10001						
09T302EN	0.2	A (1)	4.4			84.94	10001				
09T302FN	0.2	A (1)	4.5					67.94	20201		
09T304FN	0.4	A (1)	2.1			84.94	10101			103.48	40201
09T304EN	0.4	A (1)	4.2								
120404FN	0.4	A (1)	2.1							105.00	40301
120404EN	0.4	A (1)	4.2			86.47	10201				
120404FN	0.4	A (1)	4.3					67.94	20301		
Steel											
Stainless steel											
Cast iron											
Non ferrous metals											
Heat resistant alloys											

CCGW / CCGT

▲ TCE(NOI) = Design and number of equipped cutting edge corners

ISO	RE mm	TCE (NOI)	LE mm	CTDPD20		CTDPD20		CTDPS30		CTDPS30	
				F DIAMOND CCGW		F DIAMOND CCGW		F DIAMOND CCGT		F DIAMOND CCGT	
				NEW	YO	NEW	YO	NEW	YO	NEW	YO
				Article no. 71 172 ...		Article no. 71 172 ...		Article no. 71 170 ...		Article no. 71 170 ...	
				£		£		£		£	
060204FLL	0.4	A (1)	6.45	95.74	10001			95.74	20001		
060204FRR	0.4	A (1)	6.45			95.74	10101			95.74	20101
060208FLL	0.8	A (1)	6.45					95.74	20201		
060208FRR	0.8	A (1)	6.45							95.74	20301
09T308FLL	0.8	A (1)	9.70	101.92	10201			101.92	20401		
09T308FRR	0.8	A (1)	9.70			101.92	10301			101.92	20501
09T312FLL	1.2	A (1)	9.70	101.92	10401						
120412FLL	1.2	A (1)	12.90	112.74	10501			112.74	20601		
120412FRR	1.2	A (1)	12.90			112.74	10601			112.74	20701
Steel											
Stainless steel											
Cast iron											
Non ferrous metals											
Heat resistant alloys											

CCGW

▲ TCE(NOI) = Design and number of equipped cutting edge corners

ISO	RE mm	TCE (NOI)	LE mm	CTDPS30		CTDPU20		CTDCD10	
				NEW	Y0	NEW	Y0	NEW	Y0
				Article no. 71 171 ...		Article no. 71 171 ...		Article no. 71 171 ...	
				£		£		£	
060201FN	0.1	A (1)	3.5	64.85	20001				
060202FN	0.2	A (1)	2.4					74.11	40001
060202FN	0.2	A (1)	3.4	64.85	20101				
060204FN	0.4	A (1)	2.2					75.67	40101
060204FN	0.4	A (1)	3.2	64.85	20201				
09T302FN	0.2	A (1)	2.4					78.77	40201
09T302FN	0.2	A (1)	4.5	67.94	20301				
09T304FN	0.4	A (1)	2.2					81.85	40301
09T304FN	0.4	A (1)	4.3	67.94	20401	69.50	30001		
09T308FN	0.8	A (1)	2.0			69.50	30101	86.47	40401
09T308FN	0.8	A (1)	4.1						
120404FN	0.4	A (1)	4.3	69.50	20501				
120408FN	0.8	A (1)	2.0					88.03	40501
Steel									
Stainless steel									
Cast iron									
Non ferrous metals									
Heat resistant alloys									

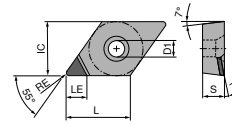
CCGT

▲ TCE(NOI) = Design and number of equipped cutting edge corners

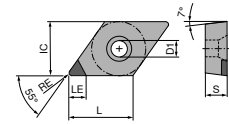
ISO	RE mm	TCE (NOI)	LE mm	-CB1 CTDPD20		-CB1 CTDCD10		-CB2 CTDCD10		-Q-CB2 CTDCD10	
				NEW	Y0	NEW	Y0	NEW	Y0	NEW	Y0
				Article no. 71 300 ...		Article no. 71 300 ...		Article no. 71 301 ...		Article no. 71 306 ...	
				£		£		£		£	
060202EN	0.2	A (1)	2.4					112.07	30200		
060208FN	0.8	A (1)	2.0			112.07	30600				
060208FN	0.8	A (1)	3.0	88.31	10600						
09T302EN	0.2	A (1)	2.3							125.19	31200
09T302EN	0.2	A (1)	2.4					112.07	31200		
09T308EN	0.8	A (1)	2.0					115.71	31600		
120404EN	0.4	A (1)	2.2					130.23	32600		
Steel											
Stainless steel											
Cast iron											
Non ferrous metals											
Heat resistant alloys											

DCGW / DCGT

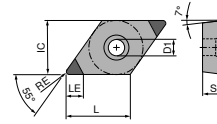
Designation	L	S	D1	IC
	mm	mm	mm	mm
DCGW 0702..	7.75	2.38	2.38	6.35
DCGW 0702..	7.75	2.38	2.80	6.35
DCG. 11T3..	11.60	3.97	4.40	9.52



DCGT A



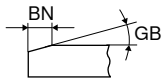
DCGW A



DCGW B

DCGW

▲ TCE(NOI) = Design and number of equipped cutting edge corners

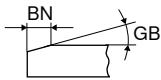


ISO	RE	BN	GB	TCE (NOI)	LE			
	mm	mm	°		mm			
070202TN	0.2	0.14	20	B (2)	3.9			
070202TN	0.2	0.12	25	B (2)	3.9			
070204TN	0.4	0.14	20	B (2)	3.5			
070204TN	0.4	0.12	25	B (2)	3.5			
070208TN	0.8	0.12	25	B (2)	3.0			
11T304SN	0.4	0.11	15	B (2)	3.5			
Cast iron						•		
Sintered steels						•		
Heat resistant alloys						•		
hardened < 45 HRC								
hardened 46–55 HRC							•	•
hardened 56–60 HRC							•	•
hardened 61–65 HRC								•

CTBS20C	CTBH21U	CTBH40U
F CBN DCGW Y0	F CBN DCGW Y0	F CBN DCGW Y0
Article no. 71 163 ...	Article no. 71 131 ...	Article no. 71 131 ...
£	£	£
81.11	53000	81.11 93000
81.11	53200	81.11 93200
81.11		81.11 93400
73.32 13400		

DCGW

▲ TCE(NOI) = Design and number of equipped cutting edge corners



ISO	RE mm	BN mm	GB °	TCE (NOI)	LE mm	CTBH21U		-Q CTBH21U		CTBH21C		CTBH41C	
						F	CBN DCGW	F	CBN DCGW	F	CBN DCGW	F	CBN DCGW
						NEW Y0	Article no. 71 422 ...	NEW Y0	Article no. 71 423 ...	NEW Y0	Article no. 71 424 ...	NEW Y0	Article no. 71 424 ...
070201ER	0.1			A (1)	3.0								
070201EL	0.1			A (1)	3.0								
070202EN	0.2			B (2)	3.4					77.21	90000		
070202SN	0.2	0.09	10	B (2)	3.4							77.21	00201
070202TN	0.2	0.11	20	B (2)	3.4					77.21	90100		
070202TN	0.2	0.15	25	A (1)	3.9	52.64	40000						
070202FN	0.2			B (2)	3.4							77.21	00101
070204EN	0.4			B (2)	3.0					77.21	90200		
070204SN	0.4	0.09	10	B (2)	3.0					77.21	90300	77.21	00401
070204TN	0.4	0.11	20	B (2)	3.0					77.21	90400		
070204SN	0.4	0.13	25	B (2)	3.0							77.21	00501
070204TN	0.4	0.15	25	A (1)	3.5	52.64	40100						
070204SN	0.4	0.14	35	B (2)	3.0							77.21	00601
070204FN	0.4			B (2)	3.0							77.21	00301
070208EN	0.8			B (2)	2.6					77.21	90500		
070208TN	0.8	0.11	20	B (2)	2.6					77.21	90600		
070208SN	0.8	0.13	20	B (2)	2.6							77.21	00701
070208TN	0.8	0.14	35	B (2)	2.6					77.21	90700		
070208SN	0.8	0.14	35	B (2)	2.6							77.21	00801
11T302EN	0.2			B (2)	3.4					77.21	90800		
11T302TN	0.2	0.11	20	B (2)	3.4					77.21	90900		
11T302SN	0.2	0.13	20	B (2)	3.4							77.21	01001
11T302FN	0.2			B (2)	3.4							77.21	00901
11T304TN	0.4	0.09	10	B (2)	3.0					77.21	91000		
11T304TN	0.4	0.09	15	B (2)	3.0					77.21	91100		
11T304SN	0.4	0.09	15	B (2)	3.0							77.21	01201
11T304TN	0.4	0.11	20	B (2)	3.0					77.21	91200		
11T304SN	0.4	0.13	20	B (2)	3.0							77.21	01301
11T304SN	0.4	0.13	25	B (2)	3.0					77.21	91300	77.21	01401
11T304SN	0.4	0.14	30	B (2)	3.0							77.21	01501
11T304TN	0.4	0.14	30	B (2)	3.0					77.21	91400		
11T304FN	0.4			B (2)	3.0							77.21	01101
11T308SN	0.8	0.09	10	B (2)	2.6							77.21	01701
11T308TN	0.8	0.11	20	B (2)	2.6					77.21	91600		
11T308SN	0.8	0.13	25	B (2)	2.6							77.21	01801
11T308SN	0.8	0.14	30	B (2)	2.6							77.21	01901
11T308EN	0.8			B (2)	2.6					77.21	91500		
11T308TN	0.8	0.14	30	B (2)	2.6					77.21	91700		
11T308FN	0.8			B (2)	2.6							77.21	01601

Cast iron

Sintered steels

Heat resistant alloys

hardened < 45 HRC

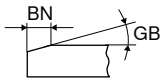
hardened 46–55 HRC

hardened 56–60 HRC

hardened 61–65 HRC

DCGW / DCGT

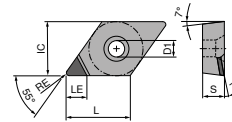
▲ TCE(NOI) = Design and number of equipped cutting edge corners



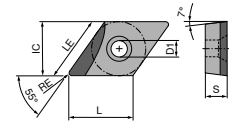
ISO	RE mm	BN mm	GB °	TCE (NOI)	LE mm	CTBS10C		CTBS20C		CTBS20C	
						NEW	Y0	NEW	Y0	NEW	Y0
						CBN DCGW		CBN DCGW		CBN DCGT	
						Article no. 71 424 ...		Article no. 71 422 ...		Article no. 71 421 ...	
						£		£		£	
070202FN	0.2			B (2)	3.9	72.59	80000				
070202SN	0.2	0.09	10	B (2)	3.9	72.59	80100				
070202SN	0.2	0.11	15	A (1)	3.9			45.85	20100		
070202FN	0.2			A (1)	3.9			45.85	20000		
070204FN	0.4			B (2)	3.5	72.59	80200				
070204TN	0.4	0.09	15	B (2)	3.5	72.59	80300				
070204SN	0.4	0.11	15	A (1)	3.5			45.85	20200		
070204SN	0.4	0.14	15	B (2)	3.5	72.59	80400				
11T302SN	0.2	0.11	15	A (1)	3.9			45.85	20400		
11T302FN	0.2			A (1)	3.9			45.85	20300		
11T304FN	0.4			B (2)	3.5	72.59	80500				
11T304TN	0.4	0.09	15	B (2)	3.5	72.59	80600				
11T304SN	0.4	0.11	15	A (1)	3.5			45.85	20500		
11T304SN	0.4	0.14	15	B (2)	3.5	72.59	80700				
11T304SN	0.4	0.14	20	B (2)	3.5	72.59	80800				
11T304EN	0.4			A (1)	3.5					56.06	20000
11T308SN	0.8	0.09	10	B (2)	3.0	72.59	81000				
11T308TN	0.8	0.09	15	B (2)	3.0	72.59	81100				
11T308EN	0.8			B (2)	3.0	72.59	80900				
11T308SN	0.8	0.11	15	A (1)	3.0			45.85	20600		
11T308SN	0.8	0.14	15	B (2)	3.0	72.59	81200				
11T308SN	0.8	0.14	20	B (2)	3.0	72.59	81300				
11T308EN	0.8			A (1)	3.0					56.06	20100
Cast iron						•		•		•	
Sintered steels						•		•		•	
Heat resistant alloys						•		•		•	
hardened < 45 HRC											
hardened 46–55 HRC											
hardened 56–60 HRC											
hardened 61–65 HRC											

DCGW / DCGT

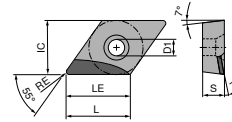
Designation	L	S	D1	IC
	mm	mm	mm	mm
DCG. 0702..	7.75	2.38	2.8	6.35
DCG. 11T3..	11.60	3.97	4.4	9.52



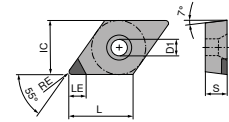
DCGT A



DCGT A LL



DCGT A RR



DCGW A

DCGW / DCGT

▲ TCE(NOI) = Design and number of equipped cutting edge corners

ISO	RE mm	TCE (NOI)	LE mm				
				CTDMD05	CTDPD20	CTDPD20	-Q CTDPS30
				F DIAMOND DCGW Y0	F DIAMOND DCGW Y0	F DIAMOND DCGT Y0	F DIAMOND DCGT Y0
				Article no. 71 130 ...	Article no. 71 130 ...	Article no. 71 134 ...	Article no. 71 144 ...
				£	£	£	£
070201FR	0.1	A (1)	3.0				96.91 15000
070202FN	0.2	A (1)	2.5	376.80 00200			
070204FN	0.4	A (1)	2.5	376.80 00400			
070208FN	0.8	A (1)	2.5	376.80 00600			
11T312FN	1.2	A (1)	3.5			79.66 11200	
11T312FN	1.2	A (1)	3.6		79.66 11200		
Steel							
Stainless steel							
Cast iron							
Non ferrous metals				●	●	●	●
Heat resistant alloys				○			○

DCGT

▲ TCE(NOI) = Design and number of equipped cutting edge corners

ISO	RE mm	TCE (NOI)	LE mm	CTDPS30		CTDPS30		CTDPS30	
				NEW	Y0	NEW	Y0	NEW	Y0
070201FN	0.1	A (1)	3.8	Article no.	71 173 ...	Article no.	71 173 ...	Article no.	71 173 ...
070202FN	0.2	A (1)	3.7	£	20001	£	20201	£	20701
070204FLL	0.4	A (1)	5.5	£	20101	95.74	20201	£	20901
11T301FN	0.1	A (1)	4.8	71.03	20301	105.00	20501	105.00	20701
11T302FN	0.2	A (1)	4.7	71.03	20401	105.00	20601	105.00	20901
11T304FLL	0.4	A (1)	7.5			105.00	20801		
11T308FLL	0.8	A (1)	7.0						
11T308FRR	0.8	A (1)	7.0						
11T312FLL	1.2	A (1)	6.5						
11T312FRR	1.2	A (1)	6.5						
Steel									
Stainless steel									
Cast iron									
Non ferrous metals				●	●	●	●	●	●
Heat resistant alloys				○	○	○	○	○	○

DCGT

▲ TCE(NOI) = Design and number of equipped cutting edge corners

ISO	RE mm	TCE (NOI)	LE mm	-Q CTDMD05		-CB1 CTDPU20		-CB2 CTDPU20	
				NEW	Y0	NEW	Y0	NEW	Y0
070202FN	0.2	A (1)	3.7	Article no.	71 176 ...	Article no.	71 174 ...	Article no.	71 175 ...
070204FR	0.4	A (1)	2.5	£	50001	£	30001	£	30001
070204FN	0.4	A (1)	3.4	523.80	50001	72.59	30101	72.59	30001
070204EN	0.4	A (1)	3.4			72.59	30201	72.59	30101
11T304FN	0.4	A (1)	4.3			75.67	30301	75.67	30101
11T304EN	0.4	A (1)	4.3						
11T308FN	0.8	A (1)	4.0						
Steel									
Stainless steel									
Cast iron									
Non ferrous metals				●	●	●	●	●	●
Heat resistant alloys				○	○	○	○	○	○

DCGW

▲ TCE(NOI) = Design and number of equipped cutting edge corners

ISO	RE mm	TCE (NOI)	LE mm	-Q CTDMD05		CTDPS30		CTDPU20		CTDCD10	
				NEW	Y0	NEW	Y0	NEW	Y0	NEW	Y0
070201FN	0.1	A (1)	3.8	Article no.	71 178 ...	Article no.	71 177 ...	Article no.	71 177 ...	Article no.	71 177 ...
070202FN	0.2	A (1)	2.6	£		£		£		£	
070202FN	0.2	A (1)	3.7			66.41	20001			69.50	40001
070204FN	0.4	A (1)	2.3			66.41	20101			71.03	40101
070204FN	0.4	A (1)	3.4			66.41	20201	66.41	30001		
070208FN	0.8	A (1)	2.0			66.41	20301	66.41	30101	75.67	40201
070208FN	0.8	A (1)	3.0								
11T301FN	0.1	A (1)	4.8			69.50	20401			72.59	40301
11T302FN	0.2	A (1)	2.6			69.50	20501			74.11	40401
11T302FN	0.2	A (1)	4.7								
11T304FN	0.4	A (1)	2.3								
11T304FL	0.4	A (1)	3.0	496.56	50001						
11T304FN	0.4	A (1)	4.3			69.50	20601	67.94	30201		
11T308FN	0.8	A (1)	2.0							78.77	40501
11T308FN	0.8	A (1)	4.0			69.50	20701	67.94	30301		
11T312FN	1.2	A (1)	3.6			69.50	20801				
Steel											
Stainless steel											
Cast iron											
Non ferrous metals											
Heat resistant alloys											

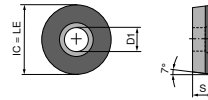
DCGT

▲ TCE(NOI) = Design and number of equipped cutting edge corners

ISO	RE mm	TCE (NOI)	LE mm	-CB1 CTDPD20		-CB1 CTDPS30		-CB1 CTDCD10		-CB2 CTDPS30		-CB2 CTDCD10	
				NEW	Y0	NEW	Y0	NEW	Y0	NEW	Y0	NEW	Y0
070201FN	0.1	A (1)	3.8	Article no.	71 310 ...	Article no.	71 310 ...	Article no.	71 310 ...	Article no.	71 311 ...	Article no.	71 311 ...
070202EN	0.2	A (1)	2.6	£		£		£		£		£	
11T301EN	0.1	A (1)	4.8							99.19	21100		
11T301FN	0.1	A (1)	4.8	94.08	11100	94.08	21100	115.71	31200				
11T302FN	0.2	A (1)	2.6										
11T302EN	0.2	A (1)	2.6									115.71	31200
Steel													
Stainless steel													
Cast iron													
Non ferrous metals													
Heat resistant alloys													

RCGW

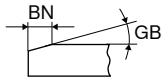
Designation	S	D1	IC
	mm	mm	mm
RCGW 1204..	4.76	4.4	12



RCGW F

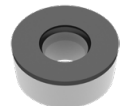
RCGW

▲ TCE(NOI) = Design and number of equipped cutting edge corners



ISO	RE	BN	GB	TCE (NOI)	LE
	mm	mm	°		mm
1204M0TN	6	0.14	20	F	12

CTBS10U



F

CBN
RCGW

NEW Y0

Article no.
71 425 ...

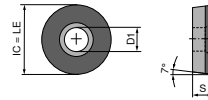
£

263.28 10000

Cast iron	•
Sintered steels	•
Heat resistant alloys	•
hardened < 45 HRC	
hardened 46–55 HRC	
hardened 56–60 HRC	
hardened 61–65 HRC	

RCGW

Designation	S	D1	IC
	mm	mm	mm
RCGW 0602..	2.38	2.8	6
RCGW 0803..	3.18	3.4	8
RCGW 1003..	3.97	4.4	10
RCGW 1204..	4.76	4.4	12



RCGW F

RCGW

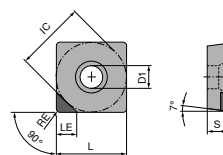
▲ TCE(NOI) = Design and number of equipped cutting edge corners

ISO	RE mm	TCE (NOI)	LE mm				
0602M0FN	3	F	6				
0803M0FN	4	F	8				
1003M0FN	6	F	10				
1204M0FN	6	F	12				
Steel							
Stainless steel							
Cast iron							
Non ferrous metals						●	●
Heat resistant alloys							○

CTDPD20	CTDPS30
F	F
DIAMOND	DIAMOND
RCGW	RCGW
NEW Y0	NEW Y0
Article no.	Article no.
71 179 ...	71 179 ...
£	£
125.76 10001	125.76 20001
163.08 10101	163.08 20101
210.60 10201	
266.64 10301	

SCGW

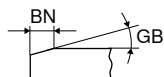
Designation	L	S	D1	IC
	mm	mm	mm	mm
SCGW 09T3..	9.52	3.97	4.4	9.52
SCGW 1204..	12.70	4.76	5.5	12.70



SCGW A

SCGW

▲ TCE(NOI) = Design and number of equipped cutting edge corners



CTBS10U



F

CBN
SCGW

NEW Y0

Article no.
71 426 ...

£

ISO	RE	BN	GB	TCE (NOI)	LE		
	mm	mm	°		mm		
09T304TN	0.4	0.14	20	A (1)	3.5	45.85	10100
09T304FN	0.4			A (1)	3.5	45.85	10000
09T308FN	0.8			A (1)	3.4	45.85	10200
09T308TN	0.8	0.14	20	A (1)	3.4	45.85	10300
120404FN	0.4			A (1)	3.5	45.85	10400
120404TN	0.4	0.14	20	A (1)	3.5	45.85	10500
120408FN	0.8			A (1)	3.4	45.85	10600
120408TN	0.8	0.14	20	A (1)	3.4	45.85	10700

Cast iron

Sintered steels

Heat resistant alloys

hardened < 45 HRC

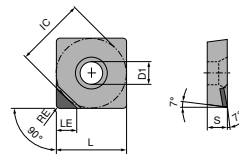
hardened 46–55 HRC

hardened 56–60 HRC

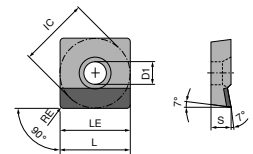
hardened 61–65 HRC

SCGW / SCGT

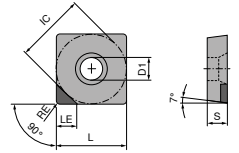
Designation	L	S	D1	IC
	mm	mm	mm	mm
SCG. 09T3..	9.52	3.97	4.4	9.52
SCG. 1204..	12.70	4.76	5.5	12.70



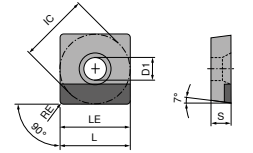
SCGT A



SCGT A



SCGW A



SCGW A

SCGW / SCGT

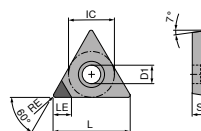
▲ TCE(NOI) = Design and number of equipped cutting edge corners

ISO	RE mm	TCE (NOI)	LE mm	CTDPD20		CTDPD20		CTDPS30		CTDPS30		CTDPS30	
				NEW Y0		NEW Y0		NEW Y0		NEW Y0		NEW Y0	
				Article no.		Article no.		Article no.		Article no.		Article no.	
				71 182 ...		71 183 ...		71 182 ...		71 180 ...		71 181 ...	
				£		£		£		£		£	
09T304FN	0.4	A (1)	4.40	67.94	10001	101.92	10001	67.94	20601	67.94	20001		
09T304FN	0.4	A (1)	9.52										
09T308FN	0.8	A (1)	4.30	67.94	10101					67.94	20101		
09T308FN	0.8	A (1)	9.50									101.92	20001
09T308FN	0.8	A (1)	9.52			101.92	10101						
09T312FN	1.2	A (1)	4.20	67.94	10201					67.94	20201		
120404FN	0.4	A (1)	4.40	69.50	10301								
120404FN	0.4	A (1)	12.70			112.74	10201						
120408FN	0.8	A (1)	4.30	69.50	10401								
120408FN	0.8	A (1)	12.70			112.74	10301					112.74	20101
120412FN	1.2	A (1)	4.20	69.50	10501								
120412FN	1.2	A (1)	12.00									112.74	20201
120412FN	1.2	A (1)	12.70			112.74	10401						

Steel					
Stainless steel					
Cast iron					
Non ferrous metals	•	•	•	•	•
Heat resistant alloys			○	○	○

TCGW

Designation	L	S	D1	IC
	mm	mm	mm	mm
TCGW 0902..	9.6	2.38	2.5	5.56
TCGW 1102..	11.0	2.38	2.8	6.35



TCGW A

TCGW

▲ TCE(NOI) = Design and number of equipped cutting edge corners



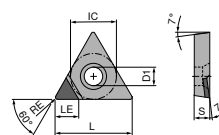
ISO	RE	BN	GB	TCE (NOI)	LE
	mm	mm	°		mm
090202FN	0.2			A (1)	3.8
090204SN	0.4	0.11	15	A (1)	3.5
110204EN	0.4			A (1)	3.5

CTBS20C	CTBH21U	CTBH40U
F CBN TCGW	F CBN TCGW	F CBN TCGW
NEW Y0 Article no. 71 427 ... £	Y0 Article no. 71 140 ... £	Y0 Article no. 71 140 ... £
20000	40700	80100

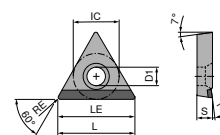
Cast iron	•		
Sintered steels	•		
Heat resistant alloys	•		
hardened < 45 HRC			
hardened 46–55 HRC		•	•
hardened 56–60 HRC		•	•
hardened 61–65 HRC			•

TCGW / TCGT

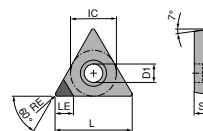
Designation	L	S	D1	IC
	mm	mm	mm	mm
TCG. 0902..	9.6	2.38	2.5	5.56
TCG. 1102..	11.0	2.38	2.8	6.35
TCG. 16T3..	16.5	3.97	4.4	9.52



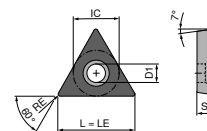
TCGT A



TCGT A



TCGW A



TCGW F

TCGW

▲ TCE(NOI) = Design and number of equipped cutting edge corners

ISO	RE	TCE (NOI)	LE
	mm		mm
16T312FN	1.2	A (1)	3.8

CTDPD20



F

DIAMOND
TCGW

Y0

Article no.
71 140 ...

£

79.66 11600

Steel
Stainless steel
Cast iron
Non ferrous metals
Heat resistant alloys

TCGT / TCGW

▲ TCE(NOI) = Design and number of equipped cutting edge corners

ISO	RE mm	TCE (NOI)	LE mm	CTDPD20		CTDPS30		CTDPS30		CTDPS30		CTDCD10		CTDPD20	
				F DIAMOND TCGT NEW Y0 Article no. 71 184 ... £		F DIAMOND TCGT NEW Y0 Article no. 71 184 ... £		F DIAMOND TCGT NEW Y0 Article no. 71 185 ... £		F DIAMOND TCGW NEW Y0 Article no. 71 186 ... £		F DIAMOND TCGW NEW Y0 Article no. 71 186 ... £		F DIAMOND TCGW NEW Y0 Article no. 71 187 ... £	
090202FN	0.2	A (1)	3.7			60.24	20001			60.24	20001				
090204FN	0.4	A (1)	3.4			60.24	20101								
090204FN	0.4	A (1)	9.6					91.12	20001						
090208FN	0.8	A (1)	3.0	60.24	10001										
110202FN	0.2	A (1)	2.6									80.29	40001		
110202FN	0.2	A (1)	3.7	63.32	10101					63.32	20101				
110202FN	0.2	F	11.0											205.56	10001
110204FN	0.4	A (1)	2.3									80.29	40101		
110204FN	0.4	A (1)	3.4	63.32	10201	63.32	20201			63.32	20201				
110204FN	0.4	A (1)	11.0					95.74	20101						
110204FN	0.4	F	11.0											205.56	10101
110208FN	0.8	A (1)	2.0									80.29	40201		
110208FN	0.8	A (1)	3.0	63.32	10301										
110208FN	0.8	A (1)	11.0					95.74	20201						
16T304FN	0.4	A (1)	2.3									86.47	40301		
16T304FN	0.4	A (1)	4.6	69.50	10401	69.50	20301								
16T304FN	0.4	A (1)	16.5					126.60	20301						
16T308FN	0.8	A (1)	2.0									86.47	40401		
16T308FN	0.8	A (1)	4.2	69.50	10501										
16T308FN	0.8	A (1)	16.5					126.60	20401						
Steel															
Stainless steel															
Cast iron															
Non ferrous metals															
Heat resistant alloys															

TCGW

▲ TCE(NOI) = Design and number of equipped cutting edge corners

ISO	RE mm	TCE (NOI)	LE mm	CTDPD20		CTDPU20	
				NEW	Y0	NEW	Y0
090208FN	0.8	A (1)	9.6	Article no.	71 188 ...	Article no.	71 188 ...
				£	91.12	£	
110204FN	0.4	A (1)	11.0		10101	89.56	30001
110208FN	0.8	A (1)	11.0		10201		
16T304FN	0.4	A (1)	16.5		10301		
16T308FN	0.8	A (1)	16.5		10401		
Steel							
Stainless steel							
Cast iron							
Non ferrous metals							
Heat resistant alloys							

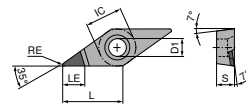
TCGT

▲ TCE(NOI) = Design and number of equipped cutting edge corners

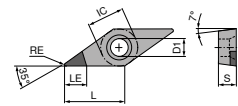
ISO	RE mm	TCE (NOI)	LE mm	-CB1 CTDPD20	
				NEW	Y0
16T308FN	0.8	A (1)	4.2	Article no.	71 325 ...
				£	92.18
					13600
Steel					
Stainless steel					
Cast iron					
Non ferrous metals					
Heat resistant alloys					

VCGW / VCGT

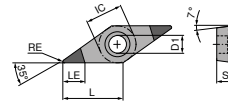
Designation	L	S	D1	IC
	mm	mm	mm	mm
VCGW 0702..	6.9	2.38	2.2	3.97
VCG. 1103..	11.1	3.18	2.9	6.35
VCG. 1604..	16.6	4.76	4.4	9.52



VCGT A



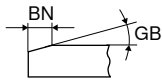
VCGW A

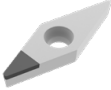
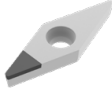


VCGW B

VCGW

▲ TCE(NOI) = Design and number of equipped cutting edge corners

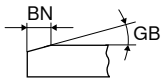


ISO	RE mm	BN mm	GB °	TCE (NOI)	LE mm	CTBH20C	CTBH21U	CTBH40U
								
						F CBN VCGW Y0	F CBN VCGW Y0	F CBN VCGW Y0
						Article no. 71 165 ...	Article no. 71 160 ...	Article no. 71 160 ...
						£	£	£
070202TN	0.2	0.15	25	A (1)	3.5		69.43 55000	
070204EN	0.4			A (1)	3.2		69.43 45000	
160402TN	0.2	0.15	25	A (1)	3.5		69.43 52000	
160402EN	0.2			A (1)	3.5		69.43 43000	
160404EN	0.4			A (1)	3.2		69.43 41200	
160404SN	0.4	0.11	15	B (2)	3.1	73.32 24400		
160404TN	0.4	0.15	25	A (1)	3.2		69.43 52200	
160412TN	1.2	0.12	25	A (1)	3.9			69.43 90900

Cast iron			
Sintered steels			
Heat resistant alloys			
hardened < 45 HRC			
hardened 46–55 HRC	•	•	•
hardened 56–60 HRC	•	•	•
hardened 61–65 HRC			•

VCGW / VCGT

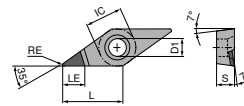
▲ TCE(NOI) = Design and number of equipped cutting edge corners



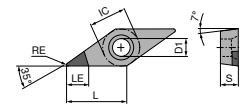
ISO	RE mm	BN mm	GB °	TCE (NOI)	LE mm	CTBS20C		CTBH21U		CTBH21U		CTBH41U		CTBH41U	
						F	NEW Y0	F	NEW Y0	F	NEW Y0	F	NEW Y0	F	NEW Y0
						CBN VCGW	Article no. 71 429 ...	CBN VCGW	Article no. 71 430 ...	CBN VCGT	Article no. 71 428 ...	CBN VCGW	Article no. 71 429 ...	CBN VCGW	Article no. 71 430 ...
070202FN	0.2			A (1)	3.5		£		£		£		50.98 70000		£
070204FN	0.4			A (1)	3.2								50.98 70100		
110302EN	0.2			B (2)	3.5			79.82	40000						
110302SN	0.2	0.11	15	A (1)	4.7	61.15	20000								
110302TN	0.2	0.15	25	B (2)	3.5			79.82	40100						
110302FN	0.2			B (2)	3.5									79.82	70000
110304EN	0.4			A (1)	3.2					61.15	40000				
110304EN	0.4			B (2)	3.2			79.82	40200						
110304TN	0.4	0.15	25	B (2)	3.2			79.82	40300						
110304FN	0.4			B (2)	3.2									79.82	70100
160402EN	0.2			A (1)	3.5					61.15	40100				
160402TN	0.2	0.15	25	B (2)	3.5			79.82	40400						
160402FN	0.2			A (1)	3.5							50.98	70200		
160402FN	0.2			B (2)	3.5									79.82	70200
160404SN	0.4	0.11	15	A (1)	5.0	66.24	20100								
160404TN	0.4	0.15	25	B (2)	3.2			79.82	40600						
160404TN	0.4	0.10	30	A (1)	3.2							50.98	70400		
160404FN	0.4			A (1)	3.2							50.98	70300		
160404EN	0.4			B (2)	3.2			79.82	40500						
160404FN	0.4			B (2)	3.2									79.82	70300
160408FN	0.8			A (1)	2.8							50.98	70500		
160408SN	0.8	0.11	15	A (1)	4.4	66.24	20200								
160408TN	0.8	0.15	25	B (2)	2.8			79.82	40800						
160408EN	0.8			B (2)	2.8			79.82	40700						
160408FN	0.8			B (2)	2.8									79.82	70400
Cast iron							•								
Sintered steels							•								
Heat resistant alloys							•								
hardened < 45 HRC															
hardened 46–55 HRC								•		•		•		•	
hardened 56–60 HRC								•		•		•		•	
hardened 61–65 HRC												•		•	

VCGW / VCGT

Designation	L	S	D1	IC
	mm	mm	mm	mm
VCG. 0702..	6.9	2.38	2.2	3.97
VCG. 1103..	11.1	3.18	2.8	6.35
VCG. 1303..	13.3	3.18	3.4	7.94
VCG. 1604..	16.6	4.76	4.4	9.52



VCGT A



VCGW A

VCGW / VCGT

▲ TCE(NOI) = Design and number of equipped cutting edge corners

ISO	RE mm	TCE (NOI)	LE mm		
110301FN	0.1	A (1)	5.4		
160401FN	0.1	A (1)	6.0		
160408FN	0.8	A (1)	5.0		

CTDMD05

F
DIAMOND
VCGW
Y0
Article no.
71 160 ...
£

CTDPD20

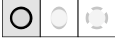
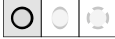
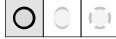
F
DIAMOND
VCGT
Y0
Article no.
71 062 ...
£

	576.84	07800
	91.24	10100
	99.80	10700

Steel		
Stainless steel		
Cast iron		
Non ferrous metals	●	●
Heat resistant alloys	○	

VCGT / VCGW

▲ TCE(NOI) = Design and number of equipped cutting edge corners

ISO	RE mm	TCE (NOI)	LE mm	CTDMD05		CTDPS30		CTDPS30		CTDPU20		-CB2 CTDPU20		CTDCD10	
															
															
				F DIAMOND VCGT		F DIAMOND VCGW		F DIAMOND VCGT		F DIAMOND VCGW		M DIAMOND VCGT		F DIAMOND VCGW	
				NEW	Y0	NEW	Y0	NEW	Y0	NEW	Y0	NEW	Y0	NEW	Y0
				Article no. 71 189 ...		Article no. 71 191 ...		Article no. 71 189 ...		Article no. 71 191 ...		Article no. 71 190 ...		Article no. 71 191 ...	
				£		£		£		£		£		£	
070201FN	0.1	A (1)	3.8					71.03	20001						
070202FN	0.2	A (1)	3.6			71.03	20001								
070202FN	0.2	A (1)		595.44	50001										
070204FN	0.4	A (1)	3.2			71.03	20101								
070204FN	0.4	A (1)		595.44	50101										
110301FN	0.1	A (1)	5.4			80.29	20201	80.29	20101						
110302FN	0.2	A (1)	3.0											84.94	40001
110302FN	0.2	A (1)	4.6	617.64	50201	80.29	20301	80.29	20201						
110304FN	0.4	A (1)	3.0											84.94	40101
110304FN	0.4	A (1)	3.9	617.64	50301	80.29	20401	80.29	20301						
110308FN	0.8	A (1)	3.0											95.74	40201
130302FN	0.2	A (1)	5.9			83.39	20501	83.39	20401						
160401FN	0.1	A (1)	6.0			83.39	20601	83.39	20501						
160402FN	0.2	A (1)	3.0											88.03	40301
160402FN	0.2	A (1)	5.9					83.39	20601						
160402FN	0.2	A (1)		617.64	50401										
160404FN	0.4	A (1)	3.0											94.20	40401
160404FN	0.4	A (1)	5.5			83.39	20701	83.39	20701	86.47	30001				
160404FN	0.4	A (1)	5.5									111.18	30001		
160404FN	0.4	A (1)		617.64	50501										
160408FN	0.8	A (1)	3.0											106.56	40501
160408FN	0.8	A (1)	5.0			83.39	20801								
160408FN	0.8	A (1)		701.64	50601										
160412FN	1.2	A (1)	4.5			92.65	20901								
Steel															
Stainless steel															
Cast iron															
Non ferrous metals															
Heat resistant alloys															

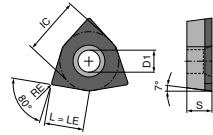
VCGT

▲ TCE(NOI) = Design and number of equipped cutting edge corners

ISO	RE mm	TCE (NOI)	LE mm	-CB1 CTDPD20		-CB1 CTDPS30		-CB2 CTDPS30		-CB1 CTDCD10		-CB2 CTDCD10	
				F DIAMOND VCGT Y0	F DIAMOND VCGT Y0	M DIAMOND VCGT Y0	F DIAMOND VCGT Y0	M DIAMOND VCGT Y0					
				Article no. 71 330 ... £	Article no. 71 330 ... £	Article no. 71 331 ... £	Article no. 71 330 ... £	Article no. 71 331 ... £		Article no. 71 330 ... £	Article no. 71 331 ... £		
110301FN	0.1	A (1)	3.0							142.80	31000		
110301FN	0.1	A (1)	5.4	119.32	11000								
110302FN	0.2	A (1)	4.6		119.32	21200							
110308EN	0.8	A (1)	3.3			119.32	21800						
160402FN	0.2	A (1)	3.0							142.84	32200		
160402EN	0.2	A (1)	3.0									142.84	33200
160402EN	0.2	A (1)	5.9			129.68	23200						
160402FN	0.2	A (1)	5.9	129.68	13200								
160404FN	0.4	A (1)	3.0							142.84	32400		
160408FN	0.8	A (1)	3.0							159.10	32600		
160412FN	1.2	A (1)	3.0							159.10	32800		
160412EN	1.2	A (1)	3.0									159.10	34000
160412FN	1.2	A (1)	4.5	142.80	14000	142.80	24000						
Steel													
Stainless steel													
Cast iron													
Non ferrous metals													
Heat resistant alloys													

WCGW

Designation	L	S	D1	IC
	mm	mm	mm	mm
WCGW 0201..	2.7	1.59	2.3	3.97



WCGW F

WCGW

▲ TCE(NOI) = Design and number of equipped cutting edge corners

ISO	RE mm	TCE (NOI)	LE mm
020104FN	0.4	F	2.7



F

CBN
WCGW
Y0

Article no.
71 154 ...

£
200.91 80100

Cast iron	
Sintered steels	
Heat resistant alloys	
hardened < 45 HRC	
hardened 46–55 HRC	•
hardened 56–60 HRC	•
hardened 61–65 HRC	•

Cutting data values for CBN inserts

Index	Cutting edges code negative insert* Cutting edges code positive insert*		CTB S05U					
			EN			F		
			EN			TN-D		
	Material	Strength	v _c	f	a _p	v _c	f	a _p
	general sintered steel (> HV300)							
	high density sintered steel (> HV600)							
	Sintered steels (< HV300)							
3.1	Grey cast iron with lamellar graphite	100–350 N/mm ²	900–1600	0,02–0,25	0,15–10	900–1600	0,02–0,25	0,15–10
3.2	Grey cast iron with lamellar graphite	300–500 N/mm ²	900–1600	0,02–0,25	0,15–10	900–1600	0,02–0,25	0,15–10
3.3	Cast iron with spheroidal graphite	300–500 N/mm ²	1000–1750	0,02–0,25	0,15–10	1000–1750	0,02–0,25	0,15–10
3.4	Cast iron with spheroidal graphite	500–900 N/mm ²	1000–1750	0,02–0,25	0,15–10	1000–1750	0,02–0,25	0,15–10
3.5	White malleable cast iron	270–450 N/mm ²						
3.6	White malleable cast iron	500–650 N/mm ²						
3.7	Black malleable cast iron	300–450 N/mm ²						
3.8	Black malleable cast iron	500–800 N/mm ²						
5.1	Pure nickel							
5.2	Nickel alloys							
5.3	Nickel alloys	< 850 N/mm ²						
5.4	Nickel molybdenum alloys							
5.5	Nickel-chromium alloys	< 1300 N/mm ²						
5.6	Cobalt Chrome Alloys	< 1300 N/mm ²						
5.7	Heat resistant alloys	< 1300 N/mm ²						
5.8	Nickel-cobalt-chromium alloys	< 1400 N/mm ²						
5.9	Pure titanium	< 900 N/mm ²						
5.10	Titanium alloys	< 700 N/mm ²						
5.11	Titanium alloys	< 1200 N/mm ²						

Index	Cutting edges code negative insert* Cutting edges code positive insert*		CTB S10U / CTB S10C					
			EN			F		
			EN			TN-D		
	Material	Strength	v _c	f	a _p	v _c	f	a _p
	general sintered steel (> HV300)		250–750	0,02–0,25	0,02–0,4	210–550	0,08–0,35	0,1–0,4
	high density sintered steel (> HV600)		200–700	0,02–0,25	0,02–0,4	150–400	0,08–0,35	0,1–0,4
	Sintered steels (< HV300)		150–350	0,02–0,25	0,02–0,4	100–220	0,08–0,35	0,1–0,4
3.1	Grey cast iron with lamellar graphite	100–350 N/mm ²	900–1600	0,02–0,25	0,05–0,25	700–1200	0,08–0,35	0,08–0,4
3.2	Grey cast iron with lamellar graphite	300–500 N/mm ²	900–1600	0,02–0,25	0,05–0,25	700–1200	0,08–0,35	0,08–0,4
3.3	Cast iron with spheroidal graphite	300–500 N/mm ²	1000–1750	0,02–0,25	0,02–0,25	800–1250	0,08–0,35	0,08–0,4
3.4	Cast iron with spheroidal graphite	500–900 N/mm ²	1000–1750	0,02–0,25	0,02–0,25	800–1250	0,08–0,35	0,08–0,4
3.5	White malleable cast iron	270–450 N/mm ²						
3.6	White malleable cast iron	500–650 N/mm ²						
3.7	Black malleable cast iron	300–450 N/mm ²						
3.8	Black malleable cast iron	500–800 N/mm ²						
5.1	Pure nickel							
5.2	Nickel alloys							
5.3	Nickel alloys	< 850 N/mm ²						
5.4	Nickel molybdenum alloys		300–700	0,02–0,25	0,02–0,4	250–400	0,08–0,35	0,08–0,4
5.5	Nickel-chromium alloys	< 1300 N/mm ²	300–700	0,02–0,25	0,02–0,4	250–400	0,08–0,35	0,08–0,4
5.6	Cobalt Chrome Alloys	< 1300 N/mm ²	300–700	0,02–0,25	0,02–0,4	250–400	0,08–0,35	0,08–0,4
5.7	Heat resistant alloys	< 1300 N/mm ²	300–700	0,02–0,25	0,02–0,4	250–400	0,08–0,35	0,08–0,4
5.8	Nickel-cobalt-chromium alloys	< 1400 N/mm ²	300–700	0,02–0,25	0,02–0,4	250–400	0,08–0,35	0,08–0,4
5.9	Pure titanium	< 900 N/mm ²						
5.10	Titanium alloys	< 700 N/mm ²						
5.11	Titanium alloys	< 1200 N/mm ²						

i * Note chamfer width: The wider the chamfer, the more stable the cutting edge.

i The cutting data depends extremely on the external conditions, e.g. stability of the tool and tool clamping, material and machine type. The indicated values are possible cutting data which have to be increased or reduced according to the application conditions.

Cutting data values for CBN inserts

CTB S10C								
TN-B			TN-C			TN-E		
SN-B			SN-C / TN-C					
v_c	f	a_p	v_c	f	a_p	v_c	f	a_p
200-400	0,05-0,4	0,06-0,4	150-350	0,06-0,5	0,08-0,5	150-300	0,1-0,35	0,1-0,4
350-550	0,05-0,4	0,06-0,4	300-500	0,06-0,5	0,08-0,5	250-450	0,1-0,35	0,1-0,4
300-500	0,05-0,4	0,06-0,4	200-400	0,06-0,5	0,08-0,5	200-400	0,1-0,35	0,1-0,4
750-1200	0,05-0,4	0,06-0,4	800-1300	0,06-0,5	0,08-0,5	600-1100	0,1-0,35	0,1-0,4
750-1200	0,05-0,4	0,06-0,4	800-1300	0,06-0,5	0,08-0,5	600-1100	0,1-0,35	0,1-0,4
750-1200	0,05-0,4	0,06-0,4	800-1300	0,06-0,5	0,08-0,5	600-1100	0,1-0,35	0,1-0,4
750-1200	0,05-0,4	0,06-0,4	800-1300	0,06-0,5	0,08-0,5	600-1100	0,1-0,35	0,1-0,4
400-600	0,05-0,4	0,06-0,4	300-500	0,06-0,5	0,08-0,5	250-450	0,1-0,35	0,1-0,4
400-600	0,05-0,4	0,06-0,4	300-500	0,06-0,5	0,08-0,5	250-450	0,1-0,35	0,1-0,4
400-600	0,05-0,4	0,06-0,4	300-500	0,06-0,5	0,08-0,5	250-450	0,1-0,35	0,1-0,4
400-600	0,05-0,4	0,06-0,4	300-500	0,06-0,5	0,08-0,5	250-450	0,1-0,35	0,1-0,4
400-600	0,05-0,4	0,06-0,4	300-500	0,06-0,5	0,08-0,5	250-450	0,1-0,35	0,1-0,4

CCGW 120404 FN...

CTB H15U / CT		
FN / FN		
FN / FN		
1,6 - 6,4		
v_c	f	a_p
0-240	0,03-0,15	0,06
240	0,03-0,15	0,06
	0,03-0,15	

Cutting data values for CBN inserts

Index	Cutting edges code negative insert* Cutting edges code positive insert*		CTB S20C					
			EN			SN-B		
			EN			SN-B		
	Material	Strength	v _c	f	a _p	v _c	f	a _p
	general sintered steel (> HV300)		250-750	0,02-0,25	0,02-0,4	250-700	0,04-0,25	0,03-0,4
	high density sintered steel (> HV600)		200-700	0,02-0,25	0,02-0,4	200-700	0,04-0,25	0,03-0,4
	Sintered steels (< HV300)		150-350	0,02-0,25	0,02-0,4	150-350	0,04-0,25	0,03-0,4
3.1	Grey cast iron with lamellar graphite	100-350 N/mm ²	800-1450	0,02-0,25	0,05-0,25	700-1400	0,04-0,25	0,05-0,25
3.2	Grey cast iron with lamellar graphite	300-500 N/mm ²	800-1450	0,02-0,25	0,05-0,25	700-1400	0,04-0,25	0,05-0,25
3.3	Cast iron with spheroidal graphite	300-500 N/mm ²	900-1600	0,02-0,25	0,05-0,25	800-1600	0,04-0,25	0,05-0,25
3.4	Cast iron with spheroidal graphite	500-900 N/mm ²	900-1600	0,02-0,25	0,05-0,25	800-1600	0,04-0,25	0,05-0,25
3.5	White malleable cast iron	270-450 N/mm ²						
3.6	White malleable cast iron	500-650 N/mm ²						
3.7	Black malleable cast iron	300-450 N/mm ²						
3.8	Black malleable cast iron	500-800 N/mm ²						
5.1	Pure nickel							
5.2	Nickel alloys							
5.3	Nickel alloys	< 850 N/mm ²						
5.4	Nickel molybdenum alloys		200-600	0,02-0,25	0,02-0,4	200-550	0,04-0,25	0,03-0,4
5.5	Nickel-chromium alloys	< 1300 N/mm ²	200-600	0,02-0,25	0,02-0,4	200-550	0,04-0,25	0,03-0,4
5.6	Cobalt Chrome Alloys	< 1300 N/mm ²	200-600	0,02-0,25	0,02-0,4	200-550	0,04-0,25	0,03-0,4
5.7	Heat resistant alloys	< 1300 N/mm ²	200-600	0,02-0,25	0,02-0,4	200-550	0,04-0,25	0,03-0,4
5.8	Nickel-cobalt-chromium alloys	< 1400 N/mm ²	200-600	0,02-0,25	0,02-0,4	200-550	0,04-0,25	0,03-0,4
5.9	Pure titanium	< 900 N/mm ²						
5.10	Titanium alloys	< 700 N/mm ²						
5.11	Titanium alloys	< 1200 N/mm ²						

Index	Cutting edges code negative insert* Cutting edges code positive insert*		CTB S20C					
			TN-E			SN-E		
			TN-E			SN-E		
	Material	Strength	v _c	f	a _p	v _c	f	a _p
	general sintered steel (> HV300)		210-550	0,08-0,35	0,1-0,4	200-520	0,1-0,35	0,1-0,4
	high density sintered steel (> HV600)		150-400	0,08-0,35	0,1-0,4	130-350	0,1-0,35	0,1-0,4
	Sintered steels (< HV300)		100-220	0,08-0,35	0,1-0,4	100-200	0,1-0,35	0,1-0,4
3.1	Grey cast iron with lamellar graphite	100-350 N/mm ²	550-1000	0,08-0,35	0,08-0,4	550-950	0,1-0,35	0,1-0,4
3.2	Grey cast iron with lamellar graphite	300-500 N/mm ²	550-1000	0,08-0,35	0,08-0,4	550-950	0,1-0,35	0,1-0,4
3.3	Cast iron with spheroidal graphite	300-500 N/mm ²	700-1200	0,08-0,35	0,08-0,4	700-1100	0,1-0,35	0,1-0,4
3.4	Cast iron with spheroidal graphite	500-900 N/mm ²	700-1200	0,08-0,35	0,08-0,4	700-1100	0,1-0,35	0,1-0,4
3.5	White malleable cast iron	270-450 N/mm ²						
3.6	White malleable cast iron	500-650 N/mm ²						
3.7	Black malleable cast iron	300-450 N/mm ²						
3.8	Black malleable cast iron	500-800 N/mm ²						
5.1	Pure nickel							
5.2	Nickel alloys							
5.3	Nickel alloys	< 850 N/mm ²						
5.4	Nickel molybdenum alloys		150-350	0,08-0,35	0,08-0,4	150-320	0,1-0,35	0,1-0,4
5.5	Nickel-chromium alloys	< 1300 N/mm ²	150-350	0,08-0,35	0,08-0,4	150-320	0,1-0,35	0,1-0,4
5.6	Cobalt Chrome Alloys	< 1300 N/mm ²	150-350	0,08-0,35	0,08-0,4	150-320	0,1-0,35	0,1-0,4
5.7	Heat resistant alloys	< 1300 N/mm ²	150-350	0,08-0,35	0,08-0,4	150-320	0,1-0,35	0,1-0,4
5.8	Nickel-cobalt-chromium alloys	< 1400 N/mm ²	150-350	0,08-0,35	0,08-0,4	150-320	0,1-0,35	0,1-0,4
5.9	Pure titanium	< 900 N/mm ²						
5.10	Titanium alloys	< 700 N/mm ²						
5.11	Titanium alloys	< 1200 N/mm ²						

i * Note chamfer width: The wider the chamfer, the more stable the cutting edge.

i The cutting data depends extremely on the external conditions, e.g. stability of the tool and tool clamping, material and machine type. The indicated values are possible cutting data which have to be increased or reduced according to the application conditions.

Cutting data values for CBN inserts

CTB S20C								
SN-C			SN-C TN-D			SN-D SN-D		
v_c	f	a_p	v_c	f	a_p	v_c	f	a_p
250-650	0,05-0,25	0,06-0,4	250-600	0,05-0,35	0,06-0,4	220-580	0,06-0,35	0,08-0,4
200-600	0,05-0,25	0,06-0,4	180-550	0,05-0,35	0,06-0,4	170-510	0,06-0,35	0,08-0,4
150-350	0,05-0,25	0,06-0,4	130-300	0,05-0,35	0,06-0,4	120-250	0,06-0,35	0,08-0,4
650-1300	0,05-0,25	0,06-0,4	650-1100	0,05-0,35	0,06-0,4	600-1000	0,06-0,35	0,08-0,5
650-1300	0,05-0,25	0,06-0,4	650-1100	0,05-0,35	0,06-0,4	600-1000	0,06-0,35	0,08-0,5
780-1400	0,05-0,25	0,06-0,4	750-1300	0,05-0,35	0,06-0,4	700-1250	0,06-0,35	0,08-0,5
780-1400	0,05-0,25	0,06-0,4	750-1300	0,05-0,35	0,06-0,4	700-1250	0,06-0,35	0,08-0,5
200-550	0,05-0,25	0,06-0,4	180-500	0,05-0,4	0,06-0,4	180-450	0,06-0,5	0,08-0,5
200-550	0,05-0,25	0,06-0,4	180-500	0,05-0,4	0,06-0,4	180-450	0,06-0,5	0,08-0,5
200-550	0,05-0,25	0,06-0,4	180-500	0,05-0,4	0,06-0,4	180-450	0,06-0,5	0,08-0,5
200-550	0,05-0,25	0,06-0,4	180-500	0,05-0,4	0,06-0,4	180-450	0,06-0,5	0,08-0,5
200-550	0,05-0,25	0,06-0,4	180-500	0,05-0,4	0,06-0,4	180-450	0,06-0,5	0,08-0,5

CTB S20C		
SN-F		
SN-F		
v_c	f	a_p
180-480	0,12-0,35	0,12-0,4
80-250	0,12-0,35	0,12-0,4
80-150	0,12-0,35	0,12-0,4
500-850	0,12-0,35	0,12-0,4
500-850	0,12-0,35	0,12-0,4
650-1000	0,12-0,35	0,12-0,4
650-1000	0,12-0,35	0,12-0,4
130-300	0,12-0,35	0,12-0,4
130-300	0,12-0,35	0,12-0,4
130-300	0,12-0,35	0,12-0,4
130-300	0,12-0,35	0,12-0,4
130-300	0,12-0,35	0,12-0,4

CCGW 120404 FN...

CTB H15U / CT		
FN / FN		
FN / FN		
1,6 - 6,4		
v_c	f	a_p
0-240	0,03-0,15	0,06
240	0,03-0,15	0,06
	0,03-0,15	0,06

Cutting data values for CBN inserts

Index	Material	Strength	Cutting edges code negative insert* Cutting edges code positive insert* Ra (theo.)	CTB H15U / CTB H15C					
				FN			EN		
				FN			EN		
				1,6-6,4			1,0-3,2		
				v_c	f	a_p	v_c	f	a_p
6.1	hardened materials	< 45 HRC	x	160-240	0,03-0,15	0,06-0,3	160-240	0,03-0,15	0,06-0,3
6.2		46-55 HRC	x	160-240	0,03-0,15	0,06-0,3	160-240	0,03-0,15	0,06-0,3
6.3		56-60 HRC	x	160-240	0,03-0,15	0,06-0,3	160-240	0,03-0,15	0,06-0,3
6.4		61-65 HRC							
6.5		65-70 HRC							

Index	Material	Strength	Cutting edges code negative insert* Cutting edges code positive insert* Ra (theo.)	CTB H21U / CTB H20C / CTB H21C					
				FN			TN-C		
				EN / FN			EN		
				1,6-6,4			1,0-4,5		
				v_c	f	a_p	v_c	f	a_p
6.1	hardened materials	< 45 HRC							
6.2		46-55 HRC	x	300-380	0,04-0,25	0,05-0,5	280-350	0,04-0,15	0,05-0,5
6.3		56-60 HRC	x	300-380	0,04-0,25	0,05-0,5	280-350	0,04-0,15	0,05-0,5
6.4		61-65 HRC							
6.5		65-70 HRC							

Index	Material	Strength	Cutting edges code negative insert* Cutting edges code positive insert* Ra (theo.)	CTB H21U / CTB H20C / CTB H21C					
				TN-E / SN-E			SN-F		
				TN-E			SN-E		
				0,35-1,6			0,2-0,8		
				v_c	f	a_p	v_c	f	a_p
6.1	hardened materials	< 45 HRC							
6.2		46-55 HRC	x	210-260	0,05-0,15	0,1-0,5	180-230	0,06-0,20	0,1-0,5
6.3		56-60 HRC	x	210-260	0,05-0,15	0,1-0,5	180-230	0,06-0,20	0,1-0,5
6.4		61-65 HRC							
6.5		65-70 HRC							

Index	Material	Strength	Cutting edges code negative insert* Cutting edges code positive insert* Ra (theo.)	CTB H40U / CTB H40C / CTB H41U / CTB H41C					
				FN / EN			SN-B		
				FN / EN			SN-B		
				1,0-3,2			1,6-3,2		
				v_c	f	a_p	v_c	f	a_p
6.1	hardened materials	< 45 HRC							
6.2		46-55 HRC	x	190-250	0,03-0,15	0,03-0,5	180-250	0,03-0,2	0,05-0,7
6.3		56-60 HRC	x	190-250	0,03-0,15	0,03-0,5	180-250	0,03-0,2	0,05-0,7
6.4		61-65 HRC	x	190-250	0,03-0,15	0,03-0,5	180-250	0,03-0,2	0,05-0,7
6.5		65-70 HRC							

Index	Material	Strength	Cutting edges code negative insert* Cutting edges code positive insert* Ra (theo.)	CTB H40U / CTB H40C / CTB H41U / CTB H41C					
				EN-T / SN-E			SN-E		
				EN-T / SN-E			TN-F		
				0,5-1,6			0,4-1,0		
				v_c	f	a_p	v_c	f	a_p
6.1	hardened materials	< 45 HRC							
6.2		46-55 HRC	x	140-200	0,05-0,15	0,08-0,5	180-230	0,05-0,25	0,1-0,5
6.3		56-60 HRC	x	140-200	0,05-0,15	0,08-0,5	180-230	0,05-0,25	0,1-0,5
6.4		61-65 HRC	x	140-200	0,05-0,15	0,08-0,5	180-230	0,05-0,25	0,1-0,5
6.5		65-70 HRC							

i * Note chamfer width: The wider the chamfer, the more stable the cutting edge.

i The cutting data depends extremely on the external conditions, e.g. stability of the tool and tool clamping, material and machine type. The indicated values are possible cutting data which have to be increased or reduced according to the application conditions.

Cutting data values for CBN inserts

CTB H15U / CTB H15C								
SN-C			SN-E			RN (Rounded chamfer)		
SN-C			SN-E			RN (Rounded chamfer)		
0,5-1,6			0,1-0,8			0,1-0,8		
v_c	f	a_p	v_c	f	a_p	v_c	f	a_p
140-200	0,06-0,2	0,08-0,3	120-180	0,06-0,25	0,1-0,4	130-210	0,06-0,2	0,08-0,3
140-200	0,06-0,2	0,08-0,3	120-180	0,06-0,25	0,1-0,4	130-210	0,06-0,2	0,08-0,3
140-200	0,06-0,2	0,08-0,3	120-180	0,06-0,25	0,1-0,4	130-210	0,06-0,2	0,08-0,3

CTB H21U / CTB H20C / CTB H21C								
TN-D			TN-D / SN-D			TN-E		
SN-B			TN-D / SN-C			SN-D		
0,8-3,0			0,5-2,0			0,35-2,5		
v_c	f	a_p	v_c	f	a_p	v_c	f	a_p
270-330	0,06-0,25	0,05-0,5	250-320	0,06-0,25	0,08-1,0	220-290	0,05-0,15	0,08-0,5
270-330	0,06-0,25	0,05-0,5	250-320	0,06-0,25	0,08-1,0	220-290	0,05-0,15	0,08-0,5

CTB H21U / CTB H20C / CTB H21C		
SN-G		
SN-F		
0,1-0,5		
v_c	f	a_p
160-200	0,05-0,12	0,1-0,5
160-200	0,05-0,12	0,1-0,5

CTB H40U / CTB H40C / CTB H41U / CTB H41C								
SN-C			SN-D			TN-D		
TN-D			SN-D			TN-D		
0,8-3,0			0,8-2,0			0,5-1,6		
v_c	f	a_p	v_c	f	a_p	v_c	f	a_p
180-240	0,04-0,15	0,03-0,5	160-220	0,04-0,15	0,03-0,5	150-210	0,04-0,25	0,08-0,5
180-240	0,04-0,15	0,03-0,5	160-220	0,04-0,15	0,03-0,5	150-210	0,04-0,25	0,08-0,5
180-240	0,04-0,15	0,03-0,5	160-220	0,04-0,15	0,03-0,5	150-210	0,04-0,25	0,08-0,5

CTB H40U / CTB H40C / CTB H41U / CTB H41C					
SN-F			SN-G		
SN-F			SN-G		
0,2-0,8			0,1-0,5		
v_c	f	a_p	v_c	f	a_p
130-200	0,04-0,15	0,1-0,5	120-190	0,04-0,12	0,1-0,5
130-200	0,04-0,15	0,1-0,5	120-190	0,04-0,12	0,1-0,5
130-200	0,04-0,15	0,1-0,5	120-190	0,04-0,12	0,1-0,5

CTB H15U / CTB H15C		
FN / FN		
FN / FN		
1,6 - 6,4		
v_c	f	a_p
100-240	0,03-0,15	0,06-0,3
100-240	0,03-0,15	0,06-0,3
100-240	0,03-0,15	0,06-0,3

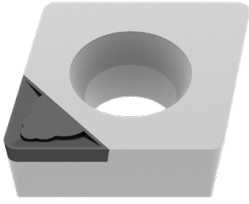
Cutting data standard values for diamond cutting materials CTD PD20 / PS30 / PU20 / CD10

Material group		$a_p = 0,04-0,4 \text{ mm}$ Surface roughness R_z in μm 2,5-5,0 5,0-10		$a_p = 0,4-1,0 \text{ mm}$ Surface roughness R_z in μm 2,5-5,0 5,0-10		$a_p = 0,4-2,5 \text{ mm}$ Surface roughness R_z in μm 2,5-5,0 5,0-10	
		CTD ...		CTD ...		CTD ...	
		CTD ...	CTD ...	CTD ...	CTD ...	CTD ...	CTD ...
Aluminium wrought alloys without Si $f=0.05-0.5 \text{ mm/rev.}$	 Tool Material v_c in m/min	PD20 / PU20 / CD10 400-2500	PD20 / PU20 / CD10 400-2500	PD20 / PU20 / CD10 400-2000	PD20 / PU20 / CD10 400-2000	PD20 / PU20 / CD10 400-1600	PD20 / PU20 / CD10 400-1600
	 Tool Material v_c in m/min		PD20 / CD10 400-2500		PD20 / CD10 400-2000		PD20 / CD10 400-1600
	 Tool Material v_c in m/min	PD20 / PU20 400-2500	PD20 / PU20 400-2500	PD20 / PU20 400-2000	PD20 / PU20 400-2000	PD20 / PU20 400-1600	PD20 / PU20 400-1600
Aluminium cast alloys Si=2-12 % $f=0.05-0.5 \text{ mm/rev.}$	 Tool Material v_c in m/min	PS30 / PU20 / CD10 600-2000	PS30 / PU20 / CD10 600-2200	PS30 / PU20 / CD10 600-1800	PS30 / PU20 / CD10 600-2000	PS30 / PU20 / CD10 600-1500	PS30 / PU20 / CD10 600-1800
	 Tool Material v_c in m/min	PD20 / PU20 / CD10 400-2000	PD20 / PU20 / CD10 400-2200	PD20 / PU20 / CD10 400-1800	PS30 / PU20 / CD10 600-2000	PS30 / PU20 / CD10 400-1500	PS30 / PU20 / CD10 400-1800
	 Tool Material v_c in m/min	PS30 600-2000	PS30 600-2200	PS30 600-1800	PS30 600-2000	PS30 600-1500	
Aluminium cast alloys Si=12-20 % $f=0.05-0.5 \text{ mm/rev.}$	 Tool Material v_c in m/min	PU20 / CD10 800-1200	PU20 / CD10 400-1800	PU20 / CD10 700-1000	PU20 / CD10 400-1500	PU20 / CD10 600-900	PU20 / CD10 400-1200
	 Tool Material v_c in m/min		PU20 / CD10 600-1800		PU20 / CD10 600-1500		PU20 / CD10 600-1200
	 Tool Material v_c in m/min		PU20 600-1800		PU20 600-1500		
Copper and copper wrought alloys $f=0.05-0.5 \text{ mm/rev.}$	 Tool Material v_c in m/min	PD20 / PU20 / CD10 400-1800	PD20 / PU20 / CD10 300-1600	PD20 / PU20 / CD10 400-1600	PS30 / PU20 / CD10 300-1600	PD20 / PU20 / CD10 400-1400	PD20 / PU20 / CD10 400-1500
	 Tool Material v_c in m/min	PU20 / CD10 300-1500	PD20 / PU20 / CD10 300-1500	PD20 / PU20 / CD10 400-1600	PS30 / PU20 / CD10 300-1500	PD20 / PU20 / CD10 400-1500	PD20 / PU20 / CD10 300-1400
	 Tool Material v_c in m/min		PD20 / PU20 300-1800		PS30 / PU20 300-1700	PD20 / PU20 300-1600	PS30 / PU20 200-1300
Plastic materials without reinforcement (acrylic glass) $f=0.05-0.7 \text{ mm/rev.}$	 Tool Material v_c in m/min		PD20 / CD10 400-1200		PD20 / CD10 300-1000		PD20 / CD10 200-1000
	 Tool Material v_c in m/min		PD20 / CD10 300-1200		PD20 / CD10 200-1000		PS30 / CD10 200-900
	 Tool Material v_c in m/min		PD20 / CD10 400-1200		PD20 / CD10 300-1000		PD20 / CD10 200-1000
Plastic materials with reinforcement (glass-fibre, carbon-fibre reinforced) $f=0.05-0.7 \text{ mm/rev.}$	 Tool Material v_c in m/min	PS30 / PU20 / CD10 500-1000		PS30 / PU20 / CD10 400-900	PS30 / PU20 / CD10 300-900	PS30 / PU20 / CD10 300-800	PS30 / PU20 / CD10 200-1200
	 Tool Material v_c in m/min	PS30 / PU20 / CD10 400-900		PS30 / PU20 / CD10 300-800	PS30 / PU20 / CD10 200-900	PS30 / PU20 / CD10 200-800	PS30 / PU20 / CD10 200-1400
	 Tool Material v_c in m/min	PU20 500-1000		PU20 400-800	PU20 300-1000	PU20 300-800	

 Smooth cut Irregular cutting depth Interrupted cut

Cutting data standard values for the CB chip breaker geometries

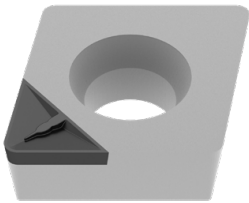
-CB1



3D-Chip Breaker -CB1				
Corner Radius	a_p in mm		f_z in mm/rev.	
	min.	max.	min.	max.
0,1 mm	0,05	0,30	0,02	0,05
0,2 mm	0,06	0,40	0,03	0,08
0,4 mm	0,10	0,80	0,04	0,15
0,8 mm	0,15	1,00	0,08	0,20
1,2 mm	0,30	1,50	0,12	0,25

- ▲ Finish and Superfinish
- ▲ Extremely sharp cutting edge geometry
- ▲ Depth of Cut a_p : 0.05–1.5 mm
- ▲ Smallest cutting pressure for highest accuracies
- ▲ For machining of thin-walled and unstable workpieces

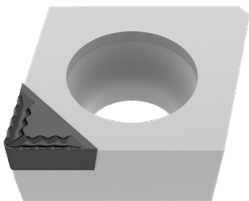
-CB2



3D-Chip Breaker -CB2				
Corner Radius	a_p in mm		f_z in mm/rev.	
	min.	max.	min.	max.
0,2 mm	0,50	0,80	0,08	0,12
0,4 mm	0,60	1,50	0,08	0,20
0,8 mm	0,70	1,50	0,15	0,30
1,2 mm	0,80	2,00	0,20	0,40

- ▲ Semi-finish and Finish machining
- ▲ Negative edge preparation
- ▲ Cutting Depth a_p : 0,5–2,0 mm
- ▲ High surface quality and tight tolerances
- ▲ Machining of solid workpieces under stable conditions

-CB3



3D-Chip Breaker -CB3				
Corner Radius	a_p in mm		f_z in mm/rev.	
	min.	max.	min.	max.
0,4 mm	1,00	3,00	0,10	0,20
0,8 mm	1,00	3,00	0,15	0,35

- ▲ Medium and rough machining
- ▲ Highly aggressive chip breaker
- ▲ Cutting depth a_p : 1,0–3,0 mm
- ▲ Stable component conditions necessary
- ▲ Cooling must be ensured

ISO designation system for inserts

Indexable inserts, CBN,
ceramic – metric

C N G A 12 04 04 T N - 009 C - L 3 - Q

1 2 3 4 5 6 7 8 9 10 11 12 13

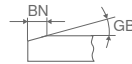
CNGA

1 2 3 4

TCE (NOI)

CNGA

▲ TCE (NOI) = Design and number of equipped cutting edge corners



F
CBN
CNGA

Article no.
71 401 ...



F
CBN
CNGA

Article no.
71 400 ...

ISO	RE mm	BN mm	GB °	TCE (NOI)	LE mm
120404TN	0,4	0,09	15	L (4)	2,8
120404SN	0,4	0,11	20	K (2)	2,8

ISO	RE mm	BN mm	GB °	TCE (NOI)	LE mm
120404TN	0,4	0,09	15	L (4)	2,8
120404SN	0,4	0,11	15	L (4)	2,8
120404SN	0,4	0,11	20	K (2)	2,8

16200

25800

1 Insert shape		
V	35°	Included angle
D	55°	
E	75°	
C	80°	
M	86°	
K	55°	Included angle
B	82°	
A	85°	
L	90°	
P	108°	
H	120°	
O	135°	
R	-	
S	90°	
T	60°	
W	80°	

2

Clearance angle

α

α

A 3°

F 25°

B 5°

G 30°

C 7°

N 0°

D 15°

P 11°

E 20°

O Clearance angles not included within the standard for which particular information is necessary.

O Clearance angles not included within the standard for which particular information is necessary.

3 Tolerances						
	IC±		BS		S	
	mm	inch	mm	inch	mm	inch
A	0,025	.0010	0,005	.0002	0,025	.001
F	0,013	.0005	0,005	.0002	0,025	.001
C	0,025	.0010	0,013	.0005	0,025	.001
H	0,013	.0005	0,013	.0005	0,025	.001
E	0,025	.0010	0,025	.0010	0,025	.001
G	0,025	.0010	0,025	.0010	0,13	.005
J	0,05-0,15*	.002-.006*	0,005	.0002	0,025	.001
K	0,05-0,15*	.002-.006*	0,013	.0005	0,025	.001
L	0,05-0,15*	.002-.006*	0,025	.0010	0,025	.001
M	0,05-0,15*	.002-.006*	0,05-0,20*	.003-.008*	0,13	.005
N	0,05-0,15*	.002-.006*	0,05-0,20*	.003-.008*	0,025	.001
U	0,08-0,25*	.003-.010*	0,13-0,38*	.005-.015*	0,13	.005

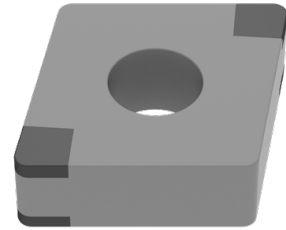
* Depends on insert size

6 Insert thickness				
mm	inch	Code	mm	inch
1,59	1/16	01	1	
2,38	3/32	02		
3,18	1/8	03	2	
3,97	5/32	T3		
4,76	3/16	04	3	
5,56	7/32	05		
6,35	1/4	06	4	
7,94	5/16	07	5	
9,52	3/8	09	6	

7 Corner radius				
mm	inch	Code	mm	inch
≤ 0,05	.0015	00	X0	
0,1	.004	01	0	
0,2	.008	02	.5	
0,4	1/64	04	1	
0,8	1/32	08	2	
1,2	3/64	12	3	
1,6	1/16	16	4	
2,0	5/64	20	5	
2,4	3/32	24	6	
2,8	7/64	28	7	
3,2	1/8	32	8	

8 Cutting edge	
F	Sharp
E	rounded
T	chamfered
S	Chamfered and honed
K	Double-chamfered
P	Double-chamfered and honed
R	Round chamfer

9 Direction of cut	
R	CBN and PCD segment orientation
L	
N	



4

Characteristics

N	
R	
F	
A	
M, P	
G, P	
W	
T	
Q	
U	
B	
H	
C	
J	
X	Special version

inch

Change at inscribed circle $IK < 1/4"$

$IK > 1/4"$	$IK < 1/4"$
N / R / F	E
A / M / G	D
X	X

5

Cutting length

Type	ISO	ANSI	L		d	
			mm	inch	mm	inch
	06	2	6,4	.250	6,35	.250
	09	3	9,7	.382	9,525	.375
	12	4	12,9	.508	12,70	.500
	16	5	16,1	.634	15,875	.625
	19	6	19,3	.760	19,05	.750
	25	8	25,8	1.016	25,4	1.000
	32	12	35,24	1.269	31,75	1.250
	06	2	6,35	.250	6,35	.250
	09	3	9,525	.375	9,525	.375
	12	4	12,7	.500	12,7	.500
	15	5	15,875	.625	15,875	.625
	19	6	19,05	.750	19,05	.750
	25	8	25,4	1.000	25,4	1.000
	31	10	31,75	1.250	31,75	1.250
	07	2	7,7	.303	6,35	.250
	11	3	11,6	.457	9,525	.375
	15	4	15,5	.610	12,70	.500
	11	2	11,1	.437	6,35	.250
	16	3	16,6	.653	9,525	.375
	22	4	22,10	.870	12,70	.500

* inch version

Type	ISO	ANSI	L		d	
			mm	inch	mm	inch
	06	1.2	6,9	.272	3,97	.156
	09	1.8	9,6	.378	5,56	.219
	11	2	11,0	.433	6,35	.250
	16	3	16,5	.650	9,525	.375
	22	4	22,	.079	12,70	.039
	27	5	27,5	1.083	15,875	.625
	33	6	33,0	1.299	19,05	.750
	06	3	6,5	.256	9,525	.375
	08	4	8,7	.331	12,70	.039
	10	5	10,9	.429	15,875	.625
	06	2	6,35	.250	6,35	.250
	08	-	8,0	.315	8,0	.315
	09	3	9,52	.375	9,52	.375
	10	-	10,0	.394	10,0	.394
	12*	-	12,0	.472	12,0	.472
	12	4	12,7	.488	12,70	.488
	15	5	15,875	.625	15,875	.625
	16	-	16,0	.630	16,0	.630
	19	6	19,05	.750	19,05	.750
	25	8	25,0	.984	25,0	.984
	25*	-	25,4	1.000	25,4	1.000
	31	10	31,75	1.250	31,75	1.250
	32	-	32,0	1.260	32,0	1.260

10

Chamfer type



	mm	inch		
015	0,15	.006	A	05°
020	0,20	.008	B	10°
025	0,25	.010	C	15°
050	0,50	.020	D	20°
075	0,75	.030	E	25°
100	1,00	.040	F	30°
			G	35°

1) Two letters are assigned for double-chamfered cutting edges
e.g. BE =
chamfer angle 1 (y_1) = 10°
chamfer angle 2 (y_2) = 25°

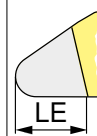
11

Number of cutting edges

Single sided		Complete insert thickness	
A		T	
B		U	
C		V	
D		W	
G		X	
H		Y	
Double sided		Entire clamping flat	
K		S	
L		F	
M		E	
N			
P			
Q			

12

Segment length



Approx. specification in mm

13

Chip breaker designation

-CB1



-CB2



-CB3



neutral

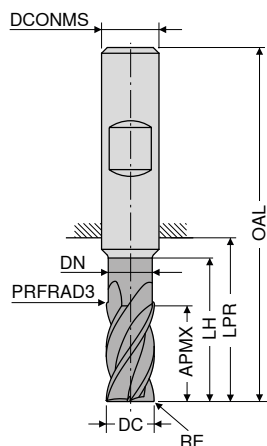
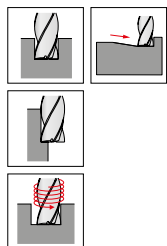


Masterfinish

Inserts with wiper technology are coded with -Q

MonsterMill – End milling cutter with corner radius

▲ PRFRAD3 = 1 mm



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HB

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Article no.

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DC ₁₈	RE	APMX	DN	LH	LPR	OAL	DCONMS _{h5}	ZEFP	
mm	mm	mm	mm	mm	mm	mm	mm		
4	0.1	11	3.8	17	21	57	6	4	52.16 04201
4	0.2	11	3.8	17	21	57	6	4	53.33 04202
4	0.4	11	3.8	17	21	57	6	4	54.20 04204
4	0.5	11	3.8	17	21	57	6	4	54.20 04205
5	0.1	13	4.8	19	21	57	6	4	55.34 05201
5	0.5	13	4.8	19	21	57	6	4	54.86 05205
5	1.0	13	4.8	19	21	57	6	4	54.86 05210
6	0.1	13	5.8	19	21	57	6	4	53.75 06201
6	0.4	13	5.8	19	21	57	6	4	56.00 06204
6	0.5	13	5.8	19	21	57	6	4	53.33 06205
6	0.6	13	5.8	19	21	57	6	4	53.55 06206
6	0.8	13	5.8	19	21	57	6	4	53.95 06208
6	1.0	13	5.8	19	21	57	6	4	53.33 06210
6	1.5	13	5.8	19	21	57	6	4	53.55 06215
8	0.2	19	7.7	25	27	63	8	4	69.18 08202
8	0.5	21	7.7	25	27	63	8	4	68.53 08205
8	0.8	21	7.7	25	27	63	8	4	69.18 08208
8	1.0	21	7.7	25	27	63	8	4	68.26 08210
8	1.2	21	7.7	25	27	63	8	4	68.53 08212
8	1.5	21	7.7	25	27	63	8	4	68.75 08215
8	2.0	21	7.7	25	27	63	8	4	68.26 08220
10	0.2	22	9.7	30	32	72	10	4	89.55 10202
10	0.5	22	9.7	30	32	72	10	4	88.86 10205
10	1.0	22	9.7	30	32	72	10	4	88.66 10210
10	1.2	22	9.7	30	32	72	10	4	89.13 10212
10	1.5	22	9.7	30	32	72	10	4	88.66 10215
10	1.6	22	9.7	30	32	72	10	4	88.66 10216
10	2.0	22	9.7	30	32	72	10	4	88.86 10220
12	0.2	26	11.6	36	38	83	12	4	138.38 12202
12	0.5	26	11.6	36	38	83	12	4	138.13 12205
12	1.0	26	11.6	36	38	83	12	4	137.88 12210
12	1.2	26	11.6	36	38	83	12	4	138.50 12212
12	1.5	26	11.6	36	38	83	12	4	137.88 12215
12	1.6	26	11.6	36	38	83	12	4	137.88 12216
12	2.0	26	11.6	36	38	83	12	4	137.88 12220
12	2.5	26	11.6	36	38	83	12	4	138.38 12225
12	3.0	26	11.6	36	38	83	12	4	138.50 12230
16	0.3	36	15.5	42	44	92	16	4	215.25 16203
16	1.0	36	15.5	42	44	92	16	4	214.88 16210

Steel

Stainless steel

Cast iron

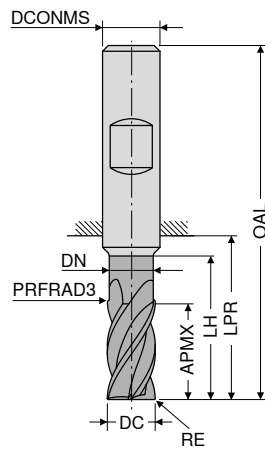
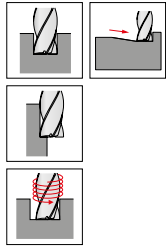
Non ferrous metals

Heat resistant alloys

Hardened materials

MonsterMill – End milling cutter with corner radius

▲ PRFRAD3 = 1 mm



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Factory standard

HB

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Article no.

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DC ₁₈	RE	APMX	DN	LH	LPR	OAL	DCONMS _{h5}	ZEFP	
mm	mm	mm	mm	mm	mm	mm	mm		
16	1.6	36	15.5	42	44	92	16	4	216.88 16216
16	2.0	36	15.5	42	44	92	16	4	214.63 16220
16	2.5	36	15.5	42	44	92	16	4	215.25 16225
16	3.0	36	15.5	42	44	92	16	4	216.00 16230
16	3.2	36	15.5	42	44	92	16	4	216.00 16232
16	4.0	36	15.5	42	44	92	16	4	214.63 16240
20	0.3	41	19.5	52	54	104	20	4	338.88 20203
20	1.0	41	19.5	52	54	104	20	4	338.13 20210
20	2.0	41	19.5	52	54	104	20	4	338.13 20220
20	3.0	41	19.5	52	54	104	20	4	339.75 20230
20	4.0	41	19.5	52	54	104	20	4	341.25 20240
20	5.0	41	19.5	52	54	104	20	4	341.75 20250
20	6.3	41	19.5	52	54	104	20	4	342.38 20263

Steel

Stainless steel

Cast iron

Non ferrous metals

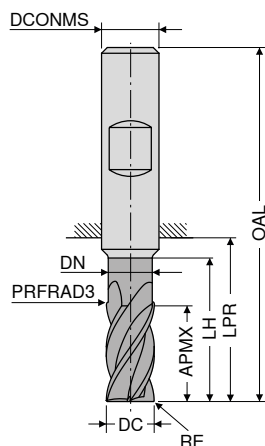
Heat resistant alloys

Hardened materials

→ v_c/f_z Page 110+111

MonsterMill – End milling cutter with corner radius

▲ PRFRAD3 = 1 mm



DPA52S

DRAGONSKIN



Factory standard

HB

NEW V1

Article no.

53 030 ...

£

DC ₁₈	RE	APMX	DN	LH	LPR	OAL	DCONMS _{h5}	ZEFP	
mm	mm	mm	mm	mm	mm	mm	mm		
4	0.1	8.5	3.8	20	26	62	6	4	51.28 04401
4	0.2	8.5	3.8	20	26	62	6	4	52.44 04402
4	0.4	8.5	3.8	20	26	62	6	4	53.33 04404
4	0.5	8.5	3.8	20	26	62	6	4	53.33 04405
5	0.1	10.5	4.8	25	34	70	6	4	55.74 05401
5	0.5	10.5	4.8	25	34	70	6	4	55.34 05405
5	1.0	10.5	4.8	25	34	70	6	4	55.34 05410
6	0.1	13.0	5.8	30	34	70	6	4	54.86 06401
6	0.4	13.0	5.8	30	34	70	6	4	57.10 06404
6	0.5	13.0	5.8	30	34	70	6	4	54.44 06405
6	0.6	13.0	5.8	30	34	70	6	4	54.66 06406
6	0.8	13.0	5.8	30	34	70	6	4	55.09 06408
6	1.0	13.0	5.8	30	34	70	6	4	54.20 06410
6	1.5	13.0	5.8	30	34	70	6	4	54.66 06415
8	0.2	17.0	7.7	40	44	80	8	4	71.85 08402
8	0.5	17.0	7.7	40	44	80	8	4	70.96 08405
8	0.8	17.0	7.7	40	44	80	8	4	71.68 08408
8	1.0	17.0	7.7	40	44	80	8	4	70.80 08410
8	1.2	17.0	7.7	40	44	80	8	4	70.96 08412
8	1.5	17.0	7.7	40	44	80	8	4	71.19 08415
8	2.0	17.0	7.7	40	44	80	8	4	70.80 08420
10	0.2	21.0	9.7	50	54	94	10	4	93.13 10402
10	0.5	21.0	9.7	50	54	94	10	4	95.11 10405
10	1.0	21.0	9.7	50	54	94	10	4	94.69 10410
10	1.2	21.0	9.7	50	54	94	10	4	95.11 10412
10	1.5	21.0	9.7	50	54	94	10	4	94.46 10415
10	1.6	21.0	9.7	50	54	94	10	4	94.46 10416
10	2.0	21.0	9.7	50	54	94	10	4	94.46 10420
12	0.2	25.0	11.6	60	65	110	12	4	152.88 12402
12	0.5	25.0	11.6	60	65	110	12	4	152.25 12405
12	1.0	25.0	11.6	60	65	110	12	4	151.75 12410
12	1.2	25.0	11.6	60	65	110	12	4	152.25 12412
12	1.5	25.0	11.6	60	65	110	12	4	151.50 12415
12	1.6	25.0	11.6	60	65	110	12	4	151.75 12416
12	2.0	25.0	11.6	60	65	110	12	4	151.25 12420
12	2.5	25.0	11.6	60	65	110	12	4	151.75 12425
12	3.0	25.0	11.6	60	65	110	12	4	152.00 12430
16	0.3	33.0	15.5	80	84	132	16	4	252.38 16403
16	1.0	33.0	15.5	80	84	132	16	4	251.13 16410

Steel

Stainless steel

Cast iron

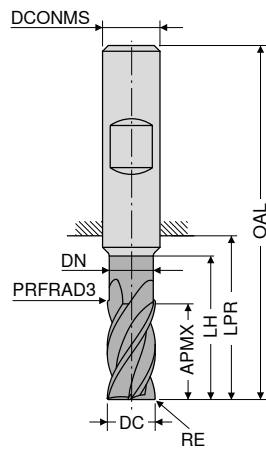
Non ferrous metals

Heat resistant alloys

Hardened materials

MonsterMill – End milling cutter with corner radius

▲ PRFRAD3 = 1 mm



DPA52S

DRAGONSKIN



Factory standard

HB

NEW V1

Article no.
53 030 ...

£

DC ₁₈	RE	APMX	DN	LH	LPR	OAL	DCONMS _{h5}	ZEFP	
mm	mm	mm	mm	mm	mm	mm	mm		
16	1.6	33.0	15.5	80	84	132	16	4	252.88 16416
16	2.0	33.0	15.5	80	84	132	16	4	250.25 16420
16	2.5	33.0	15.5	80	84	132	16	4	250.88 16425
16	3.0	33.0	15.5	80	84	132	16	4	251.25 16430
16	3.2	33.0	15.5	80	84	132	16	4	251.50 16432
16	4.0	33.0	15.5	80	84	132	16	4	249.50 16440
20	0.3	42.0	19.5	100	104	154	20	4	416.75 20403
20	1.0	42.0	19.5	100	104	154	20	4	414.25 20410
20	2.0	42.0	19.5	100	104	154	20	4	413.13 20420
20	3.0	42.0	19.5	100	104	154	20	4	415.00 20430
20	4.0	42.0	19.5	100	104	154	20	4	416.25 20440
20	5.0	42.0	19.5	100	104	154	20	4	417.00 20450
20	6.3	42.0	19.5	100	104	154	20	4	417.63 20463

Steel

Stainless steel

Cast iron

Non ferrous metals

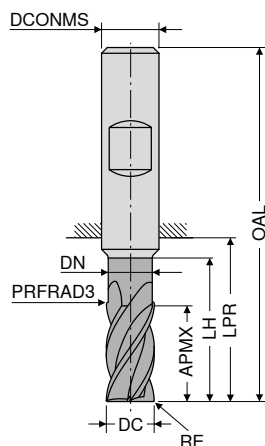
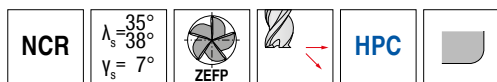
Heat resistant alloys

Hardened materials

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MonsterMill – End milling cutter with corner radius

▲ PRFRAD3 = 1 mm



DPA52S

DRAGONSKIN



Factory standard

HB

NEW V1

Article no.

53 031 ...

£

DC ₁₈	RE	APMX	DN	LH	LPR	OAL	DCONMS _{h5}	ZEFP	
mm	mm	mm	mm	mm	mm	mm	mm		
6	0.1	13	5.8	19	21	57	6	5	57.36 06201
6	0.4	13	5.8	19	21	57	6	5	60.03 06204
6	0.5	13	5.8	19	21	57	6	5	57.10 06205
6	0.6	13	5.8	19	21	57	6	5	57.53 06206
6	0.8	13	5.8	19	21	57	6	5	57.99 06208
6	1.0	13	5.8	19	21	57	6	5	57.10 06210
6	1.5	13	5.8	19	21	57	6	5	57.53 06215
8	0.2	19	7.7	25	27	63	8	5	73.21 08202
8	0.5	21	7.7	25	27	63	8	5	72.79 08205
8	0.8	21	7.7	25	27	63	8	5	73.69 08208
8	1.0	21	7.7	25	27	63	8	5	72.79 08210
8	1.2	21	7.7	25	27	63	8	5	72.99 08212
8	1.5	21	7.7	25	27	63	8	5	73.21 08215
8	2.0	21	7.7	25	27	63	8	5	72.79 08220
10	0.2	22	9.7	30	32	72	10	5	95.85 10202
10	0.5	22	9.7	30	32	72	10	5	95.11 10205
10	1.0	22	9.7	30	32	72	10	5	95.11 10210
10	1.2	22	9.7	30	32	72	10	5	95.56 10212
10	1.5	22	9.7	30	32	72	10	5	95.11 10215
10	1.6	22	9.7	30	32	72	10	5	95.38 10216
10	2.0	22	9.7	30	27	72	10	5	95.56 10220
12	0.2	26	11.6	36	38	83	12	5	146.63 12202
12	0.5	26	11.6	36	38	83	12	5	146.88 12205
12	1.0	26	11.6	36	38	83	12	5	146.88 12210
12	1.2	26	11.6	36	38	83	12	5	147.50 12212
12	1.5	26	11.6	36	38	83	12	5	147.13 12215
12	1.6	26	11.6	36	38	83	12	5	147.25 12216
12	2.0	26	11.6	36	38	83	12	5	147.13 12220
12	2.5	26	11.6	36	38	83	12	5	147.50 12225
12	3.0	26	11.6	36	38	83	12	5	148.00 12230
16	0.3	36	15.5	42	44	92	16	5	226.88 16203
16	1.0	36	15.5	42	44	92	16	5	227.50 16210
16	1.6	36	15.5	42	44	92	16	5	229.88 16216
16	2.0	36	15.5	42	44	92	16	5	227.50 16220
16	2.5	36	15.5	42	44	92	16	5	228.50 16225
16	3.0	36	15.5	42	44	92	16	5	229.13 16230
16	3.2	36	15.5	42	44	92	16	5	229.38 16232
16	4.0	36	15.5	42	44	92	16	5	227.88 16240
20	0.3	41	19.5	52	54	104	20	5	355.63 20203
20	2.0	41	19.5	52	54	104	20	5	356.50 20220
20	3.0	41	19.5	52	54	104	20	5	358.50 20230
20	4.0	41	19.5	52	54	104	20	5	360.25 20240
20	5.0	41	19.5	52	54	104	20	5	361.38 20250
20	6.3	41	19.5	52	54	104	20	5	361.88 20263

Steel

Stainless steel

Cast iron

Non ferrous metals

Heat resistant alloys

Hardened materials

Material examples referring to the cutting data tables

	Index	Material	Strength N/mm ² / HB / HRC	Material number	Material designation	Material number	Material designation	Material number	Material designation
P	1.1	General construction steel	< 800 N/mm ²	1.0402	EN3B				
	1.2	Free cutting steel	< 800 N/mm ²	1.0711	EN1A				
	1.3	Hardened steel, non alloyed	< 800 N/mm ²	1.0401	EN32C				
	1.4	Alloyed hardened steel	< 1000 N/mm ²	1.7325	25 CD4				
	1.5	Tempering steel, unalloyed	< 850 N/mm ²	1.5752	EN36	1.0535	EN9		
	1.6	Tempering steel, unalloyed	< 1000 N/mm ²	1.6582	EN24				
	1.7	Tempering steel, alloyed	< 800 N/mm ²	1.7225	EN19				
	1.8	Tempering steel, alloyed	< 1300 N/mm ²	1.8515	EN40B				
	1.9	Steel castings	< 850 N/mm ²	0.9650	G-X 260 Cr 27	1.6750	GS-20 NiCrMo 3.7	1.6582	GS-34 CrNiMo 6
	1.10	Nitriding steel	< 1000 N/mm ²	1.8509	EN41B				
	1.11	Nitriding steel	< 1200 N/mm ²	1.1186	EN8	1.1160	EN14A		
	1.12	Roller bearing steel	< 1200 N/mm ²	1.3505	534A99				
	1.13	Spring steel	< 1200 N/mm ²		EN45		EN47		EN43
	1.14	High-speed steel	< 1300 N/mm ²	1.3343	M2	1.3249	M34		
	1.15	Cold working tool steel	< 1300 N/mm ²	1.2379	D2	1.2311	P20		
	1.16	Hot working tool steel	< 1300 N/mm ²	1.2344	H13				
M	2.1	Cast steel and sulphured stainless steel	< 850 N/mm ²	1.4581	318				
	2.2	Stainless steel, ferritic	< 750 N/mm ²	1.4000	403				
	2.3	Stainless steel, martensitic	< 900 N/mm ²	1.4057	EN57				
	2.4	Stainless steel, ferritic / martensitic	< 1100 N/mm ²	1.4028	EN56B				
	2.5	Stainless steel, austenitic / ferritic	< 850 N/mm ²	1.4542	17-4PH				
	2.6	Stainless steel, austenitic	< 750 N/mm ²	1.4305	303	1.4401	316	1.4301	304
	2.7	Heat resistant steel	< 1100 N/mm ²	1.4876	Incoloy 800				
K	3.1	Grey cast iron with lamellar graphite	100–350 N/mm ²	0.6015	Grade 150	0.6020	Grade 220	0.6025	Grade 260
	3.2	Grey cast iron with lamellar graphite	300–500 N/mm ²	0.6030	Grade 300	0.6035	Grade 350	0.6040	Grade 400
	3.3	Gray cast iron with spheroidal graphite	300–500 N/mm ²	0.7040	SG 400-12	0.7043	SG 370-17	0.7050	SG 500-7
	3.4	Gray cast iron with spheroidal graphite	500–900 N/mm ²	0.7060	SG 600-3	0.7070	SG 700-2	0.7080	SG 800-2
	3.5	White malleable cast iron	270–450 N/mm ²	0.8035	GTW-35	0.8045	GTW-45		
	3.6	White malleable cast iron	500–650 N/mm ²	0.8055	GTW-55	0.8065	GTW-65		
	3.7	Black malleable cast iron	300–450 N/mm ²	0.8135	GTS-35	0.8145	GTS-45		
	3.8	Black malleable cast iron	500–800 N/mm ²	0.8155	GTS-55	0.8170	GTS-70		
N	4.1	Aluminium (non alloyed, low alloyed)	< 350 N/mm ²	3.0255	1050 A	3.0275	1070 A	3.0285	1080 A (A8)
	4.2	Aluminium alloys < 0.5 % Si	< 500 N/mm ²	3.1325	2017 A (AU4G)	3.4335	7005 (AZ5G)	3.4365	7075 (AZ5GU)
	4.3	Aluminium alloy 0.5–10 % Si	< 400 N/mm ²	3.2315	A-G S1	3.2373	A-S9 G	3.2151	A-S 6 U4
	4.4	Aluminium alloys 10–15 % Si	< 400 N/mm ²	3.2581	A-S12	3.2583	A-S12 U		
	4.5	Aluminum alloys > 15 % Si	< 400 N/mm ²		A-S18		A-S17 U4		
	4.6	Copper (non alloyed, low alloyed)	< 350 N/mm ²	2.0040	Cu-c1	2.0060	Cu-a1	2.0090	Cu-b1
	4.7	Copper wrought alloys	< 700 N/mm ²	2.1247	Cub2 (Beryllium Copper)	2.0855	CuN2S (Nickel Copper)	2.1310	CU-Fe2P
	4.8	Special copper alloys	< 200 HB	2.0916	Cu-A5	2.1525	Cu-S3 M		Ampco 8 (Cu-A6Fe2)
	4.9	Special copper alloys	< 300 HB	2.0978	Cu-A11 Fe5 Ni5		Ampco 18 (Cu- A10 Fe3)		
	4.10	Special copper alloys	> 300 HB	2.1247	Cu Be2		Ampco M4		
	4.11	Short-chipping brass, bronze, red bronze	< 600 N/mm ²	2.0331	Cu Zn36 Pb1,5	2.0380	Cu Zn39 Pb2 (Ms 56)	2.0410	Cu Zn44 Pb2
	4.12	Long-chipping brass	< 600 N/mm ²	2.0335	Cu Zn 36 (Ms63)	2.1293	Cu Cr1 Zr		
	4.13	Thermoplastics		PE	PVC	PS	Polystyrene		Plexiglas
	4.14	Duroplastics		PF	Bakelite		Pertinax		
	4.15	Fibre-reinforced plastics			Carbon Fibre		Fibreglass		Aramid Fibre (Kevlar)
	4.16	Magnesium and magnesium alloys	< 850 N/mm ²	3.5812	Mg A7 Z1	3.5662	Mg A9	3.5105	Mg Tr3 Z2 Zn 1
	4.17	Graphite			R8500X		R8650		Technograph 15
	4.18	Tungsten and tungsten alloys			W-Ni Fe (Densimet)		W- Ni Cu (Inermet)		Denal
	4.19	Molybdenum and molybdenum alloys			TZM		MHQ		Mo W
S	5.1	Pure nickel		2.4066	Ni99 (Nickel 200)	2.4068	Lc Ni99 (Nickel 201)		
	5.2	Nickel alloys		1.3912	Fe-Ni36 (Invar)	1.3917	Fe- Ni42 (N42)	1.3922	Fe-Ni48 (N48)
	5.3	Nickel alloys	< 850 N/mm ²	2.4375	Ni Cu30 Al (Monel K500)	2.4360	Ni Cu30Fe (Monel 400)	2.4668	
	5.4	Nickel molybdenum alloys		2.4600	Ni Mo30Cr2 (Hastelloy B4)	2.4617	Ni Mo28 (Hastelloy B2)	2.4819	Ni Mo16Cr16 Hastell. C276
	5.5	Nickel-chromium alloys	< 1300 N/mm ²	2.4951	Ni Cr20TiAl (Nimonic 80A)	2.4858	Ni Cr21Mo (Inconel 825)	2.4856	Ni Cr22Mo9Nb Inconel 625
	5.6	Cobalt Chrome Alloys	< 1300 N/mm ²	2.4964	Co Cr20 W15 Ni10		Co Cr20 Ni16 Mo7		Co Cr28 Mo 6
	5.7	Heat resistant alloys	< 1300 N/mm ²	1.4718	Z45 C S 9-3	1.4747	Z80 CSN 20-02	1.4845	Z12 CN 25-20
	5.8	Nickel-cobalt-chromium alloys	< 1400 N/mm ²	2.4851	Ni Cr23Fe (Inconel 601)	2.4668	Ni Cr19NbMo (Inconel 718)	2.4602	Ni Cr21Mo14 Hastelloy C22
	5.9	Pure titanium	< 900 N/mm ²	3.7025	T35 (Titanium Grade 1)	3.7034	T40 (Titanium Grade 2)	3.7064	T60 (Titanium Grade 4)
	5.10	Titanium alloys	< 700 N/mm ²		T-A6-Nb7 (367)		T-A5-Sn2-Mo4-Cr4 (Ti17)		T-A3-V2,5 (Gr18)
	5.11	Titanium alloys	< 1200 N/mm ²	3.7165	T-A6-V4 (Ta6V)		T-A4-3V-Mo2-Fe2 (SP700)		T-A5-Sn1-Zr1-V1-Mo (Gr32)
H	6.1		< 45 HRC						
	6.2		46–55 HRC						
	6.3	Tempered steel	56–60 HRC						
	6.4		61–65 HRC						
	6.5		65–70 HRC						

Cutting data standard values – MonsterMill – end mill – NCR, long – 53 030 ...

Index				$a_{p\max} \times DC$	Ø DC = 4 mm			Ø DC = 5 mm			Ø DC = 6 mm			Ø DC = 8 mm		
	a_e	a_e	a_e		a_e	a_e	a_e	a_e	a_e	a_e	a_e	a_e	a_e	a_e	a_e	a_e
	0,1–0,2 x DC	0,3–0,4 x DC	0,6–1,0 x DC		0,1–0,2 x DC	0,3–0,4 x DC	0,6–1,0 x DC	0,1–0,2 x DC	0,3–0,4 x DC	0,6–1,0 x DC	0,1–0,2 x DC	0,3–0,4 x DC	0,6–1,0 x DC	0,1–0,2 x DC	0,3–0,4 x DC	0,6–1,0 x DC
	V_c m/min	V_c m/min	V_c m/min		f_z mm	f_z mm	f_z mm	f_z mm	f_z mm	f_z mm	f_z mm	f_z mm	f_z mm	f_z mm	f_z mm	f_z mm
2.1	120	100	70	1,0	0,04	0,03	0,02	0,05	0,04	0,03	0,05	0,04	0,03	0,07	0,06	0,04
2.2	120	100	70	1,0	0,03	0,02	0,02	0,04	0,03	0,02	0,05	0,04	0,02	0,06	0,05	0,03
2.3	100	80	60	1,0	0,03	0,02	0,02	0,04	0,03	0,02	0,05	0,04	0,02	0,06	0,05	0,03
2.4	100	80	60	1,0	0,03	0,02	0,02	0,04	0,03	0,02	0,05	0,04	0,02	0,06	0,05	0,03
2.5	120	100	70	1,0	0,03	0,02	0,02	0,04	0,03	0,02	0,05	0,04	0,02	0,06	0,05	0,03
2.6	120	100	70	1,0	0,03	0,02	0,02	0,04	0,03	0,02	0,05	0,04	0,02	0,06	0,05	0,03
2.7	60	50	40	1,0	0,03	0,02	0,01	0,04	0,03	0,02	0,04	0,03	0,02	0,06	0,04	0,02
5.1	60	50	40	1,0	0,04	0,03	0,02	0,05	0,04	0,03	0,05	0,04	0,03	0,07	0,06	0,04
5.2	35	30	25	1,0	0,03	0,02	0,02	0,04	0,03	0,02	0,05	0,04	0,02	0,06	0,05	0,03
5.3	35	30	25	1,0	0,03	0,02	0,02	0,04	0,03	0,02	0,05	0,04	0,02	0,06	0,05	0,03
5.4	35	30	25	1,0	0,03	0,02	0,02	0,04	0,03	0,02	0,05	0,04	0,02	0,06	0,05	0,03
5.5	35	30	25	1,0	0,03	0,02	0,02	0,04	0,03	0,02	0,05	0,04	0,02	0,06	0,05	0,03
5.6	35	30	25	1,0	0,03	0,02	0,02	0,04	0,03	0,02	0,05	0,04	0,02	0,06	0,05	0,03
5.7	50	40	30	1,0	0,03	0,02	0,02	0,04	0,03	0,02	0,05	0,04	0,02	0,06	0,05	0,03
5.8	35	30	25	1,0	0,03	0,02	0,02	0,04	0,03	0,02	0,05	0,04	0,02	0,06	0,05	0,03
5.9	120	100	80	1,0	0,04	0,03	0,02	0,05	0,04	0,03	0,05	0,04	0,03	0,07	0,06	0,04
5.10	100	80	60	1,0	0,04	0,03	0,02	0,05	0,04	0,03	0,05	0,04	0,03	0,07	0,06	0,04
5.11	80	70	60	1,0	0,04	0,03	0,02	0,05	0,04	0,03	0,05	0,04	0,03	0,07	0,06	0,04



Plunging angle for ramping and helical milling: 3°

Cutting data standard values – MonsterMill – end mill – NCR, extra-long – 53 030 ...

Index				$a_{p\max} \times DC$	Ø DC = 4 mm		Ø DC = 5 mm		Ø DC = 6 mm		Ø DC = 8 mm		Ø DC = 10 mm		Ø DC = 12 mm	
	a_e	a_e			a_e	a_e	a_e	a_e	a_e	a_e	a_e	a_e	a_e	a_e	a_e	a_e
	0,1–0,2 x DC	0,3–0,4 x DC			0,1–0,2 x DC	0,3–0,4 x DC	0,1–0,2 x DC	0,3–0,4 x DC	0,1–0,2 x DC	0,3–0,4 x DC	0,1–0,2 x DC	0,3–0,4 x DC	0,1–0,2 x DC	0,3–0,4 x DC	0,1–0,2 x DC	0,3–0,4 x DC
	V_c m/min	V_c m/min			f_z mm	f_z mm	f_z mm	f_z mm	f_z mm	f_z mm	f_z mm	f_z mm	f_z mm	f_z mm	f_z mm	f_z mm
2.1	100	80		1,0	0,04	0,03	0,05	0,04	0,05	0,04	0,07	0,06	0,09	0,07	0,11	0,08
2.2	100	80		1,0	0,03	0,02	0,04	0,03	0,05	0,04	0,06	0,05	0,08	0,06	0,10	0,07
2.3	90	70		1,0	0,03	0,02	0,04	0,03	0,05	0,04	0,06	0,05	0,08	0,06	0,10	0,07
2.4	90	70		1,0	0,03	0,02	0,04	0,03	0,05	0,04	0,06	0,05	0,08	0,06	0,10	0,07
2.5	100	80		1,0	0,03	0,02	0,04	0,03	0,05	0,04	0,06	0,05	0,08	0,06	0,10	0,07
2.6	100	80		1,0	0,03	0,02	0,04	0,03	0,05	0,04	0,06	0,05	0,08	0,06	0,10	0,07
2.7	60	50		1,0	0,03	0,02	0,04	0,03	0,04	0,03	0,06	0,04	0,07	0,05	0,08	0,06
5.1	60	50		1,0	0,04	0,03	0,05	0,04	0,05	0,04	0,07	0,06	0,09	0,07	0,11	0,08
5.2	35	30		1,0	0,03	0,02	0,04	0,03	0,05	0,04	0,06	0,05	0,08	0,06	0,10	0,07
5.3	35	30		1,0	0,03	0,02	0,04	0,03	0,05	0,04	0,06	0,05	0,08	0,06	0,10	0,07
5.4	35	30		1,0	0,03	0,02	0,04	0,03	0,05	0,04	0,06	0,05	0,08	0,06	0,10	0,07
5.5	35	30		1,0	0,03	0,02	0,04	0,03	0,05	0,04	0,06	0,05	0,08	0,06	0,10	0,07
5.6	35	30		1,0	0,03	0,02	0,04	0,03	0,05	0,04	0,06	0,05	0,08	0,06	0,10	0,07
5.7	50	40		1,0	0,03	0,02	0,04	0,03	0,05	0,04	0,06	0,05	0,08	0,06	0,10	0,07
5.8	35	30		1,0	0,03	0,02	0,04	0,03	0,05	0,04	0,06	0,05	0,08	0,06	0,10	0,07
5.9	100	80		1,0	0,04	0,03	0,05	0,04	0,05	0,04	0,07	0,06	0,09	0,07	0,11	0,08
5.10	80	70		1,0	0,04	0,03	0,05	0,04	0,05	0,04	0,07	0,06	0,09	0,07	0,11	0,08
5.11	70	60		1,0	0,04	0,03	0,05	0,04	0,05	0,04	0,07	0,06	0,09	0,07	0,11	0,08



Plunging angle for ramping and helical milling: 3°

	Ø DC = 10 mm			Ø DC = 12 mm			Ø DC = 16 mm			Ø DC = 20 mm			● 1st choice		○ suitable
	a _e 0,1-0,2 x DC	a _e 0,3-0,4 x DC	a _e 0,6-1,0 x DC	a _e 0,1-0,2 x DC	a _e 0,3-0,4 x DC	a _e 0,6-1,0 x DC	a _e 0,1-0,2 x DC	a _e 0,3-0,4 x DC	a _e 0,6-1,0 x DC	a _e 0,1-0,2 x DC	a _e 0,3-0,4 x DC	a _e 0,6-1,0 x DC	Emulsion	Compressed air	MMS
Index	f _z mm	f _z mm	f _z mm	f _z mm	f _z mm	f _z mm	f _z mm	f _z mm	f _z mm	f _z mm	f _z mm	f _z mm			
2.1	0,09	0,07	0,05	0,11	0,08	0,06	0,13	0,10	0,07	0,16	0,12	0,08	●		○
2.2	0,08	0,06	0,04	0,10	0,07	0,05	0,12	0,09	0,05	0,14	0,10	0,06	●		○
2.3	0,08	0,06	0,04	0,10	0,07	0,05	0,12	0,09	0,05	0,14	0,10	0,06	●		○
2.4	0,08	0,06	0,04	0,10	0,07	0,05	0,12	0,09	0,05	0,14	0,10	0,06	●		○
2.5	0,08	0,06	0,04	0,10	0,07	0,05	0,12	0,09	0,05	0,14	0,10	0,06	●		○
2.6	0,08	0,06	0,04	0,10	0,07	0,05	0,12	0,09	0,05	0,14	0,10	0,06	●		○
2.7	0,07	0,05	0,03	0,08	0,06	0,04	0,10	0,07	0,04	0,12	0,08	0,04	●		○
5.1	0,09	0,07	0,05	0,11	0,08	0,06	0,13	0,10	0,07	0,16	0,12	0,08	●		
5.2	0,08	0,06	0,04	0,10	0,07	0,05	0,12	0,09	0,05	0,14	0,10	0,06	●		
5.3	0,08	0,06	0,04	0,10	0,07	0,05	0,12	0,09	0,05	0,14	0,10	0,06	●		
5.4	0,08	0,06	0,04	0,10	0,07	0,05	0,12	0,09	0,05	0,14	0,10	0,06	●		
5.5	0,08	0,06	0,04	0,10	0,07	0,05	0,12	0,09	0,05	0,14	0,10	0,06	●		
5.6	0,08	0,06	0,04	0,10	0,07	0,05	0,12	0,09	0,05	0,14	0,10	0,06	●		
5.7	0,08	0,06	0,04	0,10	0,07	0,05	0,12	0,09	0,05	0,14	0,10	0,06	●		
5.8	0,08	0,06	0,04	0,10	0,07	0,05	0,12	0,09	0,05	0,14	0,10	0,06	●		
5.9	0,09	0,07	0,05	0,11	0,08	0,06	0,13	0,10	0,07	0,16	0,12	0,08	●		
5.10	0,09	0,07	0,05	0,11	0,08	0,06	0,13	0,10	0,07	0,16	0,12	0,08	●		
5.11	0,09	0,07	0,05	0,11	0,08	0,06	0,13	0,10	0,07	0,16	0,12	0,08	●		

Index	Ø DC = 16 mm		Ø DC = 20 mm		● 1st choice	○ suitable	
	a ₀ 0,1-0,2 x DC	a ₀ 0,3-0,4 x DC	a ₀ 0,1-0,2 x DC	a ₀ 0,3-0,4 x DC	Emulsion	Compressed air	MMS
	f _z mm	f _z mm	f _z mm	f _z mm			
2.1	0,13	0,10	0,16	0,12	●		○
2.2	0,12	0,09	0,14	0,10	●		○
2.3	0,12	0,09	0,14	0,10	●		○
2.4	0,12	0,09	0,14	0,10	●		○
2.5	0,12	0,09	0,14	0,10	●		○
2.6	0,12	0,09	0,14	0,10	●		○
2.7	0,10	0,07	0,12	0,08	●		○
5.1	0,13	0,10	0,16	0,12	●		
5.2	0,12	0,09	0,14	0,10	●		
5.3	0,12	0,09	0,14	0,10	●		
5.4	0,12	0,09	0,14	0,10	●		
5.5	0,12	0,09	0,14	0,10	●		
5.6	0,12	0,09	0,14	0,10	●		
5.7	0,12	0,09	0,14	0,10	●		
5.8	0,12	0,09	0,14	0,10	●		
5.9	0,13	0,10	0,16	0,12	●		
5.10	0,13	0,10	0,16	0,12	●		
5.11	0,13	0,10	0,16	0,12	●		

Cutting data standard values – MonsterMill – end mill – NCR, long – 53 031 ...

			Ø DC = 6 mm		Ø DC = 8 mm		Ø DC = 10 mm		Ø DC = 12 mm		Ø DC = 16 mm		Ø DC = 20 mm		● 1st choice		○ suitable	
			a _e 0,1-0,2 x DC	a _e 0,3-0,4 x DC	a _e 0,1-0,2 x DC	a _e 0,3-0,4 x DC	a _e 0,1-0,2 x DC	a _e 0,3-0,4 x DC	a _e 0,1-0,2 x DC	a _e 0,3-0,4 x DC	a _e 0,1-0,2 x DC	a _e 0,3-0,4 x DC	a _e 0,1-0,2 x DC	a _e 0,3-0,4 x DC	Emulsion	Compressed air	MMS	
Index	V _c m/min	a _{pmax} x DC	f _z mm	f _z mm	f _z mm	f _z mm	f _z mm	f _z mm	f _z mm	f _z mm	f _z mm	f _z mm	f _z mm					
2.1	100	1,5	0,05	0,04	0,06	0,05	0,08	0,06	0,10	0,07	0,12	0,09	0,14	0,10	●		○	
2.2	100	1,5	0,04	0,03	0,06	0,04	0,07	0,05	0,08	0,06	0,10	0,07	0,12	0,08	●		○	
2.3	80	1,5	0,04	0,03	0,06	0,04	0,07	0,05	0,08	0,06	0,10	0,07	0,12	0,08	●		○	
2.4	80	1,5	0,04	0,03	0,06	0,04	0,07	0,05	0,08	0,06	0,10	0,07	0,12	0,08	●		○	
2.5	100	1,5	0,04	0,03	0,06	0,04	0,07	0,05	0,08	0,06	0,10	0,07	0,12	0,08	●		○	
2.6	100	1,5	0,04	0,03	0,06	0,04	0,07	0,05	0,08	0,06	0,10	0,07	0,12	0,08	●		○	
2.7	50	1,5	0,04	0,02	0,05	0,03	0,06	0,04	0,07	0,05	0,09	0,05	0,10	0,06	●		○	
5.1	50	1,5	0,05	0,04	0,06	0,05	0,08	0,06	0,10	0,07	0,12	0,09	0,14	0,10	●			
5.2	35	1,5	0,04	0,03	0,06	0,04	0,07	0,05	0,08	0,06	0,10	0,07	0,12	0,08	●			
5.3	35	1,5	0,04	0,03	0,06	0,04	0,07	0,05	0,08	0,06	0,10	0,07	0,12	0,08	●			
5.4	35	1,5	0,04	0,03	0,06	0,04	0,07	0,05	0,08	0,06	0,10	0,07	0,12	0,08	●			
5.5	35	1,5	0,04	0,03	0,06	0,04	0,07	0,05	0,08	0,06	0,10	0,07	0,12	0,08	●			
5.6	35	1,5	0,04	0,03	0,06	0,04	0,07	0,05	0,08	0,06	0,10	0,07	0,12	0,08	●			
5.7	40	1,5	0,04	0,03	0,06	0,04	0,07	0,05	0,08	0,06	0,10	0,07	0,12	0,08	●			
5.8	35	1,5	0,04	0,03	0,06	0,04	0,07	0,05	0,08	0,06	0,10	0,07	0,12	0,08	●			
5.9	100	1,5	0,05	0,04	0,06	0,05	0,08	0,06	0,10	0,07	0,12	0,09	0,14	0,10	●			
5.10	80	1,5	0,05	0,04	0,06	0,05	0,08	0,06	0,10	0,07	0,12	0,09	0,14	0,10	●			
5.11	70	1,5	0,05	0,04	0,06	0,05	0,08	0,06	0,10	0,07	0,12	0,09	0,14	0,10	●			



Plunging angle for ramping and helical milling = 1°

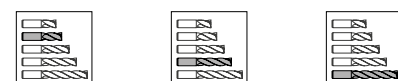
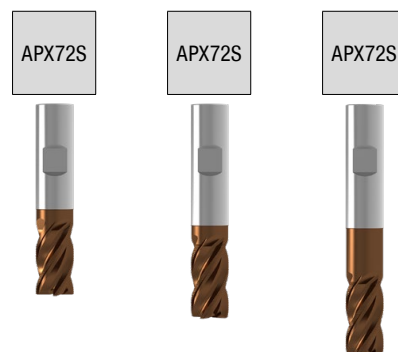
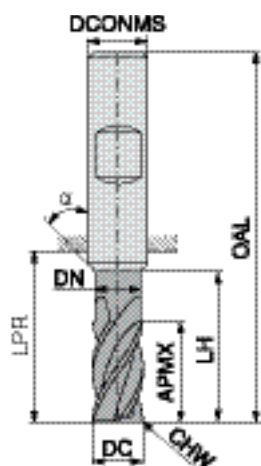
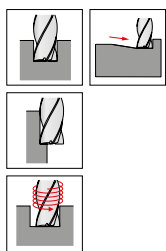


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S-Cut – Rough milling cutter



≈DIN 6527 HB

DC _{h11}	APMX	DN	LH	LPR	OAL	DCONMS _{h6}	CHW	α°	ZEFP	NEW V1/1# Article no. 52 205 ... £	NEW V1/1# Article no. 52 205 ... £	NEW V1/1# Article no. 52 205 ... £
3	6	2.8	12.0	18	54	6	0.18	15	4	62.30 03100	73.78 03200	84.34 03400
3	8	2.8	14.0	21	57	6	0.18	15	4			
3	8	2.8	19.0	26	62	6	0.18	15	4			
4	8	3.8	13.5	18	54	6	0.20	15	4	62.30 04100	73.78 04200	84.34 04400
4	11	3.8	18.0	21	57	6	0.20	15	4			
4	11	3.8	23.0	26	62	6	0.20	15	4			
5	9	4.8	15.5	18	54	6	0.25	15	4	62.30 05100	73.78 05200	84.34 05400
5	13	4.8	19.0	21	57	6	0.25	15	4			
5	13	4.8	24.0	26	62	6	0.25	15	4			
6	10	5.5	18.0	18	54	6	0.25	4		62.30 06100	73.78 06200	84.34 06400
6	13	5.5	20.0	21	57	6	0.25	4				
6	13	5.5	25.0	26	62	6	0.25	4				
8	12	7.5	22.0	22	58	8	0.30	4		79.26 08100	93.85 08200	107.35 08400
8	19	7.5	25.0	27	63	8	0.30	4				
8	19	7.5	30.0	32	68	8	0.30	4				
10	14	9.5	26.0	26	66	10	0.30	4		96.81 10100	114.67 10200	131.10 10400
10	22	9.5	30.0	32	72	10	0.30	4				
10	22	9.5	35.0	40	80	10	0.30	4				
12	16	11.5	28.0	28	73	12	0.45	4		109.82 12100	130.06 12200	148.68 12400
12	26	11.5	35.0	38	83	12	0.45	4				
12	26	11.5	45.0	48	93	12	0.45	4				
14	18	13.5	30.0	30	75	14	0.50	4		148.11 14100	175.37 14200	200.55 14400
14	26	13.5	35.0	38	83	14	0.50	4				
14	26	13.5	50.0	54	99	14	0.50	4				
16	22	15.5	34.0	34	82	16	0.60	4		200.17 16100	237.03 16200	271.04 16400
16	32	15.5	40.0	44	92	16	0.60	4				
16	32	15.5	55.0	60	108	16	0.60	4				
20	26	19.5	42.0	42	92	20	0.60	4		288.99 20100	342.29 20200	391.31 20400
20	38	19.5	50.0	54	104	20	0.60	4				
20	38	19.5	70.0	76	126	20	0.60	4				

Steel	●	●	●
Stainless steel	●	●	●
Cast iron	●	●	●
Non ferrous metals	○	○	○
Heat resistant alloys	○	○	○
Hardened materials	○	○	○

→ v_c/f_z Page 115–119

Material examples referring to the cutting data tables

	Index	Material	Strength N/mm ² / HB / HRC	Material number	Material designation	Material number	Material designation	Material number	Material designation
P	1.1	General construction steel	< 800 N/mm ²	1.0402	EN3B				
	1.2	Free cutting steel	< 800 N/mm ²	1.0711	EN1A				
	1.3	Hardened steel, non alloyed	< 800 N/mm ²	1.0401	EN32C				
	1.4	Alloyed hardened steel	< 1000 N/mm ²	1.7325	25 CD4				
	1.5	Tempering steel, unalloyed	< 850 N/mm ²	1.5752	EN36	1.0535	EN9		
	1.6	Tempering steel, unalloyed	< 1000 N/mm ²	1.6582	EN24				
	1.7	Tempering steel, alloyed	< 800 N/mm ²	1.7225	EN19				
	1.8	Tempering steel, alloyed	< 1300 N/mm ²	1.8515	EN40B				
	1.9	Steel castings	< 850 N/mm ²	0.9650	G-X 260 Cr 27	1.6750	GS-20 NiCrMo 3.7	1.6582	GS-34 CrNiMo 6
	1.10	Nitriding steel	< 1000 N/mm ²	1.8509	EN41B				
	1.11	Nitriding steel	< 1200 N/mm ²	1.1186	EN8	1.1160	EN14A		
	1.12	Roller bearing steel	< 1200 N/mm ²	1.3505	534A99				
	1.13	Spring steel	< 1200 N/mm ²		EN45		EN47		EN43
	1.14	High-speed steel	< 1300 N/mm ²	1.3343	M2	1.3249	M34		
	1.15	Cold working tool steel	< 1300 N/mm ²	1.2379	D2	1.2311	P20		
	1.16	Hot working tool steel	< 1300 N/mm ²	1.2344	H13				
M	2.1	Cast steel and sulphured stainless steel	< 850 N/mm ²	1.4581	318				
	2.2	Stainless steel, ferritic	< 750 N/mm ²	1.4000	403				
	2.3	Stainless steel, martensitic	< 900 N/mm ²	1.4057	EN57				
	2.4	Stainless steel, ferritic / martensitic	< 1100 N/mm ²	1.4028	EN56B				
	2.5	Stainless steel, austenitic / ferritic	< 850 N/mm ²	1.4542	17-4PH				
	2.6	Stainless steel, austenitic	< 750 N/mm ²	1.4305	303	1.4401	316	1.4301	304
	2.7	Heat resistant steel	< 1100 N/mm ²	1.4876	Incoloy 800				
K	3.1	Grey cast iron with lamellar graphite	100–350 N/mm ²	0.6015	Grade 150	0.6020	Grade 220	0.6025	Grade 260
	3.2	Grey cast iron with lamellar graphite	300–500 N/mm ²	0.6030	Grade 300	0.6035	Grade 350	0.6040	Grade 400
	3.3	Gray cast iron with spheroidal graphite	300–500 N/mm ²	0.7040	SG 400-12	0.7043	SG 370-17	0.7050	SG 500-7
	3.4	Gray cast iron with spheroidal graphite	500–900 N/mm ²	0.7060	SG 600-3	0.7070	SG 700-2	0.7080	SG 800-2
	3.5	White malleable cast iron	270–450 N/mm ²	0.8035	GTW-35	0.8045	GTW-45		
	3.6	White malleable cast iron	500–650 N/mm ²	0.8055	GTW-55	0.8065	GTW-65		
	3.7	Black malleable cast iron	300–450 N/mm ²	0.8135	GTS-35	0.8145	GTS-45		
	3.8	Black malleable cast iron	500–800 N/mm ²	0.8155	GTS-55	0.8170	GTS-70		
N	4.1	Aluminium (non alloyed, low alloyed)	< 350 N/mm ²	3.0255	1050 A	3.0275	1070 A	3.0285	1080 A (A8)
	4.2	Aluminium alloys < 0.5 % Si	< 500 N/mm ²	3.1325	2017 A (AU4G)	3.4335	7005 (AZ5G)	3.4365	7075 (AZ5GU)
	4.3	Aluminium alloy 0.5–10 % Si	< 400 N/mm ²	3.2315	A-G S1	3.2373	A-S9 G	3.2151	A-S 6 U4
	4.4	Aluminium alloys 10–15 % Si	< 400 N/mm ²	3.2581	A-S12	3.2583	A-S12 U		
	4.5	Aluminum alloys > 15 % Si	< 400 N/mm ²		A-S18	A-S17 U4			
	4.6	Copper (non alloyed, low alloyed)	< 350 N/mm ²	2.0040	Cu-c1	2.0060	Cu-a1	2.0090	Cu-b1
	4.7	Copper wrought alloys	< 700 N/mm ²	2.1247	Cub2 (Beryllium Copper)	2.0855	CuN2S (Nickel Copper)	2.1310	CU-Fe2P
	4.8	Special copper alloys	< 200 HB	2.0916	Cu-A5	2.1525	Cu-S3 M		Ampco 8 (Cu-A6Fe2)
	4.9	Special copper alloys	< 300 HB	2.0978	Cu-A11 Fe5 Ni5		Ampco 18 (Cu- A10 Fe3)		
	4.10	Special copper alloys	> 300 HB	2.1247	Cu Be2		Ampco M4		
	4.11	Short-chipping brass, bronze, red bronze	< 600 N/mm ²	2.0331	Cu Zn36 Pb1,5	2.0380	Cu Zn39 Pb2 (Ms 56)	2.0410	Cu Zn44 Pb2
	4.12	Long-chipping brass	< 600 N/mm ²	2.0335	Cu Zn 36 (Ms63)	2.1293	Cu Cr1 Zr		
	4.13	Thermoplastics		PE	PVC	PS	Polystyrene		Plexiglas
	4.14	Duroplastics		PF	Bakelite		Pertinax		
	4.15	Fibre-reinforced plastics			Carbon Fibre		Fibreglass		Aramid Fibre (Kevlar)
	4.16	Magnesium and magnesium alloys	< 850 N/mm ²	3.5812	Mg A7 Z1	3.5662	Mg A9	3.5105	Mg Tr3 Z2 Zn 1
	4.17	Graphite			R8500X		R8650		Technograph 15
	4.18	Tungsten and tungsten alloys			W-Ni Fe (Densimet)		W- Ni Cu (Inermet)		Denal
	4.19	Molybdenum and molybdenum alloys			TZM		MHQ		Mo W
S	5.1	Pure nickel		2.4066	Ni99 (Nickel 200)	2.4068	Lc Ni99 (Nickel 201)		
	5.2	Nickel alloys		1.3912	Fe-Ni36 (Invar)	1.3917	Fe- Ni42 (N42)	1.3922	Fe-Ni48 (N48)
	5.3	Nickel alloys	< 850 N/mm ²	2.4375	Ni Cu30 Al (Monel K500)	2.4360	Ni Cu30Fe (Monel 400)	2.4668	
	5.4	Nickel molybdenum alloys		2.4600	Ni Mo30Cr2 (Hastelloy B4)	2.4617	Ni Mo28 (Hastelloy B2)	2.4819	Ni Mo16Cr16 Hastell. C276
	5.5	Nickel-chromium alloys	< 1300 N/mm ²	2.4951	Ni Cr20TiAl (Nimonic 80A)	2.4858	Ni Cr21Mo (Inconel 825)	2.4856	Ni Cr22Mo9Nb Inconel 625
	5.6	Cobalt Chrome Alloys	< 1300 N/mm ²	2.4964	Co Cr20 W15 Ni10		Co Cr20 Ni16 Mo7		Co Cr28 Mo 6
	5.7	Heat resistant alloys	< 1300 N/mm ²	1.4718	Z45 C S 9-3	1.4747	Z80 CSN 20-02	1.4845	Z12 CN 25-20
	5.8	Nickel-cobalt-chromium alloys	< 1400 N/mm ²	2.4851	Ni Cr23Fe (Inconel 601)	2.4668	Ni Cr19NbMo (Inconel 718)	2.4602	Ni Cr21Mo14 Hastelloy C22
	5.9	Pure titanium	< 900 N/mm ²	3.7025	T35 (Titanium Grade 1)	3.7034	T40 (Titanium Grade 2)	3.7064	T60 (Titanium Grade 4)
	5.10	Titanium alloys	< 700 N/mm ²		T-A6-Nb7 (367)		T-A5-Sn2-Mo4-Cr4 (Ti17)		T-A3-V2,5 (Gr18)
	5.11	Titanium alloys	< 1200 N/mm ²	3.7165	T-A6-V4 (Ta6V)		T-A4-3V-Mo2-Fe2 (SP700)		T-A5-Sn1-Zr1-V1-Mo (Gr32)
H	6.1		< 45 HRC						
	6.2		46–55 HRC						
	6.3	Tempered steel	56–60 HRC						
	6.4		61–65 HRC						
	6.5		65–70 HRC						

Cutting data standard values – S-Cut – End mills – SC-UNI, short – long

Index	Type short / long	$a_{p,max} \times DC$	$\varnothing DC = 3 \text{ mm}$			$\varnothing DC = 4 \text{ mm}$			$\varnothing DC = 5 \text{ mm}$			$\varnothing DC = 6 \text{ mm}$			$\varnothing DC = 8 \text{ mm}$		
			$a_{e,1-0,2}$ x DC	$a_{e,0,3-0,4}$ x DC	$a_{e,0,6-1,0}$ x DC	$a_{e,1-0,2}$ x DC	$a_{e,0,3-0,4}$ x DC	$a_{e,0,6-1,0}$ x DC	$a_{e,1-0,2}$ x DC	$a_{e,0,3-0,4}$ x DC	$a_{e,0,6-1,0}$ x DC	$a_{e,1-0,2}$ x DC	$a_{e,0,3-0,4}$ x DC	$a_{e,0,6-1,0}$ x DC	$a_{e,1-0,2}$ x DC	$a_{e,0,3-0,4}$ x DC	$a_{e,0,6-1,0}$ x DC
			f_z mm	f_z mm	f_z mm	f_z mm	f_z mm	f_z mm	f_z mm	f_z mm	f_z mm	f_z mm	f_z mm	f_z mm	f_z mm	f_z mm	f_z mm
1.1	105–240	1,0	0,039	0,030	0,022	0,054	0,041	0,030	0,078	0,058	0,039	0,104	0,077	0,052	0,138	0,104	0,069
1.2	105–250	1,0	0,036	0,028	0,020	0,049	0,038	0,028	0,071	0,053	0,036	0,095	0,071	0,047	0,127	0,092	0,069
1.3	90–210	1,0	0,036	0,028	0,020	0,049	0,038	0,028	0,071	0,053	0,036	0,095	0,071	0,047	0,127	0,092	0,069
1.4	80–190	1,0	0,039	0,030	0,022	0,054	0,041	0,030	0,078	0,058	0,039	0,104	0,077	0,052	0,138	0,104	0,069
1.5	90–200	1,0	0,039	0,030	0,022	0,054	0,041	0,030	0,078	0,058	0,039	0,104	0,077	0,052	0,138	0,104	0,069
1.6	90–190	1,0	0,039	0,030	0,022	0,054	0,041	0,030	0,078	0,058	0,039	0,104	0,077	0,052	0,138	0,104	0,069
1.7	80–190	1,0	0,039	0,030	0,022	0,054	0,041	0,030	0,078	0,058	0,039	0,104	0,077	0,052	0,138	0,104	0,069
1.8	70–170	1,0	0,029	0,022	0,016	0,040	0,031	0,023	0,058	0,044	0,029	0,077	0,058	0,039	0,104	0,081	0,058
1.9	70–170	1,0	0,025	0,020	0,015	0,036	0,028	0,021	0,052	0,039	0,026	0,069	0,052	0,035	0,092	0,069	0,046
1.10	70–190	1,0	0,025	0,020	0,015	0,036	0,028	0,021	0,052	0,039	0,026	0,069	0,052	0,035	0,092	0,069	0,046
1.11	70–170	1,0	0,025	0,020	0,015	0,036	0,028	0,021	0,052	0,039	0,026	0,069	0,052	0,035	0,092	0,069	0,046
1.12	70–190	1,0	0,025	0,020	0,015	0,036	0,028	0,021	0,052	0,039	0,026	0,069	0,052	0,035	0,092	0,069	0,046
1.13	70–150	1,0	0,023	0,017	0,013	0,032	0,024	0,017	0,046	0,035	0,023	0,061	0,045	0,030	0,081	0,058	0,046
1.14	50–120	1,0	0,020	0,015	0,012	0,028	0,021	0,015	0,039	0,029	0,020	0,053	0,039	0,026	0,069	0,058	0,035
1.15	70–180	1,0	0,025	0,020	0,015	0,036	0,028	0,021	0,052	0,039	0,026	0,069	0,052	0,035	0,092	0,069	0,046
1.16	80–160	1,0	0,025	0,020	0,015	0,036	0,028	0,021	0,052	0,039	0,026	0,069	0,052	0,035	0,092	0,069	0,046
2.1	90–130	1,0	0,029	0,022	0,016	0,040	0,031	0,023	0,058	0,044	0,029	0,077	0,058	0,039	0,104	0,081	0,058
2.2	80–120	1,0	0,023	0,017	0,013	0,032	0,024	0,017	0,046	0,035	0,023	0,061	0,045	0,030	0,081	0,058	0,046
2.3	80–120	1,0	0,023	0,017	0,013	0,032	0,024	0,017	0,046	0,035	0,023	0,061	0,045	0,030	0,081	0,058	0,046
2.4	80–120	1,0	0,023	0,017	0,013	0,032	0,024	0,017	0,046	0,035	0,023	0,061	0,045	0,030	0,081	0,058	0,046
2.5	80–120	1,0	0,023	0,017	0,013	0,032	0,024	0,017	0,046	0,035	0,023	0,061	0,045	0,030	0,081	0,058	0,046
2.6	80–120	1,0	0,023	0,017	0,013	0,032	0,024	0,017	0,046	0,035	0,023	0,061	0,045	0,030	0,081	0,058	0,046
2.7	40–60	1,0	0,020	0,015	0,012	0,028	0,021	0,015	0,039	0,029	0,020	0,053	0,039	0,026	0,069	0,029	0,035
3.1	200–240	1,0	0,046	0,036	0,025	0,063	0,049	0,036	0,091	0,068	0,046	0,122	0,091	0,061	0,161	0,127	0,081
3.2	180–220	1,0	0,046	0,036	0,025	0,063	0,049	0,036	0,091	0,068	0,046	0,122	0,091	0,061	0,161	0,127	0,081
3.3	200–240	1,0	0,039	0,030	0,022	0,054	0,041	0,030	0,078	0,058	0,039	0,104	0,077	0,052	0,138	0,104	0,069
3.4	180–220	1,0	0,039	0,030	0,022	0,054	0,041	0,030	0,078	0,058	0,039	0,104	0,077	0,052	0,138	0,104	0,069
3.5	160–200	1,0	0,039	0,030	0,022	0,054	0,041	0,030	0,078	0,058	0,039	0,104	0,077	0,052	0,138	0,104	0,069
3.6	140–180	1,0	0,032	0,025	0,018	0,046	0,036	0,025	0,066	0,048	0,032	0,087	0,064	0,044	0,115	0,092	0,058
3.7	160–200	1,0	0,032	0,025	0,018	0,046	0,036	0,025	0,066	0,048	0,032	0,087	0,064	0,044	0,115	0,092	0,058
3.8	140–180	1,0	0,032	0,025	0,018	0,046	0,036	0,025	0,066	0,048	0,032	0,087	0,064	0,044	0,115	0,092	0,058
4.1																	
4.2																	
4.3																	
4.4																	
4.5																	
4.6	140–280	1,0	0,039	0,030	0,022	0,054	0,041	0,030	0,078	0,058	0,039	0,104	0,077	0,052	0,138	0,104	0,069
4.7	120–300	1,0	0,039	0,030	0,022	0,054	0,041	0,030	0,078	0,058	0,039	0,104	0,077	0,052	0,138	0,104	0,069
4.8	110–180	1,0	0,039	0,030	0,022	0,054	0,041	0,030	0,078	0,058	0,039	0,104	0,077	0,052	0,138	0,104	0,069
4.9	90–160	1,0	0,039	0,030	0,022	0,054	0,041	0,030	0,078	0,058	0,039	0,104	0,077	0,052	0,138	0,104	0,069
4.10	80–140	1,0	0,039	0,030	0,022	0,054	0,041	0,030	0,078	0,058	0,039	0,104	0,077	0,052	0,138	0,104	0,069
4.11	150–350	1,0	0,036	0,028	0,020	0,049	0,038	0,028	0,071	0,053	0,036	0,095	0,071	0,047	0,127	0,092	0,069
4.12	140–300	1,0	0,036	0,028	0,020	0,049	0,038	0,028	0,071	0,053	0,036	0,095	0,071	0,047	0,127	0,092	0,069
4.13																	
4.14	180–400	1,0	0,077	0,060	0,044	0,108	0,084	0,061	0,155	0,116	0,078	0,207	0,154	0,104	0,276	0,207	0,138
4.15																	
4.16																	
4.17																	
4.18	60–120	0,5	0,031	0,024	0,017	0,044	0,033	0,024	0,062	0,046	0,031	0,083	0,062	0,041	0,115	0,081	0,058
4.19	40–80	0,5	0,025	0,020	0,015	0,036	0,028	0,021	0,052	0,021	0,026	0,069	0,052	0,035	0,092	0,069	0,046
5.1	30	0,5	0,025	0,020	0,014	0,035	0,026	0,020	0,049	0,037	0,025	0,067	0,049	0,033	0,092	0,069	0,046
5.2	30	0,5	0,023	0,018	0,013	0,032	0,025	0,018	0,047	0,035	0,023	0,062	0,046	0,031	0,081	0,058	0,046
5.3	30	0,5	0,021	0,016	0,012	0,029	0,022	0,016	0,041	0,031	0,021	0,055	0,041	0,028	0,069	0,058	0,035
5.4	30	0,5	0,018	0,014	0,010	0,025	0,020	0,014	0,037	0,026	0,018	0,048	0,036	0,024	0,069	0,046	0,035
5.5	30	0,5	0,018	0,014	0,010	0,025	0,020	0,014	0,037	0,026	0,018	0,048	0,036	0,024	0,069	0,046	0,035
5.6	30	0,5	0,013	0,014	0,007	0,018	0,014	0,010	0,026	0,020	0,013	0,035	0,025	0,017	0,046	0,035	0,023
5.7	45	0,5	0,018	0,008	0,010	0,025	0,020	0,014	0,037	0,026	0,018	0,048	0,036	0,024	0,069	0,046	0,035
5.8	30	0,5	0,018	0,008	0,010	0,025	0,020	0,014	0,037	0,026	0,018	0,048	0,036	0,024	0,069	0,046	0,035
5.9	80–160	0,5	0,029	0,022	0,016	0,040	0,031	0,023	0,058	0,044	0,029	0,077	0,058	0,039	0,104	0,081	0,058
5.10	80–140	0,5	0,029	0,022	0,016	0,040	0,031	0,022	0,058	0,043	0,029	0,076	0,056	0,038	0,104	0,081	0,058
5.11	50–100	0,5	0,025	0,020	0,015	0,036	0,028	0,021	0,052	0,039	0,026	0,069	0,052	0,035	0,092	0,069	0,046
6.1	120–160	0,5	0,023	0,018	0,013	0,032	0,025	0,018	0,047	0,035	0,023	0,062	0,046	0,031	0,081	0,058	0,046
6.2	80–120	0,3	0,021	0,016	0,012	0,029	0,022	0,016	0,041	0,031	0,021	0,055	0,041	0,028	0,069	0,058	0,035
6.3	60–100	0,2	0,018	0,014	0,010	0,025	0,020	0,014	0,037	0,026	0,018	0,048	0,036	0,024	0,069	0,046	0,035
6.4																	
6.5																	

i With an a_p of $1.5 \times DC$ the f_z should be multiplied by 0.75.
With an a_p of $2.0 \times DC$ the f_z should be multiplied by 0.5.

i Plunging angle for ramping and helical milling: 3°

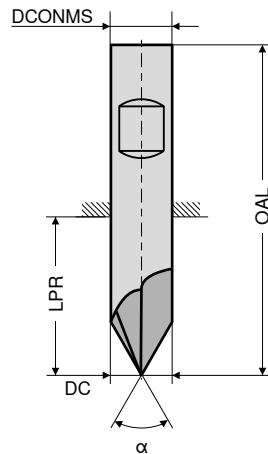
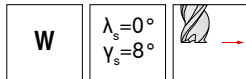
Index	Ø DC = 10 mm			Ø DC = 12 mm			Ø DC = 16 mm			Ø DC = 20 mm			● 1st choice		○ suitable	
	a _p 0,1-0,2 x DC	a _p 0,3-0,4 x DC	a _p 0,6-1,0 x DC	a _p 0,1-0,2 x DC	a _p 0,3-0,4 x DC	a _p 0,6-1,0 x DC	a _p 0,1-0,2 x DC	a _p 0,3-0,4 x DC	a _p 0,6-1,0 x DC	a _p 0,1-0,2 x DC	a _p 0,3-0,4 x DC	a _p 0,6-1,0 x DC	Emulsion	Compressed air	MMS	
	f _z mm	f _z mm	f _z mm	f _z mm	f _z mm	f _z mm	f _z mm	f _z mm	f _z mm	f _z mm	f _z mm	f _z mm				
1.1	0,173	0,127	0,092	0,196	0,138	0,092	0,207	0,161	0,127	0,242	0,196	0,161	●	○	○	
1.2	0,161	0,115	0,081	0,173	0,127	0,092	0,184	0,150	0,115	0,230	0,184	0,138	●	○	○	
1.3	0,161	0,115	0,081	0,173	0,127	0,092	0,184	0,150	0,115	0,230	0,184	0,138	●	○	○	
1.4	0,173	0,127	0,092	0,196	0,138	0,092	0,207	0,161	0,127	0,242	0,196	0,161	●	○	○	
1.5	0,173	0,127	0,092	0,196	0,138	0,092	0,207	0,161	0,127	0,242	0,196	0,161	●	○	○	
1.6	0,173	0,127	0,092	0,196	0,138	0,092	0,207	0,161	0,127	0,242	0,196	0,161	●	○	○	
1.7	0,173	0,127	0,092	0,196	0,138	0,092	0,207	0,161	0,127	0,242	0,196	0,161	●	○	○	
1.8	0,127	0,092	0,069	0,138	0,104	0,069	0,150	0,115	0,092	0,184	0,150	0,115	●	○	○	
1.9	0,115	0,092	0,058	0,127	0,092	0,069	0,138	0,104	0,081	0,161	0,138	0,104	●	○	○	
1.10	0,115	0,092	0,058	0,127	0,092	0,069	0,138	0,104	0,081	0,161	0,138	0,104	●	○	○	
1.11	0,115	0,092	0,058	0,127	0,092	0,069	0,138	0,104	0,081	0,161	0,138	0,104	●	○	○	
1.12	0,115	0,092	0,058	0,127	0,092	0,069	0,138	0,104	0,081	0,161	0,138	0,104	●	○	○	
1.13	0,104	0,081	0,046	0,115	0,081	0,058	0,115	0,092	0,069	0,150	0,115	0,092	●	○	○	
1.14	0,092	0,069	0,046	0,092	0,069	0,046	0,104	0,081	0,058	0,127	0,104	0,081	●	○	○	
1.15	0,115	0,092	0,058	0,127	0,092	0,069	0,138	0,104	0,081	0,161	0,138	0,104	●	○	○	
1.16	0,115	0,092	0,058	0,127	0,092	0,069	0,138	0,104	0,081	0,161	0,138	0,104	●	○	○	
2.1	0,127	0,092	0,069	0,138	0,104	0,069	0,150	0,115	0,092	0,184	0,150	0,115	●			
2.2	0,104	0,081	0,046	0,115	0,081	0,058	0,115	0,092	0,069	0,150	0,115	0,092	●			
2.3	0,104	0,081	0,046	0,115	0,081	0,058	0,115	0,092	0,069	0,150	0,115	0,092	●			
2.4	0,104	0,081	0,046	0,115	0,081	0,058	0,115	0,092	0,069	0,150	0,115	0,092	●			
2.5	0,104	0,081	0,046	0,115	0,081	0,058	0,115	0,092	0,069	0,150	0,115	0,092	●			
2.6	0,104	0,081	0,046	0,115	0,081	0,058	0,115	0,092	0,069	0,150	0,115	0,092	●			
2.7	0,092	0,069	0,046	0,092	0,069	0,046	0,104	0,081	0,058	0,127	0,104	0,081	●			
3.1	0,207	0,150	0,104	0,219	0,161	0,115	0,242	0,184	0,138	0,288	0,230	0,184		●		
3.2	0,207	0,150	0,104	0,219	0,161	0,115	0,242	0,184	0,138	0,288	0,230	0,184		●		
3.3	0,173	0,127	0,092	0,196	0,138	0,092	0,207	0,161	0,127	0,242	0,196	0,161		●		
3.4	0,173	0,127	0,092	0,196	0,138	0,092	0,207	0,161	0,127	0,242	0,196	0,161		●		
3.5	0,173	0,127	0,092	0,196	0,138	0,092	0,207	0,161	0,127	0,242	0,196	0,161		●		
3.6	0,150	0,104	0,069	0,161	0,115	0,081	0,173	0,127	0,104	0,207	0,173	0,127		●		
3.7	0,150	0,104	0,069	0,161	0,115	0,081	0,173	0,127	0,104	0,207	0,173	0,127		●		
3.8	0,150	0,104	0,069	0,161	0,115	0,081	0,173	0,127	0,104	0,207	0,173	0,127		●		
4.1																
4.2																
4.3																
4.4																
4.5																
4.6	0,173	0,127	0,092	0,196	0,138	0,092	0,207	0,161	0,127	0,242	0,196	0,161	●		○	
4.7	0,173	0,127	0,092	0,196	0,138	0,092	0,207	0,161	0,127	0,242	0,196	0,161	●		○	
4.8	0,173	0,127	0,092	0,196	0,138	0,092	0,207	0,161	0,127	0,242	0,196	0,161	●		○	
4.9	0,173	0,127	0,092	0,196	0,138	0,092	0,207	0,161	0,127	0,242	0,196	0,161	●		○	
4.10	0,173	0,127	0,092	0,196	0,138	0,092	0,207	0,161	0,127	0,242	0,196	0,161	●		○	
4.11	0,161	0,115	0,081	0,173	0,127	0,092	0,184	0,150	0,127	0,230	0,184	0,138	●		○	
4.12	0,161	0,115	0,081	0,173	0,127	0,092	0,184	0,150	0,115	0,230	0,184	0,138	●		○	
4.13																
4.14	0,345	0,253	0,173	0,380	0,288	0,196	0,414	0,311	0,242	0,495	0,403	0,311	●		○	
4.15																
4.16																
4.17																
4.18	0,138	0,104	0,069	0,115	0,115	0,081	0,161	0,127	0,092	0,196	0,161	0,127	●		○	
4.19	0,115	0,092	0,058	0,127	0,092	0,069	0,138	0,104	0,081	0,161	0,138	0,104	●		○	
5.1	0,115	0,081	0,058	0,127	0,092	0,058	0,127	0,104	0,081	0,161	0,127	0,104	●			
5.2	0,104	0,081	0,058	0,115	0,046	0,058	0,127	0,092	0,069	0,150	0,127	0,092	●			
5.3	0,092	0,069	0,046	0,104	0,081	0,046	0,115	0,081	0,069	0,127	0,104	0,081	●			
5.4	0,081	0,058	0,046	0,092	0,069	0,046	0,092	0,069	0,058	0,115	0,092	0,069	●			
5.5	0,081	0,058	0,046	0,092	0,035	0,046	0,092	0,069	0,058	0,115	0,092	0,069	●			
5.6	0,058	0,046	0,035	0,069	0,046	0,035	0,069	0,058	0,046	0,081	0,069	0,058	●			
5.7	0,081	0,058	0,046	0,092	0,069	0,046	0,092	0,069	0,058	0,115	0,092	0,069	●			
5.8	0,081	0,058	0,046	0,092	0,069	0,046	0,092	0,069	0,058	0,115	0,092	0,069	●			
5.9	0,127	0,092	0,069	0,138	0,104	0,069	0,150	0,115	0,092	0,184	0,150	0,115	●			
5.10	0,127	0,092	0,069	0,138	0,104	0,069	0,150	0,115	0,092	0,184	0,150	0,115	●			
5.11	0,115	0,092	0,058	0,127	0,092	0,069	0,138	0,104	0,081	0,161	0,138	0,104	●			
6.1	0,104	0,081	0,058	0,115	0,081	0,058	0,127	0,092	0,069	0,150	0,127	0,092	●			
6.2	0,092	0,069	0,046	0,104	0,081	0,046	0,115	0,081	0,069	0,127	0,104	0,081	●			
6.3	0,081	0,058	0,046	0,092	0,069	0,046	0,092	0,069	0,058	0,115	0,092	0,069	●			
6.4																
6.5																

Cutting data standard values – S-Cut – End mills – SC-UNI, extra-long

Index	Type extra long	a _{0,max} x DC		Ø DC = 3 mm			Ø DC = 4 mm			Ø DC = 5 mm			Ø DC = 6 mm			Ø DC = 8 mm		
				a _{0,1-0,2} x DC	a _{0,3-0,5} x DC	a _{0,6-1,0} x DC	a _{0,1-0,2} x DC	a _{0,3-0,5} x DC	a _{0,6-1,0} x DC	a _{0,1-0,2} x DC	a _{0,3-0,5} x DC	a _{0,6-1,0} x DC	a _{0,1-0,2} x DC	a _{0,3-0,5} x DC	a _{0,6-1,0} x DC	a _{0,1-0,2} x DC	a _{0,3-0,5} x DC	a _{0,6-1,0} x DC
				f ₁ mm	f ₂ mm	f ₃ mm	f ₁ mm	f ₂ mm	f ₃ mm	f ₁ mm	f ₂ mm	f ₃ mm	f ₁ mm	f ₂ mm	f ₃ mm	f ₁ mm	f ₂ mm	f ₃ mm
1.1	90-180	1,0	0,5	0,044	0,032	0,022	0,059	0,043	0,029	0,078	0,058	0,039	0,104	0,077	0,052	0,138	0,104	0,069
1.2	90-180	1,0	0,5	0,040	0,030	0,020	0,053	0,040	0,027	0,071	0,053	0,036	0,095	0,071	0,047	0,127	0,092	0,069
1.3	70-160	1,0	0,5	0,040	0,030	0,020	0,053	0,040	0,027	0,071	0,053	0,036	0,095	0,071	0,047	0,127	0,092	0,069
1.4	70-140	1,0	0,5	0,044	0,032	0,022	0,059	0,043	0,029	0,078	0,058	0,039	0,104	0,077	0,052	0,138	0,104	0,069
1.5	70-160	1,0	0,5	0,044	0,032	0,022	0,059	0,043	0,029	0,078	0,058	0,039	0,104	0,077	0,052	0,138	0,104	0,069
1.6	70-160	1,0	0,5	0,044	0,032	0,022	0,059	0,043	0,029	0,078	0,058	0,039	0,104	0,077	0,052	0,138	0,104	0,069
1.7	70-140	1,0	0,5	0,044	0,032	0,022	0,059	0,043	0,029	0,078	0,058	0,039	0,104	0,077	0,052	0,138	0,104	0,069
1.8	50-120	1,0	0,5	0,032	0,025	0,016	0,043	0,033	0,022	0,058	0,044	0,029	0,077	0,058	0,039	0,104	0,081	0,058
1.9	50-120	1,0	0,5	0,029	0,022	0,015	0,039	0,029	0,020	0,052	0,039	0,026	0,069	0,052	0,035	0,092	0,069	0,046
1.10	50-120	1,0	0,5	0,029	0,022	0,015	0,039	0,029	0,020	0,052	0,039	0,026	0,069	0,052	0,035	0,092	0,069	0,046
1.11	50-120	1,0	0,5	0,029	0,022	0,015	0,039	0,029	0,020	0,052	0,039	0,026	0,069	0,052	0,035	0,092	0,069	0,046
1.12	50-120	1,0	0,5	0,029	0,022	0,015	0,039	0,029	0,020	0,052	0,039	0,026	0,069	0,052	0,035	0,092	0,069	0,046
1.13	50-120	1,0	0,5	0,026	0,019	0,013	0,035	0,026	0,017	0,046	0,035	0,023	0,061	0,045	0,030	0,081	0,058	0,046
1.14	40-80	1,0	0,5	0,022	0,016	0,011	0,029	0,022	0,015	0,039	0,029	0,020	0,053	0,039	0,026	0,069	0,058	0,035
1.15	50-120	1,0	0,5	0,029	0,022	0,015	0,039	0,029	0,020	0,052	0,039	0,026	0,069	0,052	0,035	0,092	0,069	0,046
1.16	60-140	1,0	0,5	0,029	0,022	0,015	0,039	0,029	0,020	0,052	0,039	0,026	0,069	0,052	0,035	0,092	0,069	0,046
2.1	60-100	1,0	0,5	0,032	0,025	0,016	0,043	0,033	0,022	0,058	0,044	0,029	0,077	0,058	0,039	0,104	0,081	0,058
2.2	50-80	1,0	0,5	0,026	0,019	0,013	0,035	0,026	0,017	0,046	0,035	0,023	0,061	0,045	0,030	0,081	0,058	0,046
2.3	50-80	1,0	0,5	0,026	0,019	0,013	0,035	0,026	0,017	0,046	0,035	0,023	0,061	0,045	0,030	0,081	0,058	0,046
2.4	50-80	1,0	0,5	0,026	0,019	0,013	0,035	0,026	0,017	0,046	0,035	0,023	0,061	0,045	0,030	0,081	0,058	0,046
2.5	50-80	1,0	0,5	0,026	0,019	0,013	0,035	0,026	0,017	0,046	0,035	0,023	0,061	0,045	0,030	0,081	0,058	0,046
2.6	50-80	1,0	0,5	0,026	0,019	0,013	0,035	0,026	0,017	0,046	0,035	0,023	0,061	0,045	0,030	0,081	0,058	0,046
2.7	30-50	1,0	0,5	0,022	0,016	0,011	0,029	0,022	0,015	0,039	0,029	0,020	0,054	0,039	0,026	0,069	0,058	0,035
3.1	160-200	1,0	0,5	0,051	0,038	0,026	0,068	0,051	0,035	0,091	0,068	0,046	0,122	0,091	0,061	0,161	0,127	0,081
3.2	120-160	1,0	0,5	0,051	0,038	0,026	0,068	0,051	0,035	0,091	0,068	0,046	0,122	0,091	0,061	0,161	0,127	0,081
3.3	160-200	1,0	0,5	0,044	0,032	0,022	0,059	0,043	0,029	0,078	0,058	0,039	0,104	0,077	0,052	0,138	0,104	0,069
3.4	120-160	1,0	0,5	0,044	0,032	0,022	0,059	0,043	0,029	0,078	0,058	0,039	0,104	0,077	0,052	0,138	0,104	0,069
3.5	120-160	1,0	0,5	0,044	0,032	0,022	0,059	0,043	0,029	0,078	0,058	0,039	0,104	0,077	0,052	0,138	0,104	0,069
3.6	100-140	1,0	0,5	0,037	0,027	0,018	0,049	0,036	0,024	0,066	0,048	0,032	0,087	0,064	0,044	0,115	0,092	0,058
3.7	120-160	1,0	0,5	0,037	0,027	0,018	0,049	0,036	0,024	0,066	0,048	0,032	0,087	0,064	0,044	0,115	0,092	0,058
3.8	100-140	1,0	0,5	0,037	0,027	0,018	0,049	0,036	0,024	0,066	0,048	0,032	0,087	0,064	0,044	0,115	0,092	0,058
4.1																		
4.2																		
4.3																		
4.4																		
4.5																		
4.6	100-240	1,0	0,5	0,044	0,032	0,022	0,059	0,043	0,029	0,078	0,058	0,039	0,104	0,077	0,052	0,138	0,104	0,069
4.7	90-220	1,0	0,5	0,044	0,032	0,022	0,059	0,043	0,029	0,078	0,058	0,039	0,104	0,077	0,052	0,138	0,104	0,069
4.8	80-180	1,0	0,5	0,044	0,032	0,022	0,059	0,043	0,029	0,078	0,058	0,039	0,104	0,077	0,052	0,138	0,104	0,069
4.9	60-160	1,0	0,5	0,044	0,032	0,022	0,059	0,043	0,029	0,078	0,058	0,039	0,104	0,077	0,052	0,138	0,104	0,069
4.10	60-140	1,0	0,5	0,044	0,032	0,022	0,059	0,043	0,029	0,078	0,058	0,039	0,104	0,077	0,052	0,138	0,104	0,069
4.11	110-320	1,0	0,5	0,040	0,030	0,020	0,053	0,040	0,027	0,071	0,053	0,036	0,095	0,071	0,047	0,127	0,092	0,069
4.12	100-300	1,0	0,5	0,040	0,030	0,020	0,053	0,040	0,027	0,071	0,053	0,036	0,095	0,071	0,047	0,127	0,092	0,069
4.13																		
4.14	120-400	1,0	0,5	0,087	0,065	0,044	0,116	0,087	0,059	0,155	0,116	0,078	0,207	0,154	0,104	0,276	0,207	0,138
4.15																		
4.16																		
4.17																		
4.18	40-120	0,5	0,25	0,035	0,026	0,017	0,047	0,035	0,023	0,062	0,046	0,031	0,083	0,062	0,041	0,115	0,081	0,058
4.19	30-80	0,5	0,25	0,029	0,012	0,015	0,039	0,016	0,020	0,052	0,021	0,026	0,069	0,052	0,035	0,092	0,069	0,046
5.1	30	0,5	0,25	0,028	0,021	0,014	0,037	0,028	0,019	0,049	0,037	0,025	0,067	0,049	0,033	0,092	0,069	0,046
5.2	30	0,5	0,25	0,027	0,019	0,013	0,035	0,026	0,017	0,047	0,035	0,023	0,062	0,046	0,031	0,081	0,058	0,046
5.3	25	0,5	0,25	0,023	0,017	0,012	0,031	0,023	0,016	0,041	0,031	0,021	0,055	0,041	0,028	0,069	0,058	0,035
5.4	25	0,5	0,25	0,021	0,015	0,010	0,028	0,020	0,014	0,037	0,026	0,018	0,048	0,036	0,024	0,069	0,046	0,035
5.5	25	0,5	0,25	0,021	0,015	0,010	0,028	0,020	0,014	0,037	0,026	0,018	0,048	0,036	0,024	0,069	0,046	0,035
5.6	25	0,5	0,25	0,015	0,011	0,007	0,020	0,015	0,009	0,026	0,020	0,013	0,035	0,025	0,017	0,046	0,035	0,023
5.7	45	0,5	0,25	0,021	0,015	0,010	0,028	0,020	0,014	0,037	0,026	0,018	0,048	0,036	0,024	0,069	0,046	0,035
5.8	25	0,5	0,25	0,021	0,015	0,010	0,028	0,020	0,014	0,037	0,026	0,018	0,048	0,036	0,024	0,069	0,046	0,035
5.9	35-65	0,5	0,25	0,032	0,025	0,016	0,043	0,033	0,022	0,058	0,044	0,029	0,077	0,058	0,039	0,104	0,081	0,058
5.10	30-55	0,5	0,25	0,032	0,024	0,016	0,043	0,032	0,022	0,058	0,043	0,029	0,076	0,056	0,038	0,104	0,081	0,046
5.11	30-55	0,5	0,25	0,029	0,022	0,015	0,039	0,029	0,020	0,052	0,039	0,026	0,069	0,052	0,035	0,092	0,069	0,046
6.1	80-120	0,5	0,5	0,027	0,019	0,013	0,035	0,026	0,017	0,047	0,035	0,023	0,062	0,046	0,031	0,081	0,058	0,046
6.2	60-100	0,5	0,3	0,023	0,017	0,012	0,031	0,023	0,016	0,041	0,031	0,021	0,055	0,041	0,028	0,069	0,058	0,035
6.3	50-90	0,5	0,15	0,021	0,015	0,010	0,028	0,020	0,014	0,037	0,026	0,018	0,048	0,036	0,024	0,069	0,046	0,035
6.4																		
6.5																		

Index	Ø DC = 10 mm			Ø DC = 12 mm			Ø DC = 14 mm			Ø DC = 16 mm			Ø DC = 20 mm			● 1st choice		○ suitable
	a_p 0,1-0,2 x DC	a_p 0,3-0,5 x DC	a_p 0,6-1,0 x DC	a_p 0,1-0,2 x DC	a_p 0,3-0,5 x DC	a_p 0,6-1,0 x DC	a_p 0,1-0,2 x DC	a_p 0,3-0,5 x DC	a_p 0,6-1,0 x DC	a_p 0,1-0,2 x DC	a_p 0,3-0,5 x DC	a_p 0,6-1,0 x DC	a_p 0,1-0,2 x DC	a_p 0,3-0,5 x DC	a_p 0,6-1,0 x DC	Emulsion	Compressed air	MMS
	f_z mm	f_z mm	f_z mm	f_z mm	f_z mm	f_z mm	f_z mm	f_z mm	f_z mm	f_z mm	f_z mm	f_z mm	f_z mm	f_z mm	f_z mm			
1.1	0,173	0,127	0,092	0,196	0,138	0,092	0,184	0,150	0,104	0,196	0,161	0,127	0,242	0,196	0,161	●	○	○
1.2	0,161	0,115	0,081	0,173	0,127	0,092	0,173	0,138	0,092	0,173	0,150	0,115	0,230	0,184	0,138	●	○	○
1.3	0,161	0,115	0,081	0,173	0,127	0,092	0,173	0,138	0,092	0,173	0,150	0,115	0,230	0,184	0,138	●	○	○
1.4	0,173	0,127	0,092	0,196	0,138	0,092	0,184	0,150	0,104	0,196	0,161	0,127	0,242	0,196	0,161	●	○	○
1.5	0,173	0,127	0,092	0,196	0,138	0,092	0,184	0,150	0,104	0,196	0,161	0,127	0,242	0,196	0,161	●	○	○
1.6	0,173	0,127	0,092	0,196	0,138	0,092	0,184	0,150	0,104	0,196	0,161	0,127	0,242	0,196	0,161	●	○	○
1.7	0,173	0,127	0,092	0,196	0,138	0,092	0,184	0,150	0,104	0,196	0,161	0,127	0,242	0,196	0,161	●	○	○
1.8	0,127	0,092	0,069	0,138	0,104	0,069	0,138	0,115	0,081	0,138	0,115	0,092	0,184	0,150	0,115	●	○	○
1.9	0,115	0,092	0,058	0,127	0,092	0,069	0,127	0,104	0,069	0,127	0,104	0,081	0,161	0,138	0,104	●	○	○
1.10	0,115	0,092	0,058	0,127	0,092	0,069	0,127	0,104	0,069	0,127	0,104	0,081	0,161	0,138	0,104	●	○	○
1.11	0,115	0,092	0,058	0,127	0,092	0,069	0,127	0,104	0,069	0,127	0,104	0,081	0,161	0,138	0,104	●	○	○
1.12	0,115	0,092	0,058	0,127	0,092	0,069	0,127	0,104	0,069	0,127	0,104	0,081	0,161	0,138	0,104	●	○	○
1.13	0,104	0,081	0,046	0,115	0,081	0,058	0,115	0,092	0,058	0,115	0,092	0,069	0,150	0,115	0,092	●	○	○
1.14	0,092	0,069	0,046	0,092	0,069	0,046	0,092	0,069	0,058	0,092	0,081	0,058	0,127	0,104	0,081	●	○	○
1.15	0,115	0,092	0,058	0,127	0,092	0,069	0,127	0,104	0,069	0,127	0,104	0,081	0,161	0,138	0,104	●	○	○
1.16	0,115	0,092	0,058	0,127	0,092	0,069	0,127	0,104	0,069	0,127	0,104	0,081	0,161	0,138	0,104	●	○	○
2.1	0,127	0,092	0,069	0,138	0,104	0,069	0,138	0,115	0,081	0,138	0,115	0,092	0,184	0,150	0,115	●		
2.2	0,104	0,081	0,046	0,115	0,081	0,058	0,115	0,092	0,058	0,115	0,092	0,069	0,150	0,115	0,092	●		
2.3	0,104	0,081	0,046	0,115	0,081	0,058	0,115	0,092	0,058	0,115	0,092	0,069	0,150	0,115	0,092	●		
2.4	0,104	0,081	0,046	0,115	0,081	0,058	0,115	0,092	0,058	0,115	0,092	0,069	0,150	0,115	0,092	●		
2.5	0,104	0,081	0,046	0,115	0,081	0,058	0,115	0,092	0,058	0,115	0,092	0,069	0,150	0,115	0,092	●		
2.6	0,104	0,081	0,046	0,115	0,081	0,058	0,115	0,092	0,058	0,115	0,092	0,069	0,150	0,115	0,092	●		
2.7	0,092	0,069	0,046	0,092	0,069	0,046	0,092	0,069	0,058	0,092	0,081	0,058	0,127	0,104	0,081	●		
3.1	0,207	0,150	0,104	0,219	0,161	0,115	0,219	0,173	0,127	0,230	0,184	0,138	0,288	0,230	0,184	○	●	○
3.2	0,207	0,150	0,104	0,219	0,161	0,115	0,219	0,173	0,127	0,230	0,184	0,138	0,288	0,230	0,184	○	●	○
3.3	0,173	0,127	0,092	0,196	0,138	0,092	0,184	0,150	0,104	0,196	0,161	0,127	0,242	0,196	0,161	○	●	○
3.4	0,173	0,127	0,092	0,196	0,138	0,092	0,184	0,150	0,104	0,196	0,161	0,127	0,242	0,196	0,161	○	●	○
3.5	0,173	0,127	0,092	0,196	0,138	0,092	0,184	0,150	0,104	0,196	0,161	0,127	0,242	0,196	0,161	○	●	○
3.6	0,150	0,104	0,069	0,161	0,115	0,081	0,161	0,127	0,092	0,161	0,127	0,104	0,207	0,173	0,127	○	●	○
3.7	0,150	0,104	0,069	0,161	0,115	0,081	0,161	0,127	0,092	0,161	0,127	0,104	0,207	0,173	0,127	○	●	○
3.8	0,150	0,104	0,069	0,161	0,115	0,081	0,161	0,127	0,092	0,161	0,127	0,104	0,207	0,173	0,127	○	●	○
4.1																		
4.2																		
4.3																		
4.4																		
4.5																		
4.6	0,173	0,127	0,092	0,196	0,138	0,092	0,184	0,150	0,104	0,196	0,161	0,127	0,242	0,196	0,161	●		○
4.7	0,173	0,127	0,092	0,196	0,138	0,092	0,184	0,150	0,104	0,196	0,161	0,127	0,242	0,196	0,161	●		○
4.8	0,173	0,127	0,092	0,196	0,138	0,092	0,184	0,150	0,104	0,196	0,161	0,127	0,242	0,196	0,161	●		○
4.9	0,173	0,127	0,092	0,196	0,138	0,092	0,184	0,150	0,104	0,196	0,161	0,127	0,242	0,196	0,161	●		○
4.10	0,173	0,127	0,092	0,196	0,138	0,092	0,184	0,150	0,104	0,196	0,161	0,127	0,242	0,196	0,161	●		○
4.11	0,161	0,115	0,081	0,173	0,127	0,092	0,173	0,138	0,092	0,173	0,150	0,115	0,230	0,184	0,138	●		○
4.12	0,161	0,115	0,081	0,173	0,127	0,092	0,173	0,138	0,092	0,173	0,150	0,115	0,230	0,184	0,138	●		○
4.13																		
4.14	0,345	0,253	0,173	0,380	0,288	0,196	0,380	0,299	0,207	0,380	0,311	0,242	0,495	0,403	0,311	●		○
4.15																		
4.16																		
4.17																		
4.18	0,138	0,104	0,069	0,115	0,115	0,081	0,150	0,115	0,081	0,150	0,127	0,092	0,196	0,161	0,127	●		○
4.19	0,115	0,092	0,058	0,127	0,092	0,069	0,127	0,104	0,069	0,127	0,104	0,081	0,161	0,138	0,104	●		○
5.1	0,115	0,081	0,058	0,127	0,092	0,058	0,127	0,092	0,069	0,127	0,104	0,081	0,161	0,127	0,104	●		
5.2	0,104	0,081	0,058	0,115	0,046	0,058	0,115	0,092	0,058	0,115	0,092	0,069	0,150	0,127	0,092	●		
5.3	0,092	0,069	0,046	0,104	0,081	0,046	0,104	0,081	0,058	0,104	0,081	0,069	0,127	0,104	0,081	●		
5.4	0,081	0,058	0,046	0,092	0,069	0,046	0,092	0,069	0,046	0,092	0,069	0,058	0,115	0,092	0,069	●		
5.5	0,081	0,058	0,046	0,092	0,069	0,046	0,092	0,069	0,046	0,092	0,069	0,058	0,115	0,092	0,069	●		
5.6	0,058	0,046	0,035	0,069	0,046	0,035	0,069	0,046	0,035	0,069	0,058	0,046	0,081	0,069	0,058	●		
5.7	0,081	0,058	0,046	0,092	0,069	0,046	0,092	0,069	0,046	0,092	0,069	0,058	0,115	0,092	0,069	●		
5.8	0,081	0,058	0,046	0,092	0,069	0,046	0,092	0,069	0,046	0,092	0,069	0,058	0,115	0,092	0,069	●		
5.9	0,127	0,092	0,069	0,138	0,104	0,069	0,138	0,115	0,081	0,138	0,115	0,092	0,184	0,150	0,115	●		
5.10	0,127	0,092	0,069	0,138	0,104	0,069	0,138	0,104	0,081	0,138	0,115	0,092	0,184	0,150	0,115	●		
5.11	0,115	0,092	0,058	0,127	0,092	0,069	0,127	0,104	0,069	0,127	0,104	0,081	0,161	0,138	0,104	●		
6.1	0,104	0,081	0,058	0,115	0,081	0,058	0,115	0,092	0,058	0,115	0,092	0,069	0,150	0,127	0,092		●	
6.2	0,092	0,069	0,046	0,104	0,081	0,046	0,104	0,081	0,058	0,104	0,081	0,069	0,127	0,104	0,081		●	
6.3	0,081	0,058	0,046	0,092	0,069	0,046	0,092	0,069	0,046	0,092	0,069	0,058	0,115	0,092	0,069		●	
6.4																		
6.5																		

AluLine – NC deburring cutter



DC _{h6}	OAL	LPR	DCONMS _{h6}	ZEFP
mm	mm	mm	mm	
4	50	22	4	4
6	55	19	6	4
8	58	22	8	4
10	60	20	10	4
12	70	25	12	4
16	80	32	16	4

α = 60°		α = 60°		α = 60°		α = 60°	
Factory standard		Factory standard		Factory standard		Factory standard	
HA		HB		HA		HB	
NEW	V1	NEW	V1	NEW	V1	NEW	V1
Article no.		Article no.		Article no.		Article no.	
53 666 ...		53 667 ...		53 662 ...		53 663 ...	
£		£		£		£	
28.91	04000	32.26	06000	33.86	04000	37.22	06000
32.26	06000	37.70	08000	37.22	06000	43.29	08000
37.70	08000	53.24	10000	43.29	08000	59.95	10000
53.24	10000	59.95	12000	59.95	10000	67.62	12000
59.95	12000	99.85	16000	67.62	12000	110.20	16000
99.85	16000			110.20	16000		

Steel

Stainless steel

Cast iron

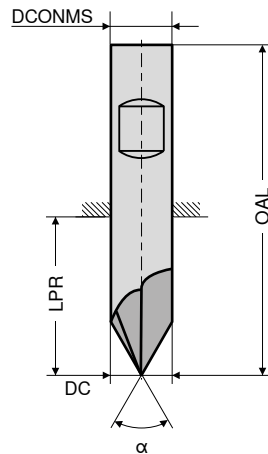
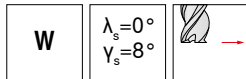
Non ferrous metals

Heat resistant alloys

Hardened materials

→ v_c/f_z Page 126

AluLine – NC deburring cutter



DC _{h6}	OAL	LPR	DCONMS _{h6}	ZEFP
mm	mm	mm	mm	
4	50	22	4	4
6	55	19	6	4
8	58	22	8	4
10	60	20	10	4
12	70	25	12	4
16	80	32	16	4

$\alpha = 90^\circ$		$\alpha = 90^\circ$		$\alpha = 90^\circ$		$\alpha = 90^\circ$	
Factory standard		Factory standard		Factory standard		Factory standard	
HA		HB		HA		HB	
NEW	V1	NEW	V1	NEW	V1	NEW	V1
Article no.		Article no.		Article no.		Article no.	
53 664 ...		53 665 ...		53 660 ...		53 661 ...	
£		£		£		£	
28.91	04000	32.26	06000	33.86	04000	37.22	06000
32.26	06000	37.70	08000	37.22	06000	43.29	08000
37.70	08000	53.24	10000	43.29	08000	59.95	10000
53.24	10000	59.95	12000	59.95	10000	67.62	12000
59.95	12000	99.85	16000	67.62	12000	110.20	16000
99.85	16000			110.20	16000		

Steel

Stainless steel

Cast iron

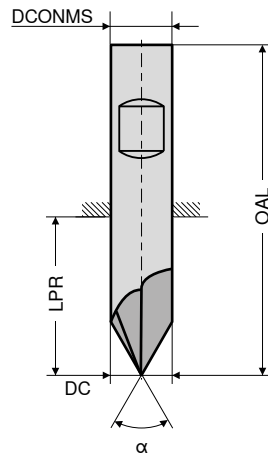
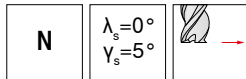
Non ferrous metals

Heat resistant alloys

Hardened materials

→ v_c/f_z Page 126

SilverLine – NC deburring cutter



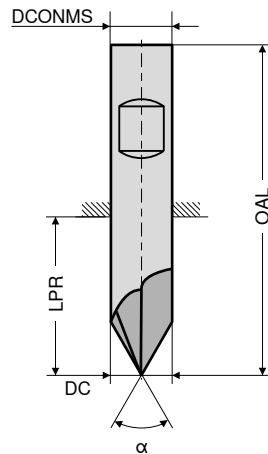
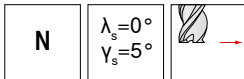
DC _{h6}	OAL	LPR	DCONMS _{h6}	ZEFP
mm	mm	mm	mm	
4	50	22	4	5
6	55	19	6	5
8	58	22	8	5
10	60	20	10	5
12	70	25	12	5
16	80	32	16	5

$\alpha = 60^\circ$		$\alpha = 60^\circ$		$\alpha = 60^\circ$		$\alpha = 60^\circ$	
Factory standard		Factory standard		Factory standard		Factory standard	
HA		HB		HA		HB	
NEW	V1	NEW	V1	NEW	V1	NEW	V1
Article no.		Article no.		Article no.		Article no.	
50 566 ...		50 567 ...		50 562 ...		50 563 ...	
£		£		£		£	
28.91	04000	32.43	06000	35.66	04000	39.19	06000
32.43	06000	43.33	08000	39.19	06000	51.06	08000
43.33	08000	51.06	10000	51.06	08000	60.70	10000
51.43	10000	60.70	12000	60.70	10000	77.56	12000
67.01	12000	77.56	16000	77.56	12000	120.75	16000
106.59	16000	120.75		120.75	16000		

Steel	•	•	•	•
Stainless steel	•	•	•	•
Cast iron	•	•	•	•
Non ferrous metals	•	•	•	•
Heat resistant alloys	•	•	•	•
Hardened materials	•	•	•	•

→ v_c/f_z Page 127

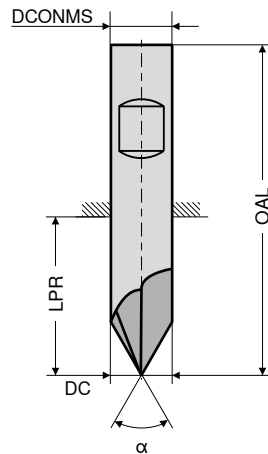
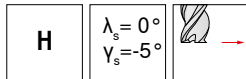
SilverLine – NC deburring cutter



DC _{h6}	OAL	LPR	DCONMS _{h6}	ZEFP	$\alpha = 90^\circ$		$\alpha = 90^\circ$		$\alpha = 90^\circ$		$\alpha = 90^\circ$	
					Factory standard	HA	Factory standard	HB	Factory standard	HA	Factory standard	HB
mm	mm	mm	mm		NEW V1	Article no.	NEW V1	Article no.	NEW V1	Article no.	NEW V1	Article no.
4	50	22	4	5	50 564 ...	£	50 565 ...	£	50 560 ...	£	50 561 ...	£
6	55	19	6	5	28.91 04000		32.43 06000		35.66 04000		39.19 06000	
8	58	22	8	5	32.43 06000		43.33 08000		39.19 06000		51.06 08000	
10	60	20	10	5	43.33 08000		51.43 10000		51.06 08000		60.70 10000	
12	70	25	12	5	51.43 10000		67.01 12000		60.70 10000		77.56 12000	
16	80	32	16	5	67.01 12000		106.59 16000		77.56 12000		120.75 16000	
					106.59 16000		106.59 16000		120.75 16000		120.75 16000	
Steel					•		•		•		•	
Stainless steel					•		•		•		•	
Cast iron					•		•		•		•	
Non ferrous metals					•		•		•		•	
Heat resistant alloys					•		•		•		•	
Hardened materials					•		•		•		•	

→ v_c/f_z Page 127

BlueLine – NC deburring cutter



Ti2000



Ti2000



Ti2000



Ti2000



α = 60° α = 60° α = 90° α = 90°
Factory standard Factory standard Factory standard Factory standard
HA HB HA HB

DC _{h5}	OAL	LPR	DCONMS _{h5}	ZEFP	NEW V1 Article no. 52 562 ... £	NEW V1 Article no. 52 563 ... £	NEW V1 Article no. 52 560 ... £	NEW V1 Article no. 52 561 ... £
4	50	22	4	5	39.19 04000		39.19 04000	
6	57	21	6	6	49.40 06000	49.40 06000	49.40 06000	49.40 06000
8	63	27	8	6	59.75 08000	59.75 08000	59.75 08000	59.75 08000
10	72	32	10	6	80.04 10000	80.04 10000	80.04 10000	80.04 10000
12	83	38	12	6	103.27 12000	103.27 12000	103.27 12000	103.27 12000
16	92	44	16	8	160.27 16000	160.27 16000	160.27 16000	160.27 16000

Steel	•	•	•	•
Stainless steel				
Cast iron				
Non ferrous metals				
Heat resistant alloys				
Hardened materials	•	•	•	•

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Material examples referring to the cutting data tables

	Index	Material	Strength N/mm ² / HB / HRC	Material number	Material designation	Material number	Material designation	Material number	Material designation
P	1.1	General construction steel	< 800 N/mm ²	1.0402	EN3B				
	1.2	Free cutting steel	< 800 N/mm ²	1.0711	EN1A				
	1.3	Hardened steel, non alloyed	< 800 N/mm ²	1.0401	EN32C				
	1.4	Alloyed hardened steel	< 1000 N/mm ²	1.7325	25 CD4				
	1.5	Tempering steel, unalloyed	< 850 N/mm ²	1.5752	EN36	1.0535	EN9		
	1.6	Tempering steel, unalloyed	< 1000 N/mm ²	1.6582	EN24				
	1.7	Tempering steel, alloyed	< 800 N/mm ²	1.7225	EN19				
	1.8	Tempering steel, alloyed	< 1300 N/mm ²	1.8515	EN40B				
	1.9	Steel castings	< 850 N/mm ²	0.9650	G-X 260 Cr 27	1.6750	GS-20 NiCrMo 3.7	1.6582	GS-34 CrNiMo 6
	1.10	Nitriding steel	< 1000 N/mm ²	1.8509	EN41B				
	1.11	Nitriding steel	< 1200 N/mm ²	1.1186	EN8	1.1160	EN14A		
	1.12	Roller bearing steel	< 1200 N/mm ²	1.3505	534A99				
	1.13	Spring steel	< 1200 N/mm ²		EN45		EN47		EN43
	1.14	High-speed steel	< 1300 N/mm ²	1.3343	M2	1.3249	M34		
	1.15	Cold working tool steel	< 1300 N/mm ²	1.2379	D2	1.2311	P20		
	1.16	Hot working tool steel	< 1300 N/mm ²	1.2344	H13				
M	2.1	Cast steel and sulphured stainless steel	< 850 N/mm ²	1.4581	318				
	2.2	Stainless steel, ferritic	< 750 N/mm ²	1.4000	403				
	2.3	Stainless steel, martensitic	< 900 N/mm ²	1.4057	EN57				
	2.4	Stainless steel, ferritic / martensitic	< 1100 N/mm ²	1.4028	EN56B				
	2.5	Stainless steel, austenitic / ferritic	< 850 N/mm ²	1.4542	17-4PH				
	2.6	Stainless steel, austenitic	< 750 N/mm ²	1.4305	303	1.4401	316	1.4301	304
	2.7	Heat resistant steel	< 1100 N/mm ²	1.4876	Incoloy 800				
K	3.1	Grey cast iron with lamellar graphite	100–350 N/mm ²	0.6015	Grade 150	0.6020	Grade 220	0.6025	Grade 260
	3.2	Grey cast iron with lamellar graphite	300–500 N/mm ²	0.6030	Grade 300	0.6035	Grade 350	0.6040	Grade 400
	3.3	Gray cast iron with spheroidal graphite	300–500 N/mm ²	0.7040	SG 400-12	0.7043	SG 370-17	0.7050	SG 500-7
	3.4	Gray cast iron with spheroidal graphite	500–900 N/mm ²	0.7060	SG 600-3	0.7070	SG 700-2	0.7080	SG 800-2
	3.5	White malleable cast iron	270–450 N/mm ²	0.8035	GTW-35	0.8045	GTW-45		
	3.6	White malleable cast iron	500–650 N/mm ²	0.8055	GTW-55	0.8065	GTW-65		
	3.7	Black malleable cast iron	300–450 N/mm ²	0.8135	GTS-35	0.8145	GTS-45		
	3.8	Black malleable cast iron	500–800 N/mm ²	0.8155	GTS-55	0.8170	GTS-70		
N	4.1	Aluminium (non alloyed, low alloyed)	< 350 N/mm ²	3.0255	1050 A	3.0275	1070 A	3.0285	1080 A (A8)
	4.2	Aluminium alloys < 0.5 % Si	< 500 N/mm ²	3.1325	2017 A (AU4G)	3.4335	7005 (AZ5G)	3.4365	7075 (AZ5GU)
	4.3	Aluminium alloy 0.5–10 % Si	< 400 N/mm ²	3.2315	A-G S1	3.2373	A-S9 G	3.2151	A-S 6 U4
	4.4	Aluminium alloys 10–15 % Si	< 400 N/mm ²	3.2581	A-S12	3.2583	A-S12 U		
	4.5	Aluminum alloys > 15 % Si	< 400 N/mm ²		A-S18	A-S17 U4			
	4.6	Copper (non alloyed, low alloyed)	< 350 N/mm ²	2.0040	Cu-c1	2.0060	Cu-a1	2.0090	Cu-b1
	4.7	Copper wrought alloys	< 700 N/mm ²	2.1247	Cub2 (Beryllium Copper)	2.0855	CuN2S (Nickel Copper)	2.1310	CU-Fe2P
	4.8	Special copper alloys	< 200 HB	2.0916	Cu-A5	2.1525	Cu-S3 M		Ampco 8 (Cu-A6Fe2)
	4.9	Special copper alloys	< 300 HB	2.0978	Cu-A11 Fe5 Ni5		Ampco 18 (Cu- A10 Fe3)		
	4.10	Special copper alloys	> 300 HB	2.1247	Cu Be2		Ampco M4		
	4.11	Short-chipping brass, bronze, red bronze	< 600 N/mm ²	2.0331	Cu Zn36 Pb1,5	2.0380	Cu Zn39 Pb2 (Ms 56)	2.0410	Cu Zn44 Pb2
	4.12	Long-chipping brass	< 600 N/mm ²	2.0335	Cu Zn 36 (Ms63)	2.1293	Cu Cr1 Zr		
	4.13	Thermoplastics		PE	PVC	PS	Polystyrene		Plexiglas
	4.14	Duroplastics		PF	Bakelite		Pertinax		
	4.15	Fibre-reinforced plastics			Carbon Fibre		Fibreglass		Aramid Fibre (Kevlar)
	4.16	Magnesium and magnesium alloys	< 850 N/mm ²	3.5812	Mg A7 Z1	3.5662	Mg A9	3.5105	Mg Tr3 Z2 Zn 1
	4.17	Graphite			R8500X		R8650		Technograph 15
	4.18	Tungsten and tungsten alloys			W-Ni Fe (Densimet)		W- Ni Cu (Inermet)		Denal
	4.19	Molybdenum and molybdenum alloys			TZM		MHQ		Mo W
S	5.1	Pure nickel		2.4066	Ni99 (Nickel 200)	2.4068	Lc Ni99 (Nickel 201)		
	5.2	Nickel alloys		1.3912	Fe-Ni36 (Invar)	1.3917	Fe- Ni42 (N42)	1.3922	Fe-Ni48 (N48)
	5.3	Nickel alloys	< 850 N/mm ²	2.4375	Ni Cu30 Al (Monel K500)	2.4360	Ni Cu30Fe (Monel 400)	2.4668	
	5.4	Nickel molybdenum alloys		2.4600	Ni Mo30Cr2 (Hastelloy B4)	2.4617	Ni Mo28 (Hastelloy B2)	2.4819	Ni Mo16Cr16 Hastell. C276
	5.5	Nickel-chromium alloys	< 1300 N/mm ²	2.4951	Ni Cr20TiAl (Nimonic 80A)	2.4858	Ni Cr21Mo (Inconel 825)	2.4856	Ni Cr22Mo9Nb Inconel 625
	5.6	Cobalt Chrome Alloys	< 1300 N/mm ²	2.4964	Co Cr20 W15 Ni10		Co Cr20 Ni16 Mo7		Co Cr28 Mo 6
	5.7	Heat resistant alloys	< 1300 N/mm ²	1.4718	Z45 C S 9-3	1.4747	Z80 CSN 20-02	1.4845	Z12 CN 25-20
	5.8	Nickel-cobalt-chromium alloys	< 1400 N/mm ²	2.4851	Ni Cr23Fe (Inconel 601)	2.4668	Ni Cr19NbMo (Inconel 718)	2.4602	Ni Cr21Mo14 Hastelloy C22
	5.9	Pure titanium	< 900 N/mm ²	3.7025	T35 (Titanium Grade 1)	3.7034	T40 (Titanium Grade 2)	3.7064	T60 (Titanium Grade 4)
	5.10	Titanium alloys	< 700 N/mm ²		T-A6-Nb7 (367)		T-A5-Sn2-Mo4-Cr4 (Ti17)		T-A3-V2,5 (Gr18)
	5.11	Titanium alloys	< 1200 N/mm ²	3.7165	T-A6-V4 (Ta6V)		T-A4-3V-Mo2-Fe2 (SP700)		T-A5-Sn1-Zr1-V1-Mo (Gr32)
H	6.1		< 45 HRC						
	6.2		46–55 HRC						
	6.3	Tempered steel	56–60 HRC						
	6.4		61–65 HRC						
	6.5		65–70 HRC						

Cutting data standard values – AluLine – NC deburring cutter

		DLC								uncoated						Emulsion	Compressed air	MMS
		Ø 4	Ø 6	Ø 8	Ø 10	Ø 12	Ø 16			Ø 4	Ø 6	Ø 8	Ø 10	Ø 12	Ø 16			
Index	V _c m/min	f _z mm						V _c m/min	f _z mm									
1.1																		
1.2																		
1.3																		
1.4																		
1.5																		
1.6																		
1.7																		
1.8																		
1.9																		
1.10																		
1.11																		
1.12																		
1.13																		
1.14																		
1.15																		
1.16																		
2.1																		
2.2																		
2.3																		
2.4																		
2.5																		
2.6																		
2.7																		
3.1																		
3.2																		
3.3																		
3.4																		
3.5																		
3.6																		
3.7																		
3.8																		
4.1	310	0,03	0,04	0,05	0,06	0,07	0,08	200	0,02	0,03	0,04	0,05	0,06	0,07	●	○*	○	
4.2	310	0,03	0,04	0,05	0,06	0,07	0,08	200	0,02	0,03	0,04	0,05	0,06	0,07	●	○*	○	
4.3	290	0,03	0,04	0,05	0,06	0,07	0,08	190	0,02	0,03	0,04	0,05	0,06	0,07	●	○*	○	
4.4	270	0,03	0,04	0,05	0,06	0,07	0,08	180	0,02	0,03	0,04	0,05	0,06	0,07	●	○*	○	
4.5	260	0,03	0,04	0,05	0,06	0,07	0,08	175	0,02	0,03	0,04	0,05	0,06	0,07	●	○*	○	
4.6	130	0,03	0,04	0,05	0,06	0,07	0,08	90	0,02	0,03	0,04	0,05	0,06	0,07	●	○*	○	
4.7	130	0,03	0,04	0,05	0,06	0,07	0,08	90	0,02	0,03	0,04	0,05	0,06	0,07	●	○*	○	
4.8	120	0,03	0,04	0,05	0,06	0,07	0,08	85	0,02	0,03	0,04	0,05	0,06	0,07	●	○*	○	
4.9	120	0,03	0,04	0,05	0,06	0,07	0,08	85	0,02	0,03	0,04	0,05	0,06	0,07	●	○*	○	
4.10	110	0,03	0,04	0,05	0,06	0,07	0,08	80	0,02	0,03	0,04	0,05	0,06	0,07	●	○*	○	
4.11	150	0,03	0,04	0,05	0,06	0,07	0,08	100	0,02	0,03	0,04	0,05	0,06	0,07	●	○*	○	
4.12	150	0,03	0,04	0,05	0,06	0,07	0,08	100	0,02	0,03	0,04	0,05	0,06	0,07	●	○*	○	
4.13	330	0,03	0,04	0,05	0,06	0,07	0,08	205	0,02	0,03	0,04	0,05	0,06	0,07	●	○*	○	
4.14	330	0,03	0,04	0,05	0,06	0,07	0,08	205	0,02	0,03	0,04	0,05	0,06	0,07	●	○*	○	
4.15																		
4.16																		
4.17																		
4.18																		
4.19																		
5.1																		
5.2																		
5.3																		
5.4																		
5.5																		
5.6																		
5.7																		
5.8																		
5.9																		
5.10																		
5.11																		
6.1																		
6.2																		
6.3																		
6.4																		
6.5																		

i * = only suitable for DLC-coated cutters

Cutting data standard values – SilverLine – NC deburring cutter

		DPB72S								uncoated						Emulsion	Compressed air	MMS
		Ø 4	Ø 6	Ø 8	Ø 10	Ø 12	Ø 16			Ø 4	Ø 6	Ø 8	Ø 10	Ø 12	Ø 16			
Index	V _c m/min	f _z mm						V _c m/min	f _z mm									
1.1	145	0,03	0,035	0,045	0,06	0,08	0,09	90	0,02	0,025	0,035	0,05	0,07	0,08	●	○	○	
1.2	140	0,03	0,035	0,045	0,06	0,08	0,09	80	0,02	0,025	0,035	0,05	0,07	0,08	●	○	○	
1.3	140	0,03	0,035	0,045	0,06	0,08	0,09	80	0,02	0,025	0,035	0,05	0,07	0,08	●	○	○	
1.4	100	0,025	0,03	0,04	0,055	0,075	0,085	65	0,015	0,02	0,03	0,045	0,065	0,075	●	○	○	
1.5	130	0,03	0,035	0,045	0,06	0,08	0,09	80	0,02	0,025	0,035	0,05	0,07	0,08	●	○	○	
1.6	120	0,025	0,03	0,04	0,055	0,075	0,085	75	0,015	0,02	0,03	0,045	0,065	0,075	●	○	○	
1.7	100	0,03	0,035	0,045	0,06	0,08	0,09	65	0,02	0,025	0,035	0,05	0,07	0,08	●	○	○	
1.8	90	0,02	0,02	0,025	0,03	0,04	0,05	60	0,01	0,015	0,025	0,04	0,06	0,07	●	○	○	
1.9	150	0,03	0,035	0,045	0,06	0,08	0,09	90	0,02	0,025	0,035	0,05	0,07	0,08	●	○	○	
1.10	100	0,025	0,03	0,04	0,055	0,075	0,085	65	0,015	0,02	0,03	0,045	0,065	0,075	●	○	○	
1.11	90	0,02	0,02	0,025	0,03	0,04	0,05	60	0,01	0,015	0,025	0,04	0,06	0,07	●	○	○	
1.12	90	0,02	0,02	0,025	0,03	0,04	0,05	60	0,01	0,015	0,025	0,04	0,06	0,07	●	○	○	
1.13	90	0,02	0,02	0,025	0,03	0,04	0,05	60	0,01	0,015	0,025	0,04	0,06	0,07	●	○	○	
1.14	80	0,02	0,02	0,025	0,03	0,04	0,05	50	0,01	0,015	0,025	0,04	0,06	0,07	●	○	○	
1.15	80	0,02	0,02	0,025	0,03	0,04	0,05	50	0,01	0,015	0,025	0,04	0,06	0,07	●	○	○	
1.16	80	0,02	0,02	0,025	0,03	0,04	0,05	50	0,01	0,015	0,025	0,04	0,06	0,07	●	○	○	
2.1	110	0,025	0,03	0,03	0,04	0,05	0,055	75	0,025	0,03	0,03	0,04	0,05	0,055	●			
2.2	110	0,025	0,03	0,03	0,04	0,05	0,055	75	0,025	0,03	0,03	0,04	0,05	0,055	●			
2.3	105	0,025	0,03	0,03	0,04	0,05	0,055	70	0,025	0,03	0,03	0,04	0,05	0,055	●			
2.4	90	0,02	0,025	0,025	0,03	0,04	0,045	60	0,02	0,025	0,025	0,03	0,04	0,045	●			
2.5	110	0,025	0,03	0,03	0,04	0,05	0,055	75	0,025	0,03	0,03	0,04	0,05	0,055	●			
2.6	110	0,025	0,03	0,03	0,04	0,05	0,055	75	0,025	0,03	0,03	0,04	0,05	0,055	●			
2.7	90	0,02	0,025	0,025	0,03	0,04	0,045	60	0,02	0,025	0,025	0,03	0,04	0,045	●			
3.1	140	0,03	0,035	0,045	0,06	0,08	0,09	95	0,02	0,025	0,035	0,05	0,07	0,08	●	●	●	
3.2	110	0,03	0,035	0,045	0,06	0,08	0,09	75	0,02	0,025	0,035	0,05	0,07	0,08	●	●	●	
3.3	140	0,03	0,035	0,045	0,06	0,08	0,09	95	0,02	0,025	0,035	0,05	0,07	0,08	●	●	●	
3.4	130	0,03	0,035	0,045	0,06	0,08	0,09	90	0,02	0,025	0,035	0,05	0,07	0,08	●	●	●	
3.5	140	0,03	0,035	0,045	0,06	0,08	0,09	95	0,02	0,025	0,035	0,05	0,07	0,08	●	●	●	
3.6	140	0,03	0,035	0,045	0,06	0,08	0,09	95	0,02	0,025	0,035	0,05	0,07	0,08	●	●	●	
3.7	140	0,03	0,035	0,045	0,06	0,08	0,09	95	0,02	0,025	0,035	0,05	0,07	0,08	●	●	●	
3.8	130	0,03	0,035	0,045	0,06	0,08	0,09	90	0,02	0,025	0,035	0,05	0,07	0,08	●	●	●	
4.1																		
4.2																		
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4.15																		
4.16																		
4.17																		
4.18																		
4.19																		
5.1	90	0,02	0,02	0,025	0,03	0,04	0,05	55	0,01	0,015	0,025	0,03	0,035	0,04	●			
5.2	90	0,02	0,02	0,025	0,03	0,04	0,05	55	0,01	0,015	0,025	0,03	0,035	0,04	●			
5.3	90	0,02	0,02	0,025	0,03	0,04	0,05	55	0,01	0,015	0,025	0,03	0,035	0,04	●			
5.4	55	0,02	0,02	0,025	0,03	0,04	0,05	35	0,01	0,015	0,025	0,03	0,035	0,04	●			
5.5	55	0,012	0,012	0,018	0,018	0,035	0,045	35	0,01	0,015	0,025	0,03	0,035	0,04	●			
5.6	55	0,012	0,012	0,018	0,018	0,035	0,045	35	0,01	0,015	0,025	0,03	0,035	0,04	●			
5.7	55	0,012	0,012	0,018	0,018	0,035	0,045	35	0,01	0,015	0,025	0,03	0,035	0,04	●			
5.8	50	0,01	0,01	0,015	0,02	0,03	0,04	28	0,01	0,015	0,025	0,03	0,035	0,04	●			
5.9	70	0,02	0,02	0,025	0,03	0,04	0,05	48	0,01	0,015	0,025	0,03	0,035	0,04	●			
5.10	75	0,02	0,02	0,025	0,03	0,04	0,05	53	0,01	0,015	0,025	0,03	0,035	0,04	●			
5.11	60	0,015	0,015	0,02	0,025	0,035	0,045	38	0,01	0,015	0,025	0,03	0,035	0,04	●			
6.1																		
6.2																		
6.3																		
6.4																		
6.5																		

Cutting data standard values – BlueLine – NC deburring cutter

Index	V _c m/min	Ti2000						Emulsion	Compressed air	MMS
		Ø 4	Ø 6	Ø 8	Ø 10	Ø 12	Ø 16			
		f _z mm								
1.1										
1.2										
1.3										
1.4										
1.5										
1.6										
1.7										
1.8										
1.9										
1.10										
1.11	90	0,02	0,02	0,025	0,03	0,04	0,05	●	○	○
1.12	90	0,02	0,02	0,025	0,03	0,04	0,05	●	○	○
1.13	90	0,02	0,02	0,025	0,03	0,04	0,05	●	○	○
1.14	80	0,02	0,02	0,025	0,03	0,04	0,05	●	○	○
1.15	80	0,02	0,02	0,025	0,03	0,04	0,05	●	○	○
1.16	80	0,02	0,02	0,025	0,03	0,04	0,05	●	○	○
2.1										
2.2										
2.3										
2.4										
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5.5										
5.6										
5.7										
5.8										
5.9										
5.10										
5.11										
6.1	125	0,06	0,065	0,07	0,075	0,075	0,08		●	
6.2	115	0,045	0,055	0,06	0,065	0,065	0,07		●	
6.3	100	0,04	0,05	0,055	0,06	0,06	0,065		●	
6.4	80	0,035	0,045	0,05	0,055	0,055	0,06		●	
6.5	60	0,025	0,03	0,04	0,045	0,045	0,05		●	

A photograph of two men in a workshop setting. The man on the left, wearing a dark blue jacket over a light-colored shirt, is smiling and looking at a small, cylindrical metal part he is holding. The man on the right, wearing a grey button-down shirt, is leaning in and looking closely at the part. The background shows industrial equipment and a workshop environment. There are decorative geometric shapes: a grey triangle on the left, a blue triangle on the right, and a large red triangle at the bottom left.

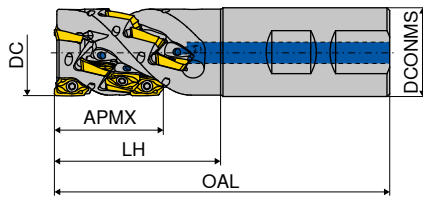
STRONG SUPPORT, THAT COMES FROM PRACTICAL EXPERIENCE

With concentrated expertise and personal advice, we increase the productivity of our customers

MaxiMill – Shell end mill C 211-11KN

▲ ZEFP = Number of inserts

▲ ZNP = Number of teeth

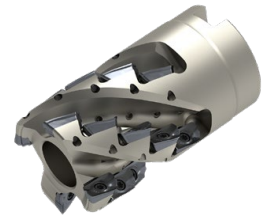
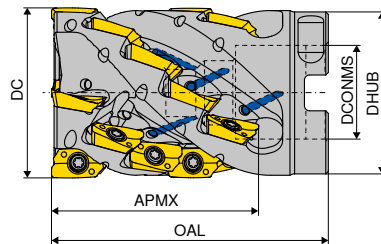


ISO designation	DC	ZNF	APMX	OAL	LH	DCONMS	ZEFP	ZNP	torque moment Nm	Insert	NEW 2B/40 Article no. 50 784 ... £	
C211.25.R.02KN3-11-B-40	25	2	28	97	40	25	6	3	1,6	XD.T 11T3	577.55	02523
C211.25.R.02KN4-11-B-50	25	2	37	107	50	25	8	4	1,6	XD.T 11T3	611.45	02524
C211.25.R.02KN5-11-B-60	25	2	46	117	60	25	10	5	1,6	XD.T 11T3	652.18	02525
C211.32.R.02KN4-11-B-50	32	2	37	111	50	32	8	4	1,6	XD.T 11T3	633.45	03224
C211.32.R.03KN5-11-B-60	32	3	46	121	60	32	15	5	1,6	XD.T 11T3	764.27	03235
C211.40.R.03KN4-11-B32-50	40	3	37	111	50	32	12	4	1,6	XD.T 11T3	726.91	04034
C211.40.R.04KN5-11-B32-60	40	4	46	121	60	32	20	5	1,6	XD.T 11T3	876.36	04045

MaxiMill – Shell end mill A 211-11KN

▲ ZEFP = Number of inserts

▲ ZNP = Number of teeth



ISO designation	DC	ZNF	APMX	ZEFP	ZNP	OAL	DCONMS _{H6}	DHUB	torque moment Nm	Insert	NEW 2B/40 Article no. 50 794 ... £	
A211.40.R.03KN4-11	40	3	37	12	4	65	22	38	1,6	XD.T 11T3	726.91	04034
A211.40.R.04KN4-11	40	4	37	16	4	65	22	38	1,6	XD.T 11T3	794.73	04044
A211.40.R.04KN5-11	40	4	46	20	5	74	22	38	1,6	XD.T 11T3	876.36	04045
A211.50.R.04KN5-11	50	4	46	20	5	75	27	48	1,6	XD.T 11T3	958.18	05045
A211.50.R.05KN5-11	50	5	46	25	5	75	27	48	1,6	XD.T 11T3	1,043.64	05055
A211.50.R.05KN6-11	50	5	55	30	6	85	27	48	1,6	XD.T 11T3	1,143.64	05056

Spare parts	2A/28		Y7		Y7		2A/28		2A/28		2A/28		Y7	
	Cylindrical screw		TORX® blade		Key D		Molykote		Clamping screw		Socket head screw		Torque screwdriver	
Designation	Article no. 70 950 ...		Article no. 80 950 ...		Article no. 80 950 ...		Article no. 70 950 ...		Article no. 70 950 ...		Article no. 70 950 ...		Article no. 80 950 ...	
A211.40. KN4	£		£		£		£		£		£		£	
A211.40. KN5	10.45		6.69		13.49		3.98		6.45		10.45		163.58	
A211.50. KN5	002		043		125		303		20400		20900		191	
C211.25			043		125		303		20700				191	
C211.32			043		125		303		20700				191	
C211.40			043		125		303		20400				191	

Milling guide

Matching indexable inserts can be found in the main catalogue in Chapter 15 → Milling tools with indexable inserts Page 63–65

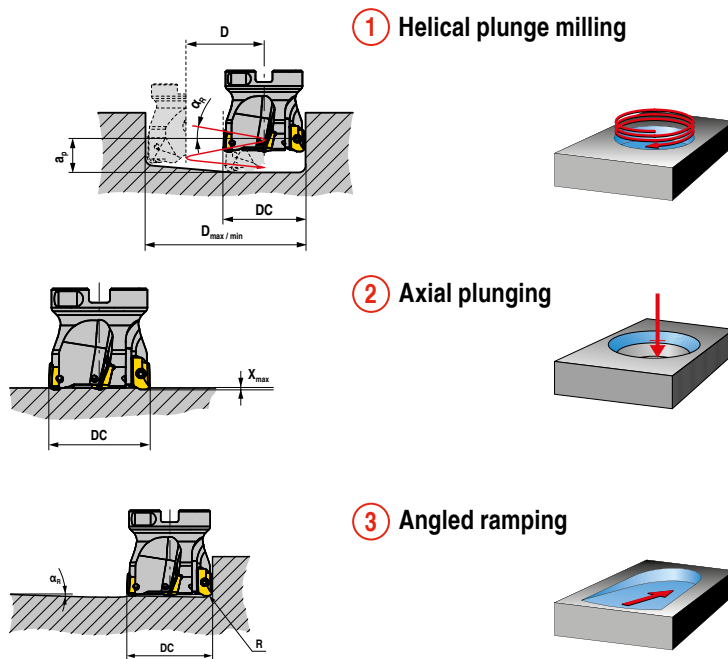
System MaxiMill 211-11

Cutting data recommendations/Technology data

for shell end mill

Material	F			M			R		
	v_c m/min	f_z mm	a_p mm	v_c m/min	f_z mm	a_p mm	v_c m/min	f_z mm	a_p mm
Steel	100-300	0,05-0,20	≤ APMX						
Stainless steel	80-200	0,05-0,20	≤ APMX						
Cast iron	110-300	0,05-0,20	≤ APMX						
Non ferrous metals	300-2000	0,10-0,25	≤ APMX						
Heat resistant	40-80	0,05-0,15	≤ APMX						
hardened materials	30-50	0,05-0,10	≤ APMX						

Machining strategy



maximum rpm based on overhang length.					
n_{max} in min^{-1}					
DC mm	$l_a = 1-2 \times \emptyset$ mm	$l_a = 2,5 \times \emptyset$ mm	$l_a = 3 \times \emptyset$ mm	$l_a = 4 \times \emptyset$ mm	$l_a = 5 \times \emptyset$ mm
12	55000	51500	47000	42000	37000
16	42000	38500	34100	28900	24200
20	36900	33000	28500	23900	19500
25	33200	29000	24400	19900	15400
32	30200	26000	20900	16600	11900
40	27700	23000	18000	13500	9000
50	25400	20400	15400	10800	6100
63	23300	18300	12900	8300	3700
80	21300	16100	10600	5800	
100	19600	14100	8400		

DC mm	① Helical plunge milling		② Axial plunging	③ Angled ramping
	RE = 0,8 mm		X_{max}	α_R
12	α_R	16 °		
	D_{max}	21 mm	1,3 mm	18 °
	D_{min}	14 mm		
16	α_R	9,5 °		
	D_{max}	29 mm	1,5 mm	10,8 °
	D_{min}	21 mm		
20	α_R	7 °		
	D_{max}	37 mm	2,0 mm	9,8 °
	D_{min}	30 mm		
25	α_R	4,5 °		
	D_{max}	47 mm	2,0 mm	7,5 °
	D_{min}	40 mm		
32	α_R	3,2 °		
	D_{max}	61 mm	1,0 mm	4,8 °
	D_{min}	53 mm		
40	α_R	2,2 °		
	D_{max}	77 mm	1,6 mm	2,9 °
	D_{min}	72 mm		
50	α_R	1,7 °		
	D_{max}	98 mm	1,6 mm	2,2 °
	D_{min}	93 mm		
63	α_R	1,5 °		
	D_{max}	123 mm	1,6 mm	1,8 °
	D_{min}	116 mm		
80	α_R	1,0 °		
	D_{max}	157 mm	1,6 mm	1,4 °
	D_{min}	153 mm		
100	α_R	0,8 °		
	D_{max}	107 mm	1,6 mm	1,1 °
	D_{min}	101 mm		

D_{max} in mm = largest diameter for flat bottom hole

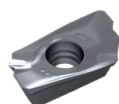
D_{min} in mm = smallest diameter for flat bottom hole

a_p in mm = $D \times \pi \times \tan(\alpha_R)$ = Pitch

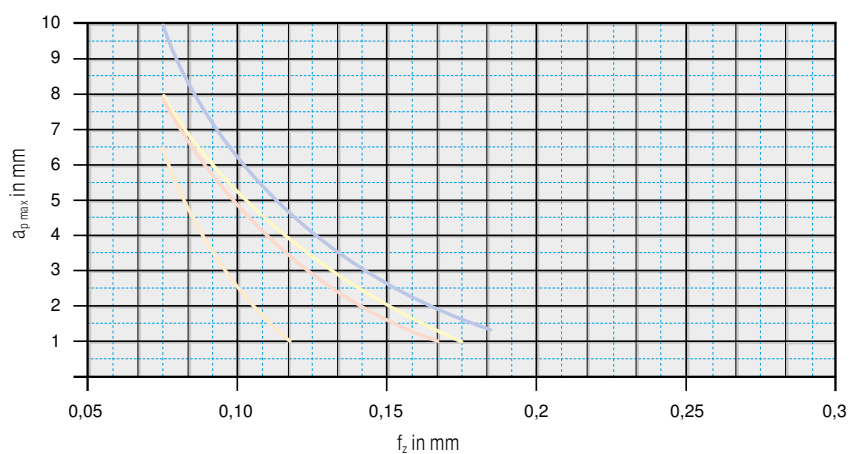
l_a in mm = Overhang length

System MaxiMill 211-11

Starting Parameter



XDKT 11



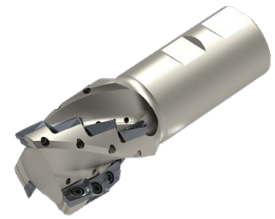
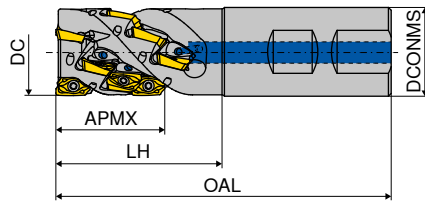
Index	Material			Inserts		v _c in m/min	Cooling
1.15	Steel	1.2312	40CrMnMoS 8-6	XDKT11T308SR-M50	CTPP235	200	Dry
2.6	Stainless steel	1.4571	X6CrNiMoTi 1712 2	XDKT11T308SR-F50	CTPM240	180	Dry
3.1	Cast iron	5.1301	EN-GJL-250 (GG25)	XDKT11T308SR-R50	CTCK215	250	Dry
5.8	Heat resistant	2.4856	Inconel 718	XDKT11T308ER-F50	CTC5240	35	Emulsion

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

MaxiMill – Shell end mill C 211-15KN

▲ ZEFP = Number of Inserts

▲ ZNP = Number of rows



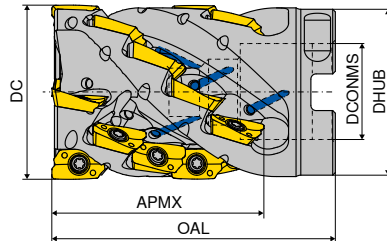
B

ISO designation	DC	ZNF	APMX	OAL	LH	DCONMS	ZEFP	ZNP	torque moment Nm	Insert	NEW 2B/40 Article no. 50 783 ... £
C211.40.R.03KN3-15-B32-60	40	3	39.6	121	60	32	9	3	3,2	XD.T 1505	676.00 04033
C211.50.R.03KN4-15-B40-68	50	3	52.6	138	67	40	12	4	3,2	XD.T 1505	822.18 05034

MaxiMill – Shell end mill A 211-15KN

▲ ZEFP = Number of Inserts

▲ ZNP = Number of rows



ISO designation	DC	ZNF	APMX	ZEFP	ZNP	OAL	DCONMS _{H6}	DHUB	torque moment Nm	Insert	NEW 2B/40 Article no. 50 781 ... £
A211.50.R.03KN4-15	50	3	52.6	12	4	87	27	48	3,2	XD.T 1505	822.18 05034
A211.50.R.03KN5-15	50	3	65.8	15	5	100	27	48	3,2	XD.T 1505	873.09 05035
A211.50.R.04KN5-15	50	4	65.8	20	5	100	27	48	3,2	XD.T 1505	972.73 05045
A211.63.R.03KN4-15	63	3	52.6	12	4	76	27	58	3,2	XD.T 1505	896.36 06334
A211.63.R.03KN5-15	63	3	65.8	15	5	90	27	58	3,2	XD.T 1505	947.27 06335
A211.63.R.04KN6-15	63	4	78.5	24	6	102	27	58	3,2	XD.T 1505	1,100.00 06346
A211.63.R.05KN5-15	63	5	65.8	25	5	90	27	58	3,2	XD.T 1505	1,138.18 06355
A211.80.R.04KN5-15	80	4	65.8	20	5	90	32	78	3,2	XD.T 1505	1,105.45 08045
A211.80.R.05KN6-15	80	5	78.5	30	6	102	32	78	3,2	XD.T 1505	1,276.36 08056

Spare parts

Designation

	2A/28	Y7	Y7	2A/28	2A/28	2A/28	Y7
	Cylindrical screw	TORX® blade	Key D	Molykote	Clamping screw	Socket head screw	Torque screwdriver
	Article no. 70 950 ...	Article no. 80 950 ...	Article no. 80 950 ...	Article no. 70 950 ...	Article no. 70 950 ...	Article no. 70 950 ...	Article no. 80 950 ...
	£	£	£	£	£	£	£
A211.50	10.45 002	6.69 054	15.77 128	3.98 303	8.15 20800	10.45 20600	183.22 193
A211.63	10.45 002	6.69 054	15.77 128	3.98 303	8.15 20500	10.45 20600	183.22 193
A211.80	23.39 004	6.69 054	15.77 128	3.98 303	8.15 20500	10.45 234	183.22 193
C211.40		6.69 054	15.77 128	3.98 303	8.15 20800		183.22 193
C211.50		6.69 054	15.77 128	3.98 303	8.15 20800		183.22 193

Milling guide

Matching indexable inserts can be found in the main catalogue in Chapter 15 → Milling tools with indexable inserts Page 69–71

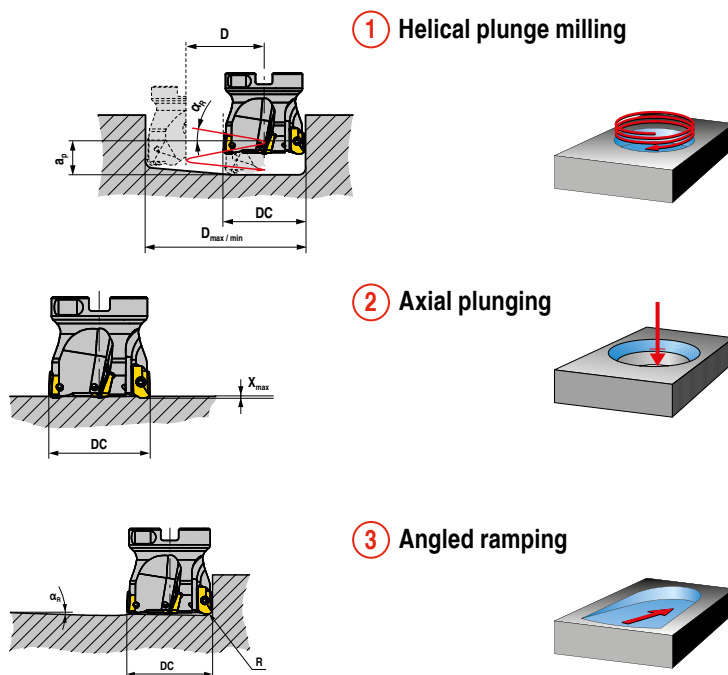
System MaxiMill 211-15

Cutting data recommendations/Technology data

for shell end mill

Material	F			M			R		
	v_c m/min	f_z mm	a_p mm	v_c m/min	f_z mm	a_p mm	v_c m/min	f_z mm	a_p mm
Steel	120-300	0,08-0,35	≤ APMX						
Stainless steel	150-200	0,08-0,35	≤ APMX						
Cast iron	130-300	0,08-0,35	≤ APMX						
Non ferrous metals	400-2500	0,12-0,40	≤ APMX						
Heat resistant	25-80	0,08-0,20	≤ APMX						
hardened materials									

Machining strategy



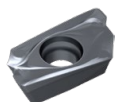
maximum rpm based on overhang length.			
DC mm	$l_a = 2 \times \emptyset$ mm	$l_a = 3 \times \emptyset$ mm	$l_a = 5 \times \emptyset$ mm
25	26560	19520	13320
32	24160	16720	9520
40	22160	14400	7200
50	20320	12320	4880
63	18640	10320	2960
80	17040	8480	
100	15680	6720	
125	14320		
160	13200		

DC mm	1 2 3		
	Helical plunge milling RE = 0,8 mm	Axial plunging X_{max}	Angled ramping α_R
25	α_R 7,5 ° D_{max} 48 mm D_{min} 37 mm	2,7 mm	9,5 °
32	α_R 5 ° D_{max} 62 mm D_{min} 47 mm	2,5 mm	6,8 °
40	α_R 3,2 ° D_{max} 78 mm D_{min} 63 mm	2,5 mm	5,1 °
50	α_R 2,5 ° D_{max} 98 mm D_{min} 86 mm	2,5 mm	2,5 °
63	α_R 1,5 ° D_{max} 124 mm D_{min} 111 mm	2,5 mm	2,5 °
80	α_R 1,3 ° D_{max} 158 mm D_{min} 147 mm	2,5 mm	2,0 °
100	α_R 1,1 ° D_{max} 198 mm D_{min} 190 mm	2,5 mm	1,5 °
125	α_R 0,9 ° D_{max} 248 mm D_{min} 240 mm	2,5 mm	0,9 °
160	α_R 0,6 ° D_{max} 318 mm D_{min} 310 mm	2,5 mm	0,7 °

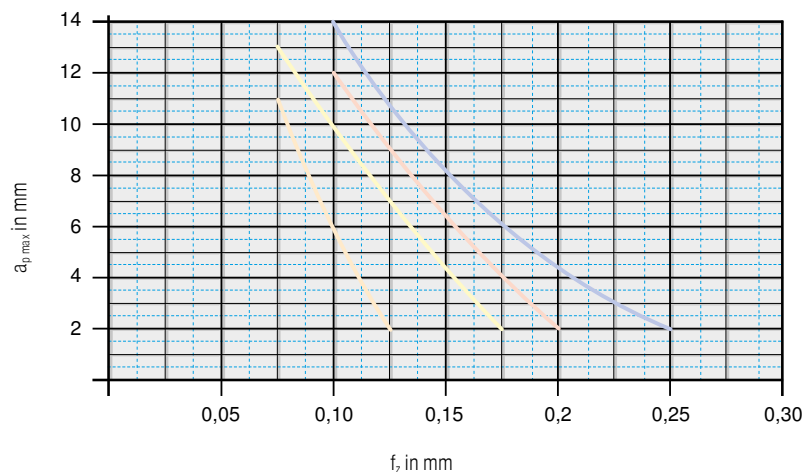
 D_{max} in mm = largest diameter for flat bottom hole D_{min} in mm = smallest diameter for flat bottom hole a_p in mm = $D \times \pi \times \tan(\alpha_R)$ = Pitch l_a in mm = Overhang length

System MaxiMill 211-15

Starting Parameter



XDKT 15



Index	Material			Inserts		v_c in m/min	Cooling
1.15	Steel	1.2312	40CrMnMoS 8-6	XDKT150508SR-M50	CTPP235	200	Dry
2.6	Stainless steel	1.4571	X6CrNiMoTi 1712 2		CTPM240	180	Dry
3.1	Cast iron	5.1301	EN-GJL-250 (GG25)	XDKT150508SR-R50	CTCK215	250	Dry
5.8	Heat resistant	2.4856	Inconel 718	XDKT150508ER-F40	CTC5240	35	Emulsion

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

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WNT \ Performance

Premium quality tools for high performance.

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

WNT \ Standard

Quality tools for standard applications.

The quality tools of the **WNT Standard** product line are high quality, powerful and reliable and enjoy the highest trust of our customers worldwide. Tools from this product line are the first choice for many standard applications and guarantee optimal results.

Overview of ABS tool holders

							
Holder Type	DIN 69871		JIS B 6339		ISO 12164	ISO 26623-1	
	SK	SK-FC	MAS-BT	MAS-BT-FC	HSK-A	PSC	
ABS tool holders		137-139	140	141-143	144	145-147	148

Overview of ABS adapters

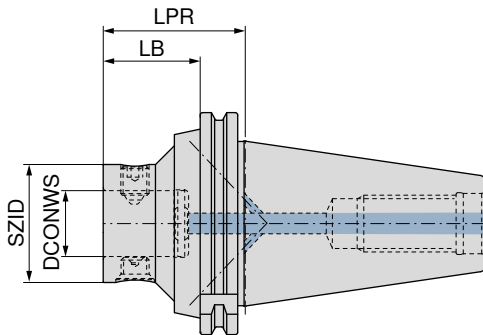
									
Holder Type	Hydraulic chuck	Heat Shrink Adapter	Weldon	Whistle notch	ER Collet chuck	Quick change tapping chuck with length compensation	Short drill chuck	Synchro tapping chuck	Shell mill adapter
ABS adapters	149	150	151	152+153	154	155	155	156	157
									
Holder Type	Combination shell mill adapter	Extension with ABS Connection	Torsional vibration dampers with ABS connection	Eccentric adjuster with ABS connection	Damping element with ABS connection	ABS reduction	Adjuster with ABS connection	Blank	
ABS adapters	158	159	160	161	162	163	164	165	

Adapter with ABS Connection

Scope of supply:

Steep taper adapter (Form B) with conversion kit (Form AD) and sealing disc

ABS



AD
G 6,3 n_{max} 8000

AD/B
G 6,3 n_{max} 8000

Adapter	KOMET no.	SZID	DCONWS	LPR	LB	NEW	SE	NEW	SE
						Article no.		Article no.	
						84 211 ...		84 201 ...	
						£		£	
SK 40	A50 00120	ABS 25	13	50		679.38	04090	754.46	04090
SK 40	A50 55120	ABS 25	13	50	31.0				
SK 40	A50 00130	ABS 32	16	50		679.38	04089	754.46	04089
SK 40	A50 55130	ABS 32	16	50	31.0				
SK 40	A50 00140	ABS 40	20	50	30.0	679.38	04088		
SK 40	A50 55140	ABS 40	20	50	31.0			754.46	04088
SK 40	A50 00150	ABS 50	28	50	31.0	679.38	04097		
SK 40	A50 55150	ABS 50	28	50	30.0			351.73	04097
SK 40	A50 00160	ABS 63	34	90	70.0	689.52	04096		
SK 40	A50 55160	ABS 63	34	90	71.0			766.55	04096
SK 50	A50 00320	ABS 25	13	60		776.69	05090		
SK 50	A50 55320	ABS 25	13	60	41.0			892.32	05090
SK 50	A50 00330	ABS 32	16	60		776.69	05089		
SK 50	A50 55330	ABS 32	16	60	41.0			882.18	05089
SK 50	A50 00340	ABS 40	20	60		776.69	05088		
SK 50	A50 55340	ABS 40	20	60	41.0			882.18	05088
SK 50	A50 00350	ABS 50	28	60	40.0	776.69	05097		
SK 50	A50 55350	ABS 50	28	60	40.9			411.27	05097
SK 50	A50 00360	ABS 63	34	60	41.0	786.83	05096		
SK 50	A50 55360	ABS 63	34	60	41.0			892.32	05096
SK 50	A50 00370	ABS 80	46	70	50.0	801.06	05092		
SK 50	A50 55370	ABS 80	46	70	51.0			904.41	05092
SK 50	A50 00380	ABS 100	56	115		886.28	05091		
SK 50	A50 55380	ABS 100	56	115	96.0			961.35	05091
SK 50	A50 00390	ABS 125	70	145		1,005.81	05085		

Spare parts SZID

		W7		XS		XS		XS	
		SK conversion kit (AD/B)		Clamping screw		Set		Taper screw	
Adapter		Article no.		Article no.		Article no.		Article no.	
		84 950 ...		84 950 ...		84 950 ...		84 950 ...	
		£		£		£		£	
ABS 100	SK 50			11.86	25700	24.82	99200	13.00	25200
ABS 100	SK 50			11.86	25700	24.82	99200	13.00	25200
ABS 125	SK 50			21.23	25800	43.27	99100	22.09	25300
ABS 25	SK 50			5.41	26800	13.14	99700	7.82	27000
ABS 25	SK 40			5.41	26800	13.14	99700	7.82	27000
ABS 25	SK 50			5.41	26800	13.14	99700	7.82	27000
ABS 25	SK 40			5.41	26800	13.14	99700	7.82	27000
ABS 32	SK 40					13.14	99600	7.82	27100
ABS 32	SK 50					13.14	99600	7.82	27100
ABS 32	SK 50					13.14	99600	7.82	27100
ABS 32	SK 40					13.14	99600	7.82	27100
ABS 40	SK 40			6.14	26900	14.18	99500	8.14	27200
ABS 40	SK 50			6.14	26900	14.18	99500	8.14	27200
ABS 40	SK 50			6.14	26900	14.18	99500	8.14	27200
ABS 40	SK 40			6.14	26900	14.18	99500	8.14	27200
ABS 50	SK 40			11.60	20300	26.43	99800	14.89	20400
ABS 50	SK 50			11.60	20300	26.43	99800	14.89	20400
ABS 63	SK 40			7.82	25500	17.59	99400	9.91	27300
ABS 63	SK 50			7.82	25500	17.59	99400	9.91	27300
ABS 63	SK 50			7.82	25500	17.59	99400	9.91	27300
ABS 63	SK 40			7.82	25500	17.59	99400	9.91	27300
ABS 80	SK 50			9.64	25600	21.32	99300	11.73	25100
ABS 80	SK 50			11.86	25700	21.32	99300	13.00	25200

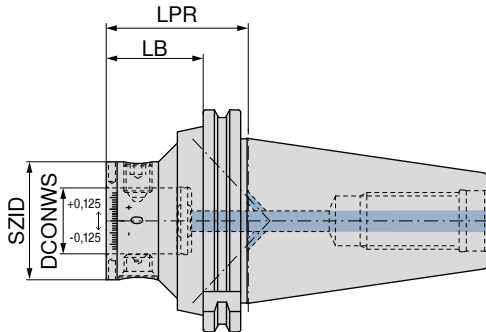
Eccentric adjuster with ABS Connection

▲ Adjustment ± 0.25 mm on diameter

Scope of supply:

Steep taper adapter (Form B) with conversion kit (Form AD) and sealing disc

ABS



AD/B

NEW W4

Article no.

84 204 ...

£

478.13 04097

615.45 04096

536.35 05097

704.66 05096

Adapter	KOMET no.	SZID	DCONWS	LPR	LB	
			mm	mm	mm	
SK 40	A50 56150	ABS 50	28	50	30.0	
SK 40	A50 56160	ABS 63	34	90	71.0	
SK 50	A50 56350	ABS 50	28	60	40.9	
SK 50	A50 56360	ABS 63	34	60	41.0	

Spare parts

for Article no.

		Article no. 84 950 ...	£		Article no. 84 950 ...	£		Article no. 84 950 ...	£		Article no. 84 950 ...	£
84 204 04097					11.60	20300		26.43	99800		14.89	20400
84 204 04096	Ø 4 mm	5.48	23200		7.82	25500		17.59	99400		9.91	27300
84 204 05097					11.60	20300		26.43	99800		14.89	20400
84 204 05096	Ø 6 mm	5.48	23400		7.82	25500		17.59	99400		9.91	27300

Accessories



Pull stud

→ Main catalogue, Chapter 16



ABS extension

→ 159



ABS reduction

→ 163



Others

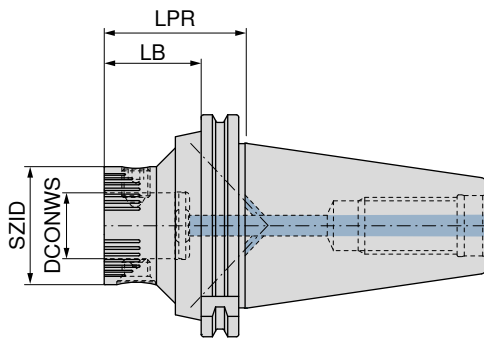
→ Chapter 17 in main catalogue

Torsional vibration dampers with ABS Connection

Scope of supply:

Steep taper adapter (Form B) with conversion kit (Form AD) and sealing disc

ABS



AD/B

NEW 3E

Article no.
84 207 ...

£

Adapter	KOMET no.	SZID	DCONWS	LPR	LB		
			mm	mm	mm		
SK 40	A50 01351	ABS 50	28	50	30.0	607.00	04097
SK 40	A50 01361	ABS 63	34	90	71.0	1,764.36	04096
SK 50	A50 01451	ABS 50	28	60	40.9	676.91	05097
SK 50	A50 01461	ABS 63	34	60	41.0	1,900.28	05096
SK 50	A50 01470	ABS 80	46	70	51.0	2,566.20	05092

Spare parts SZID

ABS 50	11.60	20300	26.43	99800	14.89	20400
ABS 63	7.82	25500	17.59	99400	9.91	27300
ABS 80	9.64	25600	21.32	99300	11.73	25100

XS	XS	XS
		
Clamping screw	Set	Taper screw
Article no. 84 950 ...	Article no. 84 950 ...	Article no. 84 950 ...
£	£	£
11.60 20300	26.43 99800	14.89 20400
7.82 25500	17.59 99400	9.91 27300
9.64 25600	21.32 99300	11.73 25100

Accessories



Pull stud
→ Main catalogue, Chapter 16



ABS extension
→ 159



ABS reduction
→ 163

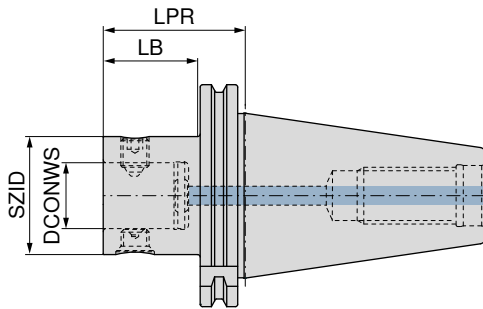


Others
→ Chapter 17 in main catalogue

Adapter with ABS Connection

▲ with face contact

ABS

AD
G 6,3 n_{max} 8000

NEW 3E

Article no.
84 213 ...

£

Adapter	KOMET no.	SZID	DCONWS	LPR	LB		
			mm	mm	mm		
SK-FC 40	A50 57151	ABS 50	28	50	31	1,111.31	04097
SK-FC 40	A50 57161	ABS 63	34	90		1,143.87	04096
SK-FC 50	A50 57351	ABS 50	28	60	41	1,224.99	05097
SK-FC 50	A50 57361	ABS 63	34	60	41	1,224.99	05096
SK-FC 50	A50 57371	ABS 80	46	70	51	1,303.97	05092
SK-FC 50	A50 57381	ABS 100	56	115		1,415.51	05091

Spare parts SZID

ABS 100	11.86	25700	24.82	99200	13.00	25200
ABS 50	11.60	20300	26.43	99800	14.89	20400
ABS 63	7.82	25500	17.59	99400	9.91	27300
ABS 80	9.64	25600	21.32	99300	11.73	25100

XS	XS	XS
Clamping screw	Set	Taper screw
Article no. 84 950 ...	Article no. 84 950 ...	Article no. 84 950 ...
£	£	£

Accessories



Pull stud

ABS extension

ABS reduction

Others

→ Main catalogue, Chapter 16

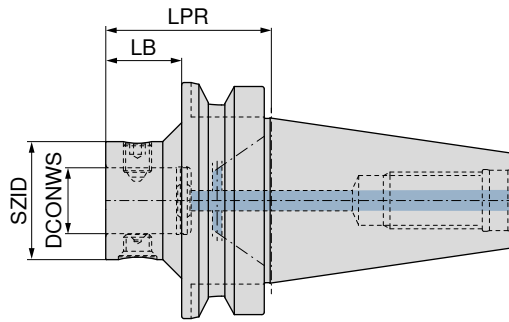
→ 159

→ 163

→ Chapter 17 in main catalogue

Adapter with ABS Connection

ABS



Adapter	KOMET no.	SZID	DCONWS	LPR	LB	AD		AD/B	
						NEW 3E	Article no.	NEW 3E	Article no.
			mm	mm	mm		84 202 ...		84 212 ...
BT 40	A55 00120	ABS 25	13	60		£ 679.38	04090	£ 754.46	04097
BT 40	A55 00130	ABS 32	16	60	33	£ 679.38	04089		
BT 40	A55 00140	ABS 40	20	60	33	£ 679.38	04088		
BT 40	A55 00150	ABS 50	28	60	33	£ 316.73	04097		
BT 40	A55 55150	ABS 50	28	60	33			£ 843.57	04096
BT 40	A55 00160	ABS 63	34	70		£ 689.52	04096		
BT 40	A55 55160	ABS 63	34	70					
BT 50	A55 00330	ABS 32	16	70		£ 776.69	05089		
BT 50	A55 00340	ABS 40	20	70		£ 776.69	05088		
BT 50	A55 00350	ABS 50	28	70	32	£ 362.09	05097		
BT 50	A55 55350	ABS 50	28	70				£ 882.18	05097
BT 50	A55 55360	ABS 63	34	90				£ 953.16	05096
BT 50	A55 00360	ABS 63	34	80		£ 786.83	05096		
BT 50	A55 55370	ABS 80	46	100	60			£ 983.58	05092
BT 50	A55 00370	ABS 80	46	100	62	£ 801.06	05092		
BT 50	A55 55380	ABS 100	56	110				£ 1,005.81	05091
BT 50	A55 00380	ABS 100	56	110		£ 886.28	05091		

Spare parts
SZID

	XS		XS		XS	
	Article no.		Article no.		Article no.	
	84 950 ...		84 950 ...		84 950 ...	
ABS 100	£ 11.86 25700		£ 24.82 99200		£ 13.00 25200	
ABS 25	£ 5.41 26800		£ 13.14 99700		£ 7.82 27000	
ABS 32			£ 13.14 99600		£ 7.82 27100	
ABS 40	£ 6.14 26900		£ 14.18 99500		£ 8.14 27200	
ABS 50	£ 11.60 20300		£ 26.43 99800		£ 14.89 20400	
ABS 63	£ 7.82 25500		£ 17.59 99400		£ 9.91 27300	
ABS 80	£ 9.64 25600		£ 21.32 99300		£ 11.73 25100	

Accessories



Pull stud

ABS extension

ABS reduction

Others

→ Main catalogue, Chapter 16

→ 159

→ 163

→ Chapter 17 in main catalogue

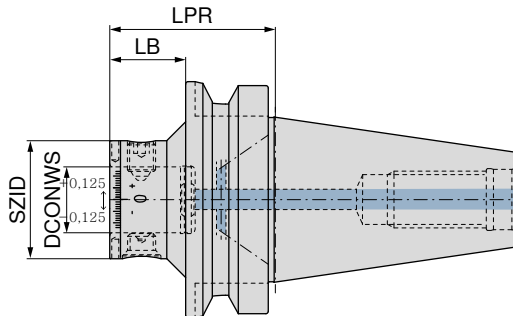
Eccentric adjuster with ABS Connection

▲ Adjustment ± 0.25 mm on diameter

Scope of supply:

Steep taper adapter (Form B) with conversion kit (Form AD) and sealing disc

ABS



AD



AD/B

Adapter	KOMET no.	SZID	DCONWS	LPR	LB	NEW W4 Article no. 84 205 ... £	NEW W4 Article no. 84 205 ... £	
			mm	mm	mm			
BT 40	A55 56150	ABS 50	28	60	33			
BT 40	A55 56160	ABS 63	34	70		615.45	04096	478.13 04097
BT 50	A55 56350	ABS 50	28	70	32			
BT 50	A55 56360	ABS 63	34	80		704.66	05096	536.35 05097

Spare parts SZID

ABS 50	11.60	20300	26.43	99800	14.89	20400
ABS 63	7.82	25500	17.59	99400	9.91	27300

XS	XS	XS
Clamping screw	Set	Taper screw
Article no. 84 950 ... £	Article no. 84 950 ... £	Article no. 84 950 ... £
11.60 20300	26.43 99800	14.89 20400
7.82 25500	17.59 99400	9.91 27300

Accessories



Pull stud
→ Main catalogue, Chapter 16



ABS extension
→ 159



ABS reduction
→ 163



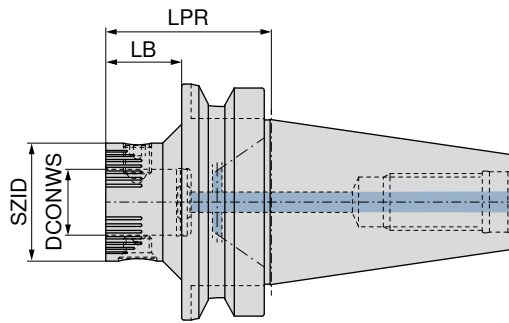
Others
→ Chapter 17 in main catalogue

Torsional vibration dampers with ABS Connection

Scope of supply:

Steep taper adapter (Form B) with conversion kit (Form AD) and sealing disc

ABS



AD/B

NEW 3E

Article no.
84 208 ...

£

1,910.42 04096

680.73 04097

823.45 05097

2,047.50 05096

Adapter	KOMET no.	SZID	DCONWS	LPR	LB
			mm	mm	mm
BT 40	A55 02160	ABS 63	34	70	
BT 40	A55 02150	ABS 50	28	60	33
BT 50	A55 02350	ABS 50	28	70	32
BT 50	A55 02360	ABS 63	34	80	

Spare parts SZID

ABS 50	11.60	20300	26.43	99800	14.89	20400
ABS 63	7.82	25500	17.59	99400	9.91	27300

XS	XS	XS
		
Clamping screw	Set	Taper screw
Article no. 84 950 ...	Article no. 84 950 ...	Article no. 84 950 ...
£	£	£
11.60 20300	26.43 99800	14.89 20400
7.82 25500	17.59 99400	9.91 27300

Accessories

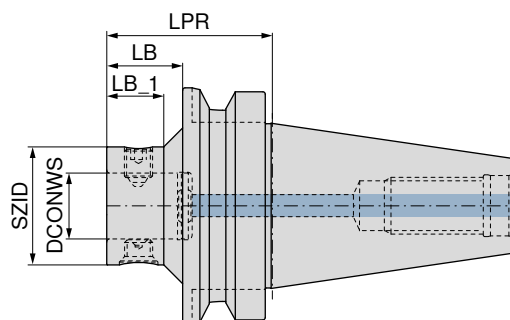


Pull stud → Main catalogue, Chapter 16	ABS extension → 159	ABS reduction → 163	Others → Chapter 17 in main catalogue
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Adapter with ABS Connection – BT-FC

▲ with face contact

ABS



AD

NEW 3E

Article no.
84 214 ...

£

Adapter	KOMET no.	SZID	DCONWS	LPR	LB	LB_1	
			mm	mm	mm	mm	
BT-FC 40	A55 57121	ABS 25	13	60		25	1,119.50 04090
BT-FC 40	A55 57131	ABS 32	16	60	31		1,119.50 04089
BT-FC 40	A55 57141	ABS 40	20	60	33		1,119.50 04088
BT-FC 40	A55 57151	ABS 50	28	60	33		1,119.50 04097
BT-FC 40	A55 57161	ABS 63	34	70			1,151.87 04096
BT-FC 50	A55 57331	ABS 32	16	70		24	1,297.92 05089
BT-FC 50	A55 57341	ABS 40	20	70		24	1,297.92 05088
BT-FC 50	A55 57351	ABS 50	28	70		24	1,297.92 05097
BT-FC 50	A55 57361	ABS 63	34	80		37	1,320.15 05096
BT-FC 50	A55 57371	ABS 80	46	100	60		1,374.95 05092
BT-FC 50	A55 57381	ABS 100	56	110			1,476.35 05091

Spare parts
SZID

	Article no. 84 950 ...	Article no. 84 950 ...	Article no. 84 950 ...
	£	£	£
ABS 100	11.86 25700	24.82 99200	13.00 25200
ABS 25	5.41 26800	13.14 99700	7.82 27000
ABS 32		13.14 99600	7.82 27100
ABS 40	6.14 26900	14.18 99500	8.14 27200
ABS 50	11.60 20300	26.43 99800	14.89 20400
ABS 63	7.82 25500	17.59 99400	9.91 27300
ABS 80	9.64 25600	21.32 99300	11.73 25100

Accessories



Pull stud

→ Main catalogue, Chapter 16



ABS extension

→ 159



ABS reduction

→ 163

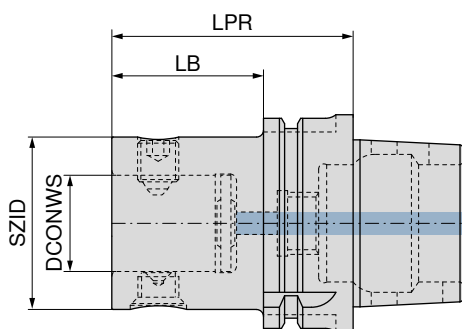


Others

→ Chapter 17 in main catalogue

Adapter with ABS Connection

ABS

AD
G 6,3 n_{max} 10000

NEW 3E

Article no.

84 200 ...

£

Adapter	KOMET no.	SZID	DCONWS	LPR	LB	
			mm	mm	mm	
HSK-A 63	A06 30120	ABS 25	13	50	24	732.03 06390
HSK-A 63	A06 30130	ABS 32	16	50	24	732.03 06389
HSK-A 63	A06 30140	ABS 40	20	60	34	752.31 06388
HSK-A 63	A06 30150	ABS 50	28	70	44	360.18 06397
HSK-A 63	A06 30160	ABS 63	34	80	54	782.73 06396
HSK-A 63	A06 30170	ABS 80	46	100	74	831.48 06392
HSK-A 100	A06 50120	ABS 25	13	60	31	892.32 10090
HSK-A 100	A06 50130	ABS 32	16	60	31	892.32 10089
HSK-A 100	A06 50140	ABS 40	20	80	51	910.65 10088
HSK-A 100	A06 50150	ABS 50	28	80	51	433.00 10097
HSK-A 100	A06 50160	ABS 63	34	80	51	953.16 10096
HSK-A 100	A06 50170	ABS 80	46	90	61	995.67 10092
HSK-A 100	A06 50180	ABS 100	56	100	71	1,056.51 10091

Spare parts
SZID

	Article no. 84 950 ...	£	Article no. 84 950 ...	£	Article no. 84 950 ...	£
ABS 100	25700	11.86	99200	24.82	25200	13.00
ABS 25	26800	5.41	99700	13.14	27000	7.82
ABS 32			99600	13.14	27100	7.82
ABS 40	26900	6.14	99500	14.18	27200	8.14
ABS 50	20300	11.60	99800	26.43	20400	14.89
ABS 63	25500	7.82	99400	17.59	27300	9.91
ABS 80	25600	9.64	99300	21.32	25100	11.73

XS	XS	XS
		
Clamping screw	Set	Taper screw
Article no. 84 950 ...	Article no. 84 950 ...	Article no. 84 950 ...
£	£	£

Accessories



Pull stud

→ Main catalogue, Chapter 16



ABS extension

→ 159



ABS reduction

→ 163



Others

→ Chapter 17 in main catalogue

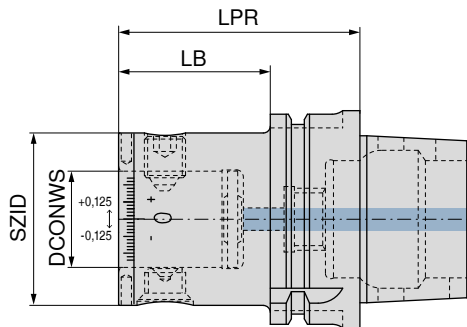
Eccentric adjuster with ABS Connection

▲ Adjustment ± 0.25 mm on diameter

Scope of supply:

Eccentric adjuster with adjuster key $\varnothing 2.8$ mm

ABS



AD

NEW W4

Article no.
84 203 ...

£

545.90 06397

Adapter	KOMET no.	SZID	DCONWS	LPR	LB
			mm	mm	mm
HSK-A 63	A06 36730	ABS 50	28	65.5	39.5
HSK-A 100	A06 56730	ABS 50	28	75.5	46.5
HSK-A 100	A06 56740	ABS 63	34	80.0	51.0

620.34 10097

752.73 10096

Spare parts SZID

ABS 50	11.60 20300	26.43 99800	14.89 20400
ABS 63	7.82 25500	17.59 99400	9.91 27300

XS	XS	XS
Clamping screw	Set	Taper screw
Article no. 84 950 ...	Article no. 84 950 ...	Article no. 84 950 ...
£	£	£
11.60 20300	26.43 99800	14.89 20400
7.82 25500	17.59 99400	9.91 27300

Accessories



Pull stud
→ Main catalogue, Chapter 16



ABS extension
→ 159



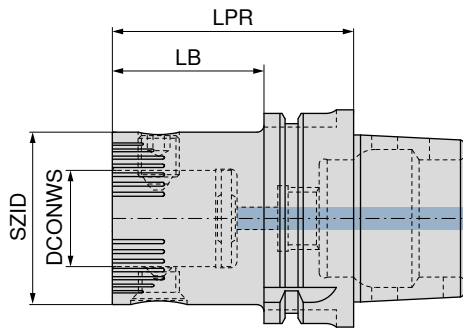
ABS reduction
→ 163



Others
→ Chapter 17 in main catalogue

Torsional vibration dampers with ABS Connection

ABS



AD

NEW 3E

Article no.
84 206 ...

£

Adapter	KOMET no.	SZID	DCONWS	LPR	LB		
			mm	mm	mm		
HSK-A 63	A06 30251	ABS 50	28	70	44	643.82	06397
HSK-A 63	A06 30261	ABS 63	34	80	54	1,784.64	06396
HSK-A 63	A06 30270	ABS 80	46	100	74	2,540.85	06392
HSK-A 100	A06 50251	ABS 50	28	80	51	754.45	10097
HSK-A 100	A06 50261	ABS 63	34	80	51	2,275.65	10096
HSK-A 100	A06 50270	ABS 80	46	90	61	2,648.10	10092

Spare parts
SZID

ABS 50	11.60	20300	26.43	99800	14.89	20400
ABS 63	7.82	25500	17.59	99400	9.91	27300
ABS 80	9.64	25600	21.32	99300	11.73	25100

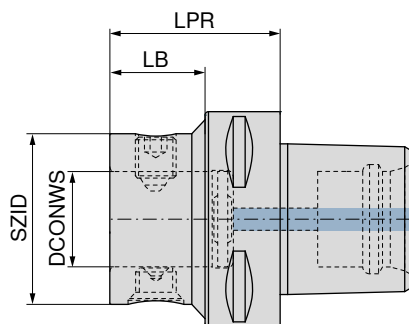
XS	XS	XS
		
Clamping screw	Set	Taper screw
Article no. 84 950 ...	Article no. 84 950 ...	Article no. 84 950 ...
£	£	£
11.60 20300	26.43 99800	14.89 20400
7.82 25500	17.59 99400	9.91 27300
9.64 25600	21.32 99300	11.73 25100

Accessories

Pull stud
→ Main catalogue, Chapter 16ABS extension
→ 159ABS reduction
→ 163Others
→ Chapter 17 in main catalogue

Adapter with ABS Connection

ABS



AD

NEW Y8

Article no.
84 215 ...

£

Adapter	KOMET no.	SZID	DCONWS	LPR	LB		
			mm	mm	mm		
PSC 40	A69 04050	ABS 50	28	50	30	1,366.95	04097
PSC 50	A69 05050	ABS 50	28	50		880.23	05097
PSC 63	A69 06050	ABS 50	28	50	28	914.55	06397
PSC 63	A69 06060	ABS 63	34	60	36	944.97	06396
PSC 80	A69 08050	ABS 50	28	50	23	1,295.97	08097
PSC 80	A69 08060	ABS 63	34	60	30	1,366.95	08096
PSC 80	A69 08070	ABS 80	46	80	48	1,445.93	08092

Spare parts
SZID

ABS 50	11.60	20300	26.43	99800	14.89	20400
ABS 63	7.82	25500	17.59	99400	9.91	27300
ABS 80	9.64	25600	21.32	99300	11.73	25100

XS	XS	XS
Clamping screw	Set	Taper screw
Article no. 84 950 ...	Article no. 84 950 ...	Article no. 84 950 ...
£	£	£

Accessories



Pull stud → Main catalogue, Chapter 16	ABS extension 159	ABS reduction 163	Others → Chapter 17 in main catalogue
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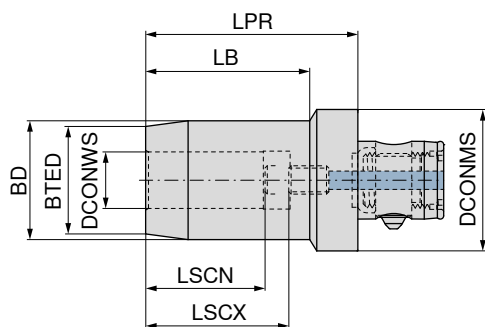
Hydraulic chuck

▲ for solid carbide and HSS shanks to h6 tolerance or better

Scope of supply:

Base body including backstop screw

ABS



AD

NEW 3E

Article no.

84 223 ...

£

DCONWS	KOMET no.	BTED	BD	LPR	LB	DCONMS	LSCX	LSCN	
mm		mm	mm	mm	mm	mm	mm	mm	
6	A32 42110	24	28	55	34.0	50	37	27	1,853.67 00697
8	A32 42120	26	30	65	45.0	50	41	31	1,853.67 00897
8	A32 32060	24	28	60	42.0	40	37	27	1,853.67 00888
10	A32 32070	26	30	65	47.5	40	41	31	1,853.67 01088
10	A32 42130	28	32	65	45.5	50	46	36	1,853.67 01097
12	A32 42140	30	34	65	46.0	50	46	36	1,263.41 01297
12	A32 32080	28	32	65	48.0	40	46	36	1,263.41 01288
14	A32 42150	34	38	70	52.0	50	49	39	1,853.67 01497
16	A32 42160	36	40	70	52.5	50	49	39	1,853.67 01697
18	A32 42170	38	42	75	58.0	50	51	41	1,853.67 01897
20	A32 52180	38	42	78	56.0	63	51	41	3,106.35 02096
20	A32 42101	22	26	55	33.5	50	37	27	1,263.41 02097
25	A32 52190	53	57	85	60.0	63	57	47	3,106.35 02596
32	A32 52200	60		90	61.0	63	61	51	3,106.35 03296

W7



Backstop screw

Spare parts

DCONWS

Article no.

84 950 ...

£

6	M6x12 - SW2,5	2.98	22000
8	M6x12 - SW2,5	2.98	22000
8	M8x1x12 - SW3	3.75	22100
10	M10x1x12 - SW4	3.75	22200
10	M8x1x12 - SW3	3.75	22100
12	M10x1x12 - SW4	3.75	22200
14	M10x1x12 - SW4	3.75	22200
16	M10x1x12 - SW4	3.75	22200
18	M16x1x16 - SW5	7.03	22400
20	M5x12 - SW2	2.98	22300
20	M16x1x16 - SW5	7.03	22400
25	M16x1x16 - SW5	7.03	22400
32	M16x1x16 - SW5	7.03	22400

Accessories



Pull stud

→ Main catalogue, Chapter 16



ABS extension

→ 159



ABS reduction

→ 163



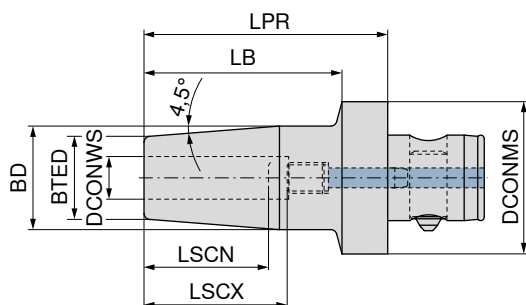
Others

→ Chapter 17 in main catalogue

Shrink fit adapters 4.5°

▲ for solid carbide and HSS shanks to h6 tolerance or better

ABS

AD
G 6,3 n_{max} 15000

NEW 3E

Article no.

84 222 ...

£

Adapter	KOMET no.	DCONWS	LPR	BD	BTED	LB	LSCX	LSCN	DCONMS		
		mm	mm	mm	mm	mm	mm	mm	mm		
ABS 32	A32 26040	6	75	27	21	56	36	26	32	699.66	00689
ABS 32	A32 26050	8	70	27	21	56	36	26	32	699.66	00889
ABS 32	A32 26061	10	70	32	24	55	42	32	32	699.66	01089
ABS 32	A32 26071	12	80	32	24		47	37	32	699.66	01289
ABS 40	A32 36050	8	70	27	21	56	36	26	40	699.66	00888
ABS 40	A32 36061	10	70	32	24	56	42	32	40	699.66	01088
ABS 40	A32 36071	12	80	32	24	66	47	37	40	699.66	01288
ABS 40	A32 36091	16	90	34	27	76	50	40	40	699.66	01688
ABS 50	A32 46040	6	75	27	21	56	36	26	50	699.66	00697
ABS 50	A32 46050	8	75	27	21	56	36	26	50	699.66	00897
ABS 50	A32 46061	10	80	32	24	61	42	32	50	699.66	01097
ABS 50	A32 46071	12	80	32	24	61	47	37	50	699.66	01297
ABS 50	A32 46081	14	80	34	27	61	47	37	50	699.66	01497
ABS 50	A32 46091	16	85	34	27	66	50	40	50	699.66	01697
ABS 50	A32 46101	18	85	42	33	66	50	40	50	699.66	01897
ABS 50	A32 46111	20	90	42	33	71	52	42	50	699.66	02097
ABS 63	A32 56111	20	95	53	44	71	58	48	63	721.89	02096
ABS 63	A32 56121	25	90	42	33	76	52	42	63	721.89	02596
ABS 63	A32 56131	32	95	53	44	76	58	48	63	721.89	03296

W7



Backstop screw

Spare parts
DCONWSArticle no.
84 950 ...

£

6	M5x18	4.04	21400
8	M6x20	4.04	21500
10	M8x1x20	2.98	21600
12	M10x1x20	3.75	21700
14	M10x1x20	3.75	21700
16	M12x1x20	5.19	21800
18	M12x1x20	5.19	21800
20	M8x1x20	6.73	21900
25	M8x1x20	6.73	21900
32	M8x1x20	6.73	21900

Accessories



Pull stud

→ Main catalogue, Chapter 16



ABS extension

→ 159



ABS reduction

→ 163

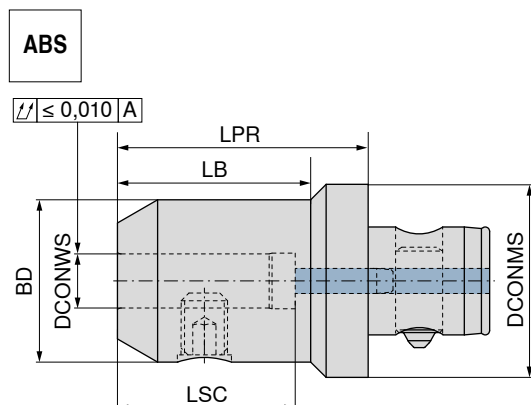


Others

→ Chapter 17 in main catalogue

Cylindrical shank adapter (Weldon)

▲ For shanks according to DIN 6535 HB / 1835 B with lateral clamping flat



AD

NEW 3E

Article no.
84 221 ...

£

Adapter	KOMET no.	DCONWS	LPR	BD	LB	LSC	DCONMS		
		mm	mm	mm	mm	mm	mm		
ABS 50	A32 40010	6	45	25	27	40	50	774.74	00697
ABS 50	A32 40020	8	45	28	27	40	50	717.99	00897
ABS 50	A32 40030	10	55	35	37	44	50	685.43	01097
ABS 50	A32 40040	12	65	42	50	49	50	653.06	01297
ABS 50	A32 40080	14	65	44	50	49	50	653.06	01497
ABS 50	A32 40050	16	65	48	50	52	50	653.06	01697
ABS 50	A32 40090	18	65	50		52	50	673.34	01897
ABS 50	A32 40060	20	65	52		54	50	695.57	02097
ABS 50	A32 40070	25	75	65		60	50	717.99	02597
ABS 63	A32 50040	12	65	42		49	63	699.66	01296
ABS 63	A32 50100	14	65	44	50	49	63	685.43	01496
ABS 63	A32 50050	16	65	48	50	52	63	701.61	01696
ABS 63	A32 50110	18	65	50	50	52	63	677.43	01896
ABS 63	A32 50060	20	65	52	45	54	63	695.57	02096
ABS 63	A32 50070	25	75	65		60	63	719.94	02596
ABS 63	A32 50080	32	80	72		64	63	770.64	03296
ABS 80	A32 60060	20	65	52	45	54	80	770.64	02092
ABS 80	A32 60070	25	75	65	55	60	80	790.92	02592
ABS 80	A32 60080	32	80	72	66	64	80	839.67	03292

W7



Grubscrew

Spare parts
DCONWSArticle no.
62 950 ...

£

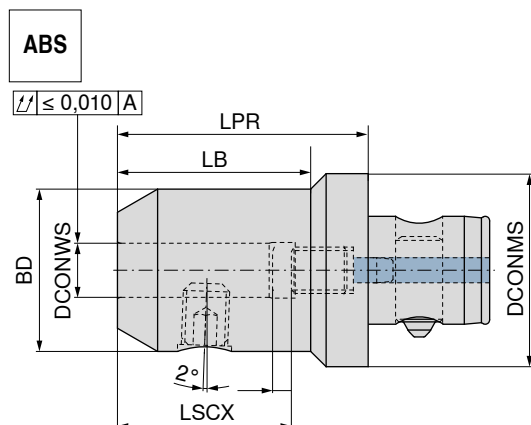
6	M6x10	0.87	006
8	M8x10	0.87	008
10	M10x12	1.67	010
12	M12x16	1.32	012
14	M12x16	1.32	012
16	M14x16	1.63	016
18	M14x16	1.63	016
20	M16x16	1.74	020
25	M18x2x20	3.36	025
32	M20x2x20	3.51	032

Accessories

Pull stud
→ Main catalogue, Chapter 16ABS extension
→ 159ABS reduction
→ 163Others
→ Chapter 17 in main catalogue

Cylindrical Shank Adapter (Whistle Notch)

▲ For shanks according to DIN 6535 HE / 1835 E with angled clamping flat



AD

NEW 3E

Article no.

84 220 ...

£

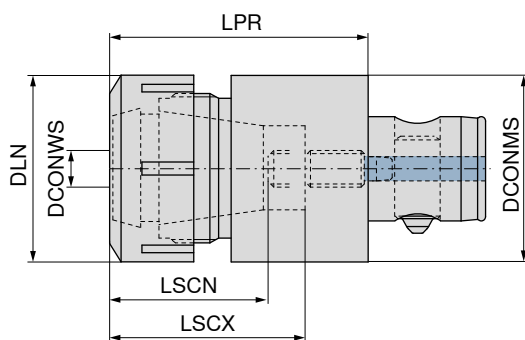
Adapter	KOMET no.	DCONWS	LPR	LB	BD	LSCX	DCONMS	
		mm	mm	mm	mm	mm	mm	
ABS 25	A30 10601	6	55		25	36	25	740.22 00690
ABS 25	A30 10801	8	55		28	36	25	701.61 00890
ABS 25	A30 11001	10	60		35	40	25	685.43 01090
ABS 32	A30 20601	6	55	40	25	36	32	752.31 00689
ABS 32	A30 20801	8	55	40	28	36	32	721.89 00889
ABS 32	A30 20901	9	55	40	28	36	32	721.89 00989
ABS 32	A30 21001	10	60		35	40	32	695.57 01089
ABS 32	A30 21201	12	65		42	45	32	677.43 01289
ABS 32	A30 21401	14	65		42	45	32	677.43 01489
ABS 40	A30 30601	6	55	35	25	36	40	770.64 00688
ABS 40	A30 30801	8	55	35	28	36	40	732.03 00888
ABS 40	A30 31001	10	60	45	35	40	40	689.52 01088
ABS 40	A30 31201	12	65		42	45	40	689.52 01288
ABS 40	A30 31401	14	65		42	45	40	689.52 01488
ABS 40	A30 31601	16	70		48	48	40	689.52 01688
ABS 40	A30 31801	18	70		48	48	40	689.52 01888
ABS 50	A30 40601	6	55	30	25	36	50	774.74 00697
ABS 50	A30 40801	8	55	30	28	36	50	740.22 00897
ABS 50	A30 41001	10	60	40	35	40	50	697.71 01097
ABS 50	A30 41201	12	65	50	42	45	50	697.71 01297
ABS 50	A30 41301	13	65	50	42	45	50	697.71 01397
ABS 50	A30 41401	14	65	50	42	45	50	697.71 01497
ABS 50	A30 41601	16	70	55	48	48	50	697.71 01697
ABS 50	A30 41801	18	70	55	48	48	50	697.71 01897
ABS 50	A30 42002	20	75		52	50	50	707.85 02097
ABS 50	A30 42202	22	75		52	50	50	707.85 02297
ABS 50	A30 42502	25	75		52	50	50	728.13 02597
ABS 63	A30 51001	10	60	35	35	40	63	709.80 01096
ABS 63	A30 51201	12	65	45	42	45	63	709.80 01296
ABS 63	A30 51401	14	65	45	42	45	63	709.80 01496
ABS 63	A30 51601	16	70	50	48	48	63	709.80 01696
ABS 63	A30 51801	18	70	50	48	48	63	709.80 01896
ABS 63	A30 52001	20	75	55	52	50	63	728.13 02096
ABS 63	A30 52501	25	80		65	56	63	740.22 02596
ABS 63	A30 52801	28	80		65	56	63	756.41 02896
ABS 80	A30 62501	25	80	60	65	58	80	790.92 02592
ABS 80	A30 63201	32	90	70	72	60	80	892.32 03292

		W7		W7	
		 Backstop screw		 Grubscrew	
Spare parts DCONWS		Article no. 84 950 ...		Article no. 62 950 ...	
		£		£	
6	M5x16	2.98	20500	M6x10	0.87 006
8	M6x16 - SW2,5	2.98	20600	M8x10	0.87 008
9	M8x1x16 - SW3	2.98	20800	M8x10	0.87 008
10	M8x1x16 - SW2,5	2.98	20700	M10x12	1.67 010
12	M10x1x18 - SW3	3.75	20900	M12x16	1.32 012
13	M12x1x17 - SW3	5.19	21000	M12x16	1.32 012
14	M12x1x17 - SW3	5.19	21000	M12x16	1.32 012
16	M14x1x19 - SW4	6.25	21100	M14x16	1.63 016
18	M14x1x19 - SW4	6.25	21100	M14x16	1.63 016
20	M16x1x21 - SW5	6.73	21200	M16x16	1.74 020
22	M16x1x21 - SW5	6.73	21200	M16x16	1.74 020
25	M16x1x21 - SW5	6.73	21200	M16x16	1.74 020
28	M16x1x21 - SW5	6.73	21200	M18x2x20	3.36 025
32	M20x1x27 - SW8	10.29	21300	M20x2x20	3.51 032

ER Collet chuck

Scope of supply:

Holder with lock nut and adjustable back stop



AD

NEW 3E

Article no.

84 224 ...

£

Adapter	KOMET no.	DCONWS	LPR	DLN	DCONMS	LSCX	LSCN	
		mm	mm	mm	mm	mm	mm	
ABS 25	A33 11120	1-10	40.1	32	25	31	28	657.15 01690
ABS 32	A33 12130	1 - 13	52.5	34	32	39	35	657.15 02089
ABS 40	A33 13141	1 - 16	62.0	42	40	46	43	709.80 02588
ABS 50	A33 14151	2 - 20	69.3	50	50	51	48	778.83 03297
ABS 63	A33 15161	3 - 26	78.3	63	63	55	52	882.18 04096

W7



Backstop screw

W7



Lock nut

W7



Lock nut

Spare parts

for Article no.

	Article no. 84 950 ...	Article no. 62 950 ...	Article no. 62 950 ...
	£	£	£
84 224 01690	M5x8 - SW2 2.98 22500		M22x1,5 20.19 054
84 224 02089	M6x12 - SW2,5 2.98 22000	M25x1,5 - SW30 20.47 045	
84 224 02588	M8x1x14 - SW4 3.27 22600		M32x1,5 21.03 055
84 224 04096	M12x1x18 - SW8 5.19 22800		M50x1,5 22.33 057
84 224 03297	M10x1x14 - SW5 3.75 22700		M40x1,5 21.56 056

Accessories



Pull stud

→ Main catalogue, Chapter 16



ABS extension

→ 159



ABS reduction

→ 163

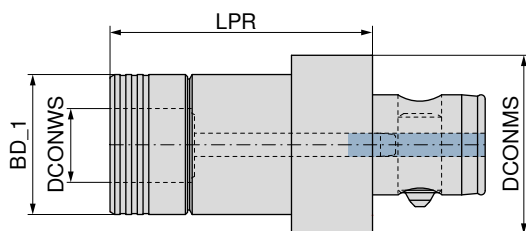


Others

→ Chapter 17 in main catalogue

Quick change tapping chuck with length compensation

▲ With length compensation under tension and compression (LZD)



AD

NEW 3E

Article no.

84 225 ...

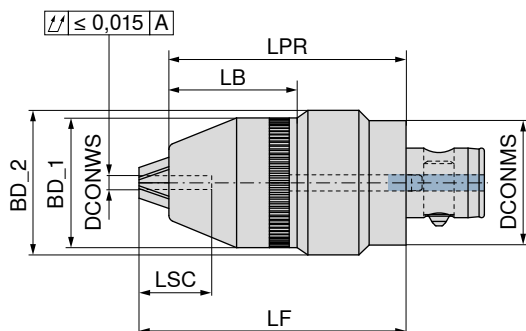
£

Adapter	KOMET no.	DCONWS	BD_1	LPR	DCONMS	LZD±	
		mm	mm	mm	mm	mm	
ABS 32	A34 32060	19	39	69	32	7,5	1,573.65 01989
ABS 40	A34 33060	19	39	73	40	7,5	1,573.65 01988
ABS 50	A34 34060	19	39	72	50	7,5	1,573.65 01997
ABS 50	A34 34070	31	60	98	50	10	1,827.15 03197
ABS 63	A34 35070	31	60	111	63	10	1,827.15 03196

Short drill chuck

Scope of supply:

Holder with clamping key



AD

G 6.3 n_{max} 6500

NEW 3E

Article no.

84 227 ...

£

Adapter	KOMET no.	DCONWS	LPR	BD_1	BD_2	LSC	DCONMS	LF	LB	
		mm	mm	mm	mm	mm	mm	mm	mm	
ABS 50	A34 24030	0,5 - 13	95	49	57.5	29	50	104.0	51.5	1,521.00 01397
ABS 50	A34 24040	3 - 16	95	52	57.5	29	50	104.7	52.0	1,764.36 01697

Accessories



Pull stud

→ Main catalogue, Chapter 16



ABS extension

→ 159



ABS reduction

→ 163

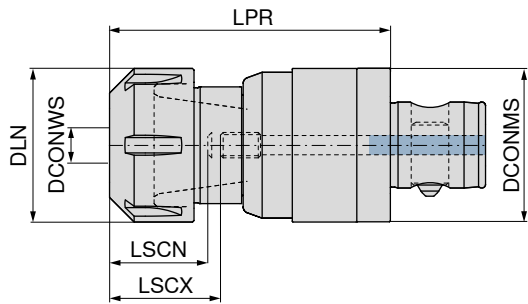


Others

→ Chapter 17 in main catalogue

Synchro tapping chuck

ABS



AD

NEW Y8

Article no.
84 226 ...

£

1,212.71 02089

1,212.71 02097

1,330.29 03297

Adapter	KOMET no.	DCONWS	LPR	DLN	LSCX	LSCN	DCONMS
		mm	mm	mm	mm	mm	mm
ABS 32	50795131002000	20	78.0	34	42	29	32
ABS 50	50795135002000	20	84.5	34	42	29	50
ABS 50	50795135003200	32	80.5	50	45	31	50

Accessories



Pull stud
→ Main catalogue, Chapter 16



ABS extension
→ 159



ABS reduction
→ 163



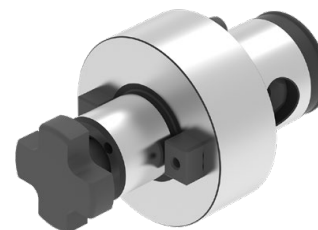
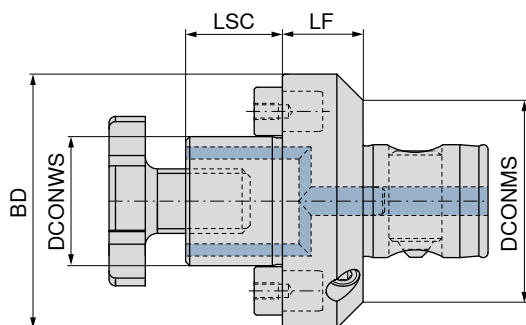
Others
→ Chapter 17 in main catalogue

Shell mill adapter

Scope of supply:

Base body including drive dogs and retaining screw

ABS



							A		AD/B	
							NEW	3E	NEW	3E
Adapter	KOMET no.	DCONWS	LSC	LF	BD	DCONMS	Article no.		Article no.	
							84 228 ...		84 228 ...	
		mm	mm	mm	mm	mm	£		£	
ABS 50	A40 24023	16	17	20		50			582.08	01697
ABS 50	A40 24034	22	19	20	22	50			612.50	02297
ABS 50	A40 24043	27	21	20	27	50			612.50	02797
ABS 50	A40 24053	32	24	20	32	50			653.06	03297
ABS 63	A40 25032	22	19	22	22	63			671.19	02296
ABS 63	A40 25042	27	21	22	27	63			707.85	02796
ABS 63	A40 25052	32	24	32	32	63			730.08	03296
ABS 63	A40 25062	40	27	22	40	63			752.31	04096
ABS 80	A40 26042	27	21	25	27	80			790.92	02792
ABS 80	A40 26052	32	24	25	32	80			837.53	03292
ABS 80	A40 26062	40	27	25	40	80			882.18	04092
ABS 80	A40 16062	40	30	43	88	80	979.49	14092		
ABS 100	A40 27052	32	24	25	32	100			967.40	03291
ABS 100	A40 17062	40	30	38	88	100	1,121.45	14091		
ABS 100	A40 27062	40	27	25	40	100			1,020.05	04091
ABS 100	A40 17072	60	40	56	130	100	1,232.99	06091		



Drive screw



Drive dog



Driver



Retaining screw

Spare parts		Article no. 81 950 ...		Article no. 84 950 ...		Article no. 83 950 ...		Article no. 83 367 ..
for Article no.		£		£		£		£
84 228 01697	M3x8	0.97	010					016
84 228 02297				13,6x8x10	32.84	22900		022
84 228 02797				14,3x9x12	34.66	23000		027
84 228 03297				17x12x14	32.84	23100		032
84 228 02296				13,6x8x10	32.84	22900		022
84 228 02796				14,3x9x12	34.66	23000		027
84 228 03296				17x12x14	32.84	23100		032
84 228 04096								040
84 228 02792				14,3x9x12	34.66	23000		027
84 228 03292				17x12x14	32.84	23100		032
84 228 04092								040
84 228 14092	M6x16	1.61	014			15,9x16,3x19,5	20.92	295
84 228 03291				17x12x14	32.84	23100		032
84 228 14091	M6x16	1.61	014			15,9x16,3x19,5	20.92	295
84 228 04091								040
84 228 06091	M12x25	7.79	015			25,4x16,3x26,5	23.59	298

Accessories



Pull stud

ABS extension

ABS reduction

Others

→ Main catalogue, Chapter 16

→ 159

→ 163

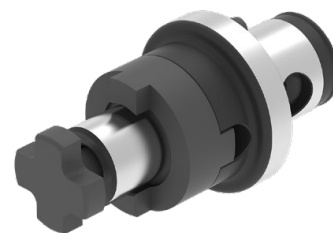
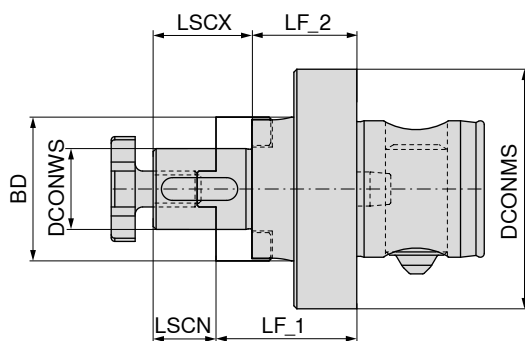
→ Chapter 17 in main catalogue

Combination shell mill adapter

▲ For milling cutters with transverse or longitudinal groove according to DIN 6358

Scope of supply:

Base body including retaining screw, drive ring and drive key



A

NEW 3E

Article no.

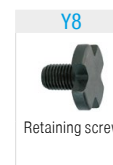
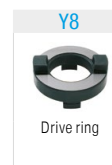
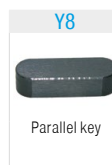
84 229 ...

£

Adapter	KOMET no.	DCONWS	BD	LF_1	LF_2	LSCX	LSCN	DCONMS		
		mm	mm	mm	mm	mm	mm	mm		
ABS 50	A40 04022	16	32	32	22	27	17	50	653.06	01697
ABS 50	A40 04032	22	40	34	22	31	19	50	671.19	02297
ABS 63	A40 05021	16	32	36	26	27	17	63	638.82	01696
ABS 63	A40 05031	22	40	38	26	31	19	63	709.80	02296
ABS 63	A40 05041	27	48	38	26	33	21	63	778.83	02796
ABS 80	A40 06031	22	40	45	33	31	19	80	831.48	02292
ABS 80	A40 06041	27	48	45	33	33	21	80	870.09	02792
ABS 80	A40 06051	32	58	47	33	38	24	80	938.93	03292
ABS 80	A40 06061	40	70	47	33	41	27	80	995.67	04092

Spare parts DCONWS

16	4 x 4 x 20	3.29	284	12.13	116	M8	5.33	016
22	6 x 6 x 25	3.29	285	11.65	122	M10	5.93	022
27	7 x 7 x 25	5.22	286	14.53	127	M12	7.58	027
32	8 x 7 x 28	3.71	287	15.25	132	M16	11.90	032
40				25.68	140	M20	12.74	040



Accessories



Pull stud

→ Main catalogue, Chapter 16



ABS extension

→ 159



ABS reduction

→ 163

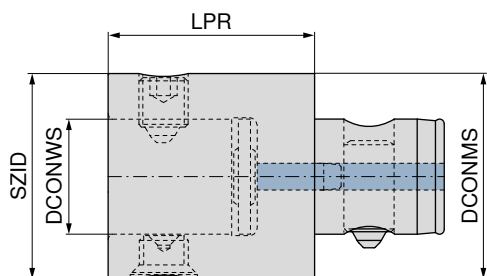


Others

→ Chapter 17 in main catalogue

Extension with ABS Connection

ABS



AD

NEW 3E

Article no.

84 209 ...

£

Adapter	KOMET no.	SZID	DCONWS	LPR	DCONMS		
			mm	mm	mm		
ABS 25	A20 00020	ABS 25	13	45	25	458.25	04590
ABS 25	A20 00220	ABS 25	13	60	25	458.25	06090
ABS 32	A20 00530	ABS 32	16	35	32	484.77	03589
ABS 32	A20 00030	ABS 32	16	50	32	484.77	05089
ABS 32	A20 00230	ABS 32	16	70	32	484.77	07089
ABS 40	A20 00540	ABS 40	20	40	40	511.10	04088
ABS 40	A20 00040	ABS 40	20	60	40	511.10	06088
ABS 40	A20 00240	ABS 40	20	90	40	511.10	09088
ABS 50	A20 00550	ABS 50	28	50	50	265.64	05097
ABS 50	A20 00050	ABS 50	28	65	50	265.64	06597
ABS 50	A20 00250	ABS 50	28	100	50	265.64	10097
ABS 50	A20 00150	ABS 50	28	150	50	265.64	15097
ABS 63	A20 00560	ABS 63	34	60	63	644.87	06096
ABS 63	A20 00060	ABS 63	34	85	63	644.87	08596
ABS 63	A20 00260	ABS 63	34	125	63	644.87	12596
ABS 63	A20 00160	ABS 63	34	190	63	644.87	19096
ABS 80	A20 00570	ABS 80	46	70	80	760.50	07092
ABS 80	A20 00070	ABS 80	46	85	80	760.50	08592
ABS 80	A20 00270	ABS 80	46	125	80	792.87	12592
ABS 80	A20 00170	ABS 80	46	240	80	792.87	24092
ABS 100	A20 00080	ABS 100	56	125	100	847.67	12591
ABS 100	A20 00280	ABS 100	56	160	100	892.32	16091
ABS 100	A20 00580	ABS 100	56	85	100	847.67	08591
ABS 100	A20 00090	ABS 125	70	160	125	1,003.86	16085
ABS 125	A20 00290	ABS 125	70	200	125	1,058.66	20085

Spare parts
DCONWS

	XS	XS	XS	XS	XS	XS	XS
	Clamping screw	Set	Set	Positioning pin	Pendulum bolt	Coolant pipe	Taper screw
	Article no.	Article no.	Article no.	Article no.	Article no.	Article no.	Article no.
	84 950 ...	84 950 ...	84 950 ...	84 950 ...	84 950 ...	84 950 ...	84 950 ...
	£	£	£	£	£	£	£
13	5.41 26800		13.14 99700				7.82 27000
16			13.14 99600				7.82 27100
20	6.14 26900		14.18 99500				8.14 27200
28	11.60 20300	53.45 99900	26.43 99800	13.70 20200	33.07 20000	6.73 20100	14.89 20400
34	7.82 25500		17.59 99400				9.91 27300
46	9.64 25600		21.32 99300				11.73 25100
56	11.86 25700		24.82 99200				13.00 25200
70	21.23 25800		43.27 99100				22.09 25300

Accessories



Pull stud

→ Main catalogue, Chapter 16



ABS extension

159



ABS reduction

163



Others

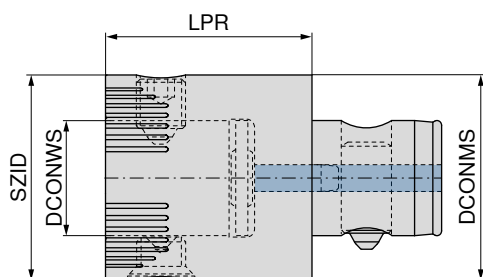
→ Chapter 17 in main catalogue

Torsional vibration dampers with ABS Connection

Scope of supply:

Base body with sealing disc

ABS



AD

NEW 3E

Article no.
84 216 ...

£

1,097.07 05097

1,543.23 06096

2,324.40 07092

Adapter	KOMET no.	SZID	DCONWS	LPR	DCONMS
			mm	mm	mm
ABS 50	A20 00651	ABS 50	28	50	50
ABS 63	A20 00661	ABS 63	34	60	63
ABS 80	A20 00670	ABS 80	46	70	80

Spare parts SZID

ABS 50	11.60	20300	26.43	99800	14.89	20400
ABS 63	7.82	25500	17.59	99400	9.91	27300
ABS 80	9.64	25600	21.32	99300	11.73	25100

XS	XS	XS
		
Clamping screw	Set	Taper screw
Article no. 84 950 ...	Article no. 84 950 ...	Article no. 84 950 ...
£	£	£
11.60 20300	26.43 99800	14.89 20400
7.82 25500	17.59 99400	9.91 27300
9.64 25600	21.32 99300	11.73 25100

Accessories



Pull stud

→ Main catalogue, Chapter 16



ABS extension

→ 159



ABS reduction

→ 163



Others

→ Chapter 17 in main catalogue

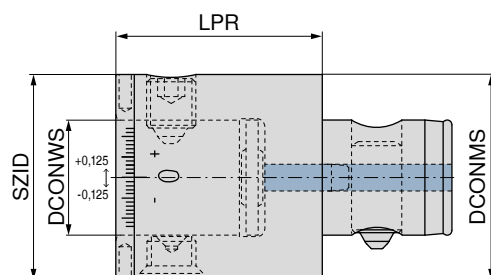
Eccentric adjuster with ABS Connection

▲ Adjustment ± 0.25 mm on diameter

Scope of supply:

Eccentric adjuster with adjuster key $\varnothing 2.8$ mm

ABS



Adapter	KOMET no.	SZID	DCONWS	LPR	DCONMS	
			mm	mm	mm	
ABS 50	A20 00620	ABS 50	28	50	50	NEW W4 Article no. 84 217 ... £ 537.68 05097
ABS 63	A20 00630	ABS 63	34	60	63	£ 581.13 06096

Spare parts SZID

ABS 50	11.60	20300	26.43	99800	14.89	20400
ABS 63	7.82	25500	17.59	99400	9.91	27300

XS	XS	XS
		
Clamping screw	Set	Taper screw
Article no. 84 950 ...	Article no. 84 950 ...	Article no. 84 950 ...
£ 11.60	£ 26.43	£ 14.89
20300	99800	20400
7.82	17.59	9.91
25500	99400	27300

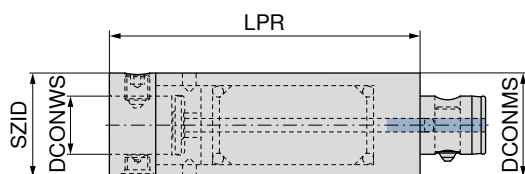
Accessories

			
Pull stud → Main catalogue, Chapter 16	ABS extension → 159	ABS reduction → 163	Others → Chapter 17 in main catalogue

Damping element with ABS connection

▲ Reduction in undesirable tool vibrations

ABS



AD

NEW 3E
Article no.
84 218 ...

Adapter	KOMET no.	SZID	DCONWS	LPR	DCONMS		
			mm	mm	mm		
ABS 40	A20 01240	ABS 40	20	120	40	2,847.00	12088
ABS 50	A20 01250	ABS 50	46	150	50	3,398.85	15097
ABS 63	A20 01260	ABS 63	63	190	63	4,093.05	19096
ABS 80	A20 01270	ABS 80	80	240	80	4,798.95	24092

Spare parts SZID

ABS 40	6.14	26900	14.18	99500	8.14	27200
ABS 50	11.60	20300	26.43	99800	14.89	20400
ABS 63	7.82	25500	17.59	99400	9.91	27300
ABS 80	9.64	25600	21.32	99300	11.73	25100

XS	XS	XS
		
Clamping screw	Set	Taper screw
Article no. 84 950 ...	Article no. 84 950 ...	Article no. 84 950 ...
£	£	£
6.14 26900	14.18 99500	8.14 27200
11.60 20300	26.43 99800	14.89 20400
7.82 25500	17.59 99400	9.91 27300
9.64 25600	21.32 99300	11.73 25100

Accessories



Pull stud
→ Main catalogue, Chapter 16



ABS extension
→ 159



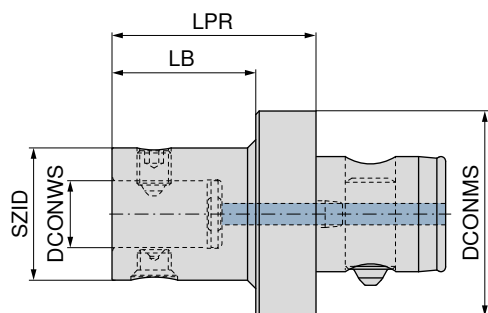
ABS reduction
→ 163



Others
→ Chapter 17 in main catalogue

ABS reduction

ABS



AD

NEW 3E

Article no.

84 219 ...

£

513.05 03290

Adapter	KOMET no.	SZID	DCONWS	LPR	LB	DCONMS		
			mm	mm	mm	mm		
ABS 32	A20 10120	ABS 25	13	40	30	32	513.05	03290
ABS 40	A20 10220	ABS 25	13	40	28	40	541.52	04090
ABS 40	A20 10230	ABS 32	16	40	28	40	541.52	04089
ABS 50	A20 10320	ABS 25	13	50	35	50	588.12	05090
ABS 50	A20 10330	ABS 32	16	50	35	50	588.12	05089
ABS 50	A20 10340	ABS 40	20	50	35	50	588.12	05088
ABS 63	A20 10420	ABS 25	13	60	40	63	659.10	06390
ABS 63	A20 10430	ABS 32	16	60	40	63	659.10	06389
ABS 63	A20 10440	ABS 40	20	60	40	63	659.10	06388
ABS 63	A20 10450	ABS 50	28	60	40	63	659.10	06397
ABS 80	A20 10530	ABS 32	16	60	35	80	778.83	08089
ABS 80	A20 10540	ABS 40	20	60	35	80	778.83	08088
ABS 80	A20 10550	ABS 50	28	60	35	80	778.83	08097
ABS 80	A20 10560	ABS 63	34	60	35	80	778.83	08096
ABS 100	A20 10650	ABS 50	28	80	50	100	849.81	10097
ABS 100	A20 10660	ABS 63	34	80	50	100	849.81	10096
ABS 100	A20 10670	ABS 80	46	80	50	100	849.81	10092
ABS 125	A20 10770	ABS 80	46	100	50	125	938.93	12592
ABS 125	A20 10780	ABS 100	56	100	50	125	938.93	12591

Spare parts
SZID

	Article no.	£	Article no.	£	Article no.	£
ABS 100	84 950 ...	11.86 25700	84 950 ...	24.82 99200	84 950 ...	13.00 25200
ABS 25		5.41 26800		13.14 99700		7.82 27000
ABS 32				13.14 99600		7.82 27100
ABS 40		6.14 26900		14.18 99500		8.14 27200
ABS 50		11.60 20300		26.43 99800		14.89 20400
ABS 63		7.82 25500		17.59 99400		9.91 27300
ABS 80		9.64 25600		21.32 99300		11.73 25100

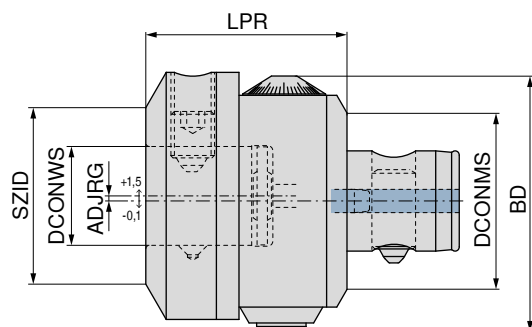
XS	XS	XS
Clamping screw	Set	Taper screw
Article no.	Article no.	Article no.
84 950 ...	84 950 ...	84 950 ...
£	£	£

Accessories

Pull stud	ABS extension	ABS reduction	Others
→ Main catalogue, Chapter 16	→ 159	→ 163	→ Chapter 17 in main catalogue

Adjuster with ABS connection

- ▲ Precise adjustment using micrometric adjusting spindle
- ▲ Max. adjustment range 3 mm on diameter
- ▲ Graduation of scale 1 line 0.02 mm on diameter
- ▲ Stable clamping of the top section after adjustment using four clamping screws arranged on the face



AD

NEW W4

Article no.
84 210 ...

£

Adapter	KOMET no.	SZID	DCONWS	LPR	BD	ADJRG	DCONMS		
			mm	mm	mm	mm	mm		
ABS 50	M01 00001	ABS 50	28	57	70	1.5	50	1,086.07	05097
ABS 63	M01 00011	ABS 50	28	70	88	1.5	63	1,412.40	06397
ABS 63	M01 00021	ABS 63	34	70	88	1.5	63	1,412.40	06396

Spare parts

for Article no.

	Article no. 84 950 ...	£	Article no. 84 950 ...	£	Article no. 84 950 ...	£	Article no. 84 950 ...	£	Article no. 84 950 ...	£	Article no. 84 950 ...	£
84 210 05097	11.60	20300	53.45	99900	26.43	99800	13.70	20200	33.07	20000	6.73	20100
84 210 06397	11.60	20300	36.45	98600	26.43	99800	7.18	23900	22.82	26300	6.41	24700
84 210 06396	7.82	25500	36.45	98600	17.59	99400	7.18	23900	22.82	26300	6.41	24700

XS	XS	XS	XS	XS	XS	XS
Clamping screw	Set	Set	Positioning pin	Pendulum bolt	Coolant pipe	Taper screw

Article no. 84 950 ...	Article no. 84 950 ...	Article no. 84 950 ...	Article no. 84 950 ...	Article no. 84 950 ...	Article no. 84 950 ...	Article no. 84 950 ...
£	£	£	£	£	£	£

Accessories



Pull stud

→ Main catalogue, Chapter 16



ABS extension

→ 159



ABS reduction

→ 163



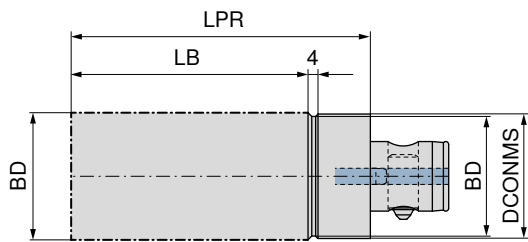
Others

→ Chapter 17 in main catalogue

Blank

- ▲ Connection area hardened and ground
- ▲ Dimension BD x dimension LB = unhardened area for further processing

ABS



AD

NEW W4

Article no.

84 230 ...

£

Adapter	KOMET no.	LPR	BD	LB	DCONMS		
		mm	mm	mm	mm		
ABS 25	B10 01011	70	26	51	25	223.08	02690
ABS 32	B10 02011	80	33	61	32	249.37	03389
ABS 40	B10 03011	100	41	78	40	263.12	04188
ABS 50	B10 04011	120	51	95	50	304.26	05197
ABS 63	B10 05011	150	64	120	63	371.80	06496
ABS 80	B10 06011	180	81	141	80	494.23	08192
ABS 100	B10 07011	200	101	154	100	696.74	10191

Accessories



Pull stud
→ Main catalogue, Chapter 16



ABS extension
→ 159



ABS reduction
→ 163

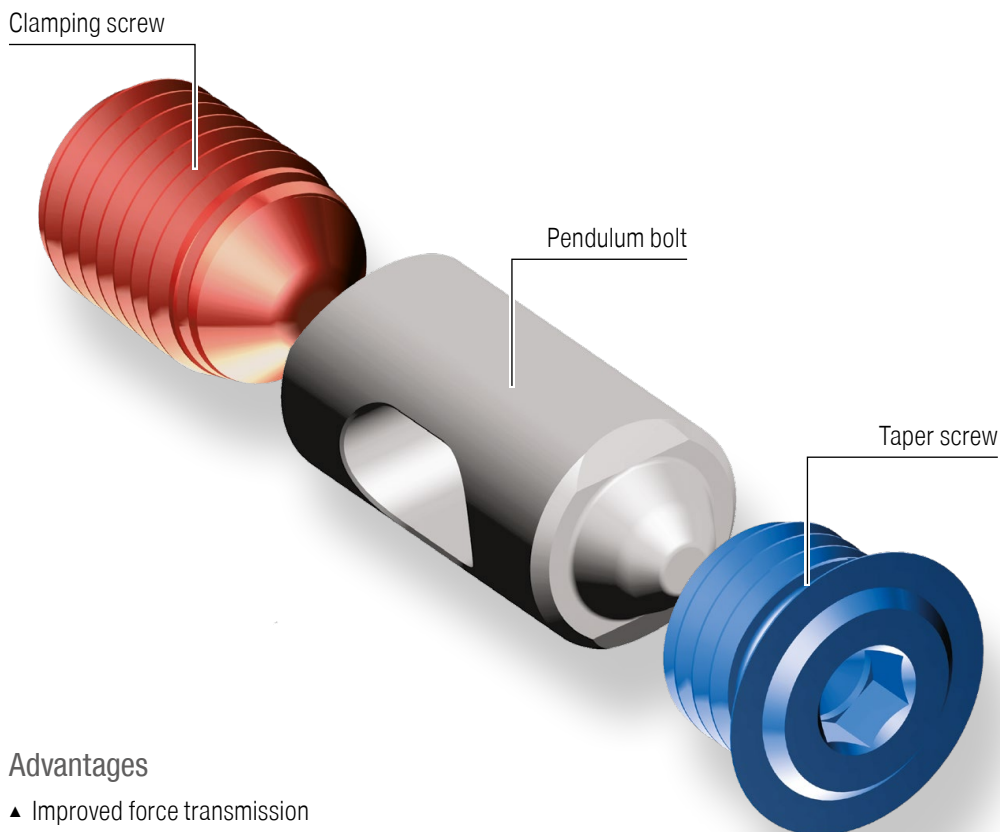


Others
→ Chapter 17 in main catalogue

Technical information – ABS

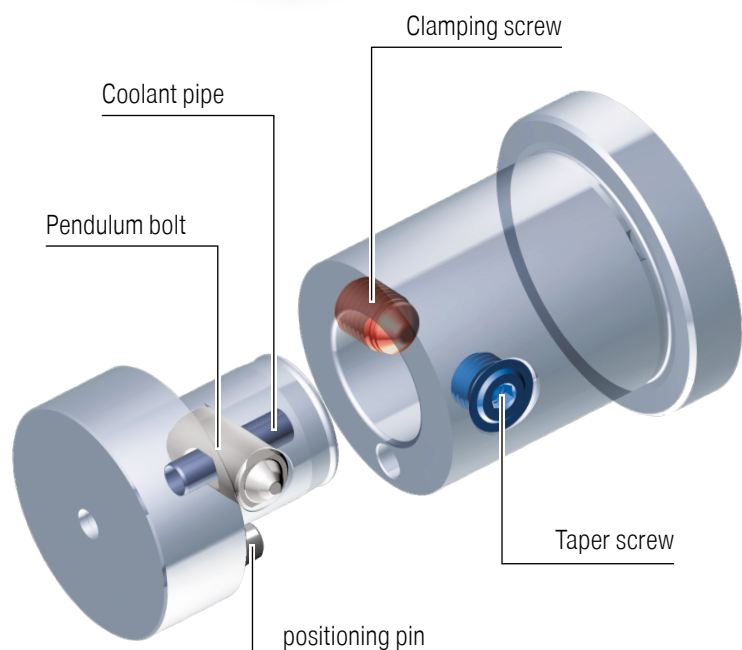
Even better connected

The new version of the ABS connection offers considerably higher clamping forces. It is fully compatible with the existing system and continues to meet the same high demands as the original in terms of accuracy. The adapter is an important element in tooling systems between the cutting tool and the machine. It must be able to reliably transmit the cutting forces that are produced. Adapters also have a considerable impact on the quality of the machining result. They also contribute to the cost-effectiveness of the machining process.



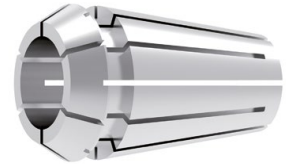
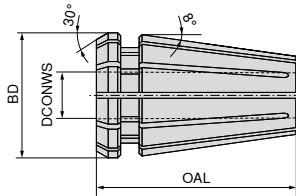
Advantages

- ▲ Improved force transmission
- ▲ Optimum machining result
- ▲ Higher cutting values possible
- ▲ Less noise pollution in production
- ▲ System fully compatible upwards and downwards
- ▲ Suitable for ABS, ABS N and ABS T



ER collet

- ▲ DIN ISO 15488-B (alt DIN 6499-B)
- ▲ 12 times slotted
- ▲ Double taper clamping
- ▲ Sets are supplied in wooden box

ER-B
10 µm

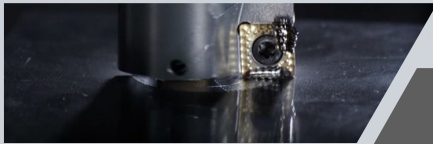
DCONWS	BD = 17 OAL = 27.5 426 E / ER16		BD = 26 OAL = 34 430 E / ER25		BD = 33 OAL = 40 470 E / ER32		BD = 8.5 OAL = 13.6 4004 E / ER08	
	NEW	Y8	NEW	Y8	NEW	Y8	NEW	Y8
mm	Article no. 82 663 ...		Article no. 82 664 ...		Article no. 82 665 ...		Article no. 82 666 ...	
	£		£		£		£	
1.0	28.41	01000					34.99	01000
1.0							34.99	01500
1.5							34.99	02000
2.0	28.41	02000	30.32	02000				
2.5							34.99	02500
3.0							34.99	03000
3.0	28.41	03000	30.32	03000	32.28	03000		
3.5							34.99	03500
4.0							34.99	04000
4.0	28.41	04000	30.32	04000	32.28	04000		
4.5							34.99	04500
5.0							34.99	05000
5.0	28.41	05000	30.32	05000	32.28	05000		
6.0	28.41	06000	30.32	06000	32.28	06000		
7.0	28.41	07000	30.32	07000	32.28	07000		
8.0	28.41	08000	30.32	08000	32.28	08000		
9.0	28.41	09000	30.32	09000	32.28	09000		
10.0	28.41	10000	30.32	10000	32.28	10000		
11.0			30.32	11000	32.28	11000		
12.0			30.32	12000	32.28	12000		
13.0			30.32	13000	32.28	13000		
14.0			30.32	14000	32.28	14000		
15.0			30.32	15000	32.28	15000		
16.0			30.32	16000	32.28	16000		
17.0					32.28	17000		
18.0					32.28	18000		
19.0					32.28	19000		
20.0					32.28	20000		
Set in wooden box		340.00 99900	490.00 99900	652.00 99900	394.00 99900			

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

