

UP2DATE

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



KOMET



KLENK

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

Tooling the Future

www.ceratizit.com

Welcome!



It couldn't be easier

Ordering via the Online Shop

<http://cuttingtools.ceratizit.com>



On-site technical support

Your Local Technical Sales Engineer

Your customer number

WTX – HFDS

The first four-edged drilling tool
on the market!



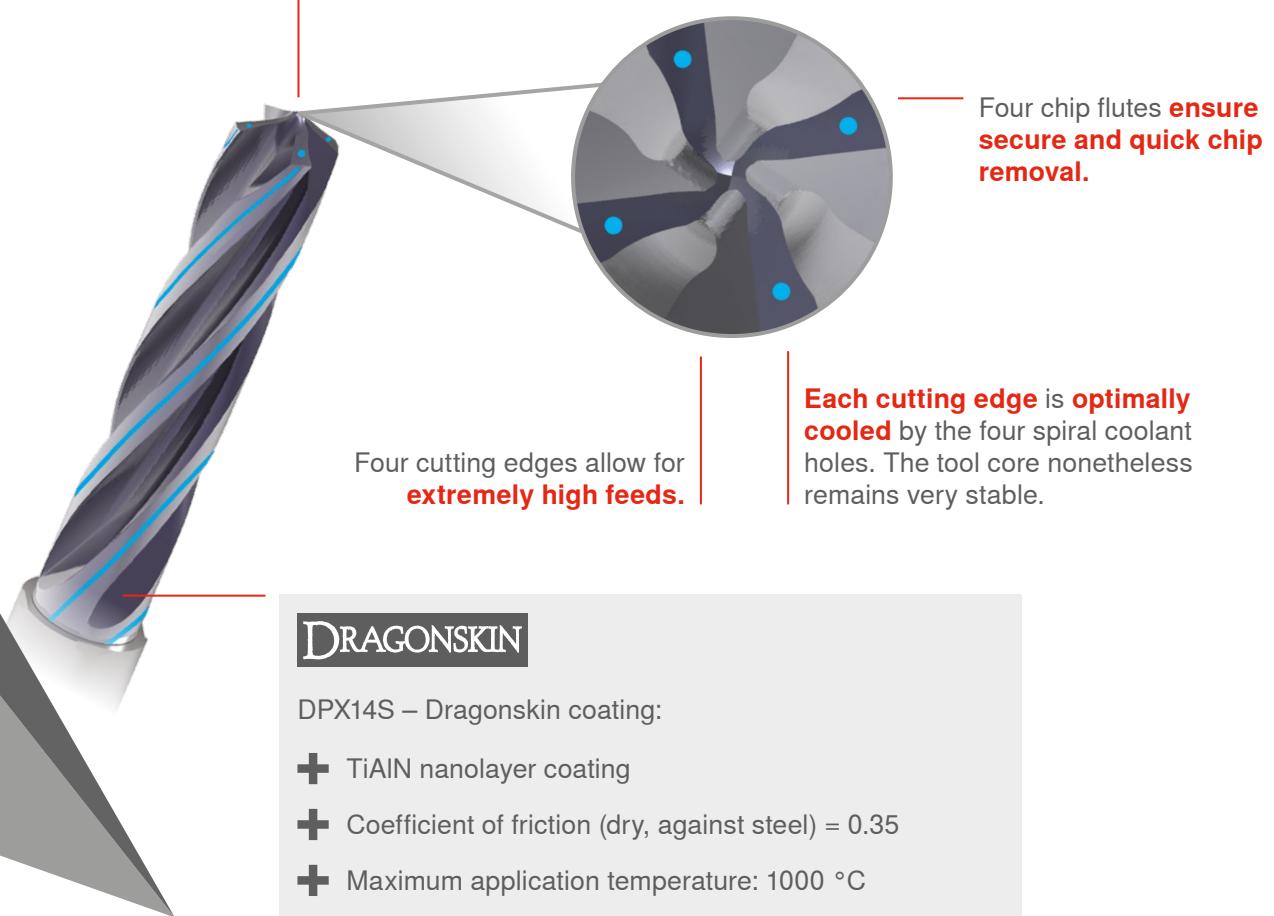
The innovative, pyramid geometry of the WTX – HFDS ensures extremely aggressive and precise drilling performance. In this case, the cutting force is distributed to four cutting edges, meaning that longer service lives are possible. The core stability of the drill is retained due to the optimum cooling 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!

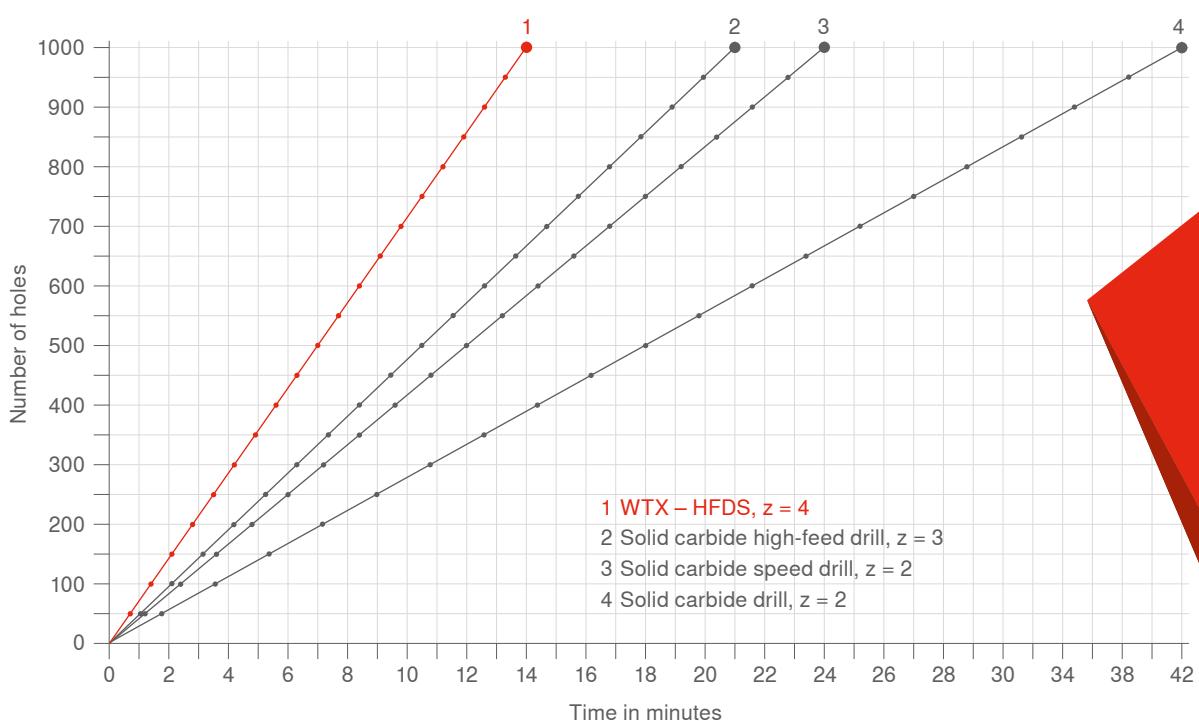


Features

- ▲ 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:	\varnothing (mm)	V_c (m/min.)	F (mm/U)	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.ceratizit.com/int/en/wtx-hfds

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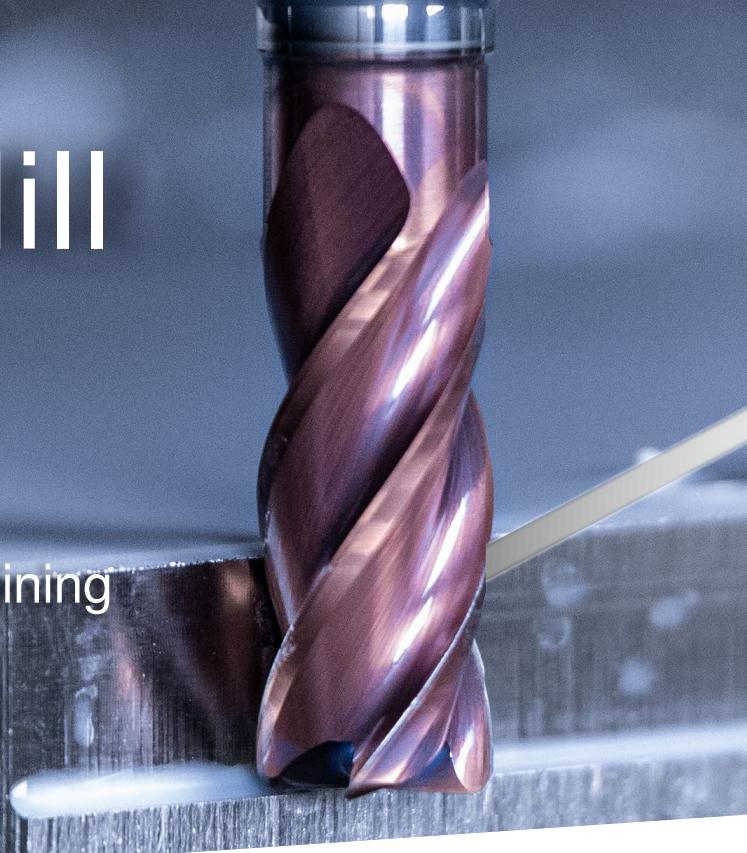
Stock around the clock!
Tool Supply 24/7

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.

DRAUGONSKIN

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

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

= 13.2 m tool life

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

cuttingtools.ceratizit.com/int/en/nqr



Products can be found
on Page 104–108



**800°C –
Nickel-based alloys
(NiCr19Fe18Nb5Mg)**

**400°C –
Titanium**

**400°C –
Stainless steels**

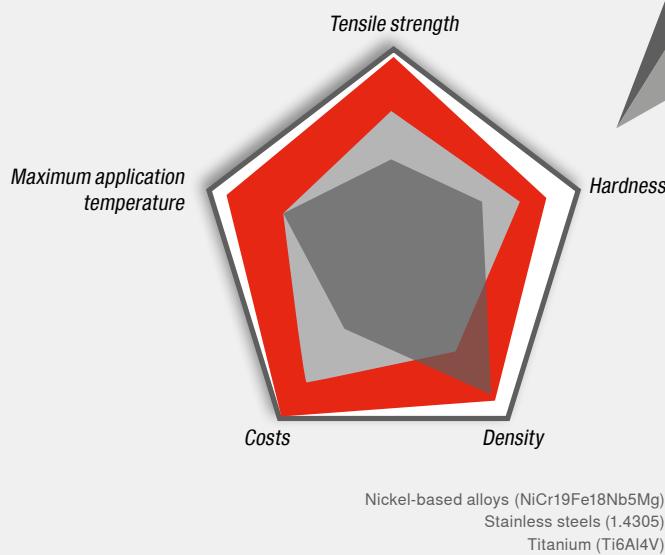
Maximum application temperature

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



KOMET

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.



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.



Drill bit

STABILITY THROUGHOUT THE MACHINING PROCESS

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

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, CENTRICAL POSITIONING

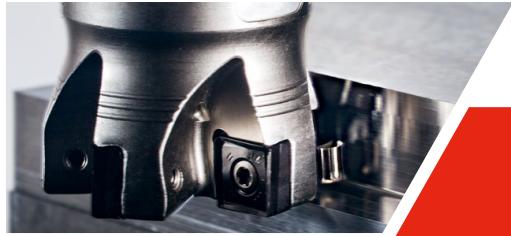
Interface with custom-fit centring pins on the drill bit.



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



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

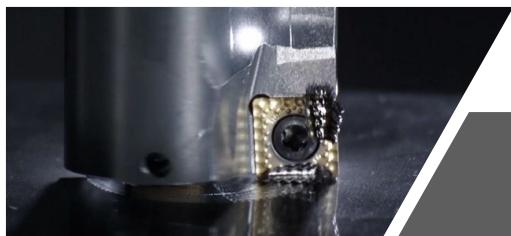


SPECIALIST FOR INDEXABLE INSERT TOOLS FOR TURNING, MILLING AND GROOVING

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.



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

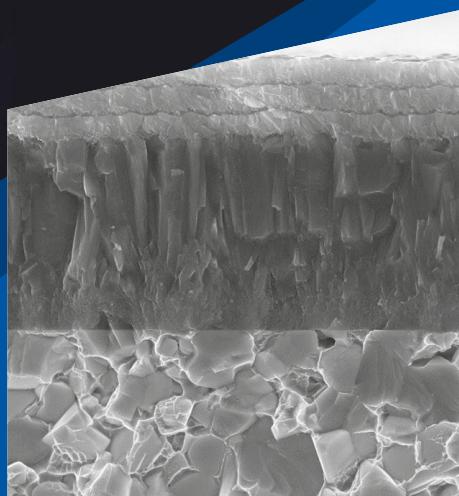
Decades of experience coupled to consistent and constant development are in the unique Dragonskin coating technology. Thanks to our innovative design and expertise in powder metallurgy, we – and above all you – achieve an unmatched level of performance in machining.

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 unmatchable 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



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

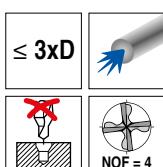
- 136–148 ABS tool holders

- 149–165 ABS adapters

- 167 ER collets

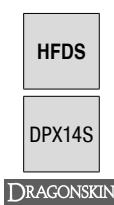
WTX – High Speed Drill, DIN 6537

- ▲ 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

HA

130°

Solid carbide

NEW

Article no.
10 797 ...

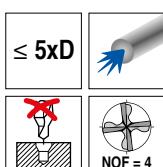
DC _{m7}	DCONMS _{h6}	OAL	LCF	LU	LS	Article no.
mm	mm	mm	mm	mm	mm	10 797 ...
6,0	8	79	41	29	36	06000
6,1	10	89	47	35	40	06100
6,2	10	89	47	35	40	06200
6,3	10	89	47	35	40	06300
6,4	10	89	47	35	40	06400
6,5	10	89	47	35	40	06500
6,6	10	89	47	35	40	06600
6,7	10	89	47	35	40	06700
6,8	10	89	47	35	40	06800
6,9	10	89	47	35	40	06900
7,0	10	89	47	35	40	07000
7,1	10	89	47	35	40	07100
7,2	10	89	47	35	40	07200
7,3	10	89	47	35	40	07300
7,4	10	89	47	35	40	07400
7,5	10	89	47	35	40	07500
7,6	10	89	47	35	40	07600
7,7	10	89	47	35	40	07700
7,8	10	89	47	35	40	07800
7,9	10	89	47	35	40	07900
8,0	10	89	47	35	40	08000
8,1	12	102	55	40	45	08100
8,2	12	102	55	40	45	08200
8,3	12	102	55	40	45	08300
8,4	12	102	55	40	45	08400
8,5	12	102	55	40	45	08500
8,6	12	102	55	40	45	08600
8,7	12	102	55	40	45	08700
8,8	12	102	55	40	45	08800
8,9	12	102	55	40	45	08900
9,0	12	102	55	40	45	09000
9,1	12	102	55	40	45	09100
9,2	12	102	55	40	45	09200
9,3	12	102	55	40	45	09300
9,4	12	102	55	40	45	09400
9,5	12	102	55	40	45	09500
9,6	12	102	55	40	45	09600
9,7	12	102	55	40	45	09700
9,8	12	102	55	40	45	09800
9,9	12	102	55	40	45	09900
10,0	12	102	55	40	45	10000
10,2	14	107	60	43	45	10200
10,5	14	107	60	43	45	10500
11,0	14	107	60	43	45	11000
11,5	14	107	60	43	45	11500
12,0	14	107	60	43	45	12000
12,5	16	115	65	45	48	12500
13,0	16	115	65	45	48	13000

NEW						Article no. 10 797 ...
DC _{m7}	DCONMS _{h6}	OAL	LCF	LU	LS	
mm	mm	mm	mm	mm	mm	
14,0	16	115	65	45	48	14000
14,3	18	123	73	51	48	14300
14,5	18	123	73	51	48	14500
15,0	18	123	73	51	48	15000
16,0	18	123	73	51	48	16000

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

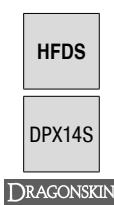
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DRAGONSKIN



HA

130°
Solid carbide

NEW

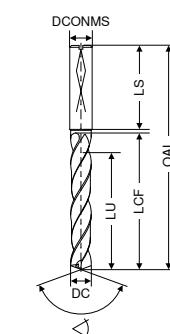
Article no.
10 798 ...

NEW

Article no.
10 798 ...

DC _{m7}	DCONMS _{h6}	OAL	LCF	LU	LS	
mm	mm	mm	mm	mm	mm	
14,0	16	142	91	73	48	14000
14,3	16	142	91	73	48	14300
14,5	16	142	91	73	48	14500
15,0	18	142	91	73	48	15000
16,0	18	142	91	73	48	16000

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



WTX – HFDS = four cutting edges

DC _{m7}	DCONMS _{h6}	OAL	LCF	LU	LS	
mm	mm	mm	mm	mm	mm	
6,0	8	89	51	40	36	06000
6,1	10	102	59	47	40	06100
6,2	10	102	59	47	40	06200
6,3	10	102	59	47	40	06300
6,4	10	102	59	47	40	06400
6,5	10	102	59	47	40	06500
6,6	10	102	59	47	40	06600
6,7	10	102	59	47	40	06700
6,8	10	102	59	47	40	06800
6,9	10	102	59	47	40	06900
7,0	10	102	59	47	40	07000
7,1	10	102	59	47	40	07100
7,2	10	102	59	47	40	07200
7,3	10	102	59	47	40	07300
7,4	10	102	59	47	40	07400
7,5	10	102	59	47	40	07500
7,6	10	102	59	47	40	07600
7,7	10	102	59	47	40	07700
7,8	10	102	59	47	40	07800
7,9	10	102	59	47	40	07900
8,0	10	102	59	47	40	08000
8,1	12	118	70	55	45	08100
8,2	12	118	70	55	45	08200
8,3	12	118	70	55	45	08300
8,4	12	118	70	55	45	08400
8,5	12	118	70	55	45	08500
8,6	12	118	70	55	45	08600
8,7	12	118	70	55	45	08700
8,8	12	118	70	55	45	08800
8,9	12	118	70	55	45	08900
9,0	12	118	70	55	45	09000
9,1	12	118	70	55	45	09100
9,2	12	118	70	55	45	09200
9,3	12	118	70	55	45	09300
9,4	12	118	70	55	45	09400
9,5	12	118	70	55	45	09500
9,6	12	118	70	55	45	09600
9,7	12	118	70	55	45	09700
9,8	12	118	70	55	45	09800
9,9	12	118	70	55	45	09900
10,0	12	118	70	55	45	10000
10,2	14	124	76	60	45	10200
10,5	14	124	76	60	45	10500
11,0	14	124	76	60	45	11000
11,5	14	124	76	60	45	11500
12,0	14	124	76	60	45	12000
12,5	16	142	91	73	48	12500
13,0	16	142	91	73	48	13000

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

			Drilling depth 3xD WTX – HFDS 10 797 ...								
	Index	Material	Strength N/mm ² / HB / HRC	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		
					mm/rev.	mm/rev.	mm/rev.	mm/rev.	mm/rev.		
P	1.1	General construction steel	< 800 N/mm ²	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/mm 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	Hardened steel, non alloyed	< 800 N/mm ²	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/mm ²	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/mm ²	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/mm ²	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/mm ²	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/mm ²	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/mm ²	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/mm ²	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/mm ²	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/mm ²	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/mm ²	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/mm ²	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/mm ²	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/mm ²	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/mm ²	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/mm 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	Stainless steel, martensitic	< 900 N/mm ²	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/mm ²	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/mm ²	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/mm ²	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/mm ²	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/mm ²	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/mm ²	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/mm ²	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/mm ²	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/mm ²	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/mm ²	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/mm ²	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/mm ²	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/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	120-140	0,4-0,6	0,5-0,6	0,7-0,9	0,9-1,01	1,01-1,2		
S	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		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									
H	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	40-60	0,1-0,2	0,15-0,25	0,2-0,25	0,25-0,3	0,3-0,4		
H	5.11	Titanium alloys	< 1200 N/mm ²	40-60	0,1-0,2	0,15-0,25	0,2-0,25	0,25-0,3	0,3-0,4		
	6.1		< 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	Tempered steel	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								

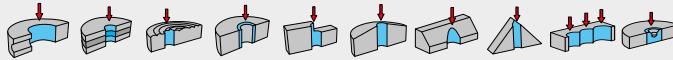
i The cutting data depends extremely on the external conditions, the material and machine type. The indicated values are possible values which have to be increased or reduced according to the application conditions.

Drilling depth 5xD WTX - HFDS 10 798 ...						
Index	v_c m/min with through coolant	\emptyset 6-8	\emptyset 8-10	\emptyset 10-12	\emptyset 12-14	\emptyset 14-16
		f mm/rev.	f mm/rev.	f mm/rev.	f mm/rev.	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

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	Spotdrilling through a centre in the pre-op
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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

4xD	○	-	●	-	-	○	○	-	○	●
6xD	○	-	●	-	-	○	○	-	○	●
9xD	○	-	●	-	-	○	○	-	○	●

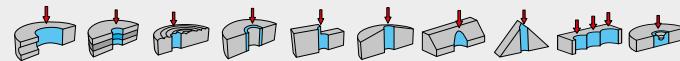
Drill bits



- ▲ Drill head with interchangeable indexable insert for universal application



- ▲ Drill head with interchangeable indexable insert for universal application



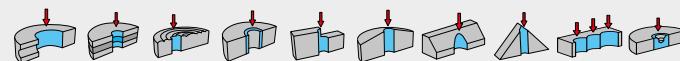
KUB Pentron

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	●	○	○	-	●	○	●	○	-	○



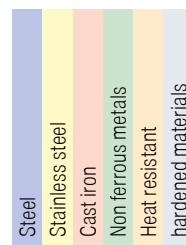
KUB Trigon

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	○	-	○	○	○	○	○	○	○	○



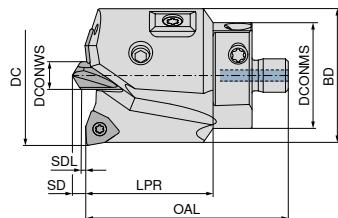
Shank	Pages	Insert type	No. of cutting edges	Grade	Pages		
ABS	28		WOEX	3	-01 BK8425		
ABS	28		WOEX	3	-03 BK8425		
ABS	28		WOEX	3	-13 BK8425		
			WOEX	3	-01 BK7935		
			WOEX	3	-01 BK6115		
			WOEX	3	-01 BK7615		
			WOEX	3	-01 BK62		
			WOEX	3	-11 BK77		
			WOEX	3	-13 BK79		
Ø DC	Pages	Centring tip	Ø DC	Coating	Pages		
20-64	22+23		5-12	TiAIN			
65-81	24+25		5-12	TiN			
			5-12	TiAIN/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	
ABS	14-46	38+39		SOGX	4	-01 BK6425	
ABS	30,5-46	40		SOGX	4	-01 BK7710	
ABS	30,5-46	41					
ABS	30,5-46	42					
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	
				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:

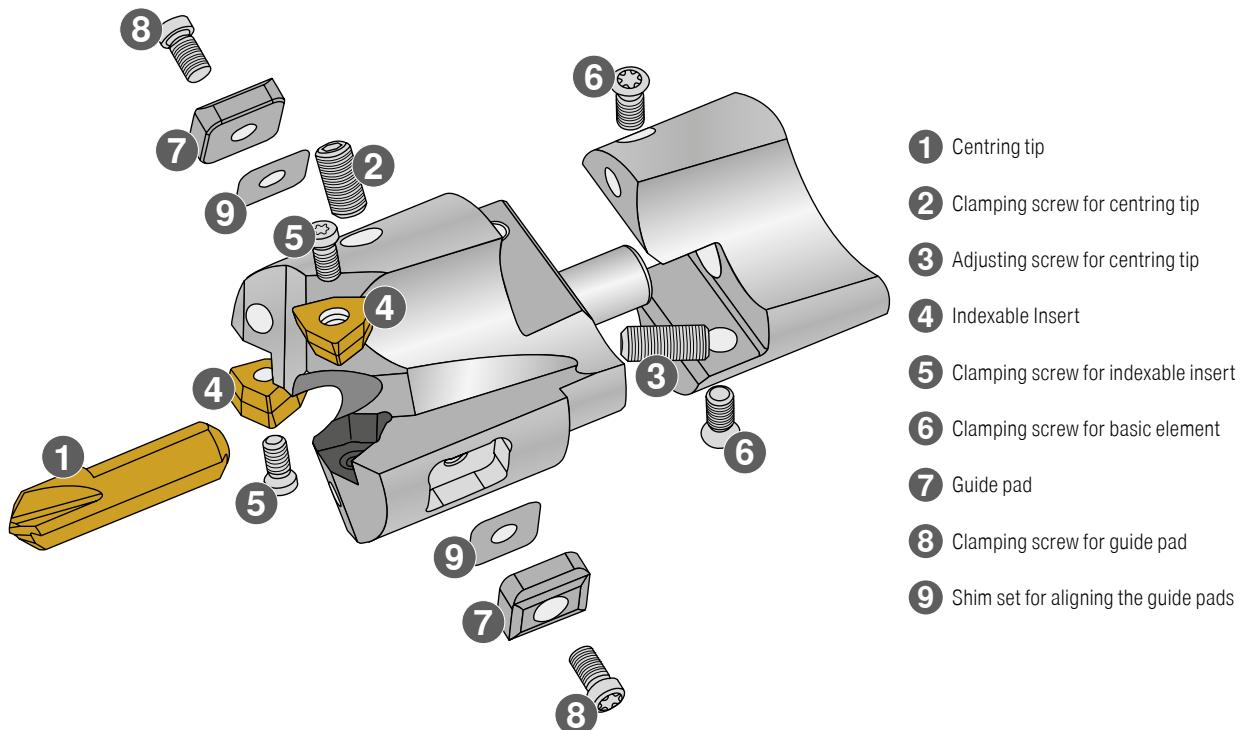
- ▲ Drill bit incl. screws, guide pads and shim set
- ▲ Order centring tip and indexable inserts separately

**NEW**

Designation	KOMET no.	DC	OAL	LPR	SD	BD	SDL	DCONMS	DCONWS	KLG	Insert	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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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

Spare parts DC	Article no. 10 950 ...	Guide pad clamping screw	Article no. 10 950 ...	Indexable insert clamping screw	Article no. 10 950 ...	Guide pad	Article no. 10 950 ...	Shim set
20	M2,5x4,2 - 8IP - 1,28Nm	11900	M2,0x4,3 - 06IP	10000	14600		15200	
21-22	M2,5x4,2 - 8IP - 1,28Nm	11900	M2,0x4,3 - 06IP	10000	14600		15200	
23-25	M2,5x4,5 - 8IP - 1,28Nm	11700	M2,0x4,3 - 06IP	10000	14700		15200	
26-29	M2,5x4,5 - 8IP - 1,28Nm	11700	M2,2x5,5 - 06IP	10700	14700		15200	
30-32	M2,5x4,5 - 8IP - 1,28Nm	11700	M2,2x5,5 - 06IP	10700	14800		15200	
33-36	M2,5x4,5 - 8IP - 1,28Nm	11700	M2,5x7,2 - 08IP	10500	14800		15200	
37-39	M2,5x4,5 - 8IP - 1,28Nm	11700	M2,5x7,2 - 08IP	10500	14900		15200	
40-45	M2,5x4,5 - 8IP - 1,28Nm	11700	M2,5x7,2 - 08IP	10500	14900		15200	
46-54	M3,5x5,0 - 8IP - 2,25Nm	11800	M3,5x7,3 - 10IP	10600	15000		15300	
55-64	M3,5x5,0 - 8IP - 2,25Nm	11800	M4,5x9 - 15IP	12700	15100		15300	
		Basic element clamping screw						Centring tip clamping screw
Spare parts DC	Article no. 10 950 ...		Article no. 10 950 ...				Article no. 10 950 ...	
20	M2,5x6,4 - 08IP - 1,28Nm	12400	M4x6 - SW2 - 1,5Nm				12800	
21-22	M2,5x6,4 - 08IP - 1,28Nm	12400	M4x8 - SW2 - 1,5Nm				12900	
23-25	M2,5x6,4 - 08IP - 1,28Nm	12400	M4x8 - SW2 - 1,5Nm				12900	
26-29	M3x7,4 - 08IP - 2,25Nm	12500	M5x10 - SW2,5 - 2,5Nm				13000	
30-32	M3x7,4 - 08IP - 2,25Nm	12500	M5x10 - SW2,5 - 2,5Nm				13000	
33-36	M4x8,9 - 15IP - 4,3Nm	12000	M5x12 - SW2,5 - 2,5Nm				13100	
37-39	M4x8,9 - 15IP - 4,3Nm	12000	M5x12 - SW2,5 - 2,5Nm				13100	
40-45	M4,5x10,5 - 20IP - 6,25Nm	12600	M6x12 - SW3 - 5Nm				13200	
46-54	M5x11,5 - 20IP - 6,25Nm	12100	M8x16 - SW4 - 8Nm				13300	
55-64	M5,5x14 - 20IP - 6,25Nm	12200	M8x16 - SW4 - 8Nm				13300	

Exploded drawing of the drill head Ø 20–64 mm



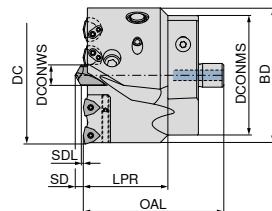
i For correct assembly, please observe the operating instructions provided.

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	Insert		
											Nm	Article no.	
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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	81000

Grub screw

Copper disc

Indexable insert fixing screw

Indexable insert fixing screw

Spare parts	Article no.	Article no.	Article no.	Article no.
DC	10 950 ...	10 950 ...	10 950 ...	10 950 ...
65 - 71	M6x8 - SW3	11300	04,5x1,5	11400
72 - 75	M6x8 - SW3	11300	04,5x1,5	11400
76 - 78	M6x8 - SW3	11300	04,5x1,5	11400
79 - 81	M6x8 - SW3	11300	04,5x1,5	11400

Indexable insert seat

Indexable insert seat

Indexable insert adjusting screw

Basic element clamping screw

Spare parts	Article no.	Article no.	Article no.	Article no.
DC	10 950 ...	10 950 ...	10 950 ...	10 950 ...
65 - 71			M4x8 - SW2	11100
72 - 75	13700	13600	M4x10 - SW2	11200
76 - 78	13700	13600	M4x10 - SW2	11200
79 - 81	13700	13600	M4x10 - SW2	11200

Carbide bolt key

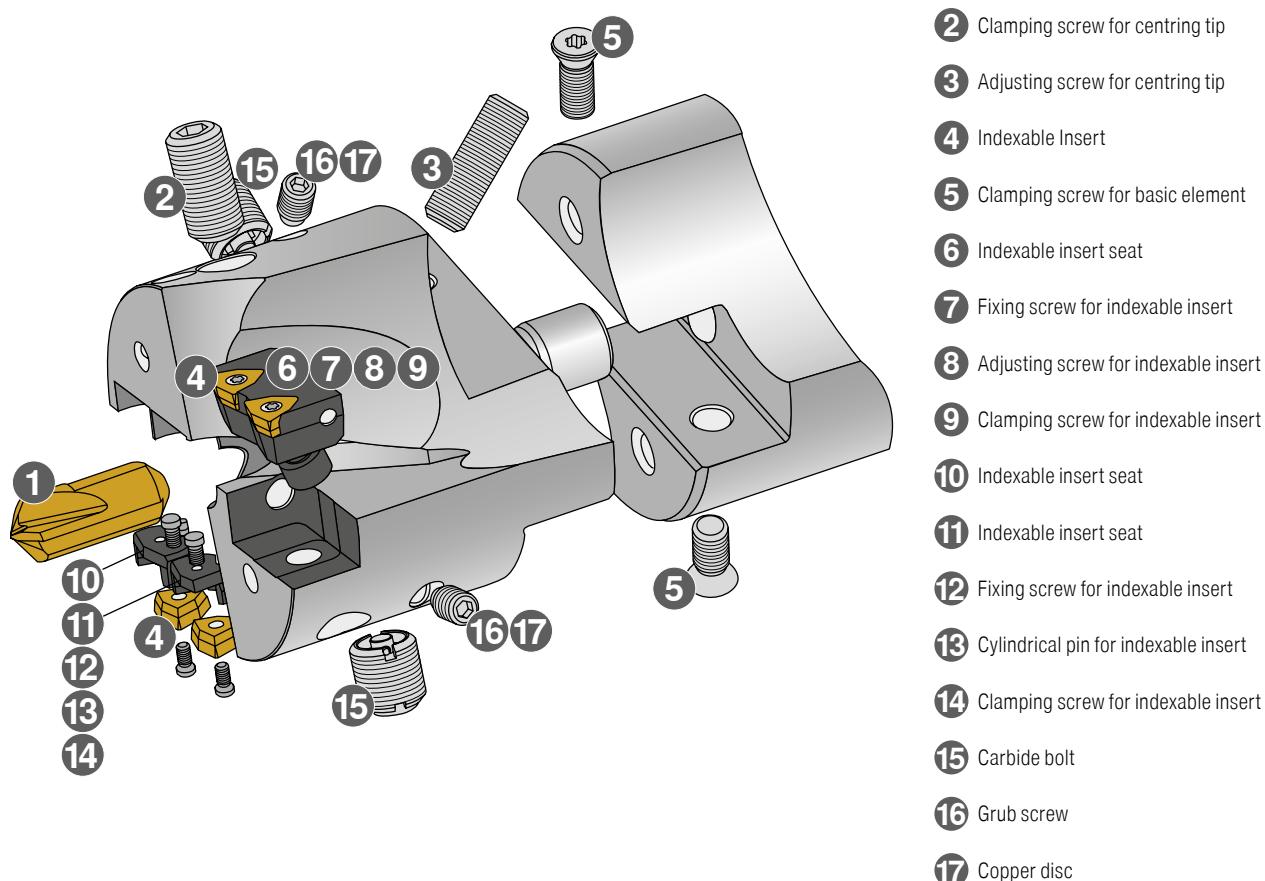
Carbide bolt

Indexable insert clamping screw

Centring tip clamping screw

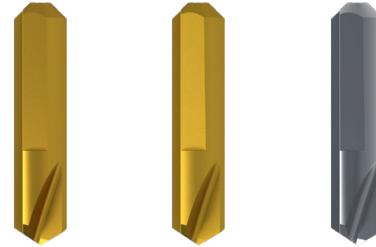
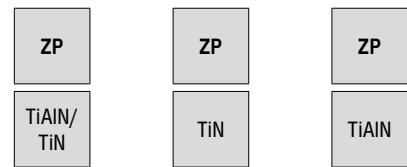
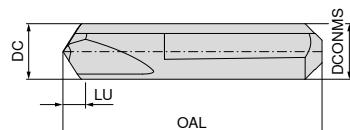
Spare parts	Article no.	Article no.	Article no.	Article no.
DC	10 950 ...	10 950 ...	10 950 ...	10 950 ...
65 - 71		15500	M12x1	15400
72 - 75		15500	M12x1	15400
76 - 78		15500	M12x1	15400
79 - 81		15500	M12x1	15400

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 mm	KOMET no.	OAL mm	LU mm	DCONMS mm	$\triangle 120^\circ$		
					Solid carbide NEW Article no. 10 863 ...	HSS NEW Article no. 10 862 ...	HSS NEW Article no. 10 862 ...
5	V95 10012.0089	21,5	2,25	5		00500	
5	V95 10012.0090	21,5	2,25	5	20500		10500
5	V95 10310.8450	21,5	2,25	5		00600	
6	V95 10022.0089	23,0	2,65	6	20600		10600
6	V95 10022.0090	23,0	2,65	6		00800	
6	V95 10320.8450	23,0	2,65	6	20800		10800
8	V95 10032.0089	27,0	3,38	8		01000	
8	V95 10032.0090	27,0	3,38	8	21000		11000
8	V95 10330.8450	27,0	3,38	8		01200	
10	V95 10042.0089	28,0	3,86	10			11200
10	V95 10042.0090	28,0	3,86	10			
10	V95 10340.8450	28,0	3,86	10			
12	V95 10050.0089	30,8	4,67	12			
12	V95 10050.0090	30,8	4,67	12			

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

→ v_c/f_z Page 30+31

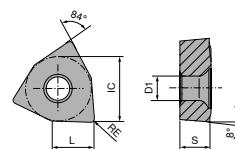
i The cutting data of the KUB Centron depends on the centring tip and not on the indexable inserts. Please select the cutting data of the centring tip.

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

-01
BK8425

WOEX

-03
BK8425

WOEX

-13
BK8425

WOEX

-01
BK7935

WOEX

-01
BK6115

WOEX

ISO	KOMET no.	RE	Article no. 10 821 ...				
		mm					
030204	W29 10130.048425	0,4					
030204	W29 10030.048425	0,4					
030204	W29 10010.047935	0,4					
030204	W29 10010.048425	0,4	30301				
030204	W29 10010.046115	0,4					
040304	W29 18130.048425	0,4					
040304	W29 18030.048425	0,4					
040304	W29 18010.047935	0,4					
040304	W29 18010..048425	0,4	30401				
040304	W29 18010.046115	0,4					
05T304	W29 24130.048425	0,4					
05T304	W29 24030.048425	0,4					
05T304	W29 24010.047935	0,4					
05T304	W29 24010.048425	0,4	30501				
05T304	W29 24010.046115	0,4					
06T304	W29 34130.048425	0,4					
06T304	W29 34030.048425	0,4					
06T304	W29 34010.047935	0,4					
06T304	W29 34010.048425	0,4	30601				
06T304	W29 34010.046115	0,4					
080404	W29 42130.048425	0,4					

Steel



Stainless steel



Cast iron



Non ferrous metals



Heat resistant alloys



Hardened materials



ISO	KOMET no.	RE	Article no. 10 821 ...			
		mm				
030204	W29 10010.0462	0,4				
030204	W29 10110.0477	0,4				
030204	W29 10010.047615	0,4				
030204	W29 10130.0479	0,4	05301			
040304	W29 18110.0477	0,4				
040304	W29 18010.0462	0,4				
040304	W29 18010.047615	0,4	05401			
040304	W29 18130.0479	0,4				
05T304	W29 24110.0477	0,4				
05T304	W29 24010.0462	0,4				
05T304	W29 24010.047615	0,4	05501			
05T304	W29 24130.0479	0,4				
06T304	W29 34110.0477	0,4				
06T304	W29 34010.0462	0,4				
06T304	W29 34010.047615	0,4	05601			
06T304	W29 34130.0479	0,4				
080404	W29 42110.0477	0,4				
080404	W29 42010.047615	0,4	05801			
080404	W29 42130.0479	0,4				

-01
BK7615

WOEX

-01
BK62

WOEX

-11
BK77

WOEX

-13
BK79

WOEX

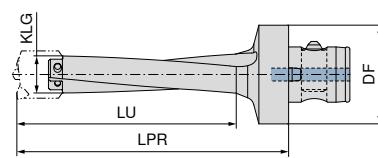
Steel	
Stainless steel	
Cast iron	
Non ferrous metals	
Heat resistant alloys	
Hardened materials	

KUB Centron – basic element

▲ KLG = Coupling Size



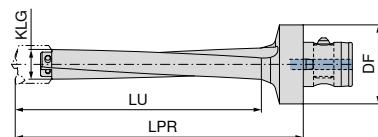
ABS



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



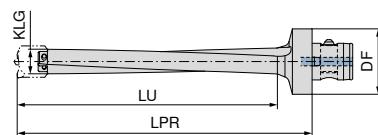
ABS



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



ABS



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

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 51	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-Al11 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
S	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 Tr 22 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
	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)
H	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)
	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

Index	f mm/rev.	Drill bit diameter											
		Ø 20–25 mm				Ø 26–32 mm				Ø 33–45 mm			
		Centring tip v_c			f mm/rev.	Centring tip v_c			f mm/rev.	Centring tip v_c			f mm/rev.
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
S	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												
H	4.17												
	4.18												
	4.19												
	5.1												
	5.2	0,02–0,06		25		0,02–0,06		25		0,02–0,06		25	
S	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	
	6.1												
H	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.



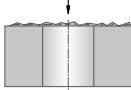
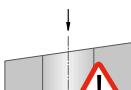
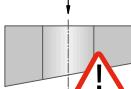
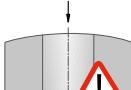
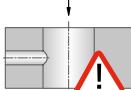
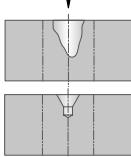
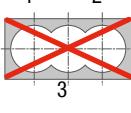
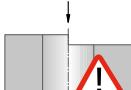
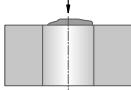
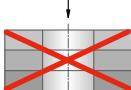
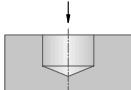
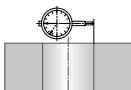
The cutting data of the KUB Centron depends on the centring tip and not on the indexable inserts. Please select the cutting data of the centring tip.

Drill bit diameter															
Ø 46–54 mm				Ø 55–64 mm				Ø 65–71 mm				Ø 72–81 mm			
f mm/rev.	Centring tip Vc			f mm/rev.	Centring tip Vc			f mm/rev.	Centring tip Vc			f mm/rev.	Centring tip Vc		
10 863 ...	10 862 ... (TiN)	10 862 ... (TiAlN)		10 863 ...	10 862 ... (TiN)	10 862 ... (TiAlN)		10 862 ... (TiN)	10 862 ... (TiAlN)			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		
0,08–0,10	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	0,15–0,20		
0,10–0,15	160	120	0,12–0,20	160	120	0,10–0,16		140	0,12–0,20			140	0,12–0,20		
0,10–0,18	160	120	0,12–0,25	160	120	0,10–0,16		140	0,15–0,20			140	0,15–0,20		
0,10–0,18	140	110	0,12–0,25	140	110	0,10–0,16		140	0,15–0,20			140	0,15–0,20		
0,10–0,18	120	120	0,12–0,25	120	120	0,10–0,14		120	0,12–0,16			120	0,12–0,16		
0,10–0,15	100	100	0,12–0,20	100	100	0,10–0,14		100	0,10–0,14			100	0,10–0,14		
0,10–0,18	120	120	0,12–0,25	120	120	0,10–0,14		120	0,12–0,16			120	0,12–0,16		
0,10–0,15	100	100	0,12–0,20	100	100	0,10–0,14		100	0,10–0,14			100	0,10–0,14		
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	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	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	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	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	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	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	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	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	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	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	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	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	25	
0,02–0,06															
0,02–0,06															
0,02–0,06															
0,02–0,06															
0,02–0,05															
0,02–0,05															
0,03–0,07															
0,03–0,07															
0,03–0,07															



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

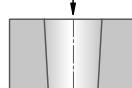
Problems / possible causes / solutions

Rotating and stationary application



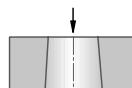
Short service life / types of wear of indexable inserts

- ▲ 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



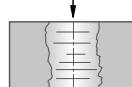
Hole tapers in

- ▲ 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



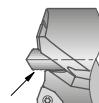
Built-up edge

- ▲ Cutting speed too low → increase cutting speed
- ▲ Indexable insert too negative → use positive geometry
- ▲ Unsuitable coating → select the correct coating



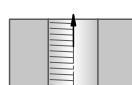
Friction marks on the tool shank

- ▲ 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



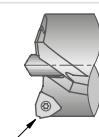
Significant wear on one side of the centring tip

- ▲ Tool not centred → tool turret/adapter may have moved → recalibrate the machine



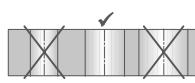
Single-sided retraction scoring

- ▲ Tool not centred → tool turret/adapter 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



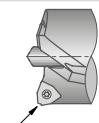
Hole too small / too large

- ▲ Machine is not in the X-0 position → move axis to correct position
- ▲ Machine axis has been moved → recalibrate the machine



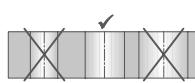
Significant wear on one side of the centring tip

- ▲ 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

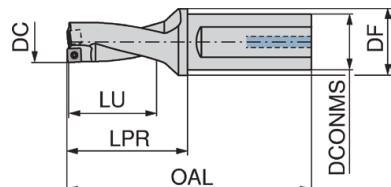
- ▲ Incorrect cutting radius used → use the correct cutting radius
- ▲ Incorrect setting → use the correct tool setting

Stationary application

KUB Pentron

Scope of supply:

Indexable Insert Drill incl. clamping screws



Designation	KOMET no.	DC mm	DCONMS mm	DF mm	OAL mm	LU mm	LPR mm	torque moment Nm	Insert	NEW	
										Article no. 10 872 ...	
KUB-P.2D.305.R.10-C40	U42 33050	30,5	40	50	154	62	86	2.8	SOGX 100408	30504	
KUB-P.2D.315.R.10-C40	U42 33150	31,5	40	50	156	64	88	2.8	SOGX 100408	31504	
KUB-P.2D.325.R.10-C40	U42 33250	32,5	40	50	159	66	91	2.8	SOGX 100408	32504	
KUB-P.2D.335.R.11-C40	U42 33350	33,5	40	50	161	68	93	2.8	SOGX 110408	33504	
KUB-P.2D.345.R.11-C40	U42 33450	34,5	40	50	164	70	96	2.8	SOGX 110408	34504	
KUB-P.2D.355.R.11-C40	U42 33550	35,5	40	50	166	72	98	2.8	SOGX 110408	35504	
KUB-P.2D.365.R.11-C40	U42 33650	36,5	40	50	169	74	101	2.8	SOGX 110408	36504	
KUB-P.2D.375.R.12-C40	U42 33750	37,5	40	50	171	76	103	6.25	SOGX 120408	37504	
KUB-P.2D.385.R.12-C40	U42 33850	38,5	40	50	174	78	106	6.25	SOGX 120408	38504	
KUB-P.2D.395.R.12-C40	U42 33950	39,5	40	50	176	80	108	6.25	SOGX 120408	39504	
KUB-P.2D.405.R.12-C40	U42 34050	40,5	40	50	179	82	111	6.25	SOGX 120408	40504	
KUB-P.2D.415.R.12-C40	U42 34150	41,5	40	50	181	84	113	6.25	SOGX 120408	41504	
KUB-P.2D.425.R.13-C40	U42 34250	42,5	40	50	184	86	116	6.25	SOGX 130508	42504	
KUB-P.2D.435.R.13-C40	U42 34350	43,5	40	50	186	88	118	6.25	SOGX 130508	43504	
KUB-P.2D.445.R.13-C40	U42 34450	44,5	40	50	189	90	121	6.25	SOGX 130508	44504	
KUB-P.2D.455.R.13-C40	U42 34550	45,5	40	50	191	92	123	6.25	SOGX 130508	45504	



Key D



Clamping screw

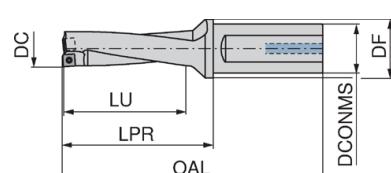
Spare parts	DC	Article no. 80 950 ...	Article no. 10 950 ...
30,5 - 36,5		T15 - IP	128 M3,5x7,5 - 15IP
37,5 - 45,5		T20 - IP	129 M4,5x10 - 20IP

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

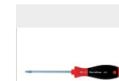
KUB Pentron

Scope of supply:

Indexable Insert Drill incl. clamping screws



Designation	KOMET no.	DC mm	DCONMS mm	DF mm	OAL mm	LU mm	LPR mm	torque moment Nm	Insert	NEW	
										Article no. 10 873 ...	
KUB-P.3D.305.R.10-C40	U43 33050	30,5	40	50	185	93	117	2.8	SOGX 100408	30504	
KUB-P.3D.315.R.10-C40	U43 33150	31,5	40	50	188	96	120	2.8	SOGX 100408	31504	
KUB-P.3D.325.R.10-C40	U43 33250	32,5	40	50	192	99	124	2.8	SOGX 100408	32504	
KUB-P.3D.335.R.11-C40	U43 33350	33,5	40	50	195	102	127	2.8	SOGX 110408	33504	
KUB-P.3D.345.R.11-C40	U43 33450	34,5	40	50	199	105	131	2.8	SOGX 110408	34504	
KUB-P.3D.355.R.11-C40	U43 33550	35,5	40	50	202	108	134	2.8	SOGX 110408	35504	
KUB-P.3D.365.R.11-C40	U43 33650	36,5	40	50	206	111	138	2.8	SOGX 110408	36504	
KUB-P.3D.375.R.12-C40	U43 33750	37,5	40	50	209	114	141	6.25	SOGX 120408	37504	
KUB-P.3D.385.R.12-C40	U43 33850	38,5	40	50	213	117	145	6.25	SOGX 120408	38504	
KUB-P.3D.395.R.12-C40	U43 33950	39,5	40	50	216	120	148	6.25	SOGX 120408	39504	
KUB-P.3D.405.R.12-C40	U43 34050	40,5	40	50	220	123	152	6.25	SOGX 120408	40504	
KUB-P.3D.415.R.12-C40	U43 34150	41,5	40	50	223	126	155	6.25	SOGX 120408	41504	
KUB-P.3D.425.R.13-C40	U43 34250	42,5	40	50	227	129	159	6.25	SOGX 130508	42504	
KUB-P.3D.435.R.13-C40	U43 34350	43,5	40	50	230	132	162	6.25	SOGX 130508	43504	
KUB-P.3D.445.R.13-C40	U43 34450	44,5	40	50	234	135	166	6.25	SOGX 130508	44504	
KUB-P.3D.455.R.13-C40	U43 34550	45,5	40	50	237	138	169	6.25	SOGX 130508	45504	



Key D



Clamping screw

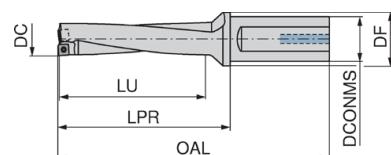
Spare parts	DC	Article no. 80 950 ...	Article no. 10 950 ...
30,5 - 36,5		T15 - IP	128 M3,5x7,5 - 15IP
37,5 - 45,5		T20 - IP	129 M4,5x10 - 20IP

! 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 mm	DCONMS mm	DF mm	OAL mm	LU mm	LPR mm	torque moment Nm	Insert	NEW	
										Article no. 10 874 ...	
KUB-P.4D.305.R.10-C40	U44 33050	30,5	40	50	216	124	148	2.8	SOGX 100408	30504	
KUB-P.4D.315.R.10-C40	U44 33150	31,5	40	50	220	128	152	2.8	SOGX 100408	31504	
KUB-P.4D.325.R.10-C40	U44 33250	32,5	40	50	225	132	157	2.8	SOGX 100408	32504	
KUB-P.4D.335.R.11-C40	U44 33350	33,5	40	50	229	136	161	2.8	SOGX 110408	33504	
KUB-P.4D.345.R.11-C40	U44 33450	34,5	40	50	234	140	166	2.8	SOGX 110408	34504	
KUB-P.4D.355.R.11-C40	U44 33550	35,5	40	50	238	144	170	2.8	SOGX 110408	35504	
KUB-P.4D.365.R.11-C40	U44 33650	36,5	40	50	243	148	175	2.8	SOGX 110408	36504	
KUB-P.4D.375.R.12-C40	U44 33750	37,5	40	50	247	152	179	6.25	SOGX 120408	37504	
KUB-P.4D.385.R.12-C40	U44 33850	38,5	40	50	252	156	184	6.25	SOGX 120408	38504	
KUB-P.4D.395.R.12-C40	U44 33950	39,5	40	50	256	160	188	6.25	SOGX 120408	39504	
KUB-P.4D.405.R.12-C40	U44 34050	40,5	40	50	261	164	193	6.25	SOGX 120408	40504	
KUB-P.4D.415.R.12-C40	U44 34150	41,5	40	50	265	166	197	6.25	SOGX 120408	41504	
KUB-P.4D.425.R.13-C40	U44 34250	42,5	40	50	270	172	202	6.25	SOGX 130508	42504	
KUB-P.4D.435.R.13-C40	U44 34350	43,5	40	50	274	176	206	6.25	SOGX 130508	43504	
KUB-P.4D.445.R.13-C40	U44 34450	44,5	40	50	279	180	211	6.25	SOGX 130508	44504	
KUB-P.4D.455.R.13-C40	U44 34550	45,5	40	50	283	184	215	6.25	SOGX 130508	45504	



Key D



Clamping screw

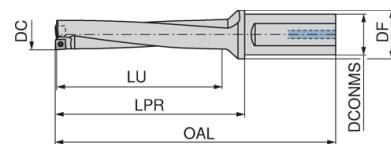
Spare parts	DC	Article no. 80 950 ...	Article no. 10 950 ...
30,5 - 36,5		T15 - IP	128 M3,5x7,5 - 15IP
37,5 - 45,5		T20 - IP	129 M4,5x10 - 20IP

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

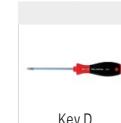
KUB Pentron

Scope of supply:

Indexable Insert Drill incl. clamping screws



Designation	KOMET no.	DC mm	DCONMS mm	DF mm	OAL mm	LU mm	LPR mm	torque moment Nm	Insert	NEW	
										Article no. 10 875 ...	
KUB-P.5D.305.R.10-C40	U45 33050	30,5	40	50	247	155	179	2.8	SOGX 100408	30504	
KUB-P.5D.315.R.10-C40	U45 33150	31,5	40	50	252	160	184	2.8	SOGX 100408	31504	
KUB-P.5D.325.R.10-C40	U45 33250	32,5	40	50	258	165	190	2.8	SOGX 100408	32504	
KUB-P.5D.335.R.11-C40	U45 33350	33,5	40	50	263	170	195	2.8	SOGX 110408	33504	
KUB-P.5D.345.R.11-C40	U45 33450	34,5	40	50	269	175	201	2.8	SOGX 110408	34504	
KUB-P.5D.355.R.11-C40	U45 33550	35,5	40	50	274	180	206	2.8	SOGX 110408	35504	
KUB-P.5D.365.R.11-C40	U45 33650	36,5	40	50	280	185	212	2.8	SOGX 110408	36504	
KUB-P.5D.375.R.12-C40	U45 33750	37,5	40	50	285	190	217	6.25	SOGX 120408	37504	
KUB-P.5D.385.R.12-C40	U45 33850	38,5	40	50	291	195	223	6.25	SOGX 120408	38504	
KUB-P.5D.395.R.12-C40	U45 33950	39,5	40	50	296	200	228	6.25	SOGX 120408	39504	
KUB-P.5D.405.R.12-C40	U45 34050	40,5	40	50	302	205	234	6.25	SOGX 120408	40504	
KUB-P.5D.415.R.12-C40	U45 34150	41,5	40	50	307	210	239	6.25	SOGX 120408	41504	
KUB-P.5D.425.R.13-C40	U45 34250	42,5	40	50	313	215	245	6.25	SOGX 130508	42504	
KUB-P.5D.435.R.13-C40	U45 34350	43,5	40	50	318	220	250	6.25	SOGX 130508	43504	
KUB-P.5D.445.R.13-C40	U45 34450	44,5	40	50	324	225	256	6.25	SOGX 130508	44504	
KUB-P.5D.455.R.13-C40	U45 34550	45,5	40	50	329	230	261	6.25	SOGX 130508	45504	



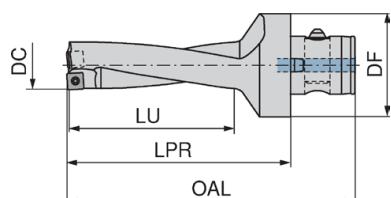
Spare parts	DC	Article no. 80 950 ...	Article no. 10 950 ...
30,5 - 36,5		T15 - IP	128 M3,5x7,5 - 15IP
37,5 - 45,5		T20 - IP	129 M4,5x10 - 20IP

! 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

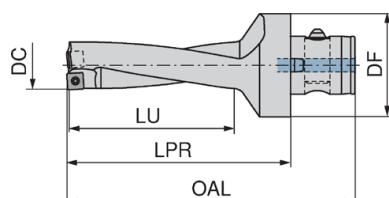

ABS


Designation	KOMET no.	DC mm	DF mm	OAL mm	LU mm	LPR mm	torque moment Nm	Insert	NEW	
									Article no.	
KUB-P.2D.140.R.04-ABS50	U42 51400	14,0	50	86	26	55	0.38	SOGX 040204	14095	
KUB-P.2D.145.R.04-ABS50	U42 51450	14,5	50	89	28	58	0.38	SOGX 040204	14595	
KUB-P.2D.150.R.04-ABS50	U42 51500	15,0	50	89	28	58	0.38	SOGX 040204	15095	
KUB-P.2D.155.R.04-ABS50	U42 51550	15,5	50	93	32	62	0.38	SOGX 040204	15595	
KUB-P.2D.160.R.04-ABS50	U42 51600	16,0	50	93	32	62	0.38	SOGX 040204	16095	
KUB-P.2D.165.R.05-ABS50	U42 51650	16,5	50	96	34	65	0.62	SOGX 050204	16595	
KUB-P.2D.170.R.05-ABS50	U42 51700	17,0	50	96	34	65	0.62	SOGX 050204	17095	
KUB-P.2D.175.R.05-ABS50	U42 51750	17,5	50	98	36	67	0.62	SOGX 050204	17595	
KUB-P.2D.180.R.05-ABS50	U42 51800	18,0	50	98	36	67	0.62	SOGX 050204	18095	
KUB-P.2D.185.R.06-ABS50	U42 51850	18,5	50	101	38	70	1.01	SOGX 060206	18595	
KUB-P.2D.190.R.06-ABS50	U42 51900	19,0	50	101	38	70	1.01	SOGX 060206	19095	
KUB-P.2D.195.R.06-ABS50	U42 51950	19,5	50	103	40	72	1.01	SOGX 060206	19595	
KUB-P.2D.200.R.06-ABS50	U42 52000	20,0	50	103	40	72	1.01	SOGX 060206	20095	
KUB-P.2D.205.R.07-ABS50	U42 52050	20,5	50	105	42	74	1.01	SOGX 07T208	20595	
KUB-P.2D.210.R.07-ABS50	U42 52100	21,0	50	105	42	74	1.01	SOGX 07T208	21095	
KUB-P.2D.215.R.07-ABS50	U42 52150	21,5	50	107	44	76	1.01	SOGX 07T208	21595	
KUB-P.2D.220.R.07-ABS50	U42 52200	22,0	50	107	44	76	1.01	SOGX 07T208	22095	
KUB-P.2D.225.R.07-ABS50	U42 52250	22,5	50	109	46	78	1.01	SOGX 07T208	22595	
KUB-P.2D.230.R.07-ABS50	U42 52300	23,0	50	109	46	78	1.01	SOGX 07T208	23095	
KUB-P.2D.235.R.08-ABS50	U42 52350	23,5	50	111	48	80	1.28	SOGX 080308	23595	
KUB-P.2D.240.R.08-ABS50	U42 52400	24,0	50	111	48	80	1.28	SOGX 080308	24095	
KUB-P.2D.245.R.08-ABS50	U42 52450	24,5	50	114	50	83	1.28	SOGX 080308	24595	
KUB-P.2D.250.R.08-ABS50	U42 52500	25,0	50	114	50	83	1.28	SOGX 080308	25095	
KUB-P.2D.255.R.08-ABS50	U42 52550	25,5	50	116	52	85	1.28	SOGX 080308	25595	
KUB-P.2D.260.R.08-ABS50	U42 52600	26,0	50	116	52	85	1.28	SOGX 080308	26095	
KUB-P.2D.265.R.09-ABS50	U42 52650	26,5	50	119	54	88	2.25	SOGX 09T308	26595	
KUB-P.2D.270.R.09-ABS50	U42 52700	27,0	50	119	54	88	2.25	SOGX 09T308	27095	
KUB-P.2D.275.R.09-ABS50	U42 52750	27,5	50	121	56	90	2.25	SOGX 09T308	27595	
KUB-P.2D.280.R.09-ABS50	U42 52800	28,0	50	121	56	90	2.25	SOGX 09T308	28095	
KUB-P.2D.285.R.09-ABS50	U42 52850	28,5	50	124	58	93	2.25	SOGX 09T308	28595	
KUB-P.2D.290.R.09-ABS50	U42 52900	29,0	50	124	58	93	2.25	SOGX 09T308	29095	
KUB-P.2D.295.R.09-ABS50	U42 52950	29,5	50	126	60	95	2.25	SOGX 09T308	29595	
KUB-P.2D.300.R.09-ABS50	U42 53000	30,0	50	126	60	95	2.25	SOGX 09T308	30095	
KUB-P.2D.305.R.10-ABS63	U42 63050	30,5	63	139	62	101	2.8	SOGX 100408	30596	
KUB-P.2D.310.R.10-ABS63	U42 63100	31,0	63	139	62	101	2.8	SOGX 100408	31096	
KUB-P.2D.315.R.10-ABS63	U42 63150	31,5	63	141	64	103	2.8	SOGX 100408	31596	
KUB-P.2D.320.R.10-ABS63	U42 63200	32,0	63	141	64	103	2.8	SOGX 100408	32096	
KUB-P.2D.325.R.10-ABS63	U42 63250	32,5	63	144	66	106	2.8	SOGX 100408	32596	
KUB-P.2D.330.R.10-ABS63	U42 63300	33,0	63	144	66	106	2.8	SOGX 100408	33096	
KUB-P.2D.335.R.11-ABS63	U42 63350	33,5	63	146	68	108	2.8	SOGX 110408	33596	
KUB-P.2D.340.R.11-ABS63	U42 63400	34,0	63	146	68	108	2.8	SOGX 110408	34096	
KUB-P.2D.345.R.11-ABS63	U42 63450	34,5	63	149	70	111	2.8	SOGX 110408	34596	
KUB-P.2D.350.R.11-ABS63	U42 63500	35,0	63	149	70	111	2.8	SOGX 110408	35096	
KUB-P.2D.355.R.11-ABS63	U42 63550	35,5	63	152	72	113	2.8	SOGX 110408	35596	
KUB-P.2D.360.R.11-ABS63	U42 63600	36,0	63	152	72	113	2.8	SOGX 110408	36096	

KUB Pentron

Scope of supply:

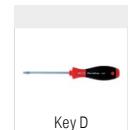
Indexable Insert Drill incl. clamping screws


ABS


Designation	KOMET no.	DC mm	DF mm	OAL mm	LU mm	LPR mm	torque moment Nm	Insert	NEW	Article no. 10 872 ...
									DC	
KUB-P.2D.365.R.11-ABS63	U42 63650	36,5	63	154	74	116	2.8	SOGX 110408		36596
KUB-P.2D.370.R.11-ABS63	U42 63700	37,0	63	154	74	116	2.8	SOGX 110408		37096
KUB-P.2D.375.R.12-ABS63	U42 63750	37,5	63	156	76	118	6.25	SOGX 120408		37596
KUB-P.2D.380.R.12-ABS63	U42 63800	38,0	63	156	76	118	6.25	SOGX 120408		38096
KUB-P.2D.385.R.12-ABS63	U42 63850	38,5	63	159	78	121	6.25	SOGX 120408		38596
KUB-P.2D.390.R.12-ABS63	U42 63900	39,0	63	159	78	121	6.25	SOGX 120408		39096
KUB-P.2D.395.R.12-ABS63	U42 63950	39,5	63	161	80	123	6.25	SOGX 120408		39596
KUB-P.2D.400.R.12-ABS63	U42 64000	40,0	63	161	80	123	6.25	SOGX 120408		40096
KUB-P.2D.405.R.12-ABS63	U42 64050	40,5	63	164	82	126	6.25	SOGX 120408		40596
KUB-P.2D.410.R.12-ABS63	U42 64100	41,0	63	164	82	126	6.25	SOGX 120408		41096
KUB-P.2D.415.R.12-ABS63	U42 64150	41,5	63	166	84	128	6.25	SOGX 120408		41596
KUB-P.2D.420.R.12-ABS63	U42 64200	42,0	63	166	84	128	6.25	SOGX 120408		42096
KUB-P.2D.425.R.13-ABS63	U42 64250	42,5	63	169	86	131	6.25	SOGX 130508		42596
KUB-P.2D.430.R.13-ABS63	U42 64300	43,0	63	169	86	131	6.25	SOGX 130508		43096
KUB-P.2D.435.R.13-ABS63	U42 64350	43,5	63	171	88	133	6.25	SOGX 130508		43596
KUB-P.2D.440.R.13-ABS63	U42 64400	44,0	63	171	88	133	6.25	SOGX 130508		44096
KUB-P.2D.445.R.13-ABS63	U42 64450	44,5	63	174	90	136	6.25	SOGX 130508		44596
KUB-P.2D.450.R.13-ABS63	U42 64500	45,0	63	174	90	136	6.25	SOGX 130508		45096
KUB-P.2D.455.R.13-ABS63	U42 64550	45,5	63	173	92	135	6.25	SOGX 130508		45596
KUB-P.2D.460.R.13-ABS63	U42 64600	46,0	63	173	92	135	6.25	SOGX 130508		46096



Screwdriver



Key D



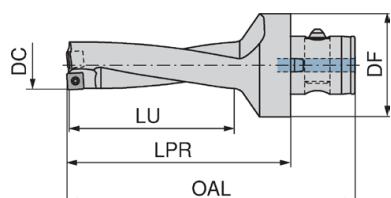
Clamping screw

Spare parts DC	Article no. 80 950 ...	Article no. 80 950 ...	Article no. 10 950 ...
			057
14 - 16	T05 - IP		M1,8x3,8 - 05IP
16,5 - 18		123	M2,0x4,3 - 06IP
18,5 - 23		123	M2,2x5,5 - 06IP
23,5 - 26		125	M2,5x6,3 - 08IP
26,5 - 30		125	M3,0x7,6 - 08IP
30,5 - 37		128	M3,5x7,5 - 15IP
37,5 - 46		129	M4,5x10 - 20IP

KUB Pentron

Scope of supply:

Indexable Insert Drill incl. clamping screws


ABS


Designation	KOMET no.	DC mm	DF mm	OAL mm	LU mm	LPR mm	torque moment Nm	Insert	NEW	
									Article no. 10 873 ...	
KUB-P.3D.305.R.10-ABS63	U43 63050	30,5	63	170	93	132	2.8	SOGX 100408		30596
KUB-P.3D.310.R.10-ABS63	U43 63100	31,0	63	170	93	132	2.8	SOGX 100408		31096
KUB-P.3D.315.R.10-ABS63	U43 63150	31,5	63	173	96	135	2.8	SOGX 100408		31596
KUB-P.3D.320.R.10-ABS63	U43 63200	32,0	63	173	96	135	2.8	SOGX 100408		32096
KUB-P.3D.325.R.10-ABS63	U43 63250	32,5	63	177	99	139	2.8	SOGX 100408		32596
KUB-P.3D.330.R.10-ABS63	U43 63300	33,0	63	177	99	139	2.8	SOGX 100408		33096
KUB-P.3D.335.R.11-ABS63	U43 63350	33,5	63	180	102	142	2.8	SOGX 110408		33596
KUB-P.3D.340.R.11-ABS63	U43 63400	34,0	63	180	102	142	2.8	SOGX 110408		34096
KUB-P.3D.345.R.11-ABS63	U43 63450	34,5	63	184	105	146	2.8	SOGX 110408		34596
KUB-P.3D.350.R.11-ABS63	U43 63500	35,0	63	184	105	146	2.8	SOGX 110408		35096
KUB-P.3D.355.R.11-ABS63	U43 63550	35,5	63	187	108	149	2.8	SOGX 110408		35596
KUB-P.3D.360.R.11-ABS63	U43 63600	36,0	63	187	108	149	2.8	SOGX 110408		36096
KUB-P.3D.365.R.11-ABS63	U43 63650	36,5	63	191	111	153	2.8	SOGX 110408		36596
KUB-P.3D.370.R.11-ABS63	U43 63700	37,0	63	191	111	153	2.8	SOGX 110408		37096
KUB-P.3D.375.R.12-ABS63	U43 63750	37,5	63	194	114	156	6.25	SOGX 120408		37596
KUB-P.3D.380.R.12-ABS63	U43 63800	38,0	63	194	114	156	6.25	SOGX 120408		38096
KUB-P.3D.385.R.12-ABS63	U43 63850	38,5	63	198	117	160	6.25	SOGX 120408		38596
KUB-P.3D.390.R.12-ABS63	U43 63900	39,0	63	198	117	160	6.25	SOGX 120408		39096
KUB-P.3D.395.R.12-ABS63	U43 63950	39,5	63	201	120	163	6.25	SOGX 120408		39596
KUB-P.3D.400.R.12-ABS63	U43 64000	40,0	63	201	120	163	6.25	SOGX 120408		40096
KUB-P.3D.405.R.12-ABS63	U43 64050	40,5	63	205	123	167	6.25	SOGX 120408		40596
KUB-P.3D.410.R.12-ABS63	U43 64100	41,0	63	205	123	167	6.25	SOGX 120408		41096
KUB-P.3D.415.R.12-ABS63	U43 64150	41,5	63	208	126	170	6.25	SOGX 120408		41596
KUB-P.3D.420.R.12-ABS63	U43 64200	42,0	63	208	126	170	6.25	SOGX 120408		42096
KUB-P.3D.425.R.13-ABS63	U43 64250	42,5	63	212	129	174	6.25	SOGX 130508		42596
KUB-P.3D.430.R.13-ABS63	U43 64300	43,0	63	212	129	174	6.25	SOGX 130508		43096
KUB-P.3D.435.R.13-ABS63	U43 64350	43,5	63	215	132	177	6.25	SOGX 130508		43596
KUB-P.3D.440.R.13-ABS63	U43 64400	44,0	63	215	132	177	6.25	SOGX 130508		44096
KUB-P.3D.445.R.13-ABS63	U43 64450	44,5	63	219	135	181	6.25	SOGX 130508		44596
KUB-P.3D.450.R.13-ABS63	U43 64500	45,0	63	219	135	181	6.25	SOGX 130508		45096
KUB-P.3D.455.R.13-ABS63	U43 64550	45,5	63	219	138	181	6.25	SOGX 130508		45596
KUB-P.3D.460.R.13-ABS63	U43 64600	46,0	63	219	138	181	6.25	SOGX 130508		46096


Spare parts
DC

**Article no.
80 950 ...**
**Article no.
10 950 ...**

 30,5 - 37
37,5 - 46

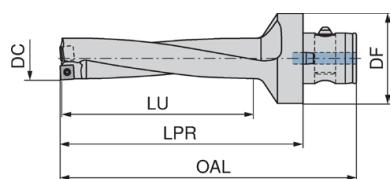
 T15 - IP
T20 - IP
128 M3,5x7,5 - 15IP
129 M4,5x10 - 20IP
10300
10400

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 mm	DF mm	OAL mm	LU mm	LPR mm	torque moment Nm	Insert	NEW	Article no. 10 874 ...
KUB-P.4D.305.R.10-ABS63	U44 63050	30,5	63	201	124	163	2.8	SOGX 100408		30596
KUB-P.4D.310.R.10-ABS63	U44 63100	31,0	63	201	124	163	2.8	SOGX 100408		31096
KUB-P.4D.315.R.10-ABS63	U44 63150	31,5	63	205	128	167	2.8	SOGX 100408		31596
KUB-P.4D.320.R.10-ABS63	U44 63200	32,0	63	205	128	167	2.8	SOGX 100408		32096
KUB-P.4D.325.R.10-ABS63	U44 63250	32,5	63	210	132	172	2.8	SOGX 100408		32596
KUB-P.4D.330.R.10-ABS63	U44 63300	33,0	63	210	132	172	2.8	SOGX 100408		33096
KUB-P.4D.335.R.11-ABS63	U44 63350	33,5	63	214	136	176	2.8	SOGX 110408		33596
KUB-P.4D.340.R.11-ABS63	U44 63400	34,0	63	214	136	176	2.8	SOGX 110408		34096
KUB-P.4D.345.R.11-ABS63	U44 63450	34,5	63	219	140	181	2.8	SOGX 110408		34596
KUB-P.4D.350.R.11-ABS63	U44 63500	35,0	63	219	140	181	2.8	SOGX 110408		35096
KUB-P.4D.355.R.11-ABS63	U44 63550	35,5	63	223	144	185	2.8	SOGX 110408		35596
KUB-P.4D.360.R.11-ABS63	U44 63600	36,0	63	223	144	185	2.8	SOGX 110408		36096
KUB-P.4D.365.R.11-ABS63	U44 63650	36,5	63	228	148	190	2.8	SOGX 110408		36596
KUB-P.4D.370.R.11-ABS63	U44 63700	37,0	63	228	148	190	2.8	SOGX 110408		37096
KUB-P.4D.375.R.12-ABS63	U44 63750	37,5	63	232	152	194	6.25	SOGX 120408		37596
KUB-P.4D.380.R.12-ABS63	U44 63800	38,0	63	232	152	194	6.25	SOGX 120408		38096
KUB-P.4D.385.R.12-ABS63	U44 63850	38,5	63	237	156	199	6.25	SOGX 120408		38596
KUB-P.4D.390.R.12-ABS63	U44 63900	39,0	63	237	156	199	6.25	SOGX 120408		39096
KUB-P.4D.395.R.12-ABS63	U44 63950	39,5	63	241	160	203	6.25	SOGX 120408		39596
KUB-P.4D.400.R.12-ABS63	U44 64000	40,0	63	241	160	203	6.25	SOGX 120408		40096
KUB-P.4D.405.R.12-ABS63	U44 64050	40,5	63	246	164	208	6.25	SOGX 120408		40596
KUB-P.4D.410.R.12-ABS63	U44 64100	41,0	63	246	164	208	6.25	SOGX 120408		41096
KUB-P.4D.415.R.12-ABS63	U44 64150	41,5	63	250	168	212	6.25	SOGX 120408		41596
KUB-P.4D.420.R.12-ABS63	U44 64200	42,0	63	250	168	212	6.25	SOGX 120408		42096
KUB-P.4D.425.R.13-ABS63	U44 64250	42,5	63	255	172	217	6.25	SOGX 130508		42596
KUB-P.4D.430.R.13-ABS63	U44 64300	43,0	63	255	172	217	6.25	SOGX 130508		43096
KUB-P.4D.435.R.13-ABS63	U44 64350	43,5	63	259	176	221	6.25	SOGX 130508		43596
KUB-P.4D.440.R.13-ABS63	U44 64400	44,0	63	259	176	221	6.25	SOGX 130508		44096
KUB-P.4D.445.R.13-ABS63	U44 64450	44,5	63	264	180	226	6.25	SOGX 130508		44596
KUB-P.4D.450.R.13-ABS63	U44 64500	45,0	63	264	180	226	6.25	SOGX 130508		45096
KUB-P.4D.455.R.13-ABS63	U44 64550	45,5	63	268	184	230	6.25	SOGX 130508		45596
KUB-P.4D.460.R.13-ABS63	U44 64600	46,0	63	268	184	230	6.25	SOGX 130508		46096


Spare parts
DC
**Article no.
80 950 ...**
**Article no.
10 950 ...**

 30,5 - 37
37,5 - 46

 T15 - IP
T20 - IP

128
129

 M3,5x7,5 - 15IP
M4,5x10 - 20IP

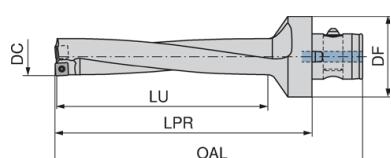
10300
10400

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 mm	DF mm	OAL mm	LU mm	LPR mm	torque moment Nm	Insert	NEW	Article no. 10 875 ...
KUB-P.5D.305.R.10-ABS63	U45 63050	30,5	63	232	155	194	2.8	SOGX 100408		30596
KUB-P.5D.310.R.10-ABS63	U45 63100	31,0	63	232	155	194	2.8	SOGX 100408		31096
KUB-P.5D.315.R.10-ABS63	U45 63150	31,5	63	237	160	199	2.8	SOGX 100408		31596
KUB-P.5D.320.R.10-ABS63	U45 63200	32,0	63	237	160	199	2.8	SOGX 100408		32096
KUB-P.5D.325.R.10-ABS63	U45 63250	32,5	63	243	165	205	2.8	SOGX 100408		32596
KUB-P.5D.330.R.10-ABS63	U45 63300	33,0	63	243	165	205	2.8	SOGX 100408		33096
KUB-P.5D.335.R.11-ABS63	U45 63350	33,5	63	248	170	210	2.8	SOGX 110408		33596
KUB-P.5D.340.R.11-ABS63	U45 63400	34,0	63	248	170	210	2.8	SOGX 110408		34096
KUB-P.5D.345.R.11-ABS63	U45 63450	34,5	63	254	175	216	2.8	SOGX 110408		34596
KUB-P.5D.350.R.11-ABS63	U45 63500	35,0	63	254	175	216	2.8	SOGX 110408		35096
KUB-P.5D.355.R.11-ABS63	U45 63550	35,5	63	259	180	221	2.8	SOGX 110408		35596
KUB-P.5D.360.R.11-ABS63	U45 63600	36,0	63	259	180	221	2.8	SOGX 110408		36096
KUB-P.5D.365.R.11-ABS63	U45 63650	36,5	63	265	185	227	2.8	SOGX 110408		36596
KUB-P.5D.370.R.11-ABS63	U45 63700	37,0	63	265	185	227	2.8	SOGX 110408		37096
KUB-P.5D.375.R.12-ABS63	U45 63750	37,5	63	270	190	232	6.25	SOGX 120408		37596
KUB-P.5D.380.R.12-ABS63	U45 63800	38,0	63	270	190	232	6.25	SOGX 120408		38096
KUB-P.5D.385.R.12-ABS63	U45 63850	38,5	63	276	195	238	6.25	SOGX 120408		38596
KUB-P.5D.390.R.12-ABS63	U45 63900	39,0	63	276	195	238	6.25	SOGX 120408		39096
KUB-P.5D.395.R.12-ABS63	U45 63950	39,5	63	281	200	243	6.25	SOGX 120408		39596
KUB-P.5D.400.R.12-ABS63	U45 64000	40,0	63	281	200	243	6.25	SOGX 120408		40096
KUB-P.5D.405.R.12-ABS63	U45 64050	40,5	63	287	205	249	6.25	SOGX 120408		40596
KUB-P.5D.410.R.12-ABS63	U45 64100	41,0	63	287	205	249	6.25	SOGX 120408		41096
KUB-P.5D.415.R.12-ABS63	U45 64150	41,5	63	292	210	254	6.25	SOGX 120408		41596
KUB-P.5D.420.R.12-ABS63	U45 64200	42,0	63	292	210	254	6.25	SOGX 120408		42096
KUB-P.5D.425.R.13-ABS63	U45 64250	42,5	63	298	215	260	6.25	SOGX 130508		42596
KUB-P.5D.430.R.13-ABS63	U45 64300	43,0	63	298	215	260	6.25	SOGX 130508		43096
KUB-P.5D.435.R.13-ABS63	U45 64350	43,5	63	303	220	265	6.25	SOGX 130508		43596
KUB-P.5D.440.R.13-ABS63	U45 64400	44,0	63	303	220	265	6.25	SOGX 130508		44096
KUB-P.5D.445.R.13-ABS63	U45 64450	44,5	63	309	225	271	6.25	SOGX 130508		44596
KUB-P.5D.450.R.13-ABS63	U45 64500	45,0	63	309	225	271	6.25	SOGX 130508		45096
KUB-P.5D.455.R.13-ABS63	U45 64550	45,5	63	314	230	276	6.25	SOGX 130508		45596
KUB-P.5D.460.R.13-ABS63	U45 64600	46,0	63	314	230	276	6.25	SOGX 130508		46096



Key D



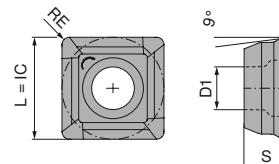
Clamping screw

Spare parts	DC	Article no. 80 950 ...	Article no. 10 950 ...
30,5 - 37		T15 - IP	128 M3,5x7,5 - 15IP
37,5 - 46		T20 - IP	129 M4,5x10 - 20IP

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 0772..	7,1	7,1	2,60	2,97
SOGX 0803..	8,0	8,0	2,85	3,40
SOGX 0973..	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**

ISO	KOMET no.	RE	Article no.					
			10 820 ...	10 820 ...	10 820 ...	10 820 ...	10 820 ...	10 820 ...
040204	W80 10010.047935	0,4			50401			
040204	W80 10010.046115	0,4		00403		40401		
040204	W80 10030.048430	0,4	30401				60401	
040204	W80 10010.046425	0,4			50501			90401
040204	W80 10010.048425	0,4		00503			60501	
040204	W80 10010.047710	0,4		30501				90501
050204	W80 12010.046115	0,4			50601		60601	
050204	W80 12010.047935	0,4		00603		40601		
050204	W80 12030.048430	0,4			50701		60701	
050204	W80 12010.046425	0,4		00703		40701		
050204	W80 12010.048425	0,4	30701		50801		60801	
050204	W80 12010.047710	0,4			50901		60901	
060206	W80 18010.066115	0,6			51001		61001	
060206	W80 18010.067935	0,6		01003			61101	
060206	W80 18030.068430	0,6			51101			91001
060206	W80 18010.066425	0,6		01103			61201	
060206	W80 18010.068425	0,6	30601		51201			
07T208	W80 20010.086115	0,8			51301		61301	
07T208	W80 20010.087935	0,8		01203				91201
07T208	W80 20030.088430	0,8			51401			
07T208	W80 20010.086425	0,8		01303				
07T208	W80 20010.088425	0,8	30701					
07T208	W80 20010.087710	0,8						
080308	W80 24010.086115	0,8						
080308	W80 24010.087935	0,8		00803				
080308	W80 24030.088430	0,8						
080308	W80 24010.086425	0,8		00903				
080308	W80 24010.088425	0,8	30801					
080308	W80 24010.087710	0,8						
09T308	W80 28010.086115	0,8						
09T308	W80 28010.087935	0,8		01003				
09T308	W80 28030.088430	0,8						
09T308	W80 28010.086425	0,8		01103				
09T308	W80 28010.088425	0,8	30901					
09T308	W80 28010.087710	0,8						
100408	W80 32010.087935	0,8						
100408	W80 32010.086425	0,8		01203				
100408	W80 32030.088430	0,8						
100408	W80 32010.087710	0,8		01303				
110408	W80 38010.086425	0,8						
110408	W80 38010.087935	0,8		01403				
110408	W80 38030.088430	0,8						
110408	W80 38010.087710	0,8		01503				
120408	W80 42010.086425	0,8						
120408	W80 42010.087935	0,8		01603				
120408	W80 42030.088430	0,8						
120408	W80 42010.087710	0,8		01703				
130508	W80 46010.087935	0,8						
130508	W80 46010.086425	0,8		01803				
130508	W80 46030.088430	0,8						
130508	W80 46010.087710	0,8		01903				

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

→ v_c/f_z Page 45-47

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 51	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-Al11 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
S	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 Tr 22 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
	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)
H	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)
	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
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

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.



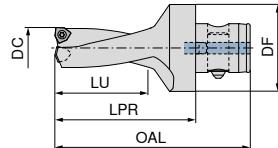
In order to ensure efficient chip evacuation, coolant pressure must be at least 5 bar. Optimum pressure is > 15 bar.

KUB Trigon

▲ left-hand cutting

Scope of supply:

Indexable Insert Drill incl. clamping screws



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



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

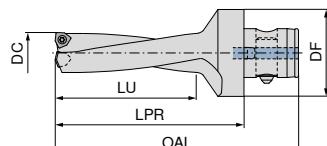
i Further diameters can be found in the main catalogue → **Section 3, Indexable insert drilling**

KUB Trigon

▲ left-hand cutting

Scope of supply:

Indexable Insert Drill incl. clamping screws



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



Key D



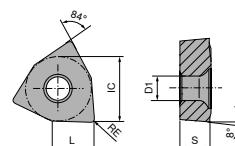
Clamping screw

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

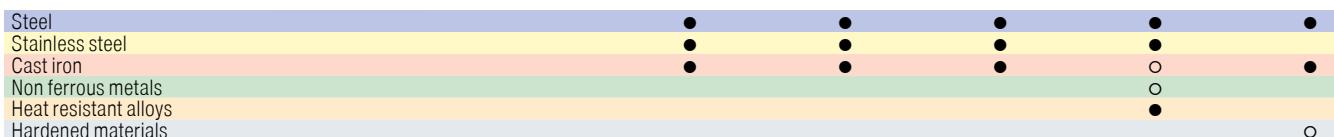
Further diameters can be found in the main catalogue → **Section 3, Indexable insert drilling**

WOEX

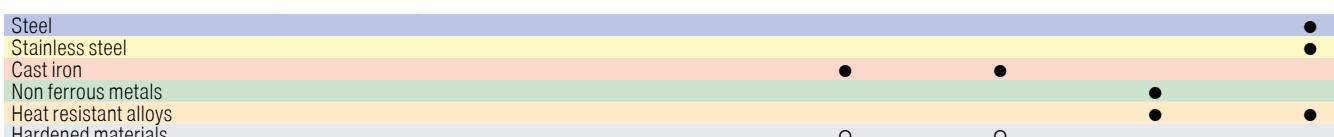
Designation	L	IC	S	D1
	mm	mm	mm	mm
WOEX 0302..	3,2	5,00	2,30	2,30
WOEX 0403..	4,1	6,35	3,18	2,55
WOEX 05T3..	5,3	8,00	3,80	2,85
WOEX 06T3..	6,6	10,00	3,80	4,05



ISO	KOMET no.	RE	Article no. 10 821 ...				
		mm					
030204	W29 10130.048425	0,4					
030204	W29 10030.048425	0,4					
030204	W29 10010.047935	0,4					
030204	W29 10010.048425	0,4	30301				
030204	W29 10010.046115	0,4					
040304	W29 18130.048425	0,4					
040304	W29 18030.048425	0,4					
040304	W29 18010.047935	0,4					
040304	W29 18010..048425	0,4	30401				
040304	W29 18010.046115	0,4					
05T304	W29 24130.048425	0,4					
05T304	W29 24030.048425	0,4					
05T304	W29 24010.047935	0,4	30501				
05T304	W29 24010.048425	0,4					
05T304	W29 24010.046115	0,4					
06T304	W29 34130.048425	0,4					
06T304	W29 34030.048425	0,4					
06T304	W29 34010.047935	0,4	30601				
06T304	W29 34010.048425	0,4					
06T304	W29 34010.046115	0,4					
080404	W29 42130.048425	0,4					



ISO	KOMET no.	RE	Article no. 10 821 ...			
		mm				
030204	W29 10010.0462	0,4				
030204	W29 10110.0477	0,4				
030204	W29 10010.047615	0,4				
030204	W29 10130.0479	0,4	05301			
040304	W29 18110.0477	0,4				
040304	W29 18010.0462	0,4				
040304	W29 18010.047615	0,4	05401			
040304	W29 18130.0479	0,4				
05T304	W29 24110.0477	0,4				
05T304	W29 24010.0462	0,4				
05T304	W29 24010.047615	0,4	05501			
05T304	W29 24130.0479	0,4				
06T304	W29 34110.0477	0,4				
06T304	W29 34010.0462	0,4				
06T304	W29 34010.047615	0,4	05601			
06T304	W29 34130.0479	0,4				
080404	W29 42110.0477	0,4				
080404	W29 42010.047615	0,4	05801			
080404	W29 42130.0479	0,4				



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					
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		< 45 HRC					50–90	50–90
	6.2		46–55 HRC					30–50	30–50
	6.3	Tempered steel	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

Index	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	
	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
H	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
	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							

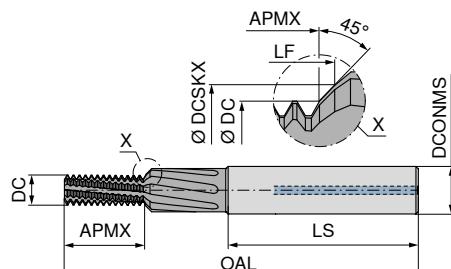
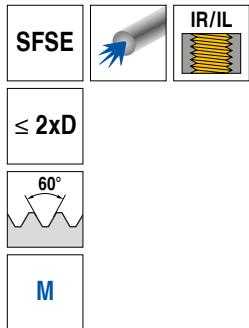


During the drilling operation on through holes a sharp disk will be produced. Safety precautions must be observed.
A safety guard has to be provided as protection.



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

Article no.
50 806 ...

DC mm	Thread	KOMET no.	TP mm	OAL mm	APMX mm	LS mm	DCONMS _{h6} mm	DCSKX mm	LF mm	ZEFP	
3,14	M4	88296001000015	0,70	49	8,0	36	6	4,3	8,6	5	04000
3,95	M5	88296001000017	0,80	55	9,9	36	6	5,3	10,6	5	05000
4,68	M6	88296001000018	1,00	62	12,3	36	8	6,3	13,2	6	06000
6,22	M8	88296001000020	1,25	74	16,6	40	10	8,3	17,8	7	08000
7,79	M10	88296001000022	1,50	79	19,9	45	12	10,3	21,3	7	10000
9,38	M12	88296001000024	1,75	89	24,9	45	14	12,3	26,6	7	12000
10,92	M14	88296001000025	2,00	102	28,5	48	16	14,3	30,4	7	14000
12,83	M16	88296001000026	2,00	102	32,4	48	18	16,3	34,4	8	16000



DC mm	Thread	KOMET no.	TP mm	OAL mm	APMX mm	LS mm	DCONMS _{h6} mm	DCSKX mm	LF mm	ZEFP	
3,95	M5x0,5	88296002000037	0,50	55	10,2	36	6	5,3	10,8	5	05100
4,68	M6x0,75	88296002000048	0,75	62	12,2	36	8	6,3	13,0	5	06200
6,22	M8x1	88296002000070	1,00	74	16,2	40	10	8,3	17,3	6	08300
7,79	M10x1	88296002000094	1,00	79	20,1	45	12	10,3	21,5	7	10300
9,38	M12x1	88296002000111	1,00	89	24,0	45	14	12,3	25,6	7	12300
9,38	M12x1,5	88296002000113	1,50	89	24,3	45	14	12,3	25,9	7	12500
10,92	M14x1,5	88296002000131	1,50	102	28,7	48	16	14,3	30,6	7	14500
12,82	M16X1,5	88296002000147	1,50	102	31,7	48	18	16,3	33,6	8	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 fz mm/tooth	Ø 6-10 fz mm/tooth	Ø 10-13 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				
		PcBN content / diamond content	Main binder			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		10	10	10		
	CTB S10U	95 %		Grey cast iron, sintered steels, super alloys	Smooth to medium interrupted cut	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						15	
	CTB H20C	65 %	TiCN						20	
	CTB H21C	65 %	TiCN	48-62 HRC	Smooth to slightly interrupted cut				20	
	CTB H21U	65 %	TiCN	52-65 HRC					20	
	CTB H40C	55 %	TiN	48-65 HRC					40	
	CTB H40U	65 %	TiN	54-65 HRC					40	
	CTB H41C	65 %	TiN	48-65 HRC	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
	CTD MD05			Superfinish machining, polishing	Smooth cut					05

Toolfinder



Indexable inserts, negative

Matching tool holders can be found in the main catalogue
in Section 09 on the following pages.



16 10 28+20

46+47 51 56

Matching boring bars can be found in the main catalogue
in Section 09 on the following pages.



20/21

48



Indexable inserts, positive

					Geometry								
K	P	S	H	N	CC..	DC..	RC..	SC..	SP..	TC..	TP..	VC..	WC..
●	●	●			68-70			80	82				
●	●	●				76							
●	●	●			69	74+76				84		89	
C			●		68+70	74+75				84		88+89	
C			●			75						88	
C			●									88	93
C			●		68+70	74				84		88	
C			●		68							89	
C			●										89
C			●		75								
			●		71-73	77+79	81	83		85-87		90+92	
			○		71-73	77-79	81	83		86		91+92	
			○		73	78+79				87		91	
					72+73	79				86		91+92	
			○		71	77						90	

Matching tool holders can be found in the main catalogue
in Section 09 on the following pages.



73 74 91 92 100 104 108 110

100/101

104 107

Matching boring bars can be found in the main catalogue
in Section 09 on the following pages.



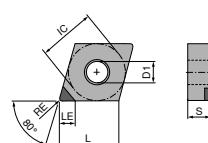
111/112

100

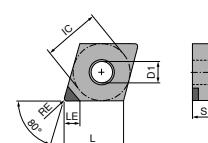
120 140

CNGA

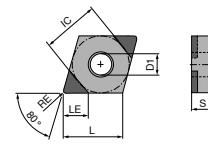
Designation	L mm	S mm	D1 mm	IC mm
CNGA 1204..	12,9	4,76	5,13	12,7



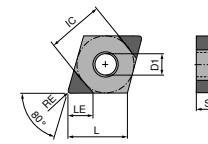
CNGA A



CNGA K



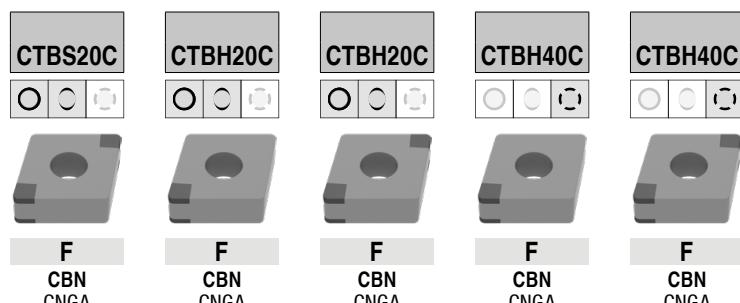
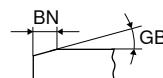
CNGA L



CNGA U

CNGA

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



ISO	RE mm	BN mm	GB °	TCE (NOI)	LE mm	Article no.				
						71 401 ...	71 400 ...	71 401 ...	71 400 ...	71 401 ...
120404TN	0,4	0,09	15	L (4)	2,8					
120404SN	0,4	0,11	15	L (4)	2,8	16200				
120404SN	0,4	0,11	20	K (2)	2,8		25800			
120404SN	0,4	0,11	20	L (4)	2,8					34200
120404SN	0,4	0,14	20	L (4)	2,8	17100				
120404TN	0,4	0,11	25	L (4)	2,8			25200		
120404FN	0,4			L (4)	2,8			20200		
120404SN	0,4	0,14	35	L (4)	2,8					38000
120408FN	0,8			L (4)	2,5			20300		
120408SN	0,8	0,09	15	L (4)	2,5					31200
120408SN	0,8	0,11	15	L (4)	2,5	16300				
120408SN	0,8	0,11	20	K (2)	2,5		26000			
120408SN	0,8	0,11	20	L (4)	2,5			35800		
120408SN	0,8	0,14	20	L (4)	2,5	17200				34300
120408TN	0,8	0,11	25	L (4)	2,5			25300		
120408SN	0,8	0,13	25	K (2)	2,5				36200	
120408SN	0,8	0,14	25	K (2)	2,5				38800	
120408SN	0,8	0,16	25	L (4)	2,5	18000				
120408SN	0,8	0,14	35	L (4)	2,5					38100
120408EN	0,8			L (4)	2,5					30200
120412SN	1,2	0,11	15	L (4)	2,2	16400				
120412SN	1,2	0,11	20	K (2)	2,2		26200			
120412SN	1,2	0,14	20	L (4)	2,2	17300				
120412TN	1,2	0,11	25	L (4)	2,2			25400		

Cast iron



Sintered steels



Heat resistant alloys



hardened < 45 HRC



hardened 46–55 HRC



hardened 56–60 HRC

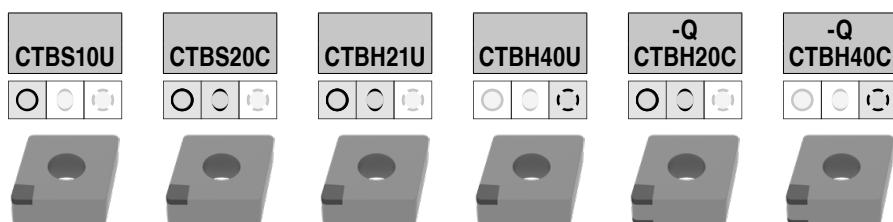
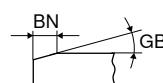


hardened 61–65 HRC



CNGA

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

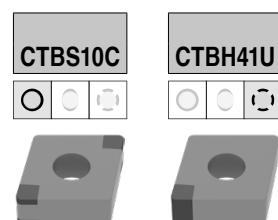


ISO	RE mm	BN mm	GB °	TCE (NOI)	LE mm	F CBN CNGA	NEW Article no. 71 406 ...	F CBN CNGA	NEW Article no. 71 406 ...	F CBN CNGA	NEW Article no. 71 406 ...	F CBN CNGA	NEW Article no. 71 407 ...	F CBN CNGA	NEW Article no. 71 407 ...
120402TN	0,2	0,14	20	A (1)	3,4		10100				40100				
120402TN	0,2	0,12	25	A (1)	3,4							50100			
120402EN	0,2			A (1)	3,4		10000								
120402FN	0,2			A (1)	3,4					40000		50000			
120404EN	0,4			A (1)	3,1		10200			40200					
120404SN	0,4	0,09	15	A (1)	3,1			20000		40300					
120404TN	0,4	0,14	20	A (1)	3,1		10300				50300				
120404TN	0,4	0,12	25	A (1)	3,1					50200					
120404FN	0,4			A (1)	3,1										
120408TN	0,8	0,14	20	A (1)	2,8		10500			40500					
120408TN	0,8	0,12	25	A (1)	2,8						50500				
120408FN	0,8			A (1)	2,8						50400				
120408FN	0,8			K (2)	2,5							30000			
120408EN	0,8			A (1)	2,8		10400			40400					
120408SN	0,8	0,14	30	K (2)	2,5								60000		
120408SN	0,8	0,14	35	K (2)	2,5								60100		
120412TN	1,2	0,14	20	A (1)	2,5		10700				50700				
120412TN	1,2	0,12	25	A (1)	2,5							50600			
120412EN	1,2			A (1)	2,5		10600		20100						
120412FN	1,2			A (1)	2,5										

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	NEW Article no. 71 408 ...	NEW Article no. 71 409 ...
120404TN	0,4	0,09	15	L (4)	2,8	80000	
120404TN	0,4	0,15	25	L (4)	2,8	80100	
120404TN	0,4	0,10	30	U (2)	2,8		70000
120408TN	0,8	0,09	10	L (4)	2,5	80200	
120408TN	0,8	0,09	15	L (4)	2,5	80300	
120408TN	0,8	0,11	15	L (4)	2,5	80400	
120408TN	0,8	0,11	25	L (4)	2,5	80500	
120408TN	0,8	0,10	30	U (2)	2,6		70100
120412TN	1,2	0,09	15	L (4)	2,2	80600	
120412TN	1,2	0,11	25	L (4)	2,2	80700	
120412TN	1,2	0,10	30	U (2)	2,4		70200

Cast iron



Sintered steels



Heat resistant alloys



hardened < 45 HRC

hardened 46–55 HRC

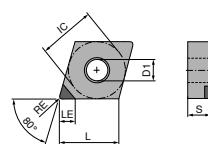
hardened 56–60 HRC

hardened 61–65 HRC



CNGA

Designation	L mm	S mm	D1 mm	IC mm
CNGA 1204..	12,9	4,76	5,13	12,7



CNGA A

CNGA

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

CTDPD20	CTDPS30
○ ○ ○	○ ○ ○
F DIAMOND CNGA	F DIAMOND CNGA
NEW Article no. 71 127 ...	NEW Article no. 71 127 ...

ISO	RE mm	TCE (NOI)	LE mm		
120404FN	0,4	A (1)	6,3		10001
120408FN	0,8	A (1)	6,0		10101
120412FN	1,2	A (1)	5,7		10201

Steel

Stainless steel

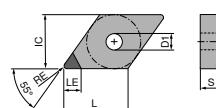
Cast iron

Non ferrous metals

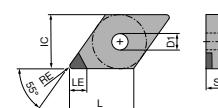
Heat resistant alloys

DNGA

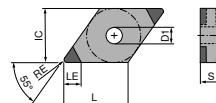
Designation	L	S	D1	IC
	mm	mm	mm	mm
DNGA 1504..	15,5	4,76	5,13	12,7
DNGA 1506..	15,5	6,35	5,13	12,7



DNGA A



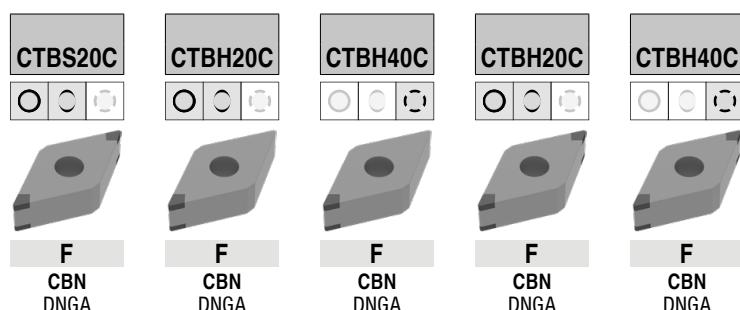
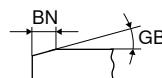
DNGA K



DNGA L

DNGA

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



ISO	RE	BN	GB	TCE (NOI)	LE	Article no. 71 403 ...	Article no. 71 402 ...	Article no. 71 402 ...	Article no. 71 403 ...	Article no. 71 403 ...
	mm	mm	°							
150404SN	0,4	0,09	20	L (4)	2,8	10200				30200
150404SN	0,4	0,11	20	L (4)	2,8					30300
150404SN	0,4	0,11	25	L (4)	2,8					30400
150404TN	0,4	0,11	25	L (4)	2,8				20200	
150404SN	0,4	0,13	25	L (4)	2,8				20300	
150408FN	0,8			L (4)	2,6				20400	
150408SN	0,8	0,09	20	L (4)	2,6	10300				
150408SN	0,8	0,11	20	L (4)	2,6					30500
150408TN	0,8	0,11	25	L (4)	2,6				20500	
150408SN	0,8	0,11	25	L (4)	2,6					30600
150408SN	0,8	0,14	30	L (4)	2,6					30700
150604SN	0,4	0,09	20	K (2)	2,8			32600		
150604SN	0,4	0,11	20	K (2)	2,8		24200			
150604TN	0,4	0,11	25	L (4)	2,8				24800	
150604FN	0,4			L (4)	2,8				29300	
150604SN	0,4	0,14	35	L (4)	2,8					37500
150608FN	0,8			L (4)	2,6				29400	
150608SN	0,8	0,11	20	K (2)	2,6		24300	34200		
150608SN	0,8	0,11	20	L (4)	2,6					34400
150608TN	0,8	0,11	25	L (4)	2,6				24900	
150608SN	0,8	0,13	25	K (2)	2,6		26000			
150608SN	0,8	0,14	35	L (4)	2,6					37600

Cast iron



Sintered steels



Heat resistant alloys



hardened < 45 HRC



hardened 46–55 HRC



hardened 56–60 HRC

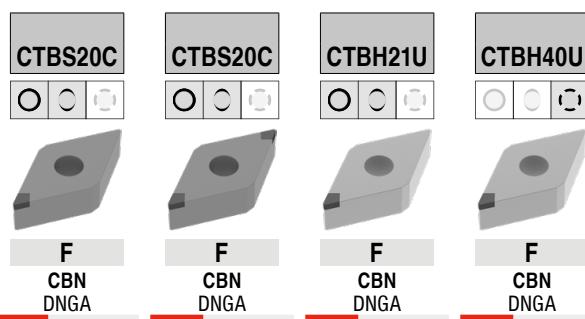


hardened 61–65 HRC



DNGA

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

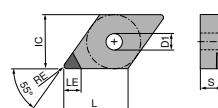


ISO	RE	BN	GB	TCE (NOI)	LE mm		NEW Article no. 71 410 ...		NEW Article no. 71 411 ...		NEW Article no. 71 410 ...		NEW Article no. 71 410 ...	
	mm	mm	°											
150404TN	0,4	0,14	20	A (1)	3,5								40100	
150404TN	0,4	0,12	25	A (1)	3,5									50100
150404FN	0,4			A (1)	3,5								40000	50000
150408TN	0,8	0,14	20	A (1)	3,0								40300	
150408TN	0,8	0,12	25	A (1)	3,0									50300
150408FN	0,8			A (1)	3,0								40200	50200
150604EN	0,4			A (1)	3,5								40400	
150604SN	0,4	0,09	15	A (1)	3,5	20000								
150604SN	0,4	0,09	20	K (2)	2,8		20000						40500	
150604TN	0,4	0,14	20	A (1)	3,5									50500
150604TN	0,4	0,12	25	A (1)	3,5									50400
150604FN	0,4			A (1)	3,5									
150608SN	0,8	0,09	15	A (1)	3,0	20100								
150608SN	0,8	0,09	15	A (1)	5,0	20200								
150608SN	0,8	0,11	15	K (2)	2,6		20100						40700	
150608TN	0,8	0,14	20	A (1)	3,0								40600	
150608EN	0,8			A (1)	3,0									
150608TN	0,8	0,12	25	A (1)	3,0									50700
150608SN	0,8	0,16	25	K (2)	2,6		20200							50600
150608FN	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		●	

DNGA

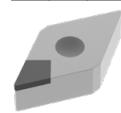
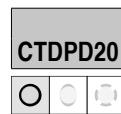
Designation	L mm	S mm	D1 mm	IC mm
DNGA 1504..	15,5	4,76	5,13	12,7
DNGA 1506..	15,5	6,35	5,13	12,7



DNGA A

DNGA

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



F
DIAMOND
DNGA

NEW

Article no.
71 128 ...

ISO	RE mm	TCE (NOI)	LE mm	
150404FN	0,4	A (1)	6,4	10001
150408FN	0,8	A (1)	6,0	10101
150412FN	1,2	A (1)	5,6	10201
150604FN	0,4	A (1)	6,4	10301
150608FN	0,8	A (1)	6,0	10401
150612FN	1,2	A (1)	5,6	10501

Steel

Stainless steel

Cast iron

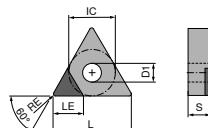
Non ferrous metals

Heat resistant alloys

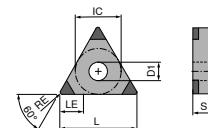


TNGA

Designation	L mm	S mm	D1 mm	IC 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



CTBH20C



CTBH40U



F

CBN
TNGA

F

CBN
TNGA

ISO	RE mm	BN mm	GB °	TCE (NOI)	LE mm
160408SN	0,8	0,14	30	M (6)	2,5
160408FN	0,8			A (1)	3,0

Article no.
71 404 ...Article no.
71 108 ...

27200

80500

Cast iron

Sintered steels

Heat resistant alloys

hardened < 45 HRC

hardened 46–55 HRC

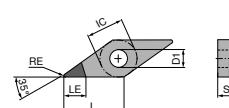
hardened 56–60 HRC

hardened 61–65 HRC

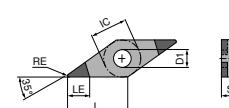


VNGA

Designation	L mm	S mm	D1 mm	IC mm
VNGA 1604..	16,6	4,76	3,81	9,52



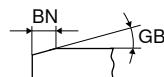
VNGA A



VNGA L

VNGA

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



ISO	RE mm	BN mm	GB °	TCE (NOI)	LE mm	NEW Article no. 71 413 ...	NEW Article no. 71 412 ...	NEW Article no. 71 413 ...
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	30100		
160404TN	0,4	0,11	25	L (4)	2,8	30200		
160404SN	0,4	0,11	25	L (4)	2,8			
160404TN	0,4	0,12	25	A (1)	5,0			
160404SN	0,4	0,13	25	L (4)	2,8			
160404SN	0,4	0,14	30	L (4)	2,8			
160404SN	0,4	0,14	35	L (4)	2,8			
160404FN	0,4			L (4)	2,8	30000		
160408SN	0,8	0,09	15	L (4)	2,2			
160408SN	0,8	0,11	20	L (4)	2,2	30400		
160408SN	0,8	0,11	25	L (4)	2,2			
160408TN	0,8	0,11	25	L (4)	2,2	30500		
160408TN	0,8	0,12	25	A (1)	4,4			
160408SN	0,8	0,13	25	L (4)	2,2	30600		
160408SN	0,8	0,14	30	L (4)	2,2			
160408SN	0,8	0,14	35	L (4)	2,2			
160408FN	0,8			L (4)	2,2	30300		
160408FN	0,8			A (1)	4,4		50200	

Cast iron

Sintered steels

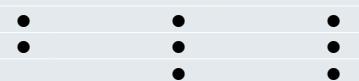
Heat resistant alloys

hardened < 45 HRC

hardened 46–55 HRC

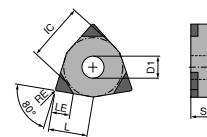
hardened 56–60 HRC

hardened 61–65 HRC

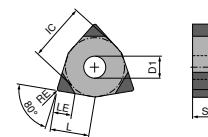


WNGA

Designation	L mm	S mm	D1 mm	IC mm
WNGA 0804..	8,5	4,76	5,13	12,7



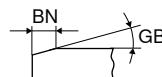
WNGA M



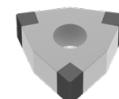
WNGA V

WNGA

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



CTBS05U

F
CBN
WNGA

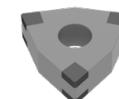
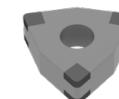
NEW

Article no.
71 415 ...

CTBH20C

F
CBN
WNGAArticle no.
71 405 ...

CTBH40C

F
CBN
WNGA-Q
CTBH40CF
CBN
WNGANEW
Article no.
71 414 ...

ISO	RE mm	BN mm	GB °	TCE (NOI)	LE mm				
080404TN	0,4	0,09	15	M (6)	2,8				
080404TN	0,4	0,11	25	M (6)	2,8				
080404TN	0,4	0,20	30	V (3)	2,8	00100			
080404TN	0,4	0,20	30	V (3)	4,5	00200			
080404FN	0,4			M (6)	2,8		20200		
080408TN	0,8	0,09	15	M (6)	2,5				
080408TN	0,8	0,11	25	M (6)	2,5		23300		
080408SN	0,8	0,11	25	M (6)	2,5		25300		
080408TN	0,8	0,20	30	V (3)	2,6	00300			
080408TN	0,8	0,20	30	V (3)	4,2	00400			
080408SN	0,8	0,14	35	M (6)	2,5			38200	
080408EN	0,8			M (6)	2,5				60000
080412SN	1,2	0,11	20	M (6)	2,2			34200	
080412SN	1,2	0,11	25	M (6)	2,2			35100	
080412SN	1,2	0,14	30	M (6)	2,2			36100	
080412TN	1,2	0,20	30	V (3)	4,0	00600			
080412TN	1,2	0,20	30	V (3)	2,4	00500			
080412SN	1,2	0,14	35	M (6)	2,2			38300	

Cast iron

Sintered steels

Heat resistant alloys

hardened < 45 HRC

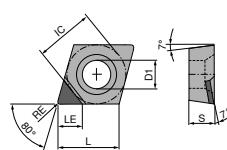
hardened 46–55 HRC

hardened 56–60 HRC

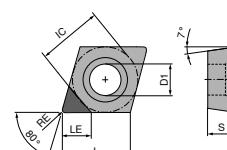
hardened 61–65 HRC

CCGW / CCGT

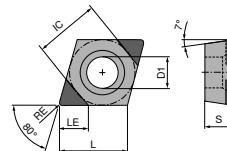
Designation	L	S	D1	IC
	mm	mm	mm	mm
CCGW 0602..	6,45	2,38	2,8	6,35
CCG. 09T3..	9,70	3,97	4,4	9,52
CCGW 1204..	12,90	4,76	5,5	12,70



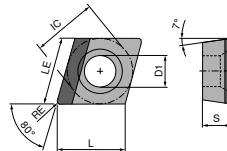
CCGT A



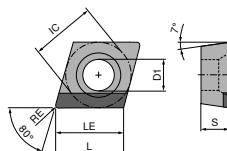
CCGW A



CCGW B



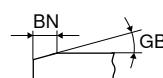
CCGW A LL



CCGW A RR

CCGW

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



CTBS10U



CTBH21U



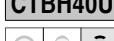
CTBH40U



CTBH21U



CTBH40U



CTBH40C

F
CBN
CCGWF
CBN
CCGWF
CBN
CCGWF
CBN
CCGWF
CBN
CCGWF
CBN
CCGW

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						32100
060208TN	0,8	0,14	20	A (1)	2,8	30300					
060208TN	0,8	0,12	25	A (1)	2,8				90300		
09T302TN	0,2	0,14	20	B (2)	3,4				50100		
09T302FN	0,2			B (2)	3,4				80100		
09T304EN	0,4			A (1)	3,1		40500				

Cast iron



Sintered steels



Heat resistant alloys



hardened < 45 HRC



hardened 46–55 HRC



hardened 56–60 HRC

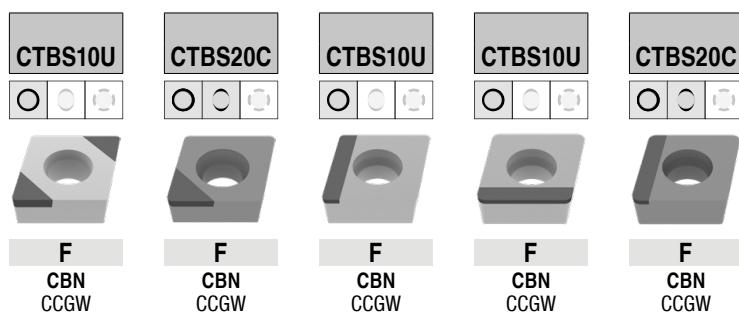


hardened 61–65 HRC



CCGW

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



ISO	RE mm	BN mm	GB °	TCE (NoI)	LE mm	F CBN CCGW	F CBN CCGW	F CBN CCGW	F CBN CCGW	F CBN CCGW
						NEW Article no. 71 419 ...	NEW Article no. 71 418 ...	NEW Article no. 71 420 ...	NEW Article no. 71 420 ...	NEW Article no. 71 420 ...
060202SN	0,2	0,11	15	A (1)	3,4			20000		
060204EN	0,4			A (1)	3,1			20100		
060204SN	0,4	0,11	15	A (1)	3,1			20200		
09T304EN	0,4			A (1)	2,8			20300		
09T304SN	0,4	0,11	15	A (1)	2,8			20400		
09T304EN	0,4			B (2)	3,1	10000				
09T304TLL	0,4	0,14	20	A (1)	9,7	10100			10000	
09T304TN	0,4	0,14	20	B (2)	3,1	10100				
09T304TRR	0,4	0,14	20	A (1)	9,7					10100
09T308EN	0,8			A (1)	2,5			20500		
09T308SN	0,8	0,11	15	A (1)	2,5			20600		
09T308SLL	0,8	0,11	15	A (1)	9,7					20000
09T308TRR	0,8	0,14	20	A (1)	9,7				10300	
09T308TLL	0,8	0,14	20	A (1)	9,7			10200		
120404EN	0,4			A (1)	3,1			20700		
120404SN	0,4	0,11	15	A (1)	3,1			20800		
120408SN	0,8	0,11	15	A (1)	2,8			20900		

Cast iron

● ● ● ● ●

Sintered steels

● ● ● ● ●

Heat resistant alloys

● ● ● ● ●

hardened < 45 HRC

● ● ● ● ●

hardened 46–55 HRC

● ● ● ● ●

hardened 56–60 HRC

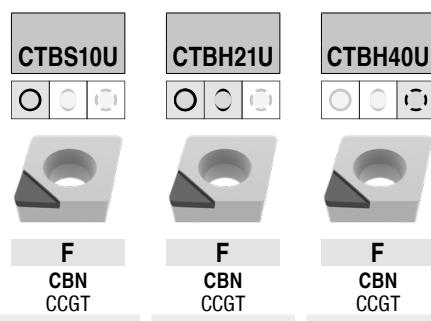
● ● ● ● ●

hardened 61–65 HRC

● ● ● ● ●

CCGT

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



ISO	RE mm	TCE (NOI)	LE mm			
09T302EN	0,2	A (1)	3,4		25000	
09T304EN	0,4	A (1)	3,1		25200	45000
09T304FN	0,4	A (1)	3,1			85000
09T308EN	0,8	A (1)	2,8		45200	

Cast iron



Sintered steels



Heat resistant alloys



hardened < 45 HRC

hardened 46–55 HRC



hardened 56–60 HRC

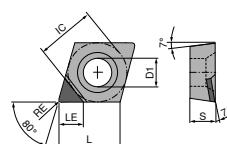


hardened 61–65 HRC

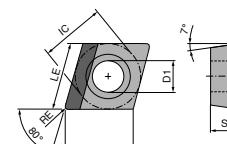


CCGW / CCGT

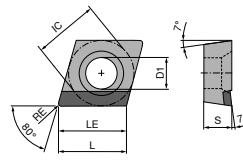
Designation	L	S	D1	IC
	mm	mm	mm	mm
CCG. 0602..	6,5	2,38	2,8	6,35
CCG. 09T3..	9,7	3,97	4,4	9,52
CCG. 1204..	12,9	4,76	5,5	12,70



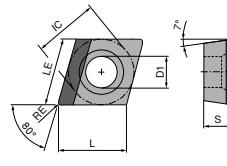
CCGT A



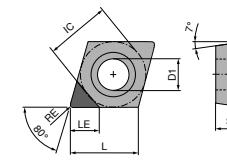
CCGT A LL



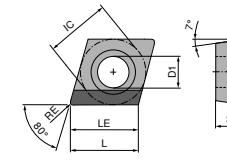
CCGT A RR



CCGW A LL



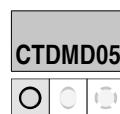
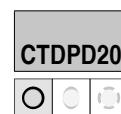
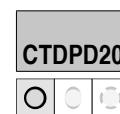
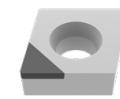
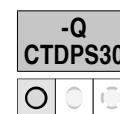
CCGW A



CCGW A RR

CCGW / CCGT

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

F
DIAMOND
CCGWF
DIAMOND
CCGWF
DIAMOND
CCGTF
DIAMOND
CCGW

ISO	RE	TCE (NOI)	LE	Article no. 71 120 ...	Article no. 71 120 ...	Article no. 71 124 ...	Article no. 71 125 ...
	mm		mm				
060201FN	0,1	A (1)	3,5		05300		
060208FN	0,8	A (1)	2,5				
060208FN	0,8	A (1)	3,0		10300	10300	
09T301FN	0,1	A (1)	4,5				
09T302FN	0,2	A (1)	4,5		10500	10500	16300

Steel

Stainless steel

Cast iron

Non ferrous metals

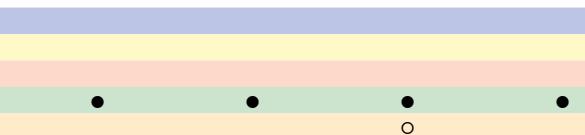
Heat resistant alloys



CCGT

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

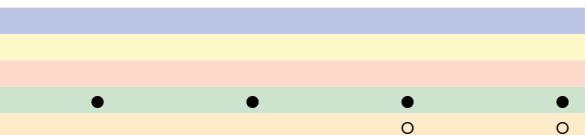
	-CB2 CTDPD20	-Q-CB2 CTDPD20	CTDPS30	-Q-CB1 CTDCD10
ISO	RE mm	TCE (NOI)	LE mm	
060201FN	0,1	A (1)	3,5	
060202FN	0,2	A (1)	2,3	
060202FN	0,2	A (1)	3,4	
060204FN	0,4	A (1)	2,1	
060204EN	0,4	A (1)	3,2	10001
09T302EN	0,2	A (1)	4,4	
09T302FN	0,2	A (1)	4,5	
09T304FN	0,4	A (1)	2,1	
09T304EN	0,4	A (1)	4,2	10101
120404FN	0,4	A (1)	2,1	
120404EN	0,4	A (1)	4,2	10201
120404FN	0,4	A (1)	4,3	20301
Steel				
Stainless steel				
Cast iron				
Non ferrous metals				
Heat resistant alloys				



CCGW / CCGT

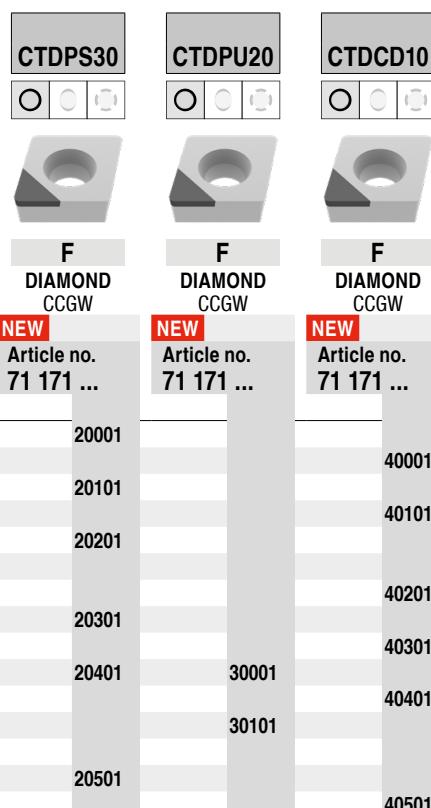
▲ TCE(NOI) = Design and number of equipped cutting edge corners

	CTDPD20	CTDPD20	CTDPS30	CTDPS30
ISO	RE mm	TCE (NOI)	LE mm	
060204FLL	0,4	A (1)	6,45	10001
060204FRR	0,4	A (1)	6,45	
060208FLL	0,8	A (1)	6,45	
060208FRR	0,8	A (1)	6,45	
09T308FLL	0,8	A (1)	9,70	10201
09T308FRR	0,8	A (1)	9,70	
09T312FLL	1,2	A (1)	9,70	10401
120412FLL	1,2	A (1)	12,90	10501
120412FRR	1,2	A (1)	12,90	10601
Steel				
Stainless steel				
Cast iron				
Non ferrous metals				
Heat resistant alloys				



CCGW

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

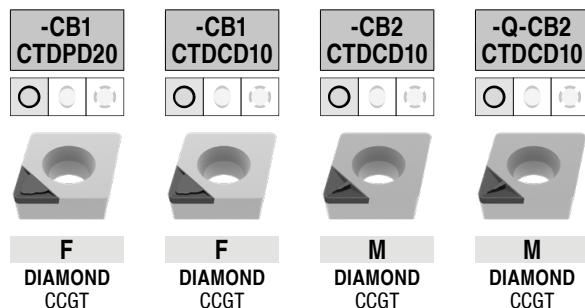


ISO	RE mm	TCE (NOI)	LE mm			
060201FN	0,1	A (1)	3,5		20001	
060202FN	0,2	A (1)	2,4			40001
060202FN	0,2	A (1)	3,4		20101	
060204FN	0,4	A (1)	2,2			40101
060204FN	0,4	A (1)	3,2		20201	
09T302FN	0,2	A (1)	2,4			40201
09T302FN	0,2	A (1)	4,5		20301	
09T304FN	0,4	A (1)	2,2			40301
09T304FN	0,4	A (1)	4,3		20401	30001
09T308FN	0,8	A (1)	2,0			40401
09T308FN	0,8	A (1)	4,1			30101
120404FN	0,4	A (1)	4,3		20501	
120408FN	0,8	A (1)	2,0			40501

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

CCGT

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

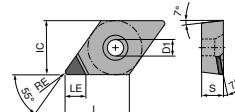


ISO	RE mm	TCE (NOI)	LE mm			
060202EN	0,2	A (1)	2,4			
060208FN	0,8	A (1)	2,0			
060208FN	0,8	A (1)	3,0	10600		
09T302EN	0,2	A (1)	2,3			
09T302EN	0,2	A (1)	2,4			31200
09T308EN	0,8	A (1)	2,0			31600
120404EN	0,4	A (1)	2,2			32600

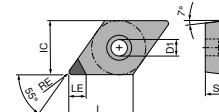
Steel			
Stainless steel			
Cast iron	•	•	•
Non ferrous metals	•	•	•
Heat resistant alloys	•	•	•

DCGW / DCGT

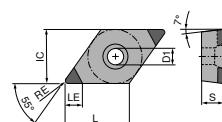
Designation	L mm	S mm	D1 mm	IC mm
DCGW 0702..	7,75	2,38	2,38	6,35
DCGW 0702..	7,75	2,38	2,80	6,35
DCG. 11T3..	11,60	3,97	4,40	9,52



DCGT A



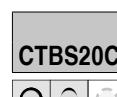
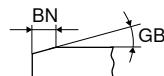
DCGW A



DCGW B

DCGW

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



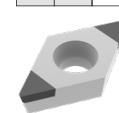
CTBS20C



CTBH21U



CTBH40U

F
CBN
DCGWF
CBN
DCGWF
CBN
DCGW

ISO	RE mm	BN mm	GB °	TCE (NOI)	LE mm	Article no. 71 163 ...	Article no. 71 131 ...	Article no. 71 131 ...
070202TN	0,2	0,14	20	B (2)	3,9			
070202TN	0,2	0,12	25	B (2)	3,9		53000	93000
070204TN	0,4	0,14	20	B (2)	3,5			
070204TN	0,4	0,12	25	B (2)	3,5		53200	93200
070208TN	0,8	0,12	25	B (2)	3,0			93400
11T304SN	0,4	0,11	15	B (2)	3,5	13400		

Cast iron



Sintered steels



Heat resistant alloys



hardened < 45 HRC

hardened 46–55 HRC



hardened 56–60 HRC

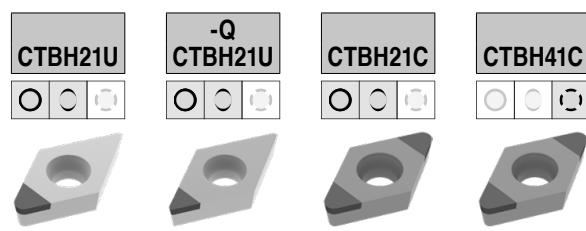
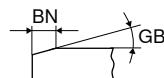


hardened 61–65 HRC



DCGW

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



ISO	RE	BN	GB	TCE (NOI)	LE		F CBN DCGW	NEW Article no. 71 422 ...	F CBN DCGW	NEW Article no. 71 423 ...	F CBN DCGW	NEW Article no. 71 424 ...	F CBN DCGW	NEW Article no. 71 424 ...
	mm	mm	°		mm									
070201ER	0,1			A (1)	3,0									
070201EL	0,1			A (1)	3,0									
070202EN	0,2			B (2)	3,4									
070202SN	0,2	0,09	10	B (2)	3,4									
070202TN	0,2	0,11	20	B (2)	3,4									
070202TN	0,2	0,15	25	A (1)	3,9		40000							
070202FN	0,2			B (2)	3,4									
070204EN	0,4			B (2)	3,0									
070204SN	0,4	0,09	10	B (2)	3,0									
070204TN	0,4	0,11	20	B (2)	3,0									
070204SN	0,4	0,13	25	B (2)	3,0									
070204TN	0,4	0,15	25	A (1)	3,5		40100							
070204SN	0,4	0,14	35	B (2)	3,0									
070204FN	0,4			B (2)	3,0									
070208EN	0,8			B (2)	2,6									
070208TN	0,8	0,11	20	B (2)	2,6									
070208SN	0,8	0,13	20	B (2)	2,6									
070208TN	0,8	0,14	35	B (2)	2,6									
070208SN	0,8	0,14	35	B (2)	2,6									
11T302EN	0,2			B (2)	3,4									
11T302TN	0,2	0,11	20	B (2)	3,4									
11T302SN	0,2	0,13	20	B (2)	3,4									
11T302FN	0,2			B (2)	3,4									
11T304TN	0,4	0,09	10	B (2)	3,0									
11T304TN	0,4	0,09	15	B (2)	3,0									
11T304SN	0,4	0,09	15	B (2)	3,0									
11T304TN	0,4	0,11	20	B (2)	3,0									
11T304SN	0,4	0,13	20	B (2)	3,0									
11T304SN	0,4	0,13	25	B (2)	3,0									
11T304SN	0,4	0,14	30	B (2)	3,0									
11T304TN	0,4	0,14	30	B (2)	3,0									
11T304FN	0,4			B (2)	3,0									
11T308SN	0,8	0,09	10	B (2)	2,6									
11T308TN	0,8	0,11	20	B (2)	2,6									
11T308SN	0,8	0,13	25	B (2)	2,6									
11T308SN	0,8	0,14	30	B (2)	2,6									
11T308EN	0,8			B (2)	2,6									
11T308TN	0,8	0,14	30	B (2)	2,6									
11T308FN	0,8			B (2)	2,6									

Cast iron

Sintered steels

Heat resistant alloys

hardened < 45 HRC

hardened 46–55 HRC

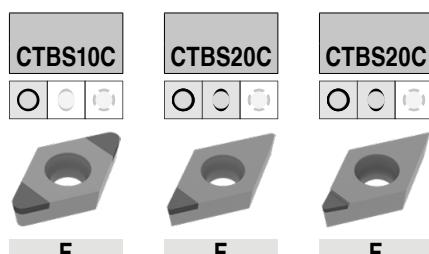
hardened 56–60 HRC

hardened 61–65 HRC



DCGW / DCGT

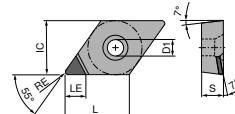
▲ TCE(NOI) = Design and number of equipped cutting edge corners



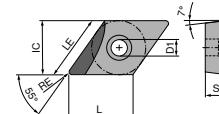
ISO	RE	BN	GB	TCE (NOI)	LE mm			
	mm	mm	°			F CBN DCGW	F CBN DCGW	F CBN DCGT
070202FN	0,2			B (2)	3,9		80000	
070202SN	0,2	0,09	10	B (2)	3,9		80100	
070202SN	0,2	0,11	15	A (1)	3,9			20100
070202FN	0,2			A (1)	3,9			20000
070204FN	0,4			B (2)	3,5		80200	
070204TN	0,4	0,09	15	B (2)	3,5		80300	
070204SN	0,4	0,11	15	A (1)	3,5			20200
070204SN	0,4	0,14	15	B (2)	3,5		80400	
11T302SN	0,2	0,11	15	A (1)	3,9			20400
11T302FN	0,2			A (1)	3,9			20300
11T304FN	0,4			B (2)	3,5		80500	
11T304TN	0,4	0,09	15	B (2)	3,5		80600	
11T304SN	0,4	0,11	15	A (1)	3,5			20500
11T304SN	0,4	0,14	15	B (2)	3,5		80700	
11T304SN	0,4	0,14	20	B (2)	3,5		80800	
11T304EN	0,4			A (1)	3,5			20000
11T308SN	0,8	0,09	10	B (2)	3,0		81000	
11T308TN	0,8	0,09	15	B (2)	3,0		81100	
11T308EN	0,8			B (2)	3,0		80900	
11T308SN	0,8	0,11	15	A (1)	3,0			20600
11T308SN	0,8	0,14	15	B (2)	3,0		81200	
11T308SN	0,8	0,14	20	B (2)	3,0		81300	
11T308EN	0,8			A (1)	3,0			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

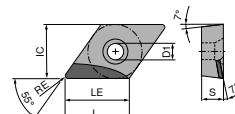
Designation	L mm	S mm	D1 mm	IC mm
DCG. 0702..	7,75	2,38	2,8	6,35
DCG. 11T3..	11,60	3,97	4,4	9,52



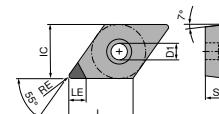
DCGT A



DCGT A LL



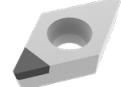
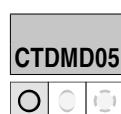
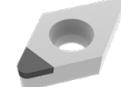
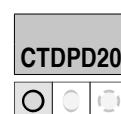
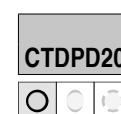
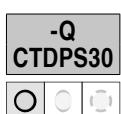
DCGT A RR



DCGW A

DCGW / DCGT

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

F
DIAMOND
DCGWF
DIAMOND
DCGWF
DIAMOND
DCGTF
DIAMOND
DCGT

ISO	RE mm	TCE (NOI)	LE mm	Article no. 71 130 ...	Article no. 71 130 ...	Article no. 71 134 ...	Article no. 71 144 ...
070201FN	0,1	A (1)	3,0		00200		
070202FN	0,2	A (1)	2,5		00400		
070204FN	0,4	A (1)	2,5		00600		
070208FN	0,8	A (1)	2,5				15000
11T312FN	1,2	A (1)	3,5			11200	
11T312FN	1,2	A (1)	3,6				

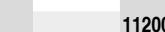
Steel

Stainless steel

Cast iron

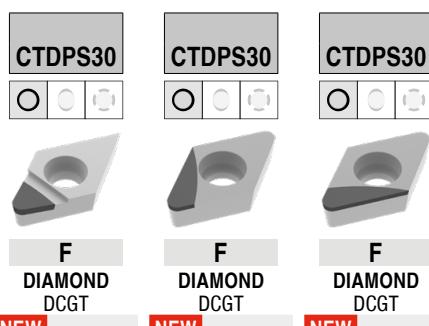
Non ferrous metals

Heat resistant alloys



DCGT

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

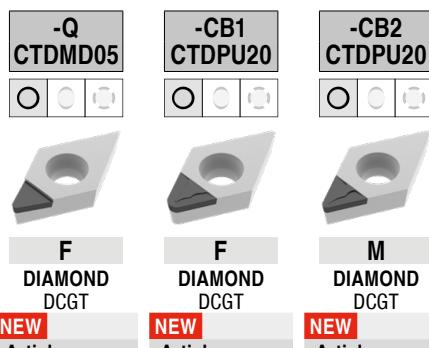


ISO	RE mm	TCE (NOI)	LE mm			
070201FN	0,1	A (1)	3,8		20001	
070202FN	0,2	A (1)	3,7		20101	
070204FLL	0,4	A (1)	5,5			20201
11T301FN	0,1	A (1)	4,8		20301	
11T302FN	0,2	A (1)	4,7		20401	
11T304FLL	0,4	A (1)	7,5			20501
11T308FLL	0,8	A (1)	7,0			20601
11T308FRR	0,8	A (1)	7,0			
11T312FLL	1,2	A (1)	6,5		20801	20701
11T312FRR	1,2	A (1)	6,5			20901

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

DCGT

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

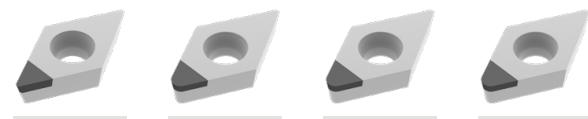
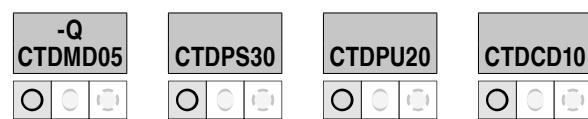


ISO	RE mm	TCE (NOI)	LE mm			
070202FN	0,2	A (1)	3,7		30001	
070204FR	0,4	A (1)	2,5			50001
070204FN	0,4	A (1)	3,4		30101	
070204EN	0,4	A (1)	3,4			30001
11T304FN	0,4	A (1)	4,3		30201	
11T304EN	0,4	A (1)	4,3			30101
11T308FN	0,8	A (1)	4,0		30301	

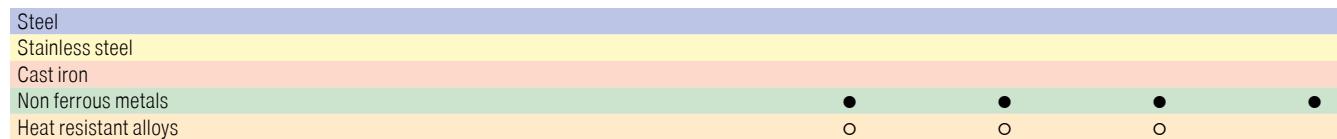
Steel			
Stainless steel			
Cast iron			
Non ferrous metals	●	●	●
Heat resistant alloys	○	○	○

DCGW

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

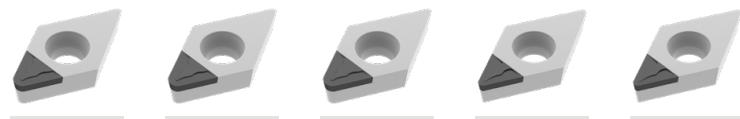
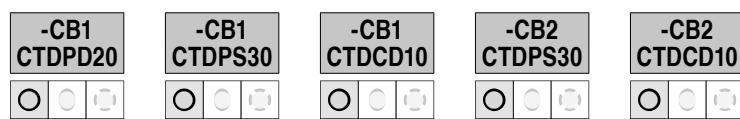


ISO	RE mm	TCE (NOI)	LE mm				
070201FN	0,1	A (1)	3,8				
070202FN	0,2	A (1)	2,6				
070202FN	0,2	A (1)	3,7				
070204FN	0,4	A (1)	2,3				
070204FN	0,4	A (1)	3,4				
070208FN	0,8	A (1)	2,0				
070208FN	0,8	A (1)	3,0				
11T301FN	0,1	A (1)	4,8				
11T302FN	0,2	A (1)	2,6				
11T302FN	0,2	A (1)	4,7				
11T304FN	0,4	A (1)	2,3				
11T304FL	0,4	A (1)	3,0	50001			
11T304FN	0,4	A (1)	4,3				
11T308FN	0,8	A (1)	2,0				
11T308FN	0,8	A (1)	4,0				
11T312FN	1,2	A (1)	3,6				

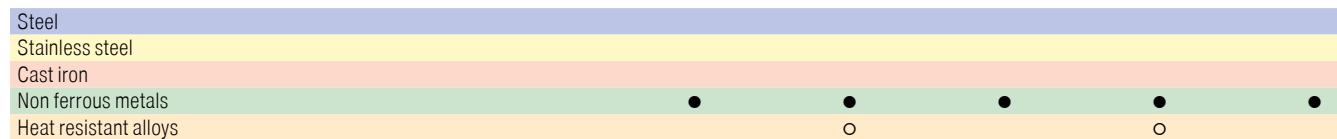


DCGT

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

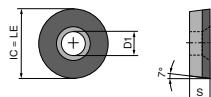


ISO	RE mm	TCE (NOI)	LE mm	Article no. 71 310 ...	Article no. 71 310 ...	Article no. 71 310 ...	Article no. 71 311 ...	Article no. 71 311 ...
070201FN	0,1	A (1)	3,8	10100				
070202EN	0,2	A (1)	2,6		20100			30200
11T301EN	0,1	A (1)	4,8					
11T301FN	0,1	A (1)	4,8	11100	21100		21100	
11T302FN	0,2	A (1)	2,6			31200		
11T302EN	0,2	A (1)	2,6					31200



RCGW

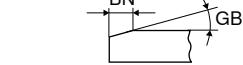
Designation	S	D1	IC
	mm	mm	mm
RCGW 1204..	4,76	4,4	12



RCGW F

RCGW

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



CTBS10U



F
CBN
RCGW

NEW
Article no.
71 425 ...

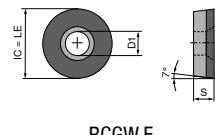
ISO	RE	BN	GB	TCE (NOI)	LE
	mm	mm	°		mm
1204MOTN	6	0,14	20	F	12

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

CTDPD20



F

DIAMOND
RCGW

CTDPS30



F

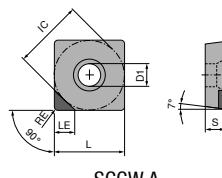
DIAMOND
RCGW

ISO	RE mm	TCE (NOI)	LE mm	Article no. 71 179 ...	Article no. 71 179 ...
0602M0FN	3	F	6	10001	20001
0803M0FN	4	F	8	10101	20101
1003M0FN	6	F	10	10201	
1204M0FN	6	F	12	10301	

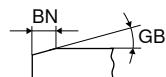
Steel Stainless steel Cast iron Non ferrous metals Heat resistant alloys

SCGW

Designation	L mm	S mm	D1 mm	IC mm
SCGW 09T3..	9,52	3,97	4,4	9,52
SCGW 1204..	12,70	4,76	5,5	12,70

**SCGW**

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



F
CBN
SCGW

NEW
Article no.
71 426 ...

ISO	RE mm	BN mm	GB °	TCE (NOI)	LE mm	
09T304TN	0,4	0,14	20	A (1)	3,5	10100
09T304FN	0,4			A (1)	3,5	10000
09T308FN	0,8			A (1)	3,4	10200
09T308TN	0,8	0,14	20	A (1)	3,4	10300
120404FN	0,4			A (1)	3,5	10400
120404TN	0,4	0,14	20	A (1)	3,5	10500
120408FN	0,8			A (1)	3,4	10600
120408TN	0,8	0,14	20	A (1)	3,4	10700

Cast iron



Sintered steels



Heat resistant alloys



hardened < 45 HRC

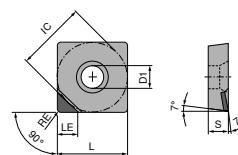
hardened 46–55 HRC

hardened 56–60 HRC

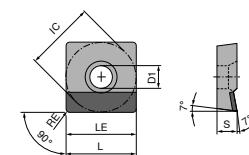
hardened 61–65 HRC

SCGW / SCGT

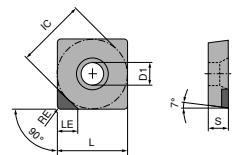
Designation	L mm	S mm	D1 mm	IC mm
SCG. 09T3..	9,52	3,97	4,4	9,52
SCG. 1204..	12,70	4,76	5,5	12,70



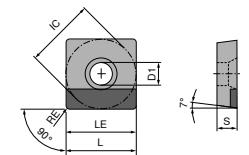
SCGT A



SCGT A



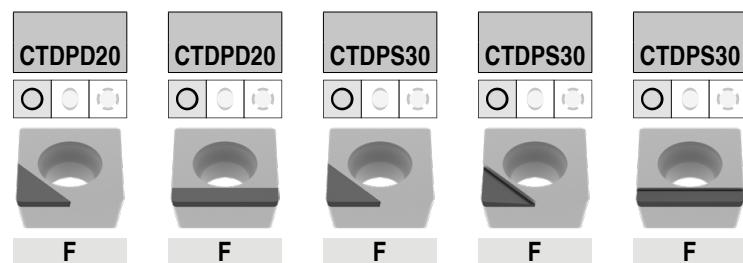
SCGW A



SCGW A

SCGW / SCGT

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



ISO	RE mm	TCE (NOI)	LE mm	10001	10001	20601	20001	20001
09T304FN	0,4	A (1)	4,40					
09T304FN	0,4	A (1)	9,52					
09T308FN	0,8	A (1)	4,30	10101				
09T308FN	0,8	A (1)	9,50					
09T308FN	0,8	A (1)	9,52		10101			
09T312FN	1,2	A (1)	4,20	10201			20201	
120404FN	0,4	A (1)	4,40	10301				
120404FN	0,4	A (1)	12,70		10201			
120408FN	0,8	A (1)	4,30	10401				
120408FN	0,8	A (1)	12,70		10301			20101
120412FN	1,2	A (1)	4,20	10501				20201
120412FN	1,2	A (1)	12,00					
120412FN	1,2	A (1)	12,70		10401			

Steel

Stainless steel

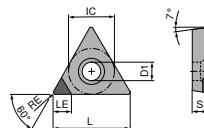
Cast iron

Non ferrous metals

Heat resistant alloys

TCGW

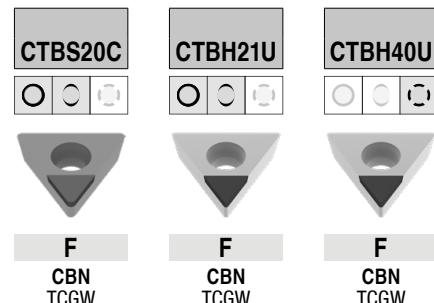
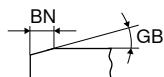
Designation	L mm	S mm	D1 mm	IC mm
TCGW 0902..	9,6	2,38	2,5	5,56
TCGW 1102..	11,0	2,38	2,8	6,35



TCGW A

TCGW

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



ISO	RE mm	BN mm	GB °	TCE (NOI)	LE mm			
090202FN	0,2			A (1)	3,8			80100
090204SN	0,4	0,11	15	A (1)	3,5	20000		
110204EN	0,4			A (1)	3,5		40700	

Cast iron



Sintered steels



Heat resistant alloys



hardened < 45 HRC



hardened 46–55 HRC



hardened 56–60 HRC

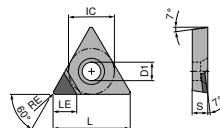


hardened 61–65 HRC

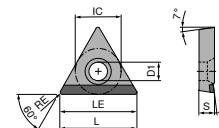


TCGW / TCGT

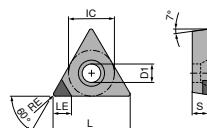
Designation	L	S	D1	IC
	mm	mm	mm	mm
TCG. 0902..	9,6	2,38	2,5	5,56
TCG. 1102..	11,0	2,38	2,8	6,35
TCG. 16T3..	16,5	3,97	4,4	9,52



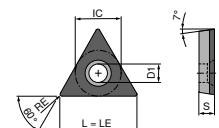
TCGT A



TCGT A



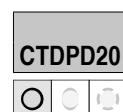
TCGW A



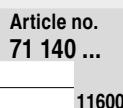
TCGW F

TCGW

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



F
DIAMOND
TCGW



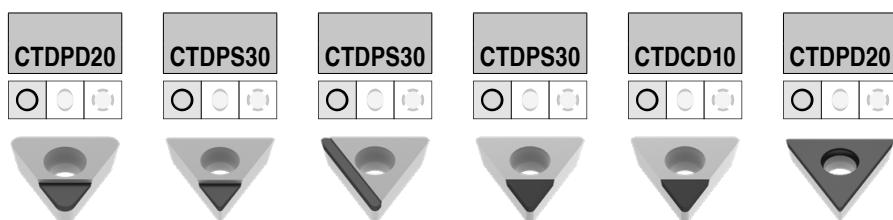
ISO	RE	TCE (NOI)	LE
	mm		mm
16T312FN	1,2	A (1)	3,8

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	F DIAMOND TCGT	F DIAMOND TCGT	F DIAMOND TCGT	F DIAMOND TCGW	F DIAMOND TCGW	F DIAMOND TCGW
				NEW Article no. 71 184 ...	NEW Article no. 71 184 ...	NEW Article no. 71 185 ...	NEW Article no. 71 186 ...	NEW Article no. 71 186 ...	NEW Article no. 71 187 ...
090202FN	0,2	A (1)	3,7		20001		20001		
090204FN	0,4	A (1)	3,4		20101				
090204FN	0,4	A (1)	9,6			20001			
090208FN	0,8	A (1)	3,0	10001					
110202FN	0,2	A (1)	2,6					40001	
110202FN	0,2	A (1)	3,7	10101			20101		
110202FN	0,2	F	11,0						10001
110204FN	0,4	A (1)	2,3					40101	
110204FN	0,4	A (1)	3,4	10201	20201		20201		
110204FN	0,4	A (1)	11,0			20101			
110204FN	0,4	F	11,0						10101
110208FN	0,8	A (1)	2,0					40201	
110208FN	0,8	A (1)	3,0	10301					
110208FN	0,8	A (1)	11,0			20201			
16T304FN	0,4	A (1)	2,3					40301	
16T304FN	0,4	A (1)	4,6	10401	20301				
16T304FN	0,4	A (1)	16,5			20301			
16T308FN	0,8	A (1)	2,0					40401	
16T308FN	0,8	A (1)	4,2	10501					
16T308FN	0,8	A (1)	16,5			20401			

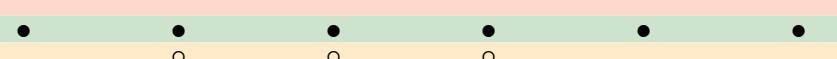
Steel

Stainless steel

Cast iron

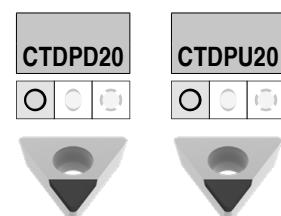
Non ferrous metals

Heat resistant alloys



TCGW

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



F
DIAMOND
TCGW
NEW
Article no.
71 188 ...

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TCGW
NEW
Article no.
71 188 ...

ISO	RE mm	TCE (NOI)	LE mm		
090208FN	0,8	A (1)	9,6		10001
110204FN	0,4	A (1)	11,0		10101
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



F
DIAMOND
TCGT
Article no.
71 325 ...

ISO	RE mm	TCE (NOI)	LE mm		
16T308FN	0,8	A (1)	4,2		13600

Steel

Stainless steel

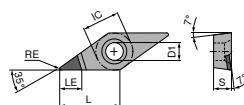
Cast iron

Non ferrous metals

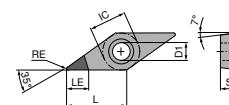
Heat resistant alloys

VCGW / VCGT

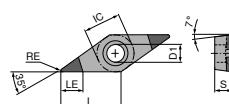
Designation	L mm	S mm	D1 mm	IC mm
VCGW 0702..	6,9	2,38	2,2	3,97
VCG. 1103..	11,1	3,18	2,9	6,35
VCG. 1604..	16,6	4,76	4,4	9,52



VCGT A



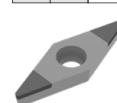
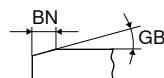
VCGW A



VCGW B

VCGW

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



ISO	RE mm	BN mm	GB °	TCE (NOI)	LE mm	Article no. 71 165 ...	Article no. 71 160 ...	Article no. 71 160 ...
070202TN	0,2	0,15	25	A (1)	3,5		55000	
070204EN	0,4			A (1)	3,2		45000	
160402TN	0,2	0,15	25	A (1)	3,5		52000	
160402EN	0,2			A (1)	3,5		43000	
160404EN	0,4			A (1)	3,2		41200	
160404SN	0,4	0,11	15	B (2)	3,1	24400		
160404TN	0,4	0,15	25	A (1)	3,2		52200	
160412TN	1,2	0,12	25	A (1)	3,9			90900

Cast iron

Sintered steels

Heat resistant alloys

hardened < 45 HRC

hardened 46-55 HRC

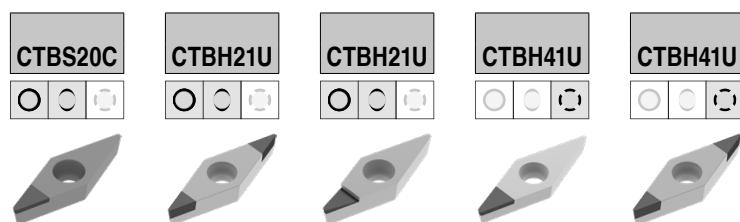
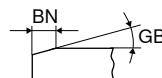
hardened 56-60 HRC

hardened 61-65 HRC



VCGW / VCGT

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

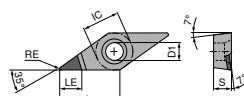


ISO	RE	BN	GB	TCE (NOI)	LE mm	F CBN VCGW	F CBN VCGW	F CBN VCJT	F CBN VCGW	F CBN VCGW
	mm	mm	°			Article no.				
070202FN	0,2			A (1)	3,5				70000	
070204FN	0,4			A (1)	3,2				70100	
110302EN	0,2			B (2)	3,5		40000			
110302SN	0,2	0,11	15	A (1)	4,7	20000				
110302TN	0,2	0,15	25	B (2)	3,5		40100			
110302FN	0,2			B (2)	3,5					70000
110304EN	0,4			A (1)	3,2			40000		
110304EN	0,4			B (2)	3,2		40200			
110304TN	0,4	0,15	25	B (2)	3,2		40300			
110304FN	0,4			B (2)	3,2					70100
160402EN	0,2			A (1)	3,5			40100		
160402TN	0,2	0,15	25	B (2)	3,5		40400			
160402FN	0,2			A (1)	3,5				70200	
160402FN	0,2			B (2)	3,5					70200
160404SN	0,4	0,11	15	A (1)	5,0	20100				
160404TN	0,4	0,15	25	B (2)	3,2		40600			
160404TN	0,4	0,10	30	A (1)	3,2				70400	
160404FN	0,4			A (1)	3,2				70300	
160404EN	0,4			B (2)	3,2		40500			
160404FN	0,4			B (2)	3,2					70300
160408FN	0,8			A (1)	2,8				70500	
160408SN	0,8	0,11	15	A (1)	4,4	20200				
160408TN	0,8	0,15	25	B (2)	2,8		40800			
160408EN	0,8			B (2)	2,8		40700			
160408FN	0,8			B (2)	2,8					70400

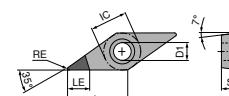
Cast iron	●
Sintered steels	●
Heat resistant alloys	●
hardened < 45 HRC	
hardened 46–55 HRC	●
hardened 56–60 HRC	●
hardened 61–65 HRC	●

VCGW / VCGT

Designation	L mm	S mm	D1 mm	IC 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



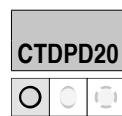
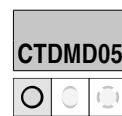
VCGT A



VCGW A

VCGW / VCGT

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

F
DIAMOND
VCGWF
DIAMOND
VCGT

ISO	RE mm	TCE (NOI)	LE mm	Article no. 71 160 ...	Article no. 71 062 ...
110301FN	0,1	A (1)	5,4		10100
160401FN	0,1	A (1)	6,0		10700
160408FN	0,8	A (1)	5,0	07800	

Steel

Stainless steel

Cast iron

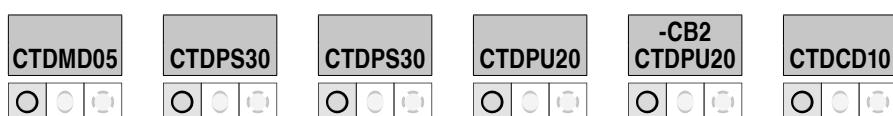
Non ferrous metals

Heat resistant alloys



VCGT / VCGW

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



F DIAMOND VCGT **F** DIAMOND VCGW **F** DIAMOND VCGT **F** DIAMOND VCGW **M** DIAMOND VCGT **F** DIAMOND VCGW

ISO	RE mm	TCE (NOI)	LE mm	Article no.						
070201FN	0,1	A (1)	3,8				20001			
070202FN	0,2	A (1)	3,6		50001					
070202FN	0,2	A (1)				20101				
070204FN	0,4	A (1)	3,2		50101					
070204FN	0,4	A (1)								
110301FN	0,1	A (1)	5,4			20201	20101			
110302FN	0,2	A (1)	3,0							40001
110302FN	0,2	A (1)	4,6	50201		20301	20201			
110304FN	0,4	A (1)	3,0		50301		20401	20301		40101
110304FN	0,4	A (1)	3,9							
110308FN	0,8	A (1)	3,0							40201
130302FN	0,2	A (1)	5,9			20501	20401			
160401FN	0,1	A (1)	6,0			20601	20501			
160402FN	0,2	A (1)	3,0				20601			40301
160402FN	0,2	A (1)	5,9		50401					
160402FN	0,2	A (1)								
160404FN	0,4	A (1)	3,0			20701	20701	30001		40401
160404FN	0,4	A (1)	5,5							
160404EN	0,4	A (1)	5,5		50501				30001	
160404FN	0,4	A (1)								
160408FN	0,8	A (1)	3,0			20801				40501
160408FN	0,8	A (1)	5,0		50601					
160408FN	0,8	A (1)								
160412FN	1,2	A (1)	4,5			20901				

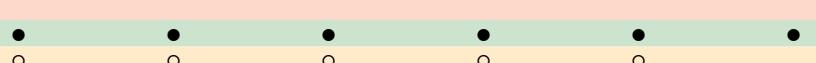
Steel

Stainless steel

Cast iron

Non ferrous metals

Heat resistant alloys



VCGT

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

-CB1 CTDPD20	-CB1 CTDPS30	-CB2 CTDPS30	-CB1 CTDCCD10	-CB2 CTDCCD10



F DIAMOND VCGT	F DIAMOND VCGT	M DIAMOND VCGT	F DIAMOND VCGT	M DIAMOND VCGT
---	---	---	---	---

ISO	RE mm	TCE (NOI)	LE mm	Article no. 71 330 ...	Article no. 71 330 ...	Article no. 71 331 ...	Article no. 71 330 ...	Article no. 71 331 ...
110301FN	0,1	A (1)	3,0				31000	
110301FN	0,1	A (1)	5,4	11000				
110302FN	0,2	A (1)	4,6		21200			
110308EN	0,8	A (1)	3,3			21800		
160402FN	0,2	A (1)	3,0				32200	
160402EN	0,2	A (1)	3,0					33200
160402EN	0,2	A (1)	5,9			23200		
160402FN	0,2	A (1)	5,9	13200				
160404FN	0,4	A (1)	3,0				32400	
160408FN	0,8	A (1)	3,0				32600	
160412FN	1,2	A (1)	3,0				32800	
160412EN	1,2	A (1)	3,0					34000
160412FN	1,2	A (1)	4,5	14000	24000			

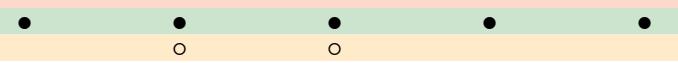
Steel

Stainless steel

Cast iron

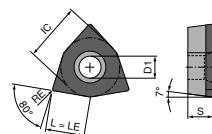
Non ferrous metals

Heat resistant alloys



WCGW

Designation	L mm	S mm	D1 mm	IC 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	Article no. 71 154 ...	80100
020104FN	0,4	F	2,7		

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

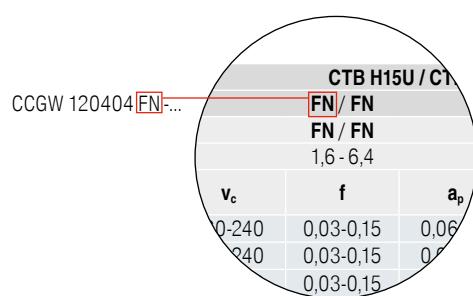
Index	Material	Strength	CTB S05U					
			EN		F		TN-D	
			EN	EN	f	a _p	v _c	f
	general sintered steel (> HV300)							
	high density sintered steel (> HV600)							
	Sintered steels (< HV300)							
3.1	Grey cast iron with lamellar graphite	100–350 N/mm ²	900–1600	0,02–0,25	0,15–10	900–1600	0,02–0,25	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	Material	Strength	CTB S10U / CTB S10C					
			EN		F		TN-D	
			EN	EN	f	a _p	v _c	f
	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



Cutting data values for CBN inserts

Index	Material	Strength	CTB S20C								
			EN		SN-B		EN		SN-B		
			v _c	f	a _p	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									

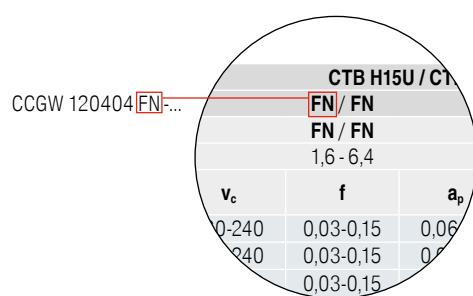
Index	Material	Strength	CTB S20C								
			Cutting edges code negative insert*			TN-E			SN-E		
			v _c	f	a _p	v _c	f	a _p	v _c	f	a _p
	general sintered steel (> HV300)		210-550	0,08-0,35	0,1-0,4	200-520	0,1-0,35	0,1-0,4			
	high density sintered steel (> HV600)		150-400	0,08-0,35	0,1-0,4	130-350	0,1-0,35	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			TN-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	



Cutting data values for CBN inserts

Index	Material	Strength	CTB H15U / CTB H15C						
			Cutting edges code negative insert*		FN		EN		
			Cutting edges code positive insert*		FN		EN		
			Ra (theo.)		1,6-6,4		1,0-3,2		
6.1	hardened materials	< 45 HRC	x	v _c	f	a _p	v _c	f	a _p
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	CTB H21U / CTB H20C / CTB H21C						
			Cutting edges code negative insert*		FN		TN-C		
			Cutting edges code positive insert*		EN / FN		EN		
			Ra (theo.)		1,6-6,4		1,0-4,5		
6.1	hardened materials	< 45 HRC	x	v _c	f	a _p	v _c	f	a _p
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	CTB H21U / CTB H20C / CTB H21C						
			Cutting edges code negative insert*		TN-E / SN-E		SN-F		
			Cutting edges code positive insert*		TN-E		SN-E		
			Ra (theo.)		0,35-1,6		0,2-0,8		
6.1	hardened materials	< 45 HRC	x	v _c	f	a _p	v _c	f	a _p
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	CTB H40U / CTB H40C / CTB H41U / CTB H41C						
			Cutting edges code negative insert*		FN / EN		SN-B		
			Cutting edges code positive insert*		FN / EN		1,6-3,2		
			Ra (theo.)		1,0-3,2		0,2-0,8		
6.1	hardened materials	< 45 HRC	x	v _c	f	a _p	v _c	f	a _p
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	CTB H40U / CTB H40C / CTB H41U / CTB H41C						
			Cutting edges code negative insert*		EN-T / SN-E		SN-E		
			Cutting edges code positive insert*		EN-T / SN-E		TN-F		
			Ra (theo.)		0,5-1,6		0,4-1,0		
6.1	hardened materials	< 45 HRC	x	v _c	f	a _p	v _c	f	a _p
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

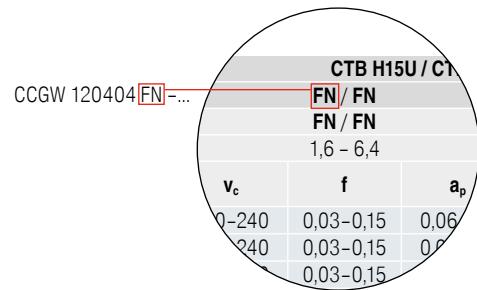
CTB H15U / CTB H15C									
SN-C			SN-E			RN (Rounded chamfer)			
SN-C			SN-E			RN (Rounded chamfer)			
0,5-1,6			0,1-0,8			0,1-0,8			
v _c	f	a _p	v _c	f	a _p	v _c	f	a _p	
140-200	0,06-0,2	0,08-0,3	120-180	0,06-0,25	0,1-0,4	130-210	0,06-0,2	0,08-0,3	
140-200	0,06-0,2	0,08-0,3	120-180	0,06-0,25	0,1-0,4	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-D			TN-D			
SN-F			SN-D			TN-D			
0,1-0,5			0,8-2,0			0,5-1,6			
v _c	f	a _p	v _c	f	a _p	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			TN-D			
SN-F			SN-G			TN-D			
0,2-0,8			0,1-0,5			0,5-1,6			
v _c	f	a _p	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				



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

Material group		$a_p = 0,04\text{--}0,4 \text{ mm}$		$a_p = 0,4\text{--}1,0 \text{ mm}$		$a_p = 0,4\text{--}2,5 \text{ mm}$	
		2,5–5,0	5,0–10	2,5–5,0	5,0–10	2,5–5,0	5,0–10
Aluminium wrought alloys without Si $f=0,05\text{--}0,5 \text{ mm/rev.}$	○ Tool Material v_c in m/min	CTD ... PD20 / PU20 / CD10 400–2500	CTD ... PD20 / PU20 / CD10 400–2500	CTD ... PD20 / PU20 / CD10 400–2000	CTD ... PD20 / PU20 / CD10 400–2000	CTD ... PD20 / PU20 / CD10 400–1600	CTD ... PD20 / PU20 / CD10 400–1600
	● Tool Material v_c in m/min			PD20 / CD10 400–2500		PD20 / CD10 400–2000	
	◆ 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 % $f=0,05\text{--}0,5 \text{ mm/rev.}$	○ 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 % $f=0,05\text{--}0,5 \text{ mm/rev.}$	○ 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	
	◆ Tool Material v_c in m/min			PU20 600–1800		PU20 600–1500	
Copper and copper wrought alloys $f=0,05\text{--}0,5 \text{ mm/rev.}$	○ 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
Plastic materials without reinforcement (acrylic glass) $f=0,05\text{--}0,7 \text{ mm/rev.}$	○ 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	
	◆ 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) $f=0,05\text{--}0,7 \text{ mm/rev.}$	○ 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 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
	◆ Tool Material v_c in m/min	PU20 500–1000			PU20 400–800	PU20 300–1000	PU20 300–800

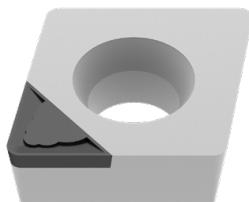
○ Smooth cut

● Irregular cutting depth

◆ Interrupted cut

Cutting data standard values for the CB chip breaker geometries

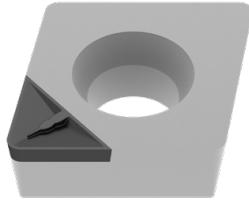
-CB1



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

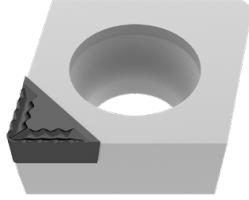
-CB2



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 - 009C - L 3 - Q

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



CNGA

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



ISO	RE	BN	GB	TCE (NOI)	LE
	mm	mm	°		mm
120404TN	0,4	0,09	15	L(4)	2,8
5 6 7 8 9	0,4	0,11	10	L(11)	12

ISO	RE	BN	GB	TCE (NOI)	LE	Article no.
	mm	mm	°		mm	
120404TN	0,4	0,09	15	L(4)	2,8	71 401 ...
120404SN	0,4	0,11	15	L(4)	2,8	16200
120404SN	0,4	0,11	20	K(2)	2,8	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°	Other shapes
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°	
Clearance angles not included within the standard for which particular information is necessary.	
O	

3	Tolerances					
IC \pm	BS					
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

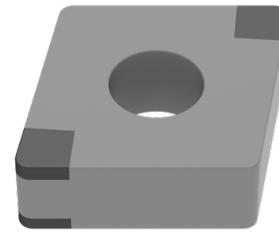
* Depends on insert size

6	Insert thickness		
Code	Code		
mm	inch	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		
Code	Code	RN 00	RC MO
mm	inch	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
	Sharp
	rounded
	chamfered
	Chamfered and honed
	Double-chamfered
	Double-chamfered and honed
	Round chamfer

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



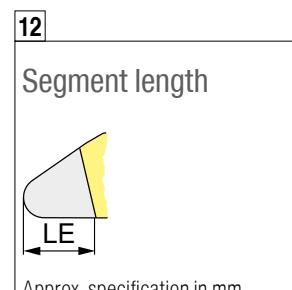
4 Characteristics	
N	
R	
F	
A	
M, P	
G, P	
W	
T	
Q	
U	
B	
H	
C	
J	
X	Special version
inch	
Change at inscribed circle IK < 1/4"	
IK > 1/4"	IK < 1/4"
N / R / F	E
A / M / G	D
X	X

5 Cutting length		Type	ISO	ANSI	L		d		Type	ISO	ANSI	L		d	
					mm	inch	mm	inch				mm	inch	mm	inch
C 	06	2	6,4	.250	6,35	.250			T 	06	1.2	6,9	.272	3,97	.156
	09	3	9,7	.382	9,525	.375				09	1.8	9,6	.378	5,56	.219
	12	4	12,9	.508	12,70	.500				11	2	11,0	.433	6,35	.250
	16	5	16,1	.634	15,875	.625				16	3	16,5	.650	9,525	.375
	19	6	19,3	.760	19,05	.750				22	4	22,	.079	12,70	.039
	25	8	25,8	1.016	25,4	1.000				27	5	27,5	1.083	15,875	.625
	32	12	35,24	1.269	31,75	1.250				33	6	33,0	1.299	19,05	.750
	06	2	6,35	.250	6,35	.250				06	3	6,5	.256	9,525	.375
	09	3	9,525	.375	9,525	.375				08	4	8,7	.331	12,70	.039
	12	4	12,7	.500	12,7	.500				10	5	10,9	.429	15,875	.625
S 	15	5	15,875	.625	15,875	.625			W 	06	2	6,35	.250	6,35	.250
	19	6	19,05	.750	19,05	.750				08	-	8,0	.315	8,0	.315
	25	8	25,4	1.000	25,4	1.000				09	3	9,52	.375	9,52	.375
	31	10	31,75	1.250	31,75	1.250				10	-	10,0	.394	10,0	.394
	07	2	7,7	.303	6,35	.250				12*	-	12,0	.472	12,0	.472
	11	3	11,6	.457	9,525	.375				12	4	12,7	.488	12,70	.488
	15	4	15,5	.610	12,70	.500				15	5	15,875	.625	15,875	.625
	11	2	11,1	.437	6,35	.250				16	-	16,0	.630	16,0	.630
	16	3	16,6	.653	9,525	.375				19	6	19,05	.750	19,05	.750
	22	4	22,10	.870	12,70	.500				25	8	25,0	.984	25,0	.984
* inch version										25*	-	25,4	1.000	25,4	1.000
* inch version										31	10	31,75	1.250	31,75	1.250
* inch version										32	-	32,0	1.260	32,0	1.260

10 Chamfer type	
T/S	
K/P	
mm	inch
015	.015 .006
020	.020 .008
025	.025 .010
050	.050 .020
075	.075 .030
100	.100 .040
	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	
B	
C	
D	
G	
H	
Double sided	Entire clamping flat
K	
L	
M	
N	
P	
Q	



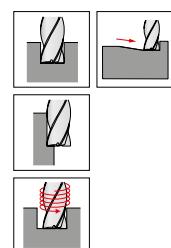
Approx. specification in mm

13 Chip breaker designation	
-CB1	
-CB2	
-CB3	
neutral	

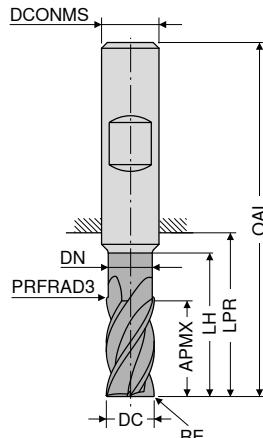
Masterfinish
Inserts with wiper technology are coded with -Q

MonsterMill – End milling cutter with corner radius

▲ PRFRAD3 = 1 mm



DRAGOSKIN



Factory standard

HB

NEW

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	11	3,8	17	21	57	6	4	04201
4	0,2	11	3,8	17	21	57	6	4	04202
4	0,4	11	3,8	17	21	57	6	4	04204
4	0,5	11	3,8	17	21	57	6	4	04205
5	0,1	13	4,8	19	21	57	6	4	05201
5	0,5	13	4,8	19	21	57	6	4	05205
5	1,0	13	4,8	19	21	57	6	4	05210
6	0,1	13	5,8	19	21	57	6	4	06201
6	0,4	13	5,8	19	21	57	6	4	06204
6	0,5	13	5,8	19	21	57	6	4	06205
6	0,6	13	5,8	19	21	57	6	4	06206
6	0,8	13	5,8	19	21	57	6	4	06208
6	1,0	13	5,8	19	21	57	6	4	06210
6	1,5	13	5,8	19	21	57	6	4	06215
8	0,2	19	7,7	25	27	63	8	4	08202
8	0,5	21	7,7	25	27	63	8	4	08205
8	0,8	21	7,7	25	27	63	8	4	08208
8	1,0	21	7,7	25	27	63	8	4	08210
8	1,2	21	7,7	25	27	63	8	4	08212
8	1,5	21	7,7	25	27	63	8	4	08215
8	2,0	21	7,7	25	27	63	8	4	08220
10	0,2	22	9,7	30	32	72	10	4	10202
10	0,5	22	9,7	30	32	72	10	4	10205
10	1,0	22	9,7	30	32	72	10	4	10210
10	1,2	22	9,7	30	32	72	10	4	10212
10	1,5	22	9,7	30	32	72	10	4	10215
10	1,6	22	9,7	30	32	72	10	4	10216
10	2,0	22	9,7	30	32	72	10	4	10220
12	0,2	26	11,6	36	38	83	12	4	12202
12	0,5	26	11,6	36	38	83	12	4	12205
12	1,0	26	11,6	36	38	83	12	4	12210
12	1,2	26	11,6	36	38	83	12	4	12212
12	1,5	26	11,6	36	38	83	12	4	12215
12	1,6	26	11,6	36	38	83	12	4	12216
12	2,0	26	11,6	36	38	83	12	4	12220
12	2,5	26	11,6	36	38	83	12	4	12225
12	3,0	26	11,6	36	38	83	12	4	12230
16	0,3	36	15,5	42	44	92	16	4	16203
16	1,0	36	15,5	42	44	92	16	4	16210

Steel

Stainless steel



Cast iron

Non ferrous metals



Heat resistant alloys

Hardened materials

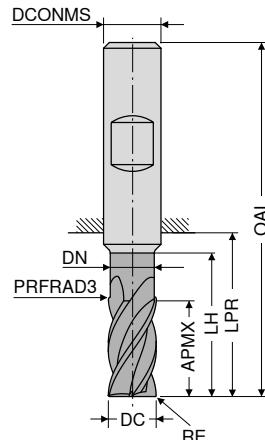
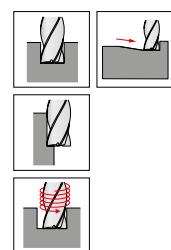
→ V_c/f_z Page 110+111

MonsterMill – End milling cutter with corner radius

▲ PRFRAD3 = 1 mm



DRAGOSKIN



Factory standard



NEW

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	36	15,5	42	44	92	16	4
16	2,0	36	15,5	42	44	92	16	4
16	2,5	36	15,5	42	44	92	16	4
16	3,0	36	15,5	42	44	92	16	4
16	3,2	36	15,5	42	44	92	16	4
16	4,0	36	15,5	42	44	92	16	4
20	0,3	41	19,5	52	54	104	20	4
20	1,0	41	19,5	52	54	104	20	4
20	2,0	41	19,5	52	54	104	20	4
20	3,0	41	19,5	52	54	104	20	4
20	4,0	41	19,5	52	54	104	20	4
20	5,0	41	19,5	52	54	104	20	4
20	6,3	41	19,5	52	54	104	20	4

Steel



Stainless steel



Cast iron

Non ferrous metals



Heat resistant alloys



Hardened materials

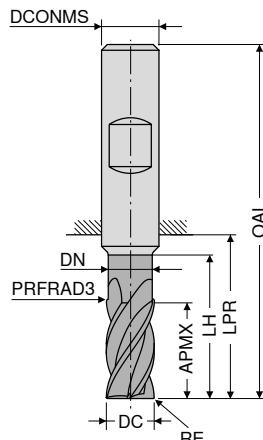
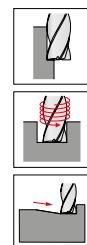
→ v_c/f_z Page 110+111

MonsterMill – End milling cutter with corner radius

▲ PRFRAD3 = 1 mm



DRAGOSKIN



HB

NEW

Article no.
53 030 ...

DC ₁₈ mm	RE mm	APMX mm	DN mm	LH mm	LPR mm	OAL mm	DCONMS _{h5} mm	ZEFP
4	0,1	8,5	3,8	20	26	62	6	4
4	0,2	8,5	3,8	20	26	62	6	4
4	0,4	8,5	3,8	20	26	62	6	4
4	0,5	8,5	3,8	20	26	62	6	4
5	0,1	10,5	4,8	25	34	70	6	4
5	0,5	10,5	4,8	25	34	70	6	4
5	1,0	10,5	4,8	25	34	70	6	4
6	0,1	13,0	5,8	30	34	70	6	4
6	0,4	13,0	5,8	30	34	70	6	4
6	0,5	13,0	5,8	30	34	70	6	4
6	0,6	13,0	5,8	30	34	70	6	4
6	0,8	13,0	5,8	30	34	70	6	4
6	1,0	13,0	5,8	30	34	70	6	4
6	1,5	13,0	5,8	30	34	70	6	4
8	0,2	17,0	7,7	40	44	80	8	4
8	0,5	17,0	7,7	40	44	80	8	4
8	0,8	17,0	7,7	40	44	80	8	4
8	1,0	17,0	7,7	40	44	80	8	4
8	1,2	17,0	7,7	40	44	80	8	4
8	1,5	17,0	7,7	40	44	80	8	4
8	2,0	17,0	7,7	40	44	80	8	4
10	0,2	21,0	9,7	50	54	94	10	4
10	0,5	21,0	9,7	50	54	94	10	4
10	1,0	21,0	9,7	50	54	94	10	4
10	1,2	21,0	9,7	50	54	94	10	4
10	1,5	21,0	9,7	50	54	94	10	4
10	1,6	21,0	9,7	50	54	94	10	4
10	2,0	21,0	9,7	50	54	94	10	4
12	0,2	25,0	11,6	60	65	110	12	4
12	0,5	25,0	11,6	60	65	110	12	4
12	1,0	25,0	11,6	60	65	110	12	4
12	1,2	25,0	11,6	60	65	110	12	4
12	1,5	25,0	11,6	60	65	110	12	4
12	1,6	25,0	11,6	60	65	110	12	4
12	2,0	25,0	11,6	60	65	110	12	4
12	2,5	25,0	11,6	60	65	110	12	4
12	3,0	25,0	11,6	60	65	110	12	4
16	0,3	33,0	15,5	80	84	132	16	4
16	1,0	33,0	15,5	80	84	132	16	4

Steel

Stainless steel



Cast iron



Non ferrous metals



Heat resistant alloys



Hardened materials

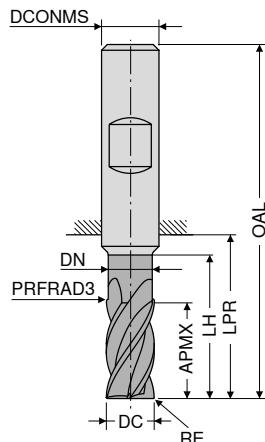
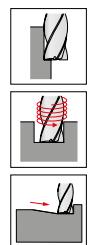
→ V_c/f_z Page 110+111

MonsterMill – End milling cutter with corner radius

▲ PRFRAD3 = 1 mm



DRAGOSKIN



HB

NEW

Article no.
53 030 ...

DC _{r8}	RE	APMX	DN	LH	LPR	OAL	DCONMS _{h5}	ZEFFP
mm	mm	mm	mm	mm	mm	mm	mm	
16	1,6	33,0	15,5	80	84	132	16	4
16	2,0	33,0	15,5	80	84	132	16	4
16	2,5	33,0	15,5	80	84	132	16	4
16	3,0	33,0	15,5	80	84	132	16	4
16	3,2	33,0	15,5	80	84	132	16	4
16	4,0	33,0	15,5	80	84	132	16	4
20	0,3	42,0	19,5	100	104	154	20	4
20	1,0	42,0	19,5	100	104	154	20	4
20	2,0	42,0	19,5	100	104	154	20	4
20	3,0	42,0	19,5	100	104	154	20	4
20	4,0	42,0	19,5	100	104	154	20	4
20	5,0	42,0	19,5	100	104	154	20	4
20	6,3	42,0	19,5	100	104	154	20	4

Steel



Stainless steel



Cast iron



Non ferrous metals



Heat resistant alloys

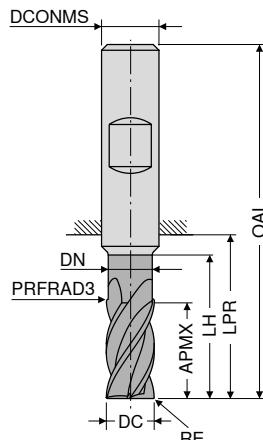
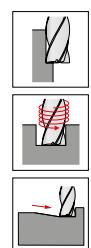


Hardened materials

→ v_c/f_z Page 110+111

MonsterMill – End milling cutter with corner radius

▲ PRFRAD3 = 1 mm



HB

NEW

Article no.
53 031 ...

DC _{r8}	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	06201
6	0,4	13	5,8	19	21	57	6	5	06204
6	0,5	13	5,8	19	21	57	6	5	06205
6	0,6	13	5,8	19	21	57	6	5	06206
6	0,8	13	5,8	19	21	57	6	5	06208
6	1,0	13	5,8	19	21	57	6	5	06210
6	1,5	13	5,8	19	21	57	6	5	06215
8	0,2	19	7,7	25	27	63	8	5	08202
8	0,5	21	7,7	25	27	63	8	5	08205
8	0,8	21	7,7	25	27	63	8	5	08208
8	1,0	21	7,7	25	27	63	8	5	08210
8	1,2	21	7,7	25	27	63	8	5	08212
8	1,5	21	7,7	25	27	63	8	5	08215
8	2,0	21	7,7	25	27	63	8	5	08220
10	0,2	22	9,7	30	32	72	10	5	10202
10	0,5	22	9,7	30	32	72	10	5	10205
10	1,0	22	9,7	30	32	72	10	5	10210
10	1,2	22	9,7	30	32	72	10	5	10212
10	1,5	22	9,7	30	32	72	10	5	10215
10	1,6	22	9,7	30	32	72	10	5	10216
10	2,0	22	9,7	30	27	72	10	5	10220
12	0,2	26	11,6	36	38	83	12	5	12202
12	0,5	26	11,6	36	38	83	12	5	12205
12	1,0	26	11,6	36	38	83	12	5	12210
12	1,2	26	11,6	36	38	83	12	5	12212
12	1,5	26	11,6	36	38	83	12	5	12215
12	1,6	26	11,6	36	38	83	12	5	12216
12	2,0	26	11,6	36	38	83	12	5	12220
12	2,5	26	11,6	36	38	83	12	5	12225
12	3,0	26	11,6	36	38	83	12	5	12230
16	0,3	36	15,5	42	44	92	16	5	16203
16	1,0	36	15,5	42	44	92	16	5	16210
16	1,6	36	15,5	42	44	92	16	5	16216
16	2,0	36	15,5	42	44	92	16	5	16220
16	2,5	36	15,5	42	44	92	16	5	16225
16	3,0	36	15,5	42	44	92	16	5	16230
16	3,2	36	15,5	42	44	92	16	5	16232
16	4,0	36	15,5	42	44	92	16	5	16240
20	0,3	41	19,5	52	54	104	20	5	20203
20	2,0	41	19,5	52	54	104	20	5	20220
20	3,0	41	19,5	52	54	104	20	5	20230
20	4,0	41	19,5	52	54	104	20	5	20240
20	5,0	41	19,5	52	54	104	20	5	20250
20	6,3	41	19,5	52	54	104	20	5	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 51	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-Al11 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
S	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 Tr 22 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
	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)
H	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)
	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 ...

	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	\emptyset DC = 4 mm			\emptyset DC = 5 mm			\emptyset DC = 6 mm			\emptyset DC = 8 mm			
				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	
Index	v_c m/min	v_c m/min	v_c m/min	$a_{p\max}$ x DC	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 ...

	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	\emptyset DC = 4 mm			\emptyset DC = 5 mm			\emptyset DC = 6 mm			\emptyset DC = 8 mm			\emptyset DC = 10 mm			\emptyset DC = 12 mm		
			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												
Index	v_c m/min	v_c m/min	$a_{p\max}$ x DC	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°

	$\emptyset DC = 10\text{ mm}$			$\emptyset DC = 12\text{ mm}$			$\emptyset DC = 16\text{ mm}$			$\emptyset DC = 20\text{ mm}$			● 1st choice	○ suitable	
	a_e 0,1-0,2 $\times DC$	a_e 0,3-0,4 $\times DC$	a_e 0,6-1,0 $\times DC$	a_e 0,1-0,2 $\times DC$	a_e 0,3-0,4 $\times DC$	a_e 0,6-1,0 $\times DC$	a_e 0,1-0,2 $\times DC$	a_e 0,3-0,4 $\times DC$	a_e 0,6-1,0 $\times DC$	a_e 0,1-0,2 $\times DC$	a_e 0,3-0,4 $\times DC$	a_e 0,6-1,0 $\times DC$			
Index	f_z mm	Emulsion	Compressed air	MMS											
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	●		

	$\emptyset DC = 16\text{ mm}$		$\emptyset DC = 20\text{ mm}$		● 1st choice	○ suitable	
	a_e 0,1-0,2 $\times DC$	a_e 0,3-0,4 $\times DC$	a_e 0,1-0,2 $\times DC$	a_e 0,3-0,4 $\times DC$			
Index	f_z mm	f_z mm	f_z mm	f_z mm	Emulsion	Compressed air	MMS
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 ...

Index	v _c m/min	a _{p,max} x DC	Ø DC = 6 mm		Ø DC = 8 mm		Ø DC = 10 mm		Ø DC = 12 mm		Ø DC = 16 mm		Ø DC = 20 mm		●	○	
			a _e 0,1-0,2 x DC	a _e 0,3-0,4 x DC	1st choice	suitable											
			f _z mm	Emulsion	Compressed air	MMS											
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	●		



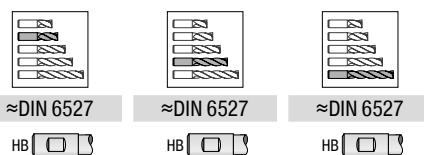
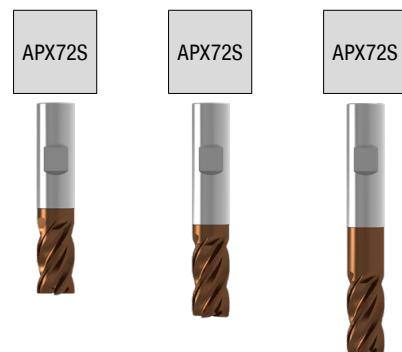
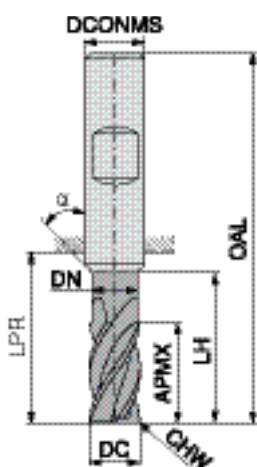
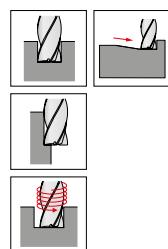
Plunging angle for ramping and helical milling = 1°



PROJECTS IN THE BEST OF HANDS

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S-Cut – Rough milling cutter



DC _{h11} mm	APMX mm	DN mm	LH mm	LPR mm	OAL mm	DCONMS _{h6} mm	CHW mm	α°	ZEFP	NEW Article no.		
										52 205 ...	52 205 ...	52 205 ...
3	6	2,8	12,0	18	54	6	0,18	15	4	03100		
3	8	2,8	14,0	21	57	6	0,18	15	4		03200	
3	8	2,8	19,0	26	62	6	0,18	15	4			03400
4	8	3,8	13,5	18	54	6	0,20	15	4	04100		
4	11	3,8	18,0	21	57	6	0,20	15	4		04200	
4	11	3,8	23,0	26	62	6	0,20	15	4			04400
5	9	4,8	15,5	18	54	6	0,25	15	4	05100		
5	13	4,8	19,0	21	57	6	0,25	15	4		05200	
5	13	4,8	24,0	26	62	6	0,25	15	4			05400
6	10	5,5	18,0	18	54	6	0,25		4	06100		
6	13	5,5	20,0	21	57	6	0,25		4		06200	
6	13	5,5	25,0	26	62	6	0,25		4			06400
8	12	7,5	22,0	22	58	8	0,30		4	08100		
8	19	7,5	25,0	27	63	8	0,30		4		08200	
8	19	7,5	30,0	32	68	8	0,30		4			08400
10	14	9,5	26,0	26	66	10	0,30		4	10100		
10	22	9,5	30,0	32	72	10	0,30		4		10200	
10	22	9,5	35,0	40	80	10	0,30		4			10400
12	16	11,5	28,0	28	73	12	0,45		4	12100		
12	26	11,5	35,0	38	83	12	0,45		4		12200	
12	26	11,5	45,0	48	93	12	0,45		4			12400
14	18	13,5	30,0	30	75	14	0,50		4	14100		
14	26	13,5	35,0	38	83	14	0,50		4		14200	
14	26	13,5	50,0	54	99	14	0,50		4			14400
16	22	15,5	34,0	34	82	16	0,60		4	16100		
16	32	15,5	40,0	44	92	16	0,60		4		16200	
16	32	15,5	55,0	60	108	16	0,60		4			16400
20	26	19,5	42,0	42	92	20	0,60		4	20100		
20	38	19,5	50,0	54	104	20	0,60		4		20200	
20	38	19,5	70,0	76	126	20	0,60		4			20400

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 51	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-Al11 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
S	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 Tr 22 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
	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)
H	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)
	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

	Type short / long	v_c m/min	a_p _{max} x DC	\emptyset DC = 3 mm			\emptyset DC = 4 mm			\emptyset DC = 5 mm			\emptyset DC = 6 mm			\emptyset DC = 8 mm		
				a_p 0,1–0,2 x DC	a_p 0,3–0,4 x DC	a_p 0,6–1,0 x DC	a_p 0,1–0,2 x DC	a_p 0,3–0,4 x DC	a_p 0,6–1,0 x DC	a_p 0,1–0,2 x DC	a_p 0,3–0,4 x DC	a_p 0,6–1,0 x DC	a_p 0,1–0,2 x DC	a_p 0,3–0,4 x DC	a_p 0,6–1,0 x DC	a_p 0,1–0,2 x DC	a_p 0,3–0,4 x DC	a_p 0,6–1,0 x DC
Index				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</											

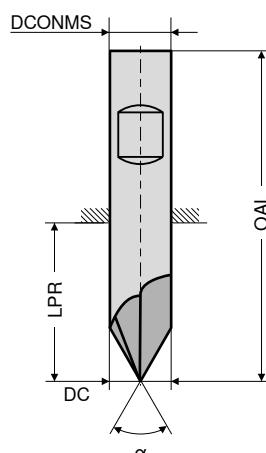
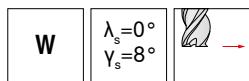
Index	Ø DC = 10 mm			Ø DC = 12 mm			Ø DC = 16 mm			Ø DC = 20 mm			●	○	MMS
	a_x 0,1–0,2 x DC	a_y 0,3–0,4 x DC	a_z 0,6–1,0 x DC	a_x 0,1–0,2 x DC	a_y 0,3–0,4 x DC	a_z 0,6–1,0 x DC	a_x 0,1–0,2 x DC	a_y 0,3–0,4 x DC	a_z 0,6–1,0 x DC	a_x 0,1–0,2 x DC	a_y 0,3–0,4 x DC	a_z 0,6–1,0 x DC	1st choice	suitable	
	f_z mm	f_z mm	f_z mm	f_z mm	f_z mm	f_z mm	Emulsion	Compressed air							
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	v_c m/min	$a_{p,max} \times DC$	$\emptyset DC = 3\text{ mm}$			$\emptyset DC = 4\text{ mm}$			$\emptyset DC = 5\text{ mm}$			$\emptyset DC = 6\text{ mm}$			$\emptyset DC = 8\text{ mm}$		
				a_s 0,1–0,2 $\times DC$	a_s 0,3–0,5 $\times DC$	a_s 0,6–1,0 $\times DC$	a_s 0,1–0,2 $\times DC$	a_s 0,3–0,5 $\times DC$	a_s 0,6–1,0 $\times DC$	a_s 0,1–0,2 $\times DC$	a_s 0,3–0,5 $\times DC$	a_s 0,6–1,0 $\times DC$	a_s 0,1–0,2 $\times DC$	a_s 0,3–0,5 $\times DC$	a_s 0,6–1,0 $\times DC$	a_s 0,1–0,2 $\times DC$	a_s 0,3–0,5 $\times DC$	a_s 0,6–1,0 $\times DC$
				f_z 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				

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_{e} 0,1–0,2 x DC	a_{e} 0,3–0,5 x DC	a_{e} 0,6–1,0 x DC	a_{e} 0,1–0,2 x DC	a_{e} 0,3–0,5 x DC	a_{e} 0,6–1,0 x DC	a_{e} 0,1–0,2 x DC	a_{e} 0,3–0,5 x DC	a_{e} 0,6–1,0 x DC	a_{e} 0,1–0,2 x DC	a_{e} 0,3–0,5 x DC	a_{e} 0,6–1,0 x DC	a_{e} 0,1–0,2 x DC	a_{e} 0,3–0,5 x DC	a_{e} 0,6–1,0 x DC		
	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	0,081	0,069	0,058	0,115	0,092	●	
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</td												

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

| $\alpha = 60^\circ$
Factory standard |
|--|--|--|--|
| HA | HB | HA | HB |
| NEW
Article no.
53 666 ... | NEW
Article no.
53 667 ... | NEW
Article no.
53 662 ... | NEW
Article no.
53 663 ... |
| 04000 | 06000 | 04000 | 06000 |
| 08000 | 08000 | 08000 | 08000 |
| 10000 | 10000 | 10000 | 10000 |
| 12000 | 12000 | 12000 | 12000 |
| 16000 | 16000 | 16000 | 16000 |

Steel

Stainless steel

Cast iron

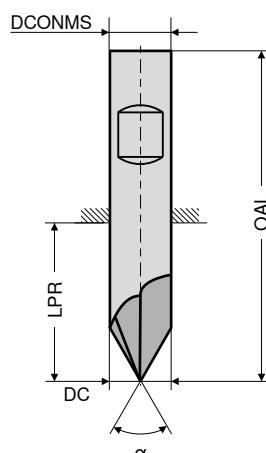
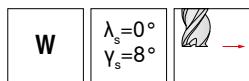
Non ferrous metals

Heat resistant alloys

Hardened materials

→ v_c/f_z Page 126

AluLine – NC deburring cutter



DRAGOSKIN

DRAGOSKIN



$\alpha = 90^\circ$	$\alpha = 90^\circ$	$\alpha = 90^\circ$	$\alpha = 90^\circ$
Factory standard	Factory standard	Factory standard	Factory standard
HA	HB	HA	HB

NEW Article no. 53 664 ...	NEW Article no. 53 665 ...	NEW Article no. 53 660 ...	NEW Article no. 53 661 ...
04000	06000	04000	06000
08000	08000	08000	08000
10000	10000	10000	10000
12000	12000	12000	12000
16000	16000	16000	16000

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

Steel

Stainless steel

Cast iron

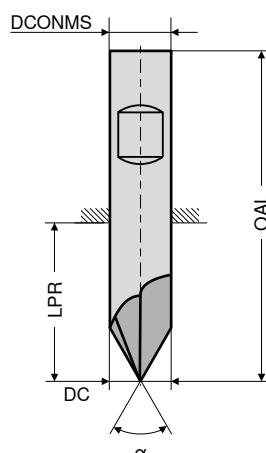
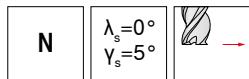
Non ferrous metals

Heat resistant alloys

Hardened materials

→ v_c/f_z Page 126

SilverLine – NC deburring cutter



DRAGOSKIN



DRAGOSKIN



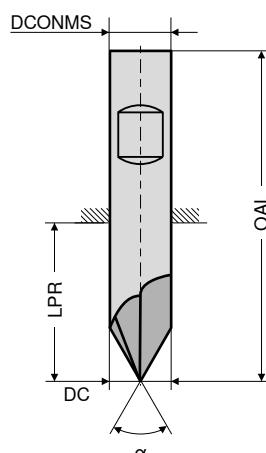
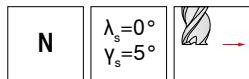
DC _{h6}	OAL	LPR	DCONMS _{h6}	ZEFP
mm	mm	mm	mm	
4	50	22	4	5
6	55	19	6	5
8	58	22	8	5
10	60	20	10	5
12	70	25	12	5
16	80	32	16	5

α = 60°	α = 60°	α = 60°	α = 60°
Factory standard	Factory standard	Factory standard	Factory standard
HA	HB	HA	HB
NEW Article no. 50 566 ...	NEW Article no. 50 567 ...	NEW Article no. 50 562 ...	NEW Article no. 50 563 ...
04000	06000	04000	06000
08000	08000	08000	08000
10000	10000	10000	10000
12000	12000	12000	12000
16000	16000	16000	16000

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

→ v_c/f_z Page 127

SilverLine – NC deburring cutter



DRAGOSKIN



DRAGOSKIN

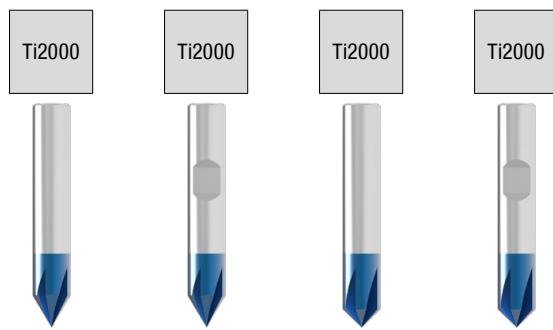
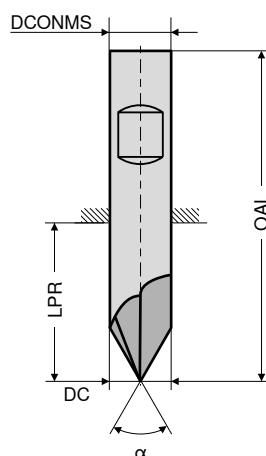
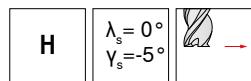
DC _{h6}	OAL	LPR	DCONMS _{h6}	ZEFP
mm	mm	mm	mm	
4	50	22	4	5
6	55	19	6	5
8	58	22	8	5
10	60	20	10	5
12	70	25	12	5
16	80	32	16	5

α = 90°	α = 90°	α = 90°	α = 90°
Factory standard	Factory standard	Factory standard	Factory standard
HA	HB	HA	HB
NEW Article no. 50 564 ...	NEW Article no. 50 565 ...	NEW Article no. 50 560 ...	NEW Article no. 50 561 ...
04000	06000	04000	06000
08000	08000	08000	08000
10000	10000	10000	10000
12000	12000	12000	12000
16000	16000	16000	16000

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

→ v_c/f_z Page 127

BlueLine – NC deburring cutter



$\alpha = 60^\circ$	$\alpha = 60^\circ$	$\alpha = 90^\circ$	$\alpha = 90^\circ$
Factory standard	Factory standard	Factory standard	Factory standard
HA []	HB []	HA []	HB []

NEW Article no. 52 562 ...	NEW Article no. 52 563 ...	NEW Article no. 52 560 ...	NEW Article no. 52 561 ...
04000	06000	04000	06000
08000	08000	08000	08000
10000	10000	10000	10000
12000	12000	12000	12000
16000	16000	16000	16000

DC _{h5}	OAL	LPR	DCONMS _{h5}	ZEFP
mm	mm	mm	mm	
4	50	22	4	5
6	57	21	6	6
8	63	27	8	6
10	72	32	10	6
12	83	38	12	6
16	92	44	16	8

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

→ v_c/f_z Page 128

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 51	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-Al11 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
S	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 Tr 22 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
	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)
H	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)
	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						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																	



* = only suitable for DLC-coated cutters

Cutting data standard values – SilverLine – NC deburring cutter

		DPB72S					
		Ø 4	Ø 6	Ø 8	Ø 10	Ø 12	Ø 16
Index	v _c m/min	f _z mm					
1.1	145	0,03	0,035	0,045	0,06	0,08	0,09
1.2	140	0,03	0,035	0,045	0,06	0,08	0,09
1.3	140	0,03	0,035	0,045	0,06	0,08	0,09
1.4	100	0,025	0,03	0,04	0,055	0,075	0,085
1.5	130	0,03	0,035	0,045	0,06	0,08	0,09
1.6	120	0,025	0,03	0,04	0,055	0,075	0,085
1.7	100	0,03	0,035	0,045	0,06	0,08	0,09
1.8	90	0,02	0,02	0,025	0,03	0,04	0,05
1.9	150	0,03	0,035	0,045	0,06	0,08	0,09
1.10	100	0,025	0,03	0,04	0,055	0,075	0,085
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	110	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
2.3	105	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
2.5	110	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
2.7	90	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
3.2	110	0,03	0,035	0,045	0,06	0,08	0,09
3.3	140	0,03	0,035	0,045	0,06	0,08	0,09
3.4	130	0,03	0,035	0,045	0,06	0,08	0,09
3.5	140	0,03	0,035	0,045	0,06	0,08	0,09
3.6	140	0,03	0,035	0,045	0,06	0,08	0,09
3.7	140	0,03	0,035	0,045	0,06	0,08	0,09
3.8	130	0,03	0,035	0,045	0,06	0,08	0,09
4.1							
4.2							
4.3							
4.4							
4.5							
4.6							
4.7							
4.8							
4.9							
4.10							
4.11							
4.12							
4.13							
4.14							
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
5.2	90	0,02	0,02	0,025	0,03	0,04	0,05
5.3	90	0,02	0,02	0,025	0,03	0,04	0,05
5.4	55	0,02	0,02	0,025	0,03	0,04	0,05
5.5	55	0,012	0,012	0,018	0,018	0,035	0,045
5.6	55	0,012	0,012	0,018	0,018	0,035	0,045
5.7	55	0,012	0,012	0,018	0,018	0,035	0,045
5.8	50	0,01	0,01	0,015	0,02	0,03	0,04
5.9	70	0,02	0,02	0,025	0,03	0,04	0,05
5.10	75	0,02	0,02	0,025	0,03	0,04	0,05
5.11	60	0,015	0,015	0,02	0,025	0,035	0,045
6.1							
6.2							
6.3							
6.4							
6.5							

v _c m/min	uncoated						Emulsion	Compressed air	MMS
	Ø 4	Ø 6	Ø 8	Ø 10	Ø 12	Ø 16			
90	0,02	0,025	0,035	0,05	0,07	0,08	●	○	○
80	0,02	0,025	0,035	0,05	0,07	0,08	●	○	○
80	0,02	0,025	0,035	0,05	0,07	0,08	●	○	○
65	0,015	0,02	0,03	0,045	0,065	0,075	●	○	○
80	0,02	0,025	0,035	0,05	0,07	0,08	●	○	○
75	0,015	0,02	0,03	0,045	0,065	0,075	●	○	○
65	0,02	0,025	0,035	0,05	0,07	0,08	●	○	○
60	0,01	0,015	0,025	0,04	0,06	0,07	●	○	○
90	0,02	0,025	0,035	0,05	0,07	0,08	●	○	○
65	0,015	0,02	0,03	0,045	0,065	0,075	●	○	○
60	0,01	0,015	0,025	0,04	0,06	0,07	●	○	○
60	0,01	0,015	0,025	0,04	0,06	0,07	●	○	○
50	0,01	0,015	0,025	0,04	0,06	0,07	●	○	○
50	0,01	0,015	0,025	0,04	0,06	0,07	●	○	○
50	0,01	0,015	0,025	0,04	0,06	0,07	●	○	○
75	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	●		
70	0,025	0,03	0,03	0,04	0,05	0,055	●		
60	0,02	0,025	0,025	0,03	0,04	0,045	●		
75	0,025	0,03	0,03	0,04	0,05	0,055	●		
60	0,02	0,025	0,025	0,03	0,04	0,045	●		
95	0,02	0,025	0,035	0,05	0,07	0,08	●	●	●
75	0,02	0,025	0,035	0,05	0,07	0,08	●	●	●
95	0,02	0,025	0,035	0,05	0,07	0,08	●	●	●
90	0,02	0,025	0,035	0,05	0,07	0,08	●	●	●
95	0,02	0,025	0,035	0,05	0,07	0,08	●	●	●
95	0,02	0,025	0,035	0,05	0,07	0,08	●	●	●
90	0,02	0,025	0,035	0,05	0,07	0,08	●	●	●
55	0,01	0,015	0,025	0,03	0,035	0,04	●		
55	0,01	0,015	0,025	0,03	0,035	0,04	●		
55	0,01	0,015	0,025	0,03	0,035	0,04	●		
35	0,01	0,015	0,025	0,03	0,035	0,04	●		
35	0,01	0,015	0,025	0,03	0,035	0,04	●		
35	0,01	0,015	0,025	0,03	0,035	0,04	●		
35	0,01	0,015	0,025	0,03	0,035	0,04	●		
28	0,01	0,015	0,025	0,03	0,035	0,04	●		
48	0,01	0,015	0,025	0,03	0,035	0,04	●		
53	0,01	0,015	0,025	0,03	0,035	0,04	●		
38	0,01	0,015	0,025	0,03	0,035	0,04	●		

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			
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										
2.5										
2.6										
2.7										
3.1										
3.2										
3.3										
3.4										
3.5										
3.6										
3.7										
3.8										
4.1										
4.2										
4.3										
4.4										
4.5										
4.6										
4.7										
4.8										
4.9										
4.10										
4.11										
4.12										
4.13										
4.14										
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	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	●		

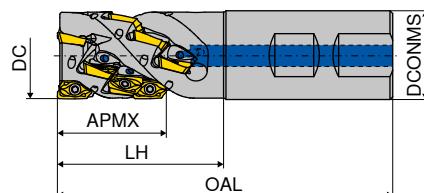


**STRONG SUPPORT,
THAT COMES FROM
PRACTICAL
EXPERIENCE**

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



B

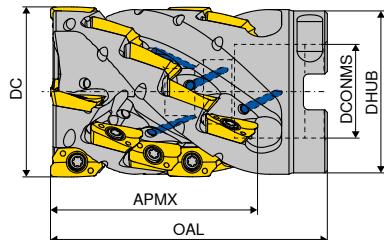
NEW

Article no.
50 784 ...

ISO designation	DC	ZNF	APMX	OAL	LH	DCONMS	ZEFP	ZNP	torque moment Nm	Insert	
	mm		mm	mm	mm						
C211.25.R.02KN3-11-B-40	25	2	28	97	40	25	6	3	1,6	XD.T 11T3	02523
C211.25.R.02KN4-11-B-50	25	2	37	107	50	25	8	4	1,6	XD.T 11T3	02524
C211.25.R.02KN5-11-B-60	25	2	46	117	60	25	10	5	1,6	XD.T 11T3	02525
C211.32.R.02KN4-11-B-50	32	2	37	111	50	32	8	4	1,6	XD.T 11T3	03224
C211.32.R.03KN5-11-B-60	32	3	46	121	60	32	15	5	1,6	XD.T 11T3	03235
C211.40.R.03KN4-11-B32-50	40	3	37	111	50	32	12	4	1,6	XD.T 11T3	04034
C211.40.R.04KN5-11-B32-60	40	4	46	121	60	32	20	5	1,6	XD.T 11T3	04045

MaxiMill – Shell end mill A 211-11KN

- ▲ ZEFP = Number of inserts
- ▲ ZNP = Number of teeth

**NEW**

Article no.
50 794 ...

ISO designation	DC	ZNF	APMX	ZEFP	ZNP	OAL	DCONMS _{H6}	DHUB	torque moment Nm	Insert	
	mm		mm			mm	mm	mm			
A211.40.R.03KN4-11	40	3	37	12	4	65	22	38	1,6	XD.T 11T3	04034
A211.40.R.04KN4-11	40	4	37	16	4	65	22	38	1,6	XD.T 11T3	04044
A211.40.R.04KN5-11	40	4	46	20	5	74	22	38	1,6	XD.T 11T3	04045
A211.50.R.04KN5-11	50	4	46	20	5	75	27	48	1,6	XD.T 11T3	05045
A211.50.R.05KN5-11	50	5	46	25	5	75	27	48	1,6	XD.T 11T3	05055
A211.50.R.05KN6-11	50	5	55	30	6	85	27	48	1,6	XD.T 11T3	05056

Spare parts	Article no. 70 950 ...	Article no. 80 950 ...	Article no. 80 950 ...	Article no. 70 950 ...	Article no. 80 950 ...				
	Designation								
A211.40.KN4			043		125		303		20400
A211.40.KN5		043		125		303		20400	21000
A211.50.KN5	002	043	125		303		20400	20600	191
C211.25		043	125		303		20700		191
C211.32		043	125		303		20700		191
C211.40		043	125		303		20400		191

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

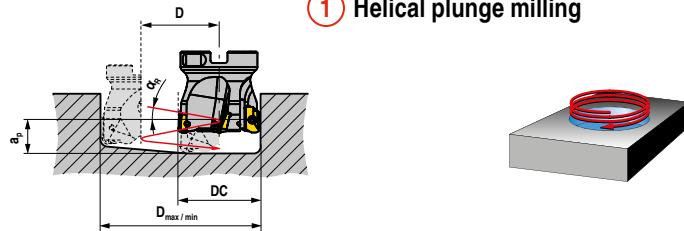
System MaxiMill 211-11

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	$\leq APMX$						
Stainless steel	80-200	0,05-0,20	$\leq APMX$						
Cast iron	110-300	0,05-0,20	$\leq APMX$						
Non ferrous metals	300-2000	0,10-0,25	$\leq APMX$						
Heat resistant	40-80	0,05-0,15	$\leq APMX$						
hardened materials	30-50	0,05-0,10	$\leq APMX$						

Machining strategy

① Helical plunge milling



② Axial plunging



③ Angled ramping



DC mm	maximum rpm based on overhang length. n_{max} in min^{-1}				
	$l_a = 1-2 \times \emptyset$ 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	Helical plunge milling		Axial plunging	Angled ramping
	$RE = 0,8$ mm	X_{max}	α_R	
12	α_R D _{max} D _{min}	16 ° 21 mm 14 mm	1,3 mm	18 °
16	α_R D _{max} D _{min}	9,5 ° 29 mm 21 mm	1,5 mm	10,8 °
20	α_R D _{max} D _{min}	7 ° 37 mm 30 mm	2,0 mm	9,8 °
25	α_R D _{max} D _{min}	4,5 ° 47 mm 40 mm	2,0 mm	7,5 °
32	α_R D _{max} D _{min}	3,2 ° 61 mm 53 mm	1,0 mm	4,8 °
40	α_R D _{max} D _{min}	2,2 ° 77 mm 72 mm	1,6 mm	2,9 °
50	α_R D _{max} D _{min}	1,7 ° 98 mm 93 mm	1,6 mm	2,2 °
63	α_R D _{max} D _{min}	1,5 ° 123 mm 116 mm	1,6 mm	1,8 °
80	α_R D _{max} D _{min}	1,0 ° 157 mm 153 mm	1,6 mm	1,4 °
100	α_R D _{max} D _{min}	0,8 ° 107 mm 101 mm	1,6 mm	1,1 °

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

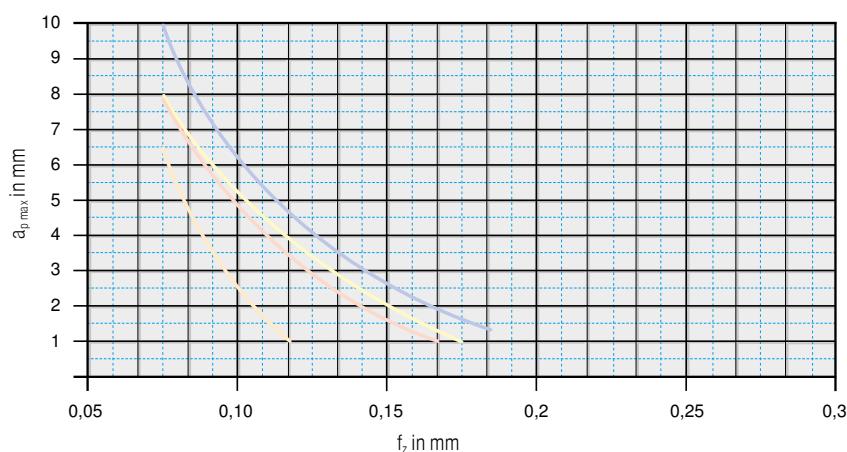
l_a in mm = Overhang length

System MaxiMill 211-11

Starting Parameter



XD KT 11

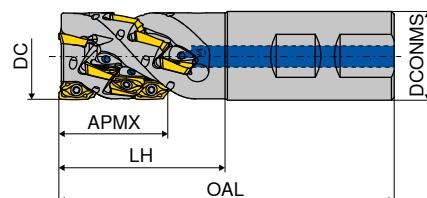


Index	Material		Inserts		v_c in m/min	Cooling	
1.15	Steel	1.2312	40CrMnMoS 8-6	XD KT 11 T308 SR-M50	CTPP235	200	Dry
2.6	Stainless steel	1.4571	X6CrNiMoTi 1712 2	XD KT 11 T308 SR-F50	CTPM240	180	Dry
3.1	Cast iron	5.1301	EN-GJL-250 (GG25)	XD KT 11 T308 SR-R50	CTCK215	250	Dry
5.8	Heat resistant	2.4856	Inconel 718	XD KT 11 T308 ER-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



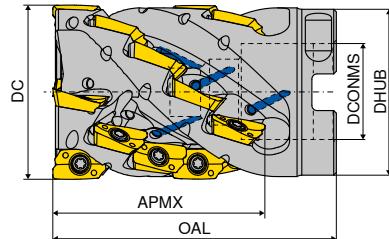
B

NEWArticle no.
50 783 ...

ISO designation	DC mm	ZNF	APMX mm	OAL mm	LH mm	DCONMS mm	ZEFP	ZNP	torque moment Nm	Insert	
C211.40.R.03KN3-15-B32-60	40	3	39,6	121	60	32	9	3	3,2	XD.T 1505	04033
C211.50.R.03KN4-15-B40-68	50	3	52,6	138	67	40	12	4	3,2	XD.T 1505	05034

MaxiMill – Shell end mill A 211-15KN

- ▲ ZEFP = Number of Inserts
- ▲ ZNP = Number of rows

**NEW**Article no.
50 781 ...

ISO designation	DC mm	ZNF	APMX mm	ZEFP	ZNP	OAL mm	DCONMS _{H6} mm	DHUB mm	torque moment Nm	Insert	
A211.50.R.03KN4-15	50	3	52,6	12	4	87	27	48	3,2	XD.T 1505	05034
A211.50.R.03KN5-15	50	3	65,8	15	5	100	27	48	3,2	XD.T 1505	05035
A211.50.R.04KN5-15	50	4	65,8	20	5	100	27	48	3,2	XD.T 1505	05045
A211.63.R.03KN4-15	63	3	52,6	12	4	76	27	58	3,2	XD.T 1505	06334
A211.63.R.03KN5-15	63	3	65,8	15	5	90	27	58	3,2	XD.T 1505	06335
A211.63.R.04KN6-15	63	4	78,5	24	6	102	27	58	3,2	XD.T 1505	06346
A211.63.R.05KN5-15	63	5	65,8	25	5	90	27	58	3,2	XD.T 1505	06355
A211.80.R.04KN5-15	80	4	65,8	20	5	90	32	78	3,2	XD.T 1505	08045
A211.80.R.05KN6-15	80	5	78,5	30	6	102	32	78	3,2	XD.T 1505	08056

	Cylindrical screw		TORX® blade		Key D		Molykote		Clamping screw		Socket head screw		Torque screwdriver
Spare parts	Article no. 70 950 ...	Article no. 80 950 ...	Article no. 80 950 ...	Article no. 80 950 ...	Article no. 70 950 ...	Article no. 80 950 ...							
Designation													
A211.50	002	054	128	303	20800	20600	193						
A211.63	002	054	128	303	20500	20600	193						
A211.80	004	054	128	303	20500	234	193						
C211.40	054	128	303	20800	20800	193							
C211.50	054	128	303	20800	20800	193							

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

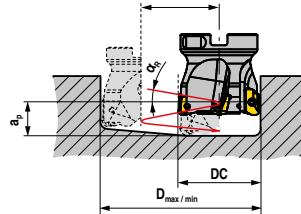
System MaxiMill 211-15

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	$\leq APMX$						
Stainless steel	150-200	0,08-0,35	$\leq APMX$						
Cast iron	130-300	0,08-0,35	$\leq APMX$						
Non ferrous metals	400-2500	0,12-0,40	$\leq APMX$						
Heat resistant	25-80	0,08-0,20	$\leq APMX$						
hardened materials									

Machining strategy

① Helical plunge milling



② Axial plunging



③ Angled ramping



maximum rpm based on overhang length.
 n_{max} in min^{-1}

DC mm	$I_a = 2 \times \emptyset$ mm	$I_a = 3 \times \emptyset$ mm	$I_a = 5 \times \emptyset$ 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		

①

②

③

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

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

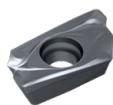
D_{min} in mm = smallest diameter for flat bottom hole

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

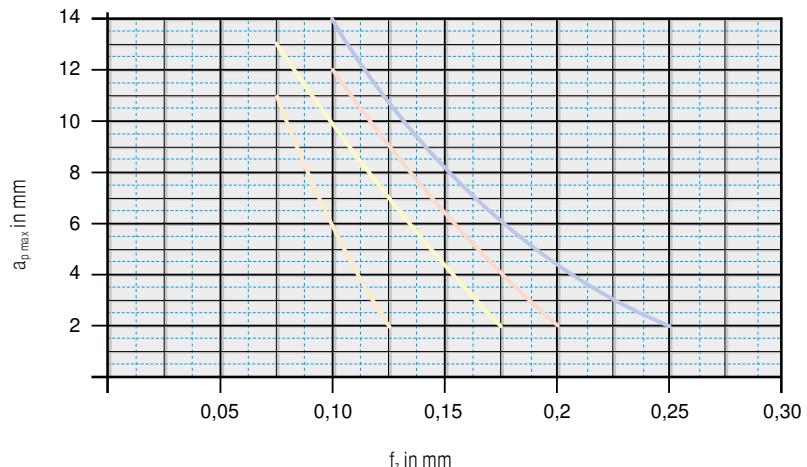
I_a in mm = Overhang length

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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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

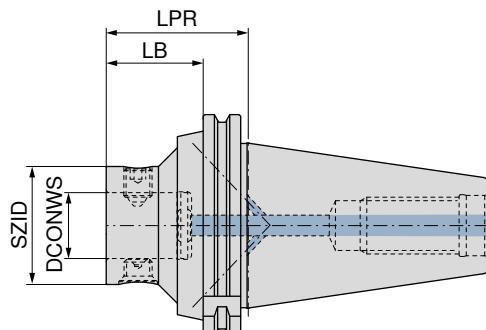
Overview of ABS adapters

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



AD
G 6,3 n_{max} 8000



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

Adapter	KOMET no.	SZID	DCONWS	LPR	LB		NEW Article no. 84 211 ...	NEW Article no. 84 201 ...
			mm	mm	mm			
SK 40	A50 00120	ABS 25	13	50			04090	
SK 40	A50 55120	ABS 25	13	50	31,0			04090
SK 40	A50 00130	ABS 32	16	50			04089	
SK 40	A50 55130	ABS 32	16	50	31,0			04089
SK 40	A50 00140	ABS 40	20	50	30,0		04088	
SK 40	A50 55140	ABS 40	20	50	31,0			04088
SK 40	A50 00150	ABS 50	28	50	31,0		04097	
SK 40	A50 55150	ABS 50	28	50	30,0			04097
SK 40	A50 00160	ABS 63	34	90	70,0		04096	
SK 40	A50 55160	ABS 63	34	90	71,0			04096
SK 50	A50 00320	ABS 25	13	60			05090	
SK 50	A50 55320	ABS 25	13	60	41,0			05090
SK 50	A50 00330	ABS 32	16	60			05089	
SK 50	A50 55330	ABS 32	16	60	41,0			05089
SK 50	A50 00340	ABS 40	20	60			05088	
SK 50	A50 55340	ABS 40	20	60	41,0			05088
SK 50	A50 00350	ABS 50	28	60	40,0		05097	
SK 50	A50 55350	ABS 50	28	60	40,9			05097
SK 50	A50 00360	ABS 63	34	60	41,0		05096	
SK 50	A50 55360	ABS 63	34	60	41,0			05096
SK 50	A50 00370	ABS 80	46	70	50,0		05092	
SK 50	A50 55370	ABS 80	46	70	51,0			05092
SK 50	A50 00380	ABS 100	56	115			05091	
SK 50	A50 55380	ABS 100	56	115	96,0			05091
SK 50	A50 00390	ABS 125	70	145			05085	



SK conversion kit
(AD/B)



Clamping screw



Set



Taper screw

Spare parts SZID

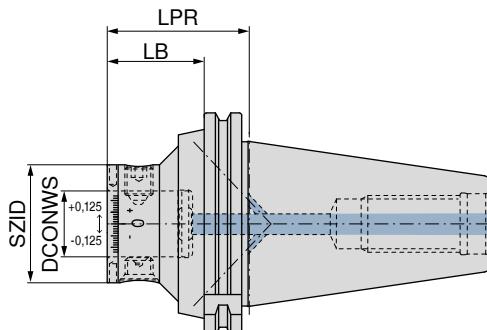
Adapter			Article no. 84 950 ...			
ABS 100	SK 50		0 6 mm	23400	25700	99200
ABS 100	SK 50				25700	99200
ABS 125	SK 50				25800	99100
ABS 25	SK 50				26800	99700
ABS 25	SK 40	Ø 4 mm	23200	26800	99700	27000
ABS 25	SK 50	Ø 6 mm	23400	26800	99700	27000
ABS 25	SK 40				26800	99700
ABS 32	SK 40					99600
ABS 32	SK 50					99600
ABS 32	SK 50	Ø 6 mm	23400		99600	27100
ABS 32	SK 40	Ø 4 mm	23200		99600	27100
ABS 40	SK 40				26900	99500
ABS 40	SK 50	Ø 6 mm	23400	26900	99500	27200
ABS 40	SK 50				26900	99500
ABS 40	SK 40	Ø 4 mm	23200	26900	99500	27200
ABS 50	SK 40				20300	99800
ABS 50	SK 50				20300	99800
ABS 63	SK 40				25500	99400
ABS 63	SK 50	Ø 6 mm	23400	25500	99400	27300
ABS 63	SK 50				25500	99400
ABS 63	SK 40	Ø 4 mm	23200	25500	99400	27300
ABS 80	SK 50				25600	99300
ABS 80	SK 50	Ø 6 mm	23400	25700	99300	25100

Eccentric adjuster with ABS Connection

▲ Adjustment ± 0.25 mm on diameter

Scope of supply:

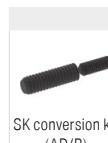
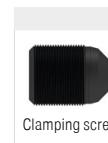
Steep taper adapter (Form B) with conversion kit (Form AD) and sealing disc



AD/B

NEWArticle no.
84 204 ...

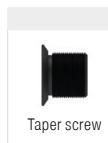
Adapter	KOMET no.	SZID	DCONWS	LPR	LB	
			mm	mm	mm	
SK 40	A50 56150	ABS 50	28	50	30,0	04097
SK 40	A50 56160	ABS 63	34	90	71,0	04096
SK 50	A50 56350	ABS 50	28	60	40,9	05097
SK 50	A50 56360	ABS 63	34	60	41,0	05096

SK conversion kit
(AD/B)

Clamping screw



Set



Taper screw

Spare parts

for Article no.

Article no.	Article no.	Article no.	Article no.
84 204 04097	84 950 ...	20300	99800
84 204 04096	23200	25500	99400
84 204 05097		20300	99800
84 204 05096	23400	25500	99400
			20400
			27300
			20400
			27300

Accessories



Pull stud

→ Main catalogue, Chapter 16



ABS extension



ABS reduction



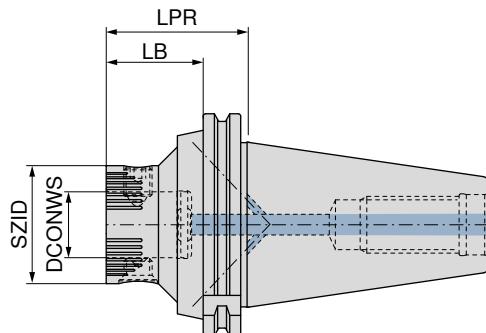
Others

→ 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



NEW

Article no.
84 207 ...

Adapter	KOMET no.	SZID	DCONWS	LPR	LB	
			mm	mm	mm	
SK 40	A50 01351	ABS 50	28	50	30,0	04097
SK 40	A50 01361	ABS 63	34	90	71,0	04096
SK 50	A50 01451	ABS 50	28	60	40,9	05097
SK 50	A50 01461	ABS 63	34	60	41,0	05096
SK 50	A50 01470	ABS 80	46	70	51,0	05092



Clamping screw



Set



Taper screw

Article no.
84 950 ...

Article no.
84 950 ...

Article no.
84 950 ...

Spare parts

SZID

ABS 50	20300	99800	20400
ABS 63	25500	99400	27300
ABS 80	25600	99300	25100

Accessories



Pull stud

→ Main catalogue, Chapter 16



ABS extension

→ 159



ABS reduction

→ 163

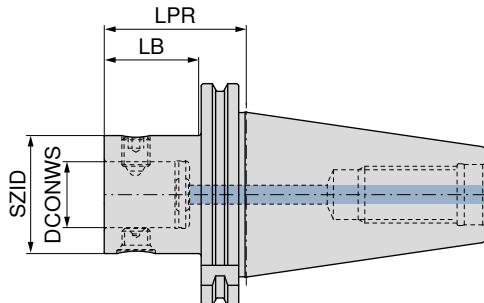


Others

→ Chapter 17 in main catalogue

Adapter with ABS Connection

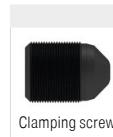
▲ with face contact



AD
G 6,3 n_{max} 8000

NEW
Article no.
84 213 ...

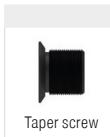
Adapter	KOMET no.	SZID	DCONWS	LPR	LB	
			mm	mm	mm	
SK-FC 40	A50 57151	ABS 50	28	50	31	04097
SK-FC 40	A50 57161	ABS 63	34	90		04096
SK-FC 50	A50 57351	ABS 50	28	60	41	05097
SK-FC 50	A50 57361	ABS 63	34	60	41	05096
SK-FC 50	A50 57371	ABS 80	46	70	51	05092
SK-FC 50	A50 57381	ABS 100	56	115		05091



Clamping screw



Set



Taper screw

Spare parts SZID

ABS 100	25700	99200	25200
ABS 50	20300	99800	20400
ABS 63	25500	99400	27300
ABS 80	25600	99300	25100

Accessories



Pull stud

→ Main catalogue, Chapter 16



ABS extension

→ 159



ABS reduction

→ 163

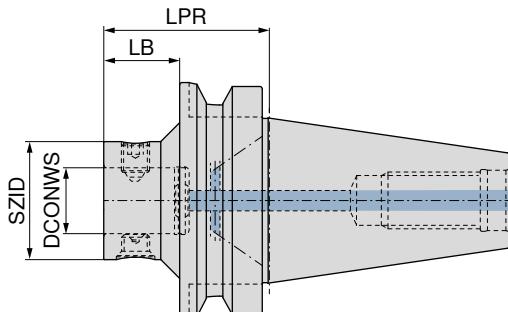


Others

→ Chapter 17 in main catalogue

Adapter with ABS Connection

ABS



AD



AD/B

Adapter	KOMET no.	SZID	DCONWS	LPR	LB	NEW	NEW		
						mm	mm	Article no.	Article no.
BT 40	A55 00120	ABS 25	13	60				04090	
BT 40	A55 00130	ABS 32	16	60	33			04089	
BT 40	A55 00140	ABS 40	20	60	33			04088	
BT 40	A55 00150	ABS 50	28	60	33			04097	
BT 40	A55 55150	ABS 50	28	60	33				04097
BT 40	A55 00160	ABS 63	34	70				04096	
BT 40	A55 55160	ABS 63	34	70					04096
BT 50	A55 00330	ABS 32	16	70				05089	
BT 50	A55 00340	ABS 40	20	70				05088	
BT 50	A55 00350	ABS 50	28	70	32			05097	
BT 50	A55 55350	ABS 50	28	70				05097	
BT 50	A55 55360	ABS 63	34	90				05096	
BT 50	A55 00360	ABS 63	34	80				05096	
BT 50	A55 55370	ABS 80	46	100	60			05092	
BT 50	A55 00370	ABS 80	46	100	62			05092	
BT 50	A55 55380	ABS 100	56	110				05091	
BT 50	A55 00380	ABS 100	56	110				05091	



Clamping screw



Set



Taper screw

Spare parts
SZID

ABS 100	25700	99200	25200
ABS 25	26800	99700	27000
ABS 32		99600	27100
ABS 40	26900	99500	27200
ABS 50	20300	99800	20400
ABS 63	25500	99400	27300
ABS 80	25600	99300	25100

Accessories



Pull stud

→ Main catalogue, Chapter 16



ABS extension



ABS reduction



Others

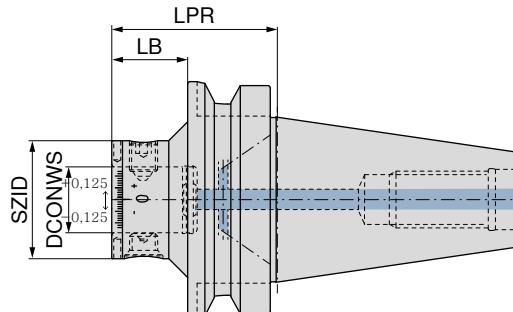
→ Chapter 17 in main catalogue

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



AD



AD/B

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



Spare parts SZID

ABS 50		20300	99800	20400
ABS 63		25500	99400	27300

Accessories



Pull stud

→ Main catalogue, Chapter 16



ABS extension



ABS reduction



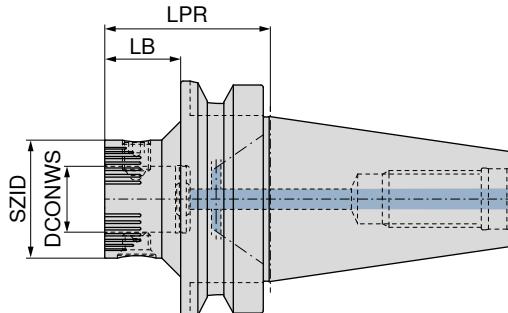
Others

→ 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



NEW

Article no.
84 208 ...

Adapter	KOMET no.	SZID	DCONWS	LPR	LB	
			mm	mm	mm	
BT 40	A55 02160	ABS 63	34	70		04096
BT 40	A55 02150	ABS 50	28	60	33	04097
BT 50	A55 02350	ABS 50	28	70	32	05097
BT 50	A55 02360	ABS 63	34	80		05096



Clamping screw



Set



Taper screw

Spare parts SZID

ABS 50	20300	99800	20400
ABS 63	25500	99400	27300

Accessories



Pull stud
→ Main catalogue, Chapter 16



ABS extension
→ 159



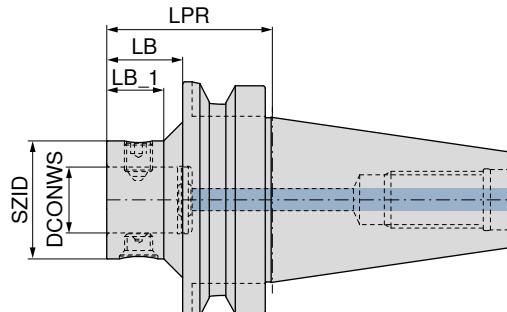
ABS reduction
→ 163



Others
→ Chapter 17 in main catalogue

Adapter with ABS Connection – BT-FC

▲ with face contact



NEW

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		04090
BT-FC 40	A55 57131	ABS 32	16	60	31		04089
BT-FC 40	A55 57141	ABS 40	20	60	33		04088
BT-FC 40	A55 57151	ABS 50	28	60	33		04097
BT-FC 40	A55 57161	ABS 63	34	70			04096
BT-FC 50	A55 57331	ABS 32	16	70		24	05089
BT-FC 50	A55 57341	ABS 40	20	70		24	05088
BT-FC 50	A55 57351	ABS 50	28	70		24	05097
BT-FC 50	A55 57361	ABS 63	34	80		37	05096
BT-FC 50	A55 57371	ABS 80	46	100	60		05092
BT-FC 50	A55 57381	ABS 100	56	110			05091



Clamping screw



Set



Taper screw

Spare parts SZID

Article no.
84 950 ...

Article no.
84 950 ...

Article no.
84 950 ...

ABS 100	25700	99200	25200
ABS 25	26800	99700	27000
ABS 32		99600	27100
ABS 40	26900	99500	27200
ABS 50	20300	99800	20400
ABS 63	25500	99400	27300
ABS 80	25600	99300	25100

Accessories



Pull stud

→ Main catalogue, Chapter 16



ABS extension



ABS reduction

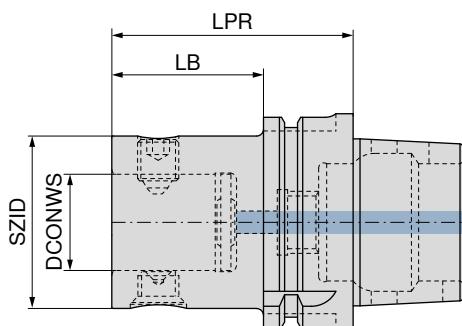


Others

→ 159 → 163

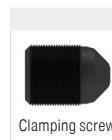
→ Chapter 17 in main catalogue

Adapter with ABS Connection

ABS
AD
G 6,3 n_{max} 10000

NEW
Article no.
84 200 ...

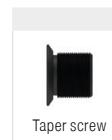
Adapter	KOMET no.	SZID	DCONWS	LPR	LB	
		mm	mm	mm	mm	
HSK-A 63	A06 30120	ABS 25	13	50	24	06390
HSK-A 63	A06 30130	ABS 32	16	50	24	06389
HSK-A 63	A06 30140	ABS 40	20	60	34	06388
HSK-A 63	A06 30150	ABS 50	28	70	44	06397
HSK-A 63	A06 30160	ABS 63	34	80	54	06396
HSK-A 63	A06 30170	ABS 80	46	100	74	06392
HSK-A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



Clamping screw



Set



Taper screw

Spare parts
SZID

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

ABS 100	25700	99200	25200
ABS 25	26800	99700	27000
ABS 32		99600	27100
ABS 40	26900	99500	27200
ABS 50	20300	99800	20400
ABS 63	25500	99400	27300
ABS 80	25600	99300	25100

Accessories

Pull stud

→ Main catalogue, Chapter 16



ABS extension



ABS reduction



Others

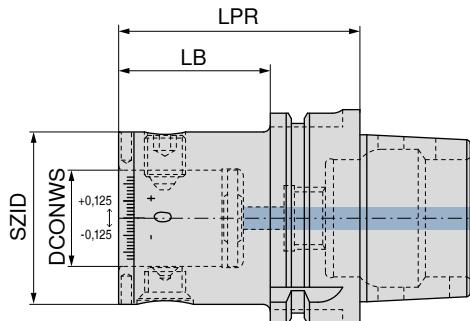
→ Chapter 17 in main catalogue

Eccentric adjuster with ABS Connection

▲ Adjustment ± 0.25 mm on diameter

Scope of supply:

Eccentric adjuster with adjuster key Ø 2.8 mm



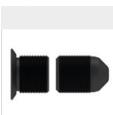
AD

NEW
Article no.
84 203 ...

Adapter	KOMET no.	SZID	DCONWS	LPR	LB	
			mm	mm	mm	
HSK-A 63	A06 36730	ABS 50	28	65,5	39,5	06397
HSK-A 100	A06 56730	ABS 50	28	75,5	46,5	10097
HSK-A 100	A06 56740	ABS 63	34	80,0	51,0	10096



Clamping screw



Set



Taper screw

Article no.
84 950 ...

Article no.
84 950 ...

Article no.
84 950 ...

Spare parts SZID

ABS 50	20300	99800	20400
ABS 63	25500	99400	27300

Accessories



Pull stud



ABS extension



ABS reduction



Others

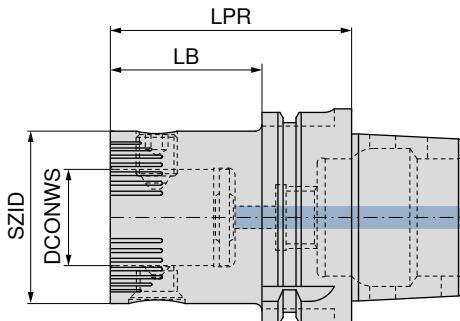
→ Main catalogue, Chapter 16

→ 159

→ 163

→ Chapter 17 in main catalogue

Torsional vibration dampers with ABS Connection

ABS

AD

NEW
Article no.
84 206 ...

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



Clamping screw



Set



Taper screw

Article no.
84 950 ...Article no.
84 950 ...Article no.
84 950 ...Spare parts
SZID

ABS 50		20300	99800	20400
ABS 63		25500	99400	27300
ABS 80		25600	99300	25100

Accessories



Pull stud



ABS extension



ABS reduction



Others

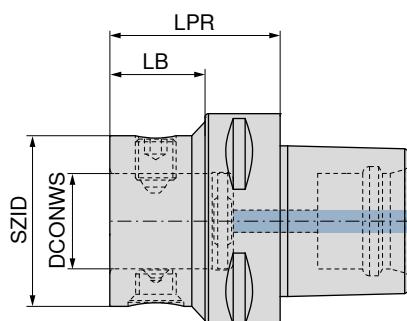
→ Main catalogue, Chapter 16

→ 159

→ 163

→ Chapter 17 in main catalogue

Adapter with ABS Connection

ABS

AD

NEWArticle no.
84 215 ...

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



Clamping screw



Set



Taper screw

Spare parts
SZIDArticle no.
84 950 ...Article no.
84 950 ...Article no.
84 950 ...

ABS 50	20300	99800	20400
ABS 63	25500	99400	27300
ABS 80	25600	99300	25100

Accessories



Pull stud



ABS extension



ABS reduction

Others
→ Chapter 17 in main catalogue

→ Main catalogue, Chapter 16

159

163

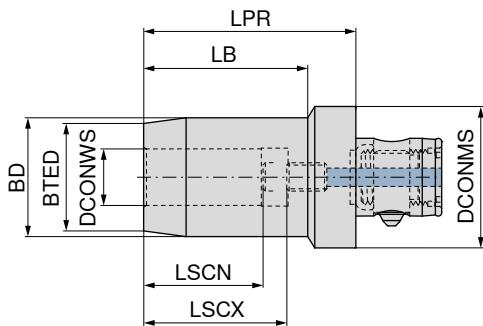
Hydraulic chuck

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

Scope of supply:

Base body including backstop screw

ABS



AD

NEW

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
8	A32 42120	26	30	65	45,0	50	41	31
8	A32 32060	24	28	60	42,0	40	37	27
10	A32 32070	26	30	65	47,5	40	41	31
10	A32 42130	28	32	65	45,5	50	46	36
12	A32 42140	30	34	65	46,0	50	46	36
12	A32 32080	28	32	65	48,0	40	46	36
14	A32 42150	34	38	70	52,0	50	49	39
16	A32 42160	36	40	70	52,5	50	49	39
18	A32 42170	38	42	75	58,0	50	51	41
20	A32 52180	38	42	78	56,0	63	51	41
20	A32 42101	22	26	55	33,5	50	37	27
25	A32 52190	53	57	85	60,0	63	57	47
32	A32 52200	60	90	61,0	63	61	51	



Backstop screw

Spare parts
DCONWS

Article no.
84 950 ...

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

Accessories



Pull stud

→ Main catalogue, Chapter 16



ABS extension



ABS reduction



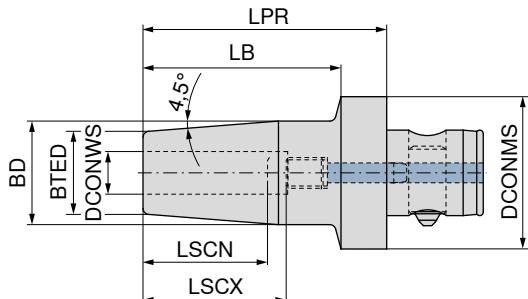
Others

→ 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

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	00689
ABS 32	A32 26050	8	70	27	21	56	36	26	32	00889
ABS 32	A32 26061	10	70	32	24	55	42	32	32	01089
ABS 32	A32 26071	12	80	32	24	47	37	32	32	01289
ABS 40	A32 36050	8	70	27	21	56	36	26	40	00888
ABS 40	A32 36061	10	70	32	24	56	42	32	40	01088
ABS 40	A32 36071	12	80	32	24	66	47	37	40	01288
ABS 40	A32 36091	16	90	34	27	76	50	40	40	01688
ABS 50	A32 46040	6	75	27	21	56	36	26	50	00697
ABS 50	A32 46050	8	75	27	21	56	36	26	50	00897
ABS 50	A32 46061	10	80	32	24	61	42	32	50	01097
ABS 50	A32 46071	12	80	32	24	61	47	37	50	01297
ABS 50	A32 46081	14	80	34	27	61	47	37	50	01497
ABS 50	A32 46091	16	85	34	27	66	50	40	50	01697
ABS 50	A32 46101	18	85	42	33	66	50	40	50	01897
ABS 50	A32 46111	20	90	42	33	71	52	42	50	02097
ABS 63	A32 56111	20	95	53	44	71	58	48	63	02096
ABS 63	A32 56121	25	90	42	33	76	52	42	63	02596
ABS 63	A32 56131	32	95	53	44	76	58	48	63	03296

Backstop screw

Spare parts
DCONWSArticle no.
84 950 ...

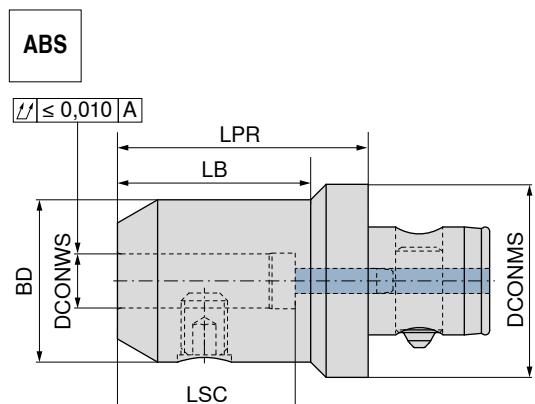
6	M5x18	21400
8	M6x20	21500
10	M8x1x20	21600
12	M10x1x20	21700
14	M10x1x20	21700
16	M12x1x20	21800
18	M12x1x20	21800
20	M8x1x20	21900
25	M8x1x20	21900
32	M8x1x20	21900

Accessories

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

Cylindrical shank adapter (Weldon)

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



AD

NEWArticle no.
84 221 ...

Adapter	KOMET no.	DCONWS	LPR	BD	LB	LSC	DCONMS	Article no. 84 221 ...
		mm	mm	mm	mm	mm	mm	
ABS 50	A32 40010	6	45	25	27	40	50	00697
ABS 50	A32 40020	8	45	28	27	40	50	00897
ABS 50	A32 40030	10	55	35	37	44	50	01097
ABS 50	A32 40040	12	65	42	50	49	50	01297
ABS 50	A32 40080	14	65	44	50	49	50	01497
ABS 50	A32 40050	16	65	48	50	52	50	01697
ABS 50	A32 40090	18	65	50		52	50	01897
ABS 50	A32 40060	20	65	52		54	50	02097
ABS 50	A32 40070	25	75	65		60	50	02597
ABS 63	A32 50040	12	65	42		49	63	01296
ABS 63	A32 50100	14	65	44	50	49	63	01496
ABS 63	A32 50050	16	65	48	50	52	63	01696
ABS 63	A32 50110	18	65	50	50	52	63	01896
ABS 63	A32 50060	20	65	52	45	54	63	02096
ABS 63	A32 50070	25	75	65		60	63	02596
ABS 63	A32 50080	32	80	72		64	63	03296
ABS 80	A32 60060	20	65	52	45	54	80	02092
ABS 80	A32 60070	25	75	65	55	60	80	02592
ABS 80	A32 60080	32	80	72	66	64	80	03292



Grub screw

Spare parts
DCONWS

Article no.
62 950 ...

6	M6x10	006
8	M8x10	008
10	M10x12	010
12	M12x16	012
14	M12x16	012
16	M14x16	016
18	M14x16	016
20	M16x16	020
25	M18x2x20	025
32	M20x2x20	032
	M20x10	032

Accessories



Pull stud



ABS extension



ABS reduction



Others

→ Main catalogue, Chapter 16

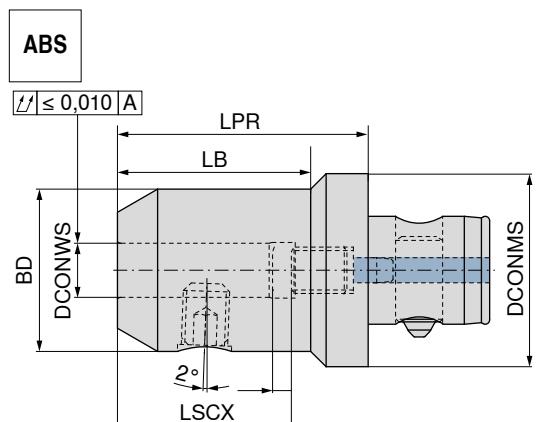
→ 159

→ 163

→ Chapter 17 in main catalogue

Cylindrical Shank Adapter (Whistle Notch)

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

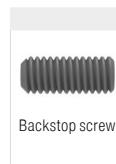


AD

NEW

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	00690
ABS 25	A30 10801	8	55		28	36	25	00890
ABS 25	A30 11001	10	60		35	40	25	01090
ABS 32	A30 20601	6	55	40	25	36	32	00689
ABS 32	A30 20801	8	55	40	28	36	32	00889
ABS 32	A30 20901	9	55	40	28	36	32	00989
ABS 32	A30 21001	10	60		35	40	32	01089
ABS 32	A30 21201	12	65		42	45	32	01289
ABS 32	A30 21401	14	65		42	45	32	01489
ABS 40	A30 30601	6	55	35	25	36	40	00688
ABS 40	A30 30801	8	55	35	28	36	40	00888
ABS 40	A30 31001	10	60	45	35	40	40	01088
ABS 40	A30 31201	12	65		42	45	40	01288
ABS 40	A30 31401	14	65		42	45	40	01488
ABS 40	A30 31601	16	70		48	48	40	01688
ABS 40	A30 31801	18	70		48	48	40	01888
ABS 50	A30 40601	6	55	30	25	36	50	00697
ABS 50	A30 40801	8	55	30	28	36	50	00897
ABS 50	A30 41001	10	60	40	35	40	50	01097
ABS 50	A30 41201	12	65	50	42	45	50	01297
ABS 50	A30 41301	13	65	50	42	45	50	01397
ABS 50	A30 41401	14	65	50	42	45	50	01497
ABS 50	A30 41601	16	70	55	48	48	50	01697
ABS 50	A30 41801	18	70	55	48	48	50	01897
ABS 50	A30 42002	20	75		52	50	50	02097
ABS 50	A30 42202	22	75		52	50	50	02297
ABS 50	A30 42502	25	75		52	50	50	02597
ABS 63	A30 51001	10	60	35	35	40	63	01096
ABS 63	A30 51201	12	65	45	42	45	63	01296
ABS 63	A30 51401	14	65	45	42	45	63	01496
ABS 63	A30 51601	16	70	50	48	48	63	01696
ABS 63	A30 51801	18	70	50	48	48	63	01896
ABS 63	A30 52001	20	75	55	52	50	63	02096
ABS 63	A30 52501	25	80		65	56	63	02596
ABS 63	A30 52801	28	80		65	56	63	02896
ABS 80	A30 62501	25	80	60	65	58	80	02592
ABS 80	A30 63201	32	90	70	72	60	80	03292



Backstop screw



Grub screw

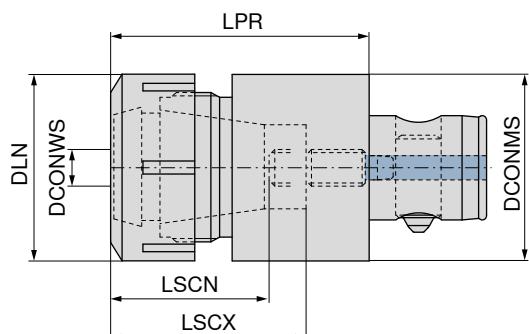
Spare parts
DCONWS

	Article no. 84 950 ...		Article no. 62 950 ...
6	M5x16	20500	M6x10
8	M6x16 - SW2,5	20600	M8x10
9	M8x1x16 - SW3	20800	M8x10
10	M8x1x16 - SW2,5	20700	M10x12
12	M10x1x18 - SW3	20900	M12x16
13	M12x1x17 - SW3	21000	M12x16
14	M12x1x17 - SW3	21000	M12x16
16	M14x1x19 - SW4	21100	M14x16
18	M14x1x19 - SW4	21100	M14x16
20	M16x1x21 - SW5	21200	M16x16
22	M16x1x21 - SW5	21200	M16x16
25	M16x1x21 - SW5	21200	M16x16
28	M16x1x21 - SW5	21200	M18x2x20
32	M20x1x27 - SW8	21300	M20x2x20

ER Collet chuck

Scope of supply:

Holder with lock nut and adjustable back stop



AD

NEW
Article no.
84 224 ...

Adapter	KOMET no.	DCONWS mm	LPR mm	DLN mm	DCONMS mm	LSCX mm	LSCN mm	
ABS 25	A33 11120	1-10	40,1	32	25	31	28	01690
ABS 32	A33 12130	1 - 13	52,5	34	32	39	35	02089
ABS 40	A33 13141	1 - 16	62,0	42	40	46	43	02588
ABS 50	A33 14151	2 - 20	69,3	50	50	51	48	03297
ABS 63	A33 15161	3 - 26	78,3	63	63	55	52	04096



Backstop screw



Lock nut



Lock nut

Spare parts

for Article no.

	Article no. 84 950 ...	Article no. 62 950 ...	Article no. 62 950 ...
84 224 01690	M5x8 - SW2	22500	M22x1,5
84 224 02089	M6x12 - SW2,5	22000	M25x1,5 - SW30
84 224 02588	M8x1x14 - SW4	22600	045
84 224 04096	M12x1x18 - SW8	22800	M32x1,5
84 224 03297	M10x1x14 - SW5	22700	M50x1,5
			M40x1,5

Accessories



Pull stud

→ Main catalogue, Chapter 16



ABS extension



ABS reduction

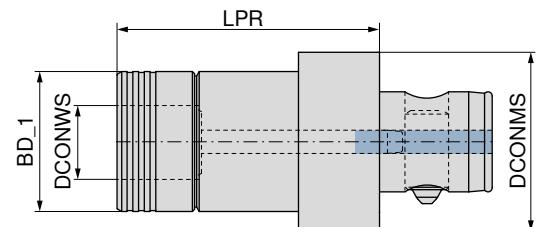


Others

→ Chapter 17 in main catalogue

Quick change tap chuck with length compensation

▲ With length compensation under tension and compression (LZD)



AD

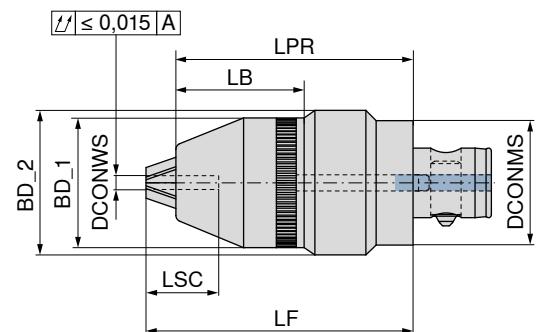
NEW
Article no.
84 225 ...

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

Short drill chuck

Scope of supply:

Holder with clamping key



AD

G 6.3 n_{max.} 6500

NEW
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	01397
ABS 50	A34 24040	3 - 16	95	52	57,5	29	50	104,7	52,0	01697

Accessories



Pull stud



ABS extension



ABS reduction



Others

→ Main catalogue, Chapter 16

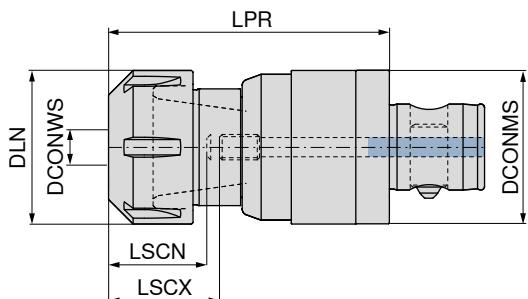
→ **159**

→ **163**

→ Chapter 17 in main catalogue

Synchro tapping chuck with minimum length compensation

ABS



AD

NEW

Article no.
84 226 ...

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	02089
ABS 50	50795135002000	20	84,5	34	42	29	50	02097
ABS 50	50795135003200	32	80,5	50	45	31	50	03297

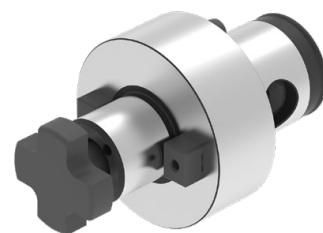
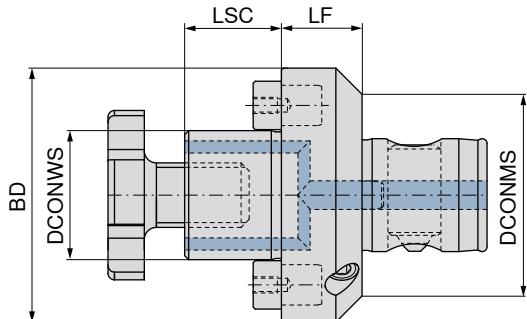
Accessories

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

Shell mill adapter

Scope of supply:

Base body including drive dogs and retaining screw



A

AD/B

Adapter	KOMET no.	DCONWS	LSC	LF	BD	DCONMS	NEW Article no. 84 228 ...	NEW Article no. 84 228 ...
		mm	mm	mm				
ABS 50	A40 24023	16	17	20	50			01697
ABS 50	A40 24034	22	19	20	50			02297
ABS 50	A40 24043	27	21	20	50			02797
ABS 50	A40 24053	32	24	20	50			03297
ABS 63	A40 25032	22	19	22	63			02296
ABS 63	A40 25042	27	21	22	63			02796
ABS 63	A40 25052	32	24	32	63			03296
ABS 63	A40 25062	40	27	22	63			04096
ABS 80	A40 26042	27	21	25	80			02792
ABS 80	A40 26052	32	24	25	80			03292
ABS 80	A40 26062	40	27	25	80			04092
ABS 80	A40 16062	40	30	43	80		14092	
ABS 100	A40 27052	32	24	25	100			03291
ABS 100	A40 17062	40	30	38	100		14091	
ABS 100	A40 27062	40	27	25	100			04091
ABS 100	A40 17072	60	40	56	130			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	010	13,6x8x10	22900	M8
84 228 02297			14,3x9x12	23000	M10
84 228 02797			17x12x14	23100	M12
84 228 03297			13,6x8x10	22900	M16
84 228 02296			14,3x9x12	23000	M10
84 228 02796			17x12x14	23100	M12
84 228 03296					M16
84 228 04096					M20
84 228 02792			14,3x9x12	23000	M12
84 228 03292			17x12x14	23100	M16
84 228 04092					M32
84 228 14092	M6x16	014	15,9x16,3x19,5	295	M20
84 228 03291			17x12x14	23100	M16
84 228 14091	M6x16	014	15,9x16,3x19,5	295	M32
84 228 04091					M20
84 228 06091	M12x25	015	25,4x16,3x26,5	298	M40

Accessories



Pull stud



ABS extension



ABS reduction



Others

→ Main catalogue, Chapter 16

→ 159

→ 163

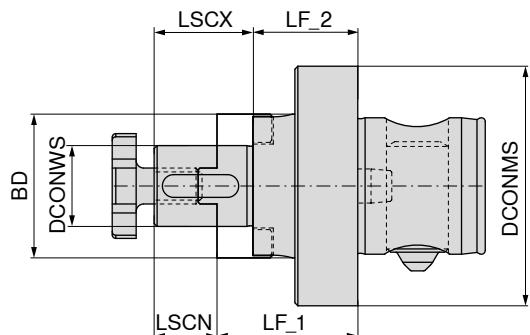
→ Chapter 17 in main catalogue

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



NEW

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	01697
ABS 50	A40 04032	22	40	34	22	31	19	50	02297
ABS 63	A40 05021	16	32	36	26	27	17	63	01696
ABS 63	A40 05031	22	40	38	26	31	19	63	02296
ABS 63	A40 05041	27	48	38	26	33	21	63	02796
ABS 80	A40 06031	22	40	45	33	31	19	80	02292
ABS 80	A40 06041	27	48	45	33	33	21	80	02792
ABS 80	A40 06051	32	58	47	33	38	24	80	03292
ABS 80	A40 06061	40	70	47	33	41	27	80	04092



Parallel key



Drive ring



Retaining screw

Spare parts

DCONWS

Article no.
83 950 ...

Article no.
83 370 ...

Article no.
83 367 ...

16	4 x 4 x 20	284	116	M8	016
22	6 x 6 x 25	285	122	M10	022
27	7 x 7 x 25	286	127	M12	027
32	8 x 7 x 28	287	132	M16	032
40			140	M20	040

Accessories



Pull stud

→ Main catalogue, Chapter 16



ABS extension



ABS reduction



Others

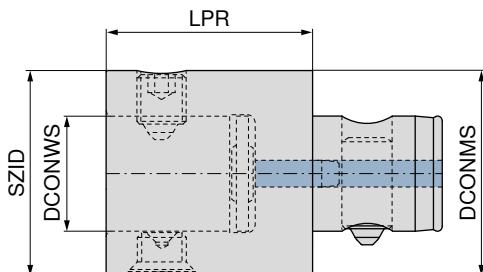
→ 159

→ 163

→ Chapter 17 in main catalogue

Extension with ABS Connection

ABS

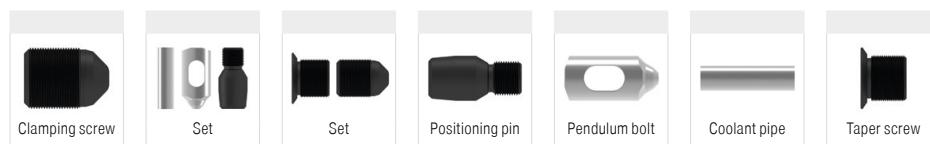


AD

NEW

Article no.
84 209 ...

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



Spare parts	Article no. 84 950 ...						
13	26800			99700			27000
16				99600			27100
20	26900			99500			27200
28	20300	99900		99800	20200	20000	20400
34	25500			99400			27300
46	25600			99300			25100
56	25700			99200			25200
70	25800			99100			25300

Accessories



Pull stud

→ Main catalogue, Chapter 16



ABS extension



ABS reduction



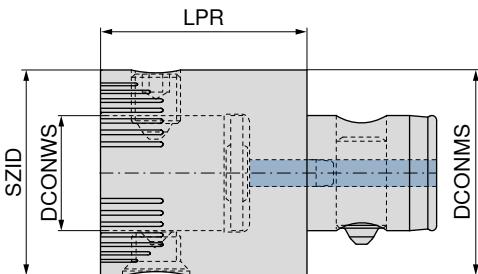
Others

→ Chapter 17 in main catalogue

Torsional vibration dampers with ABS Connection

Scope of supply:

Base body with sealing disc


AD
NEW
Article no.
84 216 ...

Adapter	KOMET no.	SZID	DCONWS	LPR	DCONMS	
			mm	mm	mm	
ABS 50	A20 00651	ABS 50	28	50	50	05097
ABS 63	A20 00661	ABS 63	34	60	63	06096
ABS 80	A20 00670	ABS 80	46	70	80	07092



Clamping screw



Set



Taper screw

Spare parts
SZID

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

ABS 50	20300	99800	20400
ABS 63	25500	99400	27300
ABS 80	25600	99300	25100

Accessories
Pull stud
→ Main catalogue, Chapter 16

ABS extension



ABS reduction

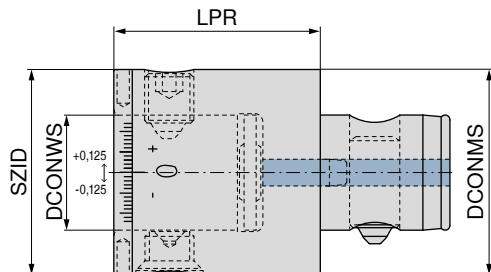
Others
→ Chapter 17 in main catalogue

Eccentric adjuster with ABS Connection

▲ Adjustment ± 0.25 mm on diameter

Scope of supply:

Eccentric adjuster with adjuster key Ø 2.8 mm



Adapter	KOMET no.	SZID	DCONWS	LPR	DCONMS	NEW	
						mm	mm
ABS 50	A20 00620	ABS 50	28	50	50		05097
ABS 63	A20 00630	ABS 63	34	60	63		06096

Spare parts SZID

ABS 50		20300	99800	20400
ABS 63		25500	99400	27300



Accessories



Pull stud

→ Main catalogue, Chapter 16



ABS extension



ABS reduction

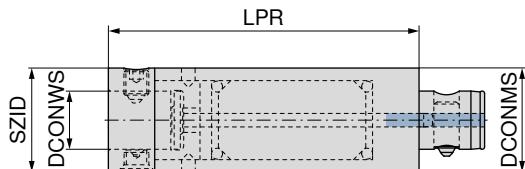


Others

→ Chapter 17 in main catalogue

Damping element with ABS connection

▲ Reduction in undesirable tool vibrations



AD

NEWArticle no.
84 218 ...

Adapter	KOMET no.	SZID	DCONWS	LPR	DCONMS	
			mm	mm	mm	
ABS 40	A20 01240	ABS 40	20	120	40	12088
ABS 50	A20 01250	ABS 50	46	150	50	15097
ABS 63	A20 01260	ABS 63	63	190	63	19096
ABS 80	A20 01270	ABS 80	80	240	80	24092



Clamping screw



Set



Taper screw

Spare parts SZID

ABS 40	26900	99500	27200
ABS 50	20300	99800	20400
ABS 63	25500	99400	27300
ABS 80	25600	99300	25100

Accessories



Pull stud

→ Main catalogue, Chapter 16



ABS extension



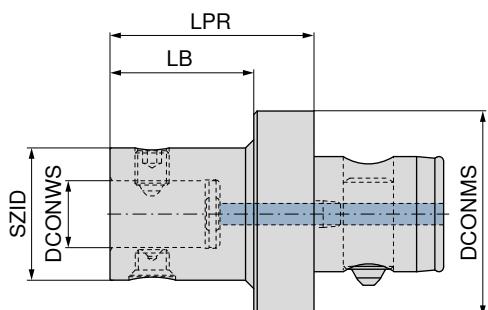
ABS reduction



Others

→ Chapter 17 in main catalogue

ABS reduction

ABS

AD

NEWArticle no.
84 219 ...

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



Clamping screw



Set



Taper screw

Spare parts
SZIDArticle no.
84 950 ...Article no.
84 950 ...Article no.
84 950 ...

ABS 100	25700	99200	25200
ABS 25	26800	99700	27000
ABS 32		99600	27100
ABS 40	26900	99500	27200
ABS 50	20300	99800	20400
ABS 63	25500	99400	27300
ABS 80	25600	99300	25100

Accessories



Pull stud

→ Main catalogue, Chapter 16



ABS extension

→ 159



ABS reduction

→ 163

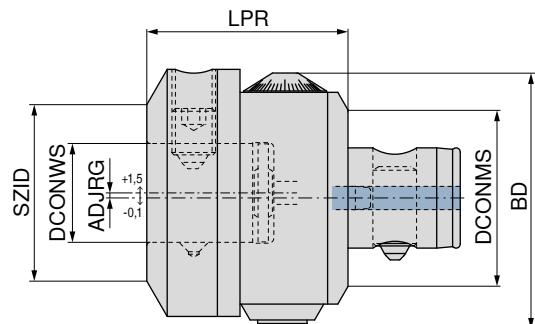


Others

→ Chapter 17 in main catalogue

Adjuster with ABS connection

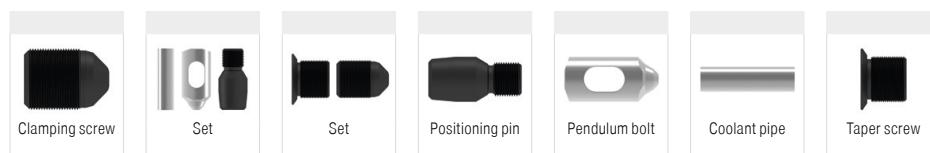
- ▲ Precise adjustment using micrometric adjusting spindle
- ▲ Max. adjustment range 3 mm on diameter
- ▲ Graduation of scale 1 line 0.02 mm on diameter
- ▲ Stable clamping of the top section after adjustment using four clamping screws arranged on the face



AD

NEWArticle 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	05097
ABS 63	M01 00011	ABS 50	28	70	88	1,5	63	06397
ABS 63	M01 00021	ABS 63	34	70	88	1,5	63	06396



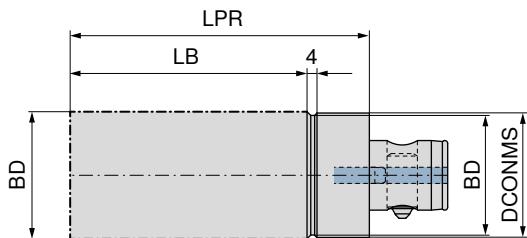
Spare parts	Article no. 84 950 ...						
for Article no.							
84 210 05097	20300	99900	99800	20200	20000	20100	20400
84 210 06397	20300	98600	99800	23900	26300	24700	20400
84 210 06396	25500	98600	99400	23900	26300	24700	27300

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

NEWArticle no.
84 230 ...

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

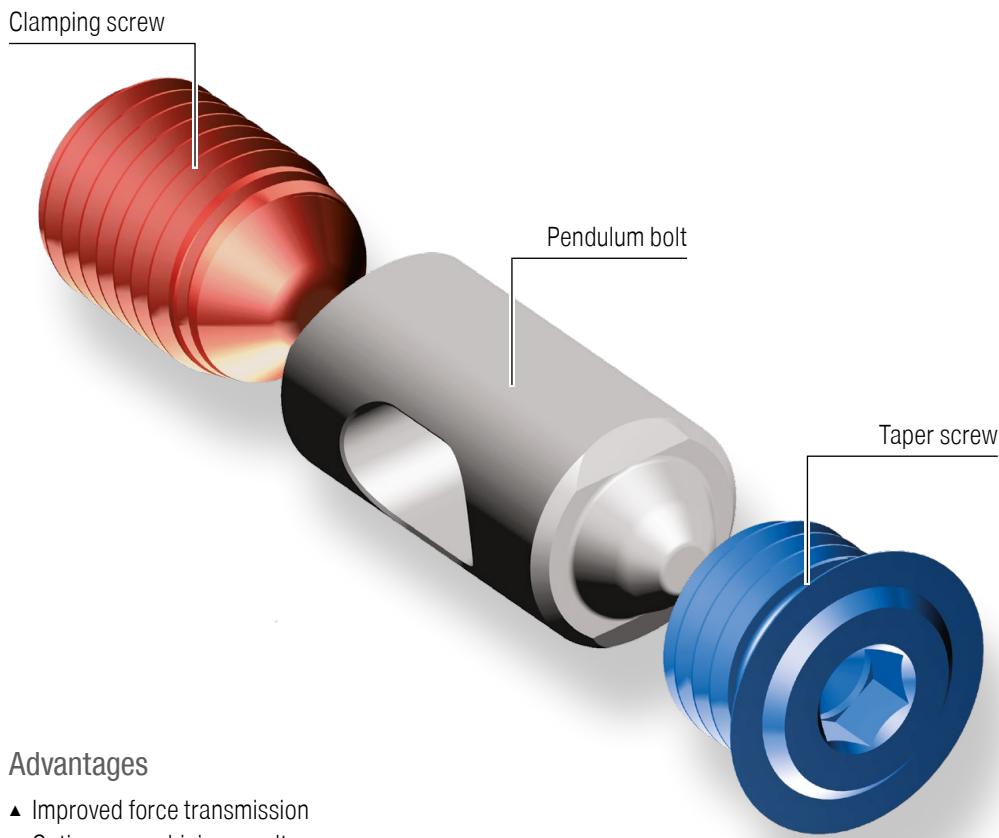
Accessories

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

Technical information – ABS

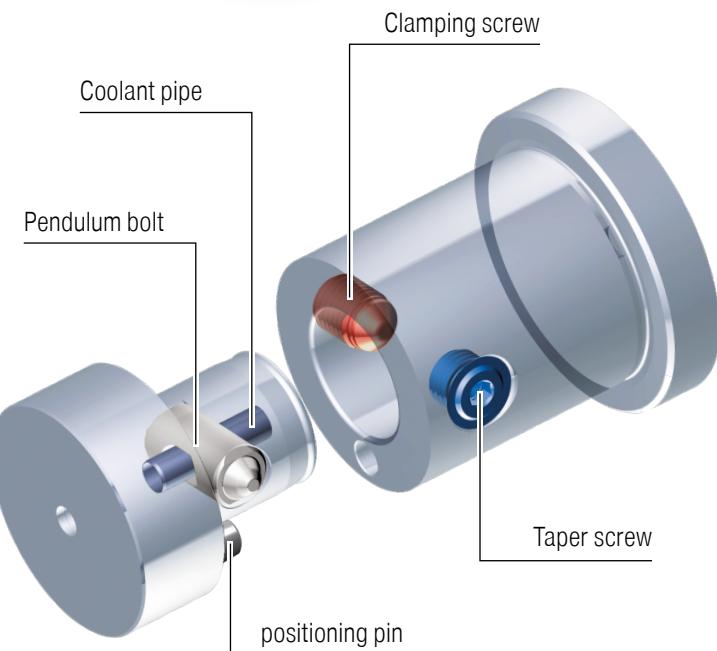
Even better connected

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

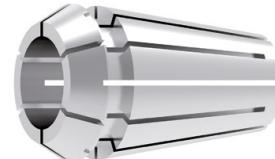
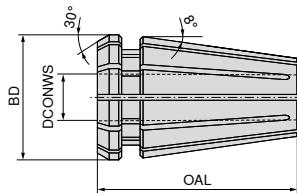
- ▲ Improved force transmission
- ▲ Optimum machining result
- ▲ Higher cutting values possible
- ▲ Less noise pollution in production
- ▲ System fully compatible upwards and downwards
- ▲ Suitable for ABS, ABS N and ABS T



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



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

DCONWS mm	NEW Article no. 82 663 ...	NEW Article no. 82 664 ...	NEW Article no. 82 665 ...	NEW Article no. 82 666 ...
1,0	01000			01000
1,0				01000
1,5				01500
2,0		02000	02000	02000
2,0				
2,5				02500
3,0		03000	03000	03000
3,0				
3,5				03500
4,0		04000	04000	04000
4,0				
4,5				04500
5,0		05000	05000	05000
5,0				
6,0		06000	06000	
7,0		07000	07000	
8,0		08000	08000	
9,0		09000	09000	
10,0		10000	10000	
11,0			11000	11000
12,0			12000	12000
13,0			13000	13000
14,0			14000	14000
15,0			15000	15000
16,0			16000	16000
17,0				17000
18,0				18000
19,0				19000
20,0				20000
Set in wooden box		99900	99900	99900
				99900

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THE QUALITY LABEL FOR
EFFICIENT BORE PRODUCTION

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

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



CUTTING TOOLS
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.