

NEW

October 2018

Indexable insert drill

KUB 100



TEAM CUTTING TOOLS



CERATIZIT is a high-tech engineering group specialised in tooling and hard material technologies.

Tooling the Future

www.ceratizit.com

Indexable insert drill KUB 100

The high-performance all-rounder for maximum productivity and reliability

To celebrate its 100th anniversary, KOMET joined forces with fellow internationally leading tool specialist CERATIZIT for the first time to combine their core areas of expertise in a joint development project. The result: The KUB 100 indexable insert drill – a high-performance drill that achieves top results when machining a wide range of materials.

The KUB 100 represents a milestone in drilling technology in terms of quality, handling, performance and reliability. This is thanks to a perfect synergy between powder metallurgy expertise, state-of-the-art coating technology and innovative tool design.

A striking feature of the basic body is the large, asymmetrically positioned chip channels, which ensure optimum chip removal. The Drill's extreme rigidity keeps oscillations to a minimum and is capable of withstanding high shear forces.

The innovative indexable insert contour, combined with the latest chip breaker geometry, results in optimum chip control when drilling a wide range of workpiece materials. What's so special about it? The KUB 100 is fitted with just one grade in just one indexable insert geometry both centrally and peripherally. This saves time and effort in handling and reduces inventory costs.

In short, the KUB 100 is at the peak of indexable insert drill technology in terms of performance, handling, process capability and efficiency.



Innovative indexable insert geometry



- Just one indexable insert for both central and peripheral position
- Indexable insert geometry with step for guided, controlled spot drilling
- Optimum chip formation
- PVD coating suitable for all materials – in particular steel and stainless steel
- CVD coating for cast materials and high cutting speeds
- Tool life that is up to 30% higher than conventional indexable insert drills

Smart design of basic body

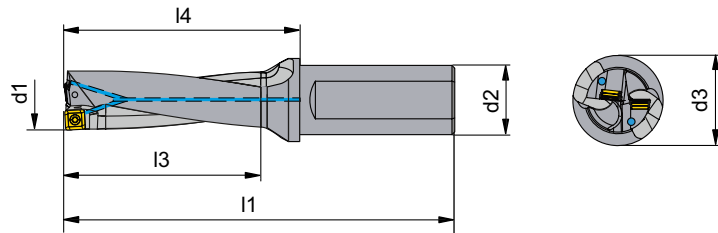


- Large, asymmetrically positioned chip channels for optimum chip removal
- Extremely rigid basic body for low oscillation and high shear force resistance
- Consistent deflection ensures practically identical drilling tolerances in all materials
- Excellent surface finish without scoring on withdrawal
- Achieves an increase in cutting data and feed rates of up to 20%; suitable for extreme machining situations such as drilling through stacks, drilling into edges, drilling into corner angles and drilling into weld seams or ridged surfaces



Indexable insert drill KUB 100

Supply includes:
Indexable insert drill with clamping screws



Designation	d1 DC mm	d3 DF mm	d2 DCONMS mm	l1 OAL mm	l3 LU mm	l4 LPR mm	Insert	2B	
								Article no. 10 881 ...	£
KUB-100.3D.140.R.04-C20	14,0	30	20	105	42	55	SONT 042105	322.93	99140
KUB-100.3D.150.R.04-C20	15,0	30	20	109	45	59	SONT 042105	322.93	99150
KUB-100.3D.160.R.05-C20	16,0	30	20	114	48	64	SONT 052306	322.93	99160
KUB-100.3D.165.R.05-C20	16,5	30	20	118	51	68	SONT 052306	322.93	99165
KUB-100.3D.170.R.05-C20	17,0	30	20	118	51	68	SONT 052306	331.30	99170
KUB-100.3D.175.R.05-C25	17,5	30	25	127	54	71	SONT 052306	331.30	99175
KUB-100.3D.180.R.06-C25	18,0	30	25	127	54	71	SONT 062506	331.30	99180
KUB-100.3D.185.R.06-C25	18,5	30	25	131	57	75	SONT 062506	331.30	99185
KUB-100.3D.190.R.06-C25	19,0	30	25	131	57	75	SONT 062506	340.60	99190
KUB-100.3D.195.R.06-C25	19,5	30	25	134	60	78	SONT 062506	340.60	99195
KUB-100.3D.200.R.06-C25	20,0	30	25	134	60	78	SONT 062506	340.60	99200
KUB-100.3D.210.R.07-C25	21,0	30	25	138	63	82	SONT 072907	362.94	99210
KUB-100.3D.220.R.07-C25	22,0	30	25	141	66	85	SONT 072907	362.94	99220
KUB-100.3D.230.R.07-C25	23,0	30	25	145	69	89	SONT 072907	362.94	99230
KUB-100.3D.240.R.08-C32	24,0	39	32	152	72	92	SONT 083308	393.65	99240
KUB-100.3D.250.R.08-C32	25,0	39	32	156	75	96	SONT 083308	393.65	99250
KUB-100.3D.260.R.08-C32	26,0	39	32	159	78	99	SONT 083308	393.65	99260
KUB-100.3D.270.R.08-C32	27,0	39	32	163	81	103	SONT 083308	414.12	99270



Key D

Y7



Clamping screw

2A/28

Spare parts	Size	Article no. 80 950 ...		Size	Article no. 70 950 ...	
		£			£	
d1						
14 - 17,5	T06 - IP	13.03	123	M2x4,3 - IP	2.94	863
18 - 23	T07 - IP	12.85	124	M2,2x5 - IP	2.83	856
24 - 27	T08 - IP	12.85	125	M2,5x6 - IP	3.65	857

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	53A99				
	1.13	Spring steel	< 1200 N/mm ²		EN45		EN47		EN43
	1.14	High-speed steel	< 1300 N/mm ²	1.3343	M2	1.3249	M34		
1.15	Cold working tool steel	< 1300 N/mm ²	1.2379	D2	1.2311	P20			
1.16	Hot working tool steel	< 1300 N/mm ²	1.2344	H13					
M	2.1	Cast steel and sulphured stainless steel	< 850 N/mm ²	1.4581	318				
	2.2	Stainless steel, ferritic	< 750 N/mm ²	1.4000	403				
	2.3	Stainless steel, martensitic	< 900 N/mm ²	1.4057	EN57				
	2.4	Stainless steel, ferritic / martensitic	< 1100 N/mm ²	1.4028	EN56B				
	2.5	Stainless steel, austenitic / ferritic	< 850 N/mm ²	1.4542	17-4PH				
	2.6	Stainless steel, austenitic	< 750 N/mm ²	1.4305	303	1.4401	316	1.4301	304
	2.7	Heat resistant steel	< 1100 N/mm ²	1.4876	Incoloy 800				
K	3.1	Grey cast iron with lamellar graphite	100–350 N/mm ²	0.6015	Grade 150	0.6020	Grade 220	0.6025	Grade 260
	3.2	Grey cast iron with lamellar graphite	300–500 N/mm ²	0.6030	Grade 300	0.6035	Grade 350	0.6040	Grade 400
	3.3	Gray cast iron with spheroidal graphite	300–500 N/mm ²	0.7040	SG 400-12	0.7043	SG 370-17	0.7050	SG 500-7
	3.4	Gray cast iron with spheroidal graphite	500–900 N/mm ²	0.7060	SG 600-3	0.7070	SG 700-2	0.7080	SG 800-2
	3.5	White malleable cast iron	270–450 N/mm ²	0.8035	GTW-35	0.8045	GTW-45		
	3.6	White malleable cast iron	500–650 N/mm ²	0.8055	GTW-55	0.8065	GTW-65		
	3.7	Black malleable cast iron	300–450 N/mm ²	0.8135	GTS-35	0.8145	GTS-45		
	3.8	Black malleable cast iron	500–800 N/mm ²	0.8155	GTS-55	0.8170	GTS-70		
N	4.1	Aluminium (non alloyed, low alloyed)	< 350 N/mm ²	3.0255	1050 A	3.0275	1070 A	3.0285	1080 A (A8)
	4.2	Aluminium alloys < 0.5 % Si	< 500 N/mm ²	3.1325	2017 A (AU4G)	3.4335	7005 (AZ5G)	3.4365	7075 (AZ5GU)
	4.3	Aluminium alloy 0.5–10 % Si	< 400 N/mm ²	3.2315	A-G S1	3.2373	A-S9 G	3.2151	A-S 6 U4
	4.4	Aluminium alloys 10–15 % Si	< 400 N/mm ²	3.2581	A-S12	3.2583	A-S12 U		
	4.5	Aluminium 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
	4.12	Long-chipping brass	< 600 N/mm ²	2.0335	Cu Zn 36 (Ms63)	2.1293	Cu Cr1 Zr		
	4.13	Thermoplastics		PE	PVC	PS	Polystyrene		Plexiglas
	4.14	Duroplastics		PF	Bakelite		Pertinax		
	4.15	Fibre-reinforced plastics			Carbon Fibre		Fibreglass		Aramid Fibre (Kevlar)
	4.16	Magnesium and magnesium alloys	< 850 N/mm ²	3.5812	Mg A7 Z1	3.5662	Mg A9	3.5105	Mg Tr3 Z2 Zn 1
	4.17	Graphite			R8500X		R8650		Technograph 15
	4.18	Tungsten and tungsten alloys			W-Ni Fe (Densimet)		W- Ni Cu (Inermet)		Denal
	4.19	Molybdenum and molybdenum alloys			TZM		MHQ		Mo W
S	5.1	Pure nickel		2.4066	Ni99 (Nickel 200)	2.4068	Lc Ni99 (Nickel 201)		
	5.2	Nickel alloys		1.3912	Fe-Ni36 (Invar)	1.3917	Fe -Ni42 (N42)	1.3922	Fe-Ni48 (N48)
	5.3	Nickel alloys	< 850 N/mm ²	2.4375	Ni Cu30 Al (Monel K500)	2.4360	Ni Cu30Fe (Monel 400)	2.4668	
	5.4	Nickel molybdenum alloys		2.4600	Ni Mo30Cr2 (Hastelloy B4)	2.4617	Ni Mo28 (Hastelloy B2)	2.4819	Ni Mo16Cr16 Hastell. C276
	5.5	Nickel-chromium alloys	< 1300 N/mm ²	2.4951	Ni Cr20TiAl (Nimonic 80A)	2.4858	Ni Cr21Mo (Inconel 825)	2.4856	Ni Cr22Mo9Nb Inconel 625
	5.6	Cobalt Chrome Alloys	< 1300 N/mm ²	2.4964	Co Cr20 W15 Ni10		Co Cr20 Ni16 Mo7		Co Cr28 Mo 6
	5.7	Heat resistant alloys	< 1300 N/mm ²	1.4718	Z45 C S 9-3	1.4747	Z80 CSN 20-02	1.4845	Z12 CN 25-20
	5.8	Nickel-cobalt-chromium alloys	< 1400 N/mm ²	2.4851	Ni Cr23Fe (Inconel 601)	2.4668	Ni Cr19NbMo (Inconel 718)	2.4602	Ni Cr21Mo14 Hastelloy C22
	5.9	Pure titanium	< 900 N/mm ²	3.7025	T35 (Titanium Grade 1)	3.7034	T40 (Titanium Grade 2)	3.7064	T60 (Titanium Grade 4)
	5.10	Titanium alloys	< 700 N/mm ²		T-A6-Nb7 (367)		T-A5-Sn2-Mo4-Cr4 (Ti17)		T-A3-V2,5 (Gr18)
	5.11	Titanium alloys	< 1200 N/mm ²	3.7165	T-A6-V4 (Ta6V)		T-A4-3V-Mo2-Fe2 (SP700)		T-A5-Sn1-Zr1-V1-Mo (Gr32)
H	6.1		< 45 HRC						
	6.2		46–55 HRC						
	6.3	Tempered steel	56–60 HRC						
	6.4		61–65 HRC						
	6.5		65–70 HRC						

Cutting data guide values for KUB 100 indexable insert drill – 3xD

Index	DRAGONSKIN	DRAGONSKIN	3xD				
	CTCP420 (DCX1420)	CTPP430 (CCN1430)	Ø 14–15 mm	Ø 16–17,5 mm	Ø 18–20 mm	Ø 21–23 mm	Ø 24–27 mm
	v _c in m/min		f in mm/rev.				
1.1	240–390	200–300	0,04–0,16	0,04–0,17	0,05–0,18	0,06–0,20	0,07–0,22
1.2	240–390	200–300	0,04–0,16	0,04–0,17	0,05–0,18	0,06–0,20	0,07–0,22
1.3	190–310	180–280	0,04–0,16	0,04–0,17	0,05–0,18	0,06–0,20	0,07–0,22
1.4	190–310	180–280	0,04–0,13	0,04–0,14	0,05–0,15	0,05–0,15	0,06–0,17
1.5	190–310	180–280	0,04–0,15	0,04–0,15	0,05–0,16	0,05–0,17	0,06–0,19
1.6	170–290	160–250	0,04–0,15	0,05–0,16	0,05–0,18	0,06–0,20	0,07–0,22
1.7	180–280	150–220	0,04–0,17	0,05–0,18	0,05–0,20	0,06–0,22	0,07–0,23
1.8	170–280	130–200	0,04–0,15	0,05–0,16	0,05–0,18	0,06–0,20	0,07–0,23
1.9	170–280	130–200	0,04–0,17	0,05–0,18	0,05–0,20	0,06–0,22	0,07–0,23
1.10	170–280	130–200	0,04–0,15	0,05–0,16	0,05–0,18	0,06–0,20	0,07–0,23
1.11	170–280	130–200	0,04–0,15	0,05–0,16	0,05–0,18	0,06–0,20	0,07–0,23
1.12	170–280	130–200	0,04–0,15	0,05–0,16	0,05–0,18	0,06–0,20	0,07–0,23
1.13	170–280	130–200	0,04–0,16	0,05–0,17	0,05–0,18	0,06–0,20	0,07–0,23
1.14	170–280	130–200	0,04–0,16	0,05–0,17	0,05–0,18	0,06–0,20	0,07–0,23
1.15	120–200	100–160	0,04–0,16	0,05–0,17	0,05–0,18	0,06–0,20	0,07–0,23
1.16	120–200	100–160	0,04–0,16	0,05–0,17	0,05–0,18	0,06–0,20	0,07–0,23
2.1	140–230	100–180	0,04–0,11	0,04–0,12	0,05–0,15	0,06–0,15	0,06–0,17
2.2	140–230	100–180	0,04–0,11	0,04–0,12	0,05–0,15	0,06–0,15	0,06–0,17
2.3		100–180	0,04–0,12	0,04–0,13	0,05–0,15	0,05–0,16	0,05–0,18
2.4		80–140	0,04–0,12	0,04–0,13	0,05–0,15	0,05–0,16	0,05–0,18
2.5		80–140	0,04–0,10	0,04–0,11	0,05–0,13	0,05–0,14	0,05–0,15
2.6	140–230	100–160	0,04–0,11	0,04–0,12	0,05–0,14	0,05–0,15	0,06–0,15
2.7		80–140	0,04–0,10	0,04–0,11	0,05–0,13	0,05–0,14	0,05–0,15
3.1	190–310	120–200	0,07–0,20	0,07–0,22	0,08–0,24	0,10–0,25	0,1–0,28
3.2	170–290	100–180	0,07–0,19	0,07–0,20	0,08–0,22	0,10–0,24	0,1–0,26
3.3	190–310	120–200	0,07–0,20	0,07–0,20	0,08–0,22	0,10–0,25	0,1–0,28
3.4	170–290	100–180	0,07–0,18	0,07–0,18	0,08–0,20	0,10–0,23	0,1–0,25
3.5	140–230	80–160	0,07–0,19	0,07–0,20	0,08–0,21	0,10–0,25	0,1–0,28
3.6	130–210	70–150	0,07–0,19	0,07–0,20	0,08–0,21	0,10–0,25	0,1–0,28
3.7	140–230	80–160	0,07–0,19	0,07–0,20	0,08–0,21	0,10–0,25	0,1–0,28
3.8	130–210	70–150	0,07–0,19	0,07–0,20	0,08–0,21	0,10–0,25	0,1–0,28
4.1		150–500	0,06–0,12	0,07–0,14	0,08–0,15	0,10–0,16	0,10–0,16
4.2		150–450	0,06–0,12	0,07–0,14	0,08–0,15	0,10–0,18	0,10–0,18
4.3		150–350	0,06–0,12	0,07–0,14	0,08–0,15	0,10–0,18	0,10–0,18
4.4		150–300	0,06–0,12	0,07–0,14	0,08–0,15	0,10–0,18	0,10–0,18
4.5							
4.6		150–300	0,06–0,13	0,07–0,16	0,08–0,15	0,10–0,15	0,10–0,15
4.7		150–300	0,06–0,13	0,07–0,16	0,08–0,15	0,10–0,15	0,10–0,15
4.8		150–300	0,06–0,13	0,07–0,16	0,08–0,15	0,10–0,15	0,10–0,15
4.9		150–300	0,06–0,13	0,07–0,16	0,08–0,15	0,10–0,15	0,10–0,15
4.10		150–300	0,06–0,13	0,07–0,16	0,08–0,15	0,10–0,15	0,10–0,15
4.11		150–300	0,06–0,15	0,07–0,16	0,08–0,18	0,10–0,18	0,10–0,18
4.12		150–300	0,06–0,15	0,07–0,16	0,08–0,18	0,10–0,18	0,10–0,18
4.13							
4.14		50–150	0,04–0,09	0,04–0,10	0,05–0,10	0,05–0,12	0,05–0,12
4.15		50–140	0,06–0,14	0,07–0,14	0,08–0,15	0,10–0,16	0,10–0,16
4.16							
4.17							
4.18							
4.19							
5.1		20–80	0,03–0,07	0,04–0,08	0,04–0,08	0,05–0,08	0,05–0,10
5.2		20–80	0,03–0,07	0,04–0,08	0,04–0,08	0,05–0,08	0,05–0,10
5.3		20–80	0,03–0,07	0,04–0,08	0,04–0,08	0,05–0,08	0,05–0,10
5.4		20–80	0,03–0,07	0,04–0,08	0,04–0,08	0,05–0,08	0,05–0,10
5.5		20–80	0,03–0,07	0,04–0,08	0,04–0,08	0,05–0,08	0,05–0,10
5.6		20–80	0,03–0,07	0,04–0,08	0,04–0,08	0,05–0,08	0,05–0,10
5.7		20–80	0,03–0,07	0,04–0,08	0,04–0,08	0,05–0,08	0,05–0,10
5.8		20–80	0,03–0,07	0,04–0,08	0,04–0,08	0,05–0,08	0,05–0,10
5.9		40–100	0,03–0,07	0,04–0,08	0,04–0,08	0,05–0,08	0,05–0,10
5.10		40–80	0,04–0,10	0,04–0,10	0,07–0,10	0,05–0,12	0,06–0,12
5.11		40–80	0,04–0,10	0,04–0,10	0,07–0,10	0,05–0,12	0,06–0,12
6.1							
6.2							
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.

100,000 ARTICLES - YOUR FULL-RANGE FOR THE MACHINING INDUSTRY

The Cutting Tools team is creating a new, leading player in the field of machining technology. In the future, partners and customers will benefit from a highly attractive, holistic service promise: one of the largest ranges on the market. Enormously efficient logistics. Leading expertise in future technologies from digitization to nanotechnology. Deep industry expertise based on many years of experience. All under one roof.



www.ceratizit.com

Cutting Solutions by CERATIZIT has decades of experience in the manufacture of carbide tools and indexable inserts as a specialist in the field of machining.



www.kometgroup.com

KOMET is the global technology leader for high-precision drilling, reaming, milling and threading. Like other members of the CERATIZIT Group, KOMET has established itself as a leader in the development of innovative products as a manufacturer of high-quality cutting tools.



www.wnt.com

Through a European network of sales offices with technical support, WNT can provide industry-leading services that enable customers to consistently maximize machining efficiency.



www.klenk-tools.de

KLENK focuses primarily on the aerospace industry and is a leader in rotary tools for drilling, milling, reaming and countersinking. Many of these products are custom-made for customers worldwide and are predestined for machining CFRP, titanium, aluminum and steel components.

CERATIZIT UK & IRELAND LTD
Sheffield Business Park \ S9 1XU Sheffield \ Great Britain
T. 0800 073 2 073 \ E. info.uk@ceratizit.com

KOMET (UK) Ltd.
Sheffield Business Park \ S9 1XU Sheffield \ Great Britain
T. 0800 073 2 073 \ E. info.uk@ceratizit.com

