KOMET® – Solid Drilling

The KOMET GROUP is one of the world's leading providers of high-precision KOMET® drilling and reaming tools for efficient bore machining. Our potential for providing innovative solutions, a comprehensive performance spectrum and personal commitment form the basis for successful partnerships with our customers.

With the development of solid drill bits, KOMET® entered completely new territory in the Seventies.

The KUB® solid drill bit range has now become a leading concept in tool design.

Through the use of high-performance carbides and the latest generation of coatings, the cutting edges are always ideally matched with the solid bit drilling process.

The KOMET GROUP also provides its service and after-sales spectrum internationally. You will find us in any location where you manufacture products which demand a high level of quality.

Index

Programme Summary – Solid Drilling

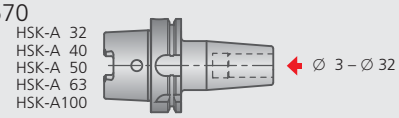
5 Adaptors

HSK-A Adaptors
with ABS® connection

▸ 456

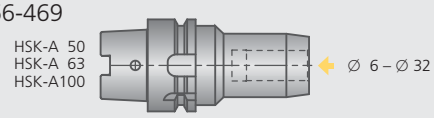
Thermal expansion chuck

▸ 566-570



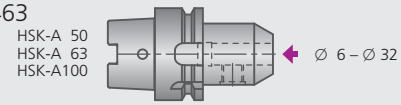
Expanding chuck

▸ 466-469



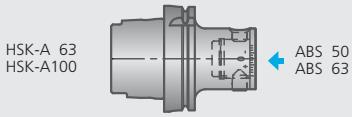
Adaptor sleeve Weldon

▸ 462-463



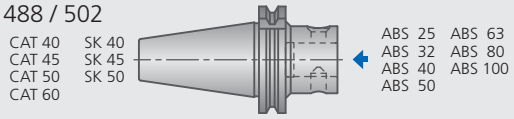
Eccentric adjusting device with ABS® connection

▸ 458



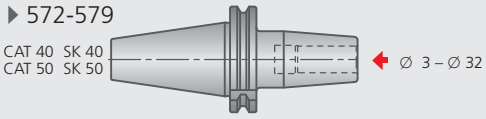
Taper shanks DIN 69871
with ABS® connection

▸ 488 / 502



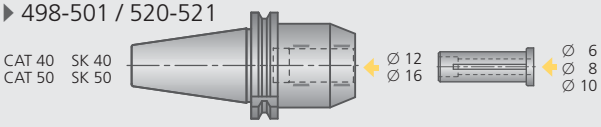
Thermal expansion chuck

▸ 572-579



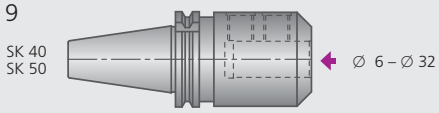
Expanding chuck

▸ 498-501 / 520-521



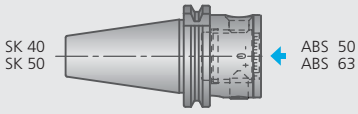
Adaptor sleeve Weldon / cylindrical shank (combination shank)

▸ 519



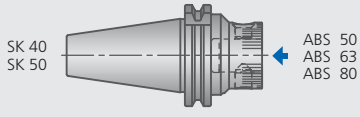
Eccentric adjusting device with ABS® connection

▸ 513



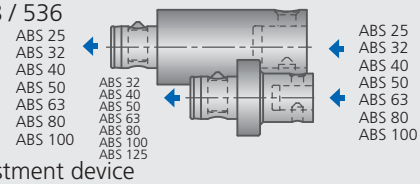
Torsional dampener with ABS® connection

▸ 514



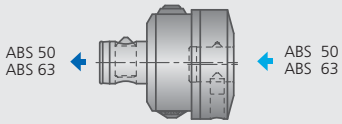
ABS® Adaptors
Extension / Reducer

▸ 538 / 536



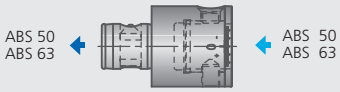
Adjustment device

▸ 533



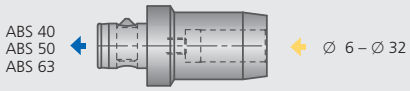
Eccentric adjusting device

▸ 534



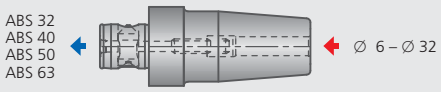
Expanding chuck

▸ 558



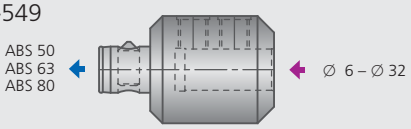
Thermal expansion chuck

▸ 580



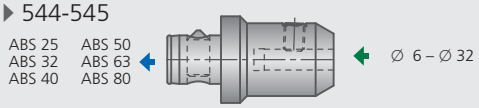
Adaptor sleeve Weldon

▸ 548-549



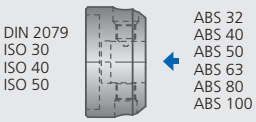
Adaptor sleeve Whistle Notch

▸ 544-545



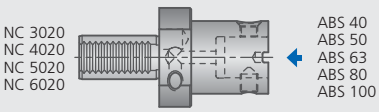
Spindle adaptor flange
with ABS® connection

▸ 530



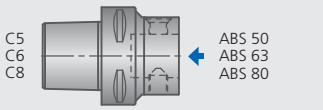
VDI Adaptor
with ABS® connection

▸ 528



PSC Adaptors ISO 26622-1 / -2
Polygonal shank taper with ABS® connection

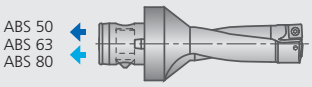
▸ 532



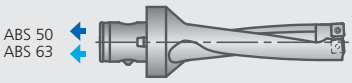
Further adaptors see chapter 5.

1 Tools for Solid Drilling, Trepanning and Flat Bottoming

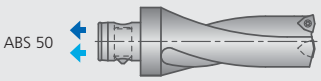
with ABS® connection



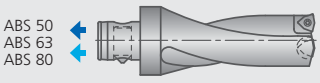
KUB Quatron®
∅ 0.562 – 2.500 inch
∅ 14 – 65 mm
▸ 42 – 49



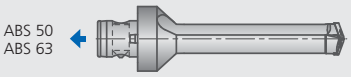
KUB Pentron®
∅ 0.562 – 1.750 inch
∅ 14 – 46 mm
▸ 66 – 71



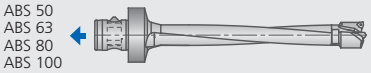
KUB Trigon®
∅ 0.562 – 1.750 inch
∅ 14 – 44 mm
▸ 86 – 89



KUB® drill
∅ 38.5 – 82 mm
▸ 124 – 131

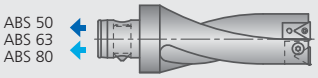


KUB Duon®
∅ 0.697 – 1.413 inch
∅ 17.3 – 44.2 mm
▸ 144 – 165

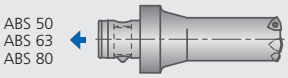


KUB Centron®
∅ 0.812 – 2.500 inch
∅ 20 – 81 mm
▸ 172 – 177

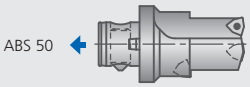
KUB® V464
∅ 80 – 155 mm
▸ 186



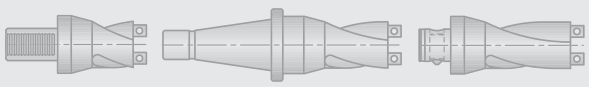
Flat-bottoming tool
∅ 37 – 64 mm
▸ 192

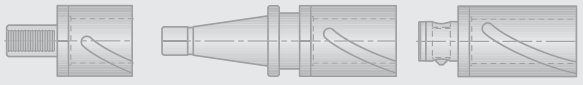


Packet drill
∅ 14 – 82 mm
▸ 195

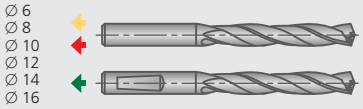


Easy Special
∅ 14 – 44 mm
▸ Chapter 4

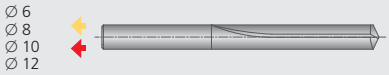




with cylindrical shank



KUB® Drillmax
∅ 0.120 – 0.750 inch
∅ 3 – 16 mm
▸ 12 – 19

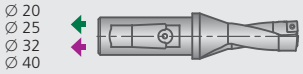


JEL® Drillcut 24
∅ 5 – 12 mm
▸ 26

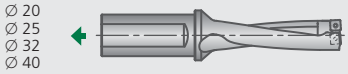
JEL® Drillmax 22
∅ 6 – 10 mm
▸ 27

JEL® Dreammax
∅ 6 – 12 mm
▸ 28

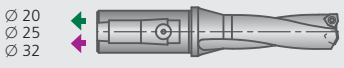
KUB K2®
∅ 10 – 20.5 mm
▸ 32 – 37



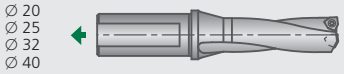
KUB Quatron®
∅ 0.562 – 1.750 inch
∅ 14 – 44 mm
▸ 50 – 57



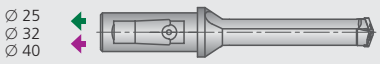
KUB Pentron®
∅ 0.562 – 1.750 inch
∅ 14 – 46 mm
▸ 72 – 77



KUB Trigon®
∅ 0.562 – 1.750 inch
∅ 12 – 44 mm
▸ 92 – 105



KUB Trigon®
∅ 14 – 54 mm
▸ 108 – 113



KUB Duon®
∅ 17.3 – 44.2 mm
▸ 144 – 161

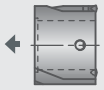
Easy Special
∅ 14 – 44 mm
▸ Chapter 4

Key

- ABS® connection
- ABS® connection
- Cylindrical connection
- Whistle Notch connection
- Weldon connection
- Shrink connection

KUB® drill head
larger sizes on request

∅ 83 – 128 mm
▸ 190



Trepannning tool
on request

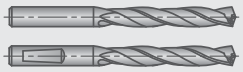
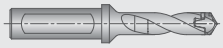
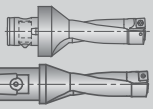
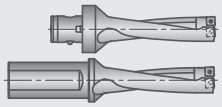
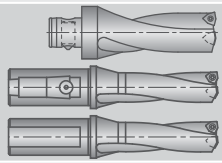
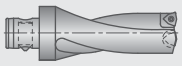
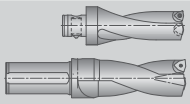
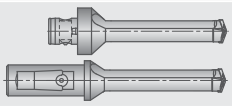
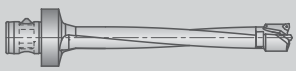
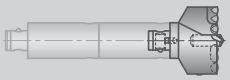
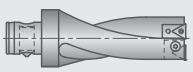
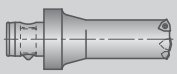
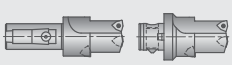
∅ 83 – 198 mm
▸ 194

KOMET® Tool Selection

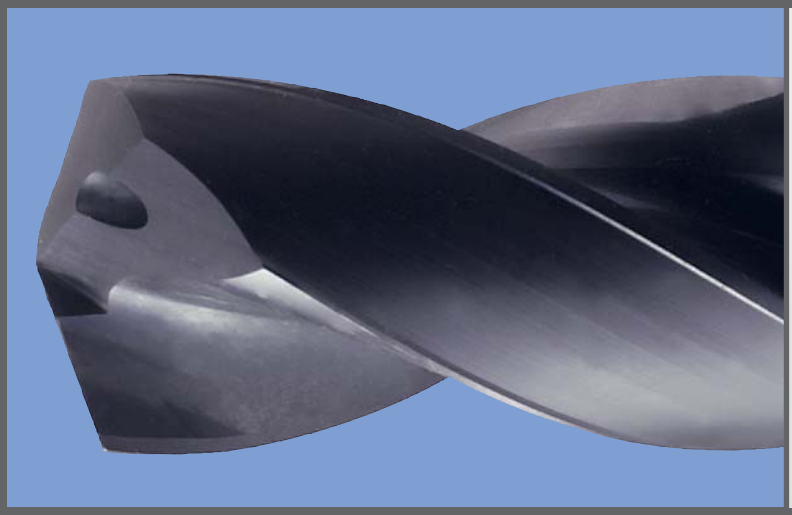
Help Table for Solid Drilling

Ø (mm)	L / D	Machining										
	Length/ diameter ratio	solid drilling	blind hole	forge/ casting skin, interface	angled start and drilling out, inter-rupted cut	convex	cross bore	centering bore, seam	chamber	stack plate drilling	rough boring	adjustable
0.120 – 0.750 3.0 – 16.0	5×D 7-8×D	●	●	◐	○	○	○	○		◐	○	
3.0 – 10.0	20×D 30×D	●	●	◐	○	○	○	○		○		
5.0 – 12.0	5×D	●	●	○	○	○	○	○		○		
6.0 – 10.0	5×D	●	●	○	○	○	○	○		○		
6.0 – 12.0	4×D	●	●	○	○	○	○	○		○	○	
10.0 – 20.5 $^{+0.05}$	3 – 7×D	●	●	○	○			●		●		
0.562 – 2.500 $^{\pm0.008}$ 14.0 – 65.0 $^{\pm0.2}$	2×D	●	●	●	●	●	●	●	●	●	◐	◐
	3×D	●	●	●	●	●	●	●	●	●	◐	◐
0.562 – 1.750 $^{+0.012}_{-0.004}$ 14.0 – 46.0 $^{+0.3}_{-0.1}$	4×D	●	●	◐	◐	◐	◐	◐	○	◐		◐
0.562 – 1.750 $^{+0.014}_{-0.004}$ 14.0 – 46.0 $^{+0.35}_{-0.1}$	5×D	●	●	◐	◐	◐	◐	◐		◐		◐
0.562 – 1.750 $^{\pm0.004}$ 12.0 – 44.0 $^{\pm0.1}$	2×D	●	●	●	●	●	●	◐	●		◐	●
0.562 – 1.750 $^{\pm0.004}$ 12.0 – 54.0 $^{\pm0.1}$	3×D	●	●	◐	◐	◐	◐	◐	◐		○	●
0.562 – 1.750 $^{\pm0.004}$ 14.0 – 44.0 $^{\pm0.1}$	4×D	●	●	○	○	○	○	○	○			◐
38.5 – 82.0 $^{+1.0}_{-0.5}$	3×D	●	●	○	○	○	○	○	○		○	◐
1.781 – 3.250 $^{+1.0}_{-0.5}$	2×D	●	●	●	●	●	◐	◐	●		◐	◐
45.0 – 82.0 $^{\pm0.2}$	3×D	●	●	●	◐	◐	◐	◐	◐			◐
0.697 – 1.413 $^{\pm0.004}$ 17.3 – 44.2 $^{\pm0.1}$	5×D	●	●	◐	○	◐	◐	○	◐	●	○	
0.812 – 2.500 $^{\pm0.004}$ 20.0 – 81.0 $^{\pm0.1}$	9×D	●	●	◐	○	○	○	○	○			
80.0 – 155.0	6×D	●	●	◐	○	○	○	○	○			●
83.0 – 128.0 $^{\pm0.4}$	4×D	●	●	◐	○	○	○	○	○			
83.0 – 198.0 $^{\pm0.5}$	3×D	●		◐	◐	◐	◐	●	●			
37.0 – 64.0 $^{\pm0.5}$	3×D		◐								●	●
14.0 – 82.0	2×D	◐	◐	◐	○	◐	◐	◐	◐	●	○	○
	3×D	◐	◐	◐	○	◐	◐	◐	◐	●	○	○
14.0 – 44.0	1.5 - 4×D	●	●	●	◐	◐	◐	◐	◐			●

● very good ◐ good ○ possible: see technical notes

Coolant				Material						Tool	Page
Emulsion		MQL		Mild steel/ tool steel	Stainless and acid-resistant steel	Grey cast iron, spheroidal cast iron	Non-ferrous metals	Heat-resistant steels	Hardened tool steel		
internal	external	internal	external	P	M	K	N	S	H		
●		◐		●	◑	◐				 KUB® Drillmax cylindrical shank DIN 6535 HA cylindrical shank DIN 6535 HE cylindrical shank DIN 6535 HB	▸ 12 – 19
●		◐		●	◑	◐					
							●			 JEL® Drillcut 24 PCD cylindrical shank DIN 6535 HA	▸ 26
							●			 JEL® Drillmax 22 PCD cylindrical shank DIN 6535 HA	▸ 27
						●	●			 JEL® Dreammax cylindrical shank DIN 6535 HA	▸ 28
●		◐		●	◑	●				 KUB K2® cylindrical shank ISO 9766	▸ 32 – 37
●	◐	●	◐	●	○	●	●	●	○	 KUB Quatron® ABS® connection cylindrical shank (combination shank)	▸ 42 – 57
●	◐	●	◐	●	○	●	●	●	○		
●	◐	◐	MQL only with cylindrical shank	●	○	●	●	◑		 KUB Pentron® ABS® connection cylindrical shank ISO 9766	▸ 66 – 77
●	◐	◐	MQL only with cylindrical shank	●	○	●	●	◑			
●	◐	●	◐	●	○	●	●	●	○	 KUB Trigon® ABS® connection cylindrical shank (combination shank) VDI compatible	▸ 86 – 113 ▸ 116 – 121 ⌖
●	◐	●	○	●	○	●	●	●			
●	○	●	○	●	○	●	●				
●	○	◐	○	●	○	●	●			 KUB® drill adjustable ABS® connection	▸ 124 – 125
●	◐	◐	◐	●	○	●	●	●	○	 KUB® drill ABS® connection cylindrical shank	▸ 128 – 135
●	○	◐	○	●	○	●	●	●			
●	○	●	○	●	○	●	●			 KUB Duon® ABS® connection cylindrical shank (combination shank)	▸ 144 – 165
●		○		●	○	●	●			 KUB Centron® ABS® connection	▸ 172 – 177
●		○		●	○	●	●			 KUB® V464 drill head ABS® T connection	▸ 186
●	○	◐	○	●	○	●	●			 KUB® drill head	▸ 190
●	○	◐	○	●	○	●	●			 Trepannning tool	▸ 194
●	◐	◐	○	●	○	●	●			 Flat-bottoming tool ABS® connection	▸ 192
●	◐	◐	○	●	◑	●	◐			 Packet drill	▸ 195
●	○	◐	○	●	◑	●	◐				
●	◐	◐	○	●	○	●	●	●		 Easy Special	Chapter 4

⌖ L.H. cutting



KUB® Drillmax
High-performance drill for small diameters

The KUB® Drillmax high-performance solid carbide drills complete our range for drill diameters of 0.118" to 0.630" (3 to 16 mm) and length/diameter ratios of **5×D and 7-8×D**.
Optimised, special flutes are ideal for removing chips and for highly productive machining.

Variant:
- Drill diameter: 0.118 – 0.630 inch (3.00 – 16.00 mm)
- Hole tolerance: IT9 (achievable)
- Drilling depth: 5×D, 7-8×D
- Shank shape: HA and HE (DIN 6535)
- Coating: TiAlN
- Point angle: 140°
- Helix angle: 30°
- Internal coolant supply

BENEFITS for you:

- Excellent hole tolerances
- Optimum chip removal thanks to special flutes
- Optimum machining result thanks to good coordination of carbide and coating with drill geometry
- Long tool edge life thanks to effective coating

KUB® Drillmax XL
High-performance drill for deep holes

With the KOMET KUB® Drillmax XL, the expertise gained from developing many special solutions has been transferred to a standard tool range, which is available from stock for 20×D in diameters of 0.118 to 0.394 inch (3.0 to 10.0 mm) and for 30×D in diameters of 0.394 to 0.315 inch (3.0 to 8.0 mm).
The spiral-fluted deep-hole drills have four guide chamfers, ensuring good guidance.

Variant:
- 4 x guide chamfers
- Drill diameter: for 20×D: 0.118 – 0.394" (3.00 – 10.0 mm)
  for 30×D: 0.118 – 0.315" (3.00 – 8.00 mm)
- Shank: DIN 6535 HA
- Coating: TiAlN
- Point angle: 140°
- Helix angle: 30°
- Internal coolant supply

BENEFITS for you:

- 4 x chamfers for high drilling and alignment precision
- Ideal chip removal thanks to optimised, special flutes
- Reliable drilling up to 30×D, with no pecking
- Significantly reduced production times due to extremely high feed rates and cutting speeds

Note:
Pilot hole required, depth: 2 – 3×D
KOMET KUB® Drillmax 5×D standard drills with the same diameter can be used.

KOMET KUB® Drillmax

KOMET KUB® Drillmax

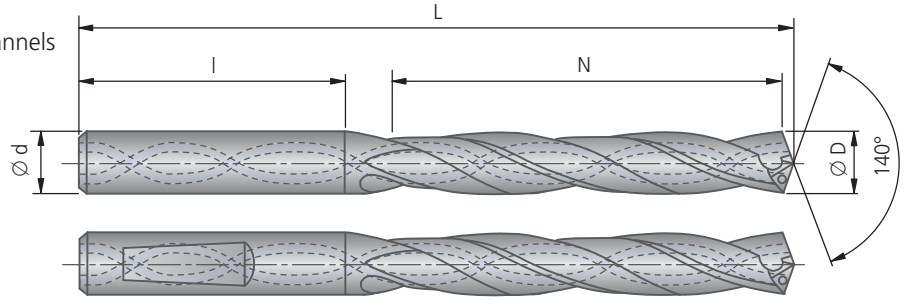
Ø 0.120 – 0.750 inch

High-Performance Solid Carbide Drill with Cylindrical Shank DIN 6535 HA/HE/HB, R.H. cutting

L / D	solid drilling	blind hole	forge/casting skin, interface	angled	convex	cross bore	centering bore	chamber	stack plate drilling	rough boring	adjustable
5×D	●	●	◐	○	○	○	○	✕	◐	○	✕

● very good ◐ good ○ possible: see technical notes, page 23 ✕ not possible

- 4 x guide chamfers
- coating: TiAlN
- with coolant channels



5 × D							for workpiece material
Ø D	Ø d × l	DIN 6535 HA Order No.	DIN 6535 HE Order No.	DIN 6535 HB Order No.	L	N	P M K N S H
0.120	0.188 × 1.417	V03 12000.412730	V03 12000.512730	V03 12000.612730	2.598	0.944	
0.125	0.188 × 1.417	V03 12500.412730	V03 12500.512730	V03 12500.612730	2.598	0.944	
0.129	0.188 × 1.417	V03 12850.412730	V03 12850.512730	V03 12850.612730	2.598	0.944	
0.136	0.188 × 1.417	V03 13600.412730	V03 13600.512730	V03 13600.612730	2.598	0.944	
0.141	0.188 × 1.417	V03 14060.412730	V03 14060.512730	V03 14060.612730	2.598	0.944	● ◐ ◐
0.156	0.188 × 1.417	V03 15620.412730	V03 15620.512730	V03 15620.612730	2.913	1.181	
0.159	0.188 × 1.417	V03 15900.412730	V03 15900.512730	V03 15900.612730	2.913	1.181	
0.172	0.188 × 1.417	V03 17190.412730	V03 17190.512730	V03 17190.612730	2.913	1.181	
0.188	0.188 × 1.417	V03 18750.412730	V03 18750.512730	V03 18750.612730	3.228	1.377	
0.203	0.250 × 1.417	V03 20310.412730	V03 20310.512730	V03 20310.612730	3.228	1.377	
0.219	0.250 × 1.417	V03 21870.412730	V03 21870.512730	V03 21870.612730	3.228	1.377	
0.221	0.250 × 1.417	V03 22100.412730	V03 22100.512730	V03 22100.612730	3.228	1.377	● ◐ ◐
0.234	0.250 × 1.417	V03 23440.412730	V03 23440.512730	V03 23440.612730	3.228	1.377	
0.250	0.250 × 1.417	V03 25000.412730	V03 25000.512730	V03 25000.612730	3.582	1.692	
0.257	0.312 × 1.417	V03 25700.412730	V03 25700.512730	V03 25700.612730	3.582	1.692	
0.261	0.312 × 1.417	V03 26100.412730	V03 26100.512730	V03 26100.612730	3.582	1.692	
0.266	0.312 × 1.417	V03 26560.412730	V03 26560.512730	V03 26560.612730	3.582	1.692	● ◐ ◐
0.281	0.312 × 1.417	V03 28120.412730	V03 28120.512730	V03 28120.612730	3.582	1.692	
0.297	0.312 × 1.417	V03 29690.412730	V03 29690.512730	V03 29690.612730	3.582	1.692	
0.313	0.437 × 1.574	V03 31250.412730	V03 31250.512730	V03 31250.612730	3.582	1.692	
0.328	0.437 × 1.574	V03 32810.412730	V03 32810.512730	V03 32810.612730	4.055	1.929	
0.332	0.437 × 1.574	V03 33200.412730	V03 33200.512730	V03 33200.612730	4.055	1.929	
0.344	0.437 × 1.574	V03 34380.412730	V03 34380.512730	V03 34380.612730	4.055	1.929	
0.359	0.437 × 1.574	V03 35940.412730	V03 35940.512730	V03 35940.612730	4.055	1.929	● ◐ ◐
0.375	0.437 × 1.574	V03 37500.412730	V03 37500.512730	V03 37500.612730	4.055	1.929	
0.391	0.437 × 1.574	V03 39060.412730	V03 39060.512730	V03 39060.612730	4.055	1.929	
0.406	0.437 × 1.574	V03 40620.412730	V03 40620.512730	V03 40620.612730	4.645	2.204	
0.422	0.437 × 1.574	V03 42190.412730	V03 42190.512730	V03 42190.612730	4.645	2.204	
0.438	0.500 × 1.771	V03 43750.412730	V03 43750.512730	V03 43750.612730	4.645	2.204	
0.453	0.500 × 1.771	V03 45310.412730	V03 45310.512730	V03 45310.612730	4.645	2.204	
0.469	0.500 × 1.771	V03 46880.412730	V03 46880.512730	V03 46880.612730	4.645	2.204	● ◐ ◐
0.484	0.500 × 1.771	V03 48440.412730	V03 48440.512730	V03 48440.612730	4.881	2.362	
0.500	0.500 × 1.771	V03 50000.412730	V03 50000.512730	V03 50000.612730	4.881	2.362	
0.516	0.562 × 1.771	V03 51560.412730	V03 51560.512730	V03 51560.612730	4.881	2.362	
0.531	0.562 × 1.771	V03 53120.412730	V03 53120.512730	V03 53120.612730	4.881	2.362	● ◐ ◐
0.547	0.562 × 1.771	V03 54690.412730	V03 54690.512730	V03 54690.612730	5.236	2.480	
0.563	0.625 × 1.771	V03 56250.412730	V03 56250.512730	V03 56250.612730	5.236	2.480	
0.594	0.625 × 1.771	V03 59380.412730	V03 59380.512730	V03 59380.612730	5.236	2.480	● ◐ ◐
0.625	0.625 × 1.771	V03 62500.412730	V03 62500.512730	V03 62500.612730	5.236	2.480	
0.656	0.687 × 1.771	V03 65620.412730	V03 65620.512730	V03 65620.612730	5.236	2.480	
0.688	0.750 × 1.771	V03 68750.412730	V03 68750.512730	V03 68750.612730	5.236	2.480	● ◐ ◐
0.750	0.750 × 1.771	V03 75000.412730	V03 75000.512730	V03 75000.612730	5.236	2.480	

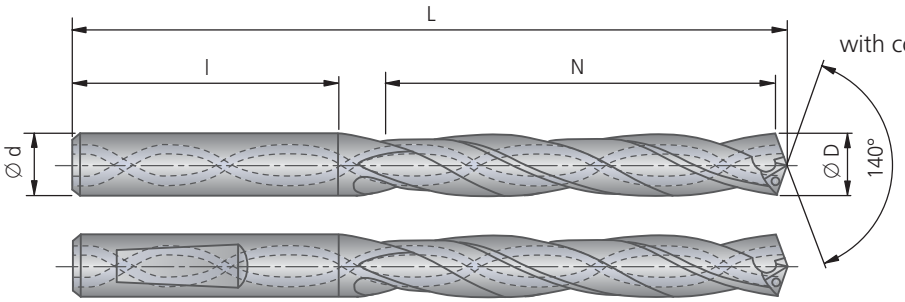
Note: with whistle notch clamping surface conforming to DIN 6535 HE.

High-Performance Solid Carbide Drill with Cylindrical Shank DIN 6535 HA/HE/HB, R.H. cutting

L / D	solid drilling	blind hole	forge/casting skin, interface	angled	convex	cross bore	centering bore	chamber	stack plate drilling	rough boring	adjustable
7–8×D	●	●	◐	○	○	○	○	✕	◐	○	✕

● very good ◐ good ○ possible: see technical notes, page 23 ✕ not possible

4 x guide chamfers ■
coating: TiAlN ■
with coolant channels ■



7 – 8 × D							
Ø D	Ø d × l	DIN 6535 HA Order No.	DIN 6535 HE Order No.	DIN 6535 HB Order No.	L	N	P M K N S H
0.120	0.188 × 1.417	V04 12000.412730	V04 12000.512730	V04 12000.612730	2.755	1.102	
0.125	0.188 × 1.417	V04 12500.412730	V04 12500.512730	V04 12500.612730	2.755	1.102	
0.129	0.188 × 1.417	V04 12850.412730	V04 12850.512730	V04 12850.612730	2.755	1.102	
0.136	0.188 × 1.417	V04 13600.412730	V04 13600.512730	V04 13600.612730	2.755	1.102	
0.141	0.188 × 1.417	V04 14060.412730	V04 14060.512730	V04 14060.612730	3.622	1.771	● ◐ ◐
0.156	0.188 × 1.417	V04 15620.412730	V04 15620.512730	V04 15620.612730	3.622	1.771	
0.159	0.188 × 1.417	V04 15900.412730	V04 15900.512730	V04 15900.612730	3.622	1.771	
0.172	0.188 × 1.417	V04 17190.412730	V04 17190.512730	V04 17190.612730	3.622	1.771	
0.188	0.188 × 1.417	V04 18750.412730	V04 18750.512730	V04 18750.612730	3.622	1.771	
0.203	0.250 × 1.417	V04 20310.412730	V04 20310.512730	V04 20310.612730	3.622	1.771	
0.219	0.250 × 1.417	V04 21870.412730	V04 21870.512730	V04 21870.612730	3.622	1.771	
0.221	0.250 × 1.417	V04 22100.412730	V04 22100.512730	V04 22100.612730	3.622	1.771	● ◐ ◐
0.234	0.250 × 1.417	V04 23440.412730	V04 23440.512730	V04 23440.612730	3.622	1.771	
0.250	0.250 × 1.417	V04 25000.412730	V04 25000.512730	V04 25000.612730	3.937	2.047	
0.257	0.312 × 1.417	V04 25700.412730	V04 25700.512730	V04 25700.612730	3.937	2.047	
0.261	0.312 × 1.417	V04 26100.412730	V04 26100.512730	V04 26100.612730	3.937	2.047	
0.266	0.312 × 1.417	V04 26560.412730	V04 26560.512730	V04 26560.612730	3.937	2.047	● ◐ ◐
0.281	0.312 × 1.417	V04 28120.412730	V04 28120.512730	V04 28120.612730	4.251	2.362	
0.297	0.312 × 1.417	V04 29690.412730	V04 29690.512730	V04 29690.612730	4.251	2.362	
0.313	0.437 × 1.574	V04 31250.412730	V04 31250.512730	V04 31250.612730	4.251	2.362	
0.328	0.437 × 1.574	V04 32810.412730	V04 32810.512730	V04 32810.612730	4.803	2.677	
0.332	0.437 × 1.574	V04 33200.412730	V04 33200.512730	V04 33200.612730	4.803	2.677	
0.344	0.437 × 1.574	V04 34380.412730	V04 34380.512730	V04 34380.612730	4.803	2.677	
0.359	0.437 × 1.574	V04 35940.412730	V04 35940.512730	V04 35940.612730	5.118	2.992	● ◐ ◐
0.375	0.437 × 1.574	V04 37500.412730	V04 37500.512730	V04 37500.612730	5.118	2.992	
0.391	0.437 × 1.574	V04 39060.412730	V04 39060.512730	V04 39060.612730	5.118	2.992	
0.406	0.437 × 1.574	V04 40620.412730	V04 40620.512730	V04 40620.612730	5.984	3.543	
0.422	0.437 × 1.574	V04 42190.412730	V04 42190.512730	V04 42190.612730	5.984	3.543	
0.438	0.500 × 1.771	V04 43750.412730	V04 43750.512730	V04 43750.612730	5.984	3.543	
0.453	0.500 × 1.771	V04 45310.412730	V04 45310.512730	V04 45310.612730	5.984	3.543	
0.469	0.500 × 1.771	V04 46880.412730	V04 46880.512730	V04 46880.612730	5.984	3.543	● ◐ ◐
0.484	0.500 × 1.771	V04 48440.412730	V04 48440.512730	V04 48440.612730	6.692	4.173	
0.500	0.500 × 1.771	V04 50000.412730	V04 50000.512730	V04 50000.612730	6.692	4.173	

Other diameters on request.

Guideline values for solid drilling: page 20-21.

KOMET KUB® Drillmax

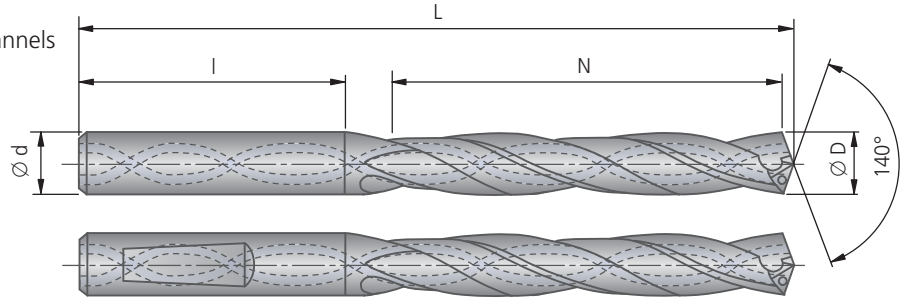
Ø 3.0 – 16.0 mm

High-Performance Solid Carbide Drill with Cylindrical Shank DIN 6535 HA / HE, R.H. cutting

L / D	solid drilling	blind hole	forge/casting skin, interface	angled	convex	cross bore	centering bore	chamber	stack plate drilling	rough boring	adjustable
5×D	●	●	◐	○	○	○	○	✕	◐	○	✕

● very good ◐ good ○ possible: see technical notes, page 23 ✕ not possible

- 4 x guide chamfers
- coating: TiAlN
- with coolant channels



5 × D							for workpiece material
Ø D	Ø d x l	DIN 6535 HA Order No.	DIN 6535 HE Order No.	L	N	kg ~	P M K N S H
3.0	6 × 36	V03 03000.112730	V03 03000.212730	66	24	0.016	
3.1	6 × 36	V03 03100.112730	V03 03100.212730	66	24	0.016	
3.2	6 × 36	V03 03200.112730	V03 03200.212730	66	24	0.017	
3.3	6 × 36	V03 03300.112730	V03 03300.212730	66	24	0.017	● ◐ ◐
3.4	6 × 36	V03 03400.112730	V03 03400.212730	66	24	0.017	
3.5	6 × 36	V03 03500.112730	V03 03500.212730	66	24	0.018	
3.6	6 × 36	V03 03600.112730	V03 03600.212730	66	24	0.018	
3.7	6 × 36	V03 03700.112730	V03 03700.212730	66	24	0.018	
3.8	6 × 36	V03 03800.112730	V03 03800.212730	74	30	0.018	
3.9	6 × 36	V03 03900.112730	V03 03900.212730	74	30	0.018	
4.0	6 × 36	V03 04000.112730	V03 04000.212730	74	30	0.018	
4.1	6 × 36	V03 04100.112730	V03 04100.212730	74	30	0.019	
4.2	6 × 36	V03 04200.112730	V03 04200.212730	74	30	0.019	● ◐ ◐
4.3	6 × 36	V03 04300.112730	V03 04300.212730	74	30	0.019	
4.4	6 × 36	V03 04400.112730	V03 04400.212730	74	30	0.019	
4.5	6 × 36	V03 04500.112730	V03 04500.212730	74	30	0.019	
4.6	6 × 36	V03 04600.112730	V03 04600.212730	74	30	0.019	
4.7	6 × 36	V03 04700.112730	V03 04700.212730	74	30	0.019	
4.8	6 × 36	V03 04800.112730	V03 04800.212730	82	35	0.020	
4.9	6 × 36	V03 04900.112730	V03 04900.212730	82	35	0.020	
5.0	6 × 36	V03 05000.112730	V03 05000.212730	82	35	0.020	
5.1	6 × 36	V03 05100.112730	V03 05100.212730	82	35	0.021	
5.2	6 × 36	V03 05200.112730	V03 05200.212730	82	35	0.021	
5.3	6 × 36	V03 05300.112730	V03 05300.212730	82	35	0.022	
5.4	6 × 36	V03 05400.112730	V03 05400.212730	82	35	0.022	● ◐ ◐
5.5	6 × 36	V03 05500.112730	V03 05500.212730	82	35	0.023	
5.54	6 × 36	V03 05540.112730	V03 05540.212730	82	35	0.023	
5.6	6 × 36	V03 05600.112730	V03 05600.212730	82	35	0.023	
5.7	6 × 36	V03 05700.112730	V03 05700.212730	82	35	0.024	
5.8	6 × 36	V03 05800.112730	V03 05800.212730	82	35	0.024	
5.9	6 × 36	V03 05900.112730	V03 05900.212730	82	35	0.025	
6.0	6 × 36	V03 06000.112730	V03 06000.212730	82	35	0.025	
6.1	8 × 36	V03 06100.112730	V03 06100.212730	91	43	0.027	
6.2	8 × 36	V03 06200.112730	V03 06200.212730	91	43	0.027	
6.3	8 × 36	V03 06300.112730	V03 06300.212730	91	43	0.030	
6.4	8 × 36	V03 06400.112730	V03 06400.212730	91	43	0.030	
6.5	8 × 36	V03 06500.112730	V03 06500.212730	91	43	0.032	● ◐ ◐
6.6	8 × 36	V03 06600.112730	V03 06600.212730	91	43	0.032	
6.7	8 × 36	V03 06700.112730	V03 06700.212730	91	43	0.032	
6.8	8 × 36	V03 06800.112730	V03 06800.212730	91	43	0.035	
6.9	8 × 36	V03 06900.112730	V03 06900.212730	91	43	0.035	

Note: with whistle notch clamping surface conforming to DIN 6535 HE. Delivery time 1 week (minimum purchase: 3 pieces)

High-Performance Solid Carbide Drill with Cylindrical Shank DIN 6535 HA / HE, R.H. cutting

5 × D							for workpiece material
Ø D	Ø d × l	DIN 6535 HA Order No.	DIN 6535 HE Order No.	L	N	kg ~	P M K N S H
7.0	8 × 36	V03 07000.112730	V03 07000.212730	91	43	0.037	
7.1	8 × 36	V03 07100.112730	V03 07100.212730	91	43	0.037	
7.2	8 × 36	V03 07200.112730	V03 07200.212730	91	43	0.039	
7.3	8 × 36	V03 07300.112730	V03 07300.212730	91	43	0.039	
7.4	8 × 36	V03 07400.112730	V03 07400.212730	91	43	0.040	
7.43	8 × 36	V03 07430.112730	V03 07430.212730	91	43	0.040	● ◐ ◐
7.5	8 × 36	V03 07500.112730	V03 07500.212730	91	43	0.040	
7.6	8 × 36	V03 07600.112730	V03 07600.212730	91	43	0.041	
7.7	8 × 36	V03 07700.112730	V03 07700.212730	91	43	0.041	
7.8	8 × 36	V03 07800.112730	V03 07800.212730	91	43	0.043	
7.9	8 × 36	V03 07900.112730	V03 07900.212730	91	43	0.043	
8.0	8 × 36	V03 08000.112730	V03 08000.212730	91	43	0.044	
8.1	10 × 40	V03 08100.112730	V03 08100.212730	103	49	0.045	
8.2	10 × 40	V03 08200.112730	V03 08200.212730	103	49	0.045	
8.3	10 × 40	V03 08300.112730	V03 08300.212730	103	49	0.047	
8.4	10 × 40	V03 08400.112730	V03 08400.212730	103	49	0.047	
8.5	10 × 40	V03 08500.112730	V03 08500.212730	103	49	0.050	
8.6	10 × 40	V03 08600.112730	V03 08600.212730	103	49	0.050	
8.7	10 × 40	V03 08700.112730	V03 08700.212730	103	49	0.052	
8.8	10 × 40	V03 08800.112730	V03 08800.212730	103	49	0.052	
8.9	10 × 40	V03 08900.112730	V03 08900.212730	103	49	0.055	
9.0	10 × 40	V03 09000.112730	V03 09000.212730	103	49	0.055	
9.1	10 × 40	V03 09100.112730	V03 09100.212730	103	49	0.057	● ◐ ◐
9.2	10 × 40	V03 09200.112730	V03 09200.212730	103	49	0.057	
9.3	10 × 40	V03 09300.112730	V03 09300.212730	103	49	0.062	
9.4	10 × 40	V03 09400.112730	V03 09400.212730	103	49	0.062	
9.5	10 × 40	V03 09500.112730	V03 09500.212730	103	49	0.067	
9.54	10 × 40	V03 09540.112730	V03 09540.212730	103	49	0.067	
9.6	10 × 40	V03 09600.112730	V03 09600.212730	103	49	0.067	
9.7	10 × 40	V03 09700.112730	V03 09700.212730	103	49	0.072	
9.8	10 × 40	V03 09800.112730	V03 09800.212730	103	49	0.072	
9.9	10 × 40	V03 09900.112730	V03 09900.212730	103	49	0.077	
10.0	10 × 40	V03 10000.112730	V03 10000.212730	103	49	0.077	
10.1	12 × 45	V03 10100.112730	V03 10100.212730	118	56	0.080	
10.2	12 × 45	V03 10200.112730	V03 10200.212730	118	56	0.085	
10.3	12 × 45	V03 10300.112730	V03 10300.212730	118	56	0.090	
10.4	12 × 45	V03 10400.112730	V03 10400.212730	118	56	0.094	
10.5	12 × 45	V03 10500.112730	V03 10500.212730	118	56	0.097	
10.6	12 × 45	V03 10600.112730	V03 10600.212730	118	56	0.100	
10.7	12 × 45	V03 10700.112730	V03 10700.212730	118	56	0.102	
10.8	12 × 45	V03 10800.112730	V03 10800.212730	118	56	0.105	
10.9	12 × 45	V03 10900.112730	V03 10900.212730	118	56	0.107	
11.0	12 × 45	V03 11000.112730	V03 11000.212730	118	56	0.110	
11.1	12 × 45	V03 11100.112730	V03 11100.212730	118	56	0.112	● ◐ ◐
11.2	12 × 45	V03 11200.112730	V03 11200.212730	118	56	0.115	
11.3	12 × 45	V03 11300.112730	V03 11300.212730	118	56	0.117	
11.4	12 × 45	V03 11400.112730	V03 11400.212730	118	56	0.120	
11.5	12 × 45	V03 11500.112730	V03 11500.212730	118	56	0.122	
11.54	12 × 45	V03 11540.112730	V03 11540.212730	118	56	0.122	
11.6	12 × 45	V03 11600.112730	V03 11600.212730	118	56	0.125	
11.7	12 × 45	V03 11700.112730	V03 11700.212730	118	56	0.127	
11.8	12 × 45	V03 11800.112730	V03 11800.212730	118	56	0.130	
11.9	12 × 45	V03 11900.112730	V03 11900.212730	118	56	0.132	
12.0	12 × 45	V03 12000.112730	V03 12000.212730	118	56	0.135	
12.5	14 × 45	V03 12500.112730	V03 12500.212730	124	60	0.180	
12.8	14 × 45	V03 12800.112730	V03 12800.212730	124	60	0.180	
13.0	14 × 45	V03 13000.112730	V03 13000.212730	124	60	0.182	
13.3	14 × 45	V03 13300.112730	V03 13300.212730	124	60	0.182	● ◐ ◐
13.5	14 × 45	V03 13500.112730	V03 13500.212730	124	60	0.185	
13.8	14 × 45	V03 13800.112730	V03 13800.212730	124	60	0.185	
14.0	14 × 45	V03 14000.112730	V03 14000.212730	124	60	0.188	
14.5	16 × 48	V03 14500.112730	V03 14500.212730	133	63	0.240	
14.8	16 × 48	V03 14800.112730	V03 14800.212730	133	63	0.240	
15.0	16 × 48	V03 15000.112730	V03 15000.212730	133	63	0.250	
15.5	16 × 48	V03 15500.112730	V03 15500.212730	133	63	0.270	● ◐ ◐
15.8	16 × 48	V03 15800.112730	V03 15800.212730	133	63	0.270	
16.0	16 × 48	V03 16000.112730	V03 16000.212730	133	63	0.282	

Other diameters on request.

Guideline values for solid drilling: page 20-21.

KOMET KUB® Drillmax

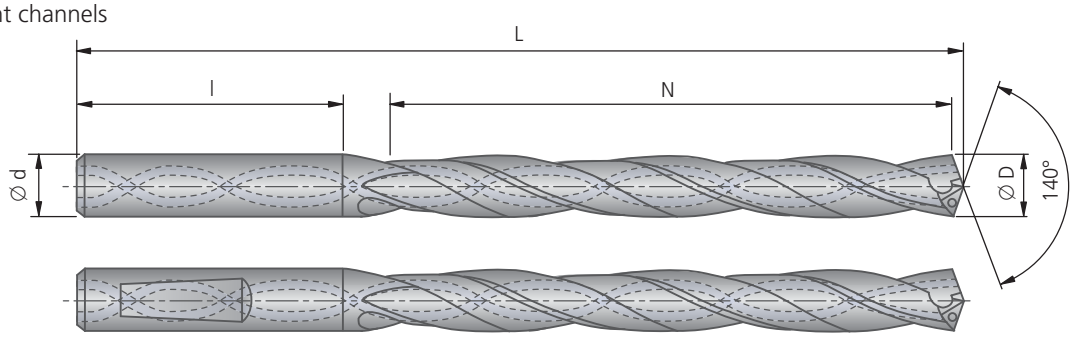
Ø 3.0 – 16.0 mm

High-Performance Solid Carbide Drill with Cylindrical Shank DIN 6535 HA / HE, R.H. cutting

L / D	solid drilling	blind hole	forge/casting skin, interface	angled	convex	cross bore	centering bore	chamber	stack plate drilling	rough boring	adjustable
7-8×D	●	●	◐	○	○	○	○	✕	◐	○	✕

● very good ◐ good ○ possible: see technical notes, page 23 ✕ not possible

- 4 x guide chamfers
- coating: TiAlN
- with coolant channels



7 – 8 × D							for workpiece material
Ø D	Ø d × l	DIN 6535 HA Order No.	DIN 6535 HE Order No.	L	N	kg ~	P M K N S H
3.0	6 × 36	V04 03000.112730	V04 03000.212730	70	28	0.017	
3.1	6 × 36	V04 03100.112730	V04 03100.212730	70	28	0.017	
3.2	6 × 36	V04 03200.112730	V04 03200.212730	70	28	0.017	
3.3	6 × 36	V04 03300.112730	V04 03300.212730	70	28	0.017	● ◐ ◐
3.4	6 × 36	V04 03400.112730	V04 03400.212730	70	28	0.018	
3.5	6 × 36	V04 03500.112730	V04 03500.212730	70	28	0.018	
3.6	6 × 36	V04 03600.112730	V04 03600.212730	70	28	0.018	
3.7	6 × 36	V04 03700.112730	V04 03700.212730	70	28	0.018	
3.8	6 × 36	V04 03800.112730	V04 03800.212730	80	36	0.019	
3.9	6 × 36	V04 03900.112730	V04 03900.212730	80	36	0.019	
4.0	6 × 36	V04 04000.112730	V04 04000.212730	80	36	0.019	
4.1	6 × 36	V04 04100.112730	V04 04100.212730	80	36	0.020	
4.2	6 × 36	V04 04200.112730	V04 04200.212730	80	36	0.020	● ◐ ◐
4.3	6 × 36	V04 04300.112730	V04 04300.212730	80	36	0.020	
4.4	6 × 36	V04 04400.112730	V04 04400.212730	80	36	0.021	
4.5	6 × 36	V04 04500.112730	V04 04500.212730	80	36	0.021	
4.6	6 × 36	V04 04600.112730	V04 04600.212730	80	36	0.021	
4.7	6 × 36	V04 04700.112730	V04 04700.212730	80	36	0.021	
4.8	6 × 36	V04 04800.112730	V04 04800.212730	92	45	0.023	
4.9	6 × 36	V04 04900.112730	V04 04900.212730	92	45	0.023	
5.0	6 × 36	V04 05000.112730	V04 05000.212730	92	45	0.024	
5.1	6 × 36	V04 05100.112730	V04 05100.212730	92	45	0.025	
5.2	6 × 36	V04 05200.112730	V04 05200.212730	92	45	0.025	
5.3	6 × 36	V04 05300.112730	V04 05300.212730	92	45	0.026	
5.4	6 × 36	V04 05400.112730	V04 05400.212730	92	45	0.027	● ◐ ◐
5.5	6 × 36	V04 05500.112730	V04 05500.212730	92	45	0.027	
5.54	6 × 36	V04 05540.112730	V04 05540.212730	92	45	0.027	
5.6	6 × 36	V04 05600.112730	V04 05600.212730	92	45	0.028	
5.7	6 × 36	V04 05700.112730	V04 05700.212730	92	45	0.029	
5.8	6 × 36	V04 05800.112730	V04 05800.212730	92	45	0.030	
5.9	6 × 36	V04 05900.112730	V04 05900.212730	92	45	0.030	
6.0	6 × 36	V04 06000.112730	V04 06000.212730	92	45	0.031	
6.1	8 × 36	V04 06100.112730	V04 06100.212730	100	52	0.032	
6.2	8 × 36	V04 06200.112730	V04 06200.212730	100	52	0.034	
6.3	8 × 36	V04 06300.112730	V04 06300.212730	100	52	0.036	
6.4	8 × 36	V04 06400.112730	V04 06400.212730	100	52	0.038	
6.5	8 × 36	V04 06500.112730	V04 06500.212730	100	52	0.039	● ◐ ◐
6.6	8 × 36	V04 06600.112730	V04 06600.212730	100	52	0.040	
6.7	8 × 36	V04 06700.112730	V04 06700.212730	100	52	0.041	
6.8	8 × 36	V04 06800.112730	V04 06800.212730	100	52	0.043	

Note: with whistle notch clamping surface conforming to DIN 6535 HE. Delivery time 1 week (minimum purchase: 3 pieces)

High-Performance Solid Carbide Drill with Cylindrical Shank DIN 6535 HA / HE, R.H. cutting

7 – 8 × D							for workpiece material
Ø D	Ø d × l	DIN 6535 HA Order No.	DIN 6535 HE Order No.	L	N	kg ~	P M K N S H
6.9	8 × 36	V04 06900.112730	V04 06900.212730	108	60	0.045	
7.0	8 × 36	V04 07000.112730	V04 07000.212730	108	60	0.045	
7.1	8 × 36	V04 07100.112730	V04 07100.212730	108	60	0.046	
7.2	8 × 36	V04 07200.112730	V04 07200.212730	108	60	0.047	
7.3	8 × 36	V04 07300.112730	V04 07300.212730	108	60	0.047	
7.4	8 × 36	V04 07400.112730	V04 07400.212730	108	60	0.048	
7.43	8 × 36	V04 07430.112730	V04 07430.212730	108	60	0.048	● ◐ ◐
7.5	8 × 36	V04 07500.112730	V04 07500.212730	108	60	0.049	
7.6	8 × 36	V04 07600.112730	V04 07600.212730	108	60	0.050	
7.7	8 × 36	V04 07700.112730	V04 07700.212730	108	60	0.050	
7.8	8 × 36	V04 07800.112730	V04 07800.212730	108	60	0.051	
7.9	8 × 36	V04 07900.112730	V04 07900.212730	108	60	0.052	
8.0	8 × 36	V04 08000.112730	V04 08000.212730	108	60	0.053	
8.1	10 × 40	V04 08100.112730	V04 08100.212730	122	68	0.055	
8.2	10 × 40	V04 08200.112730	V04 08200.212730	122	68	0.057	
8.3	10 × 40	V04 08300.112730	V04 08300.212730	122	68	0.060	
8.4	10 × 40	V04 08400.112730	V04 08400.212730	122	68	0.062	
8.5	10 × 40	V04 08500.112730	V04 08500.212730	122	68	0.065	
8.6	10 × 40	V04 08600.112730	V04 08600.212730	122	68	0.067	
8.7	10 × 40	V04 08700.112730	V04 08700.212730	122	68	0.070	
8.8	10 × 40	V04 08800.112730	V04 08800.212730	122	68	0.072	
8.9	10 × 40	V04 08900.112730	V04 08900.212730	122	68	0.075	
9.0	10 × 40	V04 09000.112730	V04 09000.212730	122	68	0.077	
9.1	10 × 40	V04 09100.112730	V04 09100.212730	130	76	0.080	● ◐ ◐
9.2	10 × 40	V04 09200.112730	V04 09200.212730	130	76	0.082	
9.3	10 × 40	V04 09300.112730	V04 09300.212730	130	76	0.085	
9.4	10 × 40	V04 09400.112730	V04 09400.212730	130	76	0.087	
9.5	10 × 40	V04 09500.112730	V04 09500.212730	130	76	0.090	
9.54	10 × 40	V04 09540.112730	V04 09540.212730	130	76	0.090	
9.6	10 × 40	V04 09600.112730	V04 09600.212730	130	76	0.090	
9.7	10 × 40	V04 09700.112730	V04 09700.212730	130	76	0.092	
9.8	10 × 40	V04 09800.112730	V04 09800.212730	130	76	0.095	
9.9	10 × 40	V04 09900.112730	V04 09900.212730	130	76	0.097	
10.0	10 × 40	V04 10000.112730	V04 10000.212730	130	76	0.099	
10.1	12 × 45	V04 10100.112730	V04 10100.212730	152	90	0.102	
10.2	12 × 45	V04 10200.112730	V04 10200.212730	152	90	0.105	
10.3	12 × 45	V04 10300.112730	V04 10300.212730	152	90	0.110	
10.4	12 × 45	V04 10400.112730	V04 10400.212730	152	90	0.112	
10.5	12 × 45	V04 10500.112730	V04 10500.212730	152	90	0.115	
10.6	12 × 45	V04 10600.112730	V04 10600.212730	152	90	0.117	
10.7	12 × 45	V04 10700.112730	V04 10700.212730	152	90	0.120	
10.8	12 × 45	V04 10800.112730	V04 10800.212730	152	90	0.122	
10.9	12 × 45	V04 10900.112730	V04 10900.212730	152	90	0.125	
11.0	12 × 45	V04 11000.112730	V04 11000.212730	152	90	0.127	
11.1	12 × 45	V04 11100.112730	V04 11100.212730	152	90	0.130	● ◐ ◐
11.2	12 × 45	V04 11200.112730	V04 11200.212730	152	90	0.132	
11.3	12 × 45	V04 11300.112730	V04 11300.212730	152	90	0.135	
11.4	12 × 45	V04 11400.112730	V04 11400.212730	152	90	0.137	
11.5	12 × 45	V04 11500.112730	V04 11500.212730	152	90	0.140	
11.54	12 × 45	V04 11540.112730	V04 11540.212730	152	90	0.140	
11.6	12 × 45	V04 11600.112730	V04 11600.212730	152	90	0.145	
11.7	12 × 45	V04 11700.112730	V04 11700.212730	152	90	0.150	
11.8	12 × 45	V04 11800.112730	V04 11800.212730	152	90	0.155	
11.9	12 × 45	V04 11900.112730	V04 11900.212730	152	90	0.160	
12.0	12 × 45	V04 12000.112730	V04 12000.212730	152	90	0.168	
12.5	14 × 45	V04 12500.112730	V04 12500.212730	170	106	0.198	
12.8	14 × 45	V04 12800.112730	V04 12800.212730	170	106	0.200	
13.0	14 × 45	V04 13000.112730	V04 13000.212730	170	106	0.210	
13.3	14 × 45	V04 13300.112730	V04 13300.212730	170	106	0.220	● ◐ ◐
13.5	14 × 45	V04 13500.112730	V04 13500.212730	170	106	0.230	
13.8	14 × 45	V04 13800.112730	V04 13800.212730	170	106	0.240	
14.0	14 × 45	V04 14000.112730	V04 14000.212730	170	106	0.246	
14.5	16 × 48	V04 14500.112730	V04 14500.212730	192	122	0.315	
14.8	16 × 48	V04 14800.112730	V04 14800.212730	192	122	0.317	
15.0	16 × 48	V04 15000.112730	V04 15000.212730	192	122	0.320	
15.5	16 × 48	V04 15500.112730	V04 15500.212730	192	122	0.340	● ◐ ◐
15.8	16 × 48	V04 15800.112730	V04 15800.212730	192	122	0.350	
16.0	16 × 48	V04 16000.112730	V04 16000.212730	192	122	0.360	

Other diameters on request.

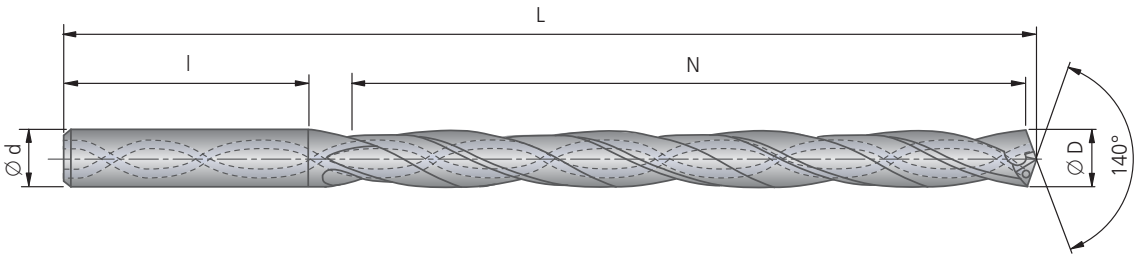
Guideline values for solid drilling: page 20-21.

KOMET KUB® Drillmax XL — Ø 3.0 – 10.0 mm · 20×D

High-Performance Solid Carbide Drill with Cylindrical Shank DIN 6535 HA, R.H. cutting

Warning! A pilot hole must always be drilled. Direct spot drilling is not possible, even on a machined spot-drill surface. Angled surfaces or unmachined spot-drill surfaces must also be faced or spot faced for the pilot drilling tool (page 22).

- 4 x guide chamfers
- coating: TiAlN
- with coolant channels



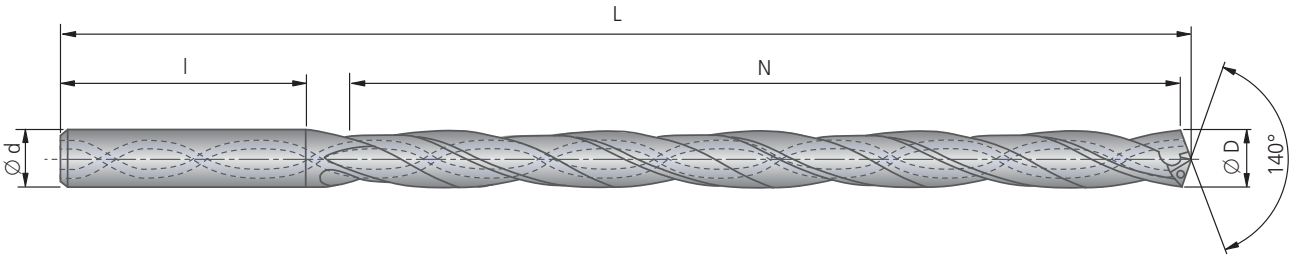
20 × D						for workpiece material
Ø D	Ø d × l	DIN 6535 HA Order No.	L	N	kg ~	P M K N S H
3.0	6 × 36	V05 03000.117830	108	62		
4.0	6 × 36	V05 04000.117830	132	82		
4.5	6 × 36	V05 04500.117830	144	95		● ●
5.0	6 × 36	V05 05000.117830	156	103		
5.5	6 × 36	V05 05500.117830	168	113		
6.0	6 × 36	V05 06000.117830	178	123		
6.5	8 × 36	V05 06500.117830	192	133		● ●
8.0	8 × 36	V05 08000.117830	222	164		
8.5	10 × 40	V05 08500.117830	244	174		
9.0	10 × 40	V05 09000.117830	256	184		● ●
10.0	10 × 40	V05 10000.117830	270	205		

Other diameters on request.

High-Performance Solid Carbide Drill with Cylindrical Shank DIN 6535 HA, R.H. cutting

Warning! A pilot hole must always be drilled. Direct spot drilling is not possible, even on a machined spot-drill surface. Angled surfaces or unmachined spot-drill surfaces must also be faced or spot faced for the pilot drilling tool (page 22).

4 x guide chamfers ■
coating: TiAlN ■
with coolant channels ■



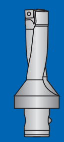
30 × D						for workpiece material
Ø D	Ø d × l	DIN 6535 HA Order No.	L	N	kg ~	P M K N S H
3.0	6 × 36	V06 03000.117830	138	92		
4.0	6 × 36	V06 04000.117830	172	122		
4.5	6 × 36	V06 04500.117830	189	137		● ●
5.0	6 × 36	V06 05000.117830	206	153		
5.5	6 × 36	V06 05500.117830	223	168		
6.0	6 × 36	V06 06000.117830	238	183		
6.5	8 × 36	V06 06500.117830	257	198		● ●
8.0	8 × 36	V06 08000.117830	302	244		

Other diameters on request.

Guideline values for solid drilling: page 21.

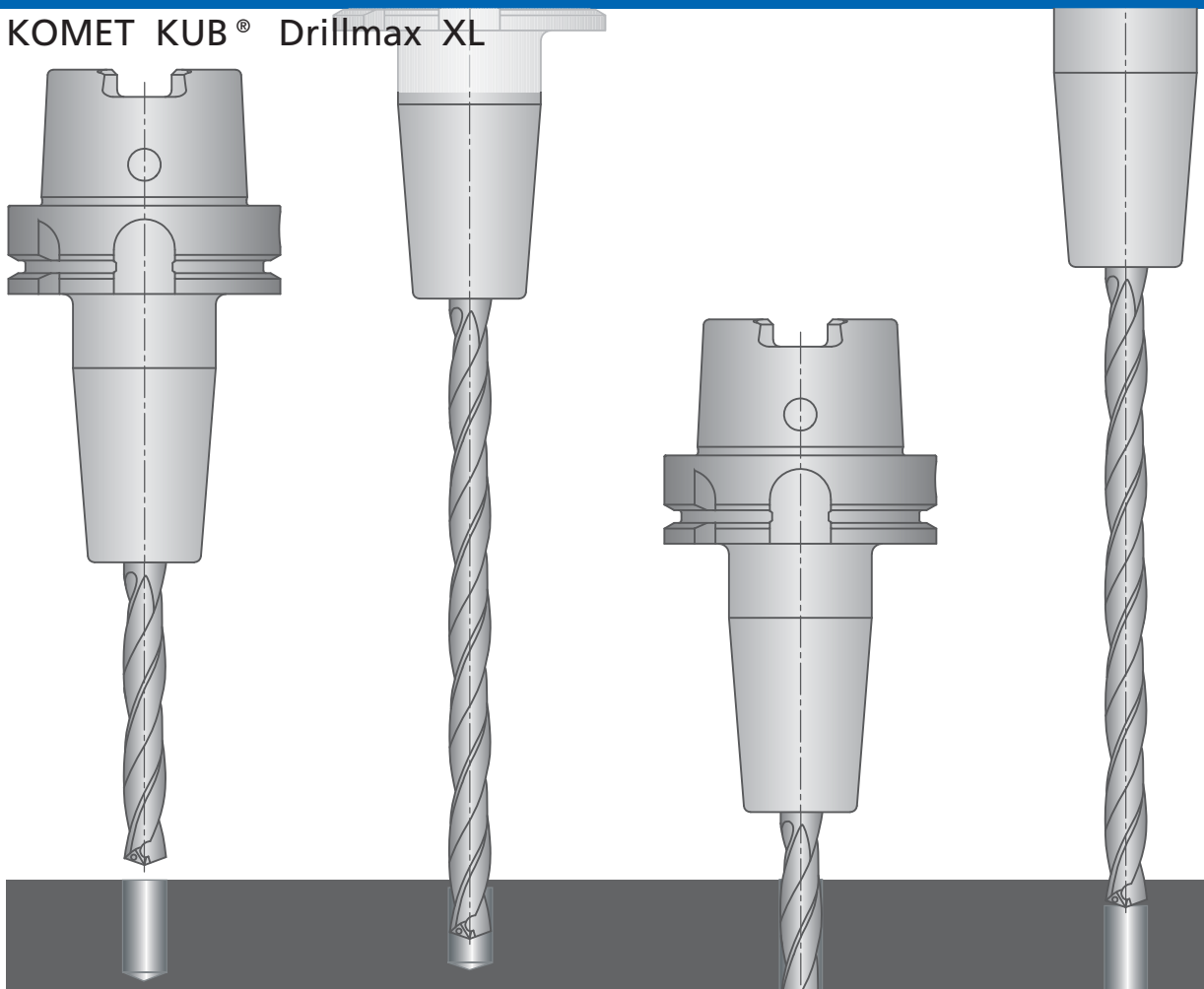
Guideline values for solid drilling						5×D / 7-8×D								
Material group		Strength Rm (N/mm²)	Hardness HB	Material	Material example, material code AISI/DIN	Cutting speed v_c ft/min (m/min)			Feed f in/rev (mm/rev)					
									Ø 0.118-0.197 (Ø 3.0-5.0)			Ø 0.198-0.315 (Ø 5.1-8.0)		
						min	opt.	max	min	opt.	max	min	opt.	max
P	1.0	≤72500		non-alloy steels	A570.36 1213 A573.81	310 (95)	**380** **(115)**	440 (135)	0.003 (0.08)	**0.006** **(0.14)**	0.008 (0.20)	0.006 (0.15)	**0.008** **(0.20)**	0.010 (0.25)
P	2.0	72500- 130000		non-alloy / low alloy steels	5120 1055 5115	230 (70)	**280** **(85)**	330 (100)	0.002 (0.06)	**0.005** **(0.12)**	0.007 (0.18)	0.005 (0.12)	**0.007** **(0.17)**	0.009 (0.22)
P	2.1	<72500		lead alloys	12L13	230 (70)	**280** **(85)**	330 (100)	0.002 (0.06)	**0.005** **(0.12)**	0.007 (0.18)	0.004 (0.10)	**0.007** **(0.18)**	0.010 (0.25)
P	3.0	>130000 - 174000		low alloy steels: heat resistant structural, heat treated, nitride and tools steels	4140 1064	230 (70)	**245** **(75)**	260 (80)	0.002 (0.05)	**0.004** **(0.10)**	0.006 (0.15)	0.004 (0.10)	**0.006** **(0.15)**	0.008 (0.20)
P	4.0	> 174000		high alloy steels	H13 H21	145 (45)	**195** **(60)**	245 (75)	0.002 (0.05)	**0.004** **(0.09)**	0.005 (0.13)	0.004 (0.10)	**0.006** **(0.14)**	0.007 (0.18)
P	4.1			HSS										
S	5.0		250	special alloys: Inconel, Hastelloy, Nimonic, stc.	Inconel® 718 Nimonic® 80A									
S	5.1	58000		titanium, titanium alloys	AMS R54520									
M	6.0	≤87000		stainless steels	304L 316	130 (40)	**180** **(55)**	230 (70)	0.002 (0.06)	**0.005** **(0.12)**	0.007 (0.18)	0.005 (0.12)	**0.007** **(0.17)**	0.009 (0.22)
M	6.1	<130000		stainless steels	630	80 (25)	**150** **(45)**	210 (65)	0.002 (0.05)	**0.003** **(0.08)**	0.004 (0.10)	0.004 (0.09)	**0.006** **(0.15)**	0.008 (0.20)
M	7.0	>130000		stainless / fireproof steels	420 403	50 (15)	**100** **(30)**	130 (40)	0.002 (0.05)	**0.003** **(0.08)**	0.004 (0.10)	0.002 (0.06)	**0.004** **(0.10)**	0.006 (0.14)
K	8.0		180	gray cast iron	No 35 B No 50 B	295 (90)	**380** **(115)**	460 (140)	0.004 (0.10)	**0.007** **(0.18)**	0.010 (0.25)	0.006 (0.15)	**0.009** **(0.23)**	0.012 (0.30)
K	8.1		250	alloy gray cast iron	A436 Type 2	230 (70)	**310** **(95)**	390 (120)	0.004 (0.10)	**0.007** **(0.18)**	0.010 (0.25)	0.006 (0.15)	**0.009** **(0.23)**	0.012 (0.30)
K	9.0	≤87000	130	spheroidal graphite cast iron, ferritic	60-40-18	330 (100)	**390** **(120)**	460 (140)	0.003 (0.08)	**0.006** **(0.14)**	0.008 (0.20)	0.006 (0.15)	**0.008** **(0.20)**	0.010 (0.25)
K	9.1		230	spheroidal graphite cast iron, ferritic/perlitic	80-55-06	260 (80)	**330** **(100)**	390 (120)	0.002 (0.06)	**0.005** **(0.12)**	0.007 (0.18)	0.004 (0.10)	**0.006** **(0.15)**	0.008 (0.20)
K	10.0	>87000	250	spheroidal graphite cast iron, perlitic malleable iron	100-70-03 70003	230 (70)	**295** **(90)**	360 (110)	0.002 (0.06)	**0.005** **(0.12)**	0.007 (0.18)	0.004 (0.10)	**0.006** **(0.15)**	0.008 (0.20)
K	10.1		200	alloyed spheroidal graphite cast iron	A43D2	195 (60)	**230** **(70)**	260 (80)	0.002 (0.06)	**0.005** **(0.12)**	0.007 (0.18)	0.004 (0.10)	**0.006** **(0.15)**	0.008 (0.20)
K	10.2		300	vermicular cast iron		195 (60)	**230** **(70)**	260 (80)	0.002 (0.06)	**0.005** **(0.12)**	0.007 (0.18)	0.004 (0.10)	**0.006** **(0.15)**	0.008 (0.20)
N	12.0		90	copper alloy, brass, lead-alloy bronze, lead bronze: good cut	UNS C36000									
N	12.1		100	copper alloy, brass, bronze: average cut										
N	13.0		60	wrought aluminium alloys	GD-AlSi12									
N	13.1		75	cast alum. alloy: Si-content <10% magnesium alloy										
N	14.0		100	cast alum.alloy: Si-content >10%	A360.2									
H	15.0	203000		hardened steels < 45 HRC										
H	16,0	261000		hardened steels > 45 HRC										

Cutting values shown are relating to the basic recommendations for cutting materials given.



	5×D / 7-8×D												20×D / 30×D											
	Feed f (mm/rev)												Cutting speed v_C (m/min)			Feed f (mm/rev)								
	Ø 0.316-0.394 (Ø 8.1-10.0)			Ø 0.395-0.472 (Ø 10.1-12.0)			Ø 0.473-0.551 (Ø 12.1-14.0)			Ø 0.552-0.630 (Ø 14.1-16.0)						Ø 0.118-0.517 (Ø 3.0-4.0)			Ø 0.518-0.236 (Ø 4.1-6.0)			Ø 0.237-0.394 (Ø 6.1-10.0)		
	min	**opt.**	max	min	**opt.**	max	min	**opt.**	max	min	**opt.**	max	min	**opt.**	max	min	**opt.**	max	min	**opt.**	max	min	**opt.**	max
	0.006 (0.15)	**0.009** **(0.23)**	0.012 (0.30)	0.008 (0.20)	**0.011** **(0.28)**	0.014 (0.35)	0.010 (0.25)	**0.013** **(0.33)**	0.016 (0.40)	0.012 (0.30)	**0.015** **(0.38)**	0.018 (0.45)	130 (40)	**280** **(85)**	330 (100)	0.002 (0.06)	**0.004** **(0.10)**	0.006 (0.15)	0.004 (0.10)	**0.008** **(0.20)**	0.012 (0.30)	0.006 (0.15)	**0.010** **(0.25)**	0.014 (0.35)
	0.006 (0.15)	**0.008** **(0.20)**	0.010 (0.25)	0.007 (0.18)	**0.009** **(0.24)**	0.012 (0.30)	0.008 (0.20)	**0.011** **(0.28)**	0.014 (0.35)	0.012 (0.30)	**0.017** **(0.44)**	0.019 (0.48)	130 (40)	**245** **(75)**	330 (100)	0.002 (0.06)	**0.004** **(0.09)**	0.005 (0.12)	0.004 (0.10)	**0.007** **(0.17)**	0.010 (0.25)	0.006 (0.15)	**0.008** **(0.20)**	0.010 (0.25)
	0.008 (0.20)	**0.011** **(0.28)**	0.014 (0.35)	0.010 (0.25)	**0.013** **(0.33)**	0.016 (0.40)	0.012 (0.30)	**0.015** **(0.38)**	0.018 (0.45)	0.014 (0.35)	**0.017** **(0.44)**	0.020 (0.52)	130 (40)	**280** **(85)**	330 (100)	0.002 (0.06)	**0.004** **(0.10)**	0.006 (0.15)	0.006 (0.15)	**0.010** **(0.25)**	0.012 (0.30)	0.006 (0.15)	**0.010** **(0.25)**	0.014 (0.35)
	0.005 (0.12)	**0.007** **(0.19)**	0.010 (0.25)	0.006 (0.15)	**0.009** **(0.23)**	0.012 (0.30)	0.008 (0.20)	**0.011** **(0.28)**	0.014 (0.35)	0.010 (0.25)	**0.013** **(0.33)**	0.016 (0.40)	110 (35)	**280** **(85)**	260 (80)	0.002 (0.06)	**0.004** **(0.09)**	0.005 (0.12)	0.004 (0.10)	**0.006** **(0.15)**	0.008 (0.20)	0.006 (0.15)	**0.008** **(0.20)**	0.010 (0.25)
	0.005 (0.12)	**0.007** **(0.18)**	0.009 (0.23)	0.006 (0.15)	**0.009** **(0.22)**	0.011 (0.28)	0.007 (0.18)	**0.010** **(0.25)**	0.013 (0.32)	0.008 (0.20)	**0.011** **(0.28)**	0.014 (0.35)												
	0.006 (0.15)	**0.008** **(0.20)**	0.010 (0.25)	0.007 (0.18)	**0.009** **(0.24)**	0.012 (0.30)	0.008 (0.20)	**0.011** **(0.28)**	0.014 (0.35)	0.009 (0.22)	**0.012** **(0.31)**	0.016 (0.40)												
	0.004 (0.11)	**0.007** **(0.17)**	0.009 (0.22)	0.006 (0.14)	**0.008** **(0.20)**	0.010 (0.25)	0.006 (0.16)	**0.009** **(0.23)**	0.012 (0.30)	0.008 (0.20)	**0.011** **(0.28)**	0.014 (0.35)												
	0.003 (0.08)	**0.005** **(0.13)**	0.007 (0.18)	0.005 (0.12)	**0.007** **(0.17)**	0.009 (0.22)	0.006 (0.14)	**0.008** **(0.20)**	0.010 (0.26)	0.006 (0.16)	**0.009** **(0.23)**	0.012 (0.30)												
	0.008 (0.20)	**0.012** **(0.30)**	0.016 (0.40)	0.010 (0.25)	**0.013** **(0.33)**	0.016 (0.40)	0.010 (0.25)	**0.014** **(0.35)**	0.018 (0.45)	0.012 (0.30)	**0.016** **(0.40)**	0.020 (0.50)	130 (40)	**230** **(70)**	280 (85)	0.003 (0.07)	**0.004** **(0.11)**	0.006 (0.15)	0.007 (0.18)	**0.009** **(0.24)**	0.012 (0.30)	0.008 (0.20)	**0.010** **(0.25)**	0.014 (0.35)
	0.008 (0.20)	**0.012** **(0.30)**	0.016 (0.40)	0.010 (0.25)	**0.013** **(0.33)**	0.016 (0.40)	0.010 (0.25)	**0.014** **(0.35)**	0.018 (0.45)	0.012 (0.30)	**0.016** **(0.40)**	0.020 (0.50)	130 (40)	**230** **(70)**	280 (85)	0.003 (0.07)	**0.004** **(0.11)**	0.006 (0.15)	0.007 (0.18)	**0.009** **(0.24)**	0.012 (0.30)	0.008 (0.20)	**0.010** **(0.25)**	0.014 (0.35)
	0.006 (0.15)	**0.009** **(0.23)**	0.12 (0.30)	0.008 (0.20)	**0.011** **(0.28)**	0.014 (0.35)	0.010 (0.25)	**0.013** **(0.33)**	0.016 (0.40)	0.012 (0.30)	**0.015** **(0.38)**	0.018 (0.45)	110 (35)	**210** **(65)**	260 (80)	0.002 (0.06)	**0.004** **(0.10)**	0.006 (0.15)	0.006 (0.15)	**0.008** **(0.20)**	0.010 (0.25)	0.006 (0.15)	**0.010** **(0.25)**	0.012 (0.30)
	0.006 (0.14)	**0.008** **(0.20)**	0.010 (0.25)	0.007 (0.18)	**0.009** **(0.24)**	0.012 (0.30)	0.008 (0.20)	**0.011** **(0.28)**	0.014 (0.35)	0.010 (0.25)	**0.013** **(0.33)**	0.016 (0.40)	110 (35)	**210** **(65)**	260 (80)	0.002 (0.06)	**0.004** **(0.10)**	0.006 (0.15)	0.006 (0.15)	**0.008** **(0.20)**	0.010 (0.25)	0.006 (0.15)	**0.010** **(0.25)**	0.012 (0.30)
	0.006 (0.14)	**0.008** **(0.20)**	0.010 (0.25)	0.007 (0.18)	**0.009** **(0.24)**	0.012 (0.30)	0.008 (0.20)	**0.011** **(0.28)**	0.014 (0.35)	0.010 (0.25)	**0.013** **(0.33)**	0.016 (0.40)	110 (35)	**210** **(65)**	260 (80)	0.002 (0.06)	**0.004** **(0.10)**	0.006 (0.15)	0.006 (0.15)	**0.008** **(0.20)**	0.010 (0.25)	0.006 (0.15)	**0.010** **(0.25)**	0.012 (0.30)
	0.006 (0.14)	**0.008** **(0.20)**	0.010 (0.25)	0.007 (0.18)	**0.009** **(0.24)**	0.012 (0.30)	0.008 (0.20)	**0.011** **(0.28)**	0.014 (0.35)	0.010 (0.25)	**0.013** **(0.33)**	0.016 (0.40)												
	0.006 (0.14)	**0.008** **(0.20)**	0.010 (0.25)	0.007 (0.18)	**0.009** **(0.24)**	0.012 (0.30)	0.008 (0.20)	**0.011** **(0.28)**	0.014 (0.35)	0.010 (0.25)	**0.013** **(0.33)**	0.016 (0.40)	110 (35)	**210** **(65)**	260 (80)	0.002 (0.06)	**0.004** **(0.09)**	0.005 (0.12)	0.006 (0.15)	**0.008** **(0.20)**	0.010 (0.25)	0.006 (0.15)	**0.010** **(0.25)**	0.012 (0.30)

Cutting values shown are relating to the basic recommendations for cutting materials given.
Important: See chapter 8 for more application details and safety notes!



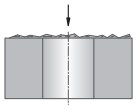
From experience:

1. Pilot hole
Drilling depth 2 – 3 × D

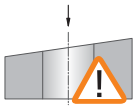
2. Start with deep-hole drill
Enter the pilot hole at a reduced cutting speed
v_c = 66-98 ft/min (20-30 m/min) at the working feed rate.
Just before reaching the bottom of the pilot hole, stop the feed and increase the speed to the cycle speed steplessly.

3. Increase the deep-hole drilling
Feed rate to the cycle speed. Drill to the required hole depth without pecking. When drilling a through hole, reduce the feed rate by 50 % when the drill tip exits at through holes – risk of chipping.

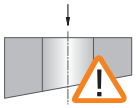
4. Back out of the hole
Once the final drilling depth is reached, withdraw the tool 0.079"-0.118" (2-3 mm), then reduce the cutting speed to v_c = 66-98 ft/min (20-30 m/min) and withdraw at v_f = 118 in/min (3000 mm/min) until the pilot hole depth. Then back out from the hole at n = 300 rpm v_f = 118 in/min (3000 mm/min).

1. 

Starting on uneven surfaces (cast surfaces)
- depending on the quality of the surface or when spot drilling, reduce the feed

2. 

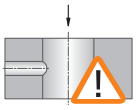
Starting on angled surfaces
- spot face surface before starting bore

3. 

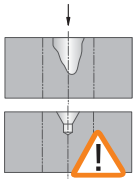
Angled bore exit
- reduce feed by 50 % in the exit area

4. 

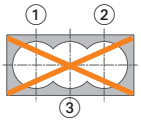
Starting on cambered surfaces
- drilling on centre with reduced feed is possible
- spot facing is required if the bore start point is outside the radius centre

5. 

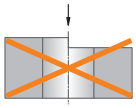
Drilling through a cross bore
- half feed rate at interruption

6. 

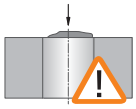
Starting on a groove or large centering bore
- end-face the seam or centre beforehand where applicable (diameter min. 0.1 mm greater than drill diameter)
- possible under certain conditions. Reduce feed where necessary

7. 

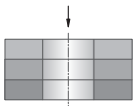
Drilling a chamfer
- not possible

8. 

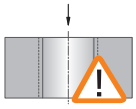
Starting on an edge
- not possible (start point must be flat)

9. 

Starting on a welded seam
- spot face surface before starting bore

10. 

Drilling through stacked plates
- possible in principle
- good workpiece clamping required
- avoid large spaces between elements

11. 

Roughing
- 5×D and 7-8×D possible
- 20×D and 30×D not possible

Warning! A pilot hole must always be drilled. Direct spot drilling is not possible, even on a machined spot-drill surface.
Angled surfaces or unmachined spot-drill surfaces must also be faced or spot faced for the pilot drilling tool.

JEL® PCD High-performance Drill


JEL® Drillcut 24


JEL® Drillmax 22

Modern PCD cutting material

Due to high hardness and resistance to abrasion, polycrystalline diamond (PCD) cutting materials have achieved significant importance in machining aluminium alloys.

With our PCD tipped cutting tools we will take your machine to its full potential at maximum productivity. Depending on the application there is almost unlimited cutting speed possible. It is no longer the tool which determines the cutting data but the efficiency of your machine.

JEL® Drill Reamer


JEL® Dreammax

Drilling to precise tolerances in one operation, thereby reducing the tools required and saving costs

Hole tolerance IT 7 achievable

Main application area:
Grey cast iron
Spheroidal graphite cast iron
Aluminium

BENEFITS for you:

- For maximum cutting speeds and tool life
- For cutting lightweight structural materials such as aluminium, magnesium and fibre-reinforced plastics

Drillcut · Drillmax · Dreammax

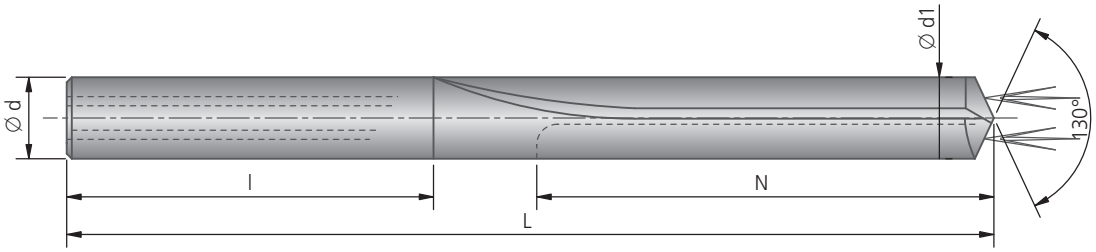
JEL® Drillcut 24 — Ø 5.0 – 12.0 mm · 5×D

PCD High-Performance Drill with Cylindrical Shank DIN 6535 HA, R.H. cutting

L / D	solid drilling	blind hole	forge/casting skin, interface	angled	convex	cross bore	centering bore	chamber	stack plate drilling	rough boring	adjustable
5×D	●	●	○	○	○	○	○	✕	○	✕	✕

● very good ◐ good ○ possible ✕ not possible

- with solid carbide shank
- 2 cutting edges and 4 guides
- straight fluted
- with coolant channels
- cutting material: PCD sandwich



5 × D							for workpiece material
Ø d1	for thread	Ø d × l	DIN 6535 HA Order No.	L	N	kg ~	P M K N S H
5.00	M6	6 × 36	38588082000500	82	35	0.023	
5.50	M6 roll formed + M6×0.5	6 × 36	38588082000550	82	35	0.025	●
6.00		6 × 36	38588082000600	82	35	0.027	
6.80	M8	8 × 36	38588091000680	91	43	0.045	
7.40	M8 roll formed	8 × 36	38588091000740	91	43	0.047	●
8.00		8 × 36	38588091000800	91	43	0.050	
8.50	M10	10 × 40	38588003000850	103	49	0.060	
9.30	M10×1.25 roll formed	10 × 40	38588003000930	103	49	0.075	●
10.00		10 × 40	38588003001000	103	49	0.090	
10.20	M12	12 × 45	38588018001020	118	56	0.116	
11.20	M12×1.5 roll formed	12 × 45	38588018001120	118	56	0.122	●
12.00	M14	12 × 45	38588018001200	118	56	0.142	

Ø 6.0 – 10.0 mm · 5×D

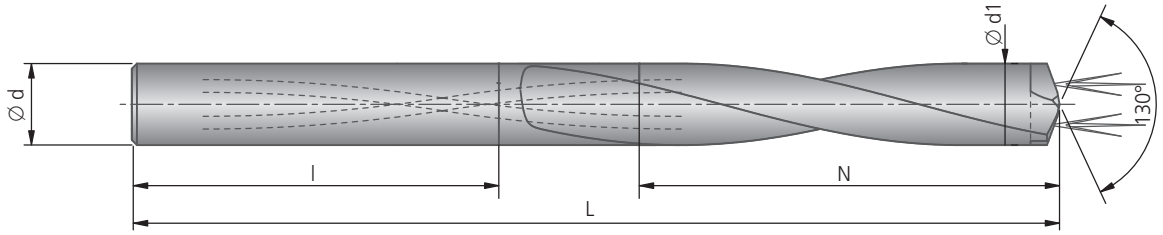
JEL® Drillmax 22

PCD High-Performance Drill with Cylindrical Shank DIN 6535 HA, R.H. cutting

L / D	solid drilling	blind hole	forge/casting skin, interface	angled	convex	cross bore	centering bore	chamber	stack plate drilling	rough boring	adjustable
5×D	●	●	○	○	○	○	○	✕	○	✕	✕

● very good ◐ good ○ possible ✕ not possible

- with solid carbide shank ■
- 2 cutting edges and 4 guides ■
- spiral fluted ■
- with coolant channels ■
- cutting material: PCD sandwich ■



5 × D						for workpiece material
Ø d1	Ø d × l	DIN 6535 HA Order No.	L	N	kg ~	P M K N S H
6.00	6 × 36	38405002000600	82	30	0.038	●
8.00	8 × 36	38405002000800	91	42	0.047	●
10.00	10 × 40	38405002001000	103	50	0.083	●

Guideline values for solid drilling: page 29.

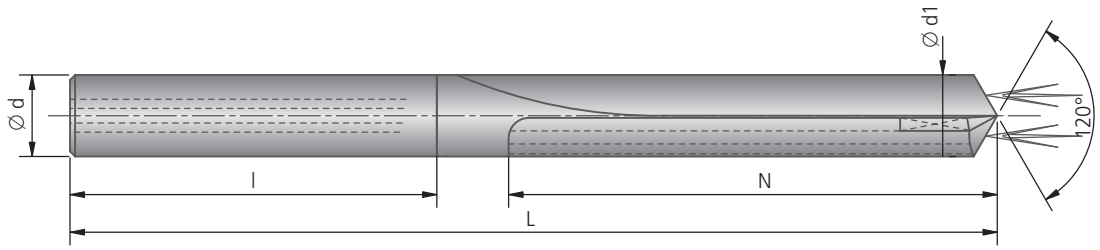
JEL® Dreammax — Ø 6.0 – 12.0 mm · 4×D

Drill Reamer with Cylindrical Shank DIN 6535 HA, R.H. cutting

L / D	solid drilling	blind hole	forge/casting skin, interface	angled	convex	cross bore	centering bore	chamber	stack plate drilling	rough boring	adjustable
4×D	●	●	○	○	○	○	○	✕	○	○	✕

● very good ◐ good ○ possible ✕ not possible

- for bore tolerance H7
- 2 cutting edges
- straight fluted
- with coolant channels
- cutting material: solid carbide

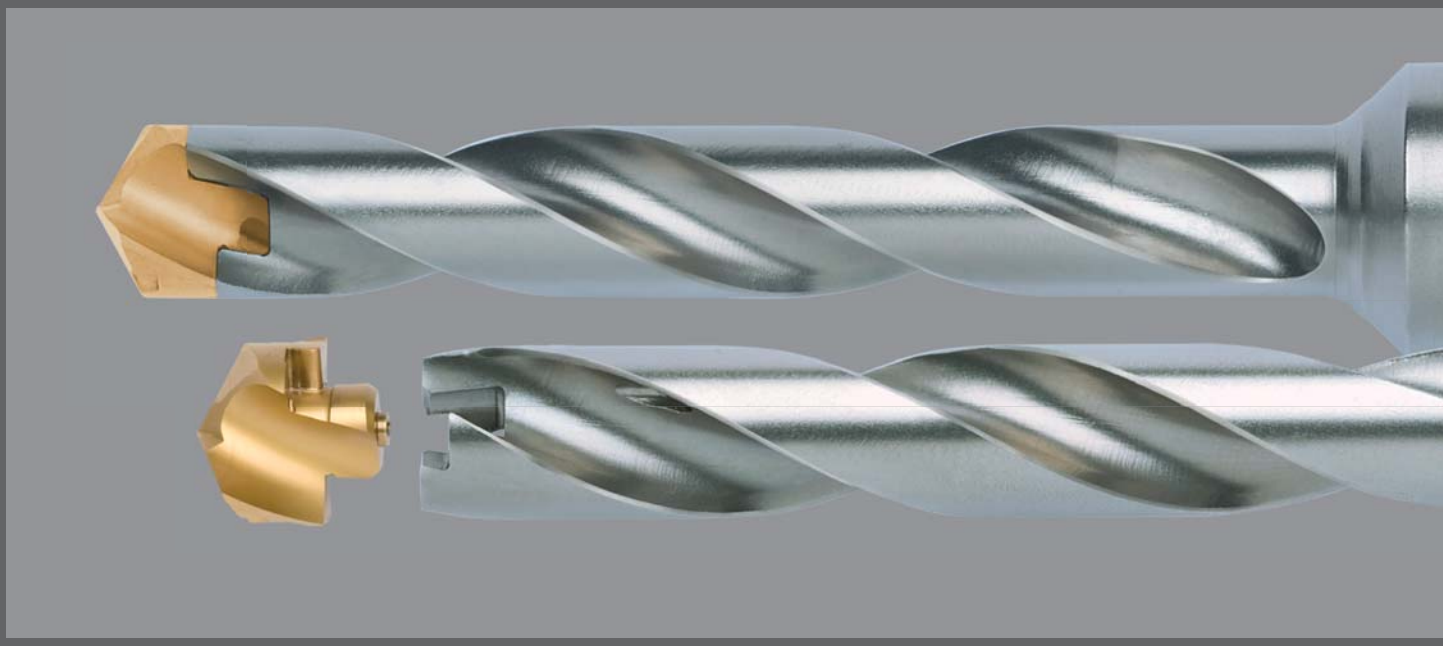


4 × D						for workpiece material
Ø d1	Ø d × l	DIN 6535 HA Order No.	L	N	kg ~	P M K N S H
6.00	6 × 36	78451082000600	82	24		● ●
8.00	8 × 36	78451091000800	91	32		● ●
10.00	10 × 40	78451003001000	103	40		● ●
12.00	12 × 45	78451018001200	118	48		● ●

Material Group		Strength Rm (N/mm²)	Hardness HB	Tool	Drillcut 24 · Drillmax 22								Dreammax			
				Cutting material	PCD								Solid carbide			
				Surface	uncoated								TiN			
																
				Diameter	Ø 5 - 6		Ø 6 - 8		Ø 8 - 10		Ø 10 - 12			Ø 6-8	Ø 8-10	Ø10-12
				Material	v_c (m/min)	f_b (mm/rev)	v_c (m/min)	f_b (mm/rev)	v_c (m/min)	f_b (mm/rev)	v_c (m/min)	f_b (mm/U)	v_c (m/min)	f_z (mm/tooth)	f_z (mm/tooth)	f_z (mm/tooth)
P	1.1	≤400	≤120	Magnetic soft iron												
P	1.2	≤700	≤200	Structural, case hardened steel												
P	1.3	≤850	≤250	Carbon steel												
P	1.4	≤850	≤250	Alloy steel												
P	1.5	>850 ≤1200	>250 ≤350	Alloy/heat treated steel												
P	1.6	>1200	>350	Alloy/heat treated steel												
H	1.7	≤1400	≤400	Hardened steel to 45 HRC												
H	1.8	≤2200	≤600	Hardened steel to 58 HRC												
M	2.1	≤850	≤250	Stainless steel, sulphuretted												
M	2.2	≤850	≤250	Austentic												
M	2.3	≤1000	≤300	Ferritic, ferritic & austentic, martensitic												
K	3.1	≤500	≤150	Grey cast iron									30-60	0.03-0.10	0.04-0.10	0.07-0.10
K	3.2	>500 ≤1000	>150 ≤300	Grey cast iron, heat treated									30-60	0.03-0.10	0.04-0.10	0.07-0.10
K	3.3	400-500	200-250	Vermicular cast iron												
K	3.4	≤700	≤200	Spher. graph. cast iron									30-60	0.03-0.10	0.04-0.10	0.07-0.10
K	3.5	>700 ≤1000	>200 ≤300	Spher. graph. cast iron, heat treated												
K	3.6	≤700	≤200	Malleable iron												
K	3.7	>700 <1000	>200 ≤300	Malleable iron, heat treated												
S	4.1	≤700	≤200	Pure titanium												
S	4.2	≤900	≤270	Titanium alloys												
S	4.3	>900 ≤1250	>270 ≤300	Titanium alloys												
S	5.1	≤500	≤150	Pure nickel												
S	5.2	≤900	<270	Nickel alloys, heat resistant												
S	5.3	>900 ≤1200	>270 ≤350	Nickel alloys, high heat resistant												
N	6.1	≤350	≤100	Non-alloy copper												
N	6.2	≤700	≤200	short chip, brass, bronze, red brass	100-400	0.10-0.12	100-400	0.10-0.20	100-600	0.15-0.25	100-800	0.20-0.30				
N	6.3	≤700	≤200	long chip brass												
N	6.4	≤500	≤470	Cu-Al-Fe alloy (Ampco)												
N	7.1	≤350	≤100	Alu, Mg non-alloy	100-600	0.10-0.15	100-800	0.15-0.25	150-1000	0.20-0.30	150-1200	0.25-0.35				
N	7.2	≤600	≤180	Alu wrought all., break. strain (A 5) <14 %	100-600	0.10-0.15	100-800	0.15-0.25	150-1000	0.20-0.30	150-1200	0.25-0.35	50-100	0.05-0.12	0.06-0.15	0.07-0.15
N	7.3	≤600	≤180	Alu wrought all., break. strain (A 5) ≥14 %	100-600	0.10-0.15	100-800	0.15-0.25	150-1000	0.20-0.30	150-1200	0.25-0.35	50-100	0.05-0.12	0.06-0.15	0.07-0.15
N	7.4	≤600	≤180	Alu cast alloy, Si <10 %	100-600	0.10-0.15	100-800	0.15-0.25	150-1000	0.20-0.30	150-1200	0.25-0.35				
N	7.5	≤600	≤180	Alu cast alloy, Si ≥10 %	100-600	0.10-0.15	100-800	0.15-0.25	150-1000	0.20-0.30	150-1200	0.25-0.35				
N	8.1			Thermoplastics												
N	8.2			Thermosetting plastics												
N	8.3			Fibre reinforced plastics	150-400	0.10-0.20	150-600	0.15-0.30	250-800	0.20-0.40	250-1000	0.25-0.50				

v_c = Cutting speed · f_b = Drilling feed · f_z = Milling feed

Important: See chapter 8 for more application details and safety notes!



KOMET KUB K2 ® replaceable head drill

With this replaceable head system for the double-cutting KUB K2 ®, KOMET ® has introduced an ingenious system of replaceable drill heads.

These now also make the most of the economic and flexibility advantages of replaceable cutting heads with small drilling diameters up to 10 mm.

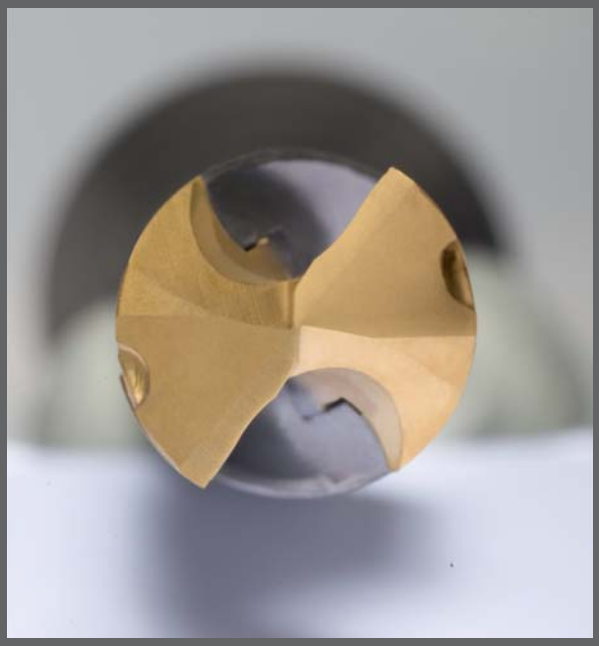
The double-cutting carbide drill heads cannot be reground. A patented attachment point makes them self-clamping, self-centring and easy to change.

BENEFITS for you:

- Easy replacement of the KUB K2 ® replaceable heads even in the machine, with secure, user-friendly quick-change connector
- Maximum performance and best possible feed with the latest coatings and high-end polished sections
- Outstanding tension release properties with all materials, due to optimum surface quality of the cutting channels
- Maximum performance and life of the main drill body due to a special surface treatment

Rotating application
in a machining centre
Material: 1.4301, V2A
v_C = 70 m/min · f = 0.2 mm/rev

Stationary application
in a cyclically-controlled lathe
Material: 42CrMo4
v_C = 90 m/min · f = 0.22 mm/rev



Applications:

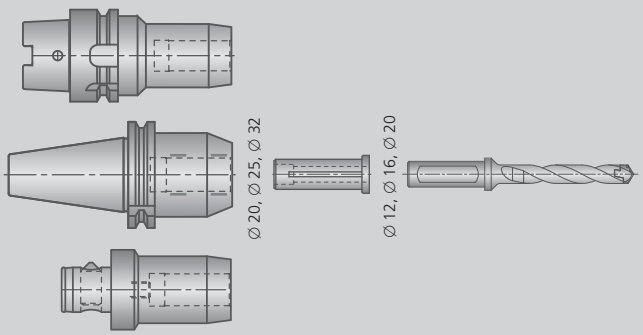
- For diameter range 10 to 20.5 mm
- Internal coolant supply
- Suitable for use with steel, cast metal and stainless materials
- Replaceable head system enables use with a wide variety of sections and coatings.

Rotating application
in a machining centre

Material: 1.6758 (23MnNiMoCr5-4)
v_C = 46 m/min · f = 0.1 mm/rev

Reduced cutting speed due to very low coolant pressure.
Good process reliability.

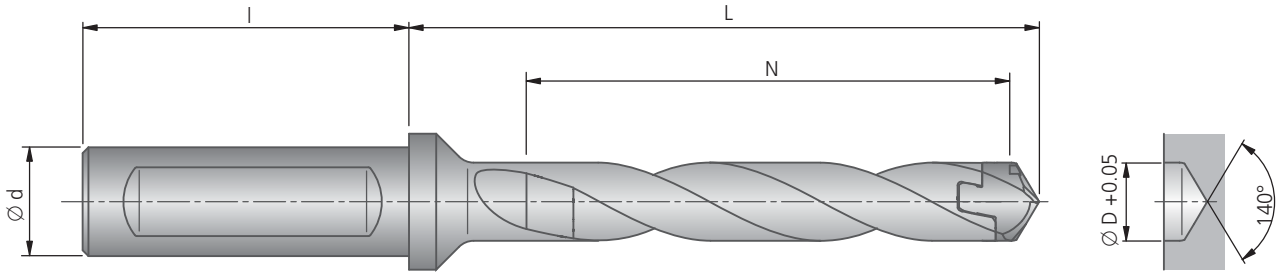
Please note: When using the KUB K2® in a hydraulic expansion chuck, use a reducing sleeve.



KOMET KUB K2®

Ø 10.0 – 12.9 mm

Replaceable Head Drill with Cylindrical Shank ISO 9766, R.H. cutting



Replaceable head										
Ø D	H70 BK8425 Order No.	H70 BK2725 Order No.	chamfer H71 BK2725 Order No.	H70/H71 starting/roughing size	H72 BK7930 Order No.	H70/H72 starting/roughing size	kg	Coating	for workpiece material P M K N S H
10.0	H70 10000.018425	H70 10000.012725	H71 10000.012725		H72 10000.017930				
10.1	H70 10100.018425	H70 10100.012725	H71 10100.012725		H72 10100.017930			H70: BK8425	
10.2	H70 10200.018425	H70 10200.012725	H71 10200.012725	4.0	H72 10200.017930	5.1	0.004	H70: BK2725	
10.3	H70 10300.018425	H70 10300.012725	H71 10300.012725		H72 10300.017930			H71: BK2725	
10.4	H70 10400.018425	H70 10400.012725	H71 10400.012725		H72 10400.017930			H72: BK7930	
10.5	H70 10500.018425	H70 10500.012725	H71 10500.012725		H72 10500.017930				
10.6	H70 10600.018425	H70 10600.012725	H71 10600.012725		H72 10600.017930			H70: BK8425	
10.7	H70 10700.018425	H70 10700.012725	H71 10700.012725	4.0	H72 10700.017930	5.1	0.004	H70: BK2725	
10.8	H70 10800.018425	H70 10800.012725	H71 10800.012725		H72 10800.017930			H71: BK2725	
10.9	H70 10900.018425	H70 10900.012725	H71 10900.012725		H72 10900.017930			H72: BK7930	
11.0	H70 11000.018425	H70 11000.012725	H71 11000.012725		H72 11000.017930				
11.1	H70 11100.018425	H70 11100.012725	H71 11100.012725		H72 11100.017930			H70: BK8425	
11.2	H70 11200.018425	H70 11200.012725	H71 11200.012725	4.3	H72 11200.017930	5.6	0.005	H70: BK2725	
11.3	H70 11300.018425	H70 11300.012725	H71 11300.012725		H72 11300.017930			H71: BK2725	
11.4	H70 11400.018425	H70 11400.012725	H71 11400.012725		H72 11400.017930			H72: BK7930	
11.5	H70 11500.018425	H70 11500.012725	H71 11500.012725		H72 11500.017930				
11.6	H70 11600.018425	H70 11600.012725	H71 11600.012725		H72 11600.017930			H70: BK8425	
11.7	H70 11700.018425	H70 11700.012725	H71 11700.012725	4.3	H72 11700.017930	5.6	0.005	H70: BK2725	
11.8	H70 11800.018425	H70 11800.012725	H71 11800.012725		H72 11800.017930			H71: BK2725	
11.9	H70 11900.018425	H70 11900.012725	H71 11900.012725		H72 11900.017930			H72: BK7930	
12.0	H70 12000.018425	H70 12000.012725	H71 12000.012725		H72 12000.017930				
12.1	H70 12100.018425	H70 12100.012725	H71 12100.012725		H72 12100.017930			H70: BK8425	
12.2	H70 12200.018425	H70 12200.012725	H71 12200.012725	4.7	H72 12200.017930	6.0	0.006	H70: BK2725	
12.3	H70 12300.018425	H70 12300.012725	H71 12300.012725		H72 12300.017930			H71: BK2725	
12.4	H70 12400.018425	H70 12400.012725	H71 12400.012725		H72 12400.017930			H72: BK7930	
12.5	H70 12500.018425	H70 12500.012725	H71 12500.012725		H72 12500.017930				
12.6	H70 12600.018425	H70 12600.012725	H71 12600.012725		H72 12600.017930			H70: BK8425	
12.7	H70 12700.018425	H70 12700.012725	H71 12700.012725	4.7	H72 12700.017930	6.0	0.007	H70: BK2725	
12.8	H70 12800.018425	H70 12800.012725	H71 12800.012725		H72 12800.017930			H71: BK2725	
12.9	H70 12900.018425	H70 12900.012725	H71 12900.012725		H72 12900.017930			H72: BK7930	

For other diameters see following page.

Supply includes:
Replaceable head with mounting key. Please order basic body and accessories separately..

Patented design (KUB K2)

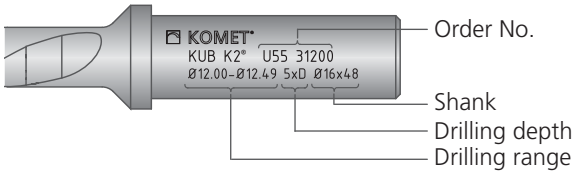
Replaceable Head Drill with Cylindrical Shank ISO 9766, R.H. cutting

L / D	solid drilling	blind hole	forge/casting skin, interface	angled	convex	cross bore	centering bore	chamber	stack plate drilling	rough boring	adjustable
3×D	●	●	○	○	✕	✕	●	✕	●	✕	✕
5×D*	●	●	○	○	✕	✕	●	✕	●	✕	✕
7×D*	●	●	○	○	✕	✕	●	✕	●	✕	✕

● very good ◐ good ○ possible: see technical notes, page 39 ✕ not possible

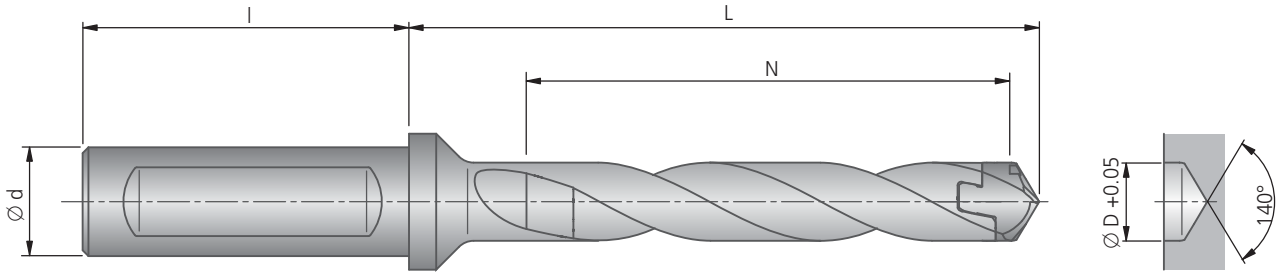
* **Please note:** Technical notes page 39, position 15.

Ø d × l	3×D				5×D				7×D				
		L	N	kg		L	N	kg		L	N	kg	
12 × 45	**U53 21000**	56.6	33	0.05	**U55 21000**	78.6	55	0.055	**U57 21000**	100.6	77	0.06	**L05 10010** Size 1
12 × 45	**U53 21050**	56.6	33	0.05	**U55 21050**	78.6	55	0.057	**U57 21050**	100.6	77	0.065	
12 × 45	**U53 21100**	60.7	36	0.054	**U55 21100**	84.7	60	0.062	**U57 21100**	108.7	84	0.07	
12 × 45	**U53 21150**	60.7	36	0.055	**U55 21150**	84.7	60	0.064	**U57 21150**	108.7	84	0.075	
16 × 48	**U53 31200**	66.7	39	0.09	**U55 31200**	92.7	65	0.10	**U57 31200**	118.7	91	0.111	**L05 10020** Size 2
16 × 48	**U53 31250**	66.7	39	0.09	**U55 31250**	92.7	65	0.10	**U57 31250**	118.7	91	0.115	



Guideline values for solid drilling: page 38.

Replaceable Head Drill with Cylindrical Shank ISO 9766, R.H. cutting



Replaceable head									
Ø D	H70 BK8425 Order No.	H70 BK2725 Order No.	chamfer H71 BK2725 Order No.	H70/H71 starting/roughing size	H72 BK7930 Order No.	H70/H72 starting/roughing size	kg	Coating	for workpiece material P M K N S H
13.0	H70 13000.018425	H70 13000.012725	H71 13000.012725	5.0	H72 13000.017930	6.5	0.008	H70: BK8425 H70: BK2725 H71: BK2725 H72: BK7930	
13.1	H70 13100.018425	H70 13100.012725	H71 13100.012725		H72 13100.017930				
13.2	H70 13200.018425	H70 13200.012725	H71 13200.012725		H72 13200.017930				
13.3	H70 13300.018425	H70 13300.012725	H71 13300.012725		H72 13300.017930				
13.4	H70 13400.018425	H70 13400.012725	H71 13400.012725		H72 13400.017930				
13.5	H70 13500.018425	H70 13500.012725	H71 13500.012725		H72 13500.017930				
13.6	H70 13600.018425	H70 13600.012725	H71 13600.012725		H72 13600.017930				
13.7	H70 13700.018425	H70 13700.012725	H71 13700.012725		H72 13700.017930				
13.8	H70 13800.018425	H70 13800.012725	H71 13800.012725		H72 13800.017930				
13.9	H70 13900.018425	H70 13900.012725	H71 13900.012725		H72 13900.017930				
14.0	H70 14000.018425	H70 14000.012725	H71 14000.012725	5.4	H72 14000.017930	6.9	0.010	H70: BK8425 H70: BK2725 H71: BK2725 H72: BK7930	
14.1	H70 14100.018425	H70 14100.012725	H71 14100.012725		H72 14100.017930				
14.2	H70 14200.018425	H70 14200.012725	H71 14200.012725		H72 14200.017930				
14.3	H70 14300.018425	H70 14300.012725	H71 14300.012725		H72 14300.017930				
14.4	H70 14400.018425	H70 14400.012725	H71 14400.012725		H72 14400.017930				
14.5	H70 14500.018425	H70 14500.012725	H71 14500.012725		H72 14500.017930				
14.6	H70 14600.018425	H70 14600.012725	H71 14600.012725		H72 14600.017930				
14.7	H70 14700.018425	H70 14700.012725	H71 14700.012725		H72 14700.017930				
14.8	H70 14800.018425	H70 14800.012725	H71 14800.012725		H72 14800.017930				
14.9	H70 14900.018425	H70 14900.012725	H71 14900.012725		H72 14900.017930				
15.0	H70 15000.018425	H70 15000.012725	H71 15000.012725	5.7	H72 15000.017930	7.4	0.012	H70: BK8425 H70: BK2725 H71: BK2725 H72: BK7930	
15.1	H70 15100.018425	H70 15100.012725	H71 15100.012725		H72 15100.017930				
15.2	H70 15200.018425	H70 15200.012725	H71 15200.012725		H72 15200.017930				
15.3	H70 15300.018425	H70 15300.012725	H71 15300.012725		H72 15300.017930				
15.4	H70 15400.018425	H70 15400.012725	H71 15400.012725		H72 15400.017930				
15.5	H70 15500.018425	H70 15500.012725	H71 15500.012725		H72 15500.017930				
15.6	H70 15600.018425	H70 15600.012725	H71 15600.012725		H72 15600.017930				
15.7	H70 15700.018425	H70 15700.012725	H71 15700.012725		H72 15700.017930				
15.8	H70 15800.018425	H70 15800.012725	H71 15800.012725		H72 15800.017930				
15.9	H70 15900.018425	H70 15900.012725	H71 15900.012725		H72 15900.017930				
16.0	H70 16000.018425	H70 16000.012725	H71 16000.012725	6.1	H72 16000.017930	7.9	0.014	H70: BK8425 H70: BK2725 H71: BK2725 H72: BK7930	
16.1	H70 16100.018425	H70 16100.012725	H71 16100.012725		H72 16100.017930				
16.2	H70 16200.018425	H70 16200.012725	H71 16200.012725		H72 16200.017930				
16.3	H70 16300.018425	H70 16300.012725	H71 16300.012725		H72 16300.017930				
16.4	H70 16400.018425	H70 16400.012725	H71 16400.012725		H72 16400.017930				
16.5	H70 16500.018425	H70 16500.012725	H71 16500.012725		H72 16500.017930				
16.6	H70 16600.018425	H70 16600.012725	H71 16600.012725		H72 16600.017930				
16.7	H70 16700.018425	H70 16700.012725	H71 16700.012725		H72 16700.017930				
16.8	H70 16800.018425	H70 16800.012725	H71 16800.012725		H72 16800.017930				
16.9	H70 16900.018425	H70 16900.012725	H71 16900.012725		H72 16900.017930				

For other diameters see following page.

Patented design (KUB K2)

Replaceable Head Drill with Cylindrical Shank ISO 9766, R.H. cutting

L / D	solid drilling	blind hole	forge/casting skin, interface	angled	convex	cross bore	centering bore	chamber	stack plate drilling	rough boring	adjustable
3×D	●	●	○	○	✕	✕	●	✕	●	✕	✕
5×D*	●	●	○	○	✕	✕	●	✕	●	✕	✕
7×D*	●	●	○	○	✕	✕	●	✕	●	✕	✕

● very good ◐ good ○ possible: see technical notes, page 39 ✕ not possible

* **Please note:** Technical notes page 39, position 15.

Supply includes:
Replaceable head with mounting key. Please order basic body and accessories separately..

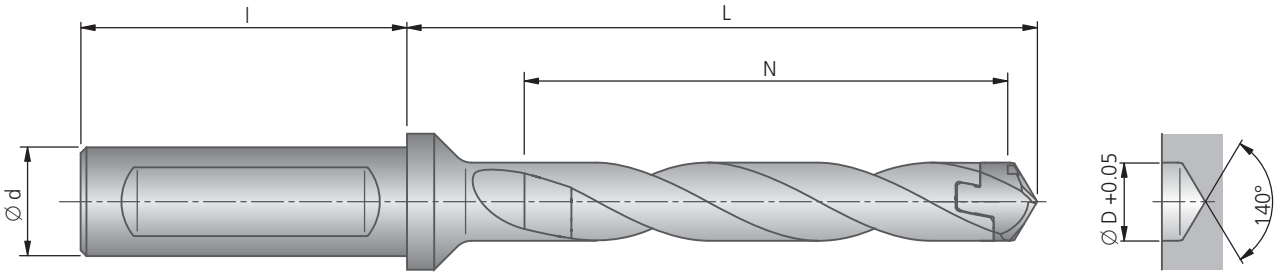
	Basic body												Accessories
		3×D				5×D				7×D				Multi-key
	Cylindrical shank Ø d × l	Order No.	L	N	kg	Order No.	L	N	kg	Order No.	L	N	kg	Order No. Description
	16 × 48	**U53 31300**	70.8	42	0.10	**U55 31300**	98.8	70	0.11	**U57 31300**	126.8	98	0.123	**L05 10020**
	16 × 48	**U53 31400**	74.9	45	0.10	**U55 31400**	104.9	75	0.12	**U57 31400**	134.8	105	0.137	
	16 × 48	**U53 31500**	78.9	48	0.11	**U55 31500**	110.9	80	0.13	**U57 31500**	142.9	112	0.154	
	20 × 50	**U53 41600**	85.5	50	0.17	**U55 41600**	119.5	50	0.19	–				

Guideline values for solid drilling: page 38.

KOMET KUB K2®

Ø 17.0 – 20.5 mm

Replaceable Head Drill with Cylindrical Shank ISO 9766, R.H. cutting



Replaceable head									
Ø D	H70 BK8425 Order No.	H70 BK2725 Order No.	chamfer H71 BK2725 Order No.	H70/H71 starting/roughing size	H72 BK7930 Order No.	H70/H72 starting/roughing size	kg	Coating	for workpiece material P M K N S H
17.0	H70 17000.018425	H70 17000.012725	H71 17000.012725	6.4	H72 17000.017930	8.3	0.017	H70: BK8425 H70: BK2725 H71: BK2725 H72: BK7930	
17.1	H70 17100.018425	H70 17100.012725	H71 17100.012725		H72 17100.017930				
17.2	H70 17200.018425	H70 17200.012725	H71 17200.012725		H72 17200.017930				
17.3	H70 17300.018425	H70 17300.012725	H71 17300.012725		H72 17300.017930				
17.4	H70 17400.018425	H70 17400.012725	H71 17400.012725		H72 17400.017930				
17.5	H70 17500.018425	H70 17500.012725	H71 17500.012725		H72 17500.017930				
17.6	H70 17600.018425	H70 17600.012725	H71 17600.012725		H72 17600.017930				
17.7	H70 17700.018425	H70 17700.012725	H71 17700.012725		H72 17700.017930				
17.8	H70 17800.018425	H70 17800.012725	H71 17800.012725		H72 17800.017930				
17.9	H70 17900.018425	H70 17900.012725	H71 17900.012725		H72 17900.017930				
18.0	H70 18000.018425	H70 18000.012725	H71 18000.012725	6.8	H72 18000.017930	8.8	0.020	H70: BK8425 H70: BK2725 H71: BK2725 H72: BK7930	
18.1	H70 18100.018425	H70 18100.012725	H71 18100.012725		H72 18100.017930				
18.2	H70 18200.018425	H70 18200.012725	H71 18200.012725		H72 18200.017930				
18.3	H70 18300.018425	H70 18300.012725	H71 18300.012725		H72 18300.017930				
18.4	H70 18400.018425	H70 18400.012725	H71 18400.012725		H72 18400.017930				
18.5	H70 18500.018425	H70 18500.012725	H71 18500.012725		H72 18500.017930				
18.6	H70 18600.018425	H70 18600.012725	H71 18600.012725		H72 18600.017930				
18.7	H70 18700.018425	H70 18700.012725	H71 18700.012725		H72 18700.017930				
18.8	H70 18800.018425	H70 18800.012725	H71 18800.012725		H72 18800.017930				
18.9	H70 18900.018425	H70 18900.012725	H71 18900.012725		H72 18900.017930				
19.0	H70 19000.018425	H70 19000.012725	H71 19000.012725	7.4	H72 19000.017930	9.6	0.023	H70: BK8425 H70: BK2725 H71: BK2725 H72: BK7930	
19.1	H70 19100.018425	H70 19100.012725	H71 19100.012725		H72 19100.017930				
19.2	H70 19200.018425	H70 19200.012725	H71 19200.012725		H72 19200.017930				
19.3	H70 19300.018425	H70 19300.012725	H71 19300.012725		H72 19300.017930				
19.4	H70 19400.018425	H70 19400.012725	H71 19400.012725		H72 19400.017930				
19.5	H70 19500.018425	H70 19500.012725	H71 19500.012725		H72 19500.017930				
19.6	H70 19600.018425	H70 19600.012725	H71 19600.012725		H72 19600.017930				
19.7	H70 19700.018425	H70 19700.012725	H71 19700.012725		H72 19700.017930				
19.8	H70 19800.018425	H70 19800.012725	H71 19800.012725		H72 19800.017930				
19.9	H70 19900.018425	H70 19900.012725	H71 19900.012725		H72 19900.017930				
20.0	H70 20000.018425	H70 20000.012725	H71 20000.012725		H72 20000.017930				
20.1	H70 20100.018425	H70 20100.012725	H71 20100.012725		H72 20100.017930				
20.2	H70 20200.018425	H70 20200.012725	H71 20200.012725		H72 20200.017930				
20.3	H70 20300.018425	H70 20300.012725	H71 20300.012725		H72 20300.017930				
20.4	H70 20400.018425	H70 20400.012725	H71 20400.012725		H72 20400.017930				
20.5	H70 20500.018425	H70 20500.012725	H71 20500.012725		H72 20500.017930				

Supply includes:
Replaceable head with mounting key. Please order basic body and accessories separately..

Patented design (KUB K2)

Replaceable Head Drill with Cylindrical Shank ISO 9766, R.H. cutting

L / D	solid drilling	blind hole	forge/casting skin, interface	angled	convex	cross bore	centering bore	chamber	stack plate drilling	rough boring	adjustable
3×D	●	●	○	○	✕	✕	●	✕	●	✕	✕
5×D*	●	●	○	○	✕	✕	●	✕	●	✕	✕
7×D*	●	●	○	○	✕	✕	●	✕	●	✕	✕

● very good ◐ good ○ possible: see technical notes, page 39 ✕ not possible

* **Please note:** Technical notes page 39, position 15.

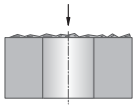
	Basic body												Accessories
		3×D				5×D				7×D				Multi-key
	Cylindrical shank Ø d × l	Order No.	L	N	kg	Order No.	L	N	kg	Order No.	L	N	kg	Order No. Description
	20 × 50	**U53 41700**	89.5	54	0.18	**U55 41700**	125.5	90	0.21	**U57 41700**	161.4	126	0.24	**L05 10020** Size 2
	20 × 50	**U53 41800**	93.7	57	0.19	**U55 41800**	131.7	95	0.23	**U57 41800**	169.5	133	0.26	
	20 × 50	**U53 41900**	97.7	61.5	0.21	**U55 41900**	137.7	102.5	0.25	**U57 41900**	178.05	143.5	0.29	

Guideline values for solid drilling: page 38.

Material Group		Strength Rm (N/mm²)	Hardness HB	Material	Material example, material code/DIN	v_c (m/min) Cutting speed H70 BK8425 min	opt.	max	H70 BK2725 min	opt.	max	H71 BK2725 min	opt	max	H72 BK7930 min	opt.	max	f (mm/U) · f (mm/rev) Feed 3×D / 5×D Ø10–20.5 min	opt.	max	7×D Ø10–20.5 min	opt.	max
P	1.0	≤500		non-alloy steels	St37-2 / 1.0037; 9SMn28 / 1.0715; St44-2 / 1.0044	100	**120**	140				100	**120**	140				0.15	**0.18**	0.22	0.16	**0.18**	0.20
P	2.0	500-900		non-alloy / low alloy steels	St52-2 / 1.0050, C55 / 1.0525, 16MnCr5 / 1.7131	100	**120**	140	100	**120**	140	100	**120**	140				0.15	**0.20**	0.25	0.15	**0.18**	0.22
P	2.1	<500		lead alloys	9SMnPb28 / 1.0718	80	**100**	120	80	**100**	120	80	**100**	120				0.20	**0.25**	0.30	0.18	**0.22**	0.28
P	3.0	>900		non alloy / low alloy steels: heat resistant structural, heat treated, nitride and tools steels	42CrMo4 / 1.7225, CK60 / 1.1221	70	**90**	110	70	**90**	110	70	**90**	110				0.20	**0.25**	0.30	0.18	**0.22**	0.28
P	4.0	>900		high alloy steels	X6CrMo4 / 1.2341, X165CrMoV12 / 1.2601	50	**70**	90	50	**70**	90	50	**70**	90				0.15	**0.20**	0.25	0.14	**0.18**	0.22
P	4.1			HSS																			
S	5.0		250	special alloys: Inconel, Hastelloy, Nimonic, stc.																			
S	5.1	400		titanium, titanium alloys																			
M	6.0	≤600		stainless steels	X2CrNi189 / 1.4306, X5CrNiMo1810 / 1.4401				40	**60**	80				40	**60**	80	0.10	**0.15**	0.20	0.08	**0.13**	0.18
M	6.1	<900		stainless steels	X8CrNb17 / 1.4511, X10CrNiMoTi1810 / 1.4571										30	**50**	70	0.10	**0.12**	0.14	0.08	**0.10**	0.12
M	7.0	>900		stainless / fireproof steels	X10CrAl7 / 1.4713, X8CrS-38-18 / 1.4862										30	**50**	70	0.10	**0.12**	0.14	0.08	**0.10**	0.12
K	8.0		180	gray cast iron	GG-25 / 0.6025, GG-35 / 0.6035	70	**90**	110				70	**90**	110				0.20	**0.30**	0.40	0.20	**0.28**	0.38
K	8.1		250	alloy gray cast iron	GG-NiCr202 / 0.6660	60	**80**	100				60	**80**	100				0.20	**0.30**	0.40	0.20	**0.28**	0.38
K	9.0	≤600	130	spheroidal graphite cast iron, ferritic	GGG-40 / 0.7040	60	**80**	100				60	**80**	100				0.25	**0.35**	0.45	0.20	**0.30**	0.40
K	9.1		230	spheroidal graphite cast iron, ferritic / perlitic	GGG-50 / 0.7050 GGG-55 / 0.7055 GTW-55 / 0.8055	50	**70**	90				50	**70**	90				0.25	**0.35**	0.45	0.20	**0.30**	0.40
K	10.0	>600	250	spheroidal graphite cast iron, perlitic malleable iron	GGG-60 / 0.7060 GTS-65 / 0.8165	50	**70**	90				50	**70**	90				0.25	**0.35**	0.45	0.20	**0.30**	0.40
K	10.1		200	alloyed spheroidal graphite cast iron	GGG-NiCr20-2 / 0.7661	30	**50**	70				30	**50**	70				0.20	**0.25**	0.35	0.18	**0.22**	0.30
K	10.2		300	vermicular cast iron	GGV Ti < 0,2 GGV Ti > 0,2	40	**60**	80				40	**60**	80				0.25	**0.35**	0.45	0.20	**0.30**	0.40
N	12.0		90	copper alloy, brass, lead-alloy bronze, lead bronze: good cut	CuZn36Pb3 / 2.1182, G-CuPb15Sn / 2.1182																		
N	12.1		100	copper alloy, brass, bronze: average cut	CuZn40Al1 / 2.0550, E-Cu57 / 2.0060																		
N	13.0		60	wrought aluminium alloys	AlMg1 / 3.3315, AlMnCu / 3.0517																		
N	13.1		75	cast alum. alloy: Si-content <10% magnesium alloy	G-AlMg5 / 3.3561, G-AlSi9Mg / 3.2373																		
N	14.0		100	cast alum.alloy: Si-content >10%	G-AlSi10Mg / 3.2381																		
H	15.0	1400		hardened steels < 45 HRC																			
H	16.0	1800		hardened steels > 45 HRC																			

Cutting values shown are relating to the basic recommendations for cutting materials given.

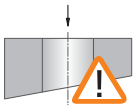
Patented design (KUB K2)

1. 

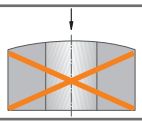
Starting on uneven surfaces (cast surfaces)
- depending on the quality of the surface or when spot drilling, reduce the feed

2. 

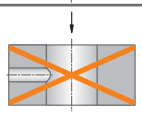
Starting on angled surfaces
- spot face surface before starting bore

3. 

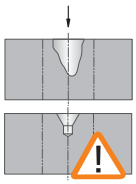
Angled bore exit
- reduce feed by 50 % in the exit area

4. 

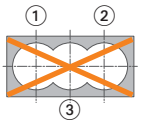
Starting on cambered surfaces
- not possible

5. 

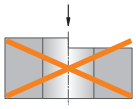
Drilling through a cross bore
- not possible

6. 

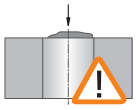
Starting on a groove or large centering bore
- end-face the seam or centre beforehand where applicable (diameter min. 0.1 mm greater than drill diameter)
- possible under certain conditions. Reduce feed where necessary

7. 

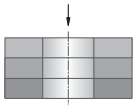
Drilling a chamfer
- not possible

8. 

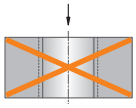
Starting on an edge
- not possible (start point must be flat)

9. 

Starting on a welded seam
- spot face surface before starting bore

10. 

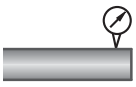
Drilling through stacked plates
- possible in principle
- good workpiece clamping required
- avoid large spaces between elements

11. 

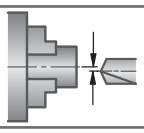
Roughing
- not possible

12. 

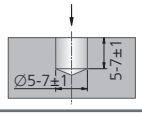
Coolant
- internal coolant supply min. 5 bar

13. 

Rotating application
- max. concentricity in rotating application 0.05 mm

14. 

Stationary application
- max. offset in stationary application 0.025 mm

15. 

- basic body from 5×D: for the material group 1.0

Important: See chapter 8 for more application details and safety notes!

KOMET KUB Quatron®

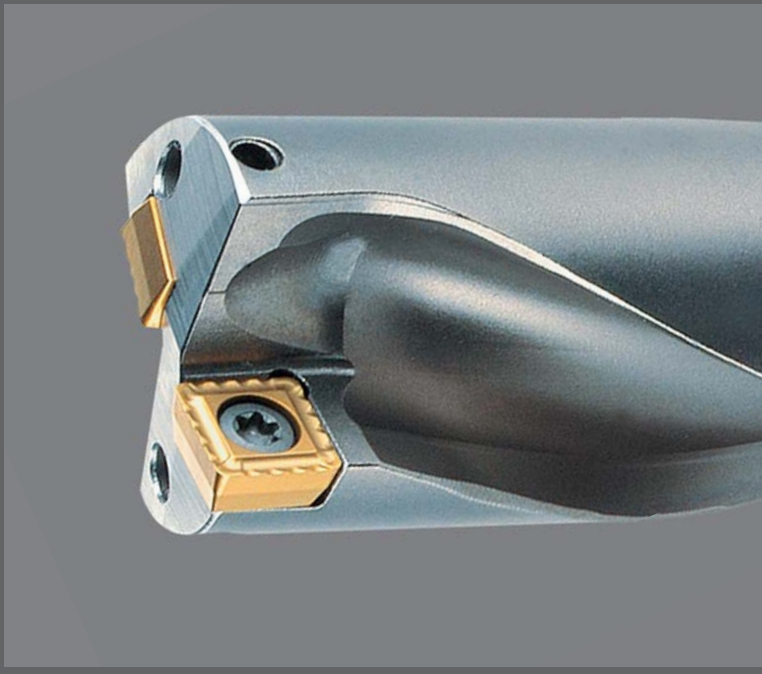
Continuous Drilling to 3×D

The KOMET KUB Quatron® is supplied as standard in drilling depths up to 3×D with combination shank DIN 6536 HE and DIN 6595 and also with ABS 50 connection.

A high overall rigidity with square inserts guarantee dimensional stability and accurate drilling with the KOMET KUB Quatron® at high feed speeds.

The four cutting edges on each insert make the KOMET KUB Quatron® totally economic. The latest coatings combined with tough, strong substrates reduce friction and also ensure maximum tool life.

The KUB Quatron® from KOMET®, which has already been successfully established in extreme technical situations such as for interrupted cuts, angled castings and rolling skins, is now available with the new insert technology -21 and -03 system.



BENEFITS for you:

- High stability and economy by using square inserts
- Free flow of chips and no wear on the tool body because of the special surface treatment
- Can be used for difficult drilling conditions such as cast angles, rolling skin or interrupted cut
- Excellent bore quality with no withdrawal grooves
- Maximum tool life with four cutting edges made up of specific substrates and coatings
- Same insert internally and externally same coating, same locking screw
- Intermediate sizes can be supplied upon request

Insert geometry 21:

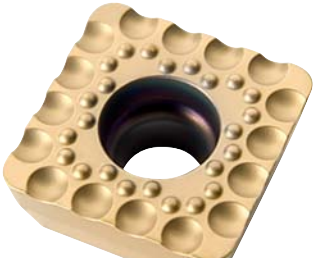
Consisting of ultra fine grain carbide with highly positive top rake, clearly reduced cutting edge rounding and a new type of coating, it has been possible to halve cutting forces compared to previous versions.

This reduces the stress on machine and on workpiece, which allows significantly higher cutting parameters and, as a result, increases in productivity.

Geometry 21 was developed specifically for materials that produce long chips and for stainless steels. However, this is also very well suited to universal use in steel and for aluminium alloys.

Insert geometry 03:

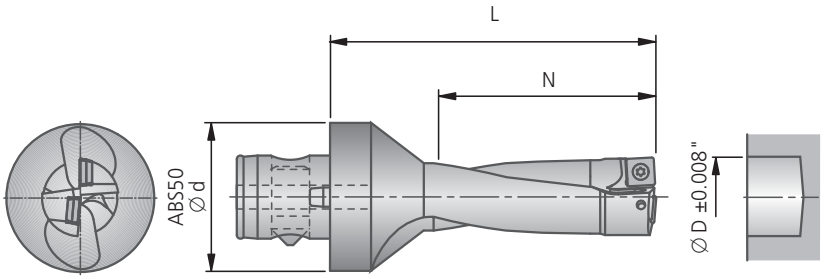
Generally suitable for all steels, in particular for long-chipping steel materials and stainless steels. The SOEX indexable insert topography is predestined for use in long-chipping materials, and, thanks to its optimum chip formation, ensures reliable removal of chips, even with high L/D ratios.



KOMET KUB Quatron®

Insert Drill with ABS® Connection, R.H. cutting

Ø 0.562" – 1.281"



Ø D	*max. diameter with offset	ABS Ø d	2×D Order No.	2×D N	2×D L	2×D lbs	3×D Order No.	3×D N	3×D L	3×D lbs
0.562	0.581	50	**U10 71432**	1.181	2.559	0.99	**U11 51432**	1.772	3.150	1.04
0.593	0.612	50	**U10 71510**	1.260	2.638	1.01	**U11 51510**	1.890	3.268	1.04
0.625	0.644	50	**U10 71590**	1.260	2.638	1.01	**U11 51590**	1.890	3.268	1.04
0.656	0.675	50	**U10 71670**	1.339	2.717	1.01	**U11 51670**	2.008	3.386	1.06
0.687	0.706	50	U10 71750	1.417	2.795	1.04	**U11 51750**	2.126	3.504	1.06
0.703	0.722	50	**U10 71790**	1.417	2.795	1.04	**U11 51790**	2.126	3.504	1.08
0.718	0.737	50	**U10 71820**	1.496	2.874	1.04	**U11 51820**	2.244	3.622	1.08
0.750	0.769	50	**U10 71910**	1.575	2.953	1.06	**U11 51910**	2.362	3.740	1.10
0.765	0.784	50	**U10 71940**	1.575	2.953	1.06	**U11 51940**	2.362	3.740	1.10
0.781	0.800	50	**U10 71980**	1.575	2.953	1.08	**U11 51980**	2.362	3.740	1.13
0.812	0.831	50	**U10 72060**	1.654	3.031	1.08	**U11 52060**	2.480	3.858	1.15
0.828	0.847	50	**U10 72100**	1.654	3.031	1.10	**U11 52100**	2.480	3.858	1.15
0.843	0.862	50	**U10 72140**	1.732	3.110	1.12	**U11 52140**	2.598	3.976	1.16
0.875	0.894	50	**U10 72220**	1.811	3.189	1.13	**U11 52220**	2.717	4.094	1.23
0.906	0.925	50	**U10 72300**	1.811	3.189	1.15	**U11 52300**	2.717	4.094	1.30
0.937	0.956	50	**U10 72380**	1.890	3.268	1.15	**U11 52380**	2.835	4.213	1.32
0.968	0.987	50	**U10 72460**	1.969	3.346	1.19	**U11 52460**	2.953	4.331	1.32
0.985	1.004	50	**U10 72500**	1.969	3.346	1.19	**U11 52500**	2.953	4.331	1.35
1.000	1.019	50	**U10 72540**	2.047	3.425	1.21	**U11 52540**	3.071	4.449	1.35
1.031	1.051	50	**U10 72620**	2.126	3.504	1.23	**U11 52620**	3.189	4.567	1.39
1.062	1.082	50	**U10 72700**	2.126	3.504	1.27	**U11 52700**	3.189	4.567	1.39
1.109	1.129	50	**U10 72820**	2.283	3.661	1.32	**U11 52820**	3.425	4.803	1.43
1.125	1.145	50	**U10 72860**	2.283	3.661	1.34	**U11 52860**	3.425	4.803	1.47
1.156	1.176	50	**U10 72940**	2.323	3.74	1.34	**U11 52940**	3.543	4.921	1.47
1.187	1.207	50	**U10 73020**	2.441	4.015	1.39	**U11 53020**	3.661	5.236	1.52
1.218	1.238	50	**U10 73090**	2.441	4.016	1.46	**U11 53090**	3.661	5.236	1.74
1.250	1.270	50	**U10 73180**	2.520	3.094	1.50	**U11 53180**	3.780	5.354	1.74
1.281	1.301	50	**U10 73250**	2.598	4.173	1.54	**U11 53250**	3.898	5.472	1.74

For other diameters see following page.
Any **intermediate dimensions** from ∅ 0.562" – 1.281" are available on request.

Supply includes: KUB Quatron® drill with assembly parts. Please order insert and accessories separately.

* Adjustment device see "KomPass Bore machining – chapter 5"

L / D	solid drilling	blind hole	forge/casting skin, interface	angled	convex	cross bore	centering bore	chamber	stack plate drilling	rough boring	adjustable
2×D	●	●	●	●	●	●	●	●	●	◐	◐
3×D	●	●	●	●	●	●	●	●	●	◐	◐

● very good ◐ good ○ possible: see technical notes, pages 60-61 ✕ not possible

Basic recommendation				Assembly parts		Accessories
Insert -01 -21			for workpiece material	Clamping screw	Starting torque	Screwdriver
Order No. ▽▽ Size	ISO-Code	Qty	P M K N S H	Order No. Description		Order No. Description
W83 13010.048425 W83 13210.042730 W83 13000.017615 W83 13210.047710 W83 13000.017935	SOEX 050204-01 BK8425 SOEX 050204-21 BK2730 ⚠ SOEX 050204-01 BK7615 SOEX 050204-21 BK7710 SOEX 050204-01 BK7935	2		N00 56041 S/M2×4.3-6IP	5.5 in-lbs	L05 00810 6IP
W83 18010.068425 W83 18210.062730 W83 18000.097615 W83 18210.067710 W83 18000.097935	SOEX 060306-01 BK8425 SOEX 060306-21 BK2730 ⚠ SOEX 060306-01 BK7615 SOEX 060306-21 BK7710 SOEX 060306-01 BK7935	2		N00 57553 S/M2.2×5.5-6IP	8.9 in-lbs	L05 00810 6IP
W83 23010.088425 W83 23210.082730 W83 23000.017615 W83 23210.087710 W83 23000.017935	SOEX 07T308-01 BK8425 SOEX 07T308-21 BK2730 ⚠ SOEX 07T308-01 BK7615 SOEX 07T308-21 BK7710 SOEX 07T308-01 BK7935	2		N00 57571 S/M2.5×6.3-8IP	11.0 in-lbs	L05 00830 8IP
W83 32010.088425 W83 32210.082730 W83 32000.157615 W83 32210.087710 W83 32000.157935	SOEX 090408-01 BK8425 SOEX 090408-21 BK2730 ⚠ SOEX 090408-01 BK7615 SOEX 090408-21 BK7710 SOEX 090408-01 BK7935	2		N00 57261 S3575-15IP	25.0 in-lbs	L05 00860 15IP

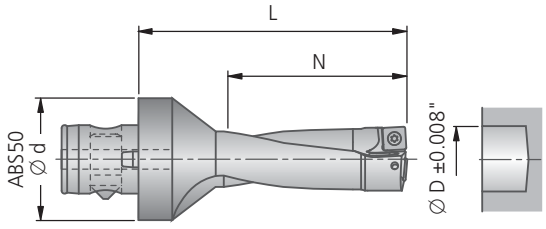
⚠ Note: Only use this insert with KUB Quatron® as an external cutting edge:
SOEX ... -21 (Geometry 21) in BK2730 and BK7710 (suitable as internal cutting edge for machining BK7710 aluminum).

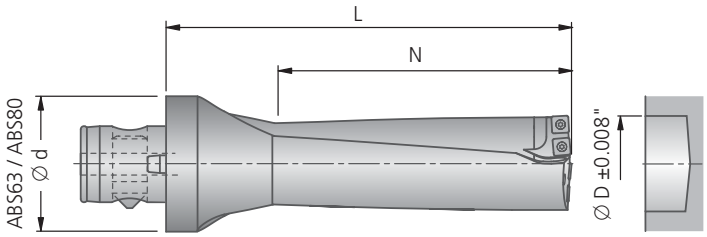
Guideline values for solid drilling: pages 58-59 / alternative inserts: page 62.

KOMET KUB Quatron®

Ø 1.312" – 2.500"

Insert Drill with ABS® Connection, R.H. cutting





Ø D	*max. diameter with offset	ABS Ø d	2×D Order No.	2×D N	2×D L	2×D lbs	3×D Order No.	3×D N	3×D L	3×D lbs
1.312	1.332	50	**U10 73330**	2.677	4.251	1.60	**U11 53330**	4.016	5.591	1.76
1.328	1.348	50	**U10 73370**	2.677	4.251	1.60	**U11 53370**	4.016	5.591	1.85
1.375	1.395	50	**U10 73490**	2.756	4.330	1.65	**U11 53490**	4.134	5.709	1.87
1.406	1.426	50	**U10 73570**	2.835	4.409	1.70	**U11 53570**	4.252	5.827	1.96
1.437	1.457	50	**U10 73650**	2.913	4.881	1.76	**U11 53650**	4.370	6.339	2.05
1.469	1.489	50	**U10 73730**	2.992	4.960	1.94	**U11 53730**	4.488	6.457	2.29
1.500	1.520	50	**U10 73810**	3.071	5.039	2.03	**U11 53810**	4.606	6.575	2.38
1.531	1.551	50	**U10 73890**	3.071	5.039	2.09	**U11 53890**	4.606	6.575	2.49
1.562	1.582	50	**U10 73970**	3.150	5.118	2.16	**U11 53970**	4.724	6.693	2.58
1.625	1.645	50	**U10 74130**	3.307	5.275	2.25	**U11 54130**	4.961	6.929	2.58
1.656	1.676	50	**U10 74210**	3.386	5.354	2.33	**U11 54210**	5.079	7.047	2.80
1.687	1.707	50	**U10 74290**	3.386	5.354	2.43	**U11 54290**	5.079	7.047	2.93
1.750	1.770	50	**U10 74450**	3.465	5.433	2.51	**U11 54450**	5.197	7.165	3.10
1.781	1.801	63	**U10 84520**	3.622	5.787	3.24	**U12 34520**	5.433	7.598	3.81
1.812	1.832	63	**U10 84600**	3.622	5.787	3.33	**U12 34600**	5.433	7.598	3.97
1.875	1.895	63	**U10 84760**	3.780	5.945	3.53	**U12 34760**	5.669	7.835	4.26
1.937	1.957	63	**U10 84920**	3.937	6.102	3.64	**U12 34920**	5.906	8.071	4.41
1.975	1.995	63	**U10 85020**	4.016	6.181	3.75	**U12 35020**	6.024	8.189	4.59
2.000	2.020	63	**U10 85080**	4.016	6.181	3.86	**U12 35080**	6.024	8.189	4.74
2.062	2.082	63	**U10 85240**	4.173	6.339	3.99	**U12 35240**	6.260	8.425	4.94
2.125	2.145	63	**U10 85400**	4.252	6.417	4.15	**U12 35400**	6.378	8.543	5.18
2.165	2.185	80	**U10 95500**	4.331	6.496	5.67	**U12 45500**	6.496	8.661	6.77
2.203	2.223	80	**U10 95600**	4.409	6.575	5.82	**U12 45600**	6.614	8.780	6.97
2.250	2.270	80	**U10 95720**	4.567	6.732	5.95	**U12 45720**	6.850	9.016	7.19
2.281	2.301	80	**U10 95790**	4.567	6.732	6.09	**U12 45790**	6.850	9.016	7.39
2.375	2.395	80	**U10 96030**	4.803	6.969	6.46	**U12 46030**	7.205	9.370	7.92
2.437	2.457	80	**U10 96190**	4.882	7.047	6.79	**U12 46190**	7.323	9.488	8.40
2.500	2.520	80	**U10 96350**	5.039	7.205	7.19	**U12 46350**	7.559	9.724	8.97

Any **intermediate dimensions** from ∅ 1.312" – 2.500" are available on request.

Supply includes: KUB Quatron® drill with assembly parts. Please order insert and accessories separately.

* Adjustment device see "KomPass Bore machining – chapter 5"

L / D	solid drilling	blind hole	forge/casting skin, interface	angled	convex	cross bore	centering bore	chamber	stack plate drilling	rough boring	adjustable
2×D	●	●	●	●	●	●	●	●	●	◐	◐
3×D	●	●	●	●	●	●	●	●	●	◐	◐

● very good ◐ good ○ possible: see technical notes, pages 60-61 ✕ not possible

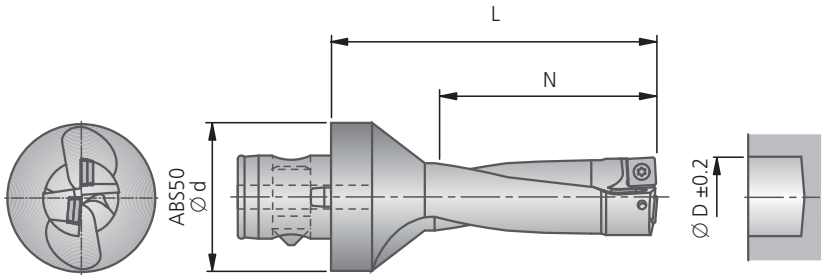
Basic recommendation				Assembly parts		Accessories
Insert  -01 -21			for workpiece material	Clamping screw	Starting torque	Screwdriver
Order No. ▽▽ Size	ISO-Code	Qty	P M K N S H	Order No. Description		Order No. Description
W83 44010.088425 **W83 44210.082730** **W83 44000.187615** **W83 44210.087710** **W83 44000.187935**	SOEX 120508-01 BK8425 SOEX 120508-21 BK2730 ⚠ SOEX 120508-01 BK7615 SOEX 120508-21 BK7710 SOEX 120508-01 BK7935	2		**N00 57301** S45100-20IP	40.0 in-lbs	**L05 00870** 20IP
W83 23010.088425 **W83 23210.082730** **W83 23000.017615** **W83 23210.087710** **W83 23000.017935**	SOEX 07T308-01 BK8425 SOEX 07T308-21 BK2730 ⚠ SOEX 07T308-01 BK7615 SOEX 07T308-21 BK7710 SOEX 07T308-01 BK7935	4		**N00 57571** S/M2.5×6.3-8IP	11.0 in-lbs	**L05 00830** 8IP
W83 32010.088425 **W83 32210.082730** **W83 32000.157615** **W83 32210.087710** **W83 32000.157935**	SOEX 090408-01 BK8425 SOEX 090408-21 BK2730 ⚠ SOEX 090408-01 BK7615 SOEX 090408-21 BK7710 SOEX 090408-01 BK7935	4		**N00 57261** S3575-15IP	25.0 in-lbs	**L05 00860** 15IP

⚠ Note: Only use this insert with KUB Quatron® as an external cutting edge:
SOEX ... -21 (Geometry 21) in BK2730 and BK7710 (suitable as internal cutting edge for machining BK7710 aluminum).

Guideline values for solid drilling: pages 58-59 / alternative inserts: page 62.

KOMET KUB Quatron®

Insert Drill with ABS® Connection, R.H. cutting



Ø D	*max. diameter with offset	ABS Ø d	2×D Order No.	2×D N	2×D L	2×D kg	3×D Order No.	3×D N	3×D L	3×D kg
14.0	14.5	50	U10 71402	28	63	0.45	U11 51402	42	77	0.47
15.0	15.5	50	U10 71502	30	65	0.46	U11 51502	45	80	0.47
15.5	16.0	50	U10 71550	32	67	0.46	U11 51550	48	83	0.47
16.0	16.5	50	U10 71600	32	67	0.46	U11 51600	48	83	0.48
16.5	17.0	50	–				U11 51650	51	86	0.48
17.0	17.5	50	U10 71700	34	69	0.47	U11 51700	51	86	0.48
17.5	18.0	50	U10 71750	36	71	0.47	U11 51750	54	89	0.49
18.0	18.5	50	U10 71800	36	71	0.47	U11 51800	54	89	0.49
18.5	19.0	50	U10 71850	38	73	0.48	U11 51850	57	92	0.50
19.0	19.5	50	U10 71900	38	73	0.48	U11 51900	57	92	0.48
19.5	20.0	50	U10 71950	40	75	0.49	U11 51950	60	95	0.51
20.0	20.5	50	U10 72000	40	75	0.49	U11 52000	60	95	0.52
20.5	21.0	50	U10 72050	42	77	0.5	U11 52050	63	98	0.52
21.0	21.5	50	U10 72100	42	77	0.5	U11 52100	63	98	0.53
22.0	22.5	50	U10 72200	44	79	0.51	U11 52200	66	101	0.52
22.5	23.0	50	U10 72250	46	81	0.52	U11 52250	69	104	0.56
23.0	23.5	50	U10 72300	46	81	0.52	U11 52300	69	104	0.59
24.0	24.5	50	U10 72400	48	83	0.54	U11 52400	72	107	0.60
24.5	25.0	50	U10 72450	50	85	0.54	U11 52450	75	110	0.60
25.0	25.5	50	U10 72500	50	85	0.55	U11 52500	75	110	0.60
26.0	26.5	50	U10 72600	52	87	0.56	U11 52600	78	113	0.61
26.5	27.0	50	U10 72650	54	89	0.58	U11 52650	81	116	0.63
27.0	27.5	50	U10 72700	54	89	0.58	U11 52700	81	116	0.63
28.0	28.5	50	U10 72800	56	91	0.60	U11 52800	84	119	0.65
28.5	29.0	50	U10 72850	58	93	0.61	U11 52850	87	122	0.67
29.0	29.5	50	U10 72900	58	93	0.61	U11 52900	87	122	0.67
29.5	30.0	50	U10 72950	59	95	0.63	U11 52950	88.5	125	0.69
30.0	30.5	50	U10 73000	60	100	0.66	U11 53000	90	130	0.79
31.0	31.5	50	U10 73100	62	102	0.68	U11 53100	93	133	0.79
31.5	32.0	50	U10 73150	64	104	0.70	U11 53150	96	136	0.78
32.0	32.5	50	U10 73200	64	104	0.70	U11 53200	96	136	0.80
33.0	33.5	50	U10 73300	66	106	0.73	U11 53300	99	139	0.84

For other diameters see following page.

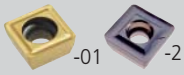
Any **intermediate dimensions** from ∅ 14 – 33 mm and **inch dimensions** are available on request.

Supply includes: KUB Quatron® drill with assembly parts. Please order insert and accessories separately.

* Adjustment device see "KomPass Bore machining – chapter 5"

L / D	solid drilling	blind hole	forge/casting skin, interface	angled	convex	cross bore	centering bore	chamber	stack plate drilling	rough boring	adjustable
2×D	●	●	●	●	●	●	●	●	●	◐	◐
3×D	●	●	●	●	●	●	●	●	●	◐	◐

● very good ◐ good ○ possible: see technical notes, pages 60-61 ✕ not possible

Basic recommendation				Assembly parts		Accessories
Insert  -01 -21			for workpiece material	Clamping screw 	Starting torque	Screwdriver 
Order No. ▽▽ Size	ISO-Code	Piece	P M K N S H	Order No. Description		Order No. Description
W83 13010.048425 W83 13210.042730 W83 13000.017615 W83 13210.047710 W83 13000.017935	SOEX 050204-01 BK8425 SOEX 050204-21 BK2730 ⚠ SOEX 050204-01 BK7615 SOEX 050204-21 BK7710 SOEX 050204-01 BK7935	2		N00 56041 S/M2×4.3-6IP	0.62 Nm	L05 00810 6IP
W83 18010.068425 W83 18210.062730 W83 18000.097615 W83 18210.067710 W83 18000.097935	SOEX 060306-01 BK8425 SOEX 060306-21 BK2730 ⚠ SOEX 060306-01 BK7615 SOEX 060306-21 BK7710 SOEX 060306-01 BK7935	2		N00 57553 S/M2.2×5.5-6IP	1.01 Nm	L05 00810 6IP
W83 23010.088425 W83 23210.082730 W83 23000.017615 W83 23210.087710 W83 23000.017935	SOEX 07T308-01 BK8425 SOEX 07T308-21 BK2730 ⚠ SOEX 07T308-01 BK7615 SOEX 07T308-21 BK7710 SOEX 07T308-01 BK7935	2		N00 57571 S/M2.5×6.3-8IP	1.28 Nm	L05 00830 8IP
W83 32010.088425 W83 32210.082730 W83 32000.157615 W83 32210.087710 W83 32000.157935	SOEX 090408-01 BK8425 SOEX 090408-21 BK2730 ⚠ SOEX 090408-01 BK7615 SOEX 090408-21 BK7710 SOEX 090408-01 BK7935	2		N00 57261 S3575-15IP	2.8 Nm	L05 00860 15IP

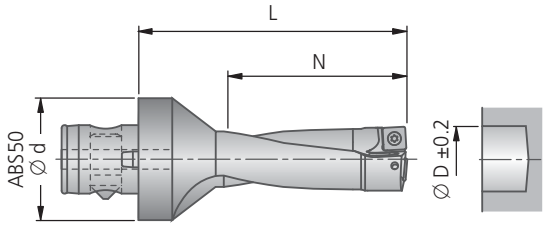
⚠ Note: Only use this insert with KUB Quatron® as an external cutting edge:
SOEX ... -21 (Geometry 21) in BK2730 and BK7710 (suitable as internal cutting edge for machining BK7710 aluminium).

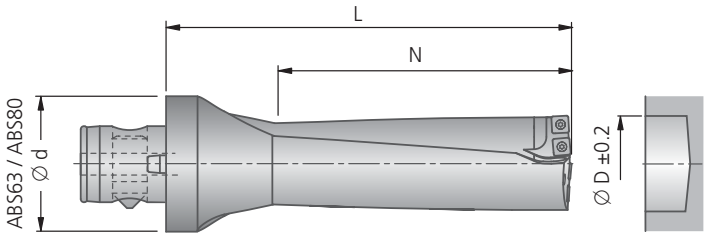
Guideline values for solid drilling: pages 58-59 / alternative inserts: page 62.

KOMET KUB Quatron®

Insert Drill with ABS® Connection, R.H. cutting

Ø 34 – 65 mm





Ø D	*max. diameter with offset	ABS Ø d	2×D Order No.	2×D N	2×D L	2×D kg	3×D Order No.	3×D N	3×D L	3×D kg
34.0	34.5	50	U10 73400	68	108	0.75	U11 53400	102	142	0.85
35.0	35.5	50	U10 73500	70	110	0.77	U11 53500	105	145	0.89
36.0	36.5	50	U10 73600	72	112	0.8	U11 53600	108	148	0.93
37.0	37.5	50	U10 73700	74	124	0.88	U11 53700	111	161	1.04
37.5	38.0	50	U10 73750	76	126	0.9	U11 53750	114	164	1.02
38.0	38.5	50	U10 73800	76	126	0.92	U11 53800	114	164	1.08
39.0	39.5	50	U10 73900	78	128	0.95	U11 53900	117	167	1.13
39.5	40.0	50	U10 73950	80	130	0.97	U11 53950	120	170	1.14
40.0	40.5	50	U10 74000	80	130	0.98	U11 54000	120	170	1.17
41.0	41.5	50	U10 74100	82	132	1.02	U11 54100	123	173	1.22
42.0	42.5	50	U10 74200	84	134	1.06	U11 54200	126	176	1.27
43.0	43.5	50	U10 74300	86	136	1.1	U11 54300	129	179	1.33
44.0	44.5	50	U10 74400	88	138	1.14	U11 54400	132	182	1.41
45.0	45.5	63	U10 84500	90	145	1.47	U12 34500	135	190	1.73
46.0	46.5	63	U10 84600	92	147	1.51	U12 34600	138	193	1.8
47.0	47.5	63	U10 84700	94	149	1.55	U12 34700	141	196	1.86
48.0	48.5	63	U10 84800	96	151	1.6	U12 34800	144	199	1.93
49.0	49.5	63	U10 84900	98	153	1.65	U12 34900	147	202	2.0
50.0	50.5	63	U10 85000	100	155	1.7	U12 35000	150	205	2.08
51.0	51.5	63	U10 85100	102	157	1.75	U12 35100	153	208	2.15
52.0	52.5	63	U10 85200	104	159	1.81	U12 35200	156	211	2.24
53.0	53.5	63	U10 85300	106	161	1.82	U12 35300	159	214	2.27
54.0	54.5	63	U10 85400	108	163	1.88	U12 35400	162	217	2.35
55.0	55.5	80	U10 95500	110	165	2.57	U12 45500	165	220	3.07
56.0	56.5	80	U10 95600	112	167	2.64	U12 45600	168	223	3.16
57.0	57.5	80	U10 95700	114	169	2.7	U12 45700	171	226	3.26
58.0	58.5	80	U10 95800	116	171	2.76	U12 45800	174	229	3.35
59.0	59.5	80	U10 95900	118	173	2.83	U12 45900	177	232	3.45
60.0	60.5	80	U10 96000	120	175	2.93	U12 46000	180	235	3.59
61.0	61.5	80	U10 96100	122	177	3.01	U12 46100	183	238	3.6
62.0	62.5	80	U10 96200	124	179	3.08	U12 46200	186	241	3.81
63.0	63.5	80	U10 96300	126	181	3.18	U12 46300	189	244	3.95
64.0	64.5	80	U10 96400	128	183	3.26	U12 46400	192	247	4.07
65.0	65.5	80	U10 96500	130	185	3.35	U12 46500	195	250	4.2

Any **intermediate dimensions** from ∅ 34 – 65 mm and **inch dimensions** are available on request.

Supply includes: KUB Quatron® drill with assembly parts. Please order insert and accessories separately.

* Adjustment device see "KomPass Bore machining – chapter 5"

Patent applied for inside and outside Germany (ABS) and patent applications (KUB Quatron)

L / D	solid drilling	blind hole	forge/casting skin, interface	angled	convex	cross bore	centering bore	chamber	stack plate drilling	rough boring	adjustable
2×D	●	●	●	●	●	●	●	●	●	◐	◐
3×D	●	●	●	●	●	●	●	●	●	◐	◐

● very good ◐ good ○ possible: see technical notes, pages 60-61 ✕ not possible

Basic recommendation				Assembly parts		Accessories
Insert -01 -21			for workpiece material	Clamping screw	Starting torque	Screwdriver
Order No. ▽▽ Size	ISO-Code	Piece	P M K N S H	Order No. Description		Order No. Description
W83 44010.088425 W83 44210.082730 W83 44000.187615 W83 44210.087710 W83 44000.187935	SOEX 120508-01 BK8425 SOEX 120508-21 BK2730 ⚠ SOEX 120508-01 BK7615 SOEX 120508-21 BK7710 SOEX 120508-01 BK7935	2	● ● ● ● ○	N00 57301 S45100-20IP	6.25 Nm	L05 00870 20IP
W83 23010.088425 W83 23210.082730 W83 23000.017615 W83 23210.087710 W83 23000.017935	SOEX 07T308-01 BK8425 SOEX 07T308-21 BK2730 ⚠ SOEX 07T308-01 BK7615 SOEX 07T308-21 BK7710 SOEX 07T308-01 BK7935	4	● ● ● ● ○	N00 57571 S/M2.5×6.3-8IP	1.28 Nm	L05 00830 8IP
W83 32010.088425 W83 32210.082730 W83 32000.157615 W83 32210.087710 W83 32000.157935	SOEX 090408-01 BK8425 SOEX 090408-21 BK2730 ⚠ SOEX 090408-01 BK7615 SOEX 090408-21 BK7710 SOEX 090408-01 BK7935	4	● ● ● ● ○	N00 57261 S3575-15IP	2.8 Nm	L05 00860 15IP

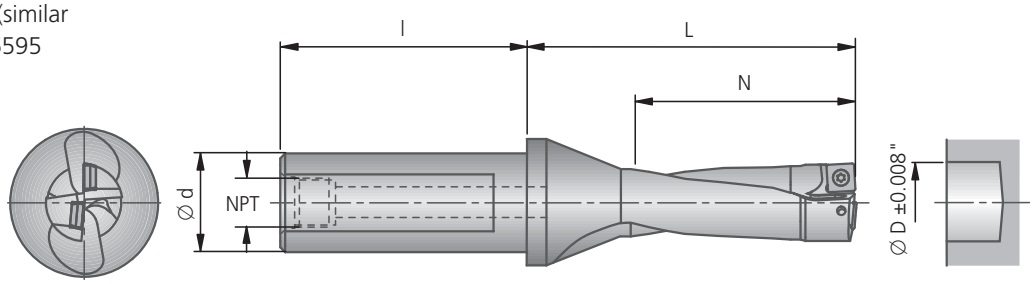
⚠ Note: Only use this insert with KUB Quatron® as an external cutting edge:
SOEX ... -21 (Geometry 21) in BK2730 and BK7710 (suitable as internal cutting edge for machining BK7710 aluminium).

Guideline values for solid drilling: pages 58-59 / alternative inserts: page 62.

Ø 0.562" – 1.062"

Insert Drill with Cylindrical Shank (Combination Shank), R.H. cutting

■ cylindrical shank (combination shank) DIN 6535 HE (similar 1835 E) and 6595



Ø D	max. diameter with offset	Cylindrical shank Ø d × l	2×D Order No.	2×D N	2×D L	2×D NPT	3×D Order No.	3×D N	3×D L	3×D NPT	
0.562	0.581	0.750X2.250	**U11 21435**	1.181	2.126		**U12 01434**	1.772	2.717		
0.593	0.612	0.750X2.250	**U11 21513**	1.260	2.205		**U12 01512**	1.890	2.835		
0.625	0.644	0.750X2.250	**U11 21593**	1.260	2.205	1/8	**U12 01592**	1.890	2.835	1/8	
0.656	0.675	0.750X2.250	**U11 21673**	1.339	2.284		**U12 01672**	2.008	2.953		
0.687	0.706	0.750X2.250	U11 21753	1.417	2.362		**U12 01752**	2.126	3.071		
0.703	0.722	1.000X3.250	**U11 31793**	1.417	2.362		**U12 11792**	2.126	3.071		
0.718	0.737	1.000X3.250	**U11 31823**	1.496	2.441		**U12 11822**	2.244	3.189		
0.750	0.769	1.000X3.250	**U11 31913**	1.575	2.520		**U12 11912**	2.362	3.307		
0.765	0.784	1.000X3.250	**U11 31943**	1.575	2.520	1/8	**U12 11942**	2.362	3.307	1/8	
0.781	0.800	1.000X3.250	**U11 31983**	1.575	2.520		**U12 11982**	2.362	3.307		
0.812	0.831	1.000X3.250	**U11 32063**	1.654	2.599		**U12 12062**	2.480	3.425		
0.828	0.847	1.000X3.250	**U11 32103**	1.732	2.677		**U12 12102**	2.598	3.543		
0.843	0.862	1.000X3.250	**U11 32143**	1.732	2.677		**U12 12142**	2.598	3.543		
0.875	0.894	1.000X3.250	**U11 32223**	1.811	2.756		**U12 12222**	2.717	3.662		
0.906	0.925	1.000X3.250	**U11 32303**	1.890	2.835		**U12 12302**	2.835	3.780		
0.937	0.956	1.000X3.250	**U11 32382**	1.890	2.835	1/8	**U12 12382**	2.835	3.780	1/8	
0.968	0.987	1.000X3.250	**U11 32462**	1.969	2.914		**U12 12462**	2.953	3.898		
0.985	1.004	1.000X3.250	**U11 32502**	1.969	2.914		**U12 12502**	2.953	3.898		
1.000	1.019	1.000X3.250	**U11 32542**	2.047	2.992		**U12 12542**	3.071	4.016		
0.937	0.956	1.250X3.250	**U11 42383**	1.890	2.835		**U12 22382**	2.835	3.780		
0.968	0.987	1.250X3.250	**U11 42463**	1.969	2.914		**U12 22462**	2.953	3.898		
0.985	1.004	1.250X3.250	**U11 42503**	1.969	2.914	1/4	**U12 22502**	3.071	4.016	1/4	
1.000	1.019	1.250X3.250	**U11 42543**	2.047	2.992		**U12 22542**	3.071	4.016		
1.031	1.050	1.250X3.250	**U11 42622**	2.126	3.071		**U12 22622**	3.189	4.134		
1.062	1.081	1.250X3.250	**U11 42702**	2.126	3.071		**U12 22702**	3.189	4.134		

For other diameters see following page.

Any **intermediate dimensions** from ∅ 0.562"– 1.062" are available on request.

Supply includes: KUB Quatron® drill with assembly parts. Please order insert and accessories separately.

L / D	solid drilling	blind hole	forge/casting skin, interface	angled	convex	cross bore	centering bore	chamber	stack plate drilling	rough boring	adjustable
2×D	●	●	●	●	●	●	●	●	●	◐	◐
3×D	●	●	●	●	●	●	●	●	●	◐	◐

● very good ◐ good ○ possible: see technical notes, pages 60-61 ✕ not possible

Basic recommendation				Assembly parts		Accessories
Insert -01 -21			for workpiece material	Clamping screw	Starting torque	Screwdriver
Order No. ▽▽ Size	ISO-Code	Qty	P M K N S H	Order No. Description		Order No. Description
W83 13010.048425 W83 13210.042730 W83 13000.017615 W83 13210.047710 W83 13000.017935	SOEX 050204-01 BK8425 SOEX 050204-21 BK2730 ⚠ SOEX 050204-01 BK7615 SOEX 050204-21 BK7710 SOEX 050204-01 BK7935	2		N00 56041 S/M2×4.3-6IP	5.5 in-lbs	L05 00810 6IP
W83 18010.068425 W83 18210.062730 W83 18000.097615 W83 18210.067710 W83 18000.097935	SOEX 060306-01 BK8425 SOEX 060306-21 BK2730 ⚠ SOEX 060306-01 BK7615 SOEX 060306-21 BK7710 SOEX 060306-01 BK7935	2		N00 57553 S/M2.2×5.5-6IP	8.9 in-lbs	L05 00810 6IP
W83 23010.088425 W83 23210.082730 W83 23000.017615 W83 23210.087710 W83 23000.017935	SOEX 07T308-01 BK8425 SOEX 07T308-21 BK2730 ⚠ SOEX 07T308-01 BK7615 SOEX 07T308-21 BK7710 SOEX 07T308-01 BK7935	2		N00 57571 S/M2.5×6.3-8IP	11.0 in-lbs	L05 00830 8IP

⚠ Note: Only use this insert with KUB Quatron® as an external cutting edge:
SOEX ... -21 (Geometry 21) in BK2730 and BK7710 (suitable as internal cutting edge for machining BK7710 aluminum).

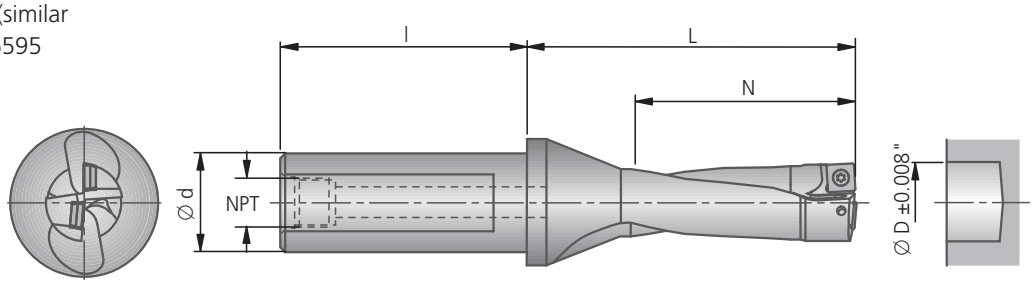
Guideline values for solid drilling: pages 58-59 / alternative inserts: page 62.

KOMET KUB Quatron®

Ø 1.109" – 1.750"

Insert Drill with Cylindrical Shank (Combination Shank), R.H. cutting

■ cylindrical shank (combination shank) DIN 6535 HE (similar 1835 E) and 6595



Ø D	max. diameter with offset	Cylindrical shank Ø d × l	2×D Order No.	2×D N	2×D L	2×D NPT	3×D Order No.	3×D N	3×D L	3×D NPT
1.109	1.129	1.250X3.250	**U11 42822**	2.283	3.228		**U12 22822**	3.425	4.370	
1.125	1.145	1.250X3.250	**U11 42862**	2.283	3.228		**U12 22862**	3.425	4.370	
1.156	1.176	1.250X3.250	**U11 42942**	2.323	3.307		**U12 22942**	3.543	4.488	
1.187	1.207	1.250X3.250	**U11 43022**	2.441	3.582	1/4	**U12 23022**	3.661	4.803	1/4
1.218	1.238	1.250X3.250	U11 43092	2.441	3.582		**U12 23092**	3.661	4.803	
1.250	1.270	1.250X3.250	**U11 43182**	2.520	3.661		**U12 23182**	3.780	4.921	
1.281	1.301	1.250X3.250	**U11 43252**	2.598	3.740		**U12 23252**	3.898	5.039	
1.312	1.332	1.250X3.250	**U11 43332**	2.677	3.818		**U12 23332**	4.016	5.157	
1.328	1.348	1.250X3.250	**U11 43372**	2.677	3.818		**U12 23372**	4.016	5.157	
1.375	1.395	1.250X3.250	**U11 43492**	2.756	3.897		**U12 23492**	4.134	5.276	
1.406	1.426	1.250X3.250	**U11 43572**	2.835	3.976		**U12 23572**	4.252	5.394	
1.437	1.457	1.250X3.250	**U11 43652**	2.913	4.448		**U12 23652**	4.370	5.906	
1.469	1.489	1.250X3.250	**U11 43732**	2.992	4.527		**U12 23732**	4.488	6.024	
1.500	1.520	1.250X3.250	**U11 43812**	3.071	4.606	1/4	**U12 23812**	4.606	6.142	1/4
1.531	1.551	1.250X3.250	**U11 43892**	3.071	4.606		**U12 23892**	4.606	6.142	
1.562	1.582	1.250X3.250	**U11 43972**	3.150	4.685		**U12 23972**	4.724	6.260	
1.625	1.645	1.250X3.250	**U11 44132**	3.307	4.842		**U12 24132**	4.961	6.496	
1.656	1.676	1.250X3.250	**U11 44212**	3.386	4.921		**U12 24212**	5.079	6.614	
1.687	1.707	1.250X3.250	**U11 44292**	3.386	4.921		**U12 24292**	5.079	6.614	
1.750	1.770	1.250X3.250	**U11 44452**	3.465	5.000		**U12 24452**	5.197	6.732	

Any **intermediate dimensions** from ∅ 1.109"– 1.750" are available on request.

Supply includes:
KUB Quatron® drill with assembly parts. Please order insert and accessories separately.

L / D	solid drilling	blind hole	forge/casting skin, interface	angled	convex	cross bore	centering bore	chamber	stack plate drilling	rough boring	adjustable
2×D	●	●	●	●	●	●	●	●	●	◐	◐
3×D	●	●	●	●	●	●	●	●	●	◐	◐

● very good ◐ good ○ possible: see technical notes, pages 60-61 ✕ not possible

Basic recommendation				Assembly parts		Accessories
Insert -01 -21			for workpiece material	Clamping screw	Starting torque	Screwdriver
Order No. ▽▽ Size	ISO-Code	Qty	P M K N S H	Order No. Description		Order No. Description
W83 32010.088425 **W83 32210.082730** **W83 32000.157615** **W83 32210.087710** **W83 32000.157935**	SOEX 090408-01 BK8425 SOEX 090408-21 BK2730 ⚠ SOEX 090408-01 BK7615 SOEX 090408-21 BK7710 SOEX 090408-01 BK7935	2		N00 57261 S3575-15IP	25.0 in-lbs	L05 00860 15IP
W83 44010.088425 **W83 44210.082730** **W83 44000.187615** **W83 44210.087710** **W83 44000.187935**	SOEX 120508-01 BK8425 SOEX 120508-21 BK2730 ⚠ SOEX 120508-01 BK7615 SOEX 120508-21 BK7710 SOEX 120508-01 BK7935	2		N00 57301 S45100-20IP	40.0 in-lbs	L05 00870 20IP

⚠ Note: Only use this insert with KUB Quatron® as an external cutting edge:
SOEX ... -21 (Geometry 21) in BK2730 and BK7710 (suitable as internal cutting edge for machining BK7710 aluminum).

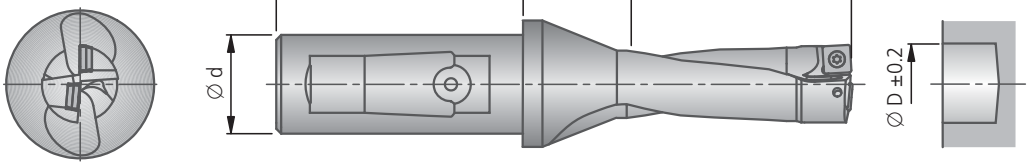
Guideline values for solid drilling: pages 58-59 / alternative inserts: page 62.

KOMET KUB Quatron®

Ø 14 – 33 mm

Insert Drill with Cylindrical Shank (Combination Shank), R.H. cutting

■ cylindrical shank (combination shank) DIN 6535 HE (similar 1835 E) and 6595



Ø D	max. diameter with offset	Cylindrical shank Ø d × l	2×D Order No.	2×D N	2×D L	2×D kg	3×D Order No.	3×D N	3×D L	3×D kg
14.0	14.5	20 × 50	U10 01402	28	52	0.17	U11 61402	42	66	0.18
15.0	15.5	20 × 50	U10 01502	30	54	0.18	U11 61502	45	69	0.19
15.5	16.0	20 × 50	U10 01550	32	56	0.18	U11 61550	48	72	0.19
16.0	16.5	20 × 50	U10 01600	32	56	0.19	U11 61600	48	72	0.20
16.5	17.0	20 × 50	–				U11 61650	51	75	0.20
17.0	17.5	20 × 50	U10 01700	34	58	0.19	U11 61700	51	75	0.20
17.5	18.0	25 × 56	U10 11750	36	60	0.27	U11 71750	54	78	0.28
18.0	18.5	25 × 56	U10 11800	36	60	0.27	U11 71800	54	78	0.28
18.5	19.0	25 × 56	U10 11850	38	62	0.27	U11 71850	57	81	0.29
19.0	19.5	25 × 56	U10 11900	38	62	0.28	U11 71900	57	81	0.29
19.5	20.0	25 × 56	U10 11950	40	64	0.29	U11 71950	60	84	0.30
20.0	20.5	25 × 56	U10 12000	40	64	0.29	U11 72000	60	84	0.31
20.5	21.0	25 × 56	U10 12050	42	66	0.30	U11 72050	63	87	0.31
21.0	21.5	25 × 56	U10 12100	42	66	0.30	U11 72100	63	87	0.32
22.0	22.5	25 × 56	U10 12200	44	68	0.31	U11 72200	66	90	0.33
22.5	23.0	25 × 56	U10 12250	46	70	0.31	U11 72250	69	93	0.34
23.0	23.5	25 × 56	U10 12300	46	70	0.32	U11 72300	69	93	0.35
24.0	24.5	32 × 60	U10 22400	48	72	0.51	U11 82400	72	96	0.55
24.5	25.0	32 × 60	U10 22450	50	74	0.52	U11 82450	75	99	0.56
25.0	25.5	32 × 60	U10 22500	50	74	0.52	U11 82500	75	99	0.56
26.0	26.5	32 × 60	U10 22600	52	76	0.54	U11 82600	78	102	0.58
26.5	27.0	32 × 60	U10 22650	54	78	0.55	U11 82650	81	105	0.60
27.0	27.5	32 × 60	U10 22700	54	78	0.56	U11 82700	81	105	0.61
28.0	28.5	32 × 60	U10 22800	56	80	0.57	U11 82800	84	108	0.63
28.5	29.0	32 × 60	U10 22850	58	82	0.58	U11 82850	87	111	0.65
29.0	29.5	32 × 60	U10 22900	58	82	0.59	U11 82900	87	111	0.66
29.5	30.0	32 × 60	U10 22950	59	84	0.60	U11 82950	88.5	114	0.67
30.0	30.5	32 × 60	U10 23000	60	89	0.63	U11 83000	90	119	0.70
31.0	31.5	32 × 60	U10 23100	62	91	0.65	U11 83100	93	122	0.73
31.5	32.0	32 × 60	U10 23150	64	93	0.66	U11 83150	96	125	0.75
32.0	32.5	32 × 60	U10 23200	64	93	0.67	U11 83200	96	125	0.76
33.0	33.5	32 × 60	U10 23300	66	95	0.73	U11 83300	99	128	0.83
		40 × 68	U10 33300	66	95	1.02	U11 93300	99	128	1.12

For other diameters see following page.

Any **intermediate dimensions** from Ø 14 – 33 mm and **inch dimensions** are available on request.

Supply includes: KUB Quatron® drill with assembly parts. Please order insert and accessories separately.

Patent applications (KUB Quatron)

L / D	solid drilling	blind hole	forge/casting skin, interface	angled	convex	cross bore	centering bore	chamber	stack plate drilling	rough boring	adjustable
2×D	●	●	●	●	●	●	●	●	●	◐	◐
3×D	●	●	●	●	●	●	●	●	●	◐	◐

● very good ◐ good ○ possible: see technical notes, pages 60-61 ✕ not possible

Basic recommendation					Assembly parts		Accessories
Insert  -01 -21			for workpiece material		Clamping screw 	Starting torque	Screwdriver 
Order No. ▽▽ Size	ISO-Code	Piece	P M K N S H		Order No. Description		Order No. Description
W83 13010.048425 W83 13210.042730 W83 13000.017615 W83 13210.047710 W83 13000.017935	SOEX 050204-01 BK8425 SOEX 050204-21 BK2730 ⚠ SOEX 050204-01 BK7615 SOEX 050204-21 BK7710 SOEX 050204-01 BK7935	2			N00 56041 S/M2×4.3-6IP	0.62 Nm	L05 00810 6IP
W83 18010.068425 W83 18210.062730 W83 18000.097615 W83 18210.067710 W83 18000.097935	SOEX 060306-01 BK8425 SOEX 060306-21 BK2730 ⚠ SOEX 060306-01 BK7615 SOEX 060306-21 BK7710 SOEX 060306-01 BK7935	2			N00 57553 S/M2.2×5.5-6IP	1.01 Nm	L05 00810 6IP
W83 23010.088425 W83 23210.082730 W83 23000.017615 W83 23210.087710 W83 23000.017935	SOEX 07T308-01 BK8425 SOEX 07T308-21 BK2730 ⚠ SOEX 07T308-01 BK7615 SOEX 07T308-21 BK7710 SOEX 07T308-01 BK7935	2			N00 57571 S/M2.5×6.3-8IP	1.28 Nm	L05 00830 8IP
W83 32010.088425 W83 32210.082730 W83 32000.1561 W83 32210.087710 W83 32000.1579	SOEX 090408-01 BK8425 SOEX 090408-21 BK2730 ⚠ SOEX 090408-01 BK61 SOEX 090408-21 BK7710 SOEX 090408-01 BK79	2			N00 57261 S3575-15IP	2.8 Nm	L05 00860 15IP

⚠ Note: Only use this insert with KUB Quatron® as an external cutting edge:
SOEX ... -21 (Geometry 21) in BK2730 and BK7710 (suitable as internal cutting edge for machining BK7710 aluminium).

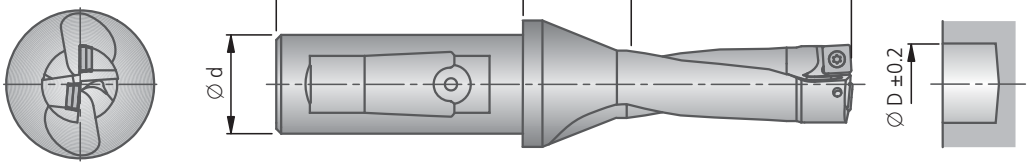
Guideline values for solid drilling: pages 58-59 / alternative inserts: page 62.

KOMET KUB Quatron®

Ø 34 – 44 mm

Insert Drill with Cylindrical Shank (Combination Shank), R.H. cutting

■ cylindrical shank
(combination shank)
DIN 6535 HE (similar
1835 E) and 6595



Ø D	max. diameter with offset	Cylindrical shank Ø d × l	2×D Order No.	2×D N	2×D L	2×D kg	3×D Order No.	3×D N	3×D L	3×D kg
34.0	34.5	32 × 60	U10 23400	68	97	0.75	U11 83400	102	131	0.86
		40 × 68	U10 33400	68	97	1.04	U11 93400	102	131	1.15
35.0	35.5	32 × 60	U10 23500	70	99	0.78	U11 83500	105	134	0.89
		40 × 68	U10 33500	70	99	1.07	U11 93500	105	134	1.18
36.0	36.5	32 × 60	U10 23600	72	101	0.8	U11 83600	108	137	0.93
		40 × 68	U10 33600	72	101	1.09	U11 93600	108	137	1.22
37.0	37.5	32 × 60	U10 23700	74	113	0.89	U11 83700	111	150	1.03
		40 × 68	U10 33700	74	113	1.18	U11 93700	111	150	1.32
37.5	38.0	32 × 60	U10 23750	76	115	0.91	U11 83750	114	153	1.06
		40 × 68	U10 33750	76	115	1.2	U11 93750	114	153	1.35
38.0	38.5	32 × 60	U10 23800	76	115	0.92	U11 83800	114	153	1.07
		40 × 68	U10 33800	76	115	1.21	U11 93800	114	153	1.36
39.0	39.5	32 × 60	U10 23900	78	117	0.95	U11 83900	117	156	1.12
		40 × 68	U10 33900	78	117	1.24	U11 93900	117	156	1.41
39.5	40.0	32 × 60	U10 23950	80	119	0.97	U11 83950	120	159	1.15
		40 × 68	U10 33950	80	119	1.26	U11 93950	120	159	1.44
40.0	40.5	32 × 60	U10 24000	80	119	0.99	U11 84000	120	159	1.17
		40 × 68	U10 34000	80	119	1.28	U11 94000	120	159	1.46
41.0	41.5	32 × 60	U10 24100	82	121	1.02	U11 84100	123	162	1.22
		40 × 68	U10 34100	82	121	1.31	U11 94100	123	162	1.51
42.0	42.5	32 × 60	U10 24200	84	123	1.06	U11 84200	126	165	1.27
		40 × 68	U10 34200	84	123	1.35	U11 94200	126	165	1.56
43.0	43.5	32 × 60	U10 24300	86	125	1.1	U11 84300	129	168	1.33
		40 × 68	U10 34300	86	125	1.39	U11 94300	129	168	1.62
44.0	44.5	32 × 60	U10 24400	88	127	1.14	U11 84400	132	171	1.34
		40 × 68	U10 34400	88	127	1.43	U11 94400	132	171	1.63

Any **intermediate dimensions** from ∅ 34 – 44 mm and **inch dimensions** are available on request.

Supply includes:
KUB Quatron® drill with assembly parts. Please order insert and accessories separately.

L / D	solid drilling	blind hole	forge/casting skin, interface	angled	convex	cross bore	centering bore	chamber	stack plate drilling	rough boring	adjustable
2×D	●	●	●	●	●	●	●	●	●	◐	◐
3×D	●	●	●	●	●	●	●	●	●	◐	◐

● very good ◐ good ○ possible: see technical notes, pages 60-61 ✕ not possible

Basic recommendation				Assembly parts		Accessories
Insert -01 -21			for workpiece material	Clamping screw	Starting torque	Screwdriver
Order No. ▽▽ Size	ISO-Code	Piece	P M K N S H	Order No. Description		Order No. Description
W83 44010.088425 W83 44210.082730 W83 44000.187615 W83 44210.087710 W83 44000.187935	SOEX 120508-01 BK8425 SOEX 120508-21 BK2730 ⚠ SOEX 120508-01 BK7615 SOEX 120508-21 BK7710 SOEX 120508-01 BK7935	2		N00 57301 S45100-20IP	6.25 Nm	L05 00870 20IP

⚠ Note: Only use this insert with KUB Quatron® as an external cutting edge:
SOEX ... -21 (Geometry 21) in BK2730 and BK7710 (suitable as internal cutting edge for machining BK7710 aluminium).

Guideline values for solid drilling: pages 58-59 / alternative inserts: page 62.

Guideline values for solid drilling						v_c	Max. feed f in/rev (mm/rev)							
							2×D							
Material group		Strength Rm (lbf/in²)	Hardness HB	Material	Material example, material code AISI/SAE	Cutting speed v_c (ft/min)	Ø 0.551 – 0.626 (Ø 14 – 15.9)	Ø 0.627 – 0.689 (Ø 16 – 17.5)	Ø 0.690 – 0.846 (Ø 17.6 – 21.5)	Ø 0.847 – 1.063 (Ø 21.6 – 27)	Ø 1.102 – 1.299 (Ø 28 – 33)	Ø 1.339 – 1.732 (Ø 34 – 44)	Ø 1.772 – 2.047 (Ø 45 – 52)	Ø 2.087 – 2.559 (Ø 53 – 65)
P	1.0	≤72500		Unalloyed steel	A570.36 1213 A573.81	890	0.004 (0.10)	0.005 (0.12)	0.005 (0.12)	0.006 (0.14)	0.006 (0.14)	0.006 (0.14)	0.006 (0.14)	0.006 (0.14)
	2.0	72500-130000		Low alloy steel	5120 1055 5115	820	0.005 (0.12)	0.006 (0.14)	0.006 (0.16)	0.008 (0.20)	0.008 (0.20)	0.010 (0.25)	0.008 (0.20)	0.008 (0.20)
	2.1	<72500		Lead alloy	12L13	980	0.006 (0.14)	0.006 (0.16)	0.007 (0.18)	0.010 (0.25)	0.010 (0.25)	0.012 (0.30)	0.010 (0.25)	0.010 (0.25)
	3.0	>130000		High alloy steel heat resistant structural, heat treated, nitride steels	4140 1064	660	0.006 (0.14)	0.006 (0.16)	0.007 (0.18)	0.008 (0.20)	0.008 (0.20)	0.010 (0.25)	0.008 (0.20)	0.008 (0.20)
	4.0	>130000		Tool steels	H13 H21	590	0.004 (0.10)	0.005 (0.12)	0.005 (0.12)	0.007 (0.18)	0.007 (0.18)	0.008 (0.20)	0.007 (0.18)	0.007 (0.18)
	4.1			HSS		260	0.003 (0.08)	0.004 (0.10)	0.005 (0.12)	0.006 (0.14)	0.006 (0.16)	0.007 (0.18)	0.006 (0.14)	0.006 (0.16)
S	5.0		250	Special alloy: Inconel, Hastelloy, Nimonic, etc.	Inconel® 718 Nimonic® 80A	110	0.002 (0.06)	0.003 (0.08)	0.004 (0.10)	0.005 (0.12)	0.005 (0.12)	0.005 (0.12)	0.005 (0.12)	0.005 (0.12)
	5.1	58000		titanium, titanium alloys	AMS R54520	260	0.002 (0.06)	0.003 (0.08)	0.004 (0.10)	0.005 (0.12)	0.005 (0.12)	0.005 (0.12)	0.005 (0.12)	0.005 (0.12)
M	6.0	≤87000		Stainless steel: austenitic 300 series	304L 316	590	0.003 (0.08)	0.004 (0.10)	0.005 (0.12)	0.006 (0.14)	0.006 (0.14)	0.006 (0.16)	0.006 (0.14)	0.006 (0.14)
	6.1	<130000		Stainless steels	630	520	0.003 (0.08)	0.003 (0.08)	0.005 (0.12)	0.006 (0.16)	0.006 (0.16)	0.008 (0.20)	0.006 (0.16)	0.006 (0.16)
	7.0	>130000		Stainless steel: martensitic/ferritic 400 series	420 403	250	0.002 (0.06)	0.003 (0.08)	0.004 (0.10)	0.005 (0.12)	0.005 (0.12)	0.006 (0.14)	0.005 (0.12)	0.005 (0.12)
K	8.0		180	Grey cast iron	No 35 B No 50 B	660	0.006 (0.16)	0.006 (0.16)	0.010 (0.25)	0.012 (0.30)	0.012 (0.30)	0.012 (0.30)	0.012 (0.30)	0.012 (0.30)
	8.1		250	Alloy grey cast iron	A436 Type 2	520	0.006 (0.14)	0.006 (0.16)	0.007 (0.18)	0.008 (0.20)	0.008 (0.20)	0.010 (0.25)	0.008 (0.20)	0.008 (0.20)
	9.0	≤87000	130	Nodular cast iron ferritic	60-40-18	590	0.006 (0.14)	0.006 (0.16)	0.007 (0.18)	0.008 (0.20)	0.008 (0.20)	0.010 (0.25)	0.008 (0.20)	0.008 (0.20)
	9.1		230	Nodular cast iron ferritic / pearlitic	80-55-06	520	0.006 (0.14)	0.006 (0.16)	0.007 (0.18)	0.009 (0.22)	0.009 (0.22)	0.010 (0.25)	0.009 (0.22)	0.009 (0.22)
	10.0	>87000	250	Nodular cast iron pearlitic Malleable cast iron	100-70-03 70003	460	0.006 (0.14)	0.006 (0.16)	0.007 (0.18)	0.009 (0.22)	0.009 (0.22)	0.010 (0.25)	0.009 (0.22)	0.009 (0.22)
	10.1		200	Alloyed nodular cast iron	A43D2	460	0.006 (0.14)	0.006 (0.16)	0.007 (0.18)	0.009 (0.22)	0.010 (0.25)	0.010 (0.25)	0.009 (0.22)	0.010 (0.25)
	10.2		300	Vermicular cast iron		390	0.004 (0.10)	0.005 (0.12)	0.006 (0.16)	0.008 (0.20)	0.008 (0.20)	0.010 (0.25)	0.008 (0.20)	0.008 (0.20)
N	12.0		90	Copper alloy, brass, Lead alloy, Bronze, Lead bronze: good cut	UNS C36000	980	0.005 (0.12)	0.006 (0.14)	0.006 (0.16)	0.010 (0.25)	0.008 (0.20)	0.010 (0.25)	0.010 (0.25)	0.008 (0.20)
	12.1		100	Copper alloy, Brass, Bronze: average cut		1310	0.003 (0.08)	0.003 (0.08)	0.004 (0.10)	0.005 (0.12)	0.005 (0.12)	0.006 (0.15)	0.005 (0.12)	0.005 (0.12)
	13.0		60	Wrought aluminum alloy	GD-AlSi12	1970	0.003 (0.08)	0.003 (0.08)	0.004 (0.10)	0.005 (0.12)	0.005 (0.12)	0.005 (0.12)	0.005 (0.12)	0.005 (0.12)
	13.1		75	Aluminum alloy: Si content <10% Magnesium alloy		980	0.004 (0.10)	0.005 (0.12)	0.006 (0.14)	0.006 (0.16)	0.006 (0.16)	0.008 (0.20)	0.006 (0.16)	0.006 (0.16)
	14.0		100	Aluminum alloy: Si content >10%	A360.2	820	0.004 (0.10)	0.005 (0.12)	0.006 (0.14)	0.008 (0.20)	0.008 (0.20)	0.012 (0.30)	0.008 (0.20)	0.008 (0.20)
H	15.0	203000		Hardened steels < 45 HRC		260	0.002 (0.05)	0.002 (0.05)	0.003 (0.08)	0.004 (0.10)	0.004 (0.10)	0.004 (0.10)	0.004 (0.10)	0.004 (0.10)
	16.0	261000		Hardened steels > 45 HRC		130	0.002 (0.05)	0.002 (0.05)	0.003 (0.08)	0.004 (0.10)	0.004 (0.10)	0.004 (0.10)	0.004 (0.10)	0.004 (0.10)

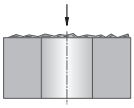
Cutting values shown are maximum values relating to the basic recommendations for cutting materials given.
Patent applications (KUB Quatron)

(..) = mm

Max. feed f in/rev (mm/rev)								
	3×D							
	∅ 0.551 – 0.626 (∅ 14 – 15.9)	∅ 0.627 – 0.688 (∅ 16 – 17.5)	∅ 0.689 – 0.846 (∅ 17.6 – 21.5)	∅ 0.847 – 1.063 (∅ 21.6 – 27)	∅ 1.102 – 1.299 (∅ 28 – 33)	∅ 1.339 – 1.732 (∅ 34 – 44)	∅ 1.772 – 2.047 (∅ 45 – 52)	∅ 2.087 – 2.559 (∅ 53 – 65)
	0.004 (0.10)	0.005 (0.12)	0.005 (0.12)	0.006 (0.14)	0.006 (0.14)	0.006 (0.14)	0.006 (0.14)	0.006 (0.14)
	0.005 (0.12)	0.006 (0.14)	0.006 (0.16)	0.008 (0.20)	0.008 (0.20)	0.010 (0.25)	0.008 (0.20)	0.008 (0.20)
	0.006 (0.14)	0.006 (0.16)	0.007 (0.18)	0.010 (0.25)	0.010 (0.25)	0.012 (0.30)	0.010 (0.25)	0.010 (0.25)
	0.006 (0.14)	0.006 (0.16)	0.007 (0.18)	0.008 (0.20)	0.008 (0.20)	0.010 (0.25)	0.008 (0.20)	0.008 (0.20)
	0.004 (0.10)	0.005 (0.12)	0.005 (0.12)	0.007 (0.18)	0.007 (0.18)	0.008 (0.20)	0.007 (0.18)	0.007 (0.18)
	0.003 (0.08)	0.004 (0.10)	0.005 (0.12)	0.006 (0.14)	–	–	0.006 (0.14)	–
	0.002 (0.06)	0.003 (0.08)	0.004 (0.10)	0.005 (0.12)	0.005 (0.12)	0.005 (0.12)	0.005 (0.12)	0.005 (0.12)
	0.002 (0.06)	0.003 (0.08)	0.004 (0.10)	0.005 (0.12)	0.005 (0.12)	0.005 (0.12)	0.005 (0.12)	0.005 (0.12)
	0.003 (0.08)	0.004 (0.10)	0.005 (0.12)	0.006 (0.14)	0.006 (0.14)	0.006 (0.16)	0.006 (0.14)	0.006 (0.14)
	0.003 (0.08)	0.003 (0.08)	0.005 (0.12)	0.006 (0.16)	0.006 (0.16)	0.008 (0.20)	0.006 (0.16)	0.006 (0.16)
	0.002 (0.06)	0.003 (0.08)	0.004 (0.10)	0.005 (0.12)	0.005 (0.12)	0.006 (0.14)	0.005 (0.12)	0.006 (0.14)
	0.006 (0.16)	0.006 (0.16)	0.010 (0.25)	0.012 (0.30)	0.012 (0.30)	0.012 (0.30)	0.012 (0.30)	0.012 (0.30)
	0.006 (0.14)	0.006 (0.16)	0.007 (0.18)	0.008 (0.20)	0.008 (0.20)	0.010 (0.25)	0.008 (0.20)	0.008 (0.20)
	0.006 (0.14)	0.006 (0.16)	0.007 (0.18)	0.008 (0.20)	0.008 (0.20)	0.010 (0.25)	0.008 (0.20)	0.008 (0.20)
	0.006 (0.14)	0.006 (0.16)	0.007 (0.18)	0.009 (0.22)	0.009 (0.22)	0.010 (0.25)	0.009 (0.22)	0.009 (0.22)
	0.006 (0.14)	0.006 (0.16)	0.007 (0.18)	0.009 (0.22)	0.009 (0.22)	0.010 (0.25)	0.009 (0.22)	0.009 (0.22)
	0.006 (0.14)	0.006 (0.16)	0.007 (0.18)	0.009 (0.22)	0.010 (0.25)	0.010 (0.25)	0.009 (0.22)	0.010 (0.25)
	0.004 (0.10)	0.005 (0.12)	0.006 (0.16)	0.008 (0.20)	0.008 (0.20)	0.010 (0.25)	0.008 (0.20)	0.008 (0.20)
	0.005 (0.12)	0.006 (0.14)	0.006 (0.16)	0.010 (0.25)	0.008 (0.20)	0.010 (0.25)	0.010 (0.25)	0.008 (0.20)
	0.003 (0.08)	0.003 (0.08)	0.004 (0.10)	0.005 (0.12)	0.005 (0.12)	0.006 (0.15)	0.005 (0.12)	0.005 (0.12)
	0.003 (0.08)	0.003 (0.08)	0.004 (0.10)	0.005 (0.12)	0.005 (0.12)	0.005 (0.12)	0.005 (0.12)	0.005 (0.12)
	0.004 (0.10)	0.005 (0.12)	0.006 (0.14)	0.006 (0.16)	0.006 (0.16)	0.008 (0.20)	0.006 (0.16)	0.006 (0.16)
	0.004 (0.10)	0.005 (0.12)	0.006 (0.14)	0.008 (0.20)	0.008 (0.20)	0.012 (0.30)	0.008 (0.20)	0.008 (0.20)
	0.002 (0.05)	0.002 (0.05)	0.003 (0.08)	0.004 (0.10)	0.004 (0.10)	0.004 (0.10)	0.004 (0.10)	0.004 (0.10)
	0.002 (0.05)	0.002 (0.05)	0.003 (0.08)	0.004 (0.10)	0.004 (0.10)	0.004 (0.10)	0.004 (0.10)	0.004 (0.10)

Important: See chapter 8 for more application details and safety notes!

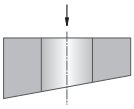
1

1. 

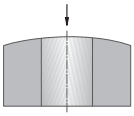
Starting on uneven surfaces (cast surfaces)
- subject to the surface, reduce feed as required when starting the bore

2. 

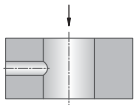
Starting on angled surfaces
- subject to the starting angle, the feed must be reduced when starting the bore.
  Rule of thumb: 3° ≙ 30%; 10° ≙ 40%; 25° ≙ 60% use tools max. 2×D
- use tough insert and stable corner radius

3. 

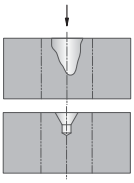
Angled bore exit
- from wear cut is interrupted reduce feed rate up to 50%
- use tough insertand stable corner radius

4. 

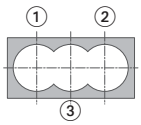
Starting on cambered surfaces
- no problems
- reduce feed rate if necessary

5. 

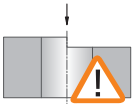
Drilling through a cross bore
- reduce feed rate 50% if necessary
- watch for chip jamming around tool
- use tough insert and stable corner radius

6. 

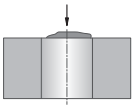
Starting on a groove or large centering bore
- use short tools, max. 3×D
- spot face if required
- reduce feed
- use tough insert for internal cutting edge

7. 

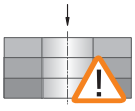
Drilling a chamber
- first bore Nos. 1 + 2, then bore No. 3
- check distribution is symmetrical
- avoid chip jams
- if necessary reduce to approx. 1-1.5 mm in the ∅ on circumference
- reduce feed rate 50% for interrupted cut
- use tough insert and stable corner radius

8. 

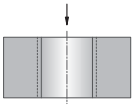
Starting on an edge
- reduce feed rate by 50%
- use tough insert and stable corner radius

9. 

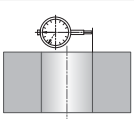
Starting on a welded seam
- reduce feed rate
- use max. 3×D tools

10. 

Drilling through stacked plates
- good workpiece clamping required
- max. gap = 1 mm

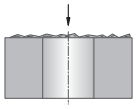
11. 

Roughing
- possible

12. 

Adjustable
- using adjusting device (ABS-MV) and eccentric adjusting device
- for turning machines over axis

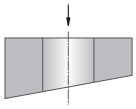
Note: please note max. offset ∅ in tables

1. 

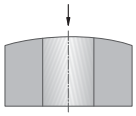
Starting on uneven surfaces (cast surfaces)
- subject to the surface, reduce feed as required when starting the bore

2. 

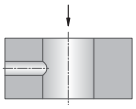
Starting on angled surfaces
- max. 3° angled position possible (cast angles)
- reduce feed rate when starting bore
- use stable corner radius

3. 

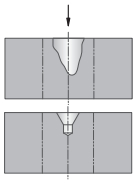
Angled bore exit
- from wear cut is interrupted reduce feed rate up to 50%
- use tough insertand stable corner radius

4. 

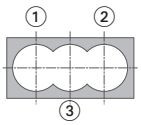
Starting on cambered surfaces
- no problems
- reduce feed rate if necessary

5. 

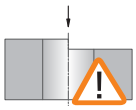
Drilling through a cross bore
- reduce feed rate 50% if necessary
- watch for chip jamming around tool
- use tough insertand stable corner radius

6. 

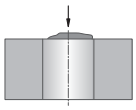
Starting on a groove or large centering bore
- use short tools, max. 3×D
- spot face if required
- reduce feed
- use tough insert for internal cutting edge

7. 

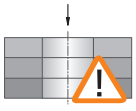
Drilling a chamber
- first bore Nos. 1 + 2, then bore No. 3
- check distribution is symmetrical
- avoid chip jams
- if necessary reduce to approx. 1-1.5 mm in the ∅ on circumference
- reduce feed rate 50% for interrupted cut
- use tough insertand stable corner radius

8. 

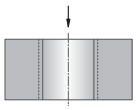
Starting on an edge
- not possible for 3×D tools
- because of the undefined surface for starting the bore, pre-machining is required (spot facing, face milling)
- then continue as described under Point 1

9. 

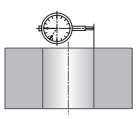
Starting on a welded seam
- reduce feed rate
- use max. 3×D tools

10. 

Drilling through stacked plates
- good workpiece clamping required

11. 

Roughing
- possible

12. 

Adjustable
- using adjusting device (ABS-MV) and eccentric adjusting device
- for turning machines over axis

Note: please note max. offset ∅ in tables

Alternative Inserts

(..) = mm

Alternative Inserts 2×D / 3×D

	ØD	Order No. ▽▽ Size	ISO-Code	Insert -03 -13 -21	for workpiece material P M K N S H
for better chip control	0.551-0.689 (14-17.5)	W83 13130.048425	SOEX 050204-13 BK8425		
		W83 13210.042730	SOEX 050204-21 BK2730 ⚠		
		W83 13030.048430	SOEX 050204-03 BK8430		
		W83 13000.027935	SOEX 050204-13 BK7935		
		W83 13210.047710	SOEX 050204-21 BK7710 ⚠		
	0.709-0.846 (18-21.5)	W83 18130.068425	SOEX 060306-13 BK8425		
		W83 18210.062730	SOEX 060306-21 BK2730 ⚠		
		W83 18030.068430	SOEX 060306-03 BK8430		
		W83 18000.1079	SOEX 060306-13 BK79		
		W83 18210.067710	SOEX 060306-21 BK7710 ⚠		
	0.866-1.063 (22-27)	W83 23130.088425	SOEX 07T308-13 BK8425		
		W83 23210.082730	SOEX 07T308-21 BK2730 ⚠		
		W83 23030.088430	SOEX 07T308-03 BK8430		
		W83 23000.027935	SOEX 07T308-13 BK7935		
		W83 23210.087710	SOEX 07T308-21 BK7710 ⚠		
	1.102-1.299 (28-33)	W83 32130.088425	SOEX 090408-13 BK8425		
		W83 32210.082730	SOEX 090408-21 BK2730 ⚠		
		W83 32030.088430	SOEX 090408-03 BK8430		
		W83 32000.177935	SOEX 090408-13 BK7935		
		W83 32210.087710	SOEX 090408-21 BK7710 ⚠		
	1.339-1.732 (34-44)	W83 44130.088425	SOEX 120508-13 BK8425		
		W83 44210.082730	SOEX 120508-21 BK2730 ⚠		
		W83 44030.088430	SOEX 120508-03 BK8430		
		W83 44000.197935	SOEX 120508-13 BK7935		
		W83 44210.087710	SOEX 120508-21 BK7710 ⚠		
	1.772-2.047 (45-52)	W83 23130.088425	SOEX 07T308-13 BK8425		
		W83 23210.082730	SOEX 07T308-21 BK2730 ⚠		
		W83 23030.088430	SOEX 07T308-03 BK8430		
		W83 23000.027935	SOEX 07T308-13 BK7935		
		W83 23210.087710	SOEX 07T308-21 BK7710 ⚠		
	2.087-2.559 (53-65)	W83 32130.088425	SOEX 090408-13 BK8425		
		W83 32210.082730	SOEX 090408-21 BK2730 ⚠		
		W83 32030.088430	SOEX 090408-03 BK8430		
		W83 32000.177935	SOEX 090408-13 BK7935		
		W83 32210.087710	SOEX 090408-21 BK7710 ⚠		

Alternative Inserts 2×D / 3×D

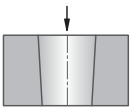
	ØD	Order No. ▽▽ Size	ISO-Code	Insert -01 -21	for workpiece material P M K N S H
for higher cutting speed	0.551-0.689 (14-17.5)	W83 13010.046420	SOEX 050204-01 BK6420		
		W83 13210.046130	SOEX 050204-21 BK6130		
		W83 13000.0174	SOEX 050204-01 BK74		
		W83 13000.016115	SOEX 050204-01 BK6115 ⚠		
	0.709-0.846 (18-21.5)	W83 18010.066420	SOEX 060306-01 BK6420		
		W83 18210.066130	SOEX 060306-21 BK6130		
		W83 18000.0974	SOEX 060306-01 BK74		
		W83 18000.096115	SOEX 060306-01 BK6115 ⚠		
	0.866-1.063 (22-27)	W83 23010.086420	SOEX 07T308-01 BK6420		
		W83 23210.086130	SOEX 07T308-21 BK6130		
		W83 23000.0174	SOEX 07T308-01 BK74		
		W83 23000.016115	SOEX 07T308-01 BK6115 ⚠		
	1.102-1.299 (28-33)	W83 32010.086420	SOEX 090408-01 BK6420		
		W83 32210.086130	SOEX 090408-21 BK6130		
		W83 32000.1574	SOEX 090408-01 BK74		
		W83 32000.156115	SOEX 090408-01 BK6115 ⚠		
	1.339-1.732 (34-44)	W83 44010.086420	SOEX 120508-01 BK6420		
		W83 44210.086130	SOEX 120508-21 BK6130		
		W83 44000.1874	SOEX 120508-01 BK74		
		W83 44000.186115	SOEX 120508-01 BK6115 ⚠		
	1.772-2.047 (45-52)	W83 23010.086420	SOEX 07T308-01 BK6420		
		W83 23210.086130	SOEX 07T308-21 BK6130		
		W83 23000.0174	SOEX 07T308-01 BK74		
		W83 23000.016115	SOEX 07T308-01 BK6115 ⚠		
	2.087-2.559 (53-65)	W83 32010.086420	SOEX 090408-01 BK6420		
		W83 32210.086130	SOEX 090408-21 BK6130		
		W83 32000.1574	SOEX 090408-01 BK74		
		W83 32000.156115	SOEX 090408-01 BK6115 ⚠		
for greater strength	0.551-0.689 (14-17.5)	**W83 13000.0179**	SOEX 050204-01 BK79		
		W83 13010.046420	SOEX 050204-01 BK6420		
	0.709-0.846 (18-21.5)	**W83 18000.0979**	SOEX 060306-01 BK79		
		W83 18010.066420	SOEX 060306-01 BK6420		
	0.866-1.063 (22-27)	**W83 23000.0179**	SOEX 07T308-01 BK79		
		W83 23010.086420	SOEX 07T308-01 BK6420		
	1.102-1.299 (28-33)	**W83 32000.1579**	SOEX 090408-01 BK79		
		W83 32010.086420	SOEX 090408-01 BK6420		
	1.339-1.732 (34-44)	**W83 44000.1879**	SOEX 120508-01 BK79		
		W83 44010.086420	SOEX 120508-01 BK6420		
	1.772-2.047 (45-52)	**W83 23000.0179**	SOEX 07T308-01 BK79		
		W83 23010.086420	SOEX 07T308-01 BK6420		
	2.087-2.559 (53-65)	**W83 32000.1579**	SOEX 090408-01 BK79		
		W83 32010.086420	SOEX 090408-01 BK6420		

⚠ Only use this insert with KUB Quatron® as an external cutting edge:
SOEX ... -01 (Geometry 01) in BK6115,
SOEX ... -21 (Geometry 21) in BK2730 and BK7710
(suitable as internal cutting edge for machining BK7710 aluminium).

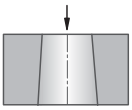
Important: See chapter 8 for more application details and safety notes!

rotating and stationary use

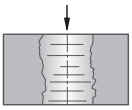
Short tool life types of wear on inserts
- cutting speed to high → select correct cutting speed
- cutting material with too little wear resistance → select grade with higher wear resistance
- tool overhang too great → if possible use shorter tool
- damaged insert seating → check tool, change if necessary
- clamping device not stable enough → improve stability



Bore narrows at bottom
- chip jam on external cutting edge → use different chip fracture geometry, increase feed if necessary
- material very soft → increase cutting speed, reduce feed. Use positive chip geometry

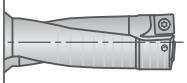


Bore widens at bottom
- chip jam on internal cutting edge → use different chip fracture geometry, increase feed if necessary



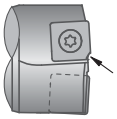
Bad surface finish
- bad chip removal → improve cutting parameters: increase cutting speed reduce feed

Bild up on cutting edge
- cutting speed too low → increase cutting speed
- insert too negative → use positive geometry
- coating not suitable → select correct coating

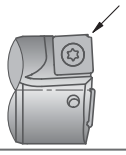


Friction marks on tool shank
- bore diameter too small → check setting
- chip removal problems → improve cutting parameters, check geometry of inserts
- cutting edge corner radius too large → use correct cutting edge radius

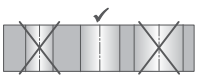
stationary use



Fracture on internal cutting edge
- drill bit height of tool too high/too low → tool turret/holder may have shifted. Readjust machine
- feed rate too high → reduce feed rate
- insert grade too brittle → use tougher insert grade
- wrong insert geometry → use geometry with chamfered cutting edge

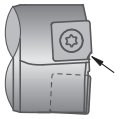


Fracture on external cutting edge
- feed rate too high → reduce feed rate
- interrupted cut → change to tougher insert grade
- cutting edge corner radius too small → use insert with larger cutting edge radius

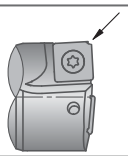


Bore too small/ too large
- machine not at X-0 position → move axis to correct position
- machine axis shifted → readjust machine

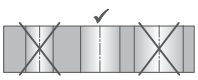
rotating use



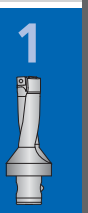
Fracture on internal cutting edge
- feed rate too high → reduce feed rate
- insert grade too brittle → use tougher insert grade
- wrong insert geometry → use geometry with chamfered cutting edge

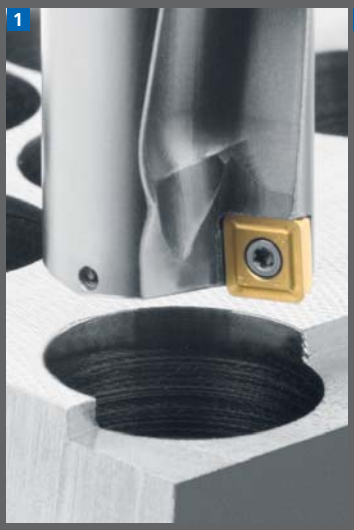


Fracture on external cutting edge
- feed rate too high → reduce feed rate
- interrupted cut → change to tougher insert grade
- cutting edge corner radius too small → use insert with larger cutting edge radius



Bore too small/ too large with adjustable tool
- wrong cutting edge radius used → use correct cutting edge radius
- setting wrong → correct setting





KOMET KUB Pentron ® continuous drill

In developing the KUB Pentron ®, KOMET ® has blazed a completely new trail.

It has combined key features such as real accuracy, top performance parameters and deep drilling depths in a single tool.

In comparison with the usual indexable insert drills available until now on the market, the KOMET KUB Pentron ® gives up to 20% higher cut and feed values, right through to a 5×D length/ diameter ratio.

It can handle extreme working conditions that were previously only feasible with 3×D.

BENEFITS for you:

- Maximum performance and life with excellent drilling performance due to optimum main body stability and a special surface treatment.
- Optimum dimensional accuracy in the most difficult drilling conditions to 5×D.
- Cost reductions in stocking and ease of handling due to identical internal and external indexable inserts.
- Maximum tool life due to four fully useable cutting edges of modern substrates with appropriate coatings.

Applications:

- Perfect for great drilling depths and high feed performance
- Ideal for extreme working situations
- Ideal for machining steel, cast metal, aluminium and stainless materials

Extreme applications in the 5×D region:

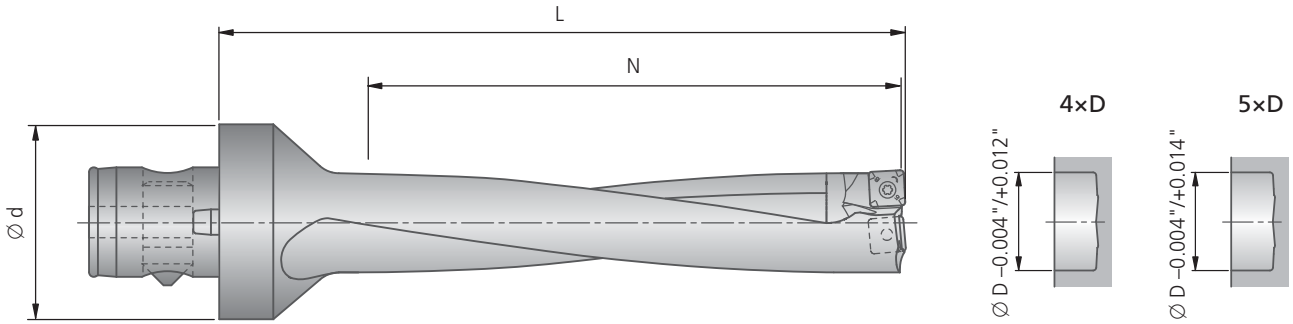
1 Drilling on an edge
2 Drilling in an acute corner
3 Multiple drilling
4 Drilling on a welded seam or undulating surfaces

KOMET KUB Pentron®

KOMET KUB Pentron ®

Ø 0.562 – 1.750 inch

Insert Drill with ABS ® Connection, R.H. cutting



Ø D inch	**max. diameter with offset inch	ABS Ø d	4×D Order No.	4×D N	4×D L	4×D lbs	5×D Order No.	5×D N	5×D L	5×D lbs
0.562	0.582	50	U44 51430	2.362	3.465	0.88	U45 51430	2.953	4.055	0.90
0.593	0.613	50	U44 51510	2.520	3.701	0.90	U45 51510	3.150	4.331	0.92
0.625	0.645	50	U44 51590	2.520	3.701	0.92	U45 51590	3.150	4.331	0.95
0.656	0.676	50	U44 51670	2.677	3.898	0.95	U45 51670	3.346	4.567	0.97
0.687	0.708	50	U44 51750	2.835	4.055	0.97	U45 51750	3.543	4.764	0.99
0.703	0.723	50	U44 51790	2.835	4.055	0.97	U45 51790	3.543	4.764	0.99
0.750	0.771	50	U44 51910	3.150	4.409	1.08	U45 51910	3.937	5.197	1.17
0.765	0.783	50	U44 51940	3.150	4.409	1.10	U45 51940	3.937	5.197	1.17
0.781	0.799	50	U44 51980	3.150	4.409	1.12	U45 51980	3.937	5.197	1.17
0.812	0.830	50	U44 52060	3.307	4.567	1.12	U45 52060	4.134	5.394	1.17
0.828	0.846	50	U44 52100	3.307	4.567	1.12	U45 52100	4.134	5.394	1.19
0.875	0.893	50	U44 52220	3.622	4.882	1.19	U45 52220	4.528	5.787	1.28
0.906	0.925	50	U44 52300	3.622	4.882	1.23	U45 52300	4.528	5.787	1.32
0.937	0.956	50	U44 52380	3.780	5.039	1.26	U45 52380	4.724	5.984	1.34
0.985	1.003	50	U44 52500	3.937	5.236	1.32	U45 52500	4.921	6.220	1.41
1.000	1.019	50	U44 52540	4.094	5.394	1.34	U45 52540	5.118	6.417	1.45
1.031	1.051	50	U44 52620	4.252	5.591	1.34	U45 52620	5.315	6.654	1.46
1.062	1.082	50	U44 52700	4.252	5.591	1.37	U45 52700	5.315	6.654	1.48
1.109	1.129	50	U44 52820	4.567	5.945	1.48	U45 52820	5.709	7.087	1.61
1.125	1.145	50	U44 52860	4.567	5.945	1.50	U45 52860	5.709	7.087	1.65
1.156	1.176	50	U44 52940	4.724	6.102	1.54	U45 52940	5.906	7.283	1.70
1.187	1.207	63	U44 63020	4.882	6.417	2.27	U45 63020	6.102	7.638	2.47
1.218	1.238	63	U44 63090	4.882	6.417	2.34	U45 63090	6.102	7.638	2.54
1.250	1.270	63	U44 63180	5.039	6.575	2.43	U45 63180	6.299	7.835	2.62
1.281	1.301	63	U44 63250	5.197	6.772	2.54	U45 63250	6.496	8.071	2.76
1.312	1.332	63	U44 63330	5.354	6.929	2.60	U45 63330	6.693	8.268	2.82
1.328	1.348	63	U44 63370	5.354	6.929	2.62	U45 63370	6.693	8.268	2.84
1.375	1.395	63	U44 63490	5.512	7.126	2.73	U45 63490	6.890	8.504	3.00
1.437	1.457	63	U44 63650	5.827	7.480	2.95	U45 63650	7.283	8.937	3.26
1.469	1.489	63	U44 63730	5.984	7.638	3.04	U45 63730	7.480	9.134	3.35
1.500	1.520	63	U44 63810	6.142	7.835	3.13	U45 63810	7.677	9.370	3.46
1.562	1.582	63	U44 63970	6.299	7.992	3.31	U45 63970	7.874	9.567	3.66
1.625	1.645	63	U44 64130	6.614	8.346	3.57	U45 64130	8.268	10.000	4.01
1.656	1.676	63	U44 64210	6.772	8.543	3.66	U45 64210	8.465	10.236	4.17
1.687	1.707	63	U44 64290	6.772	8.543	3.75	U45 64290	8.465	10.236	4.23
1.750	1.770	63	U44 64450	7.087	8.898	4.06	U45 64450	8.858	10.669	4.61

All intermediate dimensions can be supplied quickly on request.

** Adjustment device see "KomPass Bore machining – chapter 5"

L / D	solid drilling	blind hole	forge/casting skin, interface	angled	convex	cross bore	centering bore	chamber	stack plate drilling	rough boring	adjustable
4×D	●	●	◐	◐	◐	◐	◐	○	◐	✕	◐
5×D	●	●	◐	◐	◐	◐	◐	✕	◐	✕	◐

● very good ◐ good ○ possible: see technical notes, page 82 ✕ not possible

Supply includes:
KUB Pentron® drill with assembly parts. Please order insert and accessories separately.

Basic recommendation				Assembly parts		Accessories
Insert			for workpiece material	Clamping screw	Starting torque	Screwdriver
Order No. ▽▽ Size	ISO-Code	Qty	P M K N S H	Order No. Description		Order No. Description
W80 10010.048425 W80 10010.042730 W80 10010.046115 W80 10010.047710	SOGX 040204-01 BK8425 SOGX 040204-01 BK2730 SOGX 040204-01 BK6115 ⚠ SOGX 040204-01 BK7710	2		**N00 56051** S/M1.8×3.85-5IP	5.5 in-lbs	**L05 00800** 5IP
W80 12010.048425 W80 12010.042730 W80 12010.046115 W80 12010.047710	SOGX 050204-01 BK8425 SOGX 050204-01 BK2730 SOGX 050204-01 BK6115 ⚠ SOGX 050204-01 BK7710	2		**N00 56041** S/M2×4.3-6IP	5.5 in-lbs	**L05 00810** 6IP
W80 18010.068425 W80 18010.062730 W80 18010.066115 W80 18010.067710	SOGX 060206-01 BK8425 SOGX 060206-01 BK2730 SOGX 060206-01 BK6115 ⚠ SOGX 060206-01 BK7710	2		**N00 57553** S/M2.2×5.5-6IP	8.9 in-lbs	**L05 00810** 6IP
W80 20010.088425 W80 20010.082730 W80 20010.086115 W80 20010.087710	SOGX 07T208-01 BK8425 SOGX 07T208-01 BK2730 SOGX 07T208-01 BK6115 ⚠ SOGX 07T208-01 BK7710	2		**N00 57553** S/M2.2×5.5-6IP	8.9 in-lbs	**L05 00810** 6IP
W80 24010.088425 W80 24010.082730 W80 24010.086115 W80 24010.087710	SOGX 080308-01 BK8425 SOGX 080308-01 BK2730 SOGX 080308-01 BK6115 ⚠ SOGX 080308-01 BK7710	2		**N00 57571** S/M2.5×6.3-8IP	11.3 in-lbs	**L05 00830** 8IP
W80 28010.088425 W80 28010.082730 W80 28010.086115 W80 28010.087710	SOGX 09T308-01 BK8425 SOGX 09T308-01 BK2730 SOGX 09T308-01 BK6115 ⚠ SOGX 09T308-01 BK7710	2		N00 57251 S3076-8IP	19.9 in-lbs	L05 00830 8IP
W80 32010.088425 W80 32010.082730 W80 32010.086115 W80 32010.087710	SOGX 100408-01 BK8425 SOGX 100408-01 BK2730 SOGX 100408-01 BK6115 ⚠ SOGX 100408-01 BK7710	2		N00 57261 S3575-15IP	24.8 in-lbs	L05 00860 15IP
W80 38010.088425 W80 38010.082730 W80 38010.086115 W80 38010.087710	SOGX 110408-01 BK8425 SOGX 110408-01 BK2730 SOGX 110408-01 BK6115 ⚠ SOGX 110408-01 BK7710	2		N00 57261 S3575-15IP	24.8 in-lbs	L05 00860 15IP
W80 42010.088425 W80 42010.082730 W80 42010.086115 W80 42010.087710	SOGX 120408-01 BK8425 SOGX 120408-01 BK2730 SOGX 120408-01 BK6115 ⚠ SOGX 120408-01 BK7710	2		N00 57301 S45100-20IP	55.3 in-lbs	L05 00870 20IP
W80 46010.088425 W80 46010.082730 W80 46010.086115 W80 46010.087710	SOGX 130408-01 BK8425 SOGX 130408-01 BK2730 SOGX 130408-01 BK6115 ⚠ SOGX 130408-01 BK7710	2		N00 57301 S45100-20IP	55.3 in-lbs	L05 00870 20IP

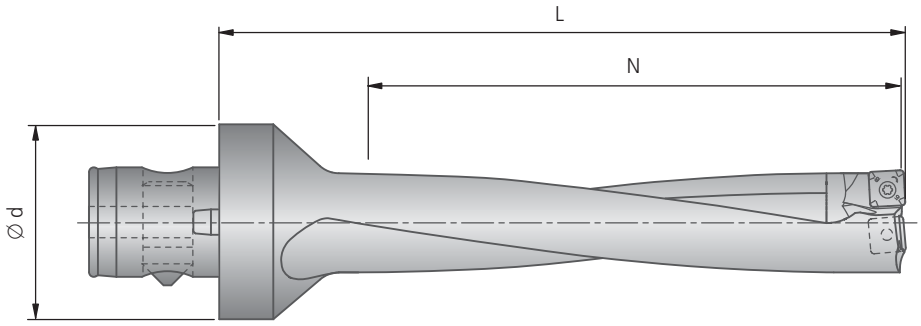
⚠ Note: Only use this insert with KUB Pentron® as an external cutting edge:
SOGX ... -01 (geometry 01) in BK6115, internal cutting edge in BK8425

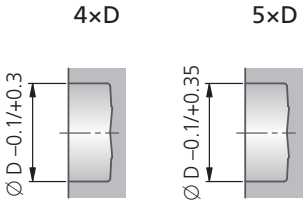
Guideline values for solid drilling: pages 78-81 / alternative inserts: page 83.

KOMET KUB Pentron®

Insert Drill with ABS® Connection, R.H. cutting

Ø 14.0 – 33.0 mm





Ø D mm	**max. diameter with offset mm	ABS Ø d	4×D Order No.	4×D N	4×D L	4×D kg	5×D Order No.	5×D N	5×D L	5×D kg
14.0	14.5	50	U44 51400	56	83	0.39	U45 51400	70	97	0.40
14.5	15.0	50	U44 51450	60	88	0.40	U45 51450	75	103	0.41
15.0	15.5	50	U44 51500	60	88	0.41	U45 51500	75	103	0.41
15.5	16.0	50	U44 51550	64	94	0.41	U45 51550	80	110	0.42
16.0	16.5	50	U44 51600	64	94	0.42	U45 51600	80	110	0.43
16.5	17.0	50	U44 51650	68	99	0.43	U45 51650	85	116	0.44
17.0	17.5	50	U44 51700	68	99	0.43	U45 51700	85	116	0.44
18.0	18.5	50	U44 51800	72	103	0.44	U45 51800	90	121	0.46
18.5	19.0	50	U44 51850	76	108	0.47	U45 51850	95	127	0.51
19.0	19.5	50	U44 51900	76	108	0.49	U45 51900	95	127	0.52
19.5	20.0	50	U44 51950	80	112	0.50	U45 51950	100	132	0.53
20.0	20.5	50	U44 52000	80	112	0.51	U45 52000	100	132	0.53
20.5	21.0	50	U44 52050	84	116	0.51	U45 52050	105	137	0.53
21.5	22.0	50	U44 52150	88	120	0.52	U45 52150	110	142	0.55
22.0	22.5	50	U44 52200	88	120	0.53	U45 52200	110	142	0.56
22.5	23.0	50	U44 52250	92	124	0.55	U45 52250	115	147	0.59
23.5	24.0	50	U44 52350	96	128	0.56	U45 52350	120	152	0.60
24.0	24.5	50	U44 52400	96	128	0.57	U45 52400	120	152	0.61
24.5	25.0	50	U44 52450	100	133	0.59	U45 52450	125	158	0.63
25.5	26.0	50	U44 52550	104	137	0.61	U45 52550	130	163	0.66
26.0	26.5	50	U44 52600	104	137	0.63	U45 52600	130	163	0.68
26.5	27.0	50	U44 52650	108	142	0.61	U45 52650	135	169	0.66
27.5	28.0	50	U44 52750	112	146	0.64	U45 52750	140	174	0.70
28.0	28.5	50	U44 52800	112	146	0.65	U45 52800	140	174	0.71
28.5	29.0	50	U44 52850	116	151	0.68	U45 52850	145	180	0.74
29.0	29.5	50	U44 52900	116	151	0.69	U45 52900	145	180	0.76
29.5	30.0	50	U44 52950	120	155	0.70	U45 52950	150	185	0.77
30.0	30.5	50	U44 53000	120	155	0.71	U45 53000	150	185	0.79
30.5	31.0	63	U44 63050	124	163	1.05	U45 63050	155	194	1.13
31.0	31.5	63	U44 63100	124	163	1.07	U45 63100	155	194	1.15
31.5	32.0	63	U44 63150	128	167	1.10	U45 63150	160	199	1.18
32.0	32.5	63	U44 63200	128	167	1.11	U45 63200	160	199	1.20
33.0	33.5	63	U44 63300	132	172	1.17	U45 63300	165	205	1.27

All intermediate dimensions can be supplied quickly on request.

** Adjustment device see "KomPass Bore machining – chapter 5"

L / D	solid drilling	blind hole	forge/casting skin, interface	angled	convex	cross bore	centering bore	chamber	stack plate drilling	rough boring	adjustable
4×D	●	●	◐	◐	◐	◐	◐	○	◐	✕	◐
5×D	●	●	◐	◐	◐	◐	◐	✕	◐	✕	◐

● very good ◐ good ○ possible: see technical notes, page 82 ✕ not possible

Supply includes:
KUB Pentron® drill with assembly parts. Please order insert and accessories separately.

Basic recommendation				Assembly parts		Accessories
Insert			for workpiece material	Clamping screw	Starting torque	Screwdriver
Order No. ▽▽ Size	ISO-Code	Piece	P M K N S H	Order No. Article		Order No. Article
W80 10010.048425 **W80 10010.042730** **W80 10010.046115** **W80 10010.047710**	SOGX 040204-01 BK8425 SOGX 040204-01 BK2730 SOGX 040204-01 BK6115 ⚠ SOGX 040204-01 BK7710	2	● ◐ ● ● ◐	**N00 56051** S/M1.8x3.85-5IP	0.38 Nm	**L05 00800** 6IP
W80 12010.048425 **W80 12010.042730** **W80 12010.046115** **W80 12010.047710**	SOGX 050204-01 BK8425 SOGX 050204-01 BK2730 SOGX 050204-01 BK6115 ⚠ SOGX 050204-01 BK7710	2	● ◐ ● ● ◐	**N00 56041** S/M2×4.3-6IP	0.62 Nm	**L05 00810** 6IP
W80 18010.068425 **W80 18010.062730** **W80 18010.066115** **W80 18010.067710**	SOGX 060206-01 BK8425 SOGX 060206-01 BK2730 SOGX 060206-01 BK6115 ⚠ SOGX 060206-01 BK7710	2	● ◐ ● ● ◐	**N00 57553** S/M2.2×5.5-6IP	1.01 Nm	**L05 00810** 6IP
W80 20010.088425 **W80 20010.082730** **W80 20010.086115** **W80 20010.087710**	SOGX 07T208-01 BK8425 SOGX 07T208-01 BK2730 SOGX 07T208-01 BK6115 ⚠ SOGX 07T208-01 BK7710	2	● ◐ ● ● ◐	**N00 57553** S/M2.2×5.5-6IP	1.01 Nm	**L05 00810** 6IP
W80 24010.088425 **W80 24010.082730** **W80 24010.086115** **W80 24010.087710**	SOGX 080308-01 BK8425 SOGX 080308-01 BK2730 SOGX 080308-01 BK6115 ⚠ SOGX 080308-01 BK7710	2	● ◐ ● ● ◐	**N00 57571** S/M2.5×6.3-8IP	1.28 Nm	**L05 00830** 8IP
W80 28010.088425 **W80 28010.082730** **W80 28010.086115** **W80 28010.087710**	SOGX 09T308-01 BK8425 SOGX 09T308-01 BK2730 SOGX 09T308-01 BK6115 ⚠ SOGX 09T308-01 BK7710	2	● ◐ ● ● ◐	**N00 57251** S3076-8IP	2.25 Nm	**L05 00830** 8IP
W80 32010.088425 **W80 32010.082730** **W80 32010.086115** **W80 32010.087710**	SOGX 100408-01 BK8425 SOGX 100408-01 BK2730 SOGX 100408-01 BK6115 ⚠ SOGX 100408-01 BK7710	2	● ◐ ● ● ◐	**N00 57261** S3575-15IP	2.8 Nm	**L05 00860** 15IP

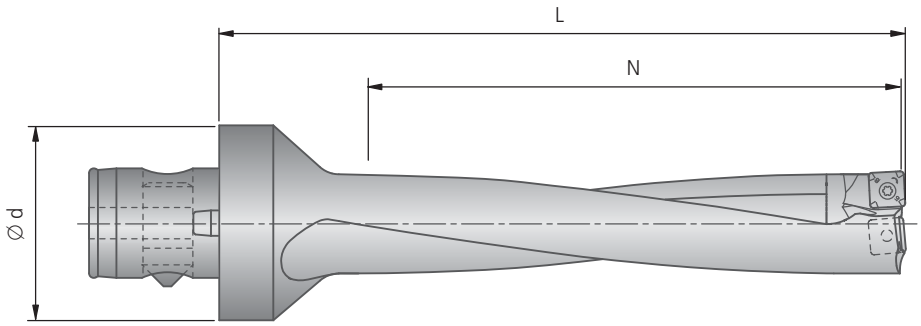
⚠ Note: Only use this insert with KUB Pentron® as an external cutting edge:
SOGX ... -01 (geometry 01) in BK6115, internal cutting edge in BK8425

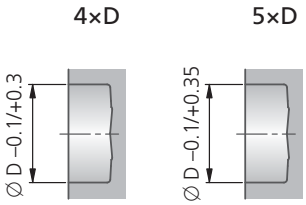
Guideline values for solid drilling: pages 78-81 / alternative inserts: page 83.

KOMET KUB Pentron ®

Ø 33.2 – 46.0 mm

Insert Drill with ABS ® Connection, R.H. cutting





Ø D mm	**max. diameter with offset mm	ABS Ø d	4×D Order No.	4×D N	4×D L	4×D kg	5×D Order No.	5×D N	5×D L	5×D kg
33.2	33.7	63	U44 63320	136	176	1.18	U45 63320	170	210	1.28
33.5	34.0	63	U44 63350	136	176	1.18	U45 63350	170	210	1.29
34.0	34.5	63	U44 63400	136	176	1.19	U45 63400	170	210	1.30
34.5	35.0	63	U44 63450	140	181	1.23	U45 63450	175	216	1.34
35.0	35.5	63	U44 63500	140	181	1.24	U45 63500	175	216	1.36
35.5	36.0	63	U44 63550	144	185	1.27	U45 63550	180	221	1.40
36.0	36.5	63	U44 63600	144	185	1.29	U45 63600	180	221	1.42
37.0	37.5	63	U44 63700	148	190	1.36	U45 63700	185	227	1.50
37.5	38.0	63	U44 63750	152	194	1.39	U45 63750	190	232	1.53
38.0	38.5	63	U44 63800	152	194	1.40	U45 63800	190	232	1.55
38.5	39.0	63	U44 63850	156	199	1.43	U45 63850	195	238	1.58
39.0	39.5	63	U44 63900	156	199	1.44	U45 63900	195	238	1.60
39.2	39.7	63	U44 63920	160	203	1.48	U45 63920	200	243	1.64
39.5	40.0	63	U44 63950	160	203	1.49	U45 63950	200	243	1.65
40.0	40.5	63	U44 64000	160	203	1.51	U45 64000	200	243	1.68
40.5	41.0	63	U44 64050	164	208	1.56	U45 64050	205	249	1.74
41.0	41.5	63	U44 64100	164	208	1.58	U45 64100	205	249	1.77
41.5	42.0	63	U44 64150	168	212	1.63	U45 64150	210	254	1.83
42.0	42.5	63	U44 64200	168	212	1.65	U45 64200	210	254	1.86
42.5	43.0	63	U44 64250	172	217	1.68	U45 64250	215	260	1.90
43.0	43.5	63	U44 64300	172	217	1.70	U45 64300	215	260	1.92
43.5	44.0	63	U44 64350	176	221	1.75	U45 64350	220	265	1.99
44.0	44.5	63	U44 64400	176	221	1.78	U45 64400	220	265	2.02
45.0	45.5	63	U44 64500	180	226	1.87	U45 64500	225	271	2.13
45.5	46.0	63	U44 64550	184	230	1.93	U45 64550	230	276	2.20
46.0	46.5	63	U44 64600	184	230	1.96	U45 64600	230	276	2.24

All intermediate dimensions can be supplied quickly on request.

** Adjustment device see "KomPass Bore machining – chapter 5"

L / D	solid drilling	blind hole	forge/casting skin, interface	angled	convex	cross bore	centering bore	chamber	stack plate drilling	rough boring	adjustable
4×D	●	●	◐	◐	◐	◐	◐	○	◐	✕	◐
5×D	●	●	◐	◐	◐	◐	◐	✕	◐	✕	◐

● very good ◐ good ○ possible: see technical notes, page 82 ✕ not possible

Supply includes:
KUB Pentron® drill with assembly parts. Please order insert and accessories separately.

Basic recommendation				Assembly parts		Accessories
Insert			for workpiece material	Clamping screw	Starting torque	Screwdriver
Order No. ▽▽ Size	ISO-Code	Piece	P M K N S H	Order No. Article		Order No. Article
W80 38010.088425 **W80 38010.082730** **W80 38010.086115** **W80 38010.087710**	SOGX 110408-01 BK8425 SOGX 110408-01 BK2730 SOGX 110408-01 BK6115 ⚠ SOGX 110408-01 BK7710	2	● ◐ ● ● ◐	**N00 57261** S3575-15IP	2.8 Nm	**L05 00860** 15IP
W80 42010.088425 **W80 42010.082730** **W80 42010.086115** **W80 42010.087710**	SOGX 120408-01 BK8425 SOGX 120408-01 BK2730 SOGX 120408-01 BK6115 ⚠ SOGX 120408-01 BK7710	2	● ◐ ● ● ◐	**N00 57301** S45100-20IP	6.25 Nm	**L05 00870** 20IP
W80 46010.088425 **W80 46010.082730** **W80 46010.086115** **W80 46010.087710**	SOGX 130508-01 BK8425 SOGX 130508-01 BK2730 SOGX 130508-01 BK6115 ⚠ SOGX 130508-01 BK7710	2	● ◐ ● ● ◐	**N00 57301** S45100-20IP	6.25 Nm	**L05 00870** 20IP

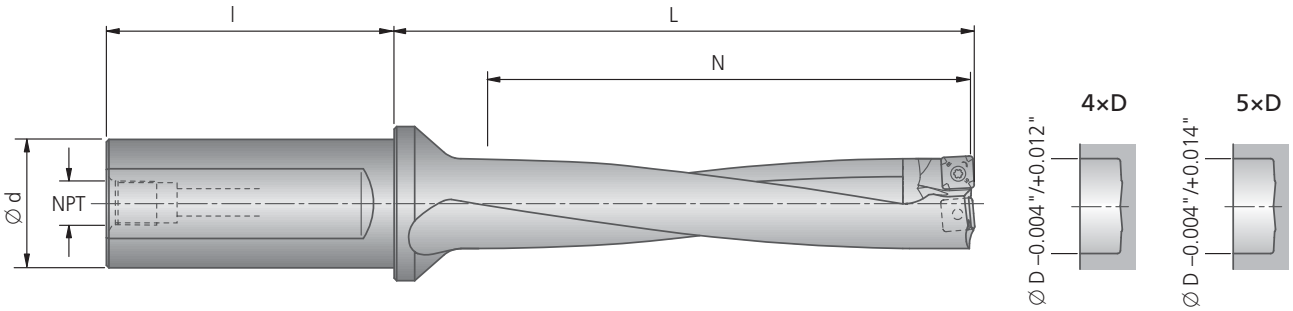
⚠ Note: Only use this insert with KUB Pentron® as an external cutting edge:
SOGX ... -01 (geometry 01) in BK6115, internal cutting edge in BK8425

Guideline values for solid drilling: pages 78-81 / alternative inserts: page 83.

KOMET KUB Pentron ®

Ø 0.562 – 1.750 inch

Inch Insert Drill with Inch Cylindrical Shank, R.H. cutting



Ø D inch	max. diameter with offset inch	Cylindrical shank Ø d × l	4×D Order No.	4×D N	4×D L	4×D NPT	4×D lbs	5×D Order No.	5×D N	5×D L	5×D NPT	5×D lbs
0.562	0.582	0.750x2.250	**U44 81430**	2.362	2.913		0.33	**U45 81430**	2.953	3.504		0.35
0.593	0.613	0.750x2.250	**U44 81510**	2.520	3.150	1/8	0.35	**U45 81510**	3.150	3.780	1/8	0.37
0.625	0.645	0.750x2.250	**U44 81590**	2.520	3.150		0.35	**U45 81590**	3.150	3.780		0.37
0.656	0.676	0.750x2.250	**U44 81670**	2.677	3.346		0.37	**U45 81670**	3.346	4.016		0.40
0.687	0.708	1.000x3.250	**U44 81750**	2.835	3.504	1/8	0.55	**U45 81750**	3.543	4.213	1/8	0.60
0.703	0.723	1.000x3.250	**U44 81790**	2.835	3.504		0.57	**U45 81790**	3.543	4.213		0.62
0.750	0.771	1.000x3.250	**U44 81910**	3.150	3.858		0.62	**U45 81910**	3.937	4.646		0.66
0.765	0.783	1.000x3.250	**U44 81940**	3.150	3.858	1/8	0.62	**U45 81940**	3.937	4.646	1/8	0.66
0.781	0.799	1.000x3.250	**U44 81980**	3.150	3.858		0.64	**U45 81980**	3.937	4.646		0.68
0.812	0.830	1.000x3.250	**U44 82060**	3.307	4.055		0.68	**U45 82060**	4.134	4.882		0.73
0.828	0.846	1.000x3.250	**U44 82100**	3.307	4.055		0.68	**U45 82100**	4.134	4.882		0.75
0.843	0.885	1.000x3.250	**U44 82140**	3.465	4.724	1/8	0.71	**U45 82140**	4.331	5.079	1/8	0.77
0.875	0.893	1.000x3.250	**U44 82220**	3.622	4.409		0.75	**U45 82220**	4.528	5.315		0.82
0.906	0.925	1.000x3.250	**U44 82300**	3.622	4.409		0.79	**U45 82300**	4.528	5.315		0.86
0.937	0.956	1.250x3.250	**U44 82380**	3.780	4.567		1.12	**U45 82380**	4.724	5.512		1.21
0.985	1.003	1.250x3.250	**U44 82500**	3.937	4.764	1/8	1.21	**U45 82500**	4.921	5.748	1/8	1.32
1.000	1.019	1.250x3.250	**U44 82540**	4.094	4.921		1.23	**U45 82540**	5.118	5.945		1.34
1.031	1.051	1.250x3.250	**U44 82620**	4.252	5.118		1.26	**U45 82620**	5.315	6.181		1.39
1.062	1.082	1.250x3.250	**U44 82700**	4.252	5.118		1.28	**U45 82700**	5.315	6.181		1.41
1.109	1.129	1.250x3.250	**U44 82820**	4.567	5.472	1/4	1.39	**U45 82820**	5.709	6.614	1/4	1.54
1.125	1.145	1.250x3.250	**U44 82860**	4.567	5.472		1.41	**U45 82860**	5.709	6.614		1.57
1.156	1.176	1.250x3.250	**U44 82940**	4.724	5.630		1.46	**U45 82940**	5.906	6.811		1.61
1.187	1.207	1.500x3.750	**U44 83020**	4.882	5.827		1.96	**U45 83020**	6.102	7.047		2.18
1.218	1.238	1.500x3.750	**U44 83090**	4.882	5.827	1/4	2.01	**U45 83090**	6.102	7.047	1/4	2.23
1.250	1.270	1.500x3.750	**U44 83180**	5.039	5.984		2.14	**U45 83180**	6.299	7.244		2.34
1.281	1.301	1.500x3.750	**U44 83250**	5.197	6.181		2.23	**U45 83250**	6.496	7.480		2.43
1.312	1.332	1.500x3.750	**U44 83330**	5.354	6.339		2.25	**U45 83330**	6.693	7.677		2.49
1.328	1.348	1.500x3.750	**U44 83370**	5.354	6.339	1/4	2.27	**U45 83370**	6.693	7.677	1/4	2.51
1.375	1.395	1.500x3.750	**U44 83490**	5.512	6.535		2.40	**U45 83490**	6.890	7.913		2.67
1.437	1.457	1.500x3.750	**U44 83650**	5.827	6.890		2.60	**U45 83650**	7.283	8.346		2.91
1.469	1.488	1.500x3.750	**U44 83730**	5.984	7.047		2.69	**U45 83730**	7.480	8.543		3.00
1.500	1.519	1.500x3.750	**U44 83810**	6.142	7.244		2.80	**U45 83810**	7.677	8.780		3.11
1.531	1.559	1.500x3.750	**U44 83890**	6.142	7.244	1/4	2.84	**U45 83890**	7.677	8.780	1/4	3.20
1.562	1.582	1.500x3.750	**U44 83970**	6.299	7.402		2.95	**U45 83970**	7.874	8.976		3.33
1.625	1.645	1.500x3.750	**U44 84130**	6.614	7.756		3.22	**U45 84130**	8.268	9.409		3.66
1.656	1.677	1.500x3.750	**U44 84210**	6.772	7.953		3.35	**U45 84210**	8.465	9.646		3.81
1.687	1.708	1.500x3.750	**U44 84290**	6.772	7.953	1/4	3.40	**U45 84290**	8.465	9.646	1/4	3.88
1.750	1.771	1.500x3.750	**U44 84450**	7.087	8.307		3.70	**U45 84450**	8.858	10.079		4.23

All intermediate dimensions can be supplied quickly on request.

Patent applications (KUB Pentron)

Inch Insert Drill with Inch Cylindrical Shank, R.H. cutting

L / D	solid drilling	blind hole	forge/casting skin, interface	angled	convex	cross bore	centering bore	chamber	stack plate drilling	rough boring	adjustable
4×D	●	●	◐	◐	◐	◐	◐	○	◐	✕	◐
5×D	●	●	◐	◐	◐	◐	◐	✕	◐	✕	◐

● very good ◐ good ○ possible: see technical notes, page 82 ✕ not possible

Supply includes:
KUB Pentron® drill with assembly parts. Please order insert and accessories separately.

Basic recommendation					Assembly parts		Accessories
Insert			for workpiece material		Clamping screw	Starting torque	Screwdriver
Order No. ▽▽ Size	ISO-Code	Qty	P M K N S H		Order No. Description		Order No. Description
W80 10010.048425 W80 10010.042730 W80 10010.046115 W80 10010.047710	SOGX 040204-01 BK8425 SOGX 040204-01 BK2730 SOGX 040204-01 BK6115 ⚠ SOGX 040204-01 BK7710	2			**N00 56051** S/M1.8×3.85-5IP	5.5 in-lbs	**L05 00800** 5IP
W80 12010.048425 W80 12010.042730 W80 12010.046115 W80 12010.047710	SOGX 050204-01 BK8425 SOGX 050204-01 BK2730 SOGX 050204-01 BK6115 ⚠ SOGX 050204-01 BK7710	2			**N00 56041** S/M2×4.3-6IP	5.5 in-lbs	**L05 00810** 6IP
W80 18010.068425 W80 18010.062730 W80 18010.066115 W80 18010.067710	SOGX 060206-01 BK8425 SOGX 060206-01 BK2730 SOGX 060206-01 BK6115 ⚠ SOGX 060206-01 BK7710	2			**N00 57553** S/M2.2×5.5-6IP	8.9 in-lbs	**L05 00810** 6IP
W80 20010.088425 W80 20010.082730 W80 20010.086115 W80 20010.087710	SOGX 07T208-01 BK8425 SOGX 07T208-01 BK2730 SOGX 07T208-01 BK6115 ⚠ SOGX 07T208-01 BK7710	2			**N00 57553** S/M2.2×5.5-6IP	8.9 in-lbs	**L05 00810** 6IP
W80 24010.088425 W80 24010.082730 W80 24010.086115 W80 24010.087710	SOGX 080308-01 BK8425 SOGX 080308-01 BK2730 SOGX 080308-01 BK6115 ⚠ SOGX 080308-01 BK7710	2			**N00 57571** S/M2.5×6.3-8IP	11.3 in-lbs	**L05 00830** 8IP
W80 28010.088425 W80 28010.082730 W80 28010.086115 W80 28010.087710	SOGX 09T308-01 BK8425 SOGX 09T308-01 BK2730 SOGX 09T308-01 BK6115 ⚠ SOGX 09T308-01 BK7710	2			N00 57251 S3076-8IP	19.9 in-lbs	L05 00830 8IP
W80 32010.088425 W80 32010.082730 W80 32010.086115 W80 32010.087710	SOGX 100408-01 BK8425 SOGX 100408-01 BK2730 SOGX 100408-01 BK6115 ⚠ SOGX 100408-01 BK7710	2			N00 57261 S3575-15IP	24.8 in-lbs	L05 00860 15IP
W80 38010.088425 W80 38010.082730 W80 38010.086115 W80 38010.087710	SOGX 110408-01 BK8425 SOGX 110408-01 BK2730 SOGX 110408-01 BK6115 ⚠ SOGX 110408-01 BK7710	2			N00 57261 S3575-15IP	24.8 in-lbs	L05 00860 15IP
W80 42010.088425 W80 42010.082730 W80 42010.086115 W80 42010.087710	SOGX 120408-01 BK8425 SOGX 120408-01 BK2730 SOGX 120408-01 BK6115 ⚠ SOGX 120408-01 BK7710	2			N00 57301 S45100-20IP	55.3 in-lbs	L05 00870 20IP
W80 46010.088425 W80 46010.082730 W80 46010.086115 W80 46010.087710	SOGX 130408-01 BK8425 SOGX 130408-01 BK2730 SOGX 130408-01 BK6115 ⚠ SOGX 130408-01 BK7710	2			N00 57301 S45100-20IP	55.3 in-lbs	L05 00870 20IP

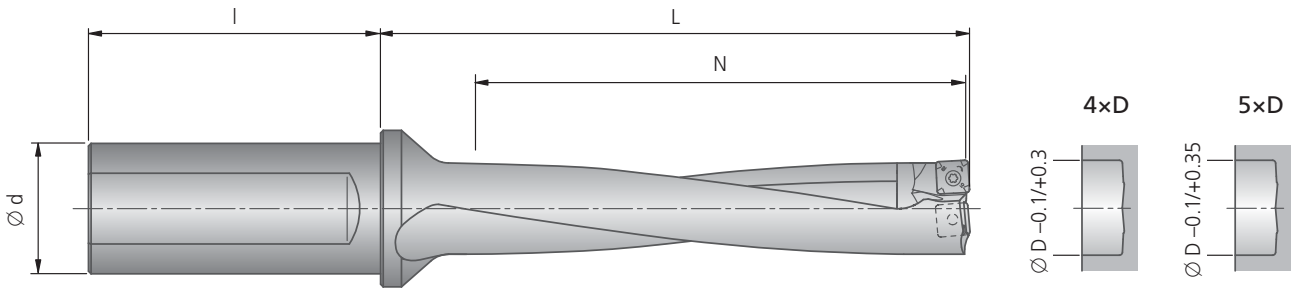
⚠ Note: Only use this insert with KUB Pentron® as an external cutting edge:
SOGX ... -01 (geometry 01) in BK6115, internal cutting edge in BK8425

Guideline values for solid drilling: pages 78-81 / alternative inserts: page 83.

KOMET KUB Pentron ®

Ø 14.0 – 33.0 mm

Insert Drill with Cylindrical Shank ISO 9766, R.H. cutting



Ø D mm	max. diameter with offset mm	Cylindrical shank Ø d × l	4×D Order No.	4×D N	4×D L	4×D kg	5×D Order No.	5×D N	5×D L	5×D kg
14.0	14.5	20×50	**U44 01400**	56	69	0.14	**U45 01400**	70	83	0.15
14.5	15.0	20×50	**U44 01450**	60	74	0.15	**U45 01450**	75	89	0.16
15.0	15.5	20×50	**U44 01500**	60	74	0.15	**U45 01500**	75	89	0.16
15.5	16.0	20×50	**U44 01550**	64	80	0.16	**U45 01550**	80	96	0.17
16.0	16.5	20×50	**U44 01600**	64	80	0.16	**U45 01600**	80	96	0.17
16.5	17.0	20×50	**U44 01650**	68	85	0.17	**U45 01650**	85	102	0.18
17.0	17.5	20×50	**U44 01700**	68	85	0.17	**U45 01700**	85	102	0.19
18.0	18.5	25×56	**U44 11800**	72	89	0.26	**U45 11800**	90	107	0.28
18.5	19.0	25×56	**U44 11850**	76	94	0.26	**U45 11850**	95	113	0.28
19.0	19.5	25×56	**U44 11900**	76	94	0.27	**U45 11900**	95	113	0.29
19.5	20.0	25×56	**U44 11950**	80	98	0.28	**U45 11950**	100	118	0.30
20.0	20.5	25×56	**U44 12000**	80	98	0.29	**U45 12000**	100	118	0.31
20.5	21.0	25×56	**U44 12050**	84	103	0.31	**U45 12050**	105	124	0.33
21.5	22.0	25×56	**U44 12150**	88	107	0.32	**U45 12150**	110	129	0.35
22.0	22.5	25×56	**U44 12200**	88	107	0.33	**U45 12200**	110	129	0.36
22.5	23.0	25×56	**U44 12250**	92	112	0.35	**U45 12250**	115	135	0.38
23.5	24.0	32×60	**U44 22350**	96	116	0.51	**U45 22350**	120	140	0.54
24.0	24.5	32×60	**U44 22400**	96	116	0.51	**U45 22400**	120	140	0.55
24.5	25.0	32×60	**U44 22450**	100	121	0.54	**U45 22450**	125	146	0.59
25.5	26.0	32×60	**U44 22550**	104	125	0.56	**U45 22550**	130	151	0.61
26.0	26.5	32×60	**U44 22600**	104	125	0.57	**U45 22600**	130	151	0.62
26.5	27.0	32×60	**U44 22650**	108	130	0.57	**U45 22650**	135	157	0.63
27.5	28.0	32×60	**U44 22750**	112	134	0.60	**U45 22750**	140	162	0.66
28.0	28.5	32×60	**U44 22800**	112	134	0.62	**U45 22800**	140	162	0.68
28.5	29.0	32×60	**U44 22850**	116	139	0.64	**U45 22850**	145	168	0.71
29.0	29.5	32×60	**U44 22900**	116	139	0.65	**U45 22900**	145	168	0.72
29.5	30.0	32×60	**U44 22950**	120	143	0.66	**U45 22950**	150	173	0.73
30.0	30.5	32×60	**U44 23000**	120	143	0.67	**U45 23000**	150	173	0.75
30.5	31.0	40x68	**U44 33050**	124	148	0.90	**U45 33050**	155	179	1.00
31.0	31.5	40x68	**U44 33100**	124	148	0.92	**U45 33100**	155	179	1.01
31.5	32.0	40x68	**U44 33150**	128	152	0.96	**U45 33150**	160	184	1.05
32.0	32.5	40x68	**U44 33200**	128	152	0.97	**U45 33200**	160	184	1.06
33.0	33.5	40x68	**U44 33300**	132	157	1.02	**U45 33300**	165	190	1.12

All intermediate dimensions can be supplied quickly on request.

Patent applications (KUB Pentron)

Insert Drill with Cylindrical Shank ISO 9766, R.H. cutting

L / D	solid drilling	blind hole	forge/casting skin, interface	angled	convex	cross bore	centering bore	chamber	stack plate drilling	rough boring	adjustable
4×D	●	●	◐	◐	◐	◐	◐	○	◐	✕	◐
5×D	●	●	◐	◐	◐	◐	◐	✕	◐	✕	◐

● very good ◐ good ○ possible: see technical notes, page 82 ✕ not possible

Supply includes:
KUB Pentron® drill with assembly parts. Please order insert and accessories separately.

Basic recommendation				Assembly parts		Accessories
Insert			for workpiece material	Clamping screw	Starting torque	Screwdriver
Order No. ▽▽ Size	ISO-Code	Piece	P M K N S H	Order No. Article		Order No. Article
W80 10010.048425 W80 10010.042730 W80 10010.046115 W80 10010.047710	SOGX 040204-01 BK8425 SOGX 040204-01 BK2730 SOGX 040204-01 BK6115 ⚠ SOGX 040204-01 BK7710	2	● ◐ ◐ ◐	N00 56051 S/M1.8×3.85-5IP	0.38 Nm	L05 00800 6IP
W80 12010.048425 W80 12010.042730 W80 12010.046115 W80 12010.047710	SOGX 050204-01 BK8425 SOGX 050204-01 BK2730 SOGX 050204-01 BK6115 ⚠ SOGX 050204-01 BK7710	2	● ◐ ◐ ◐	N00 56041 S/M2×4.3-6IP	0.62 Nm	L05 00810 6IP
W80 18010.068425 W80 18010.062730 W80 18010.066115 W80 18010.067710	SOGX 060206-01 BK8425 SOGX 060206-01 BK2730 SOGX 060206-01 BK6115 ⚠ SOGX 060206-01 BK7710	2	● ◐ ◐ ◐	N00 57553 S/M2.2×5.5-6IP	1.01 Nm	L05 00810 6IP
W80 20010.088425 W80 20010.082730 W80 20010.086115 W80 20010.087710	SOGX 07T208-01 BK8425 SOGX 07T208-01 BK2730 SOGX 07T208-01 BK6115 ⚠ SOGX 07T208-01 BK7710	2	● ◐ ◐ ◐	N00 57553 S/M2.2×5.5-6IP	1.01 Nm	L05 00810 6IP
W80 24010.088425 W80 24010.082730 W80 24010.086115 W80 24010.087710	SOGX 080308-01 BK8425 SOGX 080308-01 BK2730 SOGX 080308-01 BK6115 ⚠ SOGX 080308-01 BK7710	2	● ◐ ◐ ◐	N00 57571 S/M2.5×6.3-8IP	1.28 Nm	L05 00830 8IP
W80 28010.088425 W80 28010.082730 W80 28010.086115 W80 28010.087710	SOGX 09T308-01 BK8425 SOGX 09T308-01 BK2730 SOGX 09T308-01 BK6115 ⚠ SOGX 09T308-01 BK7710	2	● ◐ ◐ ◐	N00 57251 S3076-8IP	2.25 Nm	L05 00830 8IP
W80 32010.088425 W80 32010.082730 W80 32010.086115 W80 32010.087710	SOGX 100408-01 BK8425 SOGX 100408-01 BK2730 SOGX 100408-01 BK6115 ⚠ SOGX 100408-01 BK7710	2	● ◐ ◐ ◐	N00 57261 S3575-15IP	2.8 Nm	L05 00860 15IP

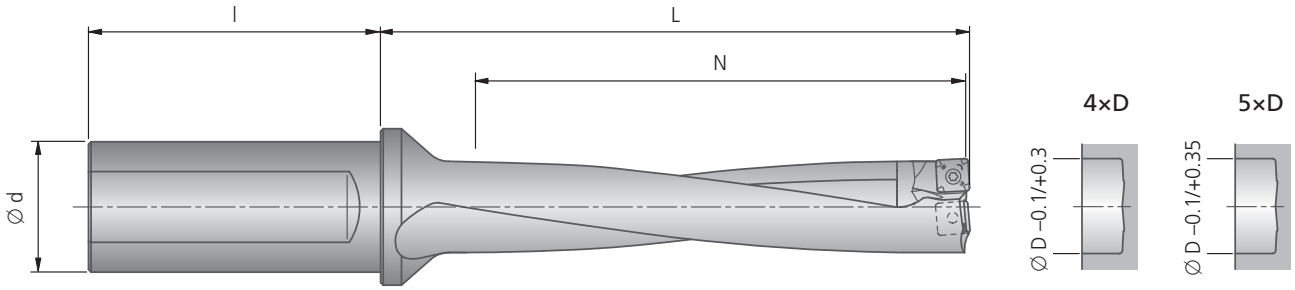
⚠ Note: Only use this insert with KUB Pentron® as an external cutting edge:
SOGX ... -01 (geometry 01) in BK6115, internal cutting edge in BK8425

Guideline values for solid drilling: pages 78-81 / alternative inserts: page 83.

KOMET KUB Pentron ®

Ø 33.2 – 46.0 mm

Insert Drill with Cylindrical Shank ISO 9766, R.H. cutting



Ø D mm	max. diameter with offset mm	Cylindrical shank Ø d × l	4×D Order No.	4×D N	4×D L	4×D kg	5×D Order No.	5×D N	5×D L	5×D kg
33.2	33.7	40x68	**U44 33320**	136	161	1.01	**U45 33320**	170	195	1.13
33.5	34.0	40x68	**U44 33350**	136	161	1.03	**U45 33350**	170	195	1.14
34.0	34.5	40x68	**U44 33400**	136	161	1.04	**U45 33400**	170	195	1.15
34.5	35.0	40x68	**U44 33450**	140	166	1.08	**U45 33450**	175	201	1.19
35.0	35.5	40x68	**U44 33500**	140	166	1.09	**U45 33500**	175	201	1.21
35.5	36.0	40x68	**U44 33550**	144	170	1.13	**U45 33550**	180	206	1.25
36.0	36.5	40x68	**U44 33600**	144	170	1.14	**U45 33600**	180	206	1.27
37.0	37.5	40x68	**U44 33700**	148	175	1.20	**U45 33700**	185	212	1.34
37.5	38.0	40x68	**U44 33750**	152	179	1.23	**U45 33750**	190	217	1.37
38.0	38.5	40x68	**U44 33800**	152	179	1.24	**U45 33800**	190	217	1.39
38.5	39.0	40x68	**U44 33850**	156	184	1.28	**U45 33850**	195	223	1.43
39.0	39.5	40x68	**U44 33900**	156	184	1.29	**U45 33900**	195	223	1.45
39.2	39.7	40x68	**U44 33920**	160	188	1.33	**U45 33920**	200	228	1.49
39.5	40.0	40x68	**U44 33950**	160	188	1.34	**U45 33950**	200	228	1.50
40.0	40.5	40x68	**U44 34000**	160	188	1.35	**U45 34000**	200	228	1.52
40.5	41.0	40x68	**U44 34050**	164	193	1.40	**U45 34050**	205	234	1.58
41.0	41.5	40x68	**U44 34100**	164	193	1.42	**U45 34100**	205	234	1.61
41.5	42.0	40x68	**U44 34150**	168	197	1.47	**U45 34150**	210	239	1.67
42.0	42.5	40x68	**U44 34200**	168	197	1.49	**U45 34200**	210	239	1.70
42.5	43.0	40x68	**U44 34250**	172	202	1.53	**U45 34250**	215	245	1.74
43.0	43.5	40x68	**U44 34300**	172	202	1.54	**U45 34300**	215	245	1.76
43.5	44.0	40x68	**U44 34350**	176	206	1.60	**U45 34350**	220	250	1.82
44.0	44.5	40x68	**U44 34400**	176	206	1.62	**U45 34400**	220	250	1.85
45.0	45.5	40×68	**U44 34500**	180	211	1.70	**U45 34500**	225	256	1.96
45.5	46.0	40×68	**U44 34550**	184	215	1.76	**U45 34550**	230	261	2.03
46.0	46.5	40×68	**U44 34600**	184	215	1.79	**U45 34600**	230	261	2.07

All intermediate dimensions can be supplied quickly on request.

Insert Drill with Cylindrical Shank ISO 9766, R.H. cutting

L / D	solid drilling	blind hole	forge/casting skin, interface	angled	convex	cross bore	centering bore	chamber	stack plate drilling	rough boring	adjustable
4×D	●	●	◐	◐	◐	◐	◐	○	◐	✕	◐
5×D	●	●	◐	◐	◐	◐	◐	✕	◐	✕	◐

● very good ◐ good ○ possible: see technical notes, page 82 ✕ not possible

Supply includes:
KUB Pentron® drill with assembly parts. Please order insert and accessories separately.

Basic recommendation				Assembly parts		Accessories
Insert			for workpiece material	Clamping screw	Starting torque	Screwdriver
Order No. ▽▽ Size	ISO-Code	Piece	P M K N S H	Order No. Article		Order No. Article
W80 38010.088425 **W80 38010.082730** **W80 38010.086115** **W80 38010.087710**	SOGX 110408-01 BK8425 SOGX 110408-01 BK2730 SOGX 110408-01 BK6115 ⚠ SOGX 110408-01 BK7710	2	● ◐ ● ● ◐	**N00 57261** S3575-15IP	2.8 Nm	**L05 00860** 15IP
W80 42010.088425 **W80 42010.082730** **W80 42010.086115** **W80 42010.087710**	SOGX 120408-01 BK8425 SOGX 120408-01 BK2730 SOGX 120408-01 BK6115 ⚠ SOGX 120408-01 BK7710	2	● ◐ ● ● ◐	**N00 57301** S45100-20IP	6.25 Nm	**L05 00870** 20IP
W80 46010.088425 **W80 46010.082730** **W80 46010.086115** **W80 46010.087710**	SOGX 130508-01 BK8425 SOGX 130508-01 BK2730 SOGX 130508-01 BK6115 ⚠ SOGX 130508-01 BK7710	2	● ◐ ● ● ◐	**N00 57301** S45100-20IP	6.25 Nm	**L05 00870** 20IP

⚠ Note: Only use this insert with KUB Pentron® as an external cutting edge:
SOGX ... -01 (geometry 01) in BK6115, internal cutting edge in BK8425

Guideline values for solid drilling: pages 78-81 / alternative inserts: page 83.

1

Guideline values for solid drilling						Cutting speed v_c ft/min														
						4×D														
																				
						BK8425			BK2730			BK6425			BK6115			BK7710		
Material group		Strength Rm (lbf/in²)	Hardness HB	Material	Material example, material code AISI / SAE	min	opt.	max	min	opt.	max	min	opt.	max	min	opt.	max	min	opt.	max
P	1.0	≤ 77200		non-alloy steels	A570.36 1213 A573.81	660	850	1050	660	820	980	890	1050	1210	820	980	1150		–	
P	2.0	77200-192000		non-alloy / low alloy steels	5120 1055 5115	820	890	980	820	890	980	820	920	1050	820	890	980		–	
P	2.1	< 77200		lead alloys	12L13	660	850	1050	520	720	920	890	1050	1210	820	980	1150		–	
P	3.0	< 192000		non alloy / low alloy steels: heat resistant structural, heat treated, nitride and tools steels	4140 1064	460	590	720	390	520	660	720	850	980	660	790	920		–	
P	4.0	< 192000		high alloy steels	H13 H21	390	520	660	330	460	590	620	720	820	560	660	750		–	
P	4.1			HSS		160	230	300	130	200	260	260	330	390	230	300	360		–	
S	5.0		250	special alloys: Inconel, Hastelloy, Nimonic, stc.	Inconel® 718 Nimonic® 80A							on request								
S	5.1	58000		titanium, titanium alloys	AMS R54520							on request								
M	6.0	≤ 87000		stainless steels	304L 316	490	560	690	460	590	720	620	720	820	690	790	890		–	
M	6.1	< 192000		stainless steels	630	390	490	660	390	520	660	560	660	750	620	720	820		–	
M	7.0	> 192000		stainless / fireproof steels	420 403	360	490	620	390	520	660	560	660	750	620	720	820		–	
K	8.0		180	gray cast iron	No 35 B No 50 B	460	590	720	390	520	660	490	660	820	520	790	1050		–	
K	8.1		250	alloy gray cast iron	A436 Type 2	390	490	590	330	430	520	330	460	590	330	460	590		–	
K	9.0	≤ 87000	130	spheroidal graphite cast iron, ferritic	60-40-18	460	590	720	390	520	660	390	520	660	390	520	660		–	
K	9.1		230	spheroidal graphite cast iron, ferritic/perlitic	80-55-06	390	490	590	360	430	520	330	460	590	330	460	590		–	
K	10.0	> 87000	250	spheroidal graphite cast iron, perlitic malleable iron	100-70-03 70003	360	460	560	300	390	490	300	390	490	300	390	490		–	
K	10.1		200	alloyed spheroidal graphite cast iron	A43D2	360	460	560	300	390	490	300	390	490	300	390	490		–	
K	10.2		300	vermicular cast iron		300	360	430	260	330	390	230	330	430	230	330	430		–	
N	12.0		90	copper alloy, brass, lead-alloy bronze, lead bronze: good cut	UNS C36000	490	660	820	490	660	820		–			–		490	820	1150
N	12.1		100	copper alloy, brass, bronze: average cut		660	980	1310	660	980	1310		–			–		820	1150	1480
N	13.0		60	wrought aluminium alloys	GD-AlSi12	980	1310	1640	980	1310	1640		–			–		980	1640	2300
N	13.1		75	cast alum. alloy: Si-content <10% magnesium alloy		590	820	1050	590	820	1050		–			–		690	920	1150
N	14.0		100	cast alum.alloy: Si-content >10%	A360.2	490	660	820	490	660	820		–			–		460	720	980
H	15.0	209200		hardened steels < 45 HRC								on request								
H	16.0	209200		hardened steels > 45 HRC								on request								

Cutting values shown are relating to the basic recommendations for cutting materials given.
Patent applications (KUB Pentron)

(..) = mm

	Feed f in/rev																
	4 × D																
	Ø 0.551–0.590 (Ø14.0–15.0)	Ø0.591–0.630 (Ø15.1–16.0)	Ø0.631–0.669 (Ø16.1–17.0)	Ø0.670–0.709 (Ø17.1–18.0)	Ø0.710–0.748 (Ø18.1–19.0)	Ø0.749–0.787 (Ø19.1–20.0)	Ø0.788–0.866 (Ø20.1–22.0)	Ø0.867–0.905 (Ø22.1–23.0)	Ø0.906–0.945 (Ø23.1–24.0)	Ø0.946–0.984 (Ø24.1–25.0)	Ø0.985–1.024 (Ø25.1–26.0)	Ø1.025–1.102 (Ø26.1–28.0)	Ø1.103–1.181 (Ø28.1–30.0)	Ø1.182–1.299 (Ø30.1–33.0)	Ø1.300–1.457 (Ø33.1–37.0)	Ø1.458–1.653 (Ø37.1–42.0)	Ø1.654–1.811 (Ø42.1–46.0)
	min opt. max	min opt. max	min opt. max	min opt. max	min opt. max	min opt. max	min opt. max	min opt. max	min opt. max	min opt. max	min opt. max	min opt. max	min opt. max	min opt. max	min opt. max	min opt. max	min opt. max
	.001 .002 .003	.001 .002 .003	.002 .003 .004	.002 .003 .005	.002 .003 .004	.002 .003 .004	.002 .003 .005	.002 .003 .005	.002 .003 .005	.002 .003 .005	.002 .003 .005	.002 .003 .005	.002 .003 .005	.002 .003 .005	.002 .003 .005	.002 .003 .005	.002 .003 .005
	.001 .002 .003	.001 .003 .003	.004 .005 .005	.004 .005 .005	.004 .005 .006	.004 .005 .006	.004 .005 .006	.004 .005 .006	.004 .005 .006	.004 .005 .006	.004 .005 .006	.004 .005 .006	.004 .005 .006	.004 .005 .006	.004 .005 .006	.004 .005 .006	.004 .005 .006
	.002 .003 .005	.003 .004 .006	.004 .005 .006	.004 .005 .006	.004 .005 .006	.004 .005 .006	.005 .006 .007	.005 .006 .007	.005 .006 .007	.005 .006 .007	.005 .006 .007	.006 .007 .008	.006 .007 .008	.006 .007 .008	.006 .007 .008	.006 .007 .008	.006 .007 .008
	.002 .003 .005	.003 .005 .006	.004 .005 .006	.004 .005 .006	.004 .005 .006	.004 .005 .006	.005 .006 .007	.005 .006 .008	.005 .007 .009	.005 .007 .009	.005 .007 .009	.005 .007 .009	.005 .007 .009	.005 .007 .009	.005 .007 .009	.005 .007 .009	.005 .007 .009
	.002 .003 .005	.002 .004 .005	.004 .005 .005	.004 .005 .006	.003 .005 .006	.003 .005 .006	.005 .006 .008	.005 .006 .007	.005 .007 .009	.005 .007 .009	.005 .007 .009	.005 .007 .009	.005 .007 .009	.005 .007 .009	.005 .007 .009	.005 .007 .009	.005 .007 .009
	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	on request																
	on request																
	.002 .003 .005	.003 .004 .005	.003 .004 .005	.003 .004 .005	.003 .004 .005	.003 .004 .005	.004 .005 .006	.005 .006 .007	.005 .006 .007	.005 .006 .007	.005 .006 .007	.004 .005 .007	.004 .005 .007	.004 .005 .007	.004 .005 .007	.004 .005 .007	.004 .005 .007
	.002 .003 .005	.003 .004 .005	.003 .004 .005	.003 .004 .005	.003 .004 .005	.003 .004 .005	.004 .005 .006	.005 .006 .007	.005 .006 .007	.005 .006 .007	.005 .006 .007	.005 .006 .007	.005 .006 .007	.005 .006 .007	.005 .006 .007	.005 .006 .007	.005 .006 .007
	.002 .003 .004	.002 .003 .004	.002 .003 .004	.002 .003 .004	.002 .003 .004	.002 .003 .004	.003 .004 .005	.003 .004 .005	.004 .005 .006	.004 .005 .006	.004 .005 .006	.004 .005 .006	.004 .005 .006	.004 .005 .006	.004 .005 .006	.004 .005 .006	.004 .005 .006
	.003 .005 .006	.004 .006 .007	.004 .006 .007	.004 .006 .007	.005 .006 .007	.005 .006 .007	.005 .007 .009	.005 .007 .009	.006 .008 .010	.007 .009 .011	.008 .010 .012	.008 .010 .012	.008 .010 .012	.008 .010 .012	.008 .010 .012	.008 .010 .012	.008 .010 .012
	.003 .004 .005	.004 .005 .006	.004 .005 .006	.004 .005 .006	.004 .005 .006	.004 .005 .006	.005 .006 .008	.005 .006 .008	.005 .007 .009	.006 .008 .009	.007 .009 .011	.007 .009 .011	.007 .009 .011	.007 .009 .011	.007 .009 .011	.007 .009 .011	.007 .009 .011
	.003 .005 .006	.005 .006 .007	.005 .006 .007	.005 .006 .007	.005 .006 .007	.005 .006 .007	.005 .007 .009	.005 .007 .009	.006 .008 .010	.007 .009 .011	.008 .010 .012	.008 .010 .012	.008 .010 .012	.008 .010 .012	.008 .010 .012	.008 .010 .012	.008 .010 .012
	.003 .005 .006	.005 .006 .007	.005 .006 .007	.005 .006 .007	.005 .006 .007	.005 .006 .007	.005 .007 .009	.005 .007 .009	.006 .008 .010	.007 .009 .011	.008 .010 .012	.008 .010 .012	.008 .010 .012	.008 .010 .012	.008 .010 .012	.008 .010 .012	.008 .010 .012
	.003 .005 .006	.005 .006 .007	.005 .006 .007	.005 .006 .007	.005 .006 .007	.005 .006 .007	.005 .007 .009	.005 .007 .009	.006 .008 .010	.007 .009 .011	.008 .010 .012	.008 .010 .012	.008 .010 .012	.008 .010 .012	.008 .010 .012	.008 .010 .012	.008 .010 .012
	.003 .005 .005	.004 .005 .006	.004 .005 .006	.004 .005 .006	.004 .005 .006	.004 .005 .006	.005 .006 .008	.005 .006 .008	.005 .007 .009	.006 .008 .009	.007 .009 .011	.007 .009 .011	.007 .009 .011	.007 .009 .011	.007 .009 .011	.007 .009 .011	.007 .009 .011
	.003 .004 .005	.003 .005 .006	.003 .005 .006	.003 .005 .006	.003 .005 .006	.003 .005 .006	.004 .006 .007	.004 .006 .007	.005 .007 .009	.006 .007 .009	.007 .009 .011	.007 .009 .011	.007 .009 .011	.007 .009 .011	.007 .009 .011	.007 .009 .011	.007 .009 .011
	.003 .004 .005	.003 .004 .005	.004 .005 .005	.004 .005 .006	.004 .005 .006	.004 .005 .006	.004 .005 .006	.005 .006 .007	.005 .006 .007	.005 .006 .007	.005 .006 .007	.005 .006 .007	.005 .006 .007	.005 .006 .007	.005 .006 .007	.005 .006 .007	.005 .006 .007
	.003 .004 .005	.003 .004 .005	.003 .004 .006	.003 .004 .006	.003 .004 .005	.003 .004 .006	.003 .004 .005	.004 .005 .006	.004 .005 .006	.004 .005 .006	.004 .005 .006	.004 .005 .006	.004 .005 .006	.004 .005 .006	.004 .005 .006	.004 .005 .006	.004 .005 .006
	.003 .004 .005	.003 .004 .005	.003 .004 .006	.003 .004 .006	.003 .004 .005	.003 .004 .006	.003 .004 .005	.004 .005 .006	.004 .005 .006	.004 .005 .006	.004 .005 .006	.004 .005 .006	.004 .005 .006	.004 .005 .006	.004 .005 .006	.004 .005 .006	.004 .005 .006
	.003 .004 .005	.004 .005 .006	.004 .005 .006	.004 .005 .006	.004 .005 .006	.004 .005 .006	.004 .005 .006	.005 .006 .007	.005 .006 .007	.005 .006 .007	.005 .006 .007	.005 .006 .007	.005 .006 .007	.005 .006 .007	.005 .006 .007	.005 .006 .007	.005 .006 .007
	.004 .005 .006	.004 .005 .006	.005 .005 .007	.005 .006 .007	.005 .006 .007	.005 .006 .007	.005 .006 .007	.006 .007 .008	.006 .007 .008	.006 .007 .008	.006 .007 .008	.006 .007 .008	.006 .007 .008	.006 .007 .008	.006 .007 .008	.006 .007 .008	.006 .007 .008
	on request																
	on request																

Important: See chapter 8 for more application details and safety notes!

1

Guideline values for solid drilling						Cutting speed v_c ft/min														
						5×D														
																				
						BK8425			BK2730			BK6425			BK6115			BK7710		
Material group		Strength Rm (lbf/in²)	Hardness HB	Material	Material example, material code AISI / SAE	min	opt.	max	min	opt.	max	min	opt.	max	min	opt.	max	min	opt.	max
P	1.0	≤ 77200		non-alloy steels	A570.36 1213 A573.81	660	**850**	1050	660	**820**	980	890	**1050**	1210	820	**980**	1150		–	
P	2.0	77200-192000		non-alloy / low alloy steels	5120 1055 5115	820	**890**	980	820	**890**	980	820	**920**	1050	820	**890**	980		–	
P	2.1	< 77200		lead alloys	12L13	660	**850**	1050	520	**720**	920	890	**1050**	1210	820	**980**	1150		–	
P	3.0	< 192000		non alloy / low alloy steels: heat resistant structural, heat treated, nitride and tools steels	4140 1064	460	**590**	720	390	**520**	660	720	**850**	980	660	**790**	920		–	
P	4.0	< 192000		high alloy steels	H13 H21	390	**520**	660	330	**460**	590	620	**720**	820	560	**660**	750		–	
P	4.1			HSS		160	**230**	300	130	**200**	260	260	**330**	390	230	**300**	360		–	
S	5.0		250	special alloys: Inconel, Hastelloy, Nimonic, stc.	Inconel® 718 Nimonic® 80A							on request								
S	5.1	58000		titanium, titanium alloys	AMS R54520							on request								
M	6.0	≤ 87000		stainless steels	304L 316	490	**560**	690	460	**590**	720	620	**720**	820	690	**790**	890		–	
M	6.1	< 192000		stainless steels	630	390	**490**	660	390	**520**	660	560	**660**	750	620	**720**	820		–	
M	7.0	> 192000		stainless / fireproof steels	420 403	360	**490**	620	390	**520**	660	560	**660**	750	620	**720**	820		–	
K	8.0		180	gray cast iron	No 35 B No 50 B	460	**590**	720	390	**520**	660	490	**660**	820	520	**790**	1050		–	
K	8.1		250	alloy gray cast iron	A436 Type 2	390	**490**	590	330	**430**	520	330	**460**	590	330	**460**	590		–	
K	9.0	≤ 87000	130	spheroidal graphite cast iron, ferritic	60-40-18	460	**590**	720	390	**520**	660	390	**520**	660	390	**520**	660		–	
K	9.1		230	spheroidal graphite cast iron, ferritic/perlitic	80-55-06	390	**490**	590	360	**430**	520	330	**460**	590	330	**460**	590		–	
K	10.0	> 87000	250	spheroidal graphite cast iron, perlitic malleable iron	100-70-03 70003	360	**460**	560	300	**390**	490	300	**390**	490	300	**390**	490		–	
K	10.1		200	alloyed spheroidal graphite cast iron	A43D2	360	**460**	560	300	**390**	490	300	**390**	490	300	**390**	490		–	
K	10.2		300	vermicular cast iron		300	**360**	430	260	**330**	390	230	**330**	430	230	**330**	430		–	
N	12.0		90	copper alloy, brass, lead-alloy bronze, lead bronze: good cut	UNS C36000	490	**660**	820	490	**660**	820		–			–		490	**820**	1150
N	12.1		100	copper alloy, brass, bronze: average cut		660	**980**	1310	660	**980**	1310		–			–		820	**1150**	1480
N	13.0		60	wrought aluminium alloys	GD-AlSi12	980	**1310**	1640	980	**1310**	1640		–			–		980	**1640**	2300
N	13.1		75	cast alum. alloy: Si-content <10% magnesium alloy		590	**820**	1050	590	**820**	1050		–			–		690	**920**	1150
N	14.0		100	cast alum.alloy: Si-content >10%	A360.2	490	**660**	820	490	**660**	820		–			–		460	**720**	980
H	15.0	209200		hardened steels < 45 HRC								on request								
H	16.0	209200		hardened steels > 45 HRC								on request								

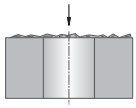
Cutting values shown are relating to the basic recommendations for cutting materials given.
Patent applications (KUB Pentron)

(..) = mm

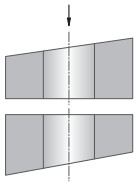
	Feed f in/rev																
	5 × D inserting the drill at a reduced feed (-30%)																
	Ø 0.551–0.590 (Ø14.0–15.0)	Ø0.591–0.630 (Ø15.1–16.0)	Ø0.631–0.669 (Ø16.1–17.0)	Ø0.670–0.709 (Ø17.1–18.0)	Ø0.710–0.748 (Ø18.1–19.0)	Ø0.749–0.787 (Ø19.1–20.0)	Ø0.788–0.866 (Ø20.1–22.0)	Ø0.867–0.905 (Ø22.1–23.0)	Ø0.906–0.945 (Ø23.1–24.0)	Ø0.946–0.984 (Ø24.1–25.0)	Ø0.985–1.024 (Ø25.1–26.0)	Ø1.025–1.102 (Ø26.1–28.0)	Ø1.103–1.181 (Ø28.1–30.0)	Ø1.182–1.299 (Ø30.1–33.0)	Ø1.300–1.457 (Ø33.1–37.0)	Ø1.458–1.653 (Ø37.1–42.0)	Ø1.654–1.811 (Ø42.1–46.0)
	min / opt. / max	min / opt. / max	min / opt. / max	min / opt. / max	min / opt. / max	min / opt. / max	min / opt. / max	min / opt. / max	min / opt. / max	min / opt. / max	min / opt. / max	min / opt. / max	min / opt. / max	min / opt. / max	min / opt. / max	min / opt. / max	min / opt. / max
	.001 / .002 / .003	.002 / .003 / .003	.002 / .003 / .004	.002 / .003 / .004	0.05 / .003 / .004	0.05 / .003 / .004	.002 / .003 / .005	.002 / .003 / .005	.002 / .003 / .005	.002 / .003 / .005	.002 / .003 / .005	.003 / .004 / .005	.003 / .004 / .005	.003 / .004 / .005	.003 / .004 / .005	.003 / .004 / .005	.003 / .004 / .005
	.001 / .002 / .003	.002 / .003 / .004	.003 / .004 / .005	.003 / .004 / .005	.003 / .004 / .005	.003 / .004 / .005	.003 / .004 / .005	.003 / .004 / .005	.003 / .004 / .005	.003 / .004 / .005	.003 / .004 / .005	.003 / .004 / .005	.003 / .004 / .005	.003 / .004 / .005	.003 / .004 / .005	.003 / .004 / .005	.003 / .004 / .005
	.002 / .003 / .005	.003 / .004 / .005	.003 / .004 / .005	.003 / .004 / .005	.003 / .004 / .005	.003 / .004 / .005	.004 / .005 / .006	.004 / .005 / .006	.004 / .005 / .006	.004 / .005 / .006	.004 / .005 / .006	.004 / .006 / .007	.004 / .006 / .007	.004 / .006 / .007	.004 / .006 / .007	.004 / .006 / .007	.004 / .006 / .007
	.002 / .003 / .005	.002 / .003 / .005	.002 / .003 / .005	.003 / .004 / .005	.003 / .004 / .005	.003 / .004 / .005	.005 / .006 / .007	.005 / .007 / .008	.005 / .007 / .009	.005 / .007 / .009	.005 / .007 / .009	.004 / .006 / .008	.004 / .006 / .008	.004 / .006 / .008	.004 / .006 / .008	.004 / .006 / .008	.004 / .006 / .008
	.002 / .003 / .005	.003 / .004 / .005	.003 / .005 / .006	.003 / .005 / .006	.003 / .005 / .006	.003 / .005 / .006	.005 / .006 / .008	.005 / .006 / .007	.005 / .007 / .009	.005 / .007 / .009	.005 / .007 / .009	.005 / .007 / .009	.005 / .007 / .009	.005 / .007 / .008	.005 / .007 / .008	.005 / .007 / .008	.005 / .007 / .008
	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	on request																
	on request																
	.002 / .003 / .005	.003 / .004 / .005	.002 / .003 / .004	.002 / .003 / .004	.002 / .003 / .004	.002 / .003 / .004	.003 / .004 / .005	.003 / .004 / .005	.004 / .005 / .006	.004 / .005 / .006	.004 / .005 / .006	.004 / .005 / .006	.004 / .005 / .006	.004 / .005 / .006	.004 / .005 / .006	.004 / .005 / .006	.004 / .005 / .006
	.002 / .003 / .005	.002 / .003 / .005	.002 / .003 / .004	.002 / .003 / .004	.002 / .003 / .004	.002 / .003 / .004	.003 / .004 / .005	.003 / .004 / .005	.005 / .005 / .006	.005 / .005 / .006	.005 / .005 / .006	.003 / .004 / .005	.003 / .004 / .005	.003 / .004 / .005	.003 / .004 / .005	.003 / .004 / .005	.003 / .004 / .005
	.002 / .003 / .004	.002 / .003 / .004	.002 / .003 / .004	.002 / .003 / .004	.002 / .003 / .004	.002 / .003 / .004	.003 / .003 / .004	.003 / .003 / .004	.004 / .005 / .005	.004 / .005 / .005	.004 / .005 / .005	.004 / .005 / .005	.004 / .005 / .005	.004 / .005 / .005	.004 / .005 / .005	.004 / .005 / .005	.004 / .005 / .005
	.003 / .004 / .005	.003 / .005 / .006	.004 / .005 / .006	.004 / .005 / .006	.004 / .005 / .006	.004 / .005 / .006	.005 / .006 / .008	.005 / .006 / .008	.005 / .007 / .009	.006 / .008 / .010	.007 / .009 / .011	.007 / .009 / .011	.007 / .009 / .011	.007 / .009 / .011	.007 / .009 / .011	.007 / .009 / .011	.007 / .009 / .011
	.003 / .004 / .005	.003 / .004 / .005	.003 / .004 / .005	.003 / .004 / .005	.003 / .004 / .005	.003 / .004 / .005	.004 / .005 / .007	.004 / .005 / .007	.005 / .006 / .008	.005 / .007 / .009	.006 / .008 / .010	.006 / .008 / .010	.006 / .008 / .010	.006 / .008 / .010	.006 / .008 / .010	.006 / .008 / .010	.006 / .008 / .010
	.003 / .004 / .005	.003 / .005 / .006	.004 / .005 / .006	.004 / .005 / .006	.004 / .005 / .006	.004 / .005 / .006	.005 / .006 / .008	.005 / .006 / .008	.005 / .007 / .009	.006 / .008 / .010	.007 / .009 / .011	.007 / .009 / .011	.007 / .009 / .011	.007 / .009 / .011	.007 / .009 / .011	.007 / .009 / .011	.007 / .009 / .011
	.003 / .004 / .005	.003 / .005 / .006	.004 / .005 / .006	.004 / .005 / .006	.004 / .005 / .006	.004 / .005 / .006	.005 / .006 / .008	.005 / .006 / .008	.005 / .007 / .009	.006 / .008 / .010	.007 / .009 / .011	.007 / .009 / .011	.007 / .009 / .011	.007 / .009 / .011	.007 / .009 / .011	.007 / .009 / .011	.007 / .009 / .011
	.003 / .004 / .005	.003 / .005 / .006	.004 / .005 / .006	.004 / .005 / .006	.004 / .005 / .006	.004 / .005 / .006	.005 / .006 / .008	.005 / .006 / .008	.005 / .007 / .009	.006 / .008 / .010	.007 / .009 / .011	.007 / .009 / .011	.007 / .009 / .011	.007 / .009 / .011	.007 / .009 / .011	.007 / .009 / .011	.007 / .009 / .011
	.003 / .004 / .005	.003 / .004 / .005	.003 / .004 / .005	.003 / .004 / .005	.003 / .004 / .005	.003 / .004 / .005	.004 / .005 / .007	.004 / .005 / .007	.005 / .006 / .008	.005 / .007 / .009	.006 / .008 / .010	.006 / .008 / .010	.006 / .008 / .010	.006 / .008 / .010	.006 / .008 / .010	.006 / .008 / .010	.006 / .008 / .010
	.002 / .004 / .005	.002 / .004 / .005	.003 / .004 / .005	.003 / .004 / .005	.003 / .004 / .005	.003 / .004 / .005	.003 / .004 / 0.17	.003 / .005 / 0.17	.004 / .006 / .008	.005 / 0.17 / .009	.006 / .008 / .010	.006 / .008 / .010	.006 / .008 / .010	.006 / .008 / .010	.006 / .008 / .010	.006 / .008 / .010	.006 / .008 / .010
	.003 / .004 / .005	.003 / .005 / .005	.004 / .005 / .006	.004 / .005 / .006	.004 / .005 / .006	.004 / .005 / .006	.004 / .005 / .006	.005 / .006 / .007	.005 / .006 / .007	.005 / .006 / .007	.005 / .006 / .007	.005 / .006 / .007	.005 / .006 / .007	.005 / .006 / .007	.005 / .006 / .007	.005 / .006 / .007	.005 / .006 / .007
	.003 / .004 / .005	.003 / .004 / .005	.003 / .004 / .006	.003 / .004 / .006	.003 / .004 / .005	.003 / .004 / .006	.003 / .004 / .005	.004 / .005 / .006	.004 / .005 / .006	.004 / .005 / .006	.004 / .005 / .006	.004 / .005 / .006	.004 / .005 / .006	.004 / .005 / .006	.004 / .005 / .006	.004 / .005 / .006	.004 / .005 / .006
	.003 / .004 / .005	.003 / .004 / .005	.003 / .004 / .006	.003 / .004 / .006	.003 / .004 / .005	.003 / .004 / .006	.003 / .004 / .005	.004 / .005 / .006	.004 / .005 / .006	.004 / .005 / .006	.004 / .005 / .006	.004 / .005 / .006	.004 / .005 / .006	.004 / .005 / .006	.004 / .005 / .006	.004 / .005 / .006	.004 / .005 / .006
	.003 / .004 / .005	.003 / .005 / .005	.004 / .005 / .006	.004 / .005 / .006	.004 / .005 / .006	.004 / .005 / .006	.004 / .005 / .006	.005 / .006 / .007	.005 / .006 / .007	.005 / .006 / .007	.005 / .006 / .007	.005 / .006 / .007	.005 / .006 / .007	.005 / .006 / .007	.005 / .006 / .007	.005 / .006 / .007	.005 / .006 / .007
	.004 / .005 / .006	.005 / .006 / .007	.005 / .006 / .007	.005 / .006 / .007	.005 / .006 / .007	.005 / .006 / .007	.005 / .006 / .007	.006 / .007 / .008	.006 / .007 / .008	.006 / .007 / .008	.006 / .007 / .008	.006 / .007 / .008	.006 / .007 / .008	.006 / .007 / .008	.006 / .007 / .008	.006 / .007 / .008	.006 / .007 / .008
	on request																
	on request																

Important: See chapter 8 for more application details and safety notes!

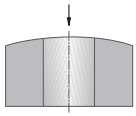
1

1. 

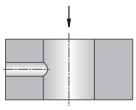
Starting on uneven surfaces (cast surfaces)
- when inserting and withdrawing the drill, reduce the feed rate by approx. 30-50% (depending on component stability, clamping and surface quality)

2. 

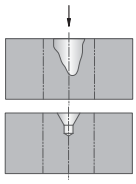
Starting on angled surfaces / angled bore exit
- when inserting the drill, reduce the feed rate by approx. 30-60% until full diameter is reached
- when withdrawing the drill after interruption to the cut, reduce the feed rate by approx. 30-60%
- use tough insert and stable corner radius

3. 

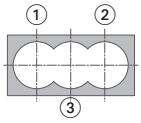
Starting on cambered surfaces
- when inserting the drill, reduce the feed rate by approx. 30-60% until full diameter is reached
- when withdrawing the drill after interruption to the cut, reduce the feed rate by approx. 30-60% (depending on component stability and clamping).

4. 

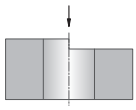
Drilling through a cross bore
- when inserting and withdrawing the drill, reduce the feed rate by approx. 30-50% (depending on component stability, clamping and surface quality)
- in the vicinity of the cross bore, reduce the feed rate by 50%
- watch for chip jamming around tool
- use tough insert and stable corner radius

5. 

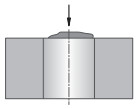
Starting on a groove or large centering bore
- when inserting the drill, reduce the feed rate by approx. 30-50% until centring depth is reached
- reduce feed rate
- use tough insert for internal cutting edge
- spot face if required

6. 

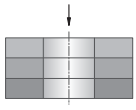
Drilling a chamber
- first bore Nos. 1 + 2, then bore No. 3
- check distribution is symmetrical
- avoid chip jams
- use tough insertand stable corner radius
- Continuous drilling: when inserting the drill, reduce the feed rate by approx. 30-60% (depending on component stability and clamping)
- Interruption to cut: when drilling the cut interruption, reduce the feed rate by approx. 50-60%

7. 

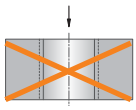
Starting on an edge
- when inserting and withdrawing the drill, reduce the feed rate by approx. 30-50% (depending on component stability, clamping and surface quality)
- use tough insert and stable corner radius

8. 

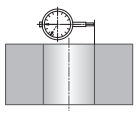
Starting on a welded seam
- when inserting the drill, reduce the feed rate by approx. 30-60% until full diameter is reached
- when withdrawing the drill after interruption to the cut, reduce the feed rate by approx. 30-60% (depending on component stability and clamping).

9. 

Drilling through stacked plates
- good workpiece clamping required
- max. gap = 0.039 inch (1 mm)

10. 

Roughing
- not possible

11. 

Adjustable
- when inserting and withdrawing the drill reduce the feed rate by approx. 30-50% until full bore diameter is reached (depending on component stability and clamping).
- use tough insert and stable corner radius

(..) = mm

for higher cutting speed			
Ø D	Order No. ▽▽size	ISO-Code	P M K N S H
0.551 – 0.630 (14.0 – 16.0)	**W80 10010.046425** **W80 10010.046115**	SOGX 040204-01 BK6425 SOGX 040204-01 BK6115 ⚠	◐ ◑
0.631 – 0.709 (16.1 – 18.0)	**W80 12010.046425** **W80 12010.046115**	SOGX 050204-01 BK6425 SOGX 050204-01 BK6115 ⚠	◐ ◑
0.710 – 0.787 (18.1 – 20.0)	**W80 18010.066425** **W80 18010.066115**	SOGX 060206-01 BK6425 SOGX 060206-01 BK6115 ⚠	◐ ◑
0.788 – 0.905 (20.1 – 23.0)	**W80 20010.086425** **W80 20010.086115**	SOGX 07T208-01 BK6425 SOGX 07T208-01 BK6115 ⚠	◐ ◑
0.906 – 1.024 (23.1 – 26.0)	**W80 24010.086425** **W80 24010.086115**	SOGX 080308-01 BK6425 SOGX 080308-01 BK6115 ⚠	◐ ◑
1.025 – 1.181 (26.1 – 30.0)	**W80 28010.086425** **W80 28010.086115**	SOGX 09T308-01 BK6425 SOGX 09T308-01 BK6115 ⚠	◐ ◑
0.182 – 1.299 (30.1 – 33.0)	**W80 32010.086425** **W80 32010.086115**	SOGX 100408-01 BK6425 SOGX 100408-01 BK6115 ⚠	◐ ◑
1.300 – 1.457 (33.1 – 37.0)	**W80 38010.086425** **W80 38010.086115**	SOGX 110408-01 BK6425 SOGX 110408-01 BK6115 ⚠	◐ ◑
1.458 – 1.653 (37.1 – 42.0)	**W80 42010.086425** **W80 42010.086115**	SOGX 120408-01 BK6425 SOGX 120408-01 BK6115 ⚠	◐ ◑
1.654 – 1.8111 (42.1 – 46.0)	**W80 46010.086425** **W80 46010.086115**	SOGX 130508-01 BK6425 SOGX 130508-01 BK6115 ⚠	◐ ◑

⚠ Note: Only use this insert with KUB Pentron® as an external cutting edge:
SOGX ... -01 (geometry 01) in BK6115, internal cutting edge in BK8425

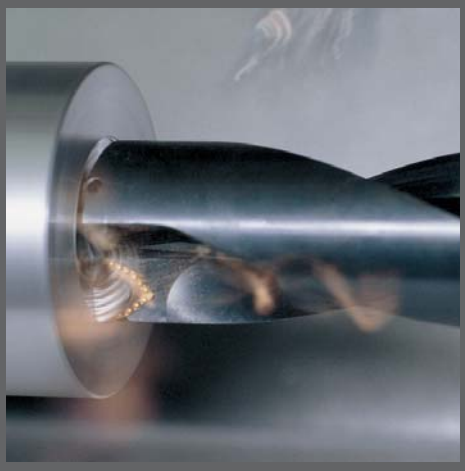
As early as 1977, KOMET® introduced the world's first indexable insert solid drill bit without an HSS centring tip, thereby laying the foundation for the triumphal procession of the KOMET KUB® drills.

It was based on the familiar Unisix® indexable insert with three cutting edges.

This is also why it was known as the KOMET Unisix® drill.

The indexable insert today known by the name KUB Trigon® has 84° edge angles and a variable radial fitting angle which enable an ideal balancing of thrust forces. This has significantly contributed to the resounding success of the new solid drill bit tools.

In just a few years, the KOMET KUB Trigon® indexable insert drills have become the most commonly used solid drill bit tools in the diameter ranges from 12 millimetres to a maximum of 350 millimetres, with drilling depths of up to 4 × D.



BENEFITS for you:

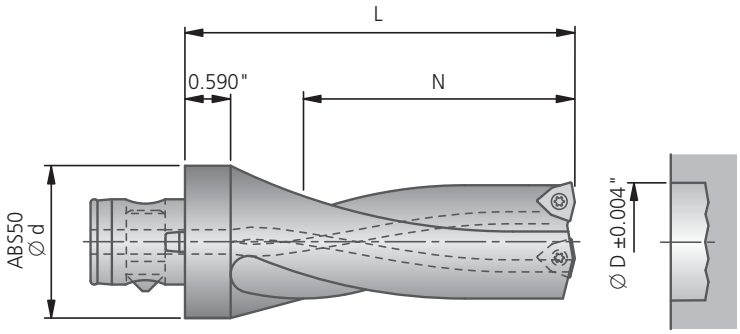
- Flexibility in application with various geometries and coatings
- Close bore tolerances up to IT 8
- Extremely good surface finish can be achieved
- Machining to production dimension without separate fine machining
- Universal use – suitable for rotating and stationary operations

Milling cartridge for KUB Trigon® see chapter 6

KOMET KUB Trigon®

Ø 0.562 – 1.750 inch

Insert Drill with ABS® Connection, R.H. cutting



Ø D	*max. diameter with offset	ABS Ø d	2×D				3×D				4×D			
			Order No.	N	L	lbs	Order No.	N	L	lbs	Order No.	N	L	lbs
0.562	0.602	50	V30 31431	1.179	2.557	1.01	V30 71431	1.769	3.147	1.04	V30 91431	2.358	3.735	1.04
0.593	0.633	50	V30 31511	1.257	2.635	1.01	V30 71511	1.885	3.263	1.04	V30 91511	2.514	3.892	1.06
0.625	0.665	50	V30 31591	1.258	2.636	1.01	V30 71591	1.887	3.265	1.04	V30 91591	2.516	3.894	1.06
0.656	0.696	50				1.04	V30 71671	2.004	3.381	1.06	V30 91671	2.671	4.049	1.08
0.687	0.727	50	V30 31751	1.413	2.791	1.04	V30 71751	2.120	3.498	1.06	V30 91751	2.827	4.205	1.10
0.703	0.743	50	V30 31791	1.414	2.792	1.06	V30 71791	2.121	3.499	1.08	V30 91791	2.828	4.205	1.10
0.750	0.790	50	V30 31911	1.571	2.949	1.06	V30 71911	2.356	3.734	1.08	V30 91911	3.142	4.520	1.12
0.765	0.805	50				1.06	V30 71941	2.366	3.744	1.10	V30 91941	3.154	4.532	1.15
0.781	0.821	50	V30 31981	1.578	2.956	1.06	V30 71981	2.367	3.745	1.06	V30 91981	3.155	4.533	1.15
0.812	0.852	50	V30 32061	1.655	3.033	1.06	V30 72061	2.483	3.861	1.12	V30 92061	3.311	4.689	1.15
0.828	0.868	50	V30 32101	1.656	3.034	1.10	V30 72101	2.484	3.862	1.15	V30 92101	3.312	4.690	1.19
0.875	0.915	50	V30 32221	1.813	3.191	1.12	V30 72221	2.719	4.097	1.17	V30 92221	3.626	5.004	1.23
0.937	0.977	50	V30 32381	1.890	3.268	1.15	V30 72381	2.835	4.213	1.15	V30 92381	3.779	5.157	1.28
0.985	1.025	50	V30 32501	1.970	3.348	1.17	V30 72501	2.955	4.333	1.23	V30 92501	3.940	5.318	1.21
1.000	1.040	50	V30 32541	2.047	3.425	1.17	V30 72541	3.071	4.449	1.30	V30 92541	4.094	5.472	1.32
1.031	1.111	50	V30 32621	2.125	3.503	1.21	V30 72621	3.187	4.565	1.32	V30 92621	4.250	5.628	1.37
1.062	1.142	50	V30 32701	2.124	3.502	1.21	V30 72701	3.186	4.564	1.32	V30 92701	4.248	5.626	1.41
1.109	1.229	50	V30 32821	2.281	3.659	1.37	V30 72821	3.421	4.799	1.32	V30 92821	4.562	5.940	1.39
1.125	1.245	50	V30 32861	2.281	3.659	1.41	V30 72861	3.422	4.800	1.34	V30 92861	4.563	5.941	1.46
1.156	1.276	50	V30 32941	2.359	3.737	1.26	V30 72941	3.539	4.917	1.39	V30 92941	4.718	6.096	1.48
1.187	1.287	50	V30 33021	2.437	4.028	1.28	V30 73021	3.655	5.246	1.39	V30 93021	4.874	6.465	1.59
1.218	1.318	50	V30 33091	2.444	4.021	1.30	V30 73091	3.666	5.236	1.43	V30 93091	4.888	6.479	1.54
1.250	1.331	50	V30 33181	2.516	4.107	1.32	V30 73181	3.774	5.365	1.48	V30 93181	5.031	6.622	1.61
1.281	1.361	50	V30 33251	2.601	4.192	1.34	V30 73251	3.902	5.493	1.48	V30 93251	5.203	6.794	1.65
1.312	1.392	50	V30 33331	2.679	4.270	1.37	V30 73331	4.019	5.610	1.52	V30 93331	5.350	6.941	1.68
1.328	1.408	50	V30 33371	2.680	4.271	1.63	V30 73371	4.019	5.792	1.74	V30 93371	5.359	6.950	1.81
1.375	1.415	50	V30 33491	2.758	4.349	1.52	V30 73491	4.137	5.728	1.74	V30 93491	5.516	7.107	1.90
1.406	1.446	50	V30 33571	2.836	4.427	1.54	V30 73571	4.253	5.844	1.72	V30 93571	5.671	7.262	1.94
1.437	1.477	50	V30 33651	2.913	4.504	1.57	V30 73651	4.370	5.961	1.76	V30 93651	5.827	7.418	2.01
1.469	1.589	50	V30 33731	2.993	4.962	1.81	V30 73731	4.490	6.459	1.85	V30 93731	5.986	7.955	2.07
1.500	1.620	50	V30 33811	3.071	5.040	1.72	V30 73811	4.606	6.575	1.87	V30 93811	6.142	8.111	2.14
1.531	1.651	50	V30 33891	3.070	5.039	1.70	V30 73891	4.605	6.574	1.96	V30 93891	6.140	8.109	2.23
1.562	1.682	50	V30 33971	3.148	5.117	1.74	V30 73971	4.721	6.689	2.05	V30 93971	6.295	8.264	2.34
1.625	1.745	50	V30 34131	3.305	5.274	1.96	V30 74131	4.958	6.927	2.29	V30 94131	6.610	8.579	2.60
1.656	1.772	50	V30 34211	3.367	5.336	1.98	V30 74211	5.074	7.043	2.25	V30 94211	6.766	8.735	2.62
1.687	1.772	50	V30 34291	3.382	5.351	2.03	V30 74291	5.073	7.042	2.38	V30 94291	6.764	8.733	2.69
1.750	1.772	50	V30 34451	3.539	5.508	2.09	V30 74451	5.309	7.278	2.49	V30 94451	7.079	9.048	2.84

Any **intermediate dimensions** from ∅ 0.562 – 1.750 inch are available on request.

Supply includes: KUB Trigon® drill with assembly parts. Please order insert and accessories separately.

* Adjustment device see "KomPass Bore machining – chapter 5"

Patent applied for inside and outside Germany (ABS), EP 883 455 and other patents (KUB Trigon)

L / D	solid drilling	blind hole	forge/casting skin, interface	angled	convex	cross bore	centering bore	chamber	stack plate drilling	rough boring	adjustable
2×D	●	●	●	●	●	●	◐	●	✕	◐	◐
3×D	●	●	◐	◐	◐	◐	◐	◐	✕	○	◐
4×D	●	●	○	○	○	○	○	○	✕	✕	◐

● very good ◐ good ○ possible: see technical notes, pages 138-140 ✕ not possible

Basic recommendation				Assembly parts		Accessories
Insert -01 -11			for workpiece material	Clamping screw	Starting torque	Screwdriver
Order No. ▽▽ Size	ISO-Code	Qty	P M K N S H	Order No. Description		Order No. Description
W29 10010.048425 **W29 10010.047930** **W29 10010.0462** **W29 10110.0477**	WOEX 030204-01 BK8425 WOEX 030204-01 BK7930 WOEX 030204-01 BK62 WOEX 030204-11 BK77	2		**N00 56041** S/M2×4.3-6IP	5.5 in-lbs	**L05 00810** 6IP
W29 18010.048425 **W29 18010.047930** **W29 18010.0462** **W29 18110.0477**	WOEX 040304-01 BK8425 WOEX 040304-01 BK7930 WOEX 040304-01 BK62 WOEX 040304-11 BK77	2		**N00 57553** S/M2.2×5.5-6IP	8.9in-lbs	**L05 00810** 6IP
W29 24010.048425 **W29 24010.047930** **W29 24010.0462** **W29 24110.0477**	WOEX 05T304-01 BK8425 WOEX 05T304-01 BK7930 WOEX 05T304-01 BK62 WOEX 05T304-11 BK77	2		**N00 57511** S/M2.5×7.2-8IP	11.0 in-lbs	**L05 00830** 8IP
W29 34010.048425 **W29 34010.047930** **W29 34010.0462** **W29 34110.0477**	WOEX 06T304-01 BK8425 WOEX 06T304-01 BK7930 WOEX 06T304-01 BK62 WOEX 06T304-11 BK77	2		**N00 57521** S/M3.5×7.3-10IP	25.0 in-lbs	**L05 00850** 10IP

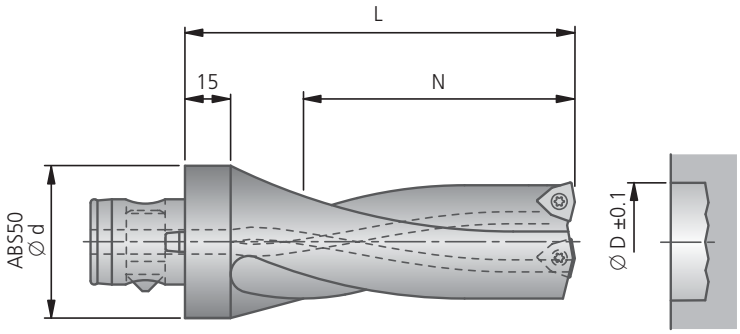
Note regarding insert radius:
The nominal dimension ∅ is only achieved with the appropriate standardized insert radius.
Insert radii which deviate from this will alter the nominal dimension ∅ (see Chapter 8)

Guideline values for solid drilling: pages 90-91 / alternative inserts: page 115.

KOMET KUB Trigon®

Insert Drill with ABS® Connection, R.H. cutting

Ø 14 – 44 mm



Ø D	*max. diameter with offset	ABS Ø d	2×D Order No.	2×D N	2×D L	2×D kg	3×D Order No.	3×D N	3×D L	3×D kg	4×D Order No.	4×D N	4×D L	4×D kg
14.0	15.0	50	V30 31403	28	63	0.46	V30 71403	42	77	0.47	V30 91403	56	91	0.47
15.0	16.0	50	V30 31503	30	65	0.46	V30 71503	45	80	0.47	V30 91503	60	95	0.48
15.5	16.5	50	V30 31551	32	67	0.46	V30 71551	48	83	0.47	V30 91551	64	99	0.48
16.0	17.0	50	V30 31601	32	67	0.47	V30 71601	48	83	0.48	V30 91601	64	99	0.49
17.0	18.0	50	V30 31701	34	69	0.47	V30 71701	51	86	0.48	V30 91701	68	103	0.50
17.5	18.5	50	V30 31751	36	71	0.48	V30 71751	54	89	0.49	V30 91751	72	107	0.50
18.0	19.0	50	V30 31801	36	71	0.48	V30 71801	54	89	0.49	V30 91801	72	107	0.51
18.5	19.0	50	V30 31851	38	73	0.48	V30 71851	57	92	0.50	V30 91851	76	111	0.52
19.0	20.0	50	V30 31901	38	73	0.48	V30 71901	57	92	0.48	V30 91901	76	111	0.52
19.5	20.0	50	V30 31951	40	75	0.48	V30 71951	60	95	0.51	V30 91951	80	115	0.52
20.0	21.0	50	V30 32001	40	75	0.50	V30 72001	60	95	0.52	V30 92001	80	115	0.54
21.0	22.0	50	V30 32101	42	77	0.51	V30 72101	63	98	0.53	V30 92101	84	119	0.56
22.0	23.0	50	V30 32201	44	79	0.52	V30 72201	66	101	0.52	V30 92201	88	123	0.58
22.5	23.5	50	V30 32251	46	81	0.53	V30 72251	69	104	0.56	V30 92251	92	127	0.55
23.0	24.0	50	V30 32301	46	81	0.53	V30 72301	69	104	0.59	V30 92301	92	127	0.60
24.0	25.0	50	V30 32401	48	83	0.55	V30 72401	72	107	0.60	V30 92401	96	131	0.62
24.5	25.5	50	V30 32451	50	85	0.55	V30 72451	75	110	0.60	V30 92451	100	135	0.64
25.0	26.0	50	V30 32501	50	85	0.62	V30 72501	75	110	0.60	V30 92501	100	135	0.63
26.0	28.0	50	V30 32601	52	87	0.64	V30 72601	78	113	0.61	V30 92601	104	139	0.66
26.5	28.5	50	V30 32651	54	89	0.57	V30 72651	81	116	0.63	V30 92651	108	143	0.67
27.0	30.0	50	V30 32701	54	89	0.58	V30 72701	81	116	0.63	V30 92701	108	143	0.72
28.0	31.0	50	V30 32801	56	91	0.59	V30 72801	84	119	0.65	V30 92801	112	147	0.70
28.5	31.5	50	V30 32851	58	93	0.60	V30 72851	87	122	0.67	V30 92851	116	151	0.73
29.0	32.0	50	V30 32901	58	93	0.61	V30 72901	87	122	0.67	V30 92901	116	151	0.75
29.5	32.5	50	V30 32951	60	95	0.62	V30 72951	90	125	0.69	V30 92951	120	155	0.76
30.0	32.5	50	V30 33001	60	100	0.74	V30 73001	90	130	0.79	V30 93001	120	160	0.82
31.0	33.5	50	V30 33101	62	102	0.69	V30 73101	93	133	0.79	V30 93101	124	164	0.86
31.5	33.5	50	V30 33151	64	104	0.70	V30 73151	96	136	0.78	V30 93151	128	168	0.88
32.0	34.0	50	V30 33201	64	104	0.71	V30 73201	96	136	0.8	V30 93201	128	168	0.91
33.0	34.0	50	V30 33301	66	106	0.82	V30 73301	99	139	0.84	V30 93301	132	172	0.94
34.0	35.0	50	V30 33401	68	108	0.78	V30 73401	102	142	0.85	V30 93401	136	176	0.97
35.0	36.0	50	V30 33501	70	110	0.77	V30 73501	105	145	0.89	V30 93501	140	180	1.01
36.0	37.0	50	V30 33601	72	112	0.79	V30 73601	108	148	0.93	V30 93601	144	184	1.06
37.0	40.0	50	V30 33701	74	124	0.89	V30 73701	111	161	1.04	V30 93701	148	198	1.18
37.5	40.5	50	V30 33751	76	126	0.9	V30 73751	114	164	1.02	V30 93751	152	202	1.19
38.0	41.0	50	V30 33801	76	126	0.92	V30 73801	114	164	1.08	V30 93801	152	202	1.22
39.0	42.0	50	V30 33901	78	128	0.95	V30 73901	117	167	1.13	V30 93901	156	206	1.29
39.5	42.5	50	V30 33951	80	130	0.96	V30 73951	120	170	1.14	V30 93951	160	210	1.32
40.0	43.0	50	V30 34001	80	130	0.98	V30 74001	120	170	1.17	V30 94001	160	210	1.36
41.0	44.0	50	V30 34101	82	132	1.10	V30 74101	123	173	1.22	V30 94101	164	214	1.43
42.0	45.0	50	V30 34201	84	134	1.10	V30 74201	126	176	1.27	V30 94201	168	218	1.50
43.0	45.0	50	V30 34301	86	136	1.10	V30 74301	129	179	1.33	V30 94301	172	222	1.52
44.0	45.0	50	V30 34401	88	138	1.13	V30 74401	132	182	1.41	V30 94401	176	226	1.66

Any **intermediate dimensions** from ∅ 14 – 44 mm and **inch dimensions** are available on request.

Supply includes: KUB Trigon® drill with assembly parts. Please order insert and accessories separately.

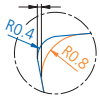
* Adjustment device see "KomPass Bore machining – chapter 5"

Patent applied for inside and outside Germany (ABS), EP 883 455 and other patents (KUB Trigon)

L / D	solid drilling	blind hole	forge/casting skin, interface	angled	convex	cross bore	centering bore	chamber	stack plate drilling	rough boring	adjustable
2×D	●	●	●	●	●	●	◐	●	×	◐	◐
3×D	●	●	◐	◐	◐	◐	◐	◐	×	○	◐
4×D	●	●	○	○	○	○	○	○	×	×	◐

● very good ◐ good ○ possible: see technical notes, pages 138-140 × not possible

Basic recommendation				Assembly parts		Accessories
Insert -01 -11			for workpiece material	Clamping screw	Starting torque	Screwdriver
Order No. ▽▽ Size	ISO-Code	Piece	P M K N S H	Order No. Description		Order No. Description
W29 10010.048425 W29 10010.047930 W29 10010.0462 W29 10110.0477	WOEX 030204-01 BK8425 WOEX 030204-01 BK7930 WOEX 030204-01 BK62 WOEX 030204-11 BK77	2		N00 56041 S/M2×4.3-6IP	0.62 Nm	L05 00810 6IP
W29 18010.048425 W29 18010.047930 W29 18010.0462 W29 18110.0477	WOEX 040304-01 BK8425 WOEX 040304-01 BK7930 WOEX 040304-01 BK62 WOEX 040304-11 BK77	2		N00 57553 S/M2.2×5.5-6IP	1.01 Nm	L05 00810 6IP
W29 24010.048425 W29 24010.047930 W29 24010.0462 W29 24110.0477	WOEX 05T304-01 BK8425 WOEX 05T304-01 BK7930 WOEX 05T304-01 BK62 WOEX 05T304-11 BK77	2		N00 57511 S/M2.5×7.2-8IP	1.28 Nm	L05 00830 8IP
W29 34010.048425 W29 34010.047930 W29 34010.0462 W29 34110.0477	WOEX 06T304-01 BK8425 WOEX 06T304-01 BK7930 WOEX 06T304-01 BK62 WOEX 06T304-11 BK77	2		N00 57521 S/M3.5×7.3-10IP	2.8 Nm	L05 00850 10IP



Note regarding insert radius:
The nominal dimension ∅ is only achieved with the appropriate standardized insert radius.
Insert radii which deviate from this will alter the nominal dimension ∅ (see Chapter 8)

Guideline values for solid drilling: pages 90-91 / alternative inserts: page 115.

KOMET KUB Trigon®

Insert Drill with ABS® Connection, R.H. cutting

Ø 0.562 – 1.750 inch (Ø 14 – 44 mm)

Guideline values for solid drilling						v_c	Max. feed f in/rev (mm/rev)						
							2×D						
Material group		Strength Rm (lbf/in²)	Hardness HB	Material	Material example, material code AISI / SAE	Cutting speed v_c ft/min (m/min)	Ø 0.562 – 0.686 (Ø 14 – 16.9)	Ø 0.687 – 0.811 (Ø 17 – 19.9)	Ø 0.812 – 0.984 (Ø 20 – 24.9)	Ø 0.985 – 1.186 (Ø 25 – 29.9)	Ø 1.187 – 1.468 (Ø 30 – 36.9)	Ø 1.469 – 1.624 (Ø 37 – 40.9)	Ø 1.625 – 1.750 (Ø 41 – 44.0)
P	1.0	≤72500		non-alloy steels	A570.36 1213 A573.81	980 (300)	0.003 (0.08)	0.004 (0.10)	0.004 (0.10)	0.005 (0.12)	0.005 (0.12)	0.005 (0.12)	0.005 (0.12)
P	2.0	72500-130000		non-alloy / low alloy steels	5120 1055 5115	820 (250)	0.002 (0.06)	0.003 (0.08)	0.005 (0.12)	0.006 (0.14)	0.006 (0.14)	0.006 (0.14)	0.006 (0.16)
P	2.1	<72500		lead alloys	12L13	980 (300)	0.003 (0.08)	0.004 (0.10)	0.005 (0.12)	0.006 (0.14)	0.006 (0.16)	0.006 (0.16)	0.008 (0.20)
P	3.0	>130000		non alloy / low alloy steels: heat resistant structural, heat treated, nitride and tools steels	4140 1064	660 (200)	0.002 (0.06)	0.003 (0.08)	0.004 (0.10)	0.006 (0.14)	0.006 (0.16)	0.006 (0.16)	0.006 (0.16)
P	4.0	>130000		high alloy steels	H13 H21	590 (180)	0.002 (0.06)	0.003 (0.08)	0.004 (0.10)	0.005 (0.12)	0.005 (0.12)	0.005 (0.12)	0.006 (0.14)
P	4.1			HSS		260 (80)	0.001 (0.04)	0.002 (0.06)	0.003 (0.08)	0.004 (0.10)	–	–	–
S	5.0		250	special alloys: Inconel, Hastelloy, Nimonic, stc.	Inconel® 718 Nimonic® 80A	110 (60)	0.001 (0.04)	0.002 (0.06)	0.003 (0.08)	0.004 (0.10)	0.004 (0.10)	0.004 (0.10)	0.004 (0.10)
S	5.1	58000		titanium, titanium alloys	AMS R54520	260 (80)	0.002 (0.06)	0.003 (0.08)	0.004 (0.10)	0.005 (0.12)	0.004 (0.10)	0.005 (0.12)	0.005 (0.12)
M	6.0	≤87000		stainless steels	304L 316	590 (180)	0.002 (0.06)	0.003 (0.08)	0.004 (0.10)	0.006 (0.14)	0.006 (0.14)	0.006 (0.14)	0.006 (0.14)
M	6.1	<130000		stainless steels	630	520 (160)	0.002 (0.06)	0.002 (0.06)	0.003 (0.08)	0.005 (0.12)	0.005 (0.12)	0.005 (0.12)	0.006 (0.14)
M	7.0	>130000		stainless / fireproof steels	420 403	520 (160)	0.002 (0.06)	0.002 (0.06)	0.003 (0.08)	0.005 (0.12)	0.005 (0.12)	0.005 (0.12)	0.005 (0.12)
K	8.0		180	gray cast iron	No 35 B No 50 B	660 (200)	0.004 (0.10)	0.005 (0.12)	0.006 (0.14)	0.008 (0.20)	0.008 (0.20)	0.008 (0.20)	0.010 (0.25)
K	8.1		250	alloy gray cast iron	A436 Type 2	520 (160)	0.003 (0.08)	0.003 (0.08)	0.004 (0.10)	0.006 (0.14)	0.006 (0.14)	0.006 (0.16)	0.007 (0.18)
K	9.0	≤87000	130	spheroidal graphite cast iron, ferritic	60-40-18	590 (180)	0.003 (0.08)	0.004 (0.10)	0.006 (0.14)	0.008 (0.20)	0.008 (0.20)	0.008 (0.20)	0.010 (0.25)
K	9.1		230	spheroidal graphite cast iron, ferritic / perlitic	80-55-06	520 (160)	0.003 (0.08)	0.004 (0.10)	0.006 (0.14)	0.008 (0.20)	0.008 (0.20)	0.008 (0.20)	0.010 (0.25)
K	10.0	>87000	250	spheroidal graphite cast iron, perlitic malleable iron	100-70-03 70003	460 (140)	0.004 (0.10)	0.005 (0.12)	0.006 (0.16)	0.010 (0.25)	0.006 (0.16)	0.007 (0.18)	0.007 (0.18)
K	10.1		200	alloyed spheroidal graphite cast iron	A43D2	460 (140)	0.003 (0.08)	0.004 (0.10)	0.006 (0.14)	0.008 (0.20)	0.008 (0.20)	0.008 (0.20)	0.010 (0.25)
K	10.2		300	vermicular cast iron		390 (120)	0.003 (0.08)	0.004 (0.10)	0.006 (0.14)	0.006 (0.16)	0.006 (0.16)	0.006 (0.16)	0.008 (0.20)
N	12.0		90	copper alloy, brass, lead-alloy bronze, lead bronze: good cut	UNS C36000	980 (30)	0.002 (0.05)	0.003 (0.08)	0.005 (0.12)	0.006 (0.16)	0.006 (0.16)	0.007 (0.18)	0.008 (0.20)
N	12.1		100	copper alloy, brass, bronze: average cut		1310 (400)	0.002 (0.05)	0.003 (0.08)	0.003 (0.08)	0.004 (0.10)	0.004 (0.10)	0.004 (0.10)	0.005 (0.12)
N	13.0		60	wrought aluminium alloys	GD-AlSi12	1970 (600)	0.002 (0.05)	0.003 (0.08)	0.003 (0.08)	0.004 (0.10)	0.004 (0.10)	0.005 (0.12)	0.005 (0.12)
N	13.1		75	cast alum. alloy: Si-content <10% magnesium alloy		980 (300)	0.004 (0.10)	0.005 (0.12)	0.006 (0.14)	0.007 (0.18)	0.007 (0.18)	0.008 (0.20)	0.008 (0.20)
N	14.0		100	cast alum.alloy: Si-content >10%	A360.2	820 (250)	0.004 (0.10)	0.005 (0.12)	0.006 (0.14)	0.008 (0.20)	0.008 (0.20)	0.008 (0.20)	0.010 (0.25)
H	15.0	203000		hardened steels < 45 HRC		260 (80)	0.002 (0.05)	0.002 (0.05)	0.003 (0.08)	0.004 (0.10)	0.004 (0.10)	0.005 (0.12)	0.005 (0.12)
H	16.0	261000		hardened steels > 45 HRC		130 (40)	0.002 (0.05)	0.003 (0.08)	0.003 (0.08)	0.004 (0.10)	0.004 (0.10)	0.004 (0.10)	0.004 (0.10)

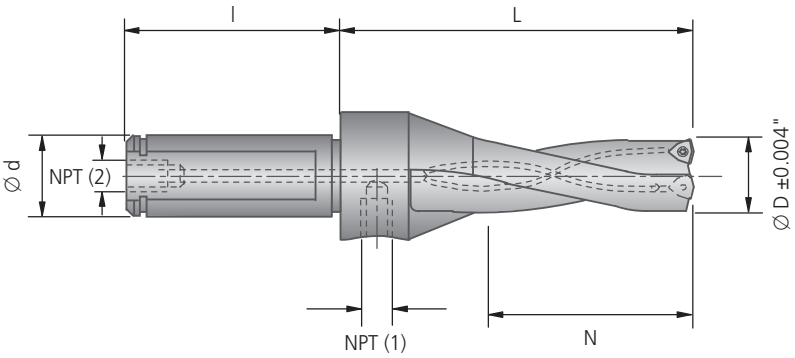
Cutting values shown are maximum values relating to the basic recommendations for cutting materials given.

Patent applied for inside and outside Germany (ABS), EP 883 455 and other patents (KUB Trigon)

Max. feed f (mm/rev)														
	3×D							4×D						
	Ø 0.562 – 0.686 (Ø 14 – 16.9)	Ø 0.687 – 0.811 (Ø 17 – 19.9)	Ø 0.812 – 0.984 (Ø 20 – 24.9)	Ø 0.985 – 1.186 (Ø 25 – 29.9)	Ø 1.187 – 1.468 (Ø 30 – 36.9)	Ø 1.469 – 1.624 (Ø 37 – 40.9)	Ø 1.625 – 1.750 (Ø 41 – 44.0)	Ø 0.562 – 0.686 (Ø 14 – 16.9)	Ø 0.687 – 0.811 (Ø 17 – 19.9)	Ø 0.812 – 0.984 (Ø 20 – 24.9)	Ø 0.985 – 1.186 (Ø 25 – 29.9)	Ø 1.187 – 1.468 (Ø 30 – 36.9)	Ø 1.469 – 1.624 (Ø 37 – 40.9)	Ø 1.625 – 1.750 (Ø 41 – 44.0)
	0.003 (0.08)	0.004 (0.10)	0.004 (0.10)	0.005 (0.12)	0.005 (0.12)	0.005 (0.12)	0.005 (0.12)	0.002 (0.06)	0.003 (0.08)	0.003 (0.08)	0.004 (0.10)	0.004 (0.10)	0.004 (0.10)	0.004 (0.10)
	0.002 (0.06)	0.003 (0.08)	0.005 (0.12)	0.006 (0.14)	0.006 (0.14)	0.006 (0.14)	0.006 (0.16)	0.001 (0.04)	0.002 (0.06)	0.004 (0.10)	0.005 (0.12)	0.005 (0.12)	0.005 (0.12)	0.006 (0.14)
	0.003 (0.08)	0.004 (0.10)	0.005 (0.12)	0.006 (0.14)	0.006 (0.16)	0.006 (0.16)	0.008 (0.20)	0.002 (0.06)	0.003 (0.08)	0.004 (0.10)	0.005 (0.12)	0.006 (0.14)	0.006 (0.14)	0.007 (0.18)
	0.002 (0.06)	0.003 (0.08)	0.004 (0.10)	0.006 (0.14)	0.006 (0.16)	0.006 (0.16)	0.006 (0.16)	0.001 (0.04)	0.002 (0.06)	0.003 (0.08)	0.005 (0.12)	0.006 (0.14)	0.006 (0.14)	0.006 (0.14)
	0.002 (0.06)	0.003 (0.08)	0.004 (0.10)	0.005 (0.12)	0.005 (0.12)	0.005 (0.12)	0.006 (0.14)	0.001 (0.04)	0.002 (0.06)	0.003 (0.08)	0.004 (0.10)	0.004 (0.10)	0.004 (0.10)	0.005 (0.12)
	0.001 (0.04)	0.002 (0.06)	0.003 (0.08)	0.004 (0.10)	–	–	–	0.001 (0.02)	0.001 (0.04)	0.002 (0.06)	0.003 (0.08)	–	–	–
	0.001 (0.04)	0.002 (0.06)	0.003 (0.08)	0.004 (0.10)	0.004 (0.10)	0.004 (0.10)	0.004 (0.10)	0.001 (0.02)	0.001 (0.04)	0.002 (0.06)	0.003 (0.08)	0.003 (0.08)	0.003 (0.08)	0.003 (0.08)
	0.002 (0.06)	0.003 (0.08)	0.004 (0.10)	0.005 (0.12)	0.004 (0.10)	0.005 (0.12)	0.005 (0.12)	0.001 (0.04)	0.002 (0.06)	0.003 (0.08)	0.004 (0.10)	0.003 (0.08)	0.004 (0.10)	0.004 (0.10)
	0.002 (0.06)	0.003 (0.08)	0.004 (0.10)	0.006 (0.14)	0.006 (0.14)	0.006 (0.14)	0.006 (0.14)	0.001 (0.04)	0.002 (0.06)	0.003 (0.08)	0.005 (0.12)	0.005 (0.12)	0.005 (0.12)	0.005 (0.12)
	0.002 (0.06)	0.002 (0.06)	0.003 (0.08)	0.005 (0.12)	0.005 (0.12)	0.005 (0.12)	0.006 (0.14)	0.001 (0.04)	0.001 (0.04)	0.002 (0.06)	0.004 (0.10)	0.004 (0.10)	0.004 (0.10)	0.005 (0.12)
	0.002 (0.06)	0.002 (0.06)	0.003 (0.08)	0.005 (0.12)	0.005 (0.12)	0.005 (0.12)	0.005 (0.12)	0.001 (0.04)	0.001 (0.04)	0.002 (0.06)	0.004 (0.10)	0.004 (0.10)	0.004 (0.10)	0.004 (0.10)
	0.004 (0.10)	0.005 (0.12)	0.006 (0.14)	0.008 (0.20)	0.008 (0.20)	0.008 (0.20)	0.010 (0.25)	0.003 (0.08)	0.004 (0.10)	0.005 (0.12)	0.007 (0.18)	0.007 (0.18)	0.007 (0.18)	0.009 (0.23)
	0.003 (0.08)	0.003 (0.08)	0.004 (0.10)	0.006 (0.14)	0.006 (0.14)	0.006 (0.16)	0.007 (0.18)	0.002 (0.06)	0.002 (0.06)	0.003 (0.08)	0.005 (0.12)	0.005 (0.12)	0.006 (0.14)	0.006 (0.16)
	0.003 (0.08)	0.004 (0.10)	0.006 (0.14)	0.008 (0.20)	0.008 (0.20)	0.008 (0.20)	0.010 (0.25)	0.002 (0.06)	0.003 (0.08)	0.005 (0.12)	0.007 (0.18)	0.007 (0.18)	0.007 (0.18)	0.009 (0.23)
	0.003 (0.08)	0.004 (0.10)	0.006 (0.14)	0.008 (0.20)	0.008 (0.20)	0.008 (0.20)	0.010 (0.25)	0.002 (0.06)	0.003 (0.08)	0.005 (0.12)	0.007 (0.18)	0.007 (0.18)	0.007 (0.18)	0.009 (0.23)
	0.004 (0.10)	0.005 (0.12)	0.006 (0.16)	0.010 (0.25)	0.010 (0.25)	0.010 (0.25)	0.010 (0.25)	0.003 (0.08)	0.004 (0.10)	0.006 (0.14)	0.009 (0.23)	0.009 (0.23)	0.009 (0.23)	0.009 (0.23)
	0.003 (0.08)	0.004 (0.10)	0.006 (0.14)	0.008 (0.20)	0.008 (0.20)	0.008 (0.20)	0.010 (0.25)	0.002 (0.06)	0.003 (0.08)	0.005 (0.12)	0.007 (0.18)	0.007 (0.18)	0.007 (0.18)	0.009 (0.23)
	0.003 (0.08)	0.004 (0.10)	0.006 (0.14)	0.006 (0.16)	0.006 (0.16)	0.006 (0.16)	0.008 (0.20)	0.002 (0.06)	0.003 (0.08)	0.005 (0.12)	0.006 (0.14)	0.006 (0.14)	0.006 (0.14)	0.007 (0.18)
	0.002 (0.05)	0.003 (0.08)	0.005 (0.12)	0.006 (0.16)	0.006 (0.16)	0.007 (0.18)	0.008 (0.20)	0.001 (0.03)	0.002 (0.06)	0.004 (0.10)	0.006 (0.14)	0.006 (0.14)	0.006 (0.16)	0.007 (0.18)
	0.002 (0.05)	0.003 (0.08)	0.003 (0.08)	0.004 (0.10)	0.004 (0.10)	0.004 (0.10)	0.005 (0.12)	0.001 (0.03)	0.002 (0.06)	0.002 (0.06)	0.003 (0.08)	0.003 (0.08)	0.003 (0.08)	0.004 (0.10)
	0.002 (0.05)	0.003 (0.08)	0.003 (0.08)	0.004 (0.10)	0.004 (0.10)	0.005 (0.12)	0.005 (0.12)	0.001 (0.03)	0.002 (0.06)	0.002 (0.06)	0.003 (0.08)	0.003 (0.08)	0.004 (0.10)	0.004 (0.10)
	0.004 (0.10)	0.005 (0.12)	0.006 (0.14)	0.007 (0.18)	0.007 (0.18)	0.008 (0.20)	0.008 (0.20)	0.003 (0.08)	0.004 (0.10)	0.005 (0.12)	0.006 (0.16)	0.006 (0.16)	0.007 (0.18)	0.007 (0.18)
	0.004 (0.10)	0.005 (0.12)	0.006 (0.14)	0.008 (0.20)	0.008 (0.20)	0.008 (0.20)	0.010 (0.25)	0.003 (0.08)	0.004 (0.10)	0.005 (0.12)	0.007 (0.18)	0.007 (0.18)	0.007 (0.18)	0.009 (0.23)
	0.002 (0.05)	0.002 (0.05)	0.003 (0.08)	0.004 (0.10)	0.004 (0.10)	0.005 (0.12)	0.005 (0.12)	0.001 (0.03)	0.001 (0.03)	0.002 (0.06)	0.003 (0.08)	0.003 (0.08)	0.004 (0.10)	0.004 (0.10)
	0.002 (0.05)	0.003 (0.08)	0.003 (0.08)	0.004 (0.10)	0.004 (0.10)	0.004 (0.10)	0.004 (0.10)	0.001 (0.03)	0.002 (0.06)	0.002 (0.06)	0.003 (0.08)	0.003 (0.08)	0.003 (0.08)	0.003 (0.08)

Important: See chapter 8 for more application details and safety notes!

Insert Drill with Cylindrical Shank (Combination Shank), R.H. cutting



Ø D	max. diameter with offset	Cylindrical shank Ø d×l	2.5×D Order No.	N	L	NPT (1&2)	4×D Order No.	N	L	NPT (1&2)
0.562	0.602	0.750 X 2.250	**V57 41432**	1.405	2.875	1/8	**V57 61432**	2.248	3.625	1/8
0.593	0.633	0.750 X 2.250	**V57 41510**	1.483	2.875		**V57 61510**	2.372	3.750	
0.625	0.665	0.750 X 2.250	**V57 41590**	1.563	2.875		**V57 61590**	2.500	3.878	
0.687	0.727	0.750 X 2.250	**V57 41750**	1.718	3.125		**V57 61750**	2.748	4.126	
0.703	0.743	0.750 X 2.250	**V57 41790**	1.758	3.125		**V57 61790**	2.812	4.189	
0.750	0.790	0.750 X 2.250	**V57 41910**	1.875	3.125		**V57 61910**	3.000	4.378	

Any **intermediate dimensions** from ∅ 0.562" – 0.750" are available on request.

Supply includes:
KUB Trigon ® drill with assembly parts. Please order insert and accessories separately.

L / D	solid drilling	blind hole	forge/casting skin, interface	angled	convex	cross bore	centering bore	chamber	stack plate drilling	rough boring	adjustable
2.5×D	●	●	●	●	●	◐	◐	●	✕	◐	●
4×D	●	●	◐	○	○	○	○	○	✕	✕	◐

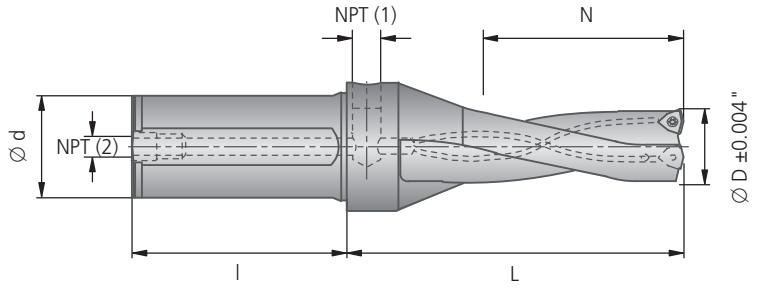
● very good ◐ good ○ possible: see technical notes, pages 138-140 ✕ not possible

Basic recommendation					Assembly parts		Accessories
Insert -01 -11			for workpiece material		Clamping screw	Starting torque	Screwdriver
Order No. ▽▽ Size	ISO-Code	Qty	P M K N S H		Order No. Description		Order No. Description
W29 10010.048425 **W29 10010.047930** **W29 10010.0462** **W29 10110.0477**	WOEX030204-01 BK8425 WOEX030204-01 BK7930 WOEX030204-01 BK62 WOEX030204-11 BK77	2			**N00 56041** S/M2×4-6IP	5.5 in-lbs	**L05 00810** 6IP

Note regarding insert radius:
The nominal dimension ∅ is only achieved with the appropriate standardized insert radius.
Insert radii which deviate from this will alter the nominal dimension ∅ (see Chapter 8)

Guideline values for solid drilling: pages 98 / alternative inserts: page 99.

Insert Drill with Cylindrical Shank (Combination Shank), R.H. cutting



Ø D	max. diameter with offset	Cylindrical shank Ø d×l	2.5×D Order No.	N	L	NPT (1&2)	4×D Order No.	N	L	NPT (1&2)
0.562	0.602	1.250X3.250	**V57 51434**	1.405	2.875		**V57 71434**	2.248	3.625	
0.593	0.633	1.250X3.250	**V57 51512**	1.483	2.875		**V57 71512**	2.372	3.750	
0.625	0.665	1.250X3.250	**V57 51592**	1.563	2.875		**V57 71592**	2.500	3.878	
0.656	0.696	1.250X3.250	**V57 51672**	1.718	3.125		**V57 71672**	2.624	4.002	
0.687	0.727	1.250X3.250	**V57 51752**	1.718	3.125	1/8	**V57 71752**	2.748	4.126	1/8
0.703	0.743	1.250X3.250	**V57 51792**	1.758	3.125		**V57 71792**	2.812	4.189	
0.750	0.790	1.250X3.250	**V57 51912**	1.625	3.125		**V57 71912**	3.000	4.378	
0.765	0.805	1.250X3.250	**V57 51942**	1.625	3.125		**V57 71942**	3.060	4.438	
0.781	0.821	1.250X3.250	**V57 51982**	1.625	3.125		**V57 71982**	3.124	4.502	
0.812	0.852	1.250X3.250	**V57 52062**	1.625	3.125		**V57 72062**	3.248	4.626	
0.828	0.868	1.250X3.250	**V57 52102**	2.000	3.625		**V57 72102**	3.312	4.690	
0.843	0.883	1.250X3.250	**V57 52142**	2.000	3.625	1/8	**V57 72142**	3.372	4.750	1/8
0.875	0.915	1.250X3.250	**V57 52222**	2.000	3.625		**V57 72222**	3.500	4.878	
0.906	0.946	1.250X3.250	**V57 52302**	2.000	3.625		**V57 72302**	3.624	5.002	
0.937	0.977	1.250X3.250	**V57 52382**	2.000	3.625		**V57 72382**	3.748	5.126	

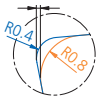
For other diameters see following page.
Any **intermediate dimensions** from ∅ 0.562" – 1.750" are available on request.

Supply includes: KUB Trigon ® drill with assembly parts. Please order insert and accessories separately.

L / D	solid drilling	blind hole	forge/casting skin, interface	angled	convex	cross bore	centering bore	chamber	stack plate drilling	rough boring	adjustable
2.5×D	●	●	●	●	●	◐	◐	●	✕	◐	●
4×D	●	●	◐	○	○	○	○	○	✕	✕	◐

● very good ◐ good ○ possible: see technical notes, pages138-140 ✕ not possible

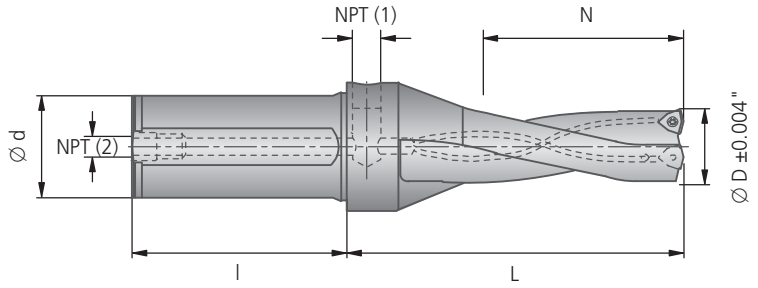
Basic recommendation				Assembly parts		Accessories
Insert -01 -11			for workpiece material	Clamping screw	Starting torque	Screwdriver
Order No. ▽▽ Size	ISO-Code	Qty	P M K N S H	Order No. Description		Order No. Description
W29 10010.048425 **W29 10010.047930** **W29 10010.0462** **W29 10110.0477**	WOEX030204-01 BK8425 WOEX030204-01 BK7930 WOEX030204-01 BK62 WOEX030204-11 BK77	2	● ● ● ● ● ○	**N00 56041** S/M2×4-6IP	5.5 in-lbs	**L05 00810** 6IP
W29 18010.048425 **W29 18010.047930** **W29 18010.0462** **W29 18110.0477**	WOEX040304-01 BK8425 WOEX040304-01 BK7930 WOEX040304-01 BK62 WOEX040304-11 BK77	2	● ● ● ● ● ○	N00 57553 S/M2.2×5.5-6IP	8.9 in-lbs	L05 00810 6IP



Note regarding insert radius:
The nominal dimension ∅ is only achieved with the appropriate standardized insert radius.
Insert radii which deviate from this will alter the nominal dimension ∅ (see Chapter 8)

GGuideline values for solid drilling: pages 98 / alternative inserts: page 99.

Insert Drill with Cylindrical Shank (Combination Shank), R.H. cutting



Ø D	max. diameter with offset	Cylindrical shank Ø d×l	2.5×D Order No.	N	L	NPT (1&2)	4×D Order No.	N	L	NPT (1&2)
0.985	1.025	1.250X3.250	V57 52502	2.000	3.625		V57 72502	3.940	5.318	
1.000	1.040	1.250X3.250	V57 52542	2.000	3.625		V57 72542	4.000	5.378	
1.031	1.111	1.250X3.250	V57 52622	2.750	4.312		V57 72622	4.124	5.502	
1.062	1.142	1.250X3.250	V57 52702	2.750	4.312		V57 72702	4.248	5.626	
1.109	1.229	1.250X3.250	V57 52822	2.750	4.312		V57 72822	4.436	5.814	
1.125	1.245	1.250X3.250	V57 52862	2.750	4.312		V57 72862	4.500	5.878	
1.156	1.276	1.250X3.250	V57 52942	3.250	5.000		V57 72942	4.624	6.002	
1.187	1.287	1.250X3.250	V57 53022	3.250	5.000	1/8	V57 73022	4.748	6.339	1/8
1.218	1.318	1.250X3.250	V57 53092	3.250	5.000		V57 73092	4.872	6.463	
1.250	1.331	1.250X3.250	V57 53182	3.250	5.000		V57 73182	5.000	6.591	
1.281	1.361	1.250X3.250	V57 53252	3.250	5.000		V57 73252	5.124	6.715	
1.312	1.392	1.250X3.250	V57 53332	3.250	5.000		V57 73332	5.248	6.839	
1.328	1.408	1.250X3.250	V57 53372	3.250	5.000		V57 73372	5.312	6.887	
1.375	1.415	1.250X3.250	V57 53492	3.250	5.000		V57 73492	5.500	7.091	
1.406	1.446	1.250X3.250	V57 53572	3.250	5.000		V57 73572	5.624	7.199	
1.437	1.477	1.250X3.250	V57 53652	3.250	5.000		V57 73652	5.748	7.339	
1.469	1.589	1.250X3.250	V57 53732	3.500	5.118		V57 73732	5.876	7.845	
1.500	1.620	1.250X3.250	V57 53812	3.500	5.118		V57 73812	6.000	7.969	
1.531	1.651	1.250X3.250	V57 53892	3.500	5.118	1/8	V57 73892	6.124	8.093	1/8
1.562	1.682	1.250X3.250	V57 53972	3.500	5.118		V57 73972	6.248	8.217	
1.625	1.745	1.250X3.250	V57 54132	3.500	5.118		V57 74132	6.500	8.469	
1.656	1.772	1.500X5.000	V57 54212	4.000	5.709		V57 74212	6.624	8.593	
1.687	1.772	1.500X5.000	V57 54262	4.000	5.709	1/4	V57 74292	6.748	8.717	1/4
1.750	1.772	1.500X5.000	V57 54452	4.000	5.709		V57 74452	7.000	8.969	

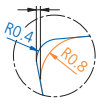
Any **intermediate dimensions** from ∅ 0.562" – 1.750" are available on request.

Supply includes:
KUB Trigon ® drill with assembly parts. Please order insert and accessories separately.

L / D	solid drilling	blind hole	forge/casting skin, interface	angled	convex	cross bore	centering bore	chamber	stack plate drilling	rough boring	adjustable
2.5×D	●	●	●	●	●	◐	◐	●	✕	◐	●
4×D	●	●	◐	○	○	○	○	○	✕	✕	◐

● very good ◐ good ○ possible: see technical notes, pages 138-140 ✕ not possible

Basic recommendation				Assembly parts		Accessories
Insert -01 -11			for workpiece material	Clamping screw	Starting torque	Screwdriver
Order No. ▽▽ Size	ISO-Code	Qty	P M K N S H	Order No. Description		Order No. Description
W29 24010.048425 **W29 24010.047930** **W29 24010.0462** **W29 24110.0477**	WOEX05T304-01 BK8425 WOEX05T304-01 BK7930 WOEX05T304-01 BK62 WOEX05T304-11 BK77	2	● ● ● ● ● ○	N00 57511 S/M2.5×7.2-8IP	11.0 in-lbs	L05 00830 8IP
W29 34010.048425 **W29 34010.047930** **W29 34010.0462** **W29 34110.0477**	WOEX06T304-01 BK8425 WOEX06T304-01 BK7930 WOEX06T304-01 BK62 WOEX06T304-11 BK77	2	● ● ● ● ● ○	N00 57521 S/M3.5×7.3-10IP	25.0 in-lbs	L05 00850 10IP



Note regarding insert radius:
The nominal dimension ∅ is only achieved with the appropriate standardized insert radius.
Insert radii which deviate from this will alter the nominal dimension ∅ (see Chapter 8)

Guideline values for solid drilling: pages 98 / alternative inserts: page 99.

Insert Drill with Cylindrical Shank (Combination Shank), R.H. cutting

Guideline values for solid drilling						v_c	Max. f (in/rev)												
							2.5×D							4×D					
Material group		Strength Rm (lbf/in²)	Hardness HB	Material	Material example, material code AISI / SAE	Cutting speed v_c (ft/min)	Ø 0.562 – 0.686	Ø 0.687 – 0.811	Ø 0.812 – 0.984	Ø 0.985 – 1.186	Ø 1.187 – 1.468	Ø 1.469 – 1.624	Ø 1.625 – 1.750	Ø 0.562 – 0.686	Ø 0.687 – 0.811	Ø 0.812 – 0.984	Ø 0.985 – 1.186	Ø 1.187 – 1.468	Ø 1.469 – 1.624	Ø 1.625 – 1.750
P	1.0	≤72500		Unalloyed steel	A570.36 1213 A573.81	980	0.003	0.004	0.004	0.005	0.005	0.005	0.005	0.003	0.003	0.004	0.004	0.004	0.005	0.005
	2.0	72500-130000		Low alloy steel	5120 1055 5115	820	0.003	0.004	0.005	0.006	0.006	0.006	0.006	0.002	0.002	0.004	0.005	0.005	0.006	0.006
	2.1	<72500		Lead alloy	12L13	980	0.003	0.004	0.005	0.006	0.006	0.006	0.008	0.002	0.003	0.004	0.005	0.006	0.006	0.008
	3.0	>130000		High alloy steel heat resistant structural, heat treated, nitride steels	4140 1064	660	0.002	0.003	0.004	0.006	0.006	0.006	0.006	0.002	0.002	0.003	0.005	0.006	0.006	0.006
	4.0	>130000		Tool steels	H13 H21	590	0.002	0.003	0.004	0.004	0.005	0.005	0.006	0.002	0.003	0.003	0.004	0.004	0.005	0.006
	4.1			HSS		260	0.002	0.002	0.003	0.004	0.004	0.005	0.005	0.001	0.002	0.003	0.003	0.004	0.005	0.005
S	5.0		250	Special alloy: Inconel, Hastelloy, Nimonic, etc.	Inconel® 718 Nimonic® 80A	110	0.002	0.002	0.003	0.004	0.004	0.004	0.004	0.001	0.002	0.003	0.003	0.004	0.004	0.004
	5.1	58000		titanium, titanium alloys	AMS R54520	260	0.002	0.003	0.004	0.004	0.005	0.005	0.005	0.002	0.002	0.003	0.004	0.004	0.005	0.005
M	6.0	≤87000		Stainless steel: austenitic 300 series	304L 316	590	0.002	0.003	0.004	0.006	0.006	0.006	0.006	0.002	0.002	0.003	0.005	0.005	0.006	0.006
	6.1	<130000		Stainless steels	630	520	0.002	0.002	0.003	0.005	0.005	0.005	0.006	0.002	0.002	0.002	0.004	0.004	0.005	0.006
	7.0	>130000		Stainless steel: martensitic/ferritic 400 series	420 403	520	0.002	0.002	0.003	0.005	0.005	0.005	0.005	0.002	0.002	0.002	0.004	0.004	0.005	0.005
K	8.0		180	Grey cast iron	No 35 B No 50 B	660	0.004	0.005	0.006	0.008	0.008	0.008	0.010	0.003	0.004	0.005	0.007	0.007	0.008	0.010
	8.1		250	Alloy grey cast iron	A436 Type 2	520	0.003	0.003	0.004	0.006	0.006	0.006	0.007	0.002	0.002	0.003	0.005	0.005	0.006	0.007
	9.0	≤87000	130	Nodular cast iron ferritic	60-40-18	590	0.003	0.004	0.006	0.008	0.008	0.008	0.010	0.002	0.003	0.005	0.007	0.007	0.008	0.010
	9.1		230	Nodular cast iron ferritic / pearlitic	80-55-06	520	0.003	0.004	0.006	0.008	0.008	0.008	0.010	0.002	0.003	0.005	0.007	0.007	0.008	0.010
	10.0	>87000	250	Nodular cast iron pearlitic Malleable cast iron	100-70-03 70003	460	0.004	0.005	0.006	0.010	0.010	0.010	0.010	0.003	0.004	0.006	0.009	0.009	0.010	0.010
	10.1		200	Alloyed nodular cast iron	A43D2	460	0.003	0.004	0.006	0.008	0.008	0.008	0.010	0.002	0.003	0.005	0.007	0.007	0.008	0.010
	10.2		300	Vermicular cast iron		390	0.003	0.004	0.006	0.006	0.006	0.006	0.010	0.002	0.003	0.005	0.006	0.006	0.006	0.008
N	12.0		90	Copper alloy, brass, Lead alloy, Bronze, Lead bronze: good cut	UNS C36000	980	0.002	0.003	0.005	0.006	0.006	0.007	0.008	0.002	0.002	0.004	0.006	0.006	0.007	0.008
	12.1		100	Copper alloy, Brass, Bronze: average cut		1310	0.002	0.003	0.003	0.004	0.004	0.004	0.005	0.001	0.002	0.002	0.003	0.004	0.004	0.005
	13.0		60	Wrought aluminum alloy	GD-AlSi12	1970	0.002	0.003	0.003	0.004	0.004	0.005	0.005	0.001	0.002	0.002	0.003	0.004	0.005	0.005
	13.1		75	Aluminum alloy: Si content <10% Magnesium alloy		980	0.004	0.005	0.006	0.007	0.007	0.008	0.008	0.003	0.004	0.005	0.006	0.007	0.008	0.008
	14.0		100	Aluminum alloy: Si content >10%	A360.2	820	0.004	0.005	0.006	0.008	0.008	0.008	0.010	0.003	0.004	0.005	0.007	0.007	0.008	0.010
H	15.0	203000		Hardened steels < 45 HRC		260	0.002	0.002	0.003	0.004	0.004	0.005	0.005	0.001	0.001	0.002	0.003	0.004	0.005	0.005
	16.0	261000		Hardened steels > 45 HRC		130	0.002	0.003	0.003	0.004	0.004	0.004	0.004	0.001	0.002	0.002	0.003	0.004	0.004	0.004

Cutting values shown are maximum values relating to the basic recommendations for cutting materials given.
EP 883 455 and other patents (KUB Trigon)

Alternative Inserts

	ØD	Order No. ▽▽ Size	ISO-Code	P	M	K	N	S	H
		Insert  -03 -13		for workpiece material					
for better chip control	0.562 – 0.781	**W29 10130.048425**	WOEX 030204-13 BK8425	◐					
		W29 10130.047930	WOEX 030204-13 BK7930		◑				
	0.812 – 0.937	**W29 18130.048425**	WOEX 040304-13 BK8425	◐					
		W29 18130.047930	WOEX 040304-13 BK7930		◑				
	0.985 – 1.437	**W29 24130.048425**	WOEX 05T304-13 BK8425	◐					
		W29 24030.046425	WOEX 05T304-03 BK6425 ⚠	◐	◑				
		W29 24130.047930	WOEX 05T304-13 BK7930		◑			◐	
	1.469 – 1.750	**W29 34130.048425**	WOEX 06T304-13 BK8425	◐					
		W29 34030.046425	WOEX 06T304-03 BK6425 ⚠	◐	◑				
		W29 34130.047930	WOEX 06T304-13 BK7930		◑			◐	

⚠ Only use this insert with KUB Trigon®
as an external cutting edge:
WOEX ... -03 (Geometry 03)
WOEX ... -01 (Geometry 01) in BK6115
WOEX ... -01 (Geometry 01) in BK6420

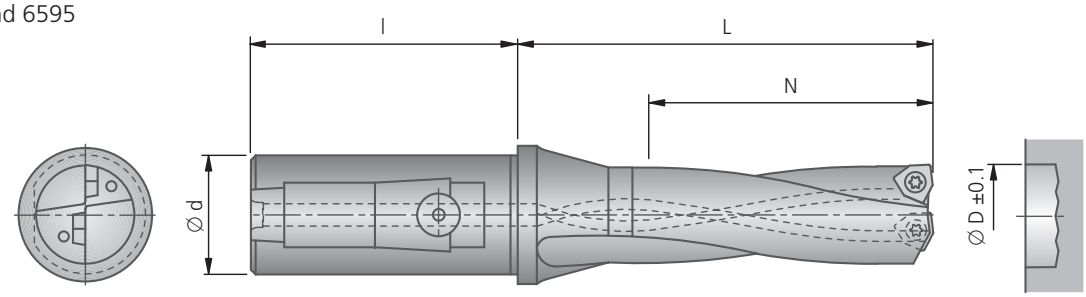
Alternative Inserts

	ØD	Order No. ▽▽ Size	ISO-Code	P	M	K	N	S	H
		Insert  -00 -01 -11		for workpiece material					
for higher cutting speed	0.562 – 0.781	W29 10010.0472	WOEX 030204-01 BK72	◐					
		W29 10110.0450	WOEX 030204-11 BK50				◐		
	0.812 – 0.937	W29 18010.0472	WOEX 040304-01 BK72	◐					
		W29 18110.0450	WOEX 040304-11 BK50				◐		
	0.985 – 1.437	W29 24010.0472	WOEX 05T304-01 BK72	◐					
		W29 24110.0450	WOEX 05T304-11 BK50				◐		
	1.469 – 1.750	W29 34010.0472	WOEX 06T304-01 BK72	◐					
		W29 34110.0450	WOEX 06T304-11 BK50				◐		
for greater strength	0.562 – 0.781	**W29 10010.047930**	WOEX 030204-01 BK7930	◐				◐	
		W29 10010.0404	WOEX 030204-01 P40	◐	◑			◐	
		W29 10010.0421	WOEX 030204-01 K10			◐			
		W29 10110.0421	WOEX 030204-11 K10				◐		
	0.812 – 0.937	**W29 18010.047930**	WOEX 040304-01 BK7930	◐				◐	
		W29 18010.0404	WOEX 040304-01 P40	◐	◑			◐	
		W29 18010.0421	WOEX 040304-01 K10			◐			
		W29 18110.0421	WOEX 040304-11 K10				◐		
	0.985 – 1.437	**W29 24010.047930**	WOEX 05T304-01 BK7930	◐				◐	
		W29 24010.0404	WOEX 05T304-01 P40	◐	◑			◐	
		W29 24010.0421	WOEX 05T304-01 K10			◐			
		W29 24110.0421	WOEX 05T304-11 K10				◐		
	1.469 – 1.750	**W29 34010.047930**	WOEX 06T304-01 BK7930	◐				◐	
		W29 34010.0404	WOEX 06T304-01 P40	◐	◑			◐	
		W29 34010.0421	WOEX 06T304-01 K10			◐			
		W29 34110.0421	WOEX 06T304-11 K10				◐		

KOMET KUB Trigon ® Ø 12 – 19.5 mm

Insert Drill with Cylindrical Shank (Combination Shank), R.H. cutting

■ cylindrical shank (combination shank) DIN 6535 HE (similar 1835 E) and 6595



Ø D	max. diameter with offset	Cylindrical shank Ø d×l	2×D Order No.	2×D N	2×D L	2×D kg	3×D Order No.	3×D N	3×D L	3×D kg	4×D Order No.	4×D N	4×D L	4×D kg
12.0	13.0	20 × 50	**V43 31202**	24	48	0.17	**V43 71202**	36	60	0.17	–			
12.7	13.7	20 × 50	**V43 31272**	26	50	0.17	**V43 71272**	39	63	0.17	–			
13.0	14.0	20 × 50	**V43 31302**	26	50	0.17	**V43 71302**	39	63	0.18	–			
13.7	14.7	20 × 50	**V43 31372**	28	52	0.17	**V43 71372**	42	66	0.18	–			
14.0	15.0	20 × 50	**V43 31404**	28	52	0.17	**V43 71404**	42	66	0.20	**V43 91404**	56	80	0.22
		25 × 56	–				**V44 71404**	42	66	0.24	–			
15.0	16.0	20 × 50	**V43 31504**	30	54	0.18	**V43 71504**	45	69	0.20	**V43 91504**	60	84	0.20
		25 × 56	–				**V44 71504**	45	69	0.28	–			
15.5	16.5	20 × 50	**V43 31552**	32	56	0.18	**V43 71552**	48	72	0.20	–			
		25 × 56	–				**V44 71552**	48	72	0.28	–			
16.0	17.0	20 × 50	**V43 31602**	32	56	0.19	**V43 71602**	48	72	0.20	**V43 91602**	64	88	0.19
		25 × 56	–				**V44 71602**	48	72	0.28	–			
17.0	18.0	20 × 50	**V43 31702**	34	58	0.19	**V43 71702**	51	75	0.20	**V43 91702**	68	92	0.21
		25 × 56	–				**V44 71702**	51	75	0.29	–			
17.5	18.5	20 × 50	**V43 31752**	36	60	0.20	**V43 71752**	54	78	0.21	–			
		25 × 56	–				**V44 71752**	54	78	0.29	–			
18.0	19.0	20 × 50	**V43 31802**	36	60	0.20	**V43 71802**	54	78	0.21	**V43 91802**	72	96	0.27
		25 × 56	–				**V44 71802**	54	78	0.29	–			
18.5	19.0	20 × 50	**V43 31852**	38	62	0.20	**V43 71852**	57	81	0.22	–			
		25 × 56	–				**V44 71852**	57	81	0.31	–			
19.0	19.5	20 × 50	**V43 31902**	38	62	0.20	**V43 71902**	57	81	0.22	**V43 91902**	76	100	0.28
		25 × 56	–				**V44 71902**	57	81	0.31	–			
19.5	20.0	20 × 50	**V43 31952**	40	64	0.21	**V43 71952**	60	84	0.23	–			
		25 × 56	–				**V44 71952**	60	84	0.34	–			

For other diameters see following page.

Any **intermediate dimensions** from ∅ 12 – 44 mm and **inch dimensions** are available on request.

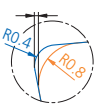
Supply includes:

KUB Trigon ® drill with assembly parts. Please order insert and accessories separately.

L / D	solid drilling	blind hole	forge/casting skin, interface	angled	convex	cross bore	centering bore	chamber	stack plate drilling	rough boring	adjustable
2×D	●	●	●	●	●	●	◐	●	✕	◐	◐
3×D	●	●	◐	◐	◐	◐	◐	◐	✕	○	◐
4×D	●	●	○	○	○	○	○	○	✕	✕	◐

● very good ◐ good ○ possible: see technical notes, pages 138-140 ✕ not possible

Basic recommendation				Assembly parts		Accessories
Insert -01 -11			for workpiece material	Clamping screw	Starting torque	Screwdriver
Order No. ▽▽ Size	ISO-Code	Piece	P M K N S H	Order No. Description		Order No. Description
W29 04010.028425 **W29 04010.0279**	WOEX 020102-01 BK8425 WOEX 020102-01 BK79	2	● ● ● ● ●	**N00 56051** S/M1.8×3.8-5IP	0.38 Nm	**L05 00800** 5IP
W29 10010.048425 **W29 10010.047930** **W29 10010.0462** **W29 10110.0477**	WOEX 030204-01 BK8425 WOEX 030204-01 BK7930 WOEX 030204-01 BK62 WOEX 030204-11 BK77	2	● ● ● ● ● ●	**N00 56041** S/M2×4.3-6IP	0.62 Nm	**L05 00810** 6IP

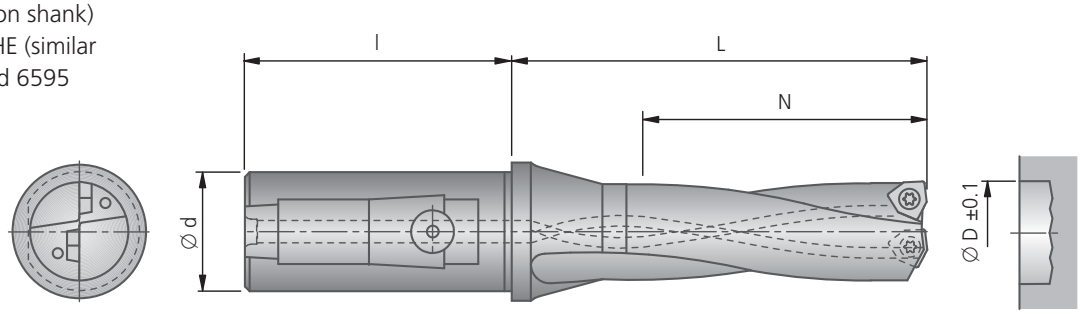


Note re. insert radius:
The nominal dimension ∅ is only achieved with the appropriate standardised insert radius.
Insert radii which deviate from this will alter the nominal dimension ∅ (see Chapter 8)

Guideline values for solid drilling: pages 106-107 / alternative inserts: page 115.

Insert Drill with Cylindrical Shank (Combination Shank), R.H. cutting

■ cylindrical shank (combination shank) DIN 6535 HE (similar 1835 E) and 6595



Ø D	max. diameter with offset	Cylindrical shank Ø d×l	2×D				3×D				4×D			
			Order No.	N	L	kg	Order No.	N	L	kg	Order No.	N	L	kg
20.0	21.0	20 × 50	**V43 32002**	40	64	0.25	**V43 72002**	60	84	0.23	–			
		25 × 56	**V44 32002**	40	64	0.30	**V44 72002**	60	84	0.32	**V44 92002**	80	104	0.34
		32 × 60	–				**V45 72002**	60	84	0.51	–			
21.0	22.0	20 × 50	**V43 32102**	42	66	0.22	**V43 72102**	63	87	0.2	–			
		25 × 56	**V44 32102**	42	66	0.31	**V44 72102**	63	87	0.33	**V44 92102**	84	108	0.36
		32 × 60	–				**V45 72102**	63	87	0.55	–			
22.0	23.0	20 × 50	**V43 32202**	44	68	0.22	**V43 72202**	66	90	0.26	–			
		25 × 56	**V44 32202**	44	68	0.32	**V44 72202**	66	90	0.35	**V44 92202**	88	112	0.38
		32 × 60	–				**V45 72202**	66	90	0.54	–			
22.5	23.5	20 × 50	**V43 32252**	46	70	0.24	**V43 72252**	69	93	0.23	–			
		25 × 56	**V44 32252**	46	70	0.32	**V44 72252**	69	93	0.36	–			
		32 × 60	–				**V45 72252**	69	93	0.56	–			
23.0	24.0	20 × 50	**V43 32302**	46	70	0.24	**V43 72302**	69	93	0.28	–			
		25 × 56	**V44 32302**	46	70	0.33	**V44 72302**	69	93	0.36	**V44 92302**	92	116	0.40
		32 × 60	–				**V45 72302**	69	93	0.56	–			
24.0	25.0	20 × 50	**V43 32402**	48	72	0.25	**V43 72402**	72	96	0.30	–			
		25 × 56	**V44 32402**	48	72	0.34	**V44 72402**	72	96	0.38	**V44 92402**	96	120	0.45
		32 × 60	**V45 32402**	48	72	0.57	**V45 72402**	72	96	0.57	–			
24.5	25.5	20 × 50	**V43 32452**	50	74	0.26	**V43 72452**	75	99	0.31	–			
		25 × 56	**V44 32452**	50	74	0.35	**V44 72452**	75	99	0.4	**V44 92452**	100	124	0.43
		32 × 60	**V45 32452**	50	74	0.54	**V45 72452**	75	99	0.58	–			
25.0	26.0	25 × 56	**V44 32502**	50	74	0.35	**V44 72502**	75	99	0.4	–			
		32 × 60	**V45 32502**	50	74	0.55	**V45 72502**	75	99	0.59	**V45 92502**	100	124	0.63
26.0	28.0	25 × 56	**V44 32602**	52	76	0.37	**V44 72602**	78	102	0.44	–			
		32 × 60	**V45 32602**	52	76	0.56	**V45 72602**	78	102	0.61	**V45 92602**	104	128	0.65
26.5	28.5	25 × 56	**V44 32652**	54	78	0.37	**V44 72652**	81	105	0.43	–			
		32 × 60	**V45 32652**	54	78	0.57	**V45 72652**	81	105	0.62	–			
27.0	30.0	25 × 56	**V44 32702**	54	78	0.40	**V44 72702**	81	105	0.44	–			
		32 × 60	**V45 32702**	54	78	0.57	**V45 72702**	81	105	0.62	**V45 92702**	108	132	0.68
28.0	31.0	25 × 56	**V44 32802**	56	80	0.40	**V44 72802**	84	108	0.45	–			
		32 × 60	**V45 32802**	56	80	0.59	**V45 72802**	84	108	0.65	**V45 92802**	112	136	0.71
28.5	31.5	25 × 56	**V44 32852**	58	82	0.40	**V44 72852**	87	111	0.47	–			
		32 × 60	**V45 32852**	58	82	0.59	**V45 72852**	87	111	0.66	–			
29.0	32.0	25 × 56	**V44 32902**	58	82	0.41	**V44 72902**	87	111	0.48	–			
		32 × 60	**V45 32902**	58	82	0.60	**V45 72902**	87	111	0.68	**V45 92902**	116	140	0.74
29.5	32.5	25 × 56	**V44 32952**	60	84	0.42	**V44 72952**	90	114	0.49	–			
		32 × 60	**V45 32952**	60	84	0.61	**V45 72952**	90	114	0.69	–			

For other diameters see following page.

Any **intermediate dimensions** from ∅ 12 – 44 mm and **inch dimensions** are available on request.

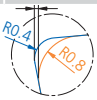
Supply includes: KUB Trigon ® drill with assembly parts. Please order insert and accessories separately.

EP 883 455 and other patents (KUB Trigon)

L / D	solid drilling	blind hole	forge/casting skin, interface	angled	convex	cross bore	centering bore	chamber	stack plate drilling	rough boring	adjustable
2×D	●	●	●	●	●	●	◐	●	✕	◐	◐
3×D	●	●	◐	◐	◐	◐	◐	◐	✕	○	◐
4×D	●	●	○	○	○	○	○	○	✕	✕	◐

● very good ◐ good ○ possible: see technical notes, pages 138-140 ✕ not possible

Basic recommendation				Assembly parts		Accessories
Insert -01 -11			for workpiece material	Clamping screw	Starting torque	Screwdriver
Order No. ▽▽ Size	ISO-Code	Piece	P M K N S H	Order No. Description		Order No. Description
W29 18010.048425 **W29 18010.047930** **W29 18010.0462** **W29 18110.0477**	WOEX 040304-01 BK8425 WOEX 040304-01 BK7930 WOEX 040304-01 BK62 WOEX 040304-11 BK77	2	● ● ● ● ● ○	**N00 57553** S/M2.2×5.5-6IP	1.01 Nm	**L05 00810** 6IP
W29 24010.048425 **W29 24010.047930** **W29 24010.0462** **W29 24110.0477**	WOEX 05T304-01 BK8425 WOEX 05T304-01 BK7930 WOEX 05T304-01 BK62 WOEX 05T304-11 BK77	2	● ● ● ● ● ○	**N00 57511** S/M2.5×7.2-8IP	1.28 Nm	**L05 00830** 8IP



Note re. insert radius:
The nominal dimension ∅ is only achieved with the appropriate standardised insert radius.
Insert radii which deviate from this will alter the nominal dimension ∅ (see Chapter 8)

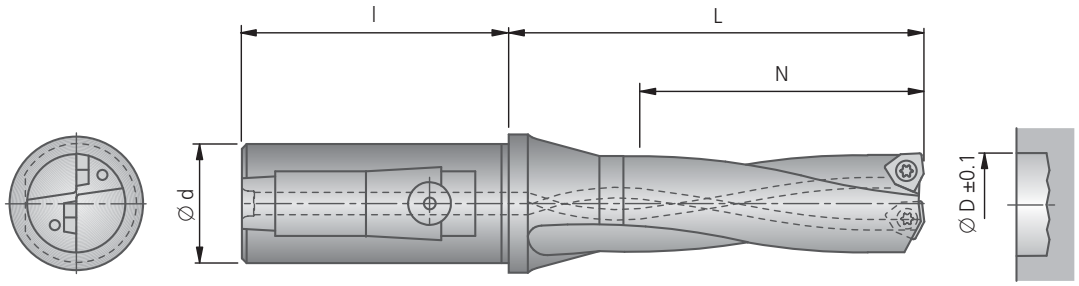
Guideline values for solid drilling: pages 106-107 / alternative inserts: page 115.

KOMET KUB Trigon ®

Ø 30 – 44 mm

Insert Drill with Cylindrical Shank (Combination Shank), R.H. cutting

■ cylindrical shank
(combination shank)
DIN 6535 HE (similar
1835 E) and 6595



Ø D	max. diameter with offset	Cylindrical shank Ø d×l	2×D				3×D				4×D				
			Order No.	N	L	kg	Order No.	N	L	kg	Order No.	N	L	kg	
30.0	32.5	32 × 60	**V45 33002**	60	89	0.65	**V45 73002**	90	119	0.72	**V45 93002**	120	149	0.81	
31.0	33.5	32 × 60	**V45 33102**	62	91	0.67	**V45 73102**	93	122	0.76	**V45 93102**	124	153	0.84	
31.5	33.5	32 × 60	**V45 33152**	64	93	0.68	**V45 73152**	96	125	0.77	–				
32.0	34.0	32 × 60	**V45 33202**	64	93	0.69	**V45 73202**	96	125	0.78	**V45 93202**	128	157	0.87	
33.0	34.0	32 × 60	**V45 33302**	66	95	0.71	**V45 73302**	99	128	0.82	**V45 93302**	132	161	0.93	
34.0	35.0	32 × 60	**V45 33402**	68	97	0.73	**V45 73402**	102	131	0.84	**V45 93402**	136	165	0.95	
35.0	36.0	32 × 60	**V45 33502**	70	99	0.75	**V45 73502**	105	134	0.87	**V45 93502**	140	169	0.99	
36.0	37.0	32 × 60	**V45 33602**	72	101	0.78	**V45 73602**	108	137	0.91	**V45 93602**	144	173	1.05	
37.0	40.0	32 × 60	**V45 33702**	74	113	0.85	**V45 73702**	111	150	1.00	–				
37.5	40.5	32 × 60	**V45 33752**	76	115	0.86	**V45 73752**	114	153	1.01	–				
38.0	41.0	32 × 60	**V45 33802**	76	115	0.87	**V45 73802**	114	153	1.04	–				
39.0	42.0	32 × 60	**V45 33902**	78	117	0.90	**V45 73902**	117	156	1.09	–				
39.5	42.5	32 × 60	**V45 33952**	80	119	0.92	**V45 73952**	120	159	1.10	–				
40.0	43.0	32 × 60	**V45 34002**	80	119	0.94	**V45 74002**	120	159	1.12	–				
41.0	44.0	32 × 60	**V45 34102**	82	121	0.98	**V45 74102**	123	162	1.20	–				
42.0	45.0	32 × 60	**V45 34202**	84	123	1.04	**V45 74202**	126	165	1.25	–				
43.0	45.0	32 × 60	**V45 34302**	86	125	1.10	**V45 74302**	129	168	1.32	–				
44.0	45.0	32 × 60	**V45 34402**	88	127	1.13	**V45 74402**	132	171	1.39	–				

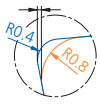
Any **intermediate dimensions** from ∅ 12 – 44 mm and **inch dimensions** are available on request.

Supply includes:
KUB Trigon ® drill with assembly parts. Please order insert and accessories separately.

L / D	solid drilling	blind hole	forge/casting skin, interface	angled	convex	cross bore	centering bore	chamber	stack plate drilling	rough boring	adjustable
2×D	●	●	●	●	●	●	◐	●	✕	◐	◐
3×D	●	●	◐	◐	◐	◐	◐	◐	✕	○	◐
4×D	●	●	○	○	○	○	○	○	✕	✕	◐

● very good ◐ good ○ possible: see technical notes, pages 138-140 ✕ not possible

Basic recommendation				Assembly parts		Accessories
Insert -01 -11			for workpiece material	Clamping screw	Starting torque	Screwdriver
Order No. ▽▽ Size	ISO-Code	Piece	P M K N S H	Order No. Description		Order No. Description
W29 24010.048425 W29 24010.047930 W29 24010.0462 W29 24110.0477	WOEX 05T304-01 BK8425 WOEX 05T304-01 BK7930 WOEX 05T304-01 BK62 WOEX 05T304-11 BK77	2	● ● ● ● ● ●	N00 57511 S/M2.5×7.2-8IP	1.28 Nm	L05 00830 8IP
W29 34010.048425 W29 34010.047930 W29 34010.0462 W29 34110.0477	WOEX 06T304-01 BK8425 WOEX 06T304-01 BK7930 WOEX 06T304-01 BK62 WOEX 06T304-11 BK77	2	● ● ● ● ● ●	N00 57521 S/M3.5×7.3-10IP	2.8 Nm	L05 00850 10IP



Note re. insert radius:
The nominal dimension ∅ is only achieved with the appropriate standardised insert radius.
Insert radii which deviate from this will alter the nominal dimension ∅ (see Chapter 8)

Guideline values for solid drilling: pages 106-107 / alternative inserts: page 115.

Insert Drill with Cylindrical Shank (Combination Shank), R.H. cutting

Guideline values for solid drilling						v_c	Max. feed f (mm/rev)							
							2×D							
Material group		Strength Rm (N/mm²)	Hardness HB	Material	Material example, material code / DIN	Cutting speed v_c (m/min)	Ø 12 – 13.9	Ø 14 – 16.9	Ø 17 – 19.9	Ø 20 – 24.9	Ø 25 – 29.9	Ø 30 – 36.9	Ø 37 – 40.9	Ø 41 – 44.0
P	1.0	≤500		non-alloy steels	St37-2 / 1.0037; 9SMn28 / 1.0715; St44-2 / 1.0044	300	0.05	0.08	0.10	0.10	0.12	0.12	0.12	0.12
P	2.0	500-900		non-alloy / low alloy steels	St52-2 / 1.0050, C55 / 1.0525, 16MnCr5 / 1.7131	250	0.05	0.06	0.08	0.12	0.14	0.14	0.14	0.16
P	2.1	<500		lead alloys	9SMnPb28 / 1.0718	300	0.08	0.08	0.10	0.12	0.14	0.16	0.16	0.20
P	3.0	>900		non alloy / low alloy steels: heat resistant structural, heat treated, nitride and tools steels	42CrMo4 / 1.7225, CK60 / 1.1221	200	0.05	0.06	0.08	0.10	0.14	0.16	0.16	0.16
P	4.0	>900		high alloy steels	X6CrMo4 / 1.2341, X165CrMoV12 / 1.2601	180	0.03	0.05	0.08	0.10	0.12	0.12	0.12	0.14
P	4.1			HSS		80	0.02	0.04	0.06	0.08	0.10	0.10	0.12	0.12
S	5.0		250	special alloys: Inconel, Hastelloy, Nimonic, stc.	Inconel 718 / 2.4668, Nimonic 80A / 2.4631	60	0.02	0.04	0.06	0.08	0.10	0.10	0.10	0.10
S	5.1	400		titanium, titanium alloys	TiAl5Sn2 / 3.7114	80	0.02	0.06	0.08	0.10	0.12	0.10	0.12	0.12
M	6.0	≤600		stainless steels	X2CrNi189 / 1.4306, X5CrNiMo1810 / 1.4401	180	0.03	0.06	0.08	0.10	0.14	0.14	0.14	0.14
M	6.1	<900		stainless steels	X8CrNb17 / 1.4511, X10CrNiMoTi1810 / 1.4571	160	0.05	0.06	0.06	0.08	0.12	0.12	0.12	0.14
M	7.0	>900		stainless / fireproof steels	X10CrAl7 / 1.4713, X8CrS-38-18 / 1.4862	160	0.05	0.06	0.06	0.08	0.12	0.12	0.12	0.12
K	8.0		180	gray cast iron	GG-25 / 0.6025, GG-35 / 0.6035	200	0.10	0.10	0.12	0.14	0.20	0.20	0.20	0.25
K	8.1		250	alloy gray cast iron	GG-NiCr202 / 0.6660	160	0.08	0.08	0.08	0.10	0.14	0.14	0.16	0.18
K	9.0	≤600	130	spheroidal graphite cast iron, ferritic	GGG-40 / 0.7040	180	0.06	0.08	0.10	0.14	0.20	0.20	0.20	0.25
K	9.1		230	spheroidal graphite cast iron, ferritic / perlitic	GGG-50 / 0.7050 GGG-55 / 0.7055 GTW-55 / 0.8055	160	0.05	0.08	0.10	0.14	0.20	0.20	0.20	0.25
K	10.0	>600	250	spheroidal graphite cast iron, perlitic malleable iron	GGG-60 / 0.7060 GTS-65 / 0.8165	140	0.05	0.10	0.12	0.16	0.25	0.25	0.25	0.25
K	10.1		200	alloyed spheroidal graphite cast iron	GGG-NiCr20-2 / 0.7661	140	0.03	0.08	0.10	0.14	0.20	0.20	0.20	0.25
K	10.2		300	vermicular cast iron	GGV Ti < 0,2 GGV Ti > 0,2	120	0.05	0.08	0.10	0.14	0.16	0.16	0.16	0.20
N	12.0		90	copper alloy, brass, lead-alloy bronze, lead bronze: good cut	CuZn36Pb3 / 2.1182, G-CuPb15Sn / 2.1182	300	0.05	0.05	0.08	0.12	0.16	0.16	0.18	0.20
N	12.1		100	copper alloy, brass, bronze: average cut	CuZn40Al1 / 2.0550, E-Cu57 / 2.0060	400	0.03	0.05	0.08	0.08	0.10	0.10	0.10	0.12
N	13.0		60	wrought aluminium alloys	AlMg1 / 3.3315, AlMnCu / 3.0517	600	0.03	0.05	0.08	0.08	0.10	0.10	0.12	0.12
N	13.1		75	cast alum. alloy: Si-content <10% magnesium alloy	G-AlMg5 / 3.3561, G-AlSi9Mg / 3.2373	300	0.08	0.10	0.12	0.14	0.18	0.18	0.20	0.20
N	14.0		100	cast alum.alloy: Si-content >10%	G-AlSi10Mg / 3.2381	250	0.05	0.10	0.12	0.14	0.20	0.20	0.20	0.25
H	15.0	1400		hardened steels < 45 HRC		80	–	0.05	0.05	0.08	0.10	0.10	0.12	0.12
H	16.0	1800		hardened steels > 45 HRC		40	–	0.05	0.08	0.08	0.10	0.10	0.10	0.10

Cutting values shown are maximum values relating to the basic recommendations for cutting materials given.

EP 883 455 and other patents (KUB Trigon)

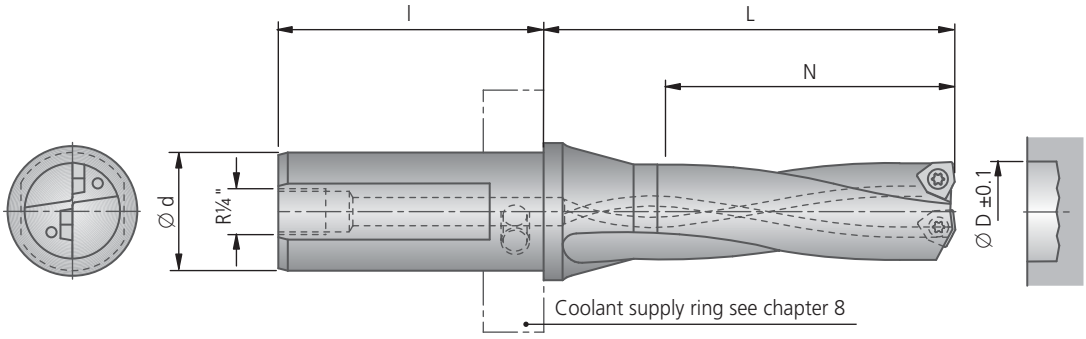
Max. feed f (mm/rev)													
	3×D								4×D				
	Ø 12 – 13.9	Ø 14 – 16.9	Ø 17 – 19.9	Ø 20 – 24.9	Ø 25 – 2.9	Ø 30 – 36.9	Ø 37 – 40.9	Ø 41 – 44.0	Ø 14 – 16.9	Ø 17 – 19.9	Ø 20 – 24.9	Ø 25 – 29.9	Ø 30 – 36.9
	0.05	0.08	0.10	0.10	0.12	0.12	0.12	0.12	0.06	0.08	0.08	0.10	0.11
	0.05	0.06	0.08	0.12	0.14	0.14	0.14	0.16	0.04	0.06	0.10	0.12	0.12
	0.08	0.08	0.10	0.12	0.14	0.16	0.16	0.20	0.06	0.08	0.10	0.12	0.14
	0.05	0.06	0.08	0.10	0.14	0.16	0.16	0.16	0.04	0.06	0.08	0.12	0.14
	0.03	0.05	0.08	0.10	0.12	0.12	0.12	0.14	0.04	0.06	0.08	0.10	0.11
	0.02	0.04	0.06	0.08	0.10	0.10	0.12	0.12	0.03	0.05	0.07	0.08	0.09
	0.02	0.04	0.06	0.08	0.10	0.10	0.10	0.10	0.03	0.05	0.07	0.08	0.09
	0.02	0.06	0.08	0.10	0.12	0.10	0.12	0.12	0.04	0.06	0.08	0.10	0.10
	0.03	0.06	0.08	0.10	0.14	0.14	0.14	0.14	0.04	0.06	0.08	0.12	0.13
	0.05	0.06	0.06	0.08	0.12	0.12	0.12	0.14	0.04	0.04	0.06	0.10	0.11
	0.05	0.06	0.06	0.08	0.12	0.12	0.12	0.12	0.04	0.04	0.06	0.10	0.11
	0.10	0.10	0.12	0.14	0.20	0.20	0.20	0.25	0.08	0.10	0.12	0.18	0.19
	0.08	0.08	0.08	0.10	0.14	0.14	0.16	0.18	0.06	0.06	0.08	0.12	0.12
	0.06	0.08	0.10	0.14	0.20	0.20	0.20	0.25	0.06	0.08	0.12	0.18	0.19
	0.05	0.08	0.10	0.14	0.20	0.20	0.20	0.25	0.06	0.08	0.12	0.18	0.19
	0.05	0.10	0.12	0.16	0.25	0.25	0.25	0.25	0.08	0.10	0.14	0.23	0.24
	0.03	0.08	0.10	0.14	0.20	0.20	0.20	0.25	0.06	0.08	0.12	0.18	0.19
	0.05	0.08	0.10	0.14	0.16	0.16	0.16	0.20	0.06	0.08	0.12	0.14	0.15
	0.05	0.05	0.08	0.12	0.16	0.16	0.18	0.20	0.04	0.06	0.10	0.14	0.15
	0.03	0.05	0.08	0.08	0.10	0.10	0.10	0.12	0.03	0.06	0.06	0.08	0.09
	0.03	0.05	0.08	0.08	0.10	0.10	0.12	0.12	0.03	0.06	0.06	0.08	0.09
	0.08	0.10	0.12	0.14	0.18	0.18	0.20	0.20	0.08	0.10	0.12	0.16	0.17
	0.05	0.10	0.12	0.14	0.20	0.20	0.20	0.25	0.08	0.10	0.12	0.18	0.19
	–	0.05	0.05	0.08	0.10	0.10	0.12	0.12	0.03	0.03	0.06	0.08	0.09
	–	0.05	0.08	0.08	0.10	0.10	0.10	0.10	0.03	0.06	0.06	0.08	0.08

Important: See chapter 8 for more application details and safety notes!

KOMET KUB Trigon®

Ø 14 – 19.5 mm

Insert Drill with Cylindrical Shank (parallel clamping surface), R.H. cutting



Ø D	max. diameter with offset	Cylindrical shank Ø d×l	3×D				4×D			
			Order No.	N	L	kg	Order No.	N	L	kg
14.0	15.0	20 × 50	V36 71402	42	66	0.18	–			
		25 × 56	V37 71402	42	66	0.27	–			
		30 × 58	V38 71402	42	66	0.37	V38 91402	56	80	0.39
		40 × 68	V39 71402	42	66	0.73	V39 91402	56	80	0.74
15.0	16.0	20 × 50	V36 71502	45	69	0.19	–			
		25 × 56	V37 71502	45	69	0.25	–			
		30 × 58	V38 71502	45	69	0.38	V38 91502	60	84	0.40
		40 × 68	V39 71502	45	69	0.74	V39 91502	60	84	0.97
15.5	16.5	30 × 58	–				V38 91550	64	88	0.40
		40 × 68	–				V39 91550	64	88	0.97
16.0	17.0	20 × 50	V36 71600	48	72	0.20	–			
		25 × 56	V37 71600	48	72	0.28	–			
		30 × 58	V38 71600	48	72	0.39	V38 91600	64	88	0.40
		40 × 68	V39 71600	48	72	0.75	V39 91600	64	88	0.76
17.0	18.0	20 × 50	V36 71700	51	75	0.20	–			
		25 × 56	V37 71700	51	75	0.29	–			
		30 × 58	V38 71700	51	75	0.40	V38 91700	68	92	0.41
		40 × 68	V39 71700	51	75	0.76	V39 91700	68	92	0.76
17.5	18.5	30 × 58	–				V38 91750	72	96	0.42
		40 × 68	–				V39 91750	72	96	0.77
18.0	19.0	20 × 50	V36 71800	54	78	0.21	–			
		25 × 56	V37 71800	54	78	0.27	–			
		30 × 58	V38 71800	54	78	0.40	V38 91800	72	96	0.42
		40 × 68	V39 71800	54	78	0.76	V39 91800	72	96	0.76
18.5	19.0	30 × 58	–				V38 91850	76	100	0.43
		40 × 68	–				V39 91850	76	100	0.79
19.0	19.5	20 × 50	V36 71900	57	81	0.22	–			
		25 × 56	V37 71900	57	81	0.31	–			
		30 × 58	V38 71900	57	81	0.41	V38 91900	76	100	0.43
		40 × 68	V39 71900	57	81	0.78	V39 91900	76	100	0.79
19.5	20.0	30 × 58	–				V38 91950	80	104	0.44
		40 × 68	–				V39 91950	80	104	0.79

For other diameters see following page.

Any **intermediate dimensions** from ∅ 14 – 54 mm and **inch dimensions** are available on request.

Supply includes:

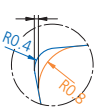
KUB Trigon® drill with assembly parts. Please order insert and accessories separately.

Insert Drill with Cylindrical Shank (parallel clamping surface), R.H. cutting

L / D	solid drilling	blind hole	forge/casting skin, interface	angled	convex	cross bore	centering bore	chamber	stack plate drilling	rough boring	adjustable
3×D	●	●	◐	◐	◐	◐	◐	◐	✕	○	◐
4×D	●	●	○	○	○	○	○	○	✕	✕	◐

● very good ◐ good ○ possible: see technical notes, pages 138-140 ✕ not possible

Basic recommendation				Assembly parts		Accessories
Insert -01 -11			for workpiece material	Clamping screw	Starting torque	Screwdriver
Order No. ▽▽ Size	ISO-Code	Piece	P M K N S H	Order No. Description		Order No. Description
W29 10010.048425 **W29 10010.047930** **W29 10010.0462** **W29 10110.0477**	WOEX 030204-01 BK8425 WOEX 030204-01 BK7930 WOEX 030204-01 BK62 WOEX 030204-11 BK77	2	● ● ● ● ● ●	**N00 56041** S/M2×4.3-6IP	0.62 Nm	**L05 00810** 6IP

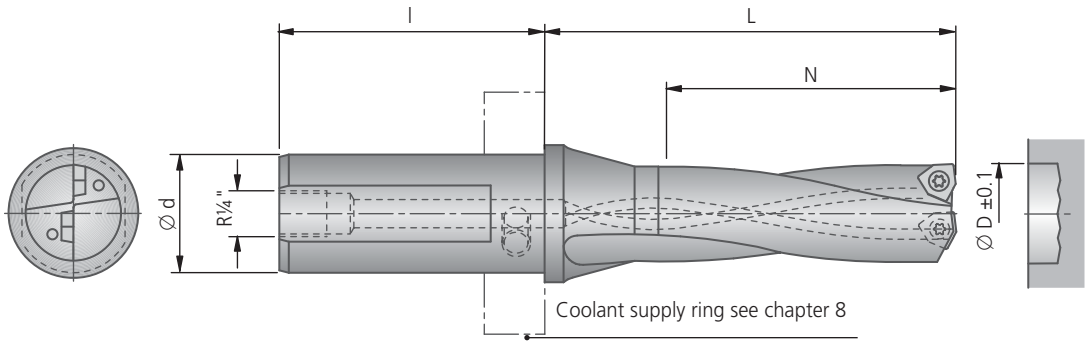


Note re. insert radius:
The nominal dimension ∅ is only achieved with the appropriate standardised insert radius.
Insert radii which deviate from this will alter the nominal dimension ∅ (see Chapter 8)

Guideline values for solid drilling: page 114 / alternative inserts: page 115.

KOMET KUB Trigon ® — Ø 20 – 29.5 mm

Insert Drill with Cylindrical Shank (parallel clamping surface), R.H. cutting



Ø D	max. diameter with offset	Cylindrical shank Ø d×l	3×D Order No.	3×D N	3×D L	3×D kg	4×D Order No.	4×D N	4×D L	4×D kg
20.0	21.0	20 × 50	V36 72000	60	84	0.23	–			
		25 × 56	V37 72000	60	84	0.32	–			
		30 × 58	V38 72000	60	84	0.44	V38 92000	80	104	0.46
		40 × 68	V39 72000	60	84	0.79	V39 92000	80	104	0.81
21.0	22.0	20 × 50	V36 72100	63	87	0.23	–			
		25 × 56	V37 72100	63	87	0.33	–			
		30 × 58	V38 72100	63	87	0.45	V38 92100	84	108	0.47
		40 × 68	V39 72100	63	87	0.81	V39 92100	84	108	0.82
22.0	23.0	20 × 50	V36 72200	66	90	0.23	–			
		25 × 56	V37 72200	66	90	0.35	–			
		30 × 58	V38 72200	66	90	0.46	V38 92200	88	112	0.49
		40 × 68	V39 72200	66	90	0.82	V39 92200	88	112	0.84
22.5	23.5	30 × 58	–				V38 92250	92	116	0.51
		40 × 68	–				V39 92250	92	116	0.85
23.0	24.0	20 × 50	V36 72300	69	93	0.27	–			
		25 × 56	V37 72300	69	93	0.37	–			
		30 × 58	V38 72300	69	93	0.48	V38 92300	92	116	0.52
		40 × 68	V39 72300	69	93	0.84	V39 92300	92	116	0.87
24.0	25.0	20 × 50	V36 72400	72	96	0.29	–			
		25 × 56	V37 72400	72	96	0.38	–			
		30 × 58	V38 72400	72	96	0.49	V38 92400	96	120	0.51
		40 × 68	V39 72400	72	96	0.86	V39 92400	96	120	0.88
24.5	25.5	30 × 58	–				V38 92450	100	124	0.55
		40 × 68	–				V39 92450	100	124	0.90
25.0	26.0	30 × 58	V38 72500	75	99	0.48	V38 92500	100	124	0.54
		40 × 68	V39 72500	75	99	0.86	V39 92500	100	124	0.91
26.0	28.0	25 × 56	V37 72600	78	102	0.35	–			
		30 × 58	V38 72600	78	102	0.55	V38 92600	104	128	0.57
		40 × 68	V39 72600	78	102	0.88	V39 92600	104	128	0.93
26.5	28.5	30 × 58	–				V38 92650	108	132	0.59
		40 × 68	–				V39 92650	108	132	0.98
27.0	30.0	30 × 58	V38 72700	81	105	0.54	V38 92700	108	132	0.65
		40 × 68	V39 72700	81	105	0.90	V39 92700	108	132	0.95
28.0	31.0	25 × 56	V37 72800	84	108	0.38	–			
		30 × 58	V38 72800	84	108	0.57	V38 92800	112	136	0.63
		40 × 68	V39 72800	84	108	0.91	V39 92800	112	136	0.98
28.5	31.5	30 × 58	–				V38 92850	116	140	0.70
		40 × 68	–				V39 92850	116	140	1.00
29.0	32.0	25 × 56	V37 72900	87	111	0.40	–			
		30 × 58	V38 72900	87	111	0.59	V38 92900	116	140	0.68
		40 × 68	V39 72900	87	111	0.96	V39 92900	116	140	0.70
29.5	32.5	30 × 58	–				V38 92950	120	144	1.01
		40 × 68	–				V39 92950	120	144	1.04

For other diameters see following page.

Any **intermediate dimensions** from ∅ 14 – 54 mm and **inch dimensions** are available on request.

Supply includes: KUB Trigon ® drill with assembly parts. Please order insert and accessories separately.

EP 883 455 and other patents (KUB Trigon)

L / D	solid drilling	blind hole	forge/casting skin, interface	angled	convex	cross bore	centering bore	chamber	stack plate drilling	rough boring	adjustable
3×D	●	●	◐	◐	◐	◐	◐	◐	><	○	◐
4×D	●	●	○	○	○	○	○	○	><	><	◐

● very good ◐ good ○ possible: see technical notes, pages 138-140 >< not possible

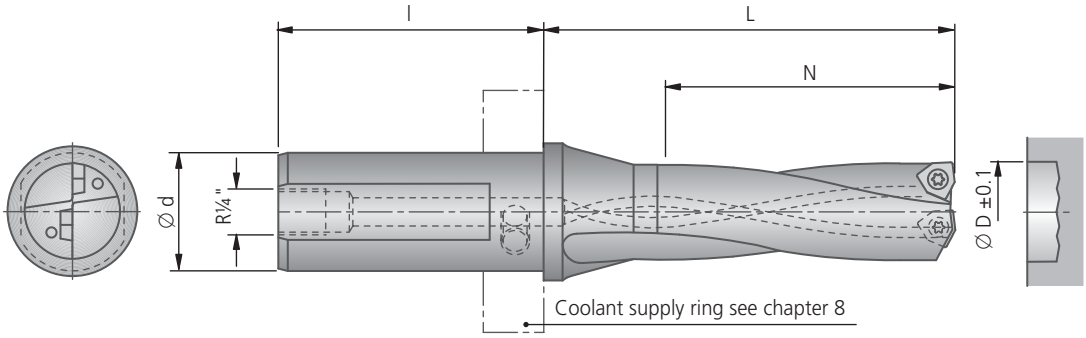
Basic recommendation				Assembly parts		Accessories
Insert -01 -11			for workpiece material	Clamping screw	Starting torque	Screwdriver
Order No. ▽▽ Size	ISO-Code	Piece	P M K N S H	Order No. Description		Order No. Description
W29 18010.048425 **W29 18010.047930** **W29 18010.0462** **W29 18110.0477**	WOEX 040304-01 BK8425 WOEX 040304-01 BK7930 WOEX 040304-01 BK62 WOEX 040304-11 BK77	2	● ◐ ● ● ● ○	**N00 57553** S/M2.2×5.5-6IP	1.01 Nm	**L05 00810** 6IP
W29 24010.048425 **W29 24010.047930** **W29 24010.0462** **W29 24110.0477**	WOEX 05T304-01 BK8425 WOEX 05T304-01 BK7930 WOEX 05T304-01 BK62 WOEX 05T304-11 BK77	2	● ◐ ● ● ● ○	**N00 57511** S/M2.5×7.2-8IP	1.28 Nm	**L05 00830** 8IP

Note re. insert radius:
The nominal dimension ∅ is only achieved with the appropriate standardised insert radius.
Insert radii which deviate from this will alter the nominal dimension ∅ (see Chapter 8)

Guideline values for solid drilling: page 114 / alternative inserts: page 115.

KOMET KUB Trigon ® Ø 30 – 54 mm

Insert Drill with Cylindrical Shank (parallel clamping surface), R.H. cutting



Ø D	max. diameter with offset	Cylindrical shank Ø d×l	3×D Order No.	3×D N	3×D L	3×D kg	4×D Order No.	4×D N	4×D L	4×D kg
30.0	32.5	30 × 58	V38 73000	90	119	0.65	V38 93000	120	149	0.72
		40 × 68	V39 73000	90	119	1.01	V39 93000	120	149	1.09
31.0	33.5	30 × 58	V38 73100	93	122	0.68	V38 93100	124	153	0.76
		40 × 68	V39 73100	93	122	0.99	V39 93100	124	153	1.13
31.5	33.5	30 × 58	–				V38 93150	128	157	0.78
		40 × 68	–				V39 93150	128	157	1.15
32.0	34.0	30 × 58	V38 73200	96	125	0.71	V38 93200	128	157	0.80
		40 × 68	V39 73200	96	125	1.08	V39 93200	128	157	1.17
33.0	34.0	30 × 58	V38 73300	99	128	0.74	V38 93300	132	161	0.85
		40 × 68	V39 73300	99	128	1.12	V39 93300	132	161	1.21
34.0	35.0	30 × 58	V38 73400	102	131	0.75	V38 93400	136	165	0.86
		40 × 68	V39 73400	102	131	1.13	V39 93400	136	165	1.23
35.0	36.0	30 × 58	V38 73500	105	134	0.79	V38 93500	140	169	0.91
		40 × 68	V39 73500	105	134	1.16	V39 93500	140	169	1.28
36.0	37.0	30 × 58	V38 73600	108	137	0.82	V38 93600	144	173	0.96
		40 × 68	V39 73600	108	137	1.19	V39 93600	144	173	1.33
37.0	40.0	30 × 58	V38 73700	111	150	0.9	–			
		40 × 68	V39 73700	111	150	1.29	V39 93700	148	187	1.44
37.5	40.5	40 × 68	–				V39 93750	152	191	1.57
38.0	41.0	30 × 58	V38 73800	114	153	0.94	–			
		40 × 68	V39 73800	114	153	1.33	V39 93800	152	191	1.50
39.0	42.0	30 × 58	V38 73900	117	156	0.99	–			
		40 × 68	V39 73900	117	156	1.38	V39 93900	156	195	1.55
39.5	42.5	40 × 68	–				V39 93950	160	199	1.59
40.0	43.0	30 × 58	V38 74000	120	159	1.03	–			
		40 × 68	V39 74000	120	159	1.43	V39 94000	160	199	1.62
41.0	44.0	30 × 58	V38 74100	123	162	1.08	–			
		40 × 68	V39 74100	123	162	1.48	V39 94100	164	203	1.68
42.0	45.0	30 × 58	V38 74200	126	165	1.15	–			
		40 × 68	V39 74200	126	165	1.54	V39 94200	168	207	1.76
43.0	45.0	30 × 58	V38 74300	129	168	1.22	–			
		40 × 68	V39 74300	129	168	1.60	V39 94300	172	211	1.83
44.0	45.0	30 × 58	V38 74400	132	171	1.23	–			
		40 × 68	V39 74400	132	171	1.66	V39 94400	176	215	1.91
45.0	48.0	40 × 68	V59 74500	135	179	1.88	–			
46.0	49.0	40 × 68	V59 74600	138	182	1.87	–			
47.0	50.0	40 × 68	V59 74700	141	185	1.94	–			
48.0	51.0	40 × 68	V59 74800	144	188	2.09	–			
49.0	52.0	40 × 68	V59 74900	147	191	2.19	–			
50.0	53.0	40 × 68	V59 75000	150	194	2.28	–			
51.0	54.0	40 × 68	V59 75100	153	197	2.40	–			
52.0	55.0	40 × 68	V59 75200	156	200	2.42	–			
53.0	55.0	40 × 68	V59 75300	159	203	2.51	–			
54.0	55.0	40 × 68	V59 75400	162	206	2.64	–			

Any **intermediate dimensions** from ∅ 14 – 54 mm and **inch dimensions** are available on request.

Supply includes:

KUB Trigon ® drill with assembly parts. Please order insert and accessories separately.

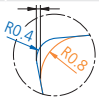
EP 883 455 and other patents (KUB Trigon)

Insert Drill with Cylindrical Shank (parallel clamping surface), R.H. cutting

L / D	solid drilling	blind hole	forge/casting skin, interface	angled	convex	cross bore	centering bore	chamber	stack plate drilling	rough boring	adjustable
3×D	●	●	◐	◐	◐	◐	◐	◐	><	○	◐
4×D	●	●	○	○	○	○	○	○	><	><	◐

● very good ◐ good ○ possible: see technical notes, pages 138-140 >< not possible

Basic recommendation				Assembly parts		Accessories
Insert -01 -11			for workpiece material	Clamping screw	Starting torque	Screwdriver
Order No. ▽▽ Size	ISO-Code	Piece	P M K N S H	Order No. Description		Order No. Description
W29 24010.048425 **W29 24010.047930** **W29 24010.0462** **W29 24110.0477**	WOEX 05T304-01 BK8425 WOEX 05T304-01 BK7930 WOEX 05T304-01 BK62 WOEX 05T304-11 BK77	2		**N00 57511** S/M2.5×7.2-8IP	1.28 Nm	**L05 00830** 8IP
W29 34010.048425 **W29 34010.047930** **W29 34010.0462** **W29 34110.0477**	WOEX 06T304-01 BK8425 WOEX 06T304-01 BK7930 WOEX 06T304-01 BK62 WOEX 06T304-11 BK77	2		**N00 57521** S/M3.5×7.3-10IP	2.8 Nm	**L05 00850** 10IP
W29 42010.048425 **W29 42010.047930** **W29 42010.0462** **W29 42110.0477**	WOEX 080404-01 BK8425 WOEX 080404-01 BK7930 WOEX 080404-01 BK62 WOEX 080404-11 BK77	2		**N00 57531** S/M4.5×9-15IP	6.25 Nm	**L05 00860** 15IP



Note re. insert radius:
The nominal dimension ∅ is only achieved with the appropriate standardised insert radius.
Insert radii which deviate from this will alter the nominal dimension ∅ (see Chapter 8)

Guideline values for solid drilling: page 114 / alternative inserts: page 115.

Insert Drill with Cylindrical Shank (parallel clamping surface), R.H. cutting

Guideline values for solid drilling						v_c	Max. feed f (mm/rev)														
							3×D								4×D						
Material group		Strength Rm (N/mm²)	Hardness HB	Material	Material example, material code / DIN	Cutting speed v_c (m/min)	Ø 14 – 16.9	Ø 17 – 19.9	Ø 20 – 24.9	Ø 25 – 29.9	Ø 30 – 36.9	Ø 37 – 40.9	Ø 41 – 44.0	Ø 44.5 – 54.0	Ø 14 – 16.9	Ø 17 – 19.9	Ø 20 – 24.9	Ø 25 – 29.9	Ø 30 – 36.9	Ø 37 – 40.9	Ø 41 – 44.0
P	1.0	≤500		non-alloy steels	St37-2 / 1.0037; 9SMn28 / 1.0715; St44-2 / 1.0044	300	0.08	0.10	0.10	0.12	0.12	0.12	0.12	0.14	0.06	0.08	0.08	0.12	0.12	0.12	0.12
	2.0	500-900		non-alloy / low alloy steels	St52-2 / 1.0050, C55 / 1.0525, 16MnCr5 / 1.7131	250	0.06	0.08	0.12	0.14	0.14	0.14	0.16	0.18	0.04	0.06	0.10	0.14	0.14	0.14	0.16
	2.1	<500		lead alloys	9SMnPb28 / 1.0718	300	0.08	0.10	0.12	0.14	0.16	0.16	0.20	0.22	0.06	0.08	0.10	0.14	0.16	0.16	0.20
	3.0	>900		non alloy / low alloy steels: heat resistant structural, heat treated, nitride and tools steels	42CrMo4 / 1.7225, CK60 / 1.1221	200	0.06	0.08	0.10	0.14	0.16	0.16	0.16	0.18	0.04	0.06	0.08	0.14	0.16	0.16	0.16
	4.0	>900		high alloy steels	X6CrMo4 / 1.2341, X165CrMoV12 / 1.2601	180	0.06	0.08	0.10	0.10	0.12	0.12	0.14	0.16	0.04	0.06	0.08	0.10	0.12	0.12	0.14
	4.1			HSS		80	0.04	0.06	0.08	0.10	0.10	0.12	0.12	0.14	0.03	0.05	0.07	0.10	0.10	0.12	0.12
S	5.0		250	special alloys: Inconel, Hastelloy, Nimonic, stc.	Inconel 718 / 2.4668, Nimonic 80A / 2.4631	60	0.04	0.06	0.08	0.10	0.10	0.10	0.10	0.10	0.03	0.05	0.07	0.10	0.10	0.10	0.10
	5.1	400		titanium, titanium alloys	TiAl5Sn2 / 3.7114	80	0.06	0.08	0.10	0.12	0.10	0.12	0.12	0.12	0.04	0.06	0.08	0.12	0.10	0.12	0.12
M	6.0	≤600		stainless steels	X2CrNi189 / 1.4306, X5CrNiMo1810 / 1.4401	180	0.06	0.08	0.10	0.14	0.14	0.14	0.14	0.14	0.04	0.06	0.08	0.14	0.14	0.14	0.14
	6.1	<900		stainless steels	X8CrNb17 / 1.4511, X10CrNiMoTi1810 / 1.4571	160	0.06	0.06	0.08	0.12	0.12	0.12	0.14	0.15	0.04	0.04	0.06	0.12	0.12	0.12	0.14
	7.0	>900		stainless / fireproof steels	X10CrAl7 / 1.4713, X8CrS-38-18 / 1.4862	160	0.06	0.06	0.08	0.12	0.12	0.12	0.12	0.14	0.04	0.04	0.06	0.12	0.12	0.12	0.12
K	8.0		180	gray cast iron	GG-25 / 0.6025, GG-35 / 0.6035	200	0.10	0.12	0.14	0.20	0.20	0.20	0.25	0.28	0.08	0.10	0.12	0.20	0.20	0.20	0.25
	8.1		250	alloy gray cast iron	GG-NiCr202 / 0.6660	160	0.08	0.08	0.10	0.14	0.14	0.16	0.18	0.20	0.06	0.06	0.08	0.14	0.14	0.16	0.18
	9.0	≤600	130	spheroidal graphite cast iron, ferritic	GGG-40 / 0.7040	180	0.08	0.10	0.14	0.20	0.20	0.20	0.25	0.26	0.06	0.08	0.12	0.20	0.20	0.20	0.25
	9.1		230	spheroidal graphite cast iron, ferritic / perlitic	GGG-50 / 0.7050 GGG-55 / 0.7055 GTW-55 / 0.8055	160	0.08	0.10	0.14	0.20	0.20	0.20	0.25	0.26	0.06	0.08	0.12	0.20	0.20	0.20	0.25
	10.0	>600	250	spheroidal graphite cast iron, perlitic malleable iron	GGG-60 / 0.7060 GTS-65 / 0.8165	140	0.10	0.12	0.16	0.25	0.25	0.25	0.25	0.26	0.08	0.10	0.14	0.25	0.25	0.25	0.25
	10.1		200	alloyed spheroidal graphite cast iron	GGG-NiCr20-2 / 0.7661	140	0.08	0.10	0.14	0.20	0.20	0.20	0.25	0.26	0.06	0.08	0.12	0.20	0.20	0.20	0.25
	10.2		300	vermicular cast iron	GGV Ti < 0,2 GGV Ti > 0,2	120	0.08	0.10	0.14	0.16	0.16	0.16	0.20	0.22	0.06	0.08	0.12	0.16	0.16	0.16	0.20
N	12.0		90	copper alloy, brass, lead-alloy bronze, lead bronze: good cut	CuZn36Pb3 / 2.1182, G-CuPb15Sn / 2.1182	300	0.05	0.08	0.12	0.16	0.16	0.18	0.20	0.22	0.04	0.06	0.10	0.16	0.16	0.18	0.20
	12.1		100	copper alloy, brass, bronze: average cut	CuZn40Al1 / 2.0550, E-Cu57 / 2.0060	400	0.05	0.08	0.08	0.10	0.10	0.10	0.12	0.14	0.03	0.06	0.06	0.10	0.10	0.10	0.12
	13.0		60	wrought aluminium alloys	AlMg1 / 3.3315, AlMnCu / 3.0517	600	0.05	0.08	0.08	0.10	0.10	0.12	0.12	0.14	0.03	0.06	0.06	0.10	0.10	0.12	0.12
	13.1		75	cast alum. alloy: Si-content <10% magnesium alloy	G-AlMg5 / 3.3561, G-AlSi9Mg / 3.2373	300	0.10	0.12	0.14	0.18	0.18	0.20	0.20	0.22	0.08	0.10	0.12	0.18	0.18	0.20	0.20
	14.0		100	cast alum.alloy: Si-content >10%	G-AlSi10Mg / 3.2381	250	0.10	0.12	0.14	0.20	0.20	0.20	0.25	0.26	0.08	0.10	0.12	0.20	0.20	0.20	0.25
H	15.0	1400		hardened steels < 45 HRC		80	0.05	0.05	0.08	0.10	0.10	0.12	0.12	0.12	0.03	0.03	0.06	0.10	0.10	0.12	0.12
	16.0	1800		hardened steels > 45 HRC		40	0.05	0.08	0.08	0.10	0.10	0.10	0.10	0.10	0.03	0.06	0.06	0.10	0.10	0.10	0.10

Cutting values shown are maximum values relating to the basic recommendations for cutting materials given.

EP 883 455 and other patents (KUB Trigon)

Alternative Inserts

	ØD	Insert -03 / -13 Order No. ▽▽ Size	ISO-Code	for workpiece material P M K N S H
for better chip control	12-13.7	–		
	14 – 19.5	**W29 10130.048425** **W29 10130.0479**	WOEX 030204-13 BK8425 WOEX 030204-13 BK79	
	20 – 24.5	**W29 18130.048425** **W29 18130.0479**	WOEX 040304-13 BK8425 WOEX 040304-13 BK79	
	25 – 36	**W29 24130.048425** **W29 24030.046425** **W29 24130.0479**	WOEX 05T304-13 BK8425 WOEX 05T304-03 BK6425 ⚠ WOEX 05T304-13 BK79	
	37 – 44	**W29 34130.048425** **W29 34030.046425** **W29 34130.0479**	WOEX 06T304-13 BK8425 WOEX 06T304-03 BK6425 ⚠ WOEX 06T304-13 BK79	
	45 – 54	**W29 42030.046425** **W29 42000.048425**	WOEX 080404-03 BK6425 ⚠ WOEX 080404-00 BK8425	

⚠ Only use this insert with KUB Trigon ®
as an external cutting edge:
WOEX ... -03 (Geometry 03)
WOEX ... -01 (Geometry 01) in BK6115
WOEX ... -01 (Geometry 01) in BK6420

Alternative Inserts

	ØD	Insert -00 / -01 / -11 Order No. ▽▽ Size	ISO-Code	for workpiece material P M K N S H
for higher cutting speed	12-13.7	–		
	14 – 19.5	W29 10010.0472 W29 10110.0450	WOEX 030204-01 BK72 WOEX 030204-11 BK50	
	20 – 24.5	W29 18010.0472 W29 18110.0450	WOEX 040304-01 BK72 WOEX 040304-11 BK50	
	25 – 36	W29 24010.0472 W29 24110.0450	WOEX 05T304-01 BK72 WOEX 05T304-11 BK50	
	37 – 44	W29 34010.0472 W29 34110.0450	WOEX 06T304-01 BK72 WOEX 06T304-11 BK50	
	45 – 54	W29 42010.0472 W01 42940.0455 W01 42600.0461	WOEX 080404-01 BK72 WOHX 080404 F PKD55 WOHX 080404 EN BK61	
for greater strength	12-13.7	W29 04010.0279	WOEX 020102-01 BK79	
	14 – 19.5	**W29 10010.047930** **W29 10010.0404** **W29 10010.0421** **W29 10110.0421**	WOEX 030204-01 BK7930 WOEX 030204-01 P40 WOEX 030204-01 K10 WOEX 030204-11 K10	
	20 – 24.5	**W29 18010.047930** **W29 18010.0404** **W29 18010.0421** **W29 18110.0421**	WOEX 040304-01 BK7930 WOEX 040304-01 P40 WOEX 040304-01 K10 WOEX 040304-11 K10	
	25 – 36	**W29 24010.047930** **W29 24010.0404** **W29 24010.0421** **W29 24110.0421**	WOEX 05T304-01 BK7930 WOEX 05T304-01 P40 WOEX 05T304-01 K10 WOEX 05T304-11 K10	
	37 – 44	**W29 34010.047930** **W29 34010.0404** **W29 34010.0421** **W29 34110.0421**	WOEX 06T304-01 BK7930 WOEX 06T304-01 P40 WOEX 06T304-01 K10 WOEX 06T304-11 K10	
	45 – 54	**W29 42010.047930** **W29 42010.0404** **W29 42010.0421** **W29 42000.0421**	WOEX 080404-01 BK7930 WOEX 080404-01 P40 WOEX 080404-01 K10 WOEX 080404-00 K10	

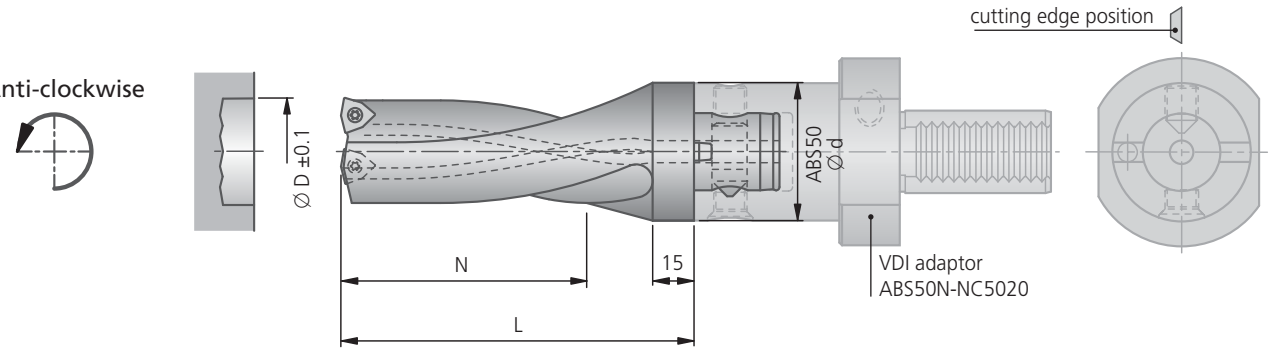
Important: See chapter 8 for more application details and safety notes!

KOMET KUB Trigon®

Ø 14 – 44 mm

Insert Drill with ABS® Connection, L.H. cutting

Anti-clockwise



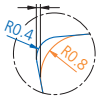
Ø D	max. diameter with offset	ABS Ø d	2×D Order No.	2×D N	2×D L	2×D kg	3×D Order No.	3×D N	3×D L	3×D kg
14.0	15.0	50	V30 21402	28	63	0.40	V30 61402	42	77	0.50
15.0	16.0	50	V30 21502	30	65	0.40	V30 61502	45	80	0.50
16.0	17.0	50	V30 21600	32	67	0.40	V30 61600	48	83	0.50
17.0	18.0	50	V30 21700	34	69	0.40	V30 61700	51	86	0.50
18.0	19.0	50	V30 21800	36	71	0.40	V30 61800	54	89	0.50
19.0	20.0	50	V30 21900	38	73	0.50	V30 61900	57	92	0.55
20.0	21.0	50	V30 22000	40	75	0.50	V30 62000	60	95	0.60
21.0	22.0	50	V30 22100	42	77	0.55	V30 62100	63	98	0.60
22.0	23.0	50	V30 22200	44	79	0.55	V30 62200	66	101	0.60
23.0	24.0	50	V30 22300	46	81	0.55	V30 62300	69	104	0.60
24.0	25.0	50	V30 22400	48	83	0.60	V30 62400	72	107	0.65
25.0	26.0	50	V30 22500	50	85	0.60	V30 62500	75	110	0.65
26.0	28.0	50	V30 22600	52	87	0.60	V30 62600	78	113	0.70
27.0	30.0	50	V30 22700	54	89	0.60	V30 62700	81	116	0.70
28.0	31.0	50	V30 22800	56	91	0.65	V30 62800	84	119	0.75
29.0	32.0	50	V30 22900	58	93	0.70	V30 62900	87	122	0.75
30.0	32.5	50	V30 23000	60	100	0.75	V30 63000	90	130	0.80
31.0	33.5	50	V30 23100	62	102	0.75	V30 63100	93	133	0.85
32.0	34.0	50	V30 23200	64	104	0.75	V30 63200	96	136	0.90
33.0	34.0	50	V30 23300	66	106	0.80	V30 63300	99	139	0.95
34.0	35.0	50	V30 23400	68	108	0.85	V30 63400	102	142	1.00
35.0	36.0	50	V30 23500	70	110	0.90	V30 63500	105	145	1.00
36.0	37.0	50	V30 23600	72	112	0.90	V30 63600	108	148	1.05
37.0	40.0	50	V30 23700	74	124	1.05	V30 63700	111	161	1.20
38.0	41.0	50	V30 23800	76	126	1.05	V30 63800	114	164	1.25
39.0	42.0	50	V30 23900	78	128	1.10	V30 63900	117	167	1.30
40.0	43.0	50	V30 24000	80	130	1.15	V30 64000	120	170	1.40
41.0	44.0	50	V30 24100	82	132	1.20	V30 64100	123	173	1.45
42.0	45.0	50	V30 24200	84	134	1.20	V30 64200	126	176	1.50
43.0	45.0	50	V30 24300	86	136	1.25	V30 64300	129	179	1.55
44.0	45.0	50	V30 24400	88	138	1.25	V30 64400	132	182	1.55

Supply includes:
KUB Trigon® drill with assembly parts. Please order insert and accessories separately.

L / D	solid drilling	blind hole	forge/casting skin, interface	angled	convex	cross bore	centering bore	chamber	stack plate drilling	rough boring	adjustable
2×D	●	●	●	●	●	●	◐	●	✕	◐	◐
3×D	●	●	◐	◐	◐	◐	◐	◐	✕	○	◐

● very good ◐ good ○ possible: see technical notes, pages 138-140 ✕ not possible

Basic recommendation				Assembly parts		Accessories
Insert -01 -11			for workpiece material	Clamping screw	Starting torque	Screwdriver
Order No. ▽▽ Size	ISO-Code	Piece	P M K N S H	Order No. Description		Order No. Description
W29 10010.048425 W29 10010.047930 W29 10010.0462 W29 10110.0477	WOEX 030204-01 BK8425 WOEX 030204-01 BK7930 WOEX 030204-01 BK62 WOEX 030204-11 BK77	2		N00 56041 S/M2×4.3-6IP	0.62 Nm	L05 00810 6IP
W29 18010.048425 W29 18010.047930 W29 18010.0462 W29 18110.0477	WOEX 040304-01 BK8425 WOEX 040304-01 BK7930 WOEX 040304-01 BK62 WOEX 040304-11 BK77	2		N00 57553 S/M2.2×5.5-6IP	1.01 Nm	L05 00810 6IP
W29 24010.048425 W29 24010.047930 W29 24010.0462 W29 24110.0477	WOEX 05T304-01 BK8425 WOEX 05T304-01 BK7930 WOEX 05T304-01 BK62 WOEX 05T304-11 BK77	2		N00 57511 S/M2.5×7.2-8IP	1.28 Nm	L05 00830 8IP
W29 34010.048425 W29 34010.047930 W29 34010.0462 W29 34110.0477	WOEX 06T304-01 BK8425 WOEX 06T304-01 BK7930 WOEX 06T304-01 BK62 WOEX 06T304-11 BK77	2		N00 57521 S/M3,5×7,3-10IP	2,8 Nm	L05 00850 10IP



Note re. insert radius:
The nominal dimension ∅ is only achieved with the appropriate standardised insert radius.
Insert radii which deviate from this will alter the nominal dimension ∅ (see Chapter 8)

Guideline values for solid drilling: page 118 / alternative inserts: page 119.

KOMET KUB Trigon®

Insert Drill with ABS® Connection, L.H. cutting

Ø 14 – 44 mm

Guideline values for solid drilling						v_c	Max. feed f (mm/rev)									
							2×D					3×D				
Material group		Strength Rm (N/mm²)	Hardness HB	Material	Material example, material code / DIN	Cutting speed v_c (m/min)	Ø 14 – 16.9	Ø 17 – 19.9	Ø 20 – 24.9	Ø 25 – 36.9	Ø 37 – 44.0	Ø 14 – 16.9	Ø 17 – 19.9	Ø 20 – 24.9	Ø 25 – 36.9	Ø 37 – 44.0
P	1.0	≤500		non-alloy steels	St37-2 / 1.0037; 9SMn28 / 1.0715; St44-2 / 1.0044	300	0.08	0.10	0.10	0.12	0.12	0.08	0.10	0.10	0.12	0.12
P	2.0	500-900		non-alloy / low alloy steels	St52-2 / 1.0050, C55 / 1.0525, 16MnCr5 / 1.7131	250	0.06	0.08	0.12	0.14	0.16	0.06	0.08	0.12	0.14	0.16
P	2.1	<500		lead alloys	9SMnPb28 / 1.0718	300	0.08	0.10	0.12	0.14	0.20	0.08	0.10	0.12	0.14	0.20
P	3.0	>900		non alloy / low alloy steels: heat resistant structural, heat treated, nitride and tools steels	42CrMo4 / 1.7225, CK60 / 1.1221	200	0.06	0.08	0.10	0.14	0.16	0.06	0.08	0.10	0.14	0.16
P	4.0	>900		high alloy steels	X6CrMo4 / 1.2341, X165CrMoV12 / 1.2601	180	0.06	0.08	0.10	0.12	0.14	0.06	0.08	0.10	0.12	0.14
P	4.1			HSS		80	0.04	0.06	0.08	0.10	–	0.04	0.06	0.08	0.10	0.12
S	5.0		250	special alloys: Inconel, Hastelloy, Nimonic, stc.	Inconel 718 / 2.4668, Nimonic 80A / 2.4631	60	0.04	0.06	0.08	0.10	0.10	0.04	0.06	0.08	0.10	0.10
S	5.1	400		titanium, titanium alloys	TiAl5Sn2 / 3.7114	80	0.06	0.08	0.10	0.12	0.12	0.06	0.08	0.10	0.12	0.12
M	6.0	≤600		stainless steels	X2CrNi189 / 1.4306, X5CrNiMo1810 / 1.4401	180	0.06	0.08	0.10	0.14	0.14	0.06	0.08	0.10	0.14	0.14
M	6.1	<900		stainless steels	X8CrNb17 / 1.4511, X10CrNiMoTi1810 / 1.4571	160	0.06	0.06	0.08	0.12	0.14	0.06	0.06	0.08	0.12	0.14
M	7.0	>900		stainless / fireproof steels	X10CrAl7 / 1.4713, X8CrS-38-18 / 1.4862	160	0.06	0.06	0.08	0.12	0.12	0.06	0.06	0.08	0.12	0.12
K	8.0		180	gray cast iron	GG-25 / 0.6025, GG-35 / 0.6035	200	0.10	0.12	0.14	0.20	0.25	0.10	0.12	0.14	0.20	0.25
K	8.1		250	alloy gray cast iron	GG-NiCr202 / 0.6660	160	0.08	0.08	0.10	0.14	0.18	0.08	0.08	0.10	0.14	0.18
K	9.0	≤600	130	spheroidal graphite cast iron, ferritic	GGG-40 / 0.7040	180	0.08	0.10	0.14	0.20	0.25	0.08	0.10	0.14	0.20	0.25
K	9.1		230	spheroidal graphite cast iron, ferritic / perlitic	GGG-50 / 0.7050 GGG-55 / 0.7055 GTW-55 / 0.8055	160	0.08	0.10	0.14	0.20	0.25	0.08	0.10	0.14	0.20	0.25
K	10.0	>600	250	spheroidal graphite cast iron, perlitic malleable iron	GGG-60 / 0.7060 GTS-65 / 0.8165	140	0.10	0.12	0.16	0.25	0.25	0.10	0.12	0.16	0.25	0.25
K	10.1		200	alloyed spheroidal graphite cast iron	GGG-NiCr20-2 / 0.7661	140	0.08	0.10	0.14	0.20	0.25	0.08	0.10	0.14	0.20	0.25
K	10.2		300	vermicular cast iron	GGV Ti < 0,2 GGV Ti > 0,2	120	0.08	0.10	0.14	0.16	0.20	0.08	0.10	0.14	0.16	0.20
N	12.0		90	copper alloy, brass, lead-alloy bronze, lead bronze: good cut	CuZn36Pb3 / 2.1182, G-CuPb15Sn / 2.1182	300	0.05	0.08	0.12	0.16	0.20	0.05	0.08	0.12	0.16	0.20
N	12.1		100	copper alloy, brass, bronze: average cut	CuZn40Al1 / 2.0550, E-Cu57 / 2.0060	400	0.05	0.08	0.08	0.10	0.12	0.05	0.08	0.08	0.10	0.12
N	13.0		60	wrought aluminium alloys	AlMg1 / 3.3315, AlMnCu / 3.0517	600	0.05	0.08	0.08	0.10	0.12	0.05	0.08	0.08	0.10	0.12
N	13.1		75	cast alum. alloy: Si-content <10% magnesium alloy	G-AlMg5 / 3.3561, G-AlSi9Mg / 3.2373	300	0.10	0.12	0.14	0.18	0.20	0.10	0.12	0.14	0.18	0.20
N	14.0		100	cast alum.alloy: Si-content >10%	G-AlSi10Mg / 3.2381	250	0.10	0.12	0.14	0.20	0.25	0.10	0.12	0.14	0.20	0.25
H	15.0	1400		hardened steels < 45 HRC		80	0.05	0.05	0.08	0.10	0.12	0.05	0.05	0.08	0.10	0.12
H	16.0	1800		hardened steels > 45 HRC		40	0.05	0.08	0.08	0.10	0.10	0.05	0.08	0.08	0.10	0.10

Cutting values shown are maximum values relating to the basic recommendations for cutting materials given.

Patent applied for inside and outside Germany (ABS), EP 883 455 and other patents (KUB Trigon)

Alternative Inserts

	ØD	Order No. ▽▽ Size	ISO-Code	for workpiece material P M K N S H
		Insert  -03 -13		
for better chip control	14 – 19.5	**W29 10130.046425**	WOEX 030204-13 BK6425 ⚠	
	20 – 24.5	**W29 18130.046425**	WOEX 040304-13 BK6425 ⚠	
	25 – 36	**W29 24030.046425**	WOEX 05T304-03 BK6425 ⚠	
	37 – 44	**W29 34030.046425**	WOEX 06T304-03 BK6425 ⚠	

⚠ Only use this insert with KUB Trigon®
as an external cutting edge:
WOEX ... -03 (Geometry 03)
WOEX ... -01 (Geometry 01) in BK6115
WOEX ... -01 (Geometry 01) in BK6420

Alternative Inserts

	ØD	Order No. ▽▽ Size	ISO-Code	for workpiece material P M K N S H
		Insert  -00 -01 -11		
for higher cutting speed	14 – 19.5	W29 10010.0472 W29 10110.0450	WOEX 030204-01 BK72 WOEX 030204-11 BK50	
	20 – 24.5	W29 18010.0472 W29 18110.0450	WOEX 040304-01 BK72 WOEX 040304-11 BK50	
	25 – 36	W29 24010.0472 W29 24110.0450	WOEX 05T304-01 BK72 WOEX 05T304-11 BK50	
	37 – 44	W29 34010.0472 W29 34110.0450	WOEX 06T304-01 BK72 WOEX 06T304-11 BK50	
for greater strength	14 – 19.5	**W29 10010.047930** **W29 10010.0404** **W29 10010.0421** **W29 10110.0421**	WOEX 030204-01 BK7930 WOEX 030204-01 P40 WOEX 030204-01 K10 WOEX 030204-11 K10	
	20 – 24.5	**W29 18010.047930** **W29 18010.0404** **W29 18010.0421** **W29 18110.0421**	WOEX 040304-01 BK7930 WOEX 040304-01 P40 WOEX 040304-01 K10 WOEX 040304-11 K10	
	25 – 36	**W29 24010.047930** **W29 24010.0404** **W29 24010.0421** **W29 24110.0421**	WOEX 05T304-01 BK7930 WOEX 05T304-01 P40 WOEX 05T304-01 K10 WOEX 05T304-11 K10	
	37 – 44	**W29 34010.047930** **W29 34010.0404** **W29 34010.0421** **W29 34110.0421**	WOEX 080404-01 BK7930 WOEX 080404-01 P40 WOEX 080404-01 K10 WOEX 080404-00 K10	

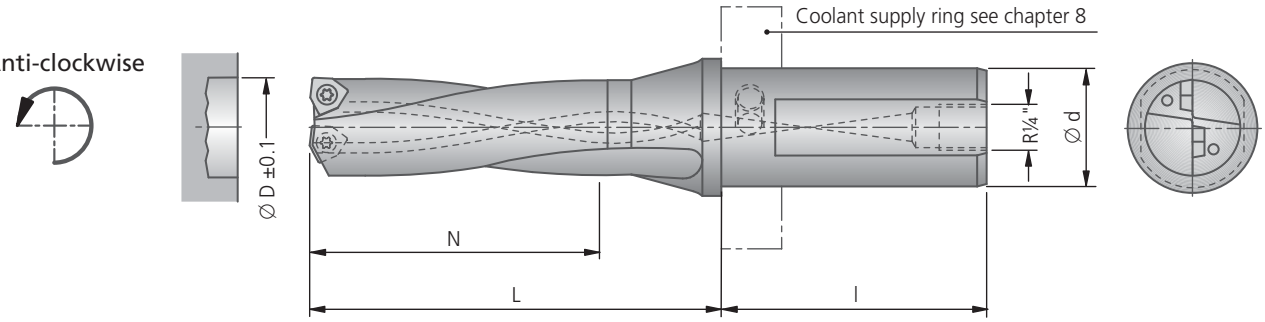
Important: See chapter 8 for more application details and safety notes!

KOMET KUB Trigon®

Ø 14 – 54 mm

Insert Drill with Cylindrical Shank (parallel clamping surface), L.H. cutting

Anti-clockwise



Ø D	max. diameter with offset	N	L	3×D Cylindrical shank Ø d × l Ø 25 × 56 Order No.	kg	Cylindrical shank Ø d × l Ø 30 × 58 Order No.	kg	Cylindrical shank Ø d × l Ø 40 × 68 Order No.	kg
14.0	15.0	42	66	V37 61402	0.27	V38 61402	0.37	V39 61402	0.73
15.0	16.0	45	69	V37 61502	0.25	V38 61502	0.38	V39 61502	0.74
16.0	17.0	48	72	V37 61600	0.28	V38 61600	0.39	V39 61600	0.75
17.0	18.0	51	75	V37 61700	0.29	V38 61700	0.40	V39 61700	0.76
18.0	19.0	54	78	V37 61800	0.27	V38 61800	0.40	V39 61800	0.76
19.0	19.5	57	81	V37 61900	0.31	V38 61900	0.41	V39 61900	0.78
20.0	21.0	60	84	V37 62000	0.32	V38 62000	0.44	V39 62000	0.79
21.0	22.0	63	87	V37 62100	0.33	V38 62100	0.45	V39 62100	0.81
22.0	23.0	66	90	V37 62200	0.35	V38 62200	0.46	V39 62200	0.82
23.0	24.0	69	93	V37 62300	0.37	V38 62300	0.48	V39 62300	0.84
24.0	25.0	72	96	V37 62400	0.38	V38 62400	0.49	V39 62400	0.86
25.0	26.0	75	99	–		V38 62500	0.48	V39 62500	0.86
26.0	28.0	78	102	–		V38 62600	0.55	V39 62600	0.88
27.0	30.0	81	105	–		V38 62700	0.54	V39 62700	0.90
28.0	31.0	84	108	–		V38 62800	0.57	V39 62800	0.91
29.0	32.0	87	111	–		V38 62900	0.59	V39 62900	0.96
30.0	32.5	90	119	–		V38 63000	0.65	V39 63000	1.01
31.0	33.5	93	122	–		V38 63100	0.68	V39 63100	0.99
32.0	34.0	96	125	–		V38 63200	0.71	V39 63200	1.08
33.0	35.0	99	128	–		V38 63300	0.74	V39 63300	1.12
34.0	35.0	102	131	–		V38 63400	0.75	V39 63400	1.13
35.0	36.0	105	134	–		V38 63500	0.79	V39 63500	1.16
36.0	37.0	108	137	–		V38 63600	0.82	V39 63600	1.19
37.0	40.0	111	150	–		V38 63700	0.90	V39 63700	1.29
38.0	41.0	114	153	–		V38 63800	0.94	V39 63800	1.33
39.0	42.0	117	156	–		V38 63900	0.99	V39 63900	1.38
40.0	43.0	120	159	–		V38 64000	1.03	V39 64000	1.43
41.0	44.0	123	162	–		V38 64100	1.08	V39 64100	1.48
42.0	45.0	126	165	–		V38 64200	1.15	V39 64200	1.54
43.0	45.0	129	168	–		V38 64300	1.22	V39 64300	1.60
44.0	45.0	132	171	–		V38 64400	1.23	V39 64400	1.66
45.0	48.0	135	179	–		–		V59 64500	1.88
46.0	49.0	138	182	–		–		V59 64600	1.87
47.0	50.0	141	185	–		–		V59 64700	1.94
48.0	51.0	144	188	–		–		V59 64800	2.09
49.0	52.0	147	191	–		–		V59 64900	2.19
50.0	53.0	150	194	–		–		V59 65000	2.28
51.0	54.0	153	197	–		–		V59 65100	2.40
54.0	55.0	162	206	–		–		V59 65400	2.64

Supply includes:
KUB Trigon® drill with assembly parts. Please order insert and accessories separately.

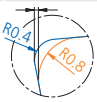
EP 883 455 and other patents (KUB Trigon)

Insert Drill with Cylindrical Shank (parallel clamping surface), L.H. cutting

L / D	solid drilling	blind hole	forge/casting skin, interface	angled	convex	cross bore	centering bore	chamber	stack plate drilling	rough boring	adjustable
3×D	●	●	◐	◐	◐	◐	◐	◐	✕	○	◐

● very good ◐ good ○ possible: see technical notes, pages 138-140 ✕ not possible

Basic recommendation				Assembly parts		Accessories
Insert -01 -11			for workpiece material	Clamping screw	Starting torque	Screwdriver
Order No. ▽▽ Size	ISO-Code	Piece	P M K N S H	Order No. Description		Order No. Description
W29 10010.048425 **W29 10010.047930** **W29 10010.0462** **W29 10110.0477**	WOEX 030204-01 BK8425 WOEX 030204-01 BK7930 WOEX 030204-01 BK62 WOEX 030204-11 BK77	2	● ◐ ● ● ● ○	**N00 56041** S/M2×4.3-6IP	0.62 Nm	**L05 00810** 6IP
W29 18010.048425 **W29 18010.047930** **W29 18010.0462** **W29 18110.0477**	WOEX 040304-01 BK8425 WOEX 040304-01 BK7930 WOEX 040304-01 BK62 WOEX 040304-11 BK77	2	● ◐ ● ● ● ○	**N00 57553** S/M2.2×5.5-6IP	1.01 Nm	**L05 00810** 6IP
W29 24010.048425 **W29 24010.047930** **W29 24010.0462** **W29 24110.0477**	WOEX 05T304-01 BK8425 WOEX 05T304-01 BK7930 WOEX 05T304-01 BK62 WOEX 05T304-11 BK77	2	● ◐ ● ● ● ○	**N00 57511** S/M2.5×7.2-8IP	1.28 Nm	**L05 00830** 8IP
W29 34010.048425 **W29 34010.047930** **W29 34010.0462** **W29 34110.0477**	WOEX 06T304-01 BK8425 WOEX 06T304-01 BK7930 WOEX 06T304-01 BK62 WOEX 06T304-11 BK77	2	● ◐ ● ● ● ○	**N00 57521** S/M3.5×7.3-10IP	2.8 Nm	**L05 00850** 10IP
W29 42010.048425 **W29 42010.047930** **W29 42010.0462** **W29 42110.0477**	WOEX 080404-01 BK8425 WOEX 080404-01 BK7930 WOEX 080404-01 BK62 WOEX 080404-11 BK77	2	● ◐ ● ● ● ○	**N00 57531** S/M4.5×9-15IP	6.25 Nm	**L05 00860** 15IP



Note re. insert radius:
The nominal dimension ∅ is only achieved with the appropriate standardised insert radius.
Insert radii which deviate from this will alter the nominal dimension ∅ (see Chapter 8)

Guideline values for solid drilling: page 122 / alternative inserts: page 123.

Insert Drill with Cylindrical Shank (parallel clamping surface), L.H. cutting

Guideline values for solid drilling						v_c	Max. feed f (mm/rev)							
							3×D							
Material group		Strength Rm (N/mm²)	Hardness HB	Material	Material example, material code / DIN	Cutting speed v_c (m/min)	Ø 14 – 16.9	Ø 17 – 19.9	Ø 20 – 24.9	Ø 25 – 29.9	Ø 30 – 36.9	Ø 37 – 40.9	Ø 41 – 44.0	Ø 44.5 – 54.0
P	1.0	≤500		non-alloy steels	St37-2 / 1.0037; 9SMn28 / 1.0715; St44-2 / 1.0044	300	0.08	0.10	0.10	0.12	0.12	0.12	0.12	0.14
P	2.0	500-900		non-alloy / low alloy steels	St52-2 / 1.0050, C55 / 1.0525, 16MnCr5 / 1.7131	250	0.06	0.08	0.12	0.14	0.14	0.14	0.16	0.18
P	2.1	<500		lead alloys	9SMnPb28 / 1.0718	300	0.08	0.10	0.12	0.14	0.16	0.16	0.20	0.22
P	3.0	>900		non alloy / low alloy steels: heat resistant structural, heat treated, nitride and tools steels	42CrMo4 / 1.7225, CK60 / 1.1221	200	0.06	0.08	0.10	0.14	0.16	0.16	0.16	0.18
P	4.0	>900		high alloy steels	X6CrMo4 / 1.2341, X165CrMoV12 / 1.2601	180	0.06	0.08	0.10	0.10	0.12	0.12	0.14	0.16
P	4.1			HSS		80	0.04	0.06	0.08	0.10	0.10	0.12	0.12	0.14
S	5.0		250	special alloys: Inconel, Hastelloy, Nimonic, stc.	Inconel 718 / 2.4668, Nimonic 80A / 2.4631	60	0.04	0.06	0.08	0.10	0.10	0.10	0.10	0.10
S	5.1	400		titanium, titanium alloys	TiAl5Sn2 / 3.7114	80	0.06	0.08	0.10	0.12	0.10	0.12	0.12	0.12
M	6.0	≤600		stainless steels	X2CrNi189 / 1.4306, X5CrNiMo1810 / 1.4401	180	0.06	0.08	0.10	0.14	0.14	0.14	0.14	0.14
M	6.1	<900		stainless steels	X8CrNb17 / 1.4511, X10CrNiMoTi1810 / 1.4571	160	0.06	0.06	0.08	0.12	0.12	0.12	0.14	0.15
M	7.0	>900		stainless / fireproof steels	X10CrAl7 / 1.4713, X8CrS-38-18 / 1.4862	160	0.06	0.06	0.08	0.12	0.12	0.12	0.12	0.14
K	8.0		180	gray cast iron	GG-25 / 0.6025, GG-35 / 0.6035	200	0.10	0.12	0.14	0.20	0.20	0.20	0.25	0.28
K	8.1		250	alloy gray cast iron	GG-NiCr202 / 0.6660	160	0.08	0.08	0.10	0.14	0.14	0.16	0.18	0.20
K	9.0	≤600	130	spheroidal graphite cast iron, ferritic	GGG-40 / 0.7040	180	0.08	0.10	0.14	0.20	0.20	0.20	0.25	0.26
K	9.1		230	spheroidal graphite cast iron, ferritic/ perlitic	GGG-50 / 0.7050 GGG-55 / 0.7055 GTW-55 / 0.8055	160	0.08	0.10	0.14	0.20	0.20	0.20	0.25	0.26
K	10.0	>600	250	spheroidal graphite cast iron, perlitic malleable iron	GGG-60 / 0.7060 GTS-65 / 0.8165	140	0.10	0.12	0.16	0.25	0.25	0.25	0.25	0.26
K	10.1		200	alloyed spheroidal graphite cast iron	GGG-NiCr20-2 / 0.7661	140	0.08	0.10	0.14	0.20	0.20	0.20	0.25	0.26
K	10.2		300	vermicular cast iron	GGV Ti < 0,2 GGV Ti > 0,2	120	0.08	0.10	0.14	0.16	0.16	0.16	0.20	0.22
N	12.0		90	copper alloy, brass, lead-alloy bronze, lead bronze: good cut	CuZn36Pb3 / 2.1182, G-CuPb15Sn / 2.1182	300	0.05	0.08	0.12	0.16	0.16	0.18	0.20	0.22
N	12.1		100	copper alloy, brass, bronze: average cut	CuZn40Al1 / 2.0550, E-Cu57 / 2.0060	400	0.05	0.08	0.08	0.10	0.10	0.10	0.12	0.14
N	13.0		60	wrought aluminium alloys	AlMg1 / 3.3315, AlMnCu / 3.0517	600	0.05	0.08	0.08	0.10	0.10	0.12	0.12	0.14
N	13.1		75	cast alum. alloy: Si-content <10% magnesium alloy	G-AlMg5 / 3.3561, G-AlSi9Mg / 3.2373	300	0.10	0.12	0.14	0.18	0.18	0.20	0.20	0.22
N	14.0		100	cast alum.alloy: Si-content >10%	G-AlSi10Mg / 3.2381	250	0.10	0.12	0.14	0.20	0.20	0.20	0.25	0.26
H	15.0	1400		hardened steels < 45 HRC		80	0.05	0.05	0.08	0.10	0.10	0.12	0.12	0.12
H	16.0	1800		hardened steels > 45 HRC		40	0.05	0.08	0.08	0.10	0.10	0.10	0.10	0.10

Cutting values shown are maximum values relating to the basic recommendations for cutting materials given.
EP 883 455 and other patents (KUB Trigon)

Alternative Inserts

	ØD	Order No. ▽▽ Size	ISO-Code	for workpiece material P M K N S H
		Insert  -03 -13		
for better chip control	14 – 19.5	**W29 10130.046425**	WOEX 030204-13 BK6425 ⚠	
	20 – 24.5	**W29 18130.046425**	WOEX 040304-13 BK6425 ⚠	
	25 – 36	**W29 24030.046425**	WOEX 05T304-03 BK6425 ⚠	
	37 – 44	**W29 34130.048425**	WOEX 06T304-13 BK8425	
		W29 34030.046425	WOEX 06T304-03 BK6425 ⚠	
		W29 34130.0479	WOEX 06T304-13 BK79	
	45 – 54	**W29 42030.046425**	WOEX 080404-03 BK6425 ⚠	
		W29 42000.048425	WOEX 080404-00 BK8425	

⚠ Only use this insert with KUB Trigon ®
as an external cutting edge:
WOEX ... -03 (Geometry 03)
WOEX ... -01 (Geometry 01) in BK6115
WOEX ... -01 (Geometry 01) in BK6420

Alternative Inserts

	ØD	Order No. ▽▽ Size	ISO-Code	for workpiece material P M K N S H
		Insert  -00 -01 -11		
for higher cutting speed	14 – 19.5	W29 10010.0472	WOEX 030204-01 BK72	
		W29 10110.0450	WOEX 030204-11 BK50	
	20 – 24.5	W29 18010.0472	WOEX 040304-01 BK72	
		W29 18110.0450	WOEX 040304-11 BK50	
	25 – 36	W29 24010.0472	WOEX 05T304-01 BK72	
		W29 24110.0450	WOEX 05T304-11 BK50	
	37 – 44	W29 34010.0472	WOEX 06T304-01 BK72	
		W29 34110.0450	WOEX 06T304-11 BK50	
	45 – 54	W29 42010.0472	WOEX 080404-01 BK72	
		W01 42940.0455	WOHX 080404 F PKD55	
		W01 42600.0461	WOHX 080404 EN BK61	
for greater strength	14 – 19.5	**W29 10010.047930**	WOEX 030204-01 BK7930	
		W29 10010.0404	WOEX 030204-01 P40	
		W29 10010.0421	WOEX 030204-01 K10	
		W29 10110.0421	WOEX 030204-11 K10	
	20 – 24.5	**W29 18010.047930**	WOEX 040304-01 BK7930	
		W29 18010.0404	WOEX 040304-01 P40	
		W29 18010.0421	WOEX 040304-01 K10	
		W29 18110.0421	WOEX 040304-11 K10	
	25 – 36	**W29 24010.047930**	WOEX 05T304-01 BK7930	
		W29 24010.0404	WOEX 05T304-01 P40	
		W29 24010.0421	WOEX 05T304-01 K10	
		W29 24110.0421	WOEX 05T304-11 K10	
	37 – 44	**W29 34010.047930**	WOEX 080404-01 BK7930	
		W29 34010.0404	WOEX 080404-01 P40	
		W29 34010.0421	WOEX 080404-01 K10	
		W29 34110.0421	WOEX 080404-00 K10	
	45 – 54	**W29 42010.047930**	WOEX 080404-01 BK7930	
		W29 42010.0404	WOEX 080404-01 P40	
		W29 42010.0421	WOEX 080404-01 K10	
		W29 42000.0421	WOEX 080404-00 K10	

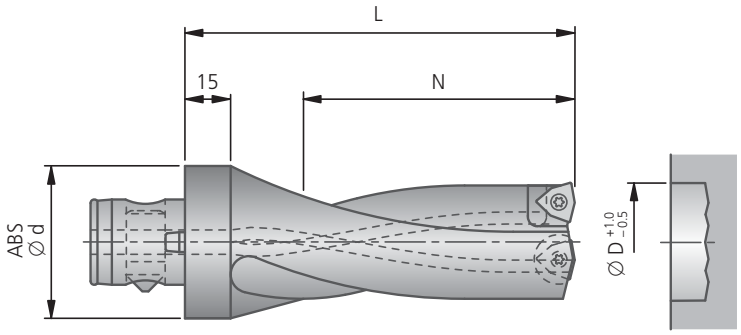
Important: See chapter 8 for more application details and safety notes!

KOMET KUB®

Ø 38.5 – 82 mm

Insert Drill with ABS® Connection, R.H. cutting

2×D on request



Ø D adjustable	ABS Ø d	3×D Order No.	3×D N	3×D L	3×D kg	Basic recommendation Order No. ▽▽ Size	Basic recommendation ISO-Code	for workpiece material P M K N S H
38.5 – 40	50	V82 73900	117	167	1.17			
39.5 – 41	50	V82 74000	120	170	1.20			
40.5 – 42	50	V82 74100	123	173	1.32	W29 34010.048425	WOEX 06T304-01 BK8425	
41.5 – 43	50	V82 74200	126	176	1.33	W29 34010.047930	WOEX 06T304-01 BK7930	
42.5 – 44	50	V82 74300	129	179	1.44	W29 34010.0462	WOEX 06T304-01 BK62	
43.5 – 45	50	V82 74400	132	182	1.44	W29 34110.0477	WOEX 06T304-11 BK77	
44.5 – 46	63	V83 74500	135	190	1.91			
45.5 – 47	63	V83 74600	138	193	1.79			
46.5 – 48	63	V83 74700	141	196	2.02			
47.5 – 49	63	V83 74800	144	199	2.01	W29 42010.048425	WOEX 080404-01 BK8425	
48.5 – 50	63	V83 74900	147	202	2.18	W29 42010.047930	WOEX 080404-01 BK7930	
49.5 – 51	63	V83 75000	150	205	2.23	W29 42010.0462	WOEX 080404-01 BK62	
50.5 – 52	63	V83 75100	153	208	2.30	W29 42110.0477	WOEX 080404-11 BK77	
51.5 – 53	63	V83 75200	156	211	2.40			
52.5 – 54	63	V83 75300	159	214	2.48			
53.5 – 55	63	V83 75400	162	217	2.55			
54.5 – 56	80	V84 75500	165	220	3.50			
55.5 – 57	80	V84 75600	168	223	3.68			
56.5 – 58	80	V84 75700	171	226	3.70			
57.5 – 59	80	V84 75800	174	229	3.80			
58.5 – 60	80	V84 75900	177	232	3.92			
59.5 – 61	80	V84 76000	180	235	4.00	W29 50010.048425	WOEX 100504-01 BK8425	
60.5 – 62	80	V84 76100	183	238	4.00	W29 50010.047930	WOEX 100504-01 BK7930	
61.5 – 63	80	V84 76200	186	241	4.10	W29 50010.0462	WOEX 100504-01 BK62	
62.5 – 64	80	V84 76300	189	244	4.43	W29 50110.0477	WOEX 100504-11 BK77	
63.5 – 65	80	V84 76400	192	247	4.31			
64.5 – 66	80	V84 76500	195	250	4.61			
65.5 – 67	80	V84 76600	198	253	4.65			
66.5 – 68	80	V84 76700	201	256	4.70			
67.5 – 69	80	V84 76800	204	259	5.00			
68.5 – 70	80	V84 76900	207	272	5.44			
69.5 – 71	80	V84 77000	210	275	5.51			
70.5 – 72	80	V84 77100	213	278	5.58			
71.5 – 73	80	V84 77200	216	281	5.91			
72.5 – 74	80	V84 77300	219	284	6.07	W29 58010.088425	WOEX 120608-01 BK8425	
73.5 – 75	80	V84 77400	222	287	6.15	W29 58010.087930	WOEX 120608-01 BK7930	
74.5 – 76	80	V84 77500	225	290	6.21	W29 58010.0862	WOEX 120608-01 BK62	
75.5 – 77	80	V84 77600	228	293	6.35	W29 58000.088425	WOEX 120608-00 BK8425	
76.5 – 78	80	V84 77700	231	296	6.50	W29 58000.0821	WOEX 120608-00 K10	
77.5 – 79	80	V84 77800	234	299	6.80			
78.5 – 80	80	V84 77900	237	302	7.00			
79.5 – 81	80	V84 78000	240	305	7.39			
80.5 – 82	80	V84 78100	243	308	7.61			

Any **intermediate dimensions** from ∅ 38.5 – 82 mm and **inch dimensions** are available on request.

Supply includes:

KUB® drill with assembly parts. Please order insert and accessories separately.

Patent applied for inside and outside Germany (ABS)

L / D	solid drilling	blind hole	forge/casting skin, interface	angled	convex	cross bore	centering bore	chamber	stack plate drilling	rough boring	adjustable
3×D	●	●	○	○	○	○	○	○	✕	✕	◐

● very good ◐ good ○ possible: see technical notes, pages 138-140 ✕ not possible

	Assembly parts	Accessories	Assembly parts				
	Clamping screw	Screwdriver	Insert seating external	Clamping screw	Insert seating internal	Clamping screw	Pin
	Order No. Description	Order No. Description	Order No.	Order No.	Order No.	Order No. Description	Order No. Description
	N00 57611 S/M3.5×6.6-10IP 2.8 Nm	L05 00850 10IP	D53 56201	N10 11400	D50 55100	N00 55701 M3.5×5-8IP 2.25 Nm	N00 52000 1.8/2×4.5
	N00 57531 S/M4.5×9-15IP 6.25 Nm	L05 00860 15IP	D53 56211	N10 11500	D50 55110	N00 55821 M4.5×9-10IP 4.3 Nm	N00 52010 3/4×5.5
	N00 57531 S/M4.5×9-15IP 6.25 Nm	L05 00860 15IP	D53 56221	N10 11510	D50 55120	N00 55821 M4.5×9-10IP 4.3 Nm	N00 52010 3/4×5.5
	N00 57541 S/M5.5×11-20IP 6.25 Nm	L05 00870 20IP	D53 56231	N10 11010	D50 55130	N00 55891 M5.5×8.5-20IP 6.25 Nm	N00 52020 4/5×7.0

Note re. insert radius:
The nominal dimension ∅ is only achieved with the appropriate standardised insert radius.
Insert radii which deviate from this will alter the nominal dimension ∅ (see Chapter 8)

Guideline values for solid drilling: page 126 / alternative inserts: page 127.

Guideline values for solid drilling							v_c	Max. feed f (mm/rev)			
								3×D			
	Material group	Strength Rm (N/mm²)	Hardness HB	Material	Material example, material code / DIN	Cutting speed v_c (m/min)	Ø 38.5 – 44	Ø 44.5 – 54	Ø 54.5 – 68	Ø 68.5 – 82
P	1.0	≤500		non-alloy steels	St37-2 / 1.0037; 9SMn28 / 1.0715; St44-2 / 1.0044	300	0.10	0.12	0.12	0.14
P	2.0	500-900		non-alloy / low alloy steels	St52-2 / 1.0050, C55 / 1.0525, 16MnCr5 / 1.7131	250	0.10	0.12	0.12	0.14
P	2.1	<500		lead alloys	9SMnPb28 / 1.0718	300	0.12	0.14	0.14	0.16
P	3.0	>900		non alloy / low alloy steels: heat resistant structural, heat treated, nitride and tools steels	42CrMo4 / 1.7225, CK60 / 1.1221	200	0.10	0.12	0.12	0.14
P	4.0	>900		high alloy steels	X6CrMo4 / 1.2341, X165CrMoV12 / 1.2601	180	0.08	0.10	0.10	0.12
P	4.1			HSS		80	0.06	0.08	0.08	0.10
S	5.0		250	special alloys: Inconel, Hastelloy, Nimonic, stc.	Inconel 718 / 2.4668, Nimonic 80A / 2.4631	60	0.06	0.08	0.08	0.10
S	5.1	400		titanium, titanium alloys	TiAl5Sn2 / 3.7114	80	0.06	0.08	0.08	0.10
M	6.0	≤600		stainless steels	X2CrNi189 / 1.4306, X5CrNiMo1810 / 1.4401	180	0.08	0.10	0.10	0.12
M	6.1	<900		stainless steels	X8CrNb17 / 1.4511, X10CrNiMoTi1810 / 1.4571	160	0.08	0.10	0.10	0.12
M	7.0	>900		stainless / fireproof steels	X10CrAl7 / 1.4713, X8CrS-38-18 / 1.4862	160	0.06	0.08	0.08	0.10
K	8.0		180	gray cast iron	GG-25 / 0.6025, GG-35 / 0.6035	200	0.16	0.18	0.18	0.23
K	8.1		250	alloy gray cast iron	GG-NiCr202 / 0.6660	160	0.16	0.18	0.18	0.23
K	9.0	≤600	130	spheroidal graphite cast iron, ferritic	GGG-40 / 0.7040	180	0.14	0.16	0.16	0.18
K	9.1		230	spheroidal graphite cast iron, ferritic/ perlitic	GGG-50 / 0.7050 GGG-55 / 0.7055 GTW-55 / 0.8055	160	0.14	0.16	0.16	0.18
K	10.0	>600	250	spheroidal graphite cast iron, perlitic malleable iron	GGG-60 / 0.7060 GTS-65 / 0.8165	140	0.12	0.14	0.14	0.16
K	10.1		200	alloyed spheroidal graphite cast iron	GGG-NiCr20-2 / 0.7661	140	0.10	0.12	0.12	0.14
K	10.2		300	vermicular cast iron	GGV Ti < 0,2 GGV Ti > 0,2	120	0.12	0.14	0.14	0.16
N	12.0		90	copper alloy, brass, lead-alloy bronze, lead bronze: good cut	CuZn36Pb3 / 2.1182, G-CuPb15Sn / 2.1182	300	0.14	0.16	0.16	0.18
N	12.1		100	copper alloy, brass, bronze: average cut	CuZn40Al1 / 2.0550, E-Cu57 / 2.0060	400	0.14	0.16	0.16	0.18
N	13.0		60	wrought aluminium alloys	AlMg1 / 3.3315, AlMnCu / 3.0517	600	0.14	0.16	0.16	0.18
N	13.1		75	cast alum. alloy: Si-content <10% magnesium alloy	G-AlMg5 / 3.3561, G-AlSi9Mg / 3.2373	300	0.16	0.18	0.18	0.23
N	14.0		100	cast alum.alloy: Si-content >10%	G-AlSi10Mg / 3.2381	250	0.16	0.18	0.18	0.23
H	15.0	1400		hardened steels < 45 HRC		80	0.06	0.08	0.08	0.10
H	16.0	1800		hardened steels > 45 HRC		40	0.04	0.06	0.06	0.08

Cutting values shown are maximum values relating to the basic recommendations for cutting materials given.

Patent applied for inside and outside Germany (ABS)

Alternative Inserts

	ØD	Order No. ▽▽ Size	ISO-Code	for workpiece material P M K N S H
Insert -02 -03 -13				
for better chip control	38.5 – 44	W29 34130.048425	WOEX 06T304-13 BK8425	
		W29 34020.0464	WOEX 06T304-02 BK64	
		W29 34030.046425	WOEX 06T304-03 BK6425 ⚠	
		W29 34130.0479	WOEX 06T304-13 BK79	
	44.5 – 54	W29 42130.048425	WOEX 080404-13 BK8425	
		W29 42020.0464	WOEX 080404-02 BK64	
		W29 42030.046425	WOEX 080404-03 BK6425 ⚠	
		W29 42130.0479	WOEX 080404-13 BK79	
	54.5 – 68	W29 50130.048425	WOEX 100504-13 BK8425	
		W29 50020.0864	WOEX 100508-02 BK64	
		W29 50030.086425	WOEX 100508-03 BK6425 ⚠	
		W29 50130.0479	WOEX 100504-13 BK79	
	68.5 – 82	W29 58130.088425	WOEX 120608-13 BK8425	
		W29 58030.086425	WOEX 120608-03 BK6425 ⚠	
		W29 58130.0879	WOEX 120608-13 BK79	

Alternative Inserts

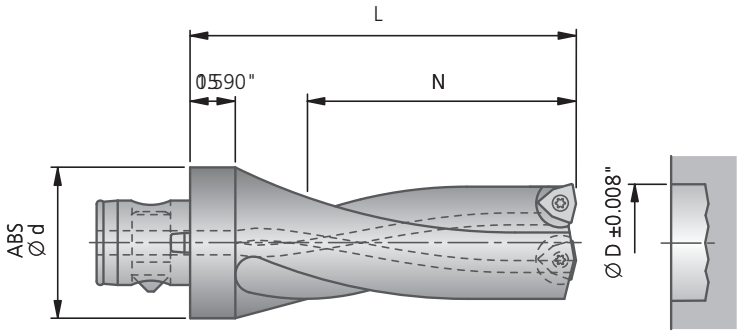
	ØD	Order No. ▽▽ Size	ISO-Code	for workpiece material P M K N S H
Insert -00 -01 -11				
for higher cutting speed	38.5 – 44	W29 34010.0472	WOEX 06T304-01 BK72	
		W29 34110.0450	WOEX 06T304-11 BK50	
	44.5 – 54	W29 42010.0472	WOEX 080404-01 BK72	
		W29 42110.0450	WOEX 080404-11 BK50	
	54.5 – 68	W29 50010.0872	WOEX 100508-01 BK72	
		W29 50110.0450	WOEX 100504-11 BK50	
	68.5 – 82	W29 58010.0872	WOEX 120608-01 BK72	
		W29 58000.0862	WOEX 120608-00 BK62	
for greater strength	38.5 – 44	W29 34010.047930	WOEX 06T304-01 BK7930	
		W29 34010.0404	WOEX 06T304-01 P40	
		W29 34010.0421	WOEX 06T304-01 K10	
		W29 34110.0421	WOEX 06T304-11 K10	
	44.5 – 54	W29 42010.047930	WOEX 080404-01 BK7930	
		W29 42010.0404	WOEX 080404-01 P40	
		W29 42010.0421	WOEX 080404-01 K10	
		W29 42110.0421	WOEX 080404-11 K10	
	54.5 – 68	W29 50010.047930	WOEX 100504-01 BK7930	
		W29 50010.0804	WOEX 100508-01 P40	
		W29 50010.0821	WOEX 100508-01 K10	
		W29 50110.0421	WOEX 100504-11 K10	
	68.5 – 82	W29 58010.087930	WOEX 120608-01 BK7930	
		W29 58010.0804	WOEX 120608-01 P40	
		W29 58010.0821	WOEX 120608-01 K10	
		W29 58000.0821	WOEX 120608-00 K10	

⚠ Only use this insert with KUB® as an external cutting edge:
WOEX ... -03 (Geometry 03)
WOEX ... -01 (Geometry 01) in BK6115
WOEX ... -01 (Geometry 01) in BK6420

Important: See chapter 8 for more application details and safety notes!

KOMET KUB ® Ø 1.781 – 3.250 inch

Insert Drill with ABS ® Connection, R.H. cutting



Ø D	*max. diameter with offset	ABS Ø d	2×D Order No.	2×D N	2×D L	2×D lbs	3×D Order No.	3×D N	3×D L	3×D lbs
1.781	1.897	63	V13 34520	3.562	5.728	3.86	V13 74520	5.343	7.509	4.63
1.812	1.929	63	V13 34600	3.624	5.790	3.97	V13 74600	5.436	7.602	4.74
1.875	1.992	63	V13 34760	3.750	5.916	4.08	V13 74760	5.625	7.791	4.85
1.937	2.055	63	V13 34920	3.874	6.040	4.30	V13 74920	5.811	7.977	5.18
1.975	2.093	63	V13 35020	3.950	6.116	4.41	V13 75020	5.925	8.091	5.51
2.000	2.118	63	V13 35080	4.000	6.166	4.52	V13 75080	6.000	8.166	5.51
2.062	2.160	63	V13 35240	4.124	6.290	4.74	V13 75240	6.186	8.532	5.73
2.125	2.171	63	V13 35400	4.250	6.416	4.96	V13 75400	6.375	8.541	5.95
2.165	2.283	80	V14 35500	4.330	6.496	6.73	V14 75500	6.495	8.661	7.35
2.203	2.321	80	V14 35600	4.406	6.572	6.84	V14 75600	6.609	8.775	8.16
2.250	2.366	80	V14 35720	4.500	6.666	6.95	V14 75720	6.750	8.916	8.38
2.281	2.397	80	V14 35790	4.562	6.728	7.06	V14 75790	6.843	9.009	8.49
2.375	2.429	80	V14 36030	4.750	6.916	7.39	V14 76030	7.125	9.291	8.85
2.437	2.555	80	V14 36190	4.874	7. 040	7.83	V14 76190	7.311	9.477	9.59
2.500	2.630	80	V14 36350	5.000	7.166	8.16	V14 76350	7.500	9.666	9.92
2.593	2.711	80	V14 36590	5.186	7.352	8.71	V14 76590	7.779	9.945	11.03
2.625	2.740	80	V14 36670	5.250	7.416	8.82	V14 76670	7.875	10.041	11.55
2.656	2.774	80	V14 36750	5.312	7.478	8.93	V14 76750	7.968	10.134	11.68
2.750	2.866	80	V14 36990	5.500	8.060	9.92	V14 76990	8.250	10.810	12.90
2.875	2.992	80	V14 37300	5.750	8.310	10.69	V14 77300	8.625	11.185	13.56
3.000	3.118	80	V14 37620	6.000	8.560	11.58	V14 77620	9.000	11.560	15.21
3.250	3.285	80	V14 38260	6.500	9.060	13.34	V14 78260	9.750	12.310	16.75

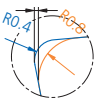
Any **intermediate dimensions** from ∅ 1.781" – 3.250" are available on request.
Supply includes: KUB ® drill with assembly parts. Please order insert and accessories separately.
* Adjustment device see "KomPass Bore machining – chapter 5"

Patent applied for inside and outside Germany (ABS)

L / D	solid drilling	blind hole	forge/casting skin, interface	angled	convex	cross bore	centering bore	chamber	stack plate drilling	rough boring	adjustable
2×D	●	●	●	●	●	◐	◐	●	✕	◐	◐
3×D	●	●	●	◐	◐	◐	◐	◐	✕	✕	◐

● very good ◐ good ○ possible: see technical notes, pages 138-140 ✕ not possible

Basic recommendation			Assembly parts	Accessories	Assembly parts			
Insert -00 -01 -11		for workpiece material	Clamping screw	Screwdriver	Insert seating external	Insert seating internal	Clamping screw	Pin
Order No. ▽▽ Size	ISO-Code	P M K N S H	Order No. Description	Order No. Description	Order No.	Order No.	Order No. Description	Order No. Description
W29 42010.048425 **W29 42010.047930** **W29 42010.0462** **W29 42110.0477**	WOEX 080404-01 BK8425 WOEX 080404-01 BK7930 WOEX 080404-01 BK62 WOEX 080404-11 BK77	● ◐ ● ● ● ○	**N00 57531** S/M4.5x9-15IP 55.3 in-lbs	**L05 00860** 15IP	**D50 55310**	**D50 55110**	**N00 55821** Tx M4.5×9-10IP 38.1 in-lbs	**N00 52010** 3/4×5.5
W29 50010.048425 **W29 50010.047930** **W29 50010.0462** **W29 50110.0477**	WOEX 100504-01 BK8425 WOEX 100504-01 BK7930 WOEX 100504-01 BK62 WOEX 100504-11 BK77	● ◐ ● ● ● ○	**N00 57531** S/M4.5x9-15IP 55.3 in-lbs	**L05 00860** 15IP	**D50 55320**	**D50 55120**	**N00 55821** Tx M4.5×9-10IP 38.1 in-lbs	**N00 52010** 3/4×5.5
W29 58010.088425 **W29 58010.087930** **W29 58010.0862** **W29 58000.088425** **W29 58000.0821**	WOEX 120608-01 BK8425 WOEX 120608-01 BK7930 WOEX 120608-01 BK62 WOEX 120608-00 BK8425 WOEX 120608-00 K10	● ◐ ● ● ● ○	**N00 57541** S/M5.5x11-20IP 55.3 in-lbs	**L05 00870** 20IP	**D50 55330**	**D50 55130**	**N00 55901** S/M5.5x13.5-20IP 55.3 in-lbs	**N00 52020** 4/5x7.0



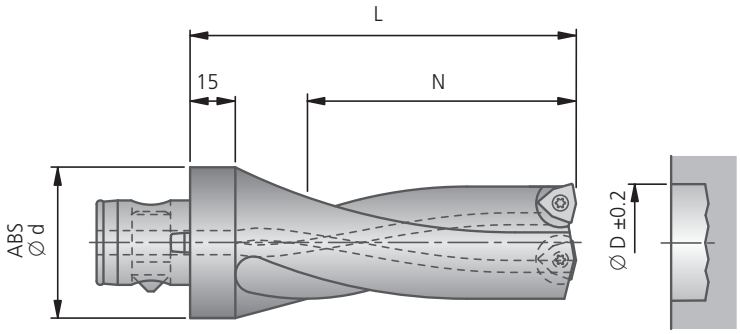
Note regarding insert radius:
The nominal dimension ∅ is only achieved with the appropriate standardized insert radius.
Insert radii which deviate from this will alter the nominal dimension ∅ (see Chapter 8)

Guideline values for solid drilling: page 132 / alternative inserts: page 133.

KOMET KUB®

Ø 45 – 82 mm

Insert Drill with ABS® Connection, R.H. cutting



Ø D	*max. diameter with offset	ABS Ø d	2×D Order No.	2×D N	2×D L	2×D kg	3×D Order No.	3×D N	3×D L	3×D kg
45	48	63	V13 34500	90	145	1.61	V13 74500	135	190	1.61
46	49	63	V13 34600	92	147	1.66	V13 74600	138	193	1.95
47	50	63	V13 34700	94	149	1.70	V13 74700	141	196	2.02
48	51	63	V13 34800	96	151	1.75	V13 74800	144	199	2.08
49	52	63	V13 34900	98	153	1.80	V13 74900	147	202	2.16
50	53	63	V13 35000	100	155	1.85	V13 75000	150	205	2.23
51	54	63	V13 35100	102	157	1.89	V13 75100	153	208	2.27
52	55	63	V13 35200	104	159	1.94	V13 75200	156	211	2.45
53	55	63	V13 35300	106	161	2.00	V13 75300	159	214	2.45
54	55	63	V13 35400	108	163	2.07	V13 75400	162	217	2.54
55	58	80	V14 35500	110	165	2.91	V14 75500	165	220	3.41
56	59	80	V14 35600	112	167	2.96	V14 75600	168	223	3.51
57	60	80	V14 35700	114	169	3.06	V14 75700	171	226	3.62
58	61	80	V14 35800	116	171	3.13	V14 75800	174	229	3.73
59	62	80	V14 35900	118	173	3.21	V14 75900	177	232	3.82
60	63	80	V14 36000	120	175	3.32	V14 76000	180	235	3.93
61	64	80	V14 36100	122	177	3.32	V14 76100	183	238	4.05
62	65	80	V14 36200	124	179	3.44	V14 76200	186	241	4.19
63	66	80	V14 36300	126	181	3.54	V14 76300	189	244	4.31
64	67	80	V14 36400	128	183	3.59	V14 76400	192	247	4.34
65	68	80	V14 36500	130	185	3.65	V14 76500	195	250	4.60
66	69	80	V14 36600	132	187	3.73	V14 76600	198	253	4.61
67	69.5	80	V14 36700	134	189	3.82	V14 76700	201	256	4.80
68	70	80	V14 36800	136	191	3.99	V14 76800	204	259	4.93
69	72	80	V14 36900	138	203	4.30	V14 76900	207	272	5.25
70	73	80	V14 37000	140	205	4.38	V14 77000	210	275	5.32
71	74	80	V14 37100	142	207	4.57	V14 77100	213	278	5.55
72	75	80	V14 37200	144	209	4.53	V14 77200	216	281	5.79
73	76	80	V14 37300	146	211	4.65	V14 77300	219	284	5.96
74	77	80	V14 37400	148	213	4.76	V14 77400	222	287	6.13
75	78	80	V14 37500	150	215	4.90	V14 77500	225	290	6.32
76	79	80	V14 37600	152	217	5.10	V14 77600	228	293	6.43
77	80	80	V14 37700	154	219	5.18	V14 77700	231	296	6.60
78	81	80	V14 37800	156	221	5.39	V14 77800	234	299	6.80
79	82	80	V14 37900	158	223	5.42	V14 77900	237	302	7.10
80	82	80	V14 38000	160	225	5.66	V14 78000	240	305	7.23
81	82.5	80	V14 38100	162	227	5.75	V14 78100	243	308	7.57
82	83	80	V14 38200	164	229	5.97	V14 78200	246	311	7.69

Any **intermediate dimensions** from Ø 45 – 82 mm and **inch dimensions** are available on request.

Supply includes: KUB® drill with assembly parts. Please order insert and accessories separately.

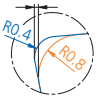
* Adjustment device see "KomPass Bore machining – chapter 5"

Patent applied for inside and outside Germany (ABS)

L / D	solid drilling	blind hole	forge/casting skin, interface	angled	convex	cross bore	centering bore	chamber	stack plate drilling	rough boring	adjustable
2×D	●	●	●	●	●	◐	◐	●	✕	◐	◐
3×D	●	●	●	◐	◐	◐	◐	◐	✕	✕	◐

● very good ◐ good ○ possible: see technical notes, pages 138-140 ✕ not possible

Basic recommendation			Assembly parts	Accessories	Assembly parts			
Insert -00 -01 -11		for workpiece material	Clamping screw	Screwdriver	Insert seating external	Insert seating internal	Clamping screw	Pin
Order No. ▽▽ Size	ISO-Code	P M K N S H	Order No. Description	Order No. Description	Order No.	Order No.	Order No. Description	Order No. Description
W29 42010.048425 **W29 42010.047930** **W29 42010.0462** **W29 42110.0477**	WOEX 080404-01 BK8425 WOEX 080404-01 BK7930 WOEX 080404-01 BK62 WOEX 080404-11 BK77	● ● ● ● ● ○	**N00 57531** S/M4.5×9-15IP 6.25 Nm	**L05 00860** 15IP	**D50 55310**	**D50 55110**	**N00 55821** M4.5×9-10IP 4.3 Nm	**N00 52010** 3/4×5.5
W29 50010.048425 **W29 50010.047930** **W29 50010.0462** **W29 50110.0477**	WOEX 100504-01 BK8425 WOEX 100504-01 BK7930 WOEX 100504-01 BK62 WOEX 100504-11 BK77	● ● ● ● ● ○	**N00 57531** S/M4.5×9-15IP 6.25 Nm	**L05 00860** 15IP	**D50 55320**	**D50 55120**	**N00 55821** M4.5×9-10IP 4.3 Nm	**N00 52010** 3/4×5.5
W29 58010.088425 **W29 58010.087930** **W29 58010.0862** **W29 58000.088425** **W29 58000.0821**	WOEX 120608-01 BK8425 WOEX 120608-01 BK7930 WOEX 120608-01 BK62 WOEX 120608-00 BK8425 WOEX 120608-00 K10	● ● ● ● ● ○	**N00 57541** S/M5.5×11-20IP 6.25 Nm	**L05 00870** 20IP	**D50 55330**	**D50 55130**	**N00 55901** M5.5×13.5-20IP 6.25 Nm	**N00 52020** 4/5×7.0



Note re. insert radius:
The nominal dimension ∅ is only achieved with the appropriate standardised insert radius.
Insert radii which deviate from this will alter the nominal dimension ∅ (see Chapter 8)

Guideline values for solid drilling: page 132 / alternative inserts: page 133.

KOMET KUB®

Insert Drill with ABS® Connection, R.H. cutting

Ø 1.771 – 3.228 inch (Ø 45 – 82 mm)

Guideline values for solid drilling						v_c	Max. feed f in/rev (mm/rev)					
							2×D			3×D		
Material group		Strength Rm (lbf/in²)	Hardness HB	Material	Material example, material code AISI / SAE	Cutting speed v_c ft/min (m/min)	Ø 1.771 – 2.125 (Ø 45 – 54)	Ø 2.146 – 2.677 (Ø 54.5 – 68)	Ø 2.697 – 3.250 (Ø 68.5 – 82.5)	Ø 1.771 – 2.125 (Ø 45 – 54)	Ø 2.146 – 2.677 (Ø 54.5 – 68)	Ø 2.697 – 3.250 (Ø 68.5 – 82.5)
P	1.0	≤72500		non-alloy steels	A570.36 1213 A573.81	980 (300)	0.005 (0.12)	0.006 (0.14)	0.006 (0.16)	0.005 (0.12)	0.006 (0.14)	0.006 (0.14)
	2.0	72500-130000		non-alloy / low alloy steels	5120 1055 5115	820 (250)	0.006 (0.16)	0.008 (0.20)	0.010 (0.25)	0.006 (0.16)	0.008 (0.20)	0.008 (0.20)
	2.1	<72500		lead alloys	12L13	980 (300)	0.008 (0.20)	0.010 (0.25)	0.010 (0.25)	0.008 (0.20)	0.010 (0.25)	0.010 (0.25)
	3.0	>130000		non alloy / low alloy steels: heat resistant structural, heat treated, nitride and tools steels	4140 1064	660 (200)	0.006 (0.16)	0.008 (0.20)	0.008 (0.20)	0.006 (0.16)	0.007 (0.18)	0.007 (0.18)
	4.0	>130000		high alloy steels	H13 H21	590 (180)	0.006 (0.14)	0.006 (0.16)	0.006 (0.16)	0.006 (0.14)	0.006 (0.14)	0.006 (0.16)
	4.1			HSS		–	–	–	–	–	–	–
S	5.0		250	special alloys: Inconel, Hastelloy, Nimonic, stc.	Inconel® 718 Nimonic® 80A	200 (60)	0.004 (0.10)	0.005 (0.12)	0.006 (0.14)	0.004 (0.10)	0.005 (0.12)	0.006 (0.14)
	5.1	58000		titanium, titanium alloys	AMS R54520	260 (80)	0.005 (0.12)	0.006 (0.14)	0.006 (0.16)	0.005 (0.12)	0.006 (0.14)	0.006 (0.14)
M	6.0	≤87000		stainless steels	304L 316	590 (180)	0.006 (0.14)	0.006 (0.16)	0.006 (0.16)	0.006 (0.14)	0.006 (0.14)	0.006 (0.16)
	6.1	<130000		stainless steels	630	520 (160)	0.006 (0.14)	0.006 (0.16)	0.006 (0.16)	0.006 (0.14)	0.006 (0.16)	0.006 (0.16)
	7.0	>130000		stainless / fireproof steels	420 403	520 (160)	0.005 (0.12)	0.006 (0.16)	0.007 (0.18)	0.005 (0.12)	0.006 (0.16)	0.006 (0.16)
K	8.0		180	gray cast iron	No 35 B No 50 B	660 (200)	0.010 (0.25)	0.012 (0.30)	0.012 (0.30)	0.010 (0.25)	0.010 (0.25)	0.012 (0.30)
	8.1		250	alloy gray cast iron	A436 Type 2	520 (160)	0.007 (0.18)	0.012 (0.30)	0.012 (0.30)	0.007 (0.18)	0.008 (0.20)	0.010 (0.25)
	9.0	≤87000	130	spheroidal graphite cast iron, ferritic	60-40-18	590 (180)	0.010 (0.25)	0.012 (0.30)	0.012 (0.30)	0.010 (0.25)	0.010 (0.25)	0.012 (0.30)
	9.1		230	spheroidal graphite cast iron, ferritic / perlitic	80-55-06	520 (160)	0.010 (0.25)	0.012 (0.30)	0.012 (0.30)	0.010 (0.25)	0.010 (0.25)	0.012 (0.30)
	10.0	>87000	250	spheroidal graphite cast iron, perlitic malleable iron	100-70-03 70003	460 (140)	0.010 (0.25)	0.012 (0.30)	0.012 (0.30)	0.010 (0.25)	0.010 (0.25)	0.012 (0.30)
	10.1		200	alloyed spheroidal graphite cast iron	A43D2	460 (140)	0.010 (0.25)	0.012 (0.30)	0.012 (0.30)	0.010 (0.25)	0.010 (0.25)	0.012 (0.30)
	10.2		300	vermicular cast iron		390 (120)	0.008 (0.20)	0.010 (0.25)	0.012 (0.30)	0.008 (0.20)	0.008 (0.20)	0.008 (0.20)
N	12.0		90	copper alloy, brass, lead-alloy bronze, lead bronze: good cut	UNS C36000	980 (300)	0.008 (0.20)	0.010 (0.25)	0.010 (0.25)	0.008 (0.20)	0.008 (0.20)	0.010 (0.25)
	12.1		100	copper alloy, brass, bronze: average cut		1310 (400)	0.005 (0.12)	0.006 (0.16)	0.006 (0.16)	0.005 (0.12)	0.005 (0.12)	0.006 (0.14)
	13.0		60	wrought aluminium alloys	GD-AlSi12	1970 (600)	0.005 (0.12)	0.005 (0.12)	0.006 (0.14)	0.005 (0.12)	0.005 (0.12)	0.006 (0.14)
	13.1		75	cast alum. alloy: Si-content <10% magnesium alloy		980 (300)	0.008 (0.20)	0.010 (0.25)	0.010 (0.25)	0.008 (0.20)	0.010 (0.25)	0.010 (0.25)
	14.0		100	cast alum.alloy: Si-content >10%	A360.2	820 (250)	0.010 (0.25)	0.012 (0.30)	0.012 (0.30)	0.010 (0.25)	0.012 (0.30)	0.012 (0.30)
H	15.0	203000		hardened steels < 45 HRC		260 (80)	0.005 (0.12)	0.006 (0.14)	0.006 (0.14)	0.005 (0.12)	0.006 (0.14)	0.006 (0.14)
	16.0	261000		hardened steels > 45 HRC		130 (40)	0.004 (0.10)	0.004 (0.10)	0.004 (0.10)	0.004 (0.10)	0.004 (0.10)	0.004 (0.10)

Cutting values shown are maximum values relating to the basic recommendations for cutting materials given.

Patent applied for inside and outside Germany (ABS)

Alternative Inserts

	ØD	Order No. ▽▽ Size	ISO-Code	Insert -03	Insert -13	for workpiece material P	M	K	N	S	H
for better chip control	1.771 – 2.125" (45 – 54 mm)	**W29 42130.048425**	WOEX 080404-13 BK8425	◐							
		W29 42030.046425	WOEX 080404-03 BK6425 ⚠	◐							
		W29 42130.0479	WOEX 080404-13 BK79		◑					◐	
	2.165 – 2.677" (55 – 68 mm)	**W29 50130.048425**	WOEX 100504-13 BK8425	◐							
		W29 50030.086425	WOEX 100508-03 BK6425 ⚠	◐							
		W29 50130.0479	WOEX 100504-13 BK79		◑					◐	
	2.716 – 3.228" (69 – 82 mm)	**W29 58130.088425**	WOEX 120608-13 BK8425	◐							
		W29 58030.086425	WOEX 120608-03 BK6425 ⚠	◐							
		W29 58130.0879	WOEX 120608-13 BK79		◑						

⚠ Only use this insert with KUB® as an external cutting edge:
WOEX ... -03 (Geometry 03)
WOEX ... -01 (Geometry 01) in BK6115
WOEX ... -01 (Geometry 01) in BK6420

Alternative Inserts

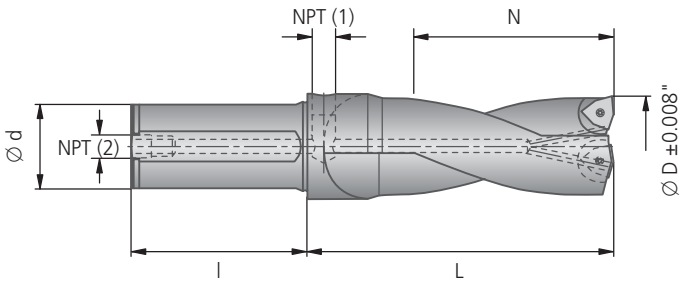
	ØD	Order No. ▽▽ Size	ISO-Code	Insert -00 -01	Insert -11	for workpiece material P	M	K	N	S	H
for higher cutting speed	1.771 – 2.125" (45 – 54 mm)	**W29 42010.0472**	WOEX 080404-01 BK72	◐							
		W29 42110.0450	WOEX 080404-11 BK50		◐						
	2.165 – 2.677" (55 – 68 mm)	**W29 50010.0872**	WOEX 100508-01 BK72	◐							
		W29 50110.0450	WOEX 100504-11 BK50		◐						
	2.716 – 3.228" (69 – 82 mm)	**W29 58010.0872**	WOEX 120608-01 BK72	◐							
		W29 58000.0862	WOEX 120608-00 BK62		◐						◑
for greater strength	1.771 – 2.125" (45 – 54 mm)	**W29 42010.047930**	WOEX 080404-01 BK7930	◐						◐	
		W29 42010.0404	WOEX 080404-01 P40	◐	◑					◐	
		W29 42010.0421	WOEX 080404-01 K10	◐							
		W29 42110.0421	WOEX 080404-11 K10		◐						
	2.165 – 2.677" (55 – 68 mm)	**W29 50010.047930**	WOEX 100504-01 BK7930	◐						◐	
		W29 50010.0804	WOEX 100508-01 P40	◐	◑					◐	
		W29 50010.0821	WOEX 100508-01 K10	◐							
		W29 50110.0421	WOEX 100504-11 K10		◐						
	2.716 – 3.228" (69 – 82 mm)	**W29 58010.087930**	WOEX 120608-01 BK7930	◐						◐	
		W29 58010.0804	WOEX 120608-01 P40	◐	◑					◐	
		W29 58010.0821	WOEX 120608-01 K10	◐							
		W29 58000.0821	WOEX 120608-00 K10		◐						

Important: See chapter 8 for more application details and safety notes!

KOMET KUB®

Ø 1.812 – 3.250 inch

Insert Drill with Cylindrical Shank, R.H. cutting



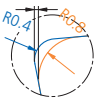
Ø D	*max. diameter with offset	Cylindrical shank Ø d×l	2.5×D				
			Order No.	N	L	NPT	
1.812	1.929	1.500X2.750	V57 34601	4.000	5.709	1/4	
1.875	1.992	1.500X2.750	V57 34761	4.000	5.709		
1.937	2.055	1.500X2.750	V57 34921	5.000	6.890		
2.000	2.118	1.500X2.750	V57 35081	5.000	6.890		
2.125	2.171	1.500X2.750	V57 35401	5.000	6.890		
2.250	2.366	2.000X3.961	V57 35721	5.000	6.890	1/4	
2.375	2.492	2.000X3.961	V57 36031	5.000	6.890		
2.500	2.630	2.000X3.961	V57 36351	5.000	6.890		
2.750	2.866	2.000X3.961	V57 36991	6.000	8.267	1/4	
3.000	3.118	2.000X3.961	V57 37621	6.000	8.267		
3.250	3.285	2.000X3.961	V57 38261	6.000	8.267		

Any **intermediate dimensions** from ∅ 1.812" – 3.250" are available on request.
Supply includes: KUB® drill with assembly parts. Please order insert and accessories separately.
* Adjustment device see "KomPass Bore machining – chapter 5"

L / D	solid drilling	blind hole	forge/casting skin, interface	angled	convex	cross bore	centering bore	chamber	stack plate drilling	rough boring	adjustable
2.5×D	●	●	●	●	●	◐	◐	●	✕	◐	◐

● very good ◐ good ○ possible: see technical notes, pages 138-140 ✕ not possible

Basic recommendation			Assembly parts	Accessories	Assembly parts			
Insert -00 -01 -11		for workpiece material	Clamping screw	Screwdriver	Insert seating external	Insert seating internal	Clamping screw	Pin
Order No. ▽▽ Size	ISO-Code	P M K N S H	Order No. Description	Order No. Description	Order No.	Order No.	Order No. Description	Order No. Description
W29 42010.048425 **W29 42010.047930** **W29 42010.0462** **W29 42110.0477**	WOEX 080404-01 BK8425 WOEX 080404-01 BK7930 WOEX 080404-01 BK62 WOEX 080404-11 BK77	● ● ● ● ● ○	**N00 57531** S/M4.5x9-15IP 55.3 in-lbs	**L05 00860** 15IP	**D50 55310**	**D50 55110**	**N00 55821** Tx M4.5×9-10IP 38.1 in-lbs	**N00 52010** 3/4×5.5
W29 50010.048425 **W29 50010.047930** **W29 50010.0462** **W29 50110.0477**	WOEX 100504-01 BK8425 WOEX 100504-01 BK7930 WOEX 100504-01 BK62 WOEX 100504-11 BK77	● ● ● ● ● ○	**N00 57531** S/M4.5x9-15IP 55.3 in-lbs	**L05 00860** 15IP	**D50 55320**	**D50 55120**	**N00 55821** Tx M4.5×9-10IP 38.1 in-lbs	**N00 52010** 3/4×5.5
W29 58010.088425 **W29 58010.087930** **W29 58010.0862** **W29 58000.088425** **W29 58000.0821**	WOEX 120608-01 BK8425 WOEX 120608-01 BK7930 WOEX 120608-01 BK62 WOEX 120608-00 BK8425 WOEX 120608-00 K10	● ● ● ● ○ ○	**N00 57541** S/M5.5x11-20IP 55.3 in-lbs	**L05 00870** 20IP	**D50 55330**	**D50 55130**	**N00 55901** S/M5.5×13.5-20IP 55.3 in-lbs	**N00 52020** 4/5×7.0



Note regarding insert radius:
The nominal dimension ∅ is only achieved with the appropriate standardized insert radius.
Insert radii which deviate from this will alter the nominal dimension ∅ (see Chapter 8)

Guideline values for solid drilling: page 136 / alternative inserts: page 137.

KOMET KUB ®

Ø 1.812 – 3.250 inch

Insert Drill with Cylindrical Shank, R.H. cutting

Guideline values for solid drilling						v_c	Max. f (in/rev)		
							2.5×D		
Material group		Strength Rm (lbf/in²)	Hardness HB	Material	Material example, material code AISI / SAE	Cutting speed v_c (ft/min)	Ø 1.781 – 2.164	Ø 2.250 – 2.749	Ø 2.750 – 3.250
P	1.0	≤72500		Unalloyed steel	A570.36 1213 A573.81	980	0.005	0.005	0.006
P	2.0	72500-130000		Low alloy steel	5120 1055 5115	820	0.005	0.005	0.006
P	2.1	<72500		Lead alloy	12L13	980	0.006	0.006	0.006
P	3.0	>130000		High alloy steel heat resistant structural, heat treated, nitride steels	4140 1064	660	0.005	0.005	0.005
P	4.0	>130000		Tool steels	H13 H21	590	0.004	0.004	0.005
P	4.1			HSS		260	0.003	0.003	0.004
S	5.0		250	Special alloy: Inconel, Hastelloy, Nimonic, etc.	Inconel® 718 Nimonic® 80A	110	0.003	0.003	0.004
S	5.1	58000		titanium, titanium alloys	AMS R54520	260	0.003	0.003	0.004
M	6.0	≤87000		Stainless steel: austenitic 300 series	304L 316	590	0.004	0.004	0.005
M	6.1	<130000		Stainless steels	630	520	0.004	0.004	0.005
M	7.0	>130000		Stainless steel: martensitic/ferritic 400 series	420 403	520	0.003	0.003	0.004
K	8.0		180	Grey cast iron	No 35 B No 50 B	660	0.007	0.007	0.009
K	8.1		250	Alloy grey cast iron	A436 Type 2	520	0.007	0.007	0.009
K	9.0	≤87000	130	Nodular cast iron ferritic	60-40-18	590	0.006	0.006	0.007
K	9.1		230	Nodular cast iron ferritic / pearlitic	80-55-06	520	0.006	0.006	0.007
K	10.0	>87000	250	Nodular cast iron pearlitic Malleable cast iron	100-70-03 70003	460	0.006	0.006	0.006
K	10.1		200	Alloyed nodular cast iron	A43D2	460	0.005	0.005	0.006
K	10.2		300	Vermicular cast iron		390	0.006	0.006	0.006
N	12.0		90	Copper alloy, brass, Lead alloy, Bronze, Lead bronze: good cut	UNS C36000	980	0.006	0.006	0.007
N	12.1		100	Copper alloy, Brass, Bronze: average cut		1310	0.006	0.006	0.007
N	13.0		60	Wrought aluminum alloy	GD-AlSi12	1970	0.006	0.006	0.007
N	13.1		75	Aluminum alloy: Si content <10% Magnesium alloy		980	0.007	0.007	0.009
N	14.0		100	Aluminum alloy: Si content >10%	A360.2	820	0.007	0.007	0.009
H	15.0	203000		Hardened steels < 45 HRC		260	0.003	0.003	0.004
H	16.0	261000		Hardened steels > 45 HRC		130	0.002	0.002	0.003

Cutting values shown are maximum values relating to the basic recommendations for cutting materials given.

Patent applied for inside and outside Germany (ABS)

Alternative Inserts

	ØD	Order No. ▽▽ Size	ISO-Code	for workpiece material P	M	K	N	S	H
		Insert -03 -13							
for better chip control	1.781 – 2.125	**W29 42130.048425**	WOEX 080404-13 BK8425	◐					
		W29 42030.046425	WOEX 080404-03 BK6425 ⚠	◐					
		W29 42130.047930	WOEX 080404-13 BK7930		◑			◐	
	2.165 – 2.656	**W29 50130.048425**	WOEX 100504-13 BK8425	◐					
		W29 50030.086425	WOEX 100508-03 BK6425 ⚠	◐					
		W29 50130.047930	WOEX 100504-13 BK7930		◑			◐	
	2.750 – 3.250	**W29 58130.088425**	WOEX 120608-13 BK8425	◐					
		W29 58030.086425	WOEX 120608-03 BK6425 ⚠	◐					
		W29 58130.087930	WOEX 120608-13 BK7930		◑				

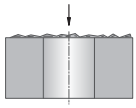
⚠ Only use this insert with KUB®
as an external cutting edge:
WOEX ... -03 (Geometry 03)
WOEX ... -01 (Geometry 01) in BK6115
WOEX ... -01 (Geometry 01) in BK6420

Alternative Inserts

	ØD	Order No. ▽▽ Size	ISO-Code	for workpiece material P	M	K	N	S	H
		Insert -00 -01 -11							
for higher cutting speed	1.781 – 2.125	**W29 42010.0472**	WOEX 080404-01 BK72	◐					
		W29 42110.0450	WOEX 080404-11 BK50				◐		
	2.165 – 2.656	**W29 50010.0872**	WOEX 100508-01 BK72	◐					
		W29 50110.0450	WOEX 100504-11 BK50				◐		
	2.750 – 3.250	**W29 58010.0872**	WOEX 120608-01 BK72	◐					
		W29 58000.0862	WOEX 120608-00 BK62				◐		◑
for greater strength	1.781 – 2.125	**W29 42010.047930**	WOEX 080404-01 BK7930	◐				◐	
		W29 42010.0404	WOEX 080404-01 P40	◐	◑			◐	
		W29 42010.0421	WOEX 080404-01 K10			◐			
		W29 42110.0421	WOEX 080404-11 K10				◐		
	2.165 – 2.656	**W29 50010.047930**	WOEX 100504-01 BK7930	◐				◐	
		W29 50010.0804	WOEX 100508-01 P40	◐	◑			◐	
		W29 50010.0821	WOEX 100508-01 K10			◐			
		W29 50110.0421	WOEX 100504-11 K10				◐		
	2.750 – 3.250	**W29 58010.087930**	WOEX 120608-01 BK7930	◐				◐	
		W29 58010.0804	WOEX 120608-01 P40	◐	◑			◐	
		W29 58010.0821	WOEX 120608-01 K10			◐			
		W29 58000.0821	WOEX 120608-00 K10				◐		

Important: See chapter 8 for more application details and safety notes!

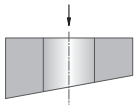
1

1. 

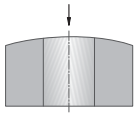
Starting on uneven surfaces (cast surfaces)
- subject to the surface, reduce feed as required when starting the bore

2. 

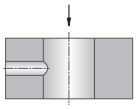
Starting on angled surfaces
- subject to the starting angle, the feed must be reduced when starting the bore.
  Rule of thumb: 3° ≙ 30%; 10° ≙ 40%; 25° ≙ 60% use tools max. 2×D
- use tough insertand stable corner radius

3. 

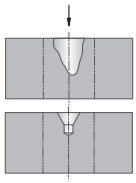
Angled bore exit
- from wear cut is interrupted reduce feed rate up to 50%
- use tough insertand stable corner radius

4. 

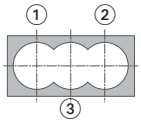
Starting on cambered surfaces
- no problems
- reduce feed rate if necessary

5. 

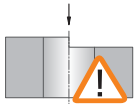
Drilling through a cross bore
- reduce feed rate 50% if necessary
- watch for chip jamming around tool
- use tough insertand stable corner radius

6. 

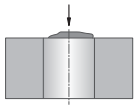
Starting on a groove or large centering bore
- use short tools, max. 3×D
- spot face if required
- reduce feed
- use tough insert for internal cutting edge

7. 

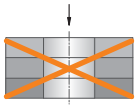
Drilling a chamber
- first bore Nos. 1 + 2, then bore No. 3
- check distribution is symmetrical
- avoid chip jams
- if necessary reduce to approx. 1-1.5 mm in the ∅ on circumference
- reduce feed rate 50% for interrupted cut
- use tough insertand stable corner radius

8. 

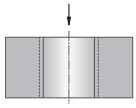
Starting on an edge
- reduce feed rate by 50%
- use tough insertand stable corner radius

9. 

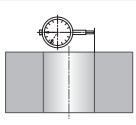
Starting on a welded seam
- reduce feed rate
- use max. 3×D tools

10. 

Drilling through stacked plates
- not possible

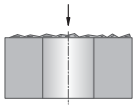
11. 

Roughing
- possible

12. 

Adjustable
- using adjusting device (ABS-MV) and eccentric adjusting device
- for turning machines over axis

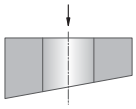
Note: please note max. offset ∅ in tables

1. 

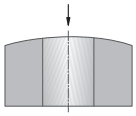
Starting on uneven surfaces (cast surfaces)
- subject to the surface, reduce feed as required when starting the bore

2. 

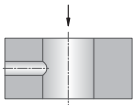
Starting on angled surfaces
- max. 3° angled position possible (cast angles)
- reduce feed rate when starting bore
- use stable corner radius

3. 

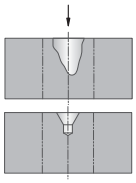
Angled bore exit
- from wear cut is interrupted reduce feed rate up to 50%
- use tough insertand stable corner radius

4. 

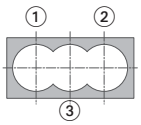
Starting on cambered surfaces
- no problems
- reduce feed rate if necessary

5. 

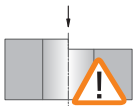
Drilling through a cross bore
- reduce feed rate 50% if necessary
- watch for chip jamming around tool
- use tough insertand stable corner radius

6. 

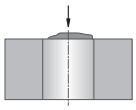
Starting on a groove or large centering bore
- use short tools, max. 3×D
- spot face if required
- reduce feed
- use tough insert for internal cutting edge

7. 

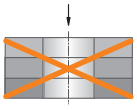
Drilling a chamber
- first bore Nos. 1 + 2, then bore No. 3
- check distribution is symmetrical
- avoid chip jams
- if necessary reduce to approx. 1-1.5 mm in the ∅ on circumference
- reduce feed rate 50% for interrupted cut
- use tough insertand stable corner radius

8. 

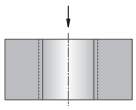
Starting on an edge
- not possible for 3×D tools
- because of the undefined surface for starting the bore, pre-machining is required (spot facing, face milling)
- then continue as described under Point 1

9. 

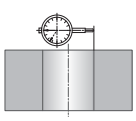
Starting on a welded seam
- reduce feed rate
- use max. 3×D tools

10. 

Drilling through stacked plates
- not possible

11. 

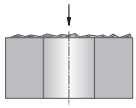
Roughing
- possible

12. 

Adjustable
- using adjusting device (ABS-MV) and eccentric adjusting device
- for turning machines over axis

Note: please note max. offset ∅ in tables

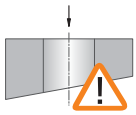
1

1. 

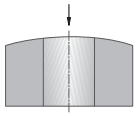
Starting on uneven surfaces (cast surfaces)
- subject to the surface, reduce feed as required when starting the bore

2. 

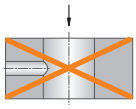
Starting on angled surfaces
- not possible for 4×D tools
- starting surface must be spot faced or spot milled

3. 

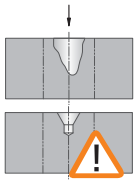
Angled bore exit
- reduce feed by up to 50% for 4×D tools

4. 

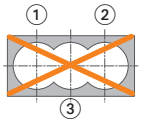
Starting on cambered surfaces
- starting surface must be milled evenly

5. 

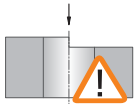
Drilling through a cross bore
- not possible with 4×D tools
- if necessary apply cross bore later

6. 

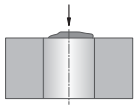
Starting on a groove or large centering bore
- points for starting bore must be rough machined first

7. 

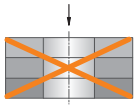
Drilling a chamber
- not possible

8. 

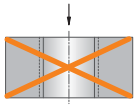
Starting on an edge
- not possible for 4×D tools
- because of the undefined surface for starting the bore, pre-machining is required (spot facing, face milling)
- then continue as described under Point 1

9. 

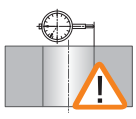
Starting on a welded seam
- reduce feed by up to 50% for 4×D tools
- if necessary pre-machine point for starting bore

10. 

Drilling through stacked plates
- not possible

11. 

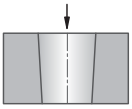
Roughing
- not possible

12. 

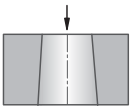
adjustable
- dimensional adjustment within 1/10 range possible

rotating and stationary use

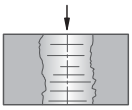
Short tool life types of wear on inserts
- cutting speed to high → select correct cutting speed
- cutting material with too little wear resistance → select grade with higher wear resistance
- tool overhang too great → if possible use shorter tool
- damaged insert seating → check tool, change if necessary
- clamping device not stable enough → improve stability



Bore narrows at bottom
- chip jam on external cutting edge → use different chip fracture geometry, increase feed if necessary
- material very soft → increase cutting speed, reduce feed. Use positive chip geometry



Bore widens at bottom
- chip jam on internal cutting edge → use different chip fracture geometry, increase feed if necessary



Bad surface finish
- bad chip removal → improve cutting parameters: increase cutting speed reduce feed

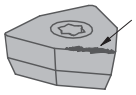
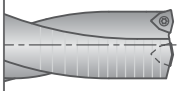
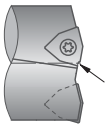


Bild up on cutting edge
- cutting speed too low → increase cutting speed
- insert too negative → use positive geometry
- coating not suitable → select correct coating

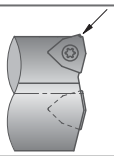


Friction marks on tool shank
- bore diameter too small → check setting
- chip removal problems → improve cutting parameters, check geometry of inserts
- cutting edge corner radius too large → use correct cutting edge radius

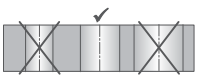
stationary use



Fracture on internal cutting edge
- drill bit height of tool too high/too low → tool turret/holder may have shifted. Readjust machine
- mix-up between renforced/non renforced insert → use correct insert
- feed rate too high → reduce feed rate
- insert grade too brittle → use tougher insert grade
- wrong insert geometry → use geometry with chamfered cutting edge

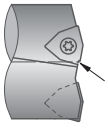


Fracture on external cutting edge
- feed rate too high → reduce feed rate
- interrupted cut → change to tougher insert grade
- cutting edge corner radius too small → use insert with larger cutting edge radius

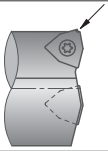


Bore too small/ too large
- machine not at X-0 position → move axis to correct position
- machine axis shifted → readjust machine

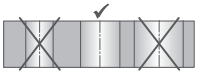
rotating use



Fracture on internal cutting edge
- mix-up between renforced/non renforced insert → use correct insert
- feed rate too high → reduce feed rate
- insert grade too brittle → use tougher insert grade
- wrong insert geometry → use geometry with chamfered cutting edge



Fracture on external cutting edge
- feed rate too high → reduce feed rate
- interrupted cut → change to tougher insert grade
- cutting edge corner radius too small → use insert with larger cutting edge radius



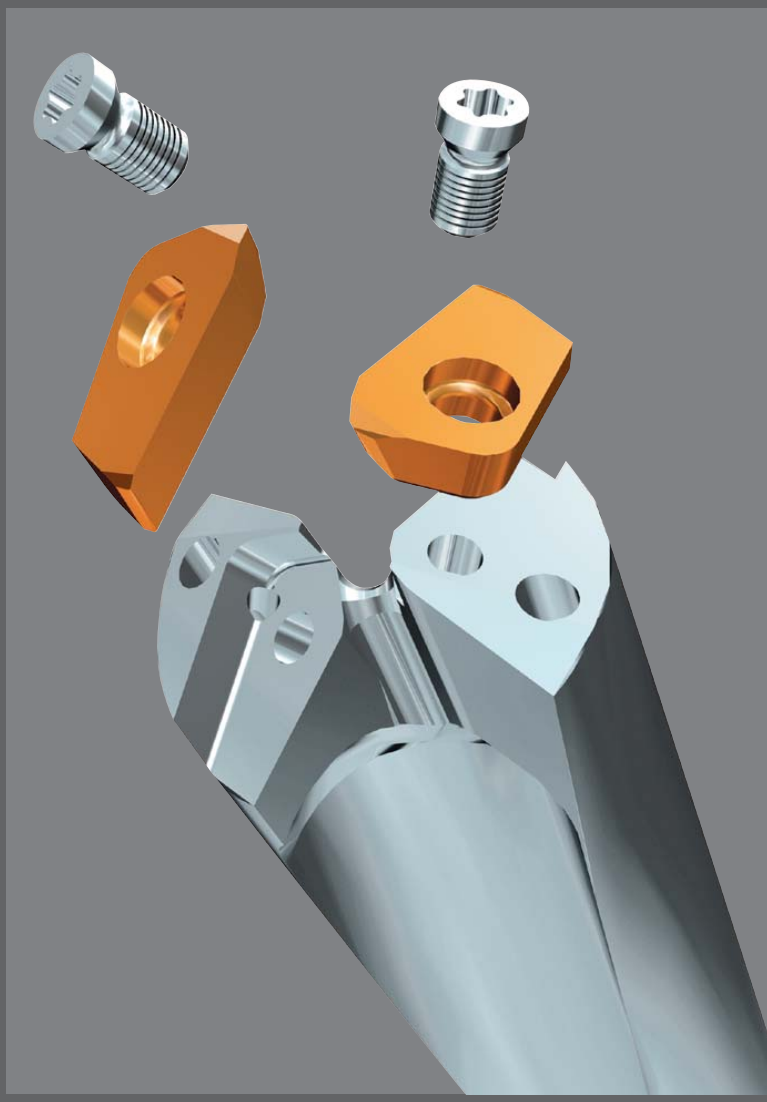
Bore too small/ too large with adjustable tool
- wrong cutting edge radius used → use correct cutting edge radius
- setting wrong → correct setting

KOMET KUB Duon®

Continuous Drilling to 5×D

With our KOMET KUB Duon® drill concept, we have incorporated the principle of exchangeable cutting elements in double-edged tools.

The KOMET KUB Duon® is supplied as standard in drilling depths up to 5×D with combination shank DIN 6536 HE and DIN 6595 and also with ABS® connection.



BENEFITS for you:

- Twin cutting edges with high cutting speeds
- Drills with 2 replaceable screw-on cutter bodies; no regrinding necessary
- Face side, tangential mounting of inserts produces greater stability
- Precision ground inserts
- Intermediate dimensions can be changed very flexibly on standard tool bodies by means of the inserts
- Bore machining accurate and highly productive

Flexibility is the trump card:

1 Design to customer requirement e.g. with integral steps or chamfering insert

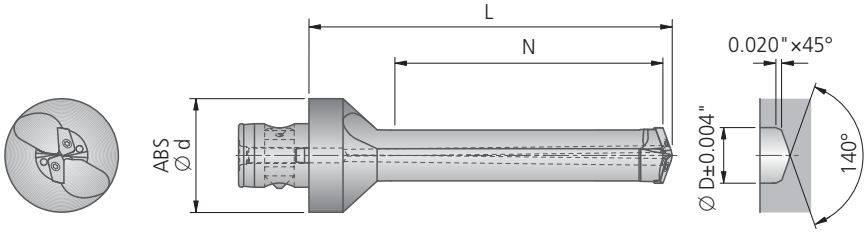
2 Suitable for retro-fitting a chamfering cartridge

KOMET KUB Duon®

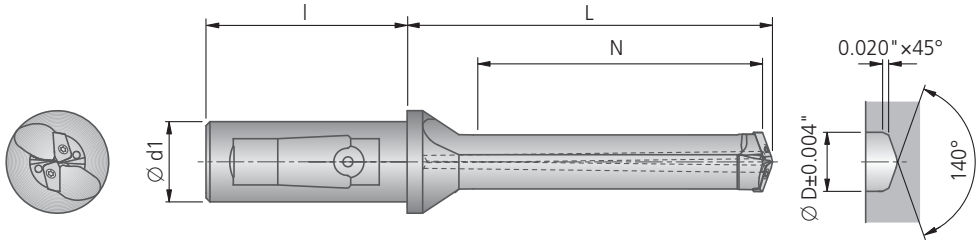
KOMET KUB Duon ® Ø 0.697 – 0.945 inch

Twin Cutting Drill with ABS ® Connection and Cylindrical Shank, R.H. cutting

ABS ® connection



Cylindrical shank
(combination shank)
DIN 6535 HE
(similar to DIN 1835 E)
and DIN 6595



	ABS ®					Cylindrical shank					Assembly parts	Accessories	
Ø D	ABS Ø d	Order No.	N	L	lbs approx.	Cylindrical shank Ød1×l	Order No.	N	L	lbs approx.	Clamping screw Order No. Description	Screwdriver Order No. Description	
0.697 0.700 **0.703** 0.709 0.713	50	**U20 01790**	3.543	4.921	1.32	1.250 x 2.362	**U21 61790**	3.543	4.488	0.75	**N00 57660** S/M2.2×4.8-6IP 8.9 in-lbs	**L05 00810** 6IP	
0.709 0.713 **0.718** 0.720 0.724	50	**U20 01820**	3.740	5.118	1.32	1.250 x 2.362	**U21 61820**	3.740	4.685	0.75	**N00 57660** S/M2.2×4.8-6IP 8.9 in-lbs	**L05 00810** 6IP	
0.744 0.748 **0.750** 0.756 0.760	50	**U20 01910**	3.937	5.315	1.32	1.250 x 2.362	**U21 61910**	3.937	4.882	0.77	**N00 57660** S/M2.2×4.8-6IP 8.9 in-lbs	**L05 00810** 6IP	
0.772 0.776 **0.781** 0.783 0.787	50	**U20 01980**	3.937	5.315	1.32	1.250 x 2.362	**U21 61980**	3.937	4.882	1.23	**N00 57660** S/M2.2×4.8-6IP 8.9 in-lbs	**L05 00810** 6IP	
0.803 0.807 **0.812** 0.815 0.819	50	**U20 02060**	4.133	5.512	1.32	1.250 x 2.362	**U21 62060**	4.133	5.275	1.23	**N00 57660** S/M2.2×4.8-6IP 8.9 in-lbs	**L05 00810** 6IP	
0.819 0.823 **0.828** 0.831 0.835	50	**U20 02100**	4.133	5.512	1.32	1.250 x 2.362	**U21 62100**	4.133	5.275	1.25	**N00 57630** S/M3×5.8-8IP 20.0 in-lbs	**L05 00830** 8IP	
0.866 0.870 **0.875** 0.878 0.882	50	**U20 02220**	4.527	5.709	1.32	1.250 x 2.362	**U21 62220**	4.527	5.669	1.30	**N00 57630** S/M3×5.8-8IP 20.0 in-lbs	**L05 00830** 8IP	
0.929 0.933 **0.937** 0.941 0.945	50	**U20 02380**	4.724	6.102	1.54	1.250 x 2.362	**U21 62380**	4.724	5.866		**N00 57630** S/M3×5.8-8IP 20.0 in-lbs	**L05 00850** 10IP	

For other diameters see following page.

Twin Cutting Drill with ABS® Connection and Cylindrical Shank, R.H. cutting

L / D	solid drilling	blind hole	forge/casting skin, interface	angled	convex	cross bore	centering bore	chamber	stack plate drilling	rough boring	adjustable
5×D	●	●	◐	○	◐	◐	○	✕	●	○	✕

● very good ◐ good ○ possible: see technical notes, page 168 ✕ not possible

Areas of use:

- P high tensile strength steels, heat treated steels and tool steels
- K grey cast iron, SG cast iron
- N cast aluminum alloys, brass and bronze which produce short chips
- ● main use
- ◐ alternative cutting material

Intermediate dimensions can be supplied on request.

Order example insert:
for ∅ 0.750", coating BK84,
Order No.: H60 19100.84

Supply includes:

KUB Duon® drill with assembly parts. Please order accessories and insert (pack of 2 inserts) separately.

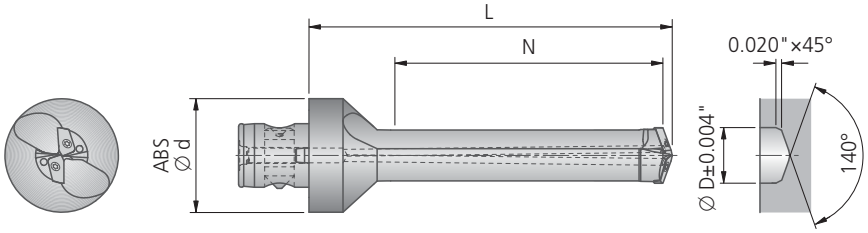
Basic recommendation				alternative for ...				Basic recommendation		
Insert		for workpiece material		higher cutting speed	greater strength →			Insert		
ISO-Code enter carbide	Order No.	BK8440	BK2715	BK84	BK8125	BK2740	BK8140	ISO-Code enter carbide	Order No.	BK7710
XOHX 0802-17.7	H60 17700. ..							XOHX 0802-17.7-62	H62 17700. ..	
XOHX 0802-17.8	H60 17800. ..							XOHX 0802-17.8-62	H62 17800. ..	
XOHX 0802-17.9	H60 17900. ..	8440	2715	84	8125	2740	8140	XOHX 0802-17.9-62	H62 17900. ..	7710
XOHX 0802-18.0	H60 18000. ..							XOHX 0802-18.0-62	H62 18000. ..	
XOHX 0802-18.1	H60 18100. ..							XOHX 0802-18.1-62	H62 18100. ..	
XOHX 0802-18.0	H60 18000. ..							XOHX 0802-18.0-62	H62 18000. ..	
XOHX 0802-18.1	H60 18100. ..							XOHX 0802-18.1-62	H62 18100. ..	
XOHX 0802-18.2	H60 18200. ..	8440	2715	84	8125	2740	8140	XOHX 0802-18.2-62	H62 18200. ..	7710
XOHX 0802-18.3	H60 18300. ..							XOHX 0802-18.3-62	H62 18300. ..	
XOHX 0802-18.4	H60 18400. ..							XOHX 0802-18.4-62	H62 18400. ..	
XOHX 0802-18.9	H60 18900. ..							XOHX 0802-18.9-62	H62 18900. ..	
XOHX 0802-19.0	H60 19000. ..							XOHX 0802-19.0-62	H62 19000. ..	
XOHX 0802-19.1	H60 19100. ..	8440	2715	84	8125	2740	8140	XOHX 0802-19.1-62	H62 19100. ..	7710
XOHX 0802-19.2	H60 19200. ..							XOHX 0802-19.2-62	H62 19200. ..	
XOHX 0802-19.3	H60 19390. ..							XOHX 0802-19.3-62	H62 19390. ..	
XOHX 0802-19.6	H60 19600. ..							XOHX 0802-19.6-62	H62 19600. ..	
XOHX 0802-19.7	H60 19700. ..							XOHX 0802-19.7-62	H62 19700. ..	
XOHX 0802-19.8	H60 19800. ..	8440	2715	84	8125	2740	8140	XOHX 0802-19.8-62	H62 19800. ..	7710
XOHX 0802-19.9	H60 19900. ..							XOHX 0802-19.9-62	H62 19900. ..	
XOHX 0802-20.0	H60 20000. ..							XOHX 0802-20.0-62	H62 20000. ..	
XOHX 0802-20.4	H60 20400. ..							XOHX 0802-20.4-62	H62 20400. ..	
XOHX 0802-20.5	H60 20500. ..							XOHX 0802-20.5-62	H62 20500. ..	
XOHX 0802-20.6	H60 20600. ..	8440	2715	84	8125	2740	8140	XOHX 0802-20.6-62	H62 20600. ..	7710
XOHX 0802-20.7	H60 20700. ..							XOHX 0802-20.7-62	H62 20700. ..	
XOHX 0802-20.8	H60 20890. ..							XOHX 0802-20.8-62	H62 20890. ..	
XOHX 1003-20.8	H60 20800. ..							XOHX 1003-20.8-62	H62 20800. ..	
XOHX 1003-20.9	H60 20900. ..							XOHX 1003-20.9-62	H62 20900. ..	
XOHX 1003-21.0	H60 21000. ..	8440	2715	84	8125	2740	8140	XOHX 1003-21.0-62	H62 21000. ..	7710
XOHX 1003-21.1	H60 21100. ..							XOHX 1003-21.1-62	H62 21100. ..	
XOHX 1003-21.2	H60 21200. ..							XOHX 1003-21.2-62	H62 21200. ..	
XOHX 1003-22.0	H60 22000. ..							XOHX 1003-22.0-62	H62 22000. ..	
XOHX 1003-22.1	H60 22100. ..							XOHX 1003-22.1-62	H62 22100. ..	
XOHX 1003-22.2	H60 22200. ..	8440	2715	84	8125	2740	8140	XOHX 1003-22.2-62	H62 22200. ..	7710
XOHX 1003-22.3	H60 22300. ..							XOHX 1003-22.3-62	H62 22300. ..	
XOHX 1003-22.4	H60 22400. ..							XOHX 1003-22.4-62	H62 22400. ..	
XOHX 1003-23.6	H60 23600. ..							XOHX 1003-23.6-62	H62 23600. ..	
XOHX 1003-23.7	H60 23700. ..							XOHX 1003-23.7-62	H62 23700. ..	
XOHX 1003-23.8	H60 23800. ..	8440	2715	84	8125	2740	8140	XOHX 1003-23.8-62	H62 23800. ..	7710
XOHX 1003-23.9	H60 23900. ..							XOHX 1003-23.9-62	H62 23900. ..	
XOHX 1003-24.0	H60 24000. ..							XOHX 1003-24.0-62	H62 24000. ..	

Guideline values for solid drilling: page 166.

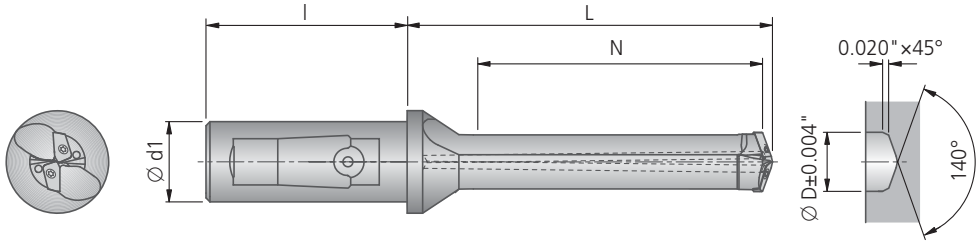
KOMET KUB Duon ® Ø 0.976 – 1.193 inch

Twin Cutting Drill with ABS ® Connection and Cylindrical Shank, R.H. cutting

ABS ® connection



Cylindrical shank
(combination shank)
DIN 6535 HE
(similar to DIN 1835 E)
and DIN 6595



	ABS ®					Cylindrical shank					Assembly parts	Accessories	
Ø D	ABS Ø d	Order No.	N	L	lbs approx.	Cylindrical shank Ød1×l	Order No.	N	L	lbs approx.	Clamping screw Order No. Description	Screwdriver Order No. Description	
0.976 0.980 **0.985** 0.988 0.992	50	**U20 02500**	4.921	6.299	1.54	1.500 x 2.677	**U21 62500**	4.921	6.063		**N00 57640** S/M3.5×6.9-10IP 25 in-lbs	**L05 00850** 10IP	
0.992 0.996 **1.000** 1.004 1.008	50	**U20 02540**	5.118	6.496	1.54	1.500 x 2.677	**U21 62540**	5.118	6.260		**N00 57640** S/M3.5×6.9-10IP 25 in-lbs	**L05 00850** 10IP	
1.024 1.028 **1.031** 1.035 1.039	50	**U20 02620**	5.315	6.693	1.54	1.500 x 2.677	**U21 62620**	5.315	6.457		**N00 57640** S/M3.5×6.9-10IP 25 in-lbs	**L05 00850** 10IP	
1.055 1.059 **1.062** 1.067 1.071	50	**U20 02700**	5.315	6.693	1.54	1.500 x 2.677	**U21 62700**	5.315	6.457		**N00 57640** S/M3.5×6.9-10IP 25 in-lbs	**L05 00850** 10IP	
1.102 1.106 **1.109** 1.114 1.118	50	**U20 02820**	5.708	7.087	1.76	1.500 x 2.677	**U21 72820**	5.708	6.850		**N00 57640** S/M3.5×6.9-10IP 25 in-lbs	**L05 00850** 10IP	
1.118 1.122 **1.125** 1.130 1.134	50	**U20 02860**	5.708	7.087	1.76	1.500 x 2.677	**U21 72860**	5.708	6.850		**N00 57640** S/M3.5×6.9-10IP 25 in-lbs	**L05 00850** 10IP	
1.150 1.154 **1.156** 1.161 1.165	50	**U20 02940**	5.905	7.480	1.760	1.500 x 2.677	**U21 72940**	5.905	7.047	2.60	**N00 57640** S/M3.5×6.9-10IP 25 in-lbs	**L05 00860** 15IP	
1.177 1.181 **1.187** 1.189 1.193	50	**U20 03010**	6.102	7.480	1.980	1.500 x 2.677	**U21 73010**	6.102	7.244	2.69	**N00 57650** S/M4×8.7-15IP 38 in-lbs	**L05 00860** 15IP	

For other diameters see following page.

Twin Cutting Drill with ABS® Connection and Cylindrical Shank, R.H. cutting

L / D	solid drilling	blind hole	forge/casting skin, interface	angled	convex	cross bore	centering bore	chamber	stack plate drilling	rough boring	adjustable
5×D	●	●	◐	○	◐	◐	○	✕	●	○	✕

● very good ◐ good ○ possible: see technical notes, page 168 ✕ not possible

Areas of use:

- P high tensile strength steels, heat treated steels and tool steels
- K grey cast iron, SG cast iron
- N cast aluminum alloys, brass and bronze which produce short chips
- ● main use
- ◐ alternative cutting material

Intermediate dimensions can be supplied on request.

Order example insert:
for ∅ 1.000", coating BK84,
Order No.: H60 25400.84

Supply includes:

KUB Duon® drill with assembly parts. Please order accessories and insert (pack of 2 inserts) separately.

Basic recommendation				alternative for ...				Basic recommendation		
Insert		for workpiece material		higher cutting speed / greater strength →				Insert		
ISO-Code enter carbide	Order No.	BK8440	BK2715	BK84	BK8125	BK2740	BK8140	ISO-Code enter carbide	Order No.	BK7710
XOHX 12T3-24.8	H60 24800. ..							XOHX 12T3-24.8-62	H62 24800. ..	
XOHX 12T3-24.9	H60 24900. ..							XOHX 12T3-24.9-62	H62 24900. ..	
XOHX 12T3-25.0	H60 25000. ..	8440	2715	84	8125	2740	8140	XOHX 12T3-25.0-62	H62 25000. ..	7710
XOHX 12T3-25.1	H60 25100. ..							XOHX 12T3-25.1-62	H62 25100. ..	
XOHX 12T3-25.2	H60 25200. ..							XOHX 12T3-25.2-62	H62 25200. ..	
XOHX 12T3-25.2	H60 25200. ..							XOHX 12T3-25.2-62	H62 25200. ..	
XOHX 12T3-25.3	H60 25300. ..							XOHX 12T3-25.3-62	H62 25300. ..	
XOHX 12T3-25.4	H60 25400. ..	8440	2715	84	8125	2740	8140	XOHX 12T3-25.4-62	H62 25400. ..	7710
XOHX 12T3-25.5	H60 25500. ..							XOHX 12T3-25.5-62	H62 25500. ..	
XOHX 12T3-25.6	H60 25600. ..							XOHX 12T3-25.6-62	H62 25600. ..	
XOHX 12T3-26.0	H60 26000. ..							XOHX 12T3-26.0-62	H62 26000. ..	
XOHX 12T3-26.1	H60 26100. ..							XOHX 12T3-26.1-62	H62 26100. ..	
XOHX 12T3-26.2	H60 26200. ..	8440	2715	84	8125	2740	8140	XOHX 12T3-26.2-62	H62 26200. ..	7710
XOHX 12T3-26.3	H60 26300. ..							XOHX 12T3-26.3-62	H62 26300. ..	
XOHX 12T3-26.4	H60 26400. ..							XOHX 12T3-26.4-62	H62 26400. ..	
XOHX 12T3-26.8	H60 26800. ..							XOHX 12T3-26.8-62	H62 26800. ..	
XOHX 12T3-26.9	H60 26900. ..							XOHX 12T3-26.9-62	H62 26900. ..	
XOHX 12T3-27.0	H60 27000. ..	8440	2715	84	8125	2740	8140	XOHX 12T3-27.0-62	H62 27000. ..	7710
XOHX 12T3-27.1	H60 27100. ..							XOHX 12T3-27.1-62	H62 27100. ..	
XOHX 12T3-27.2	H60 27200. ..							XOHX 12T3-27.2-62	H62 27200. ..	
XOHX 12T3-28.0	H60 28000. ..							XOHX 12T3-28.0-62	H62 28000. ..	
XOHX 12T3-28.1	H60 28100. ..							XOHX 12T3-28.1-62	H62 28100. ..	
XOHX 12T3-28.2	H60 28200. ..	8440	2715	84	8125	2740	8140	XOHX 12T3-28.2-62	H62 28200. ..	7710
XOHX 12T3-28.3	H60 28300. ..							XOHX 12T3-28.3-62	H62 28300. ..	
XOHX 12T3-28.4	H60 28400. ..							XOHX 12T3-28.4-62	H62 28400. ..	
XOHX 12T3-28.4	H60 28400. ..							XOHX 12T3-28.4-62	H62 28400. ..	
XOHX 12T3-28.5	H60 28500. ..							XOHX 12T3-28.5-62	H62 28500. ..	
XOHX 12T3-28.6	H60 28600. ..	8440	2715	84	8125	2740	8140	XOHX 12T3-28.6-62	H62 28600. ..	7710
XOHX 12T3-28.7	H60 28700. ..							XOHX 12T3-28.7-62	H62 28700. ..	
XOHX 12T3-28.8	H60 28800. ..							XOHX 12T3-28.8-62	H62 28800. ..	
XOHX 12T3-29.2	H60 29200. ..							XOHX 12T3-29.2-62	H62 29200. ..	
XOHX 12T3-29.3	H60 29300. ..							XOHX 12T3-29.3-62	H62 29300. ..	
XOHX 12T3-29.4	H60 29400. ..	8440	2715	84	8125	2740	8140	XOHX 12T3-29.4-62	H62 29400. ..	7710
XOHX 12T3-29.5	H60 29500. ..							XOHX 12T3-29.5-62	H62 29500. ..	
XOHX 12T3-29.6	H60 29600. ..							XOHX 12T3-29.6-62	H62 29600. ..	
XOHX 1504-29.9	H60 29900. ..							XOHX 1504-29.9-62	H62 29900. ..	
XOHX 1504-30.0	H60 30000. ..							XOHX 1504-30.0-62	H62 30000. ..	
XOHX 1504-30.1	H60 30100. ..	8440	2715	84	8125	2740	8140	XOHX 1504-30.1-62	H62 30100. ..	7710
XOHX 1504-30.2	H60 30200. ..							XOHX 1504-30.2-62	H62 30200. ..	
XOHX 1504-30.3	H60 30300. ..							XOHX 1504-30.3-62	H62 30300. ..	

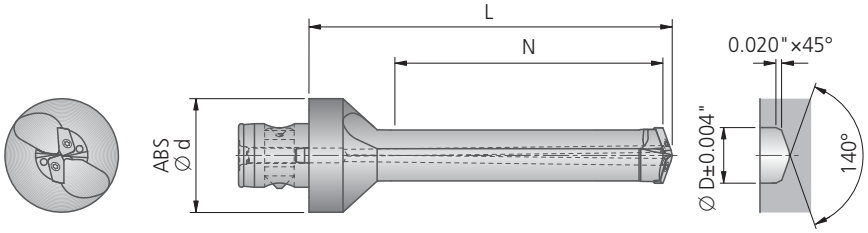
Guideline values for solid drilling: page 166.

KOMET KUB Duon®

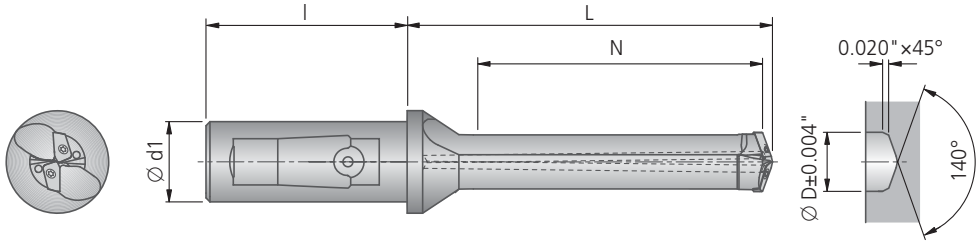
Ø 1.209 – 1.413 inch

Twin Cutting Drill with ABS® Connection and Cylindrical Shank, R.H. cutting

ABS® connection



Cylindrical shank
(combination shank)
DIN 6535 HE
(similar to DIN 1835 E)
and DIN 6595



	ABS®					Cylindrical shank					Assembly parts	Accessories	
Ø D	ABS Ø d	Order No.	N	L	lbs approx.	Cylindrical shank Ød1×l	Order No.	N	L	lbs approx.	Clamping screw Order No. Description	Screwdriver Order No. Description	
1.209 1.213 **1.218** 1.220 1.224	50	**U20 03090**	6.102	7.480	1.98	1.500 x 2.677	**U21 73090**	6.102	7.244	2.80	**N00 57650** S/M4×8.7-15IP 38 in-lbs	**L05 00860** 15IP	
1.244 1.248 **1.250** 1.256 1.260	50	**U20 03180**	6.299	7.677	1.98	1.500 x 2.677	**U21 73180**	6.299	7.441	2.82	**N00 57650** S/M4×8.7-15IP 38 in-lbs	**L05 00860** 15IP	
1.272 1.276 **1.281** 1.283 1.287	50	**U20 03250**	6.496	7.874	1.98	1.500 x 2.677	**U21 73250**	6.496	7.638	2.91	**N00 57650** S/M4×8.7-15IP 38 in-lbs	**L05 00860** 15IP	
1.303 1.307 **1.312** 1.315 1.319	50	**U20 03330**	6.693	8.070	1.98	1.500 x 2.677	**U21 73330**	6.693	7.835	2.99	**N00 57650** S/M4×8.7-15IP 38 in-lbs	**L05 00860** 15IP	
1.319 1.323 **1.328** 1.331 1.335	50	**U20 03370**	6.693	8.070	2.20	1.500 x 2.677	**U21 73370**	6.693	7.835	3.02	**N00 57650** S/M4×8.7-15IP 38 in-lbs	**L05 00860** 15IP	
1.366 1.370 **1.375** 1.378 1.382	50	**U20 03490**	6.890	8.268	2.20	1.500 x 2.677	**U21 73490**	6.890	8.031	3.15	**N00 57650** S/M4×8.7-15IP 38 in-lbs	**L05 00860** 15IP	
1.398 1.402 **1.406** 1.409 1.413	50	**U20 03570**	7.087	8.465	2.20	1.500 x 2.677	**U21 73570**	7.087	8.228	3.29	**N00 57650** S/M4×8.7-15IP 38 in-lbs	**L05 00860** 15IP	

For other diameters see following page.

Twin Cutting Drill with ABS® Connection and Cylindrical Shank, R.H. cutting

L / D	solid drilling	blind hole	forge/casting skin, interface	angled	convex	cross bore	centering bore	chamber	stack plate drilling	rough boring	adjustable
5×D	●	●	◐	○	◐	◐	○	✕	●	○	✕

● very good ◐ good ○ possible: see technical notes, page 168 ✕ not possible

Areas of use:

- P high tensile strength steels, heat treated steels and tool steels
- K grey cast iron, SG cast iron
- N cast aluminum alloys, brass and bronze which produce short chips
- ● main use
- ◐ alternative cutting material

Intermediate dimensions can be supplied on request.

Order example insert:
for ∅ 1.250", coating BK84,
Order No.: H60 31800.84

Supply includes:

KUB Duon® drill with assembly parts. Please order accessories and insert (pack of 2 inserts) separately.

Basic recommendation				alternative for ...				Basic recommendation		
Insert		for workpiece material		higher cutting speed / greater strength →				Insert		
ISO-Code enter carbide	Order No.	BK8440	BK2715	BK84	BK8125	BK2740	BK8140	ISO-Code enter carbide	Order No.	BK7710
XOHX 1504-30.7	H60 30700. ..							XOHX 1504-30.7-62	H62 30700. ..	
XOHX 1504-30.8	H60 30800. ..							XOHX 1504-30.8-62	H62 30800. ..	
XOHX 1504-30.9	H60 30900. ..	8440	2715	84	8125	2740	8140	XOHX 1504-30.9-62	H62 30900. ..	7710
XOHX 1504-31.0	H60 31000. ..							XOHX 1504-31.0-62	H62 31000. ..	
XOHX 1504-31.1	H60 31100. ..							XOHX 1504-31.1-62	H62 31100. ..	
XOHX 1504-31.6	H60 31600. ..							XOHX 1504-31.6-62	H62 31600. ..	
XOHX 1504-31.7	H60 31700. ..							XOHX 1504-31.7-62	H62 31700. ..	
XOHX 1504-31.8	H60 31800. ..	8440	2715	84	8125	2740	8140	XOHX 1504-31.8-62	H62 31800. ..	7710
XOHX 1504-31.9	H60 31900. ..							XOHX 1504-31.9-62	H62 31900. ..	
XOHX 1504-32.0	H60 32000. ..							XOHX 1504-32.0-62	H62 32000. ..	
XOHX 1504-32.3	H60 32300. ..							XOHX 1504-32.3-62	H62 32300. ..	
XOHX 1504-32.4	H60 32400. ..							XOHX 1504-32.4-62	H62 32400. ..	
XOHX 1504-32.5	H60 32500. ..	8440	2715	84	8125	2740	8140	XOHX 1504-32.5-62	H62 32500. ..	7710
XOHX 1504-32.6	H60 32600. ..							XOHX 1504-32.6-62	H62 32600. ..	
XOHX 1504-32.7	H60 32700. ..							XOHX 1504-32.7-62	H62 32700. ..	
XOHX 1504-33.1	H60 33100. ..							XOHX 1504-33.1-62	H62 33100. ..	
XOHX 1504-33.2	H60 33200. ..							XOHX 1504-33.2-62	H62 33200. ..	
XOHX 1504-33.3	H60 33300. ..	8440	2715	84	8125	2740	8140	XOHX 1504-33.3-62	H62 33300. ..	7710
XOHX 1504-33.4	H60 33400. ..							XOHX 1504-33.4-62	H62 33400. ..	
XOHX 1504-33.5	H60 33500. ..							XOHX 1504-33.5-62	H62 33500. ..	
XOHX 1504-33.5	H60 33500. ..							XOHX 1504-33.5-62	H62 33500. ..	
XOHX 1504-33.6	H60 33600. ..							XOHX 1504-33.6-62	H62 33600. ..	
XOHX 1504-33.7	H60 33700. ..	8440	2715	84	8125	2740	8140	XOHX 1504-33.7-62	H62 33700. ..	7710
XOHX 1504-33.8	H60 33800. ..							XOHX 1504-33.8-62	H62 33800. ..	
XOHX 1504-33.9	H60 33900. ..							XOHX 1504-33.9-62	H62 33900. ..	
XOHX 1504-34.7	H60 34700. ..							XOHX 1504-33.1-62	H62 33100. ..	
XOHX 1504-34.8	H60 34800. ..							XOHX 1504-33.2-62	H62 33200. ..	
XOHX 1504-34.9	H60 34900. ..	8440	2715	84	8125	2740	8140	XOHX 1504-33.3-62	H62 33300. ..	7710
XOHX 1504-35.0	H60 35000. ..							XOHX 1504-33.4-62	H62 33400. ..	
XOHX 1504-35.1	H60 35100. ..							XOHX 1504-33.5-62	H62 33500. ..	
XOHX 1504-35.5	H60 35500. ..							XOHX 1504-33.5-62	H62 33500. ..	
XOHX 1504-35.6	H60 35600. ..							XOHX 1504-33.6-62	H62 33600. ..	
XOHX 1504-35.7	H60 35700. ..	8440	2715	84	8125	2740	8140	XOHX 1504-33.7-62	H62 33700. ..	7710
XOHX 1504-35.8	H60 35800. ..							XOHX 1504-33.8-62	H62 33800. ..	
XOHX 1504-35.9	H60 35900. ..							XOHX 1504-33.9-62	H62 33900. ..	

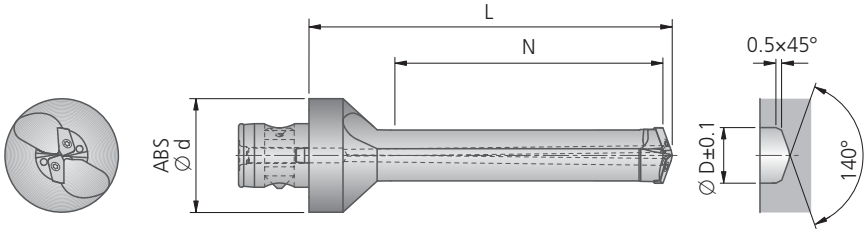
Guideline values for solid drilling: page 166.

KOMET KUB Duon®

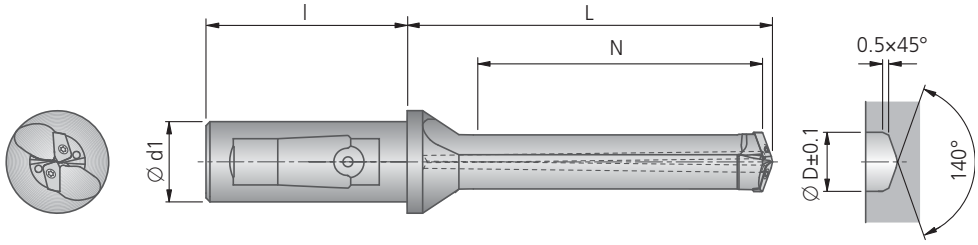
Ø 17.3 – 20.7 mm

Twin Cutting Drill with ABS® Connection and Cylindrical Shank, R.H. cutting

ABS® connection



Cylindrical shank
(combination shank)
DIN 6535 HE
(similar to DIN 1835 E)
and DIN 6595



	ABS®					Cylindrical shank					Assembly parts	Accessories	
Ø D	ABS Ø d	Order No.	N	L	kg approx.	Cylindrical shank Ød1×l	Order No.	N	L	kg approx.	Clamping screw Order No. Description	Screwdriver Order No. Description	
17.3													
17.4													
17.5	50	**U20 01750**	90	125	0.6	25×56	**U20 71750**	90	114	0.34	**N00 57660** S/M2.2×4.8-6IP 1.01 Nm	**L05 00810** 6IP	
17.6													
17.7													
17.8													
17.9													
18.0	50	**U20 01800**	90	125	0.6	25×56	**U20 71800**	90	114	0.34	**N00 57660** S/M2.2×4.8-6IP 1.01 Nm	**L05 00810** 6IP	
18.1													
18.2													
18.3													
18.4													
18.5	50	**U20 01850**	95	130	0.6	25×56	**U20 71850**	95	119	0.35	**N00 57660** S/M2.2×4.8-6IP 1.01 Nm	**L05 00810** 6IP	
18.6													
18.7													
18.8													
18.9													
19.0	50	**U20 01900**	95	130	0.6	25×56	**U20 71900**	95	119	0.35	**N00 57660** S/M2.2×4.8-6IP 1.01 Nm	**L05 00810** 6IP	
19.1													
19.2													
19.3													
19.4													
19.5	50	**U20 01950**	100	135	0.6	32×60	**U20 81950**	100	124	0.56	**N00 57660** S/M2.2×4.8-6IP 1.01 Nm	**L05 00810** 6IP	
19.6													
19.7													
19.8													
19.9													
20.0	50	**U20 02000**	100	135	0.6	32×60	**U20 82000**	100	124	0.56	**N00 57660** S/M2.2×4.8-6IP 1.01 Nm	**L05 00810** 6IP	
20.1													
20.2													
20.3													
20.4													
20.5	50	**U20 02050**	105	140	0.6	32×60	**U20 82050**	105	134	0.57	**N00 57660** S/M2.2×4.8-6IP 1.01 Nm	**L05 00810** 6IP	
20.6													
20.7													

For other diameters see following page.

Twin Cutting Drill with ABS® Connection and Cylindrical Shank, R.H. cutting

L / D	solid drilling	blind hole	forge/casting skin, interface	angled	convex	cross bore	centering bore	chamber	stack plate drilling	rough boring	adjustable
5×D	●	●	◐	○	◐	◐	○	✕	●	○	✕

● very good ◐ good ○ possible: see technical notes, page 168 ✕ not possible

Areas of use:

- P high tensile strength steels, heat treated steels and tool steels
- K grey cast iron, SG cast iron
- N cast aluminium alloys, brass and bronze which produce short chips
- ● main use
- ◐ alternative cutting material

Intermediate dimensions can be supplied on request.

Order example insert:
for ∅ 18.0 mm, coating BK84,
Order No.: H60 18000.84

Supply includes:

KUB Duon® drill with assembly parts. Please order accessories and insert (pack of 2 inserts) separately.

Basic recommendation				alternative for ...				Basic recommendation		
Insert		for workpiece material		higher cutting speed / greater strength →				Insert		
ISO-Code enter carbide	Order No.	P K N ●	●	◐	◐	◐	◐	ISO-Code enter carbide	Order No.	●
		BK8440	BK2715	BK84	BK8125	BK2740	BK8140			BK7710
XOHX 0802-17.3...	H60 17300. ..							XOHX 0802-17.3-62...	H62 17300. ..	
XOHX 0802-17.4...	H60 17400. ..							XOHX 0802-17.4-62...	H62 17400. ..	
XOHX 0802-17.5...	H60 17500. ..	8440	2715	84	8125	2740	8140	XOHX 0802-17.5-62...	H62 17500. ..	7710
XOHX 0802-17.6...	H60 17600. ..							XOHX 0802-17.6-62...	H62 17600. ..	
XOHX 0802-17.7...	H60 17700. ..							XOHX 0802-17.7-62...	H62 17700. ..	
XOHX 0802-17.8...	H60 17800. ..							XOHX 0802-17.8-62...	H62 17800. ..	
XOHX 0802-17.9...	H60 17900. ..							XOHX 0802-17.9-62...	H62 17900. ..	
XOHX 0802-18.0...	H60 18000. ..	8440	2715	84	8125	2740	8140	XOHX 0802-18.0-62...	H62 18000. ..	7710
XOHX 0802-18.1...	H60 18100. ..							XOHX 0802-18.1-62...	H62 18100. ..	
XOHX 0802-18.2...	H60 18200. ..							XOHX 0802-18.2-62...	H62 18200. ..	
XOHX 0802-18.3...	H60 18300. ..							XOHX 0802-18.3-62...	H62 18300. ..	
XOHX 0802-18.4...	H60 18400. ..							XOHX 0802-18.4-62...	H62 18400. ..	
XOHX 0802-18.5...	H60 18500. ..	8440	2715	84	8125	2740	8140	XOHX 0802-18.5-62...	H62 18500. ..	7710
XOHX 0802-18.6...	H60 18600. ..							XOHX 0802-18.6-62...	H62 18600. ..	
XOHX 0802-18.7...	H60 18700. ..							XOHX 0802-18.7-62...	H62 18700. ..	
XOHX 0802-18.8...	H60 18800. ..							XOHX 0802-18.8-62...	H62 18800. ..	
XOHX 0802-18.9...	H60 18900. ..							XOHX 0802-18.9-62...	H62 18900. ..	
XOHX 0802-19.0...	H60 19000. ..	8440	2715	84	8125	2740	8140	XOHX 0802-19.0-62...	H62 19000. ..	7710
XOHX 0802-19.1...	H60 19100. ..							XOHX 0802-19.1-62...	H62 19100. ..	
XOHX 0802-19.2...	H60 19200. ..							XOHX 0802-19.2-62...	H62 19200. ..	
XOHX 0802-19.3...	H60 19300. ..							XOHX 0802-19.3-62...	H62 19300. ..	
XOHX 0802-19.4...	H60 19400. ..							XOHX 0802-19.4-62...	H62 19400. ..	
XOHX 0802-19.5...	H60 19500. ..	8440	2715	84	8125	2740	8140	XOHX 0802-19.5-62...	H62 19500. ..	7710
XOHX 0802-19.6...	H60 19600. ..							XOHX 0802-19.6-62...	H62 19600. ..	
XOHX 0802-19.7...	H60 19700. ..							XOHX 0802-19.7-62...	H62 19700. ..	
XOHX 0802-19.8...	H60 19800. ..							XOHX 0802-19.8-62...	H62 19800. ..	
XOHX 0802-19.9...	H60 19900. ..							XOHX 0802-19.9-62...	H62 19900. ..	
XOHX 0802-20.0...	H60 20000. ..	8440	2715	84	8125	2740	8140	XOHX 0802-20.0-62...	H62 20000. ..	7710
XOHX 0802-20.1...	H60 20100. ..							XOHX 0802-20.1-62...	H62 20100. ..	
XOHX 0802-20.2...	H60 20200. ..							XOHX 0802-20.2-62...	H62 20200. ..	
XOHX 0802-20.3...	H60 20300. ..							XOHX 0802-20.3-62...	H62 20300. ..	
XOHX 0802-20.4...	H60 20400. ..							XOHX 0802-20.4-62...	H62 20400. ..	
XOHX 0802-20.5...	H60 20500. ..	8440	2715	84	8125	2740	8140	XOHX 0802-20.5-62...	H62 20500. ..	7710
XOHX 0802-20.6...	H60 20600. ..							XOHX 0802-20.6-62...	H62 20600. ..	
XOHX 0802-20.7...	H60 20700. ..							XOHX 0802-20.7-62...	H62 20700. ..	

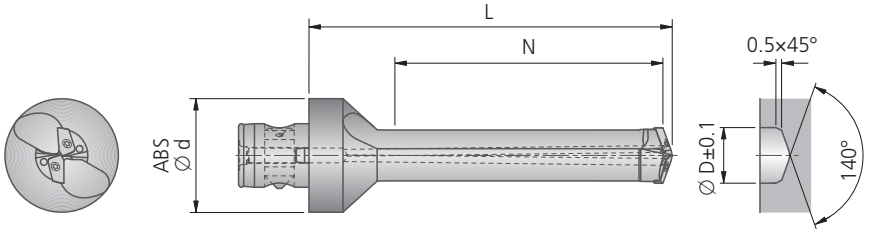
Guideline values for solid drilling: page 166.

KOMET KUB Duon®

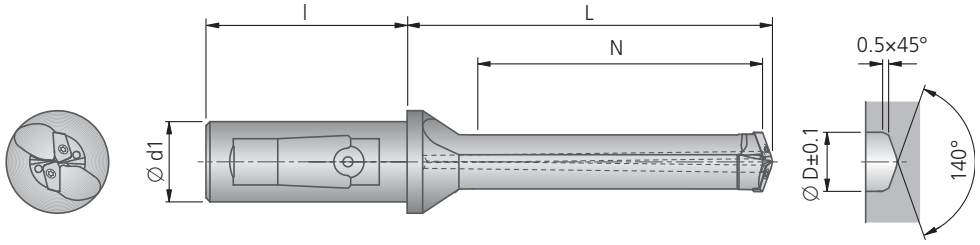
Ø 20.8 – 24.2 mm

Twin Cutting Drill with ABS® Connection and Cylindrical Shank, R.H. cutting

ABS® connection



Cylindrical shank
(combination shank)
DIN 6535 HE
(similar to DIN 1835 E)
and DIN 6595



	ABS®					Cylindrical shank					Assembly parts	Accessories	
Ø D	ABS Ø d	Order No.	N	L	kg approx.	Cylindrical shank Ød1×l	Order No.	N	L	kg approx.	Clamping screw Order No. Description	Screwdriver Order No. Description	
20.8													
20.9													
21.0	50	**U20 02100**	105	140	0.6	32×60	**U20 82100**	105	134	0.58	**N00 57630** S/M3×5.8-8IP 2.25 Nm	**L05 00830** 8IP	
21.1													
21.2													
21.3													
21.4													
21.5	50	**U20 02150**	110	145	0.6	32×60	**U20 82150**	110	139	0.59	**N00 57630** S/M3×5.8-8IP 2.25 Nm	**L05 00830** 8IP	
21.6													
21.7													
21.8													
21.9													
22.0	50	**U20 02200**	110	145	0.6	32×60	**U20 82200**	110	139	0.6	**N00 57630** S/M3×5.8-8IP 2.25 Nm	**L05 00830** 8IP	
22.1													
22.2													
22.3													
22.4													
22.5	50	**U20 02250**	115	150	0.6	32×60	**U20 82250**	115	144	0.61	**N00 57630** S/M3×5.8-8IP 2.25 Nm	**L05 00830** 8IP	
22.6													
22.7													
22.8													
22.9													
23.0	50	**U20 02300**	115	150	0.6	32×60	**U20 82300**	115	144	0.62	**N00 57630** S/M3×5.8-8IP 2.25 Nm	**L05 00830** 8IP	
23.1													
23.2													
23.3													
23.4													
23.5	50	**U20 02350**	120	155	0.7	32×60	**U20 82350**	120	149	0.64	**N00 57630** S/M3×5.8-8IP 2.25 Nm	**L05 00830** 8IP	
23.6													
23.7													
23.8													
23.9													
24.0	50	**U20 02400**	120	155	0.7	32×60	**U20 82400**	120	149	0.65	**N00 57630** S/M3×5.8-8IP 2.25 Nm	**L05 00830** 8IP	
24.1													
24.2													

For other diameters see following page.

Twin Cutting Drill with ABS® Connection and Cylindrical Shank, R.H. cutting

L / D	solid drilling	blind hole	forge/casting skin, interface	angled	convex	cross bore	centering bore	chamber	stack plate drilling	rough boring	adjustable
5×D	●	●	◐	○	◐	◐	○	✕	●	○	✕

● very good ◐ good ○ possible: see technical notes, page 168 ✕ not possible

Areas of use:

- P high tensile strength steels, heat treated steels and tool steels
- K grey cast iron, SG cast iron
- N cast aluminium alloys, brass and bronze which produce short chips
- ● main use
- ◐ alternative cutting material

Intermediate dimensions can be supplied on request.

Order example insert:
for ∅ 21.0 mm, coating BK84,
Order No.: H60 21000.84

Supply includes:

KUB Duon® drill with assembly parts. Please order accessories and insert (pack of 2 inserts) separately.

Basic recommendation				alternative for ...				Basic recommendation		
Insert		for workpiece material		higher cutting speed / greater strength →				Insert		
ISO-Code enter carbide	Order No.	BK8440	BK2715	BK84	BK8125	BK2740	BK8140	ISO-Code enter carbide	Order No.	BK7710
XOHX1003-20.8....	H60 20800. ..							XOHX1003-20.8-62...	H62 20800. ..	
XOHX1003-20.9....	H60 20900. ..							XOHX1003-20.9-62...	H62 20900. ..	
XOHX1003-21.0....	H60 21000. ..	8440	2715	84	8125	2740	8140	XOHX1003-21.0-62...	H62 21000. ..	7710
XOHX1003-21.1....	H60 21100. ..							XOHX1003-21.1-62...	H62 21100. ..	
XOHX1003-21.2....	H60 21200. ..							XOHX1003-21.2-62...	H62 21200. ..	
XOHX1003-21.3....	H60 21300. ..							XOHX1003-21.3-62...	H62 21300. ..	
XOHX1003-21.4....	H60 21400. ..							XOHX1003-21.4-62...	H62 21400. ..	
XOHX1003-21.5....	H60 21500. ..	8440	2715	84	8125	2740	8140	XOHX1003-21.5-62...	H62 21500. ..	7710
XOHX1003-21.6....	H60 21600. ..							XOHX1003-21.6-62...	H62 21600. ..	
XOHX1003-21.7....	H60 21700. ..							XOHX1003-21.7-62...	H62 21700. ..	
XOHX1003-21.8....	H60 21800. ..							XOHX1003-21.8-62...	H62 21800. ..	
XOHX1003-21.9....	H60 21900. ..							XOHX1003-21.9-62...	H62 21900. ..	
XOHX1003-22.0....	H60 22000. ..	8440	2715	84	8125	2740	8140	XOHX1003-22.0-62...	H62 22000. ..	7710
XOHX1003-22.1....	H60 22100. ..							XOHX1003-22.1-62...	H62 22100. ..	
XOHX1003-22.2....	H60 22200. ..							XOHX1003-22.2-62...	H62 22200. ..	
XOHX1003-22.3....	H60 22300. ..							XOHX1003-22.3-62...	H62 22300. ..	
XOHX1003-22.4....	H60 22400. ..							XOHX1003-22.4-62...	H62 22400. ..	
XOHX1003-22.5....	H60 22500. ..	8440	2715	84	8125	2740	8140	XOHX1003-22.5-62...	H62 22500. ..	7710
XOHX1003-22.6....	H60 22600. ..							XOHX1003-22.6-62...	H62 22600. ..	
XOHX1003-22.7....	H60 22700. ..							XOHX1003-22.7-62...	H62 22700. ..	
XOHX1003-22.8....	H60 22800. ..							XOHX1003-22.8-62...	H62 22800. ..	
XOHX1003-22.9....	H60 22900. ..							XOHX1003-22.9-62...	H62 22900. ..	
XOHX1003-23.0....	H60 23000. ..	8440	2715	84	8125	2740	8140	XOHX1003-23.0-62...	H62 23000. ..	7710
XOHX1003-23.1....	H60 23100. ..							XOHX1003-23.1-62...	H62 23100. ..	
XOHX1003-23.2....	H60 23200. ..							XOHX1003-23.2-62...	H62 23200. ..	
XOHX1003-23.3....	H60 23300. ..							XOHX1003-23.3-62...	H62 23300. ..	
XOHX1003-23.4....	H60 23400. ..							XOHX1003-23.4-62...	H62 23400. ..	
XOHX1003-23.5....	H60 23500. ..	8440	2715	84	8125	2740	8140	XOHX1003-23.5-62...	H62 23500. ..	7710
XOHX1003-23.6....	H60 23600. ..							XOHX1003-23.6-62...	H62 23600. ..	
XOHX1003-23.7....	H60 23700. ..							XOHX1003-23.7-62...	H62 23700. ..	
XOHX1003-23.8....	H60 23800. ..							XOHX1003-23.8-62...	H62 23800. ..	
XOHX1003-23.9....	H60 23900. ..							XOHX1003-23.9-62...	H62 23900. ..	
XOHX1003-24.0....	H60 24000. ..	8440	2715	84	8125	2740	8140	XOHX1003-24.0-62...	H62 24000. ..	7710
XOHX1003-24.1....	H60 24100. ..							XOHX1003-24.1-62...	H62 24100. ..	
XOHX1003-24.2....	H60 24200. ..							XOHX1003-24.2-62...	H62 24200. ..	

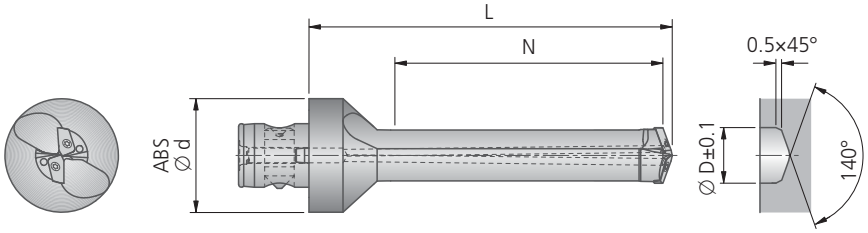
Guideline values for solid drilling: page 166.

KOMET KUB Duon®

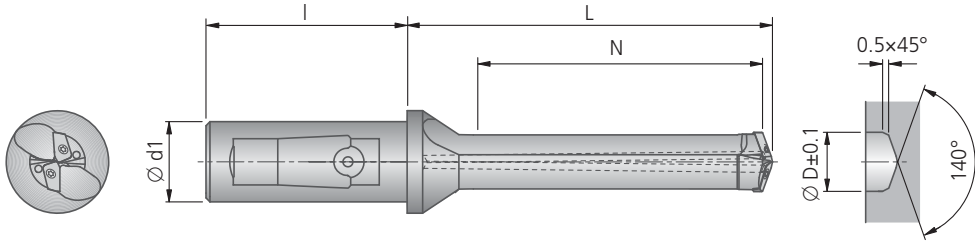
Ø 24.3 – 27.7 mm

Twin Cutting Drill with ABS® Connection and Cylindrical Shank, R.H. cutting

ABS® connection



Cylindrical shank
(combination shank)
DIN 6535 HE
(similar to DIN 1835 E)
and DIN 6595



	ABS®					Cylindrical shank					Assembly parts	Accessories	
Ø D	ABS Ø d	Order No.	N	L	kg approx.	Cylindrical shank Ød1×l	Order No.	N	L	kg approx.	Clamping screw Order No. Description	Screwdriver Order No. Description	
24.3													
24.4													
24.5	50	**U20 02450**	125	160	0.7	32×60	**U20 82450**	125	154	0.67	**N00 57630** S/M3×5.8-8IP 2.25 Nm	**L05 00830** 8IP	
24.6													
24.7													
24.8													
24.9													
25.0	50	**U20 02500**	125	160	0.7	32×60	**U20 82500**	125	154	0.68	**N00 57640** S/M3.5×6.9-10IP 2.8 Nm	**L05 00850** 10IP	
25.1													
25.2													
25.3													
25.4													
25.5	50	**U20 02550**	130	165	0.7	32×60	**U20 82550**	130	159	0.69	**N00 57640** S/M3.5×6.9-10IP 2.8 Nm	**L05 00850** 10IP	
25.6													
25.7													
25.8													
25.9													
26.0	50	**U20 02600**	130	165	0.7	32×60	**U20 82600**	130	159	0.71	**N00 57640** S/M3.5×6.9-10IP 2.8 Nm	**L05 00850** 10IP	
26.1													
26.2													
26.3													
26.4													
26.5	50	**U20 02650**	135	170	0.7	32×60	**U20 82650**	135	164	0.73	**N00 57640** S/M3.5×6.9-10IP 2.8 Nm	**L05 00850** 10IP	
26.6													
26.7													
26.8													
26.9													
27.0	50	**U20 02700**	135	170	0.7	32×60	**U20 82700**	135	164	0.74	**N00 57640** S/M3.5×6.9-10IP 2.8 Nm	**L05 00850** 10IP	
27.1													
27.2													
27.3													
27.4													
27.5	50	**U20 02750**	140	175	0.8	40×68	**U20 92750**	140	169	1.11	**N00 57640** S/M3.5×6.9-10IP 2.8 Nm	**L05 00850** 10IP	
27.6													
27.7													

For other diameters see following page.

Twin Cutting Drill with ABS® Connection and Cylindrical Shank, R.H. cutting

L / D	solid drilling	blind hole	forge/casting skin, interface	angled	convex	cross bore	centering bore	chamber	stack plate drilling	rough boring	adjustable
5×D	●	●	◐	○	◐	◐	○	✕	●	○	✕

● very good ◐ good ○ possible: see technical notes, page 168 ✕ not possible

Areas of use:

- P high tensile strength steels, heat treated steels and tool steels
- K grey cast iron, SG cast iron
- N cast aluminium alloys, brass and bronze which produce short chips
- ● main use
- ◐ alternative cutting material

Intermediate dimensions can be supplied on request.

Order example insert:
for ∅ 24.5 mm, coating BK84,
Order No.: H60 24500.84

Supply includes:

KUB Duon® drill with assembly parts. Please order accessories and insert (pack of 2 inserts) separately.

Basic recommendation				alternative for ...				Basic recommendation		
Insert		for workpiece material		higher cutting speed / greater strength →				Insert		
ISO-Code enter carbide	Order No.	BK8440	BK2715	BK84	BK8125	BK2740	BK8140	ISO-Code enter carbide	Order No.	BK7710
XOHX1003-24.3....	H60 24300. ..							XOHX1003-24.3-62...	H62 24300. ..	
XOHX1003-24.4....	H60 24400. ..							XOHX1003-24.4-62...	H62 24400. ..	
XOHX1003-24.5....	H60 24500. ..	8440	2715	84	8125	2740	8140	XOHX1003-24.5-62...	H62 24500. ..	7710
XOHX1003-24.6....	H60 24600. ..							XOHX1003-24.6-62...	H62 24600. ..	
XOHX1003-24.7....	H60 24700. ..							XOHX1003-24.7-62...	H62 24700. ..	
XOHX12T3-24.8....	H60 24800. ..							XOHX12T3-24.8-62...	H62 24800. ..	
XOHX12T3-24.9....	H60 24900. ..							XOHX12T3-24.9-62...	H62 24900. ..	
XOHX12T3-25.0....	H60 25000. ..	8440	2715	84	8125	2740	8140	XOHX12T3-25.0-62...	H62 25000. ..	7710
XOHX12T3-25.1....	H60 25100. ..							XOHX12T3-25.1-62...	H62 25100. ..	
XOHX12T3-25.2....	H60 25200. ..							XOHX12T3-25.2-62...	H62 25200. ..	
XOHX12T3-25.3....	H60 25300. ..							XOHX12T3-25.3-62...	H62 25300. ..	
XOHX12T3-25.4....	H60 25400. ..							XOHX12T3-25.4-62...	H62 25400. ..	
XOHX12T3-25.5....	H60 25500. ..	8440	2715	84	8125	2740	8140	XOHX12T3-25.5-62...	H62 25500. ..	7710
XOHX12T3-25.6....	H60 25600. ..							XOHX12T3-25.6-62...	H62 25600. ..	
XOHX12T3-25.7....	H60 25700. ..							XOHX12T3-25.7-62...	H62 25700. ..	
XOHX12T3-25.8....	H60 25800. ..							XOHX12T3-25.8-62...	H62 25800. ..	
XOHX12T3-25.9....	H60 25900. ..							XOHX12T3-25.9-62...	H62 25900. ..	
XOHX12T3-26.0....	H60 26000. ..	8440	2715	84	8125	2740	8140	XOHX12T3-26.0-62...	H62 26000. ..	7710
XOHX12T3-26.1....	H60 26100. ..							XOHX12T3-26.1-62...	H62 26100. ..	
XOHX12T3-26.2....	H60 26200. ..							XOHX12T3-26.2-62...	H62 26200. ..	
XOHX12T3-26.3....	H60 26300. ..							XOHX12T3-26.3-62...	H62 26300. ..	
XOHX12T3-26.4....	H60 26400. ..							XOHX12T3-26.4-62...	H62 26400. ..	
XOHX12T3-26.5....	H60 26500. ..	8440	2715	84	8125	2740	8140	XOHX12T3-26.5-62...	H62 26500. ..	7710
XOHX12T3-26.6....	H60 26600. ..							XOHX12T3-26.6-62...	H62 26600. ..	
XOHX12T3-26.7....	H60 26700. ..							XOHX12T3-26.7-62...	H62 26700. ..	
XOHX12T3-26.8....	H60 26800. ..							XOHX12T3-26.8-62...	H62 26800. ..	
XOHX12T3-26.9....	H60 26900. ..							XOHX12T3-26.9-62...	H62 26900. ..	
XOHX12T3-27.0....	H60 27000. ..	8440	2715	84	8125	2740	8140	XOHX12T3-27.0-62...	H62 27000. ..	7710
XOHX12T3-27.1....	H60 27100. ..							XOHX12T3-27.1-62...	H62 27100. ..	
XOHX12T3-27.2....	H60 27200. ..							XOHX12T3-27.2-62...	H62 27200. ..	
XOHX12T3-27.3....	H60 27300. ..							XOHX12T3-27.3-62...	H62 27300. ..	
XOHX12T3-27.4....	H60 27400. ..							XOHX12T3-27.4-62...	H62 27400. ..	
XOHX12T3-27.5....	H60 27500. ..	8440	2715	84	8125	2740	8140	XOHX12T3-27.5-62...	H62 27500. ..	7710
XOHX12T3-27.6....	H60 27600. ..							XOHX12T3-27.6-62...	H62 27600. ..	
XOHX12T3-27.7....	H60 27700. ..							XOHX12T3-27.7-62...	H62 27700. ..	

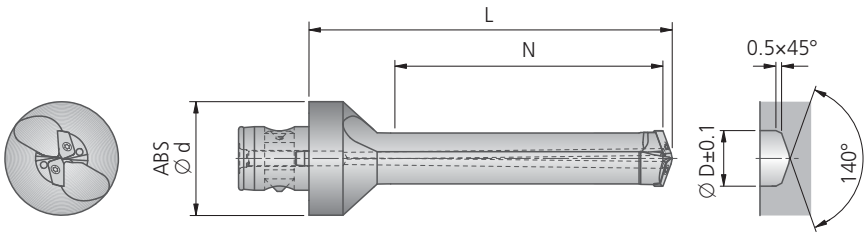
Guideline values for solid drilling: page 166.

KOMET KUB Duon®

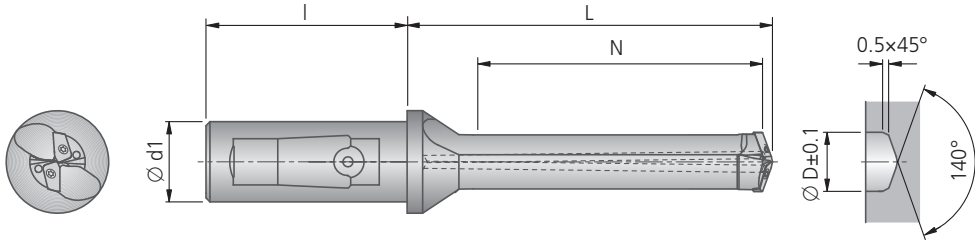
Ø 27.8 – 31.2 mm

Twin Cutting Drill with ABS® Connection and Cylindrical Shank, R.H. cutting

ABS® connection



Cylindrical shank
(combination shank)
DIN 6535 HE
(similar to DIN 1835 E)
and DIN 6595



	ABS®					Cylindrical shank					Assembly parts	Accessories	
Ø D	ABS Ø d	Order No.	N	L	kg approx.	Cylindrical shank Ød1×l	Order No.	N	L	kg approx.	Clamping screw Order No. Description	Screwdriver Order No. Description	
27.8													
27.9													
28.0	50	**U20 02800**	140	175	0.8	40×68	**U20 92800**	140	169	1.12	**N00 57640** S/M3.5×6.9-10IP 2.8 Nm	**L05 00850** 10IP	
28.1													
28.2													
28.3													
28.4													
28.5	50	**U20 02850**	145	180	0.8	40×68	**U20 92850**	145	174	1.14	**N00 57640** S/M3.5×6.9-10IP 2.8 Nm	**L05 00850** 10IP	
28.6													
28.7													
28.8													
28.9													
29.0	50	**U20 02900**	145	180	0.8	40×68	**U20 92900**	145	174	1.16	**N00 57640** S/M3.5×6.9-10IP 2.8 Nm	**L05 00850** 10IP	
29.1													
29.2													
29.3													
29.4													
29.5	50	**U20 02950**	150	185	0.9	40×68	**U20 92950**	150	179	1.18	**N00 57640** S/M3.5×6.9-10IP 2.8 Nm	**L05 00850** 10IP	
29.6													
29.7													
29.8													
29.9													
30.0	50	**U20 03000**	150	185	0.9	40×68	**U20 93000**	150	179	1.20	**N00 57650** S/M4×8.7-15IP 4.3 Nm	**L05 00860** 15IP	
30.1													
30.2													
30.3													
30.4													
30.5	50	**U20 03050**	155	190	0.9	40×68	**U20 93050**	155	184	1.22	**N00 57650** S/M4×8.7-15IP 4.3 Nm	**L05 00860** 15IP	
30.6													
30.7													
30.8													
30.9													
31.0	50	**U20 03100**	155	190	0.9	40×68	**U20 93100**	155	184	1.24	**N00 57650** S/M4×8.7-15IP 4.3 Nm	**L05 00860** 15IP	
31.1													
31.2													

For other diameters see following page.

Twin Cutting Drill with ABS® Connection and Cylindrical Shank, R.H. cutting

L / D	solid drilling	blind hole	forge/casting skin, interface	angled	convex	cross bore	centering bore	chamber	stack plate drilling	rough boring	adjustable
5×D	●	●	◐	○	◐	◐	○	✕	●	○	✕

● very good ◐ good ○ possible: see technical notes, page 168 ✕ not possible

Areas of use:

- P high tensile strength steels, heat treated steels and tool steels
- K grey cast iron, SG cast iron
- N cast aluminium alloys, brass and bronze which produce short chips
- ● main use
- ◐ alternative cutting material

Intermediate dimensions can be supplied on request.

Order example insert:
for ∅ 28.0 mm, coating BK84,
Order No.: H60 28000.84

Supply includes:

KUB Duon® drill with assembly parts. Please order accessories and insert (pack of 2 inserts) separately.

Basic recommendation				alternative for ...				Basic recommendation		
Insert		for workpiece material		higher cutting speed / greater strength →				Insert		
ISO-Code enter carbide	Order No.	BK8440	BK2715	BK84	BK8125	BK2740	BK8140	ISO-Code enter carbide	Order No.	BK7710
XOHX12T3-27.8...	H60 27800. ..							XOHX12T3-27.8-62...	H62 27800. ..	
XOHX12T3-27.9....	H60 27900. ..							XOHX12T3-27.9-62...	H62 27900. ..	
XOHX12T3-28.0....	H60 28000. ..	8440	2715	84	8125	2740	8140	XOHX12T3-28.0-62...	H62 28000. ..	7710
XOHX12T3-28.1....	H60 28100. ..							XOHX12T3-28.1-62...	H62 28100. ..	
XOHX12T3-28.2....	H60 28200. ..							XOHX12T3-28.2-62...	H62 28200. ..	
XOHX12T3-28.3....	H60 28300. ..							XOHX12T3-28.3-62...	H62 28300. ..	
XOHX12T3-28.4....	H60 28400. ..							XOHX12T3-28.4-62...	H62 28400. ..	
XOHX12T3-28.5....	H60 28500. ..	8440	2715	84	8125	2740	8140	XOHX12T3-28.5-62...	H62 28500. ..	7710
XOHX12T3-28.6....	H60 28600. ..							XOHX12T3-28.6-62...	H62 28600. ..	
XOHX12T3-28.7....	H60 28700. ..							XOHX12T3-28.7-62...	H62 28700. ..	
XOHX12T3-28.8....	H60 28800. ..							XOHX12T3-28.8-62...	H62 28800. ..	
XOHX12T3-28.9....	H60 28900. ..							XOHX12T3-28.9-62...	H62 28900. ..	
XOHX12T3-29.0....	H60 29000. ..	8440	2715	84	8125	2740	8140	XOHX12T3-29.0-62...	H62 29000. ..	7710
XOHX12T3-29.1....	H60 29100. ..							XOHX12T3-29.1-62...	H62 29100. ..	
XOHX12T3-29.2....	H60 29200. ..							XOHX12T3-29.2-62...	H62 29200. ..	
XOHX12T3-29.3....	H60 29300. ..							XOHX12T3-29.3-62...	H62 29300. ..	
XOHX12T3-29.4....	H60 29400. ..							XOHX12T3-29.4-62...	H62 29400. ..	
XOHX12T3-29.5....	H60 29500. ..	8440	2715	84	8125	2740	8140	XOHX12T3-29.5-62...	H62 29500. ..	7710
XOHX12T3-29.6....	H60 29600. ..							XOHX12T3-29.6-62...	H62 29600. ..	
XOHX12T3-29.7....	H60 29700. ..							XOHX12T3-29.7-62...	H62 29700. ..	
XOHX1504-29.8....	H60 29800. ..							XOHX1504-29.8-62...	H62 29800. ..	
XOHX1504-29.9....	H60 29900. ..							XOHX1504-29.9-62...	H62 29900. ..	
XOHX1504-30.0....	H60 30000. ..	8440	2715	84	8125	2740	8140	XOHX1504-30.0-62...	H62 30000. ..	7710
XOHX1504-30.1....	H60 30100. ..							XOHX1504-30.1-62...	H62 30100. ..	
XOHX1504-30.2....	H60 30200. ..							XOHX1504-30.2-62...	H62 30200. ..	
XOHX1504-30.3....	H60 30300. ..							XOHX1504-30.3-62...	H62 30300. ..	
XOHX1504-30.4....	H60 30400. ..							XOHX1504-30.4-62...	H62 30400. ..	
XOHX1504-30.5....	H60 30500. ..	8440	2715	84	8125	2740	8140	XOHX1504-30.5-62...	H62 30500. ..	7710
XOHX1504-30.6....	H60 30600. ..							XOHX1504-30.6-62...	H62 30600. ..	
XOHX1504-30.7....	H60 30700. ..							XOHX1504-30.7-62...	H62 30700. ..	
XOHX1504-30.8....	H60 30800. ..							XOHX1504-30.8-62...	H62 30800. ..	
XOHX1504-30.9....	H60 30900. ..							XOHX1504-30.9-62...	H62 30900. ..	
XOHX1504-31.0....	H60 31000. ..	8440	2715	84	8125	2740	8140	XOHX1504-31.0-62...	H62 31000. ..	7710
XOHX1504-31.1....	H60 31100. ..							XOHX1504-31.1-62...	H62 31100. ..	
XOHX1504-31.2....	H60 31200. ..							XOHX1504-31.2-62...	H62 31200. ..	

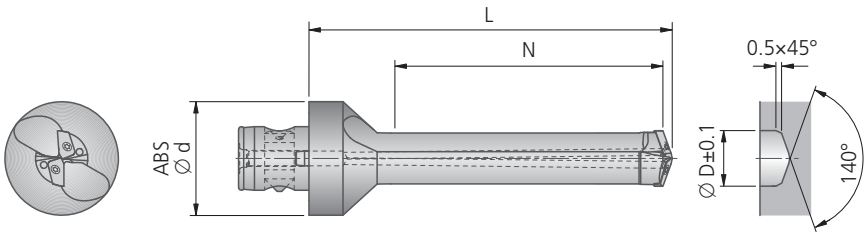
Guideline values for solid drilling: page 166.

KOMET KUB Duon®

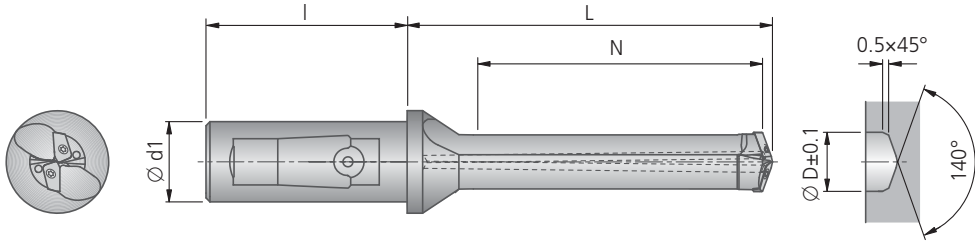
Ø 31.3 – 34.7 mm

Twin Cutting Drill with ABS® Connection and Cylindrical Shank, R.H. cutting

ABS® connection



Cylindrical shank
(combination shank)
DIN 6535 HE
(similar to DIN 1835 E)
and DIN 6595



	ABS®					Cylindrical shank					Assembly parts	Accessories	
Ø D	ABS Ø d	Order No.	N	L	kg approx.	Cylindrical shank Ød1×l	Order No.	N	L	kg approx.	Clamping screw Order No. Description	Screwdriver Order No. Description	
31.3													
31.4													
31.5	50	**U20 03150**	160	195	0.9	40×68	**U20 93150**	160	189	1.27	**N00 57650** S/M4×8.7-15IP 4.3 Nm	**L05 00860** 15IP	
31.6													
31.7													
31.8													
31.9													
32.0	50	**U20 03200**	160	195	0.9	40×68	**U20 93200**	160	189	1.28	**N00 57650** S/M4×8.7-15IP 4.3 Nm	**L05 00860** 15IP	
32.1													
32.2													
32.3													
32.4													
32.5	50	**U20 03250**	165	200	0.9	40×68	**U20 93250**	165	194	1.32	**N00 57650** S/M4×8.7-15IP 4.3 Nm	**L05 00860** 15IP	
32.6													
32.7													
32.8													
32.9													
33.0	50	**U20 03300**	165	200	0.9	40×68	**U20 93300**	165	194	1.33	**N00 57650** S/M4×8.7-15IP 4.3 Nm	**L05 00860** 15IP	
33.1													
33.2													
33.3													
33.4													
33.5	50	**U20 03350**	170	205	0.9	40×68	**U20 93350**	170	199	1.36	**N00 57650** S/M4×8.7-15IP 4.3 Nm	**L05 00860** 15IP	
33.6													
33.7													
33.8													
33.9													
34.0	50	**U20 03400**	170	205	1.0	40×68	**U20 93400**	170	199	1.37	**N00 57650** S/M4×8.7-15IP 4.3 Nm	**L05 00860** 15IP	
34.1													
34.2													
34.3													
34.4													
34.5	50	**U20 03450**	175	210	1.0	40×68	**U20 93450**	175	204	1.41	**N00 57650** S/M4×8.7-15IP 4.3 Nm	**L05 00860** 15IP	
34.6													
34.7													

For other diameters see following page.

Twin Cutting Drill with ABS® Connection and Cylindrical Shank, R.H. cutting

L / D	solid drilling	blind hole	forge/casting skin, interface	angled	convex	cross bore	centering bore	chamber	stack plate drilling	rough boring	adjustable
5×D	●	●	◐	○	◐	◐	○	✕	●	○	✕

● very good ◐ good ○ possible: see technical notes, page 168 ✕ not possible

Areas of use:

- P high tensile strength steels, heat treated steels and tool steels
- K grey cast iron, SG cast iron
- N cast aluminium alloys, brass and bronze which produce short chips
- ● main use
- ◐ alternative cutting material

Intermediate dimensions can be supplied on request.

Order example insert:
for ∅ 32.0 mm, coating BK84,
Order No.: H60 32000.84

Supply includes:

KUB Duon® drill with assembly parts. Please order accessories and insert (pack of 2 inserts) separately.

Basic recommendation				alternative for ...				Basic recommendation		
Insert		for workpiece material		higher cutting speed / greater strength →				Insert		
ISO-Code enter carbide	Order No.	BK8440	BK2715	BK84	BK8125	BK2740	BK8140	ISO-Code enter carbide	Order No.	BK7710
XOHX1504-31.3....	H60 31300. ..							XOHX1504-31.3-62...	H62 31300. ..	
XOHX1504-31.4....	H60 31400. ..							XOHX1504-31.4-62...	H62 31400. ..	
XOHX1504-31.5....	H60 31500. ..	8440	2715	84	8125	2740	8140	XOHX1504-31.5-62...	H62 31500. ..	7710
XOHX1504-31.6....	H60 31600. ..							XOHX1504-31.6-62...	H62 31600. ..	
XOHX1504-31.7....	H60 31700. ..							XOHX1504-31.7-62...	H62 31700. ..	
XOHX1504-31.8....	H60 31800. ..							XOHX1504-31.8-62...	H62 31800. ..	
XOHX1504-31.9....	H60 31900. ..							XOHX1504-31.9-62...	H62 31900. ..	
XOHX1504-32.0....	H60 32000. ..	8440	2715	84	8125	2740	8140	XOHX1504-32.0-62...	H62 32000. ..	7710
XOHX1504-32.1....	H60 32100. ..							XOHX1504-32.1-62...	H62 32100. ..	
XOHX1504-32.2....	H60 32200. ..							XOHX1504-32.2-62...	H62 32200. ..	
XOHX1504-32.3....	H60 32300. ..							XOHX1504-32.3-62...	H62 32300. ..	
XOHX1504-32.4....	H60 32400. ..							XOHX1504-32.4-62...	H62 32400. ..	
XOHX1504-32.5....	H60 32500. ..	8440	2715	84	8125	2740	8140	XOHX1504-32.5-62...	H62 32500. ..	7710
XOHX1504-32.6....	H60 32600. ..							XOHX1504-32.6-62...	H62 32600. ..	
XOHX1504-32.7....	H60 32700. ..							XOHX1504-32.7-62...	H62 32700. ..	
XOHX1504-32.8....	H60 32800. ..							XOHX1504-32.8-62...	H62 32800. ..	
XOHX1504-32.9....	H60 32900. ..							XOHX1504-32.9-62...	H62 32900. ..	
XOHX1504-33.0....	H60 33000. ..	8440	2715	84	8125	2740	8140	XOHX1504-33.0-62...	H62 33000. ..	7710
XOHX1504-33.1....	H60 33100. ..							XOHX1504-33.1-62...	H62 33100. ..	
XOHX1504-33.2....	H60 33200. ..							XOHX1504-33.2-62...	H62 33200. ..	
XOHX1504-33.3....	H60 33300. ..							XOHX1504-33.3-62...	H62 33300. ..	
XOHX1504-33.4....	H60 33400. ..							XOHX1504-33.4-62...	H62 33400. ..	
XOHX1504-33.5....	H60 33500. ..	8440	2715	84	8125	2740	8140	XOHX1504-33.5-62...	H62 33500. ..	7710
XOHX1504-33.6....	H60 33600. ..							XOHX1504-33.6-62...	H62 33600. ..	
XOHX1504-33.7....	H60 33700. ..							XOHX1504-33.7-62...	H62 33700. ..	
XOHX1504-33.8....	H60 33800. ..							XOHX1504-33.8-62...	H62 33800. ..	
XOHX1504-33.9....	H60 33900. ..							XOHX1504-33.9-62...	H62 33900. ..	
XOHX1504-34.0....	H60 34000. ..	8440	2715	84	8125	2740	8140	XOHX1504-34.0-62...	H62 34000. ..	7710
XOHX1504-34.1....	H60 34100. ..							XOHX1504-34.1-62...	H62 34100. ..	
XOHX1504-34.2....	H60 34200. ..							XOHX1504-34.2-62...	H62 34200. ..	
XOHX1504-34.3....	H60 34300. ..							XOHX1504-34.3-62...	H62 34300. ..	
XOHX1504-34.4....	H60 34400. ..							XOHX1504-34.4-62...	H62 34400. ..	
XOHX1504-34.5....	H60 34500. ..	8440	2715	84	8125	2740	8140	XOHX1504-34.5-62...	H62 34500. ..	7710
XOHX1504-34.6....	H60 34600. ..							XOHX1504-34.6-62...	H62 34600. ..	
XOHX1504-34.7....	H60 34700. ..							XOHX1504-34.7-62...	H62 34700. ..	

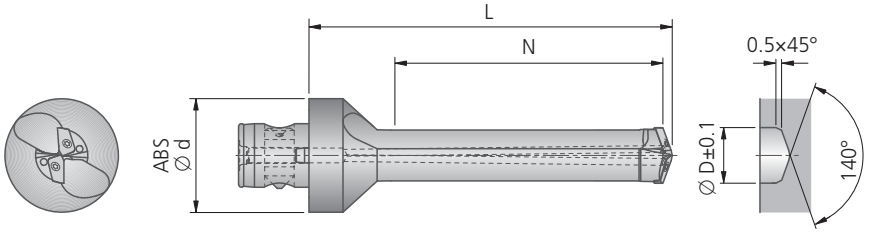
Guideline values for solid drilling: page 166.

KOMET KUB Duon®

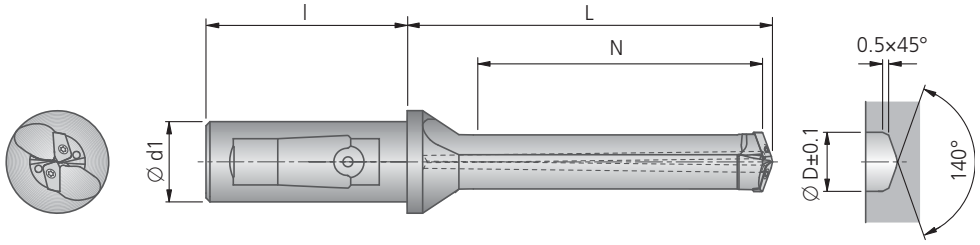
Ø 34.8 – 38.2 mm

Twin Cutting Drill with ABS® Connection and Cylindrical Shank, R.H. cutting

ABS® connection



Cylindrical shank
(combination shank)
DIN 6535 HE
(similar to DIN 1835 E)
and DIN 6595



	ABS®					Cylindrical shank					Assembly parts	Accessories	
Ø D	ABS Ø d	Order No.	N	L	kg approx.	Cylindrical shank Ød1×l	Order No.	N	L	kg approx.	Clamping screw Order No. Description	Screwdriver Order No. Description	
34.8													
34.9													
35.0	50	**U20 03500**	175	210	1.0	40×68	**U20 93500**	175	204	1.43	**N00 57650** S/M4×8.7-15IP 4.3 Nm	**L05 00860** 15IP	
35.1													
35.2													
35.3													
35.4													
35.5	50	**U20 03550**	180	215	1.0	40×68	**U20 93550**	180	209	1.47	**N00 57650** S/M4×8.7-15IP 4.3 Nm	**L05 00860** 15IP	
35.6													
35.7													
35.8													
35.9													
36.0	50	**U20 03600**	180	215	1.0	40×68	**U20 93600**	180	209	1.49	**N00 57650** S/M4×8.7-15IP 4.3 Nm	**L05 00860** 15IP	
36.1													
36.2													
36.3													
36.4													
36.5	63	**U20 13650**	185	243	1.7		–				**N00 57670** S/M5×10.4-20IP 6.25 Nm	**L05 00870** 20IP	
36.6													
36.7													
36.8													
36.9													
37.0	63	**U20 13700**	185	243	1.7		–				**N00 57670** S/M5×10.4-20IP 6.25 Nm	**L05 00870** 20IP	
37.1													
37.2													
37.3													
37.4													
37.5	63	**U20 13750**	190	248	1.77		–				**N00 57670** S/M5×10.4-20IP 6.25 Nm	**L05 00870** 20IP	
37.6													
37.7													
37.8													
37.9													
38.0	63	**U20 13800**	190	248	1.77		–				**N00 57670** S/M5×10.4-20IP 6.25 Nm	**L05 00870** 20IP	
38.1													
38.2													

For other diameters see following page.

Twin Cutting Drill with ABS® Connection and Cylindrical Shank, R.H. cutting

L / D	solid drilling	blind hole	forge/casting skin, interface	angled	convex	cross bore	centering bore	chamber	stack plate drilling	rough boring	adjustable
5×D	●	●	◐	○	◐	◐	○	✕	●	○	✕

● very good ◐ good ○ possible: see technical notes, page 168 ✕ not possible

Areas of use:

- P high tensile strength steels, heat treated steels and tool steels
- K grey cast iron, SG cast iron
- N cast aluminium alloys, brass and bronze which produce short chips
- ● main use
- ◐ alternative cutting material

Intermediate dimensions can be supplied on request.

Order example insert:
for ∅ 35.0 mm, coating BK84,
Order No.: H60 35000.84

Supply includes:

KUB Duon® drill with assembly parts. Please order accessories and insert (pack of 2 inserts) separately.

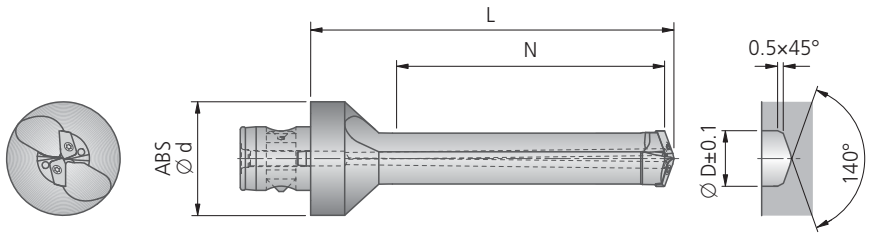
Basic recommendation				alternative for ...				Basic recommendation		
Insert		for workpiece material		higher cutting speed / greater strength →				Insert		
ISO-Code enter carbide	Order No.	P K N ●	●	◐	◐	◐	◐	ISO-Code enter carbide	Order No.	P K N ●
		BK8440	BK2715	BK84	BK8125	BK2740	BK8140			BK7710
XOHX1504-34.8...	H60 34800. ..							XOHX1504-34.8-62...	H62 34800. ..	
XOHX1504-34.9....	H60 34900. ..							XOHX1504-34.9-62...	H62 34900. ..	
XOHX1504-35.0....	H60 35000. ..	8440	2715	84	8125	2740	8140	XOHX1504-35.0-62...	H62 35000. ..	7710
XOHX1504-35.1....	H60 35100. ..							XOHX1504-35.1-62...	H62 35100. ..	
XOHX1504-35.2....	H60 35200. ..							XOHX1504-35.2-62...	H62 35200. ..	
XOHX1504-35.3....	H60 35300. ..							XOHX1504-35.3-62...	H62 35300. ..	
XOHX1504-35.4....	H60 35400. ..							XOHX1504-35.4-62...	H62 35400. ..	
XOHX1504-35.5....	H60 35500. ..	8440	2715	84	8125	2740	8140	XOHX1504-35.5-62...	H62 35500. ..	7710
XOHX1504-35.6....	H60 35600. ..							XOHX1504-35.6-62...	H62 35600. ..	
XOHX1504-35.7....	H60 35700. ..							XOHX1504-35.7-62...	H62 35700. ..	
XOHX1504-35.8....	H60 35800. ..							XOHX1504-35.8-62...	H62 35800. ..	
XOHX1504-35.9....	H60 35900. ..							XOHX1504-35.9-62...	H62 35900. ..	
XOHX1504-36.0....	H60 36000. ..	8440	2715	84	8125	2740	8140	XOHX1504-36.0-62...	H62 36000. ..	7710
XOHX1504-36.1....	H60 36100. ..							XOHX1504-36.1-62...	H62 36100. ..	
XOHX1504-36.2....	H60 36200. ..							XOHX1504-36.2-62...	H62 36200. ..	
XOHX2205-36.3....	H60 36300. ..							XOHX2205-36.3-62...	H62 36300. ..	
XOHX2205-36.4....	H60 36400. ..							XOHX2205-36.4-62...	H62 36400. ..	
XOHX2205-36.5....	H60 36500. ..	8440	2715	84	8125	2740	8140	XOHX2205-36.5-62...	H62 36500. ..	7710
XOHX2205-36.6....	H60 36600. ..							XOHX2205-36.6-62...	H62 36600. ..	
XOHX2205-36.7....	H60 36700. ..							XOHX2205-36.7-62...	H62 36700. ..	
XOHX2205-36.8....	H60 36800. ..							XOHX2205-36.8-62...	H62 36800. ..	
XOHX2205-36.9....	H60 36900. ..							XOHX2205-36.9-62...	H62 36900. ..	
XOHX2205-37.0....	H60 37000. ..	8440	2715	84	8125	2740	8140	XOHX2205-37.0-62...	H62 37000. ..	7710
XOHX2205-37.1....	H60 37100. ..							XOHX2205-37.1-62...	H62 37100. ..	
XOHX2205-37.2....	H60 37200. ..							XOHX2205-37.2-62...	H62 37200. ..	
XOHX2205-37.3....	H60 37300. ..							XOHX2205-37.3-62...	H62 37300. ..	
XOHX2205-37.4....	H60 37400. ..							XOHX2205-37.4-62...	H62 37400. ..	
XOHX2205-37.5....	H60 37500. ..	8440	2715	84	8125	2740	8140	XOHX2205-37.5-62...	H62 37500. ..	7710
XOHX2205-37.6....	H60 37600. ..							XOHX2205-37.6-62...	H62 37600. ..	
XOHX2205-37.7....	H60 37700. ..							XOHX2205-37.7-62...	H62 37700. ..	
XOHX2205-37.8....	H60 37800. ..							XOHX2205-37.8-62...	H62 37800. ..	
XOHX2205-37.9....	H60 37900. ..							XOHX2205-37.9-62...	H62 37900. ..	
XOHX2205-38.0....	H60 38000. ..	8440	2715	84	8125	2740	8140	XOHX2205-38.0-62...	H62 38000. ..	7710
XOHX2205-38.1....	H60 38100. ..							XOHX2205-38.1-62...	H62 38100. ..	
XOHX2205-38.2....	H60 38200. ..							XOHX2205-38.2-62...	H62 38200. ..	

Guideline values for solid drilling: page 166.

KOMET KUB Duon®

Twin Cutting Drill with ABS® Connection, R.H. cutting

Ø 38.3 – 41.7 mm



	ABS®					Assembly parts	Accessories	
Ø D	ABS Ø d	Order No.	N	L	approx. kg	Clamping screw Order No. Description	Screwdriver Order No. Description	
38.3	63	U20 13850	195	253	1.84	N00 57670 S/M5×10.4-20IP 6.25 Nm	L05 00870 20IP	
38.4								
38.5								
38.6								
38.7								
38.8	63	U20 13900	195	253	1.84	N00 57670 S/M5×10.4-20IP 6.25 Nm	L05 00870 20IP	
38.9								
39.0								
39.1								
39.2								
39.3	63	U20 13950	200	258	1.91	N00 57670 S/M5×10.4-20IP 6.25 Nm	L05 00870 20IP	
39.4								
39.5								
39.6								
39.7								
39.8	63	U20 14000	200	258	1.91	N00 57670 S/M5×10.4-20IP 6.25 Nm	L05 00870 20IP	
39.9								
40.0								
40.1								
40.2								
40.3	63	U20 14050	205	263	1.99	N00 57670 S/M5×10.4-20IP 6.25 Nm	L05 00870 20IP	
40.4								
40.5								
40.6								
40.7								
40.8	63	U20 14100	205	263	1.99	N00 57670 S/M5×10.4-20IP 6.25 Nm	L05 00870 20IP	
40.9								
41.0								
41.1								
41.2								
41.3	63	U20 14150	210	268	2.08	N00 57670 S/M5×10.4-20IP 6.25 Nm	L05 00870 20IP	
41.4								
41.5								
41.6								
41.7								

For other diameters see following page.

L / D	solid drilling	blind hole	forge/casting skin, interface	angled	convex	cross bore	centering bore	chamber	stack plate drilling	rough boring	adjustable
5×D	●	●	◐	○	◐	◐	○	✕	●	○	✕

● very good ◐ good ○ possible: see technical notes, page 168 ✕ not possible

Areas of use:

- P high tensile strength steels, heat treated steels and tool steels
- K grey cast iron, SG cast iron
- N cast aluminium alloys, brass and bronze which produce short chips
- ● main use
- ◐ alternative cutting material

Intermediate dimensions can be supplied on request.

Order example insert:
for ∅ 39.0 mm, coating BK84,
Order No.: H60 39000.84

Supply includes:

KUB Duon® drill with assembly parts. Please order accessories and insert (pack of 2 inserts) separately.

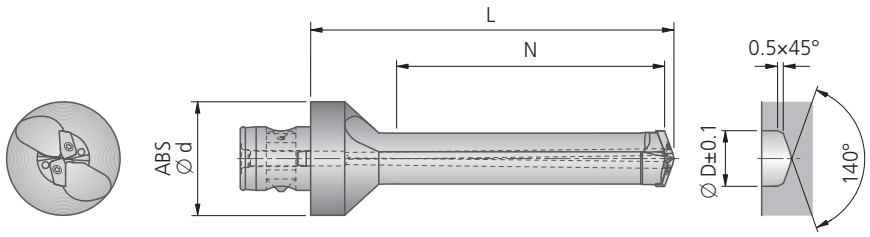
Basic recommendation				alternative for ...				Basic recommendation		
Insert		for workpiece material		higher cutting speed	greater strength →			Insert		
ISO-Code enter carbide▼	Order No.	BK8440	BK2715	BK84	BK8125	BK2740	BK8140	ISO-Code enter carbide▼	Order No.	BK7710
XOHX2205-38.3....	H60 38300. ..							XOHX2205-38.3-62...	H62 38300. ..	
XOHX2205-38.4....	H60 38400. ..							XOHX2205-38.4-62...	H62 38400. ..	
XOHX2205-38.5....	H60 38500. ..	8440	2715	84	8125	2740	8140	XOHX2205-38.5-62...	H62 38500. ..	7710
XOHX2205-38.6....	H60 38600. ..							XOHX2205-38.6-62...	H62 38600. ..	
XOHX2205-38.7....	H60 38700. ..							XOHX2205-38.7-62...	H62 38700. ..	
XOHX2205-38.8....	H60 38800. ..							XOHX2205-38.8-62...	H62 38800. ..	
XOHX2205-38.9....	H60 38900. ..							XOHX2205-38.9-62...	H62 38900. ..	
XOHX2205-39.0....	H60 39000. ..	8440	2715	84	8125	2740	8140	XOHX2205-39.0-62...	H62 39000. ..	7710
XOHX2205-39.1....	H60 39100. ..							XOHX2205-39.1-62...	H62 39100. ..	
XOHX2205-39.2....	H60 39200. ..							XOHX2205-39.2-62...	H62 39200. ..	
XOHX2205-39.3....	H60 39300. ..							XOHX2205-39.3-62...	H62 39300. ..	
XOHX2205-39.4....	H60 39400. ..							XOHX2205-39.4-62...	H62 39400. ..	
XOHX2205-39.5....	H60 39500. ..	8440	2715	84	8125	2740	8140	XOHX2205-39.5-62...	H62 39500. ..	7710
XOHX2205-39.6....	H60 39600. ..							XOHX2205-39.6-62...	H62 39600. ..	
XOHX2205-39.7....	H60 39700. ..							XOHX2205-39.7-62...	H62 39700. ..	
XOHX2205-39.8....	H60 39800. ..							XOHX2205-39.8-62...	H62 39800. ..	
XOHX2205-39.9....	H60 39900. ..							XOHX2205-39.9-62...	H62 39900. ..	
XOHX2205-40.0....	H60 40000. ..	8440	2715	84	8125	2740	8140	XOHX2205-40.0-62...	H62 40000. ..	7710
XOHX2205-40.1....	H60 40100. ..							XOHX2205-40.1-62...	H62 40100. ..	
XOHX2205-40.2....	H60 40200. ..							XOHX2205-40.2-62...	H62 40200. ..	
XOHX2205-40.3....	H60 40300. ..							XOHX2205-40.3-62...	H62 40300. ..	
XOHX2205-40.4....	H60 40400. ..							XOHX2205-40.4-62...	H62 40400. ..	
XOHX2205-40.5....	H60 40500. ..	8440	2715	84	8125	2740	8140	XOHX2205-40.5-62...	H62 40500. ..	7710
XOHX2205-40.6....	H60 40600. ..							XOHX2205-40.6-62...	H62 40600. ..	
XOHX2205-40.7....	H60 40700. ..							XOHX2205-40.7-62...	H62 40700. ..	
XOHX2205-40.8....	H60 40800. ..							XOHX2205-40.8-62...	H62 40800. ..	
XOHX2205-40.9....	H60 40900. ..							XOHX2205-40.9-62...	H62 40900. ..	
XOHX2205-41.0....	H60 41000. ..	8440	2715	84	8125	2740	8140	XOHX2205-41.0-62...	H62 41000. ..	7710
XOHX2205-41.1....	H60 41100. ..							XOHX2205-41.1-62...	H62 41100. ..	
XOHX2205-41.2....	H60 41200. ..							XOHX2205-41.2-62...	H62 41200. ..	
XOHX2205-41.3....	H60 41300. ..							XOHX2205-41.3-62...	H62 41300. ..	
XOHX2205-41.4....	H60 41400. ..							XOHX2205-41.4-62...	H62 41400. ..	
XOHX2205-41.5....	H60 41500. ..	8440	2715	84	8125	2740	8140	XOHX2205-41.5-62...	H62 41500. ..	7710
XOHX2205-41.6....	H60 41600. ..							XOHX2205-41.6-62...	H62 41600. ..	
XOHX2205-41.7....	H60 41700. ..							XOHX2205-41.7-62...	H62 41700. ..	

Guideline values for solid drilling: page 166.

KOMET KUB Duon®

Twin Cutting Drill with ABS® Connection, R.H. cutting

Ø 41.8 – 44.2 mm



	ABS®					Assembly parts	Accessories	
Ø D	ABS Ø d	Order No.	N	L	approx. kg	Clamping screw Order No. Description	Screwdriver Order No. Description	
41.8	63	U20 14200	210	268	2.08	N00 57670 S/M5×10.4-20IP 6.25 Nm	L05 00870 20IP	
41.9								
42.0								
42.1								
42.2								
42.3	63	U20 14250	215	273	0.17	N00 57670 S/M5×10.4-20IP 6.25 Nm	L05 00870 20IP	
42.4								
42.5								
42.6								
42.7								
42.8	63	U20 14300	215	273	0.17	N00 57670 S/M5×10.4-20IP 6.25 Nm	L05 00870 20IP	
42.9								
43.0								
43.1								
43.2								
43.2	63	U20 14350	220	278	2.23	N00 57670 S/M5×10.4-20IP 6.25 Nm	L05 00870 20IP	
43.4								
43.5								
43.6								
43.7								
43.8	63	U20 14400	220	278	2.23	N00 57670 S/M5×10.4-20IP 6.25 Nm	L05 00870 20IP	
43.9								
44.0								
44.1								
44.2								

L / D	solid drilling	blind hole	forge/casting skin, interface	angled	convex	cross bore	centering bore	chamber	stack plate drilling	rough boring	adjustable
5×D	●	●	◐	○	◐	◐	○	✕	●	○	✕

● very good ◐ good ○ possible: see technical notes, page 168 ✕ not possible

Areas of use:

- P high tensile strength steels, heat treated steels and tool steels
- K grey cast iron, SG cast iron
- N cast aluminium alloys, brass and bronze which produce short chips
- ● main use
- ◐ alternative cutting material

Intermediate dimensions can be supplied on request.

Order example insert:
for ∅ 42.0 mm, coating BK84,
Order No.: H60 42000.84

Supply includes:

KUB Duon® drill with assembly parts. Please order accessories and insert (pack of 2 inserts) separately.

Basic recommendation				alternative for ...				Basic recommendation		
Insert		for workpiece material		higher cutting speed / greater strength →				Insert		
ISO-Code enter carbide	Order No.	BK8440	BK2715	BK84	BK8125	BK2740	BK8140	ISO-Code enter carbide	Order No.	BK7710
XOHX2205-41.8....	H60 41800. ..							XOHX2205-41.8-62...	H62 41800. ..	
XOHX2205-41.9....	H60 41900. ..							XOHX2205-41.9-62...	H62 41900. ..	
XOHX2205-42.0....	H60 42000. ..	8440	2715	84	8125	2740	8140	XOHX2205-42.0-62...	H62 42000. ..	7710
XOHX2205-42.1....	H60 42100. ..							XOHX2205-42.1-62...	H62 42100. ..	
XOHX2205-42.2....	H60 42200. ..							XOHX2205-42.2-62...	H62 42200. ..	
XOHX2205-42.3....	H60 42300. ..							XOHX2205-42.3-62...	H62 42300. ..	
XOHX2205-42.4....	H60 42400. ..							XOHX2205-42.4-62...	H62 42400. ..	
XOHX2205-42.5....	H60 42500. ..	8440	2715	84	8125	2740	8140	XOHX2205-42.5-62...	H62 42500. ..	7710
XOHX2205-42.6....	H60 42600. ..							XOHX2205-42.6-62...	H62 42600. ..	
XOHX2205-42.7....	H60 42700. ..							XOHX2205-42.7-62...	H62 42700. ..	
XOHX2205-42.8....	H60 42800. ..							XOHX2205-42.8-62...	H62 42800. ..	
XOHX2205-42.9....	H60 42900. ..							XOHX2205-42.9-62...	H62 42900. ..	
XOHX2205-43.0....	H60 43000. ..	8440	2715	84	8125	2740	8140	XOHX2205-43.0-62...	H62 43000. ..	7710
XOHX2205-43.1....	H60 43100. ..							XOHX2205-43.1-62...	H62 43100. ..	
XOHX2205-43.2....	H60 43200. ..							XOHX2205-43.2-62...	H62 43200. ..	
XOHX2205-43.3....	H60 43300. ..							XOHX2205-43.3-62...	H62 43300. ..	
XOHX2205-43.4....	H60 43400. ..							XOHX2205-43.4-62...	H62 43400. ..	
XOHX2205-43.5....	H60 43500. ..	8440	2715	84	8125	2740	8140	XOHX2205-43.5-62...	H62 43500. ..	7710
XOHX2205-43.6....	H60 43600. ..							XOHX2205-43.6-62...	H62 43600. ..	
XOHX2205-43.7....	H60 43700. ..							XOHX2205-43.7-62...	H62 43700. ..	
XOHX2205-43.8....	H60 43800. ..							XOHX2205-43.8-62...	H62 43800. ..	
XOHX2205-43.9....	H60 43900. ..							XOHX2205-43.9-62...	H62 43900. ..	
XOHX2205-44.0....	H60 44000. ..	8440	2715	84	8125	2740	8140	XOHX2205-44.0-62...	H62 44000. ..	7710
XOHX2205-44.1....	H60 44100. ..							XOHX2205-44.1-62...	H62 44100. ..	
XOHX2205-44.2....	H60 44200. ..							XOHX2205-44.2-62...	H62 44200. ..	

Guideline values for solid drilling: page 166.

KOMET KUB Duon®

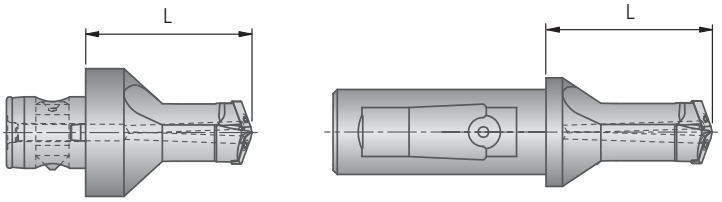
Twin Cutting Drill with ABS® Connection and Cylindrical Shank, R.H. cutting

Ø 0.697 – 1.413 inch
Ø 17.3 – 44.2 mm

Guideline values for solid drilling							v_C	Max. feed f in/rev (mm/rev)			
								5×D			
Material group		Strength Rm (lbf/in²)	Hardness HB	Material	Material example, material code AISI/SAE		Cutting speed v_C ft/min (m/min)	Ø 0.681 – 0.815 (Ø 17.3 – 20.7)	Ø 0.816 – 1.169 (Ø 20.8 – 29.7)	Ø 1.170– 1.425 (Ø 29.8 – 36.2)	1.423 – 1.740 (Ø 36.3 – 44.2)
P	1.0	≤72500		Unalloyed steel	A570.36 1213 A573.81		–	–	–	–	–
	2.0	72500-130000		Low alloy steel	5120 1055 5115		460 (140)	0.006 (0.15)	0.008 (0.20)	0.009 (0.22)	0.010 (0.25)
	2.1	<72500		Lead alloy	12L13		520 (160)	0.006 (0.15)	0.008 (0.20)	0.009 (0.22)	0.010 (0.25)
	3.0	>130000		High alloy steel heat resistant structural, heat treated, nitride steels	4140 1064		390 (120)	0.006 (0.15)	0.008 (0.20)	0.010 (0.25)	0.012 (0.30)
	4.0	>130000		Tool steels	H13 H21		330 (100)	0.006 (0.15)	0.007 (0.18)	0.008 (0.20)	0.010 (0.25)
	4.1			HSS			–	–	–	–	
S	5.0		250	Special alloy: Inconel, Hastelloy, Nimonic, etc.	Inconel® 718 Nimonic® 80A		–	–	–	–	–
	5.1	58000		titanium, titanium alloys	AMS R54520		–	–	–	–	–
M	6.0	≤87000		Stainless steel: austenitic 300 series	304L 316		–	–	–	–	–
	6.1	<130000		Stainless steels	630		–	–	–	–	–
	7.0	>130000		Stainless steel: martensitic/ferritic 400 series	420 403		–	–	–	–	–
K	8.0		180	Grey cast iron	No 35 B No 50 B		460 (140)	0.012 (0.30)	0.016 (0.40)	0.020 (0.50)	0.022 (0.55)
	8.1		250	Alloy grey cast iron	A436 Type 2		330 (100)	0.008 (0.20)	0.012 (0.30)	0.016 (0.40)	0.020 (0.50)
	9.0	≤87000	130	Nodular cast iron ferritic	60-40-18		390 (120)	0.010 (0.25)	0.014 (0.35)	0.018 (0.45)	0.020 (0.50)
	9.1		230	Nodular cast iron ferritic / pearlitic	80-55-06		330 (100)	0.008 (0.20)	0.012 (0.30)	0.016 (0.40)	0.018 (0.45)
	10.0	>87000	250	Nodular cast iron pearlitic Malleable cast iron	100-70-03 70003		390 (120)	0.008 (0.20)	0.012 (0.30)	0.016 (0.40)	0.018 (0.45)
	10.1		200	Alloyed nodular cast iron	A43D2		330 (100)	0.010 (0.25)	0.014 (0.35)	0.018 (0.45)	0.020 (0.50)
	10.2		300	Vermicular cast iron			260 (80)	0.008 (0.20)	0.012 (0.30)	0.014 (0.35)	0.016 (0.40)
N	12.0		90	Copper alloy, brass, Lead alloy, Bronze, Lead bronze: good cut	UNS C36000		590 (180)	0.012 (0.30)	0.016 (0.40)	0.018 (0.45)	0.020 (0.50)
	12.1		100	Copper alloy, Brass, Bronze: average cut			–	–	–	–	–
	13.0		60	Wrought aluminum alloy	GD-AlSi12		1970 (600)	0.008 (0.20)	0.008 (0.20)	0.010 (0.25)	0.012 (0.30)
	13.1		75	Aluminum alloy: Si content <10% Magnesium alloy			1640 (500)	0.008 (0.20)	0.008 (0.20)	0.010 (0.25)	0.012 (0.30)
	14.0		100	Aluminum alloy: Si content >10%	A360.2		1150 (350)	0.008 (0.20)	0.008 (0.20)	0.010 (0.25)	0.012 (0.30)
H	15.0	203000		Hardened steels < 45 HRC			-	–	–	–	
	16.0	261000		Hardened steels > 45 HRC			-	–	–	–	

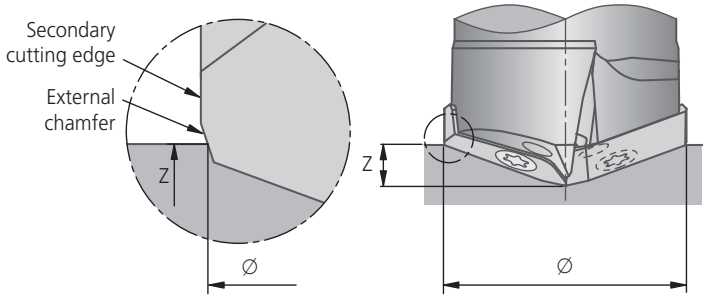
Cutting values shown are maximum values relating to the basic recommendations for cutting materials given.
Important: See chapter 8 for more application details and safety notes!

Twin Cutting Drill with ABS® Connection and Cylindrical Shank, R.H. cutting for pre-centering from drilling depth > 5×D



Application notes for pre-centering

- from drilling depth > 5 × D (tools to customer requirement)
- where drilling starts on surfaces which are angled or have not been pre-machined
- where there are unstable conditions because of large tool overhang



Method 1:
Determining the center depth Z

Size	Center depth Z
1	0.106" (2.7 mm)
2	0.130" (3.3 mm)
3	0.157" (4.0 mm)
4	0.185" (4.7 mm)
5	0.256" (6.5 mm)

Method 2:
Determining the center dia.

Size	Center dia.
1	0.697" (17.3 mm)
2	0.819" (20.8 mm)
3	0.976" (24.8 mm)
4	1.173" (29.8 mm)
5	1.437" (36.5 mm)

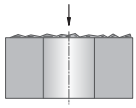
(..) = mm

Size	for bore-Ø	Nominal-Ø	L	Connection	Order No.	Insert
1	0.687 – 0.818 (17.3 – 20.7)	0.689 (17.5)	1.880 (47.75)	ABS50	**U22 21750**	H60 17500.. (XOHX0802..)
			1.447 (36.75)	25×56	**U22 71750**	
2	0.819 – 0.975 (20.8 – 24.7)	0.827 (21)	2.016 (51.2)	ABS50	**U22 22100**	H60 21000.. (XOHX1003..)
			1.583 (40.2)	32×60	**U22 82100**	
3	0.976 – 1.172 (24.8 – 29.7)	0.984 (25)	2.171 (55.14)	ABS50	**U22 22500**	H60 25000.. (XOHX12T3..)
			1.738 (44.14)	32×60	**U22 82500**	
4	1.173 – 1.413 (29.8 – 36.2)	1.181 (30)	2.362 (60)	ABS50	**U22 23000**	H60 30000.. (XOHX1504..)
			1.929 (49)	40×68	**U22 93000**	
5	1.414 – 1.740 (36.3 – 44.2)	1.437 (36.5)	3.720 (94.5)	ABS63	**U22 43650**	H60 36500.. (XOHX2205..)

Short spot drills for KUB Duon® are fitted with standard H60… inserts.

General note: Drill until the chamfer can be seen at the external bore diameter

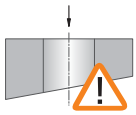
1

1. 

Starting on uneven surfaces (cast surfaces)
- possible in principle
- reduce feed rate when starting bore

2. 

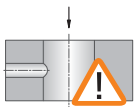
Starting on angled surfaces
- spot face surface before starting bore
- avoid chips jams

3. 

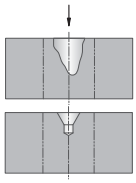
Angled bore exit
- possible under certain conditions
- reduce feed rate if necessary

4. 

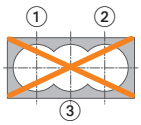
Starting on cambered surfaces
- centered boring can be started with reduced feed rate
- spot facing is required if the point for starting the bore is outside the radius centre

5. 

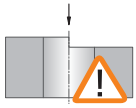
Drilling through a cross bore
- halve feed rate at interruption
- cross bore max. 1/3 of bore diameter
- off-centre cross bore not possible

6. 

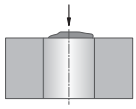
Starting on a groove or large centering bore
- possible under certain conditions
- reduce feed rate if necessary
- face beforehand where centre is particularly large

7. 

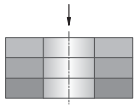
Drilling a chamber
- not possible

8. 

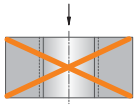
Starting on an edge
- start point must be flat

9. 

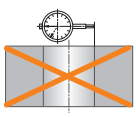
Starting on a welded seam
- reduce feed rate when starting bore
- face beforehand if necessary

10. 

Drilling through stacked plates
- possible in principle
- avoid large spaces between elements

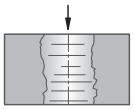
11. 

Roughing
- not possible

12. 

adjustable
- not possible
- dimensional adjustment of diameter by means of inserts

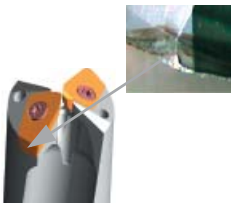
Short tool life types of wear on inserts
- cutting speed to high → select correct cutting speed
- cutting material with too little wear resistance → select grade with higher wear resistance
- tool overhang too great → if possible use shorter tool
- damaged insert seating → check tool, change if necessary
- clamping device not stable enough → improve stability
- run-out error → check tool, adaptor and spindle



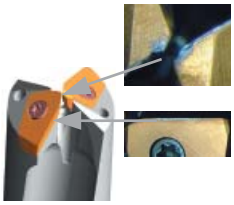
Bad surface finish
- chip jam on external cutting edge

→ improve cutting parameters: increase cutting speed reduce feed
→ check cutting parameters: reduce feed rate when starting bore

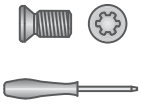
Friction marks on tool shank
- bore diameter too small → check setting
- chip removal problems → improve cutting parameters, check geometry of inserts



Wear
- cutting material not sufficiently wear resistant → better wear resistant material
- cutting speed too high → reduce cutting speed
- run-out error → check tool, adaptor and spindle



Wear, micro fractures
- cutting material too hard → use tougher cutting material with higher tensile strength
- feed rate not reduced when starting bore → reduce feed rate when starting bore and drilling out
- run-out error → check tool, adaptor and spindle



Securing the inserts
- wrong screwdriver used → only use Torx Plus screws and screwdriver
- starting torque too low → Check starting torques. Optimum starting torques only possible with Torx Plus

Extremely high performance data matched by a very high level of process reliability for drilling depths of up to 9 × D.

The KOMET KUB Centron® can be used to reliably machine virtually all materials.

① Inserts

New cutting materials and geometries guarantee maximum tool life and reliable machining.

The internal and external inserts are identical. This prevents confusion.

② Central drill bit

The central drill bit guides the solid drill precisely in the bore axis. This means dimensional stability even at bore depths of up to 9 × D.

Optimised concentricity properties for the whole system mean the central drill bit and for the inserts have a noticeably longer life.

③ Guide pads

The carbide guide pads prevent the drill from deflecting at the bore exit and reduce narrowing to a minimum (see "Setting the guide pads...").

The screw connection allows easy changing and setting on site by the user over the whole diameter range. Optimal guide control and high wear resistance through top quality coatings.

BENEFITS for you:

- High production reliability for boring depths up to 9×D
- Short process times from high performance parameters
- Long tool life means low operating costs
- Modular design gives high flexibility
- Reliable machining in almost any materials
- Suitable for rotating and stationary applications and for vertical and horizontal applications
- Combination options reduce tool costs

④ Connection point

The new-style connection point allows high torques to be transferred.

Central positioning is produced by means of an accurately fitting centering spigot. Two tapered screws which act in the direction of the torque pull the drill head onto large drive pins, producing a precise and stable connection between the drill head and the basic element.

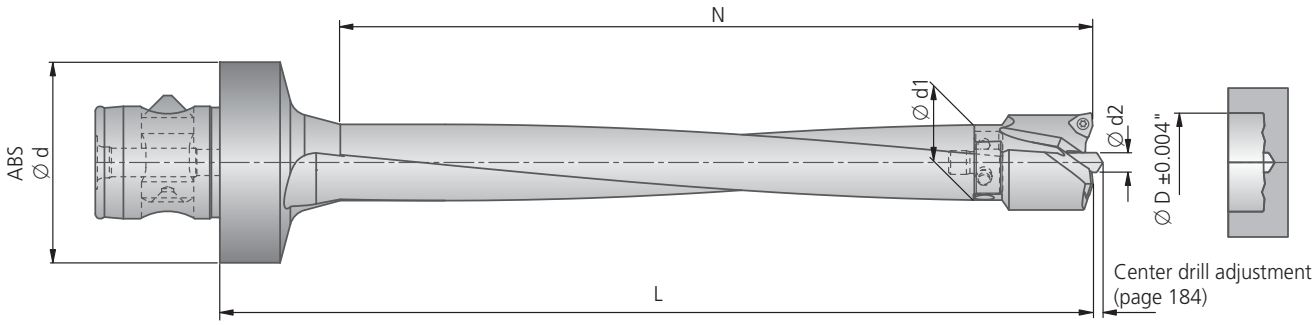
⑤ Basic element

The newly designed chip channels improve chip removal and at the same time increase the rigidity of the tool body. The modular design is service-friendly and increases flexibility because of the bore diameters which are available.

With the tried and tested ABS connection, the KUB Centron® has no connection problems.

KOMET KUB Centron® Ø 0.812 – 2.500 inch

Insert Drill (drill head/basic element) with ABS® Connection, R.H. cutting



Drill Head			Basic recommendation				Assembly parts	Accessories	
			Insert -01 / -11			for workpiece material	Clamping screw	Screwdriver	
Ø D	Order No.	lbs	Order No. ▽▽ Size	ISO-Code	Qty	P M K N S H	Order No. Description	Order No. Description	
0.812	V46 52060	0.09	W29 10010.048425 W29 10010.047930 W29 10010.047615 W29 10110.0477	WOEX 030204-01 BK8425 WOEX 030204-01 BK7930 WOEX 030204-01 BK7615 WOEX 030204-11 BK77	2		N00 56041 S/M2×43-6IP 5.5 in-lbs	L05 00810 6IP	
0.875	V46 52220	0.09							
1.000	V46 52540	0.11							
1.125	V46 52860	0.13	W29 18010.048425 W29 18010.047930 W29 18010.047615 W29 18110.0477	WOEX 040304-01 BK8425 WOEX 040304-01 BK7930 WOEX 040304-01 BK7615 WOEX 040304-11 BK77	2		N00 57553 S/M2.2×5.5-6IP 8.9 in-lbs	L05 00810 6IP	
1.250	V46 53180	0.15							
1.375	V46 53490	0.20	W29 24010.048425 W29 24010.047930 W29 24010.047615 W29 24110.0477	WOEX 05T304-01 BK8425 WOEX 05T304-01 BK7930 WOEX 05T304-01 BK7615 WOEX 05T304-11 BK77	2		N00 57511 S/M2.5×7.2-8IP 11.0 in-lbs	L05 00830 8IP	
1.500	V46 53810	0.24							
1.625	V46 54130	0.35	W29 24010.048425 W29 24010.047930 W29 24010.047615 W29 24110.0477	WOEX 05T304-01 BK8425 WOEX 05T304-01 BK7930 WOEX 05T304-01 BK7615 WOEX 05T304-11 BK77	2		N00 57511 S/M2.5×7.2-8IP 11.0 in-lbs	L05 00830 8IP	
1.750	V46 54450	0.35							
1.875	V46 54760	0.42	W29 34010.048425 W29 34010.047930 W29 34010.047615 W29 34110.0477	WOEX 06T304-01 BK8425 WOEX 06T304-01 BK7930 WOEX 06T304-01 BK7615 WOEX 06T304-11 BK77	2		N00 57521 S/M3.5×7.3-10IP 25.0 in-lbs	L05 00850 10IP	
2.000	V46 55080	0.49							
2.250	V46 55720	0.68	W29 42010.048425 W29 42010.047930 W29 42010.047615 W29 42110.0477	WOEX080404-01 BK8425 WOEX080404-01 BK7930 WOEX080404-01 BK7615 WOEX080404-11 BK77	2		N00 57531 S/M4.5×9-15IP 55.3 in-lbs	L05 00860 15IP	
2.375	V46 56030	0.73							
2.500	V46 56350	0.82							

Further diameters on request.

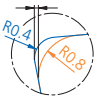
Supply includes: Basic element with assembly parts. Drill head with mounting parts.
Please order insert, central drill bit and accessories separately.
For assembly parts and accessories, see page 180.

L / D	solid drilling	blind hole	forge/casting skin, interface	angled	convex	cross bore	centering bore	chamber	stack plate drilling	rough boring	adjustable
4-9×D	●	●	◐	○	○	○	○	○	✕	✕	✕

● very good ◐ good ○ possible: see technical notes, page 182 ✕ not possible

Central drill bit				Basic element						
Order No.	Coating	Ø d2	for workpiece material P M K N S H	ABS Ø d	L/D* ~	Order No.	Ø d1	N	L	lbs
V95 10012.0089 V95 10012.0090 V95 10310.8450	HSS TiN HSS TiAlN VHM TiAlN/TiN	0.197	● ○ ● ● ◐ ◐	50	4×D	V47 20201	0.748	4.449	5.709	1.15
				50	6×D	V47 40201	0.748	5.905	7.283	1.21
				50	8×D	V47 60201	0.748	7.874	9.251	1.39
V95 10022.0089 V95 10022.0090 V95 10320.8450	HSS TiN HSS TiAlN VHM TiAlN/TiN	0.236	● ○ ● ● ◐ ◐	50	4×D	V47 20261	0.984	5.118	6.299	1.46
				50	6×D	V47 40261	0.984	6.889	8.267	1.70
				50	8×D	V47 60261	0.984	9.055	10.240	1.98
V95 10022.0089 V95 10022.0090 V95 10320.8450	HSS TiN HSS TiAlN VHM TiAlN/TiN	0.236	● ○ ● ● ◐ ◐	50	4×D	V47 20331	1.260	6.299	7.677	2.05
				50	6×D	V47 40331	1.260	8.464	10.040	2.49
				50	8×D	V47 60331	1.260	11.420	12.990	3.09
V95 10032.0089 V95 10032.0090 V95 10330.8450	HSS TiN HSS TiAlN VHM TiAlN/TiN	0.315	● ○ ● ● ◐ ◐	63	4×D	V47 20401	1.516	7.283	9.252	3.70
				63	6×D	V47 40401	1.516	10.240	12.200	4.59
				63	8×D	V47 60401	1.516	13.390	15.350	5.51
V95 10042.0089 V95 10042.0090 V95 10340.8450	HSS TiN HSS TiAlN VHM TiAlN/TiN	0.394	● ○ ● ● ◐ ◐	80	4×D	V47 20461	1.752	8.464	11.200	7.30
				80	6×D	V47 40461	1.752	12.200	14.760	8.75
				80	8×D	V47 60461	1.752	16.340	18.900	10.63
V95 10042.0089 V95 10042.0090 V95 10340.8450	HSS TiN HSS TiAlN VHM TiAlN/TiN	0.394	● ○ ● ● ◐ ◐	80	4×D	V47 20551	2.106	10.240	12.800	9.48
				80	6×D	V47 40551	2.106	14.560	17.130	11.95
				80	8×D	V47 60551	2.106	19.490	22.050	14.73

* The precise diameter to length ratio (L:D) is produced from relationship of the relevant basic element to the diameter of the drill head selected.

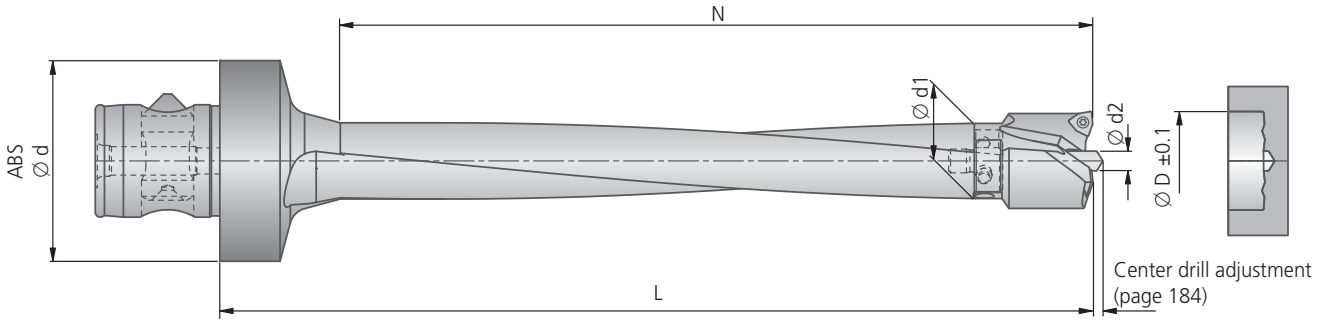


Note re. insert radius:
The nominal dimension ∅ is only achieved with the appropriate standardized insert radius.
Insert radii which deviate from this will alter the nominal dimension ∅ (see Chapter 8)

Guideline values for solid drilling: page 178 / alternative inserts: page 179.

KOMET KUB Centron® Ø 20 – 54 mm

Insert Drill (drill head/basic element) with ABS® Connection, R.H. cutting



Center drill adjustment (page 184)

Drill Head			Basic recommendation				Assembly parts	Accessories	
			Insert -01 -11			for workpiece material	Clamping screw	Screwdriver	
Ø D	Order No.	kg	Order No. ▽▽ Size	ISO-Code	Piece	P M K N S H	Order No. Description	Order No. Description	
20.0	V46 50200	0.03	W29 10010.048425 W29 10010.047930 W29 10010.0462 W29 10110.0477	WOEX 030204-01 BK8425 WOEX 030204-01 BK7930 WOEX 030204-01 BK62 WOEX 030204-11 BK77	2		N00 56041 S/M2×4.3-6IP 0.62 Nm	L05 00810 6IP	
21.0	V46 50210	0.04							
22.0	V46 50220	0.04							
23.0	V46 50230	0.04							
24.0	V46 50240	0.05							
25.0	V46 50250	0.05							
26.0	V46 50260	0.05	W29 18010.048425 W29 18010.047930 W29 18010.0462 W29 18110.0477	WOEX 040304-01 BK8425 WOEX 040304-01 BK7930 WOEX 040304-01 BK62 WOEX 040304-11 BK77	2		N00 57553 S/M2.2×5.5-6IP 8.9 in-lbs	L05 00810 6IP	
27.0	V46 50270	0.06							
28.0	V46 50280	0.06							
29.0	V46 50290	0.06							
30.0	V46 50300	0.07							
31.0	V46 50310	0.07							
32.0	V46 50320	0.07							
33.0	V46 50330	0.09	W29 24010.048425 W29 24010.047930 W29 24010.047615 W29 24110.0477	WOEX 05T304-01 BK8425 WOEX 05T304-01 BK7930 WOEX 05T304-01 BK7615 WOEX 05T304-11 BK77	2		N00 57511 S/M2.5×7.2-8IP 1.28 Nm	L05 00830 8IP	
34.0	V46 50340	0.09							
35.0	V46 50350	0.09							
36.0	V46 50360	0.10							
37.0	V46 50370	0.10							
38.0	V46 50380	0.11							
39.0	V46 50390	0.11							
40.0	V46 50400	0.13	W29 24010.048425 W29 24010.047930 W29 24010.047615 W29 24110.0477	WOEX 05T304-01 BK8425 WOEX 05T304-01 BK7930 WOEX 05T304-01 BK7615 WOEX 05T304-11 BK77	2		N00 57511 S/M2.5×7.2-8IP 1.28 Nm	L05 00830 8IP	
41.0	V46 50410	0.16							
42.0	V46 50420	0.16							
43.0	V46 50430	0.16							
44.0	V46 50440	0.16							
45.0	V46 50450	0.16							
46.0	V46 50460	0.18	W29 34010.048425 W29 34010.047930 W29 34010.047615 W29 34110.0477	WOEX 06T304-01 BK8425 WOEX 06T304-01 BK7930 WOEX 06T304-01 BK7615 WOEX 06T304-11 BK77	2		N00 57521 S/M3.5×7.3-10IP 2.8 Nm	L05 00850 10IP	
47.0	V46 50470	0.18							
48.0	V46 50480	0.19							
49.0	V46 50490	0.20							
50.0	V46 50500	0.21							
51.0	V46 50510	0.22							
52.0	V46 50520	0.22							
53.0	V46 50530	0.23							
54.0	V46 50540	0.24							

Further diameters on request.

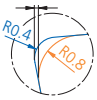
Supply includes: Basic element with assembly parts. Drill head with mounting parts.
Please order insert, central drill bit and accessories separately.
For assembly parts and accessories, see page 180.

L / D	solid drilling	blind hole	forge/casting skin, interface	angled	convex	cross bore	centering bore	chamber	stack plate drilling	rough boring	adjustable
4-9×D	●	●	◐	○	○	○	○	○	✕	✕	✕

● very good ◐ good ○ possible: see technical notes, page 182 ✕ not possible

Central drill bit				Basic element						
Order No.	Coating	Ø d2	for workpiece material P M K N S H	ABS Ø d	L/D* ~	Order No.	Ø d1	N	L	kg
V95 10012.0089 V95 10012.0090 V95 10310.8450	HSS TiN HSS TiAlN VHM TiAlN/TiN	5	●○●●◐◐	50	4×D	V47 20201	19	113	145	0.52
				50	6×D	V47 40201	19	150	185	0.55
				50	8×D	V47 60201	19	200	235	0.63
V95 10022.0089 V95 10022.0090 V95 10320.8450	HSS TiN HSS TiAlN VHM TiAlN/TiN	6	●○●●◐◐	50	4×D	V47 20261	25	130	160	0.66
				50	6×D	V47 40261	25	175	210	0.77
				50	8×D	V47 60261	25	230	260	0.90
V95 10022.0089 V95 10022.0090 V95 10320.8450	HSS TiN HSS TiAlN VHM TiAlN/TiN	6	●○●●◐◐	50	4×D	V47 20331	32	160	195	0.93
				50	6×D	V47 40331	32	215	255	1.13
				50	8×D	V47 60331	32	290	330	1.4
V95 10032.0089 V95 10032.0090 V95 10330.8450	HSS TiN HSS TiAlN VHM TiAlN/TiN	8	●○●●◐◐	63	4×D	V47 20401	38.5	185	235	1.68
				63	6×D	V47 40401	38.5	260	310	2.08
				63	8×D	V47 60401	38.5	340	390	2.50
V95 10042.0089 V95 10042.0090 V95 10340.8450	HSS TiN HSS TiAlN VHM TiAlN/TiN	10	●○●●◐◐	80	4×D	V47 20461	44.5	215	280	3.31
				80	6×D	V47 40461	44.5	310	375	3.97
				80	8×D	V47 60461	44.5	415	480	4.82

* The precise diameter to length ratio (L:D) is produced from relationship of the relevant basic element to the diameter of the drill head selected.

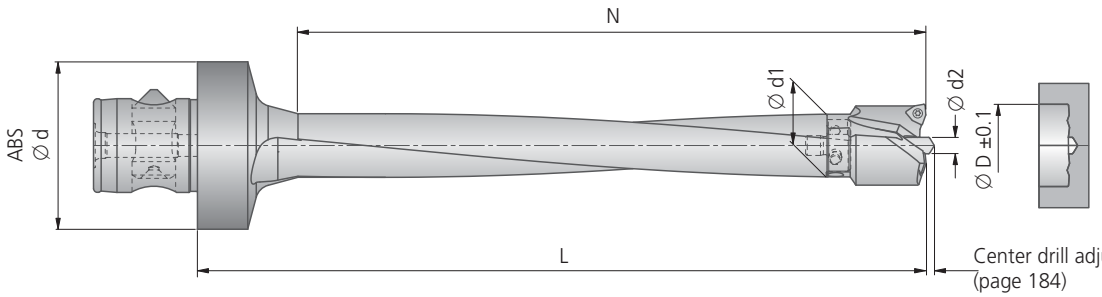


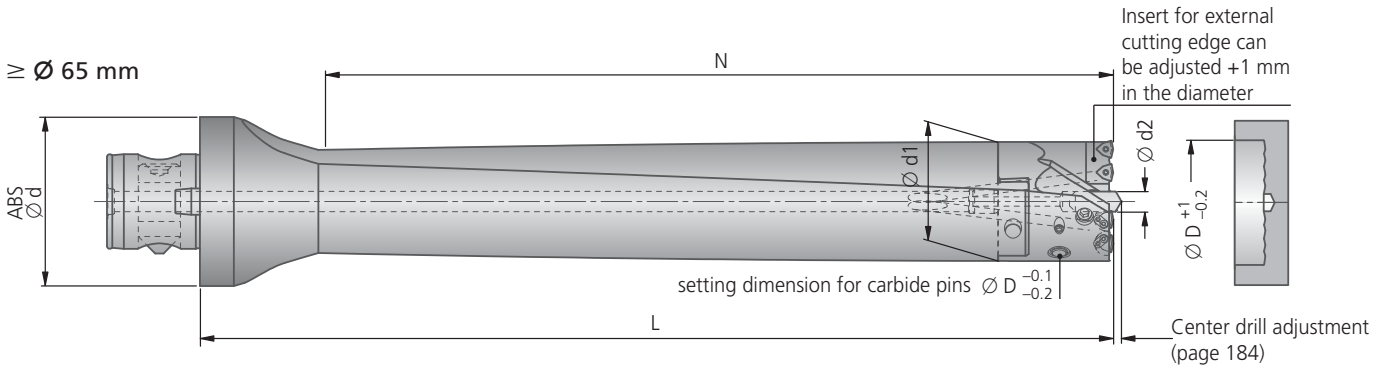
Note re. insert radius:
The nominal dimension ∅ is only achieved with the appropriate standardised insert radius.
Insert radii which deviate from this will alter the nominal dimension ∅ (see Chapter 8)

Guideline values for solid drilling: page 178 / alternative inserts: page 179.

KOMET KUB Centron® Ø 55 – 81 mm

Insert Drill (drill head/basic element) with ABS® Connection, R.H. cutting





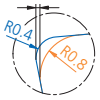
Drill Head			Basic recommendation				Assembly parts	Accessories	
			Insert -01 -11			for workpiece material	Clamping screw	Screwdriver	
Ø D	Order No.	kg	Order No. ▽▽ Size	ISO-Code	Piece	P M K N S H	Order No. Description	Order No. Description	
55.0	V46 50550	0.29	W29 42010.048425 W29 42010.047930 W29 42010.047615 W29 42110.0477	WOEX 080404-01 BK8425 WOEX 080404-01 BK7930 WOEX 080404-01 BK7615 WOEX 080404-11 BK77	2		N00 57531 S/M4.5×9-15IP 6.25 Nm	L05 00860 15IP	
56.0	V46 50560	0.30							
57.0	V46 50570	0.31							
58.0	V46 50580	0.31							
59.0	V46 50590	0.32							
60.0	V46 50600	0.33							
61.0	V46 50610	0.34							
62.0	V46 50620	0.35							
63.0	V46 50630	0.36							
64.0	V46 50640	0.37							
65.0	V46 50650	0.49	W29 24010.048425 W29 24010.047930 W29 24010.047615 W29 24110.0477	WOEX 05T304-01 BK8425 WOEX 05T304-01 BK7930 WOEX 05T304-01 BK7615 WOEX 05T304-11 BK77	4		N00 57511 S/M2.5×7.2-8IP 1.28 Nm	L05 00830 8IP	
66.0	V46 50660	0.51							
67.0	V46 50670	0.43							
68.0	V46 50680	0.54							
69.0	V46 50690	0.55							
70.0	V46 50700	0.56							
71.0	V46 50710	0.57							
72.0	V46 50720	0.93	W29 24010.048425 W29 24010.047930 W29 24010.047615 W29 24110.0477	WOEX 05T304-01 BK8425 WOEX 05T304-01 BK7930 WOEX 05T304-01 BK7615 WOEX 05T304-11 BK77	4		at N00 57511 S/M2.5×7.2-8IP 1.28 Nm at N00 57571 S/M2.5×6.3-8IP 1.28 Nm	L05 00830 8IP	
73.0	V46 50730	0.93							
74.0	V46 50740	0.93							
75.0	V46 50750	0.93							
76.0	V46 50760	0.93							
77.0	V46 50770	0.93							
78.0	V46 50780	0.93							
79.0	V46 50790	0.93							
80.0	V46 50800	0.93							
81.0	V46 50810	0.93							

L / D	solid drilling	blind hole	forge/casting skin, interface	angled	convex	cross bore	centering bore	chamber	stack plate drilling	rough boring	adjustable
4-9×D	●	●	◐	○	○	○	○	○	><	><	><

● very good ◐ good ○ possible: see technical notes, page 182 >< not possible

Supply includes: Basic element with assembly parts. Drill head with mounting parts.
Please order insert, central drill bit and accessories separately.
For assembly parts and accessories, see pages 180-181.

* The precise diameter to length ratio (L:D) is produced from relationship of the relevant basic element to the diameter of the drill head selected.



Note re. insert radius:
The nominal dimension ∅ is only achieved with the appropriate standardised insert radius.
Insert radii which deviate from this will alter the nominal dimension ∅ (see Chapter 8)

Central drill bit				Basic element						
Order No.	Coating	Ø d2	for workpiece material P M K N S H	ABS Ø d	L/D* ~	Order No.	Ø d1	N	L	kg
V95 10042.0089 V95 10042.0090 V95 10340.8450	HSS TiN HSS TiAlN VHM TiAlN/TiN	10	● ◐ ● ● ● ◐	80	4×D	V47 20551	53.5	260	325	4.30
				80	6×D	V47 40551	53.5	370	435	5.42
				80	8×D	V47 60551	53.5	495	560	6.68
V95 10050.0089 V95 10050.0090	HSS TiN HSS TiAlN	12	● ● ● ● ● ●	80	4×D	V47 20651	63.5	295	375	5.80
				80	6×D	V47 40651	63.5	420	500	7.52
				80	8×D	V47 60651	63.5	560	640	9.46
V95 10050.0089 V95 10050.0090	HSS TiN HSS TiAlN	12	● ● ● ● ● ●	100	4×D	V47 20721	70.5	325	405	8.59
				100	6×D	V47 40721	70.5	460	540	10.8
				100	8×D	V47 60721	70.5	610	690	13.5

Guideline values for solid drilling: page 178 / alternative inserts: page 179.

1

Guideline values for solid drilling						Max. feed f in/rev (mm/rev) · Cutting Speed vc ft/min (m/mm)																	
						Ø0.787–0.984 (Ø20–25)			Ø1.024–1.260 (Ø26–32)			Ø1.299–1.772 (Ø33–45)			Ø1.811–2.126 (Ø46–54)			Ø2.165–2.520 (Ø55–64)			Ø2.560-2.795 (Ø65–71)		Ø2.835-3.189 (Ø72–81)	
							HSS	Solid carbide		HSS	Solid carbide		HSS	Solid carbide		HSS	Solid carbide		HSS	Solid carbide		HSS		HSS
Material group		Strength Rm (lbf/in²)	Hardness HB	Material	Material example, material code AISI / SAE	f	v_c	v_c	f	v_c	v_c	f	v_c	v_c	f	v_c	v_c	f	v_c	v_c	f	v_c	f	v_c
P	1.0	≤72500		non-alloy steels	A570.36 1213 A573.81	0.003 (0.08)	520 (160)	820 (250)	0.003 (0.08)	560 (170)	820 (250)	0.004 (0.10)	660 (200)	820 (250)	0.005 (0.12)	590 (180)	820 (250)	0.006 (0.14)	590 (180)	820 (250)	0.004 (0.10)	690 (210)	0.005 (0.12)	690 (210)
	2.0	72500-130000		non-alloy / low alloy steels	5120 1055 5115	0.004 (0.10)	520 (160)	660 (200)	0.005 (0.12)	560 (170)	660 (200)	0.005 (0.12)	660 (200)	660 (200)	0.006 (0.14)	590 (180)	660 (200)	0.006 (0.16)	590 (180)	660 (200)	0.005 (0.12)	690 (210)	0.006 (0.14)	690 (210)
	2.1	<72500		lead alloys	12L13	0.005 (0.12)	520 (160)	820 (250)	0.006 (0.14)	560 (170)	820 (250)	0.006 (0.14)	660 (200)	820 (250)	0.006 (0.14)	590 (180)	820 (250)	0.006 (0.16)	590 (180)	820 (250)	0.006 (0.14)	690 (210)	0.006 (0.16)	690 (210)
	3.0	>130000		non alloy / low alloy steels: heat resistant structural, heat treated, nitride and tools steels	4140 1064	0.005 (0.12)	460 (140)	590 (180)	0.006 (0.14)	560 (170)	590 (180)	0.006 (0.14)	590 (180)	590 (180)	0.006 (0.14)	590 (180)	590 (180)	0.006 (0.16)	590 (180)	590 (180)	0.006 (0.14)	590 (180)	0.006 (0.16)	590 (180)
	4.0	>130000		high alloy steels	H13 H21	0.003 (0.08)	390 (120)	520 (160)	0.004 (0.10)	520 (160)	520 (160)	0.004 (0.10)	520 (160)	520 (160)	0.006 (0.14)	520 (160)	520 (160)	0.006 (0.14)	520 (160)	520 (160)	0.004 (0.10)	520 (160)	0.005 (0.12)	520 (160)
	4.1			HSS		0.003 (0.07)	260 (80)	260 (80)	0.003 (0.07)	260 (80)	260 (80)	0.003 (0.07)	260 (80)	260 (80)	0.003 (0.08)	260 (80)	260 (80)	0.004 (0.10)	260 (80)	260 (80)	0.003 (0.08)	260 (80)	0.004 (0.10)	260 (80)
S	5.0		250	special alloys: Inconel, Hastelloy, Nimonic, stc.	Inconel® 718 Nimonic® 80A	–			–			–			–			–			–		–	
	5.1	58000		titanium, titanium alloys	AMS R54520	–			–			–			–			–			–		–	
M	6.0	≤87000		stainless steels	304L 316	0.003 (0.07)	230 (70)	590 (180)	0.004 (0.10)	230 (70)	590 (180)	0.004 (0.10)	300 (90)	590 (180)	0.004 (0.10)	300 (90)	590 (180)	0.005 (0.12)	300 (90)	590 (180)	0.004 (0.10)	330 (100)	0.005 (0.12)	330 (100)
	6.1	<130000		stainless steels	630	0.004 (0.10)	230 (70)	520 (160)	0.005 (0.12)	230 (70)	520 (160)	0.005 (0.12)	300 (90)	520 (160)	0.005 (0.12)	300 (90)	520 (160)	0.006 (0.14)	300 (90)	520 (160)	0.005 (0.12)	330 (100)	0.006 (0.14)	330 (100)
	7.0	>130000		stainless / fireproof steels	420 403	0.003 (0.08)	230 (70)	390 (120)	0.004 (0.10)	230 (70)	390 (120)	0.004 (0.10)	300 (90)	390 (120)	0.004 (0.10)	300 (90)	390 (120)	0.005 (0.12)	300 (90)	390 (120)	0.004 (0.10)	330 (100)	0.005 (0.12)	330 (100)
K	8.0		180	gray cast iron	No 35 B No 50 B	0.006 (0.14)	330 (100)	660 (200)	0.006 (0.16)	360 (110)	660 (200)	0.006 (0.16)	390 (120)	660 (200)	0.007 (0.18)	390 (120)	660 (200)	0.010 (0.25)	390 (120)	660 (200)	0.006 (0.16)	460 (140)	0.008 (0.20)	460 (140)
	8.1		250	alloy gray cast iron	A436 Type 2	0.005 (0.12)	330 (100)	520 (160)	0.006 (0.14)	360 (110)	520 (160)	0.006 (0.14)	390 (120)	520 (160)	0.006 (0.15)	390 (120)	520 (160)	0.008 (0.20)	390 (120)	520 (160)	0.006 (0.16)	460 (140)	0.008 (0.20)	460 (140)
	9.0	≤87000	130	spheroidal graphite cast iron, ferritic	60-40-18	0.005 (0.12)	330 (100)	520 (160)	0.006 (0.14)	360 (110)	520 (160)	0.006 (0.14)	390 (120)	520 (160)	0.007 (0.18)	390 (120)	520 (160)	0.010 (0.25)	390 (120)	520 (160)	0.006 (0.16)	460 (140)	0.008 (0.20)	460 (140)
	9.1		230	spheroidal graphite cast iron, ferritic / perlitic	80-55-06	0.005 (0.12)	330 (100)	460 (140)	0.006 (0.14)	360 (110)	460 (140)	0.006 (0.14)	390 (120)	460 (140)	0.007 (0.18)	390 (120)	460 (140)	0.010 (0.25)	390 (120)	460 (140)	0.006 (0.14)	460 (140)	0.006 (0.16)	460 (140)
	10.0	>87000	250	spheroidal graphite cast iron, perlitic malleable iron	100-70-03 70003	0.005 (0.12)	330 (100)	390 (120)	0.006 (0.14)	360 (110)	390 (120)	0.006 (0.14)	390 (120)	390 (120)	0.007 (0.18)	390 (120)	390 (120)	0.010 (0.25)	390 (120)	390 (120)	0.006 (0.14)	390 (120)	0.006 (0.16)	390 (120)
	10.1		200	alloyed spheroidal graphite cast iron	A43D2	0.004 (0.10)	330 (100)	330 (100)	0.005 (0.12)	330 (100)	330 (100)	0.005 (0.12)	330 (100)	330 (100)	0.006 (0.15)	330 (100)	330 (100)	0.008 (0.20)	330 (100)	330 (100)	0.005 (0.12)	330 (100)	0.006 (0.14)	330 (100)
	10.2		300	vermicular cast iron		0.004 (0.10)	260 (80)	260 (80)	0.005 (0.12)	260 (80)	260 (80)	0.005 (0.12)	260 (80)	260 (80)	0.006 (0.15)	260 (80)	260 (80)	0.008 (0.20)	260 (80)	260 (80)	0.005 (0.12)	260 (80)	0.006 (0.14)	260 (80)
N	12.0		90	copper alloy, brass, lead-alloy bronze, lead bronze: good cut	UNS C36000	0.006 (0.14)	660 (200)	660 (200)	0.006 (0.16)	660 (200)	660 (200)	0.006 (0.16)	660 (200)	660 (200)	0.008 (0.20)	660 (200)	660 (200)	0.010 (0.25)	660 (200)	660 (200)	0.006 (0.16)	660 (200)	0.008 (0.20)	660 (200)
	12.1		100	copper alloy, brass, bronze: average cut		0.003 (0.08)	820 (250)	820 (250)	0.003 (0.08)	820 (250)	820 (250)	0.004 (0.10)	820 (250)	820 (250)	0.005 (0.12)	820 (250)	820 (250)	0.006 (0.15)	820 (250)	820 (250)	0.003 (0.08)	820 (250)	0.004 (0.10)	820 (250)
	13.0		60	wrought aluminium alloys	GD-AlSi12	0.003 (0.07)	1150 (350)	1150 (350)	0.003 (0.07)	1150 (350)	1150 (350)	0.003 (0.07)	1150 (350)	1150 (350)	0.004 (0.10)	1150 (350)	1150 (350)	0.005 (0.12)	1150 (350)	1150 (350)	0.003 (0.08)	1150 (350)	0.004 (0.10)	1150 (350)
	13.1		75	cast alum. alloy: Si-content <10% magnesium alloy		0.004 (0.10)	820 (250)	820 (250)	0.005 (0.12)	820 (250)	820 (250)	0.006 (0.14)	820 (250)	820 (250)	0.007 (0.18)	820 (250)	820 (250)	0.010 (0.25)	820 (250)	820 (250)	0.006 (0.14)	820 (250)	0.006 (0.16)	820 (250)
	14.0		100	cast alum.alloy: Si-content >10%	A360.2	0.005 (0.12)	660 (200)	660 (200)	0.006 (0.14)	660 (200)	660 (200)	0.006 (0.14)	660 (200)	660 (200)	0.006 (0.15)	660 (200)	660 (200)	0.008 (0.20)	660 (200)	660 (200)	0.005 (0.12)	660 (200)	0.006 (0.14)	660 (200)
H	15.0	203000		hardened steels < 45 HRC		–			–			–			–			–			–		–	
	16.0	261000		hardened steels > 45 HRC		–			–			–			–			–			–		–	

* Cutting values shown are maximum values relating on the nominal diameter of the drill head using the respective central drill bit.
Patent applied for inside and outside Germany (ABS), EP 0 586 423 and other patent applications (KUB Centron)

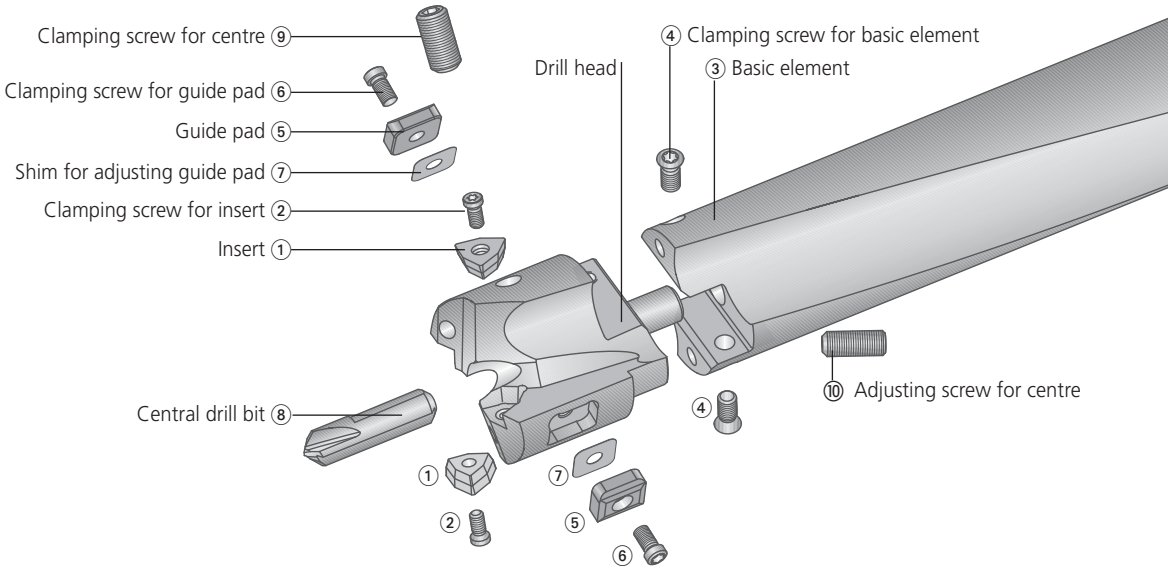
Alternative Inserts

ØD ▽▽ Size	Insert -03 Order No.	Insert -13 Order No.	ISO-Code	for workpiece material P M K N S H
for better chip control				
0.787–0.984 (20 – 25)	**W29 10030.048425**	**W29 10030.046425**	WOEX 030204-03 BK8425 WOEX 030204-03 BK6425	
1.024–1.299 (26 – 33)	**W29 18030.048425**	**W29 18030.046425**	WOEX 040304-03 BK8425 WOEX 040304-03 BK6425	
1.299–1.772 (33 – 45)	**W29 24130.048425**	**W29 24030.046425** **W29 24130.047935**	WOEX 05T304-13 BK8425 WOEX 05T304-03 BK6425 WOEX 05T304-13 BK7935	
1.811–2.126 (46 – 54)	**W29 34130.048425**	**W29 34030.046425** **W29 34130.047935**	WOEX 06T304-13 BK8425 WOEX 06T304-03 BK6425 WOEX 06T304-13 BK7935	
2.165–2.520 (55 – 64)	**W29 42130.048425**	**W29 42030.046425** **W29 42130.047935**	WOEX 080404-13 BK8425 WOEX 080404-03 BK6425 WOEX 080404-13 BK7935	
2.560–3.189 (65 – 81)	**W29 24130.048425**	**W29 24030.046425** **W29 24130.047935**	WOEX 05T304-13 BK8425 WOEX 05T304-03 BK6425 WOEX 05T304-13 BK7935	

Alternative Inserts

ØD ▽▽ Size	Insert -01 Order No.	Insert -11 Order No.	Insert -13 Order No.	ISO-Code	for workpiece material P M K N S H
for higher cutting speed					
0.787–0.984 (20 – 25)	W29 10010.0472	W29 10130.047325	W29 10110.0450	WOEX 030204-01 BK72 WOEX 030204-13 BK7325 WOEX 030404-11 BK50	
1.024–1.299 (26 – 33)	W29 18010.0472	W29 18130.047325	W29 18110.0450	WOEX 040304-01 BK72 WOEX 040304-13 BK7325 WOEX 040304-11 BK50	
1.299–1.772 (33 – 45)	W29 24010.0472	W29 24130.047325	W29 24110.0450	WOEX 05T304-01 BK72 WOEX 05T304-13 BK7325 WOEX 05T304-11 BK50	
1.811–2.126 (46 – 54)	W29 34010.0472	W29 34130.047325	W29 34110.0450	WOEX 06T304-01 BK72 WOEX 06T304-13 BK7325 WOEX 06T304-11 BK50	
2.165–2.520 (55 – 64)	W29 42010.0472	W29 42130.047325	W29 42110.0450	WOEX 080404-01 BK72 WOEX 080404-13 BK7325 WOEX 080404-11 BK50	
2.560–3.189 (65 – 81)	W29 24010.0472		W29 24110.0450	WOEX 05T304-01 BK72 WOEX 05T304-11 BK50	
for greater strength					
0.787–0.984 (20 – 25)	**W29 10010.047930** **W29 10010.0404** **W29 10010.0421**		**W29 10110.0421**	WOEX 030204-01 BK7930 WOEX 030204-01 P40 WOEX 030204-01 K10 WOEX 030204-11 K10	
1.024–1.299 (26 – 33)	**W29 18010.047930** **W29 18010.0404** **W29 18010.0421**		**W29 18110.0421**	WOEX 040304-01 BK7930 WOEX 040304-01 P40 WOEX 040304-01 K10 WOEX 040304-11 K10	
1.299–1.772 (33 – 45)	**W29 24010.047930** **W29 24010.0404** **W29 24010.0421**		**W29 24110.0421**	WOEX 05T304-01 BK7930 WOEX 05T304-01 P40 WOEX 05T304-01 K10 WOEX 05T304-11 K10	
1.811–2.126 (46 – 54)	**W29 34010.047930** **W29 34010.0404** **W29 34010.0421**		**W29 34110.0421**	WOEX 080404-01 BK7930 WOEX 080404-01 P40 WOEX 080404-01 K10 WOEX 080404-11 K10	
2.165–2.520 (55 – 64)	**W29 42010.047930** **W29 42010.0404** **W29 42010.0421**		**W29 42000.0421**	WOEX 080404-01 BK7930 WOEX 080404-01 P40 WOEX 080404-01 K10 WOEX 080404-00 K10	
2.560–3.189 (65 – 81)	**W29 24010.047930** **W29 24010.0404** **W29 24010.0421**		**W29 24110.0421**	WOEX 05T304-01 BK7930 WOEX 05T304-01 P40 WOEX 05T304-01 K10 WOEX 05T304-11 K10	

Important: See chapter 8 for more application details and safety notes!

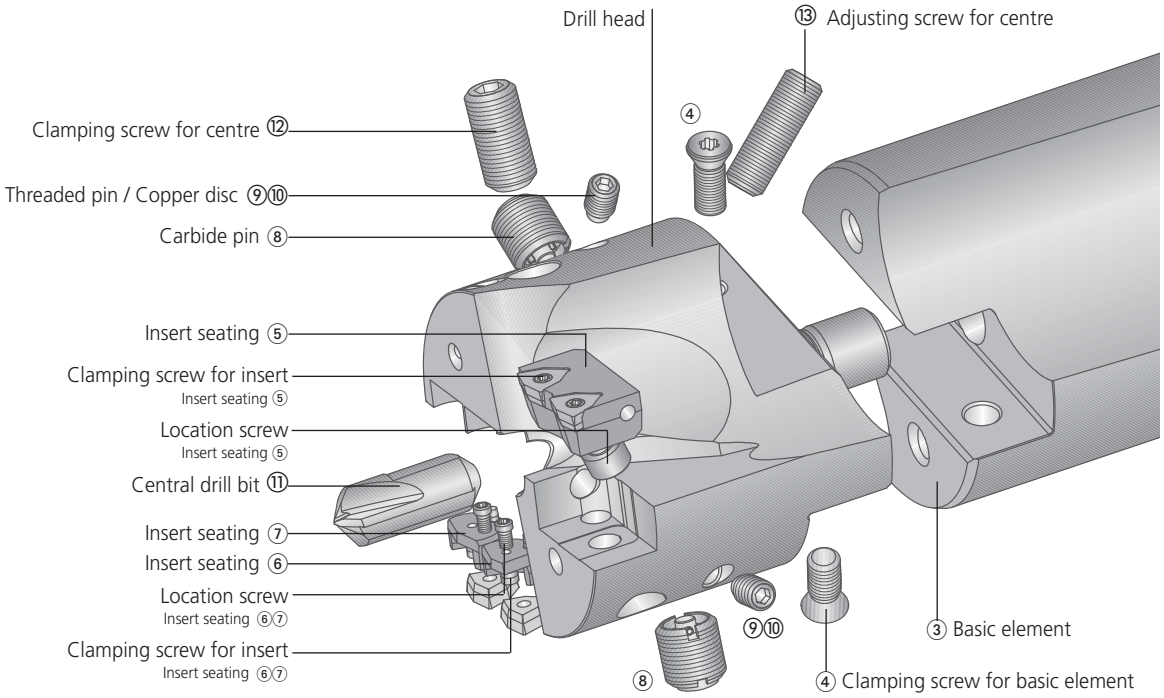


(..) = mm

Ø D	Inserts ①					Basic element ③				
	Assembly parts			Accessories		Assembly parts			Accessories	
	Clamping screw ② for inserts			Screwdriver		Clamping screw ④ for basic element			Screwdriver	
	Description	Order No.	in-lbs	Description	Order No.	Description	Order No.	Nm	Description	Order No.
0.787–0.984 (20–25)	S/M2×4.3-6IP	**N00 56041**	5.5	6IP	**L05 00810**	S2564-8IP	**N00 57480**	1.28	8IP	**L05 00830**
1.024–1.260 (26–32)	S/M2.2×5.5-6IP	**N00 57553**	8.9	6IP	**L05 00810**	S3074-8IP	**N00 57490**	2.25	8IP	**L05 00830**
1.299–1.535 (33–39)	S/M2.5×7.2-8IP	**N00 57511**	11.3	8IP	**L05 00830**	S4089-15IP	**N00 57440**	4.3	15IP	**L05 00860**
1.575–1.772 (40–45)	S/M2.5×7.2-8IP	**N00 57511**	11.3	8IP	**L05 00830**	S45105-20IP	**N00 57500**	6.25	20IP	**L05 00870**
1.811–2.126 (46–54)	S/M3.5×7.3-10IP	**N00 57521**	25	10IP	**L05 00850**	S50115-20IP	**N00 57450**	6.25	20IP	**L05 00870**
2.165–2.520 (55–64)	S/M4.5×9-15IP	**N00 57531**	55.3	15IP	**L05 00860**	S55140-20IP	**N00 57460**	6.25	20IP	**L05 00870**

Ø D	Guide pads ⑤								
	Assembly parts				Accessories		Assembly parts		
	Guide pads ⑤	Clamping screw ⑥ for guide pads			Screwdriver		Shim ⑦ for adjusting guide pads		
	Order No.	Description	Order No.	in-lbs	Description	Order No.	Order No. Set of foils	t (mm)	Qty.
0.787–0.866 (20–22)	**L01 03990**	S2542-8IP	**N00 57211**	11.3	8IP	**L05 00830**	**L01 04190**	0.025	4
0.906–1.142 (23–29)	**L01 04000**	M2.5×4.5-8IP	**N00 55581**	11.3	8IP	**L05 00830**		0.050	2
1.181–1.417 (30–36)	**L01 04010**	M2.5×4.5-8IP	**N00 55581**	11.3	8IP	**L05 00830**		0.075	2
1.457–1.772 (37–45)	**L01 04020**	M2.5×4.5-8IP	**N00 55581**	11.3	8IP	**L05 00830**		0.100	2
1.811–2.126 (46–54)	**L01 04150**	M3.5×5-8IP	**N00 55701**	20	8IP	**L05 00830**	**L01 04240**	0.025	4
2.165–2.520 (55–64)	**L01 04160**	M3.5×5-8IP	**N00 55701**	20	8IP	**L05 00830**		0.050	2
								0.075	2
								0.100	2

Ø D	Central drill bit ⑧									
	Accessories				Assembly parts					
	Central drill bit ⑧				Clamping screw ⑨ for central drill bit				Adjusting screw ⑩ for central drill bit	
	Ø	Order No. HSS TiAlN coated	Order No. HSS TiN coated	Order No. VHM TiAlN/TiN coated	Description	SW	Torque lbf/ft	Order No.	Description	Order No.
0.787 (20)	5	**V95 10012.0090**	**V95 10012.0089**	**V95 10310.8450**	M4×6	2	1.11	**N00 70910**	M3×8	**5505103008**
0.827–0.984 (21–25)	5	**V95 10012.0090**	**V95 10012.0089**	**V95 10310.8450**	M4×8	2	1.11	**N00 70920**	M3×8	**5505103008**
1.024–1.260 (26–32)	6	**V95 10022.0090**	**V95 10022.0089**	**V95 10320.8450**	M5×10	2.5	1.84	**N00 70930**	M4×10	**5505104010**
1.299–1.535 (33–39)	6	**V95 10022.0090**	**V95 10022.0089**	**V95 10320.8450**	M5×12	2.5	1.84	**N00 70940**	M4×10	**5505104010**
1.575–1.772 (40–45)	8	**V95 10032.0090**	**V95 10032.0089**	**V95 10330.8450**	M6×12	3	3.69	**N00 70950**	M5×10	**5505105010**
0.811–2.126 (46–54)	10	**V95 10042.0090**	**V95 10042.0089**	**V95 10340.8450**	M8×16	4	5.90	**N00 70960**	M5×10	**5505105010**
2.165–2.520 (55–64)	10	**V95 10042.0090**	**V95 10042.0089**	**V95 10340.8450**	M8×16	4	5.90	**N00 70960**	M5×8	**5505105008**

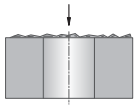


Ø D	Basic element ③					Carbide pin ⑧			
	Assembly parts			Accessories		Assembly parts			
	Clamping screw ④ for drill head			Screwdriver		Carbide pin ⑧	Key for ⑧	Threaded pin ⑨	Copper disc ⑩
	Description	**Order No.**	Nm	Description	**Order No.**	**Order No.**	**Order No.**	**Order No.** Description	**Order No.** Description
65 – 81	S60160-20IP	**N00 57470**	6,25	20IP	**L05 00870**	**L01 04310**	**L01 04370**	**5505106008** M6×8	**L01 04450** Ø4.5×1.5

Ø D	Insert seating ⑤				Insert seating ⑥ and ⑦					
	Assembly parts			Accessories	Assembly parts					Accessories
	Insert seating ⑤	Location screw	Clamping screw for inserts	Screw-driver for clamping screw	Insert seating ⑥	Insert seating ⑦	Stift	Location screw	Clamping screw for inserts	Screw-driver for clamping screw
	Order No.	**Order No.**	**Order No.** Description	**Order No.** Description	**Order No.**	**Order No.**	**Order No.**	**Order No.**	**Order No.** Description	**Order No.** Description
65 – 71	**D53 53200**	**N10 11510**	**N00 57511** S/M2.5×7.2-8IP 1.28 Nm	**L05 00830** 8IP	–	–	–	–	–	–
72 – 75	**D53 53220**	**5501105012**			**D50 50290**	**D50 55090**	**N00 52000**	**N00 55571**	**N00 57571** S/M2.5×6.3-8IP 1.28 Nm	**L05 00830** 8IP
76 – 78	**D53 53230**									
79 – 81	**D53 53240**									

Ø D	Central drill bit ⑪									
	Accessories			Assembly parts						
	Central drill bit ⑪			Clamping screw ⑫ for central drill bit				Adjusting screw ⑬ for central drill bit		
	∅	**Order No.** HSS TiAlN coated	**Order No.** HSS TiN coated	Description	SW	Torque	**Order No.**	Description	**Order No.**	
65 – 71	12	**V95 10050.0090**	**V95 10050.0089**	M10×20	5	16 Nm	**N00 70970**	M8×10	**5505108010**	
72 – 81				M10×20	5	16 Nm	**N00 70970**	M8×25	**5505108025**	

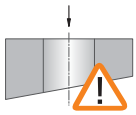
1

1. 

Starting on uneven surfaces (cast surfaces)
- possible in principle
- reduce feed rate when starting bore

2. 

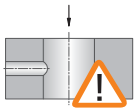
Starting on angled surfaces
- surface for starting bore must be spot faced beforehand
- avoid chip jams on drill shank

3. 

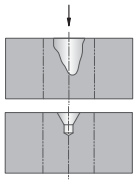
Angled bore exit
- possible under certain conditions
- reduce feed rate if necessary
- drilling angle max. 3°

4. 

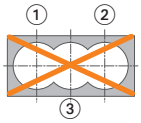
Starting on cambered surfaces
- centered boring can be started with reduced feed rate
- spot facing is required if the point for starting the bore is outside the radius centre

5. 

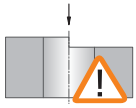
Drilling through a cross bore
- halve feed rate at interruption
- cross bore max. 1/3 of bore diameter
- off-centre cross bore not possible

6. 

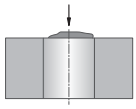
Starting on a groove or large centering bore
- possible under certain conditions
- reduce feed rate if necessary
- face beforehand where centre is particularly large
- central drill bit basic adjustment optimize if necessary

7. 

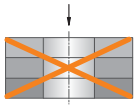
Drilling a chamber
- not possible

8. 

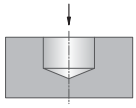
Starting on an edge
- surface for starting bore must be spot faced beforehand
- avoid chip jams on drill shank

9. 

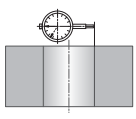
Starting on a welded seam
- reduce feed rate when starting bore
- face beforehand if necessary

10. 

Drilling through stacked plates
- not possible

11. 

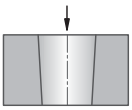
Blind hole
- possible
- set guide pads 0.5 mm below actual ∅

12. 

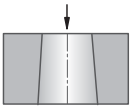
adjustable
- can be adjusted from 65 mm diameter

Rotating and stationary use

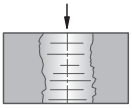
Short tool life types of wear on inserts
- cutting speed to high → select correct cutting speed
- cutting material with too little wear resistance → select grade with higher wear resistance
- tool overhang too great → if possible use shorter tool
- damaged insert seating → check tool, change if necessary
- clamping device not stable enough → improve stability



Bore narrows at bottom
- chip jam on external cutting edge → use different chip fracture geometry, increase feed if necessary
- material very soft → increase cutting speed, reduce feed. Use positive chip geometry
- axial adjustment of central drill bit not the best > adjust setting as shown on setting sheet in operating instructions



Bore widens at bottom
- chip jam on internal cutting edge → use different chip fracture geometry, increase feed if necessary



Bad surface finish
- bad chip removal → improve cutting parameters: increase cutting speed reduce feed

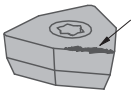
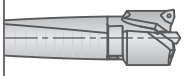
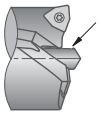


Bild up on cutting edge
- cutting speed too low → increase cutting speed
- insert too negative → use positive geometry
- coating not suitable → select correct coating

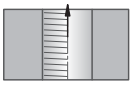


Friction marks on tool shank
- bore diameter too small → check setting
- chip removal problems → improve cutting parameters, check geometry of inserts
- cutting edge corner radius too large → use correct cutting edge radius
- chip jams on support element, fractured support element > where basic element < 6 × D use of support element can be dispensed with

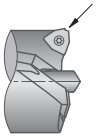
Stationary use



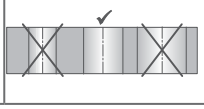
Heavy wear on one side on central drill bit
- tool not central → tool turret/holder may have shifted - readjust machine



Withdrawal groove on one side
- tool not central → tool turret/holder may have shifted - readjust machine

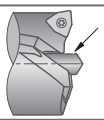


Fracture on external cutting edge
- feed rate too high → reduce feed rate
- interrupted cut → change to tougher insert grade
- cutting edge corner radius too small → use insert with larger cutting edge radius

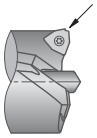


Bore too small/ too large
- machine not at X-0 position → move axis to correct position
- machine axis shifted → readjust machine

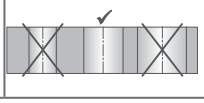
Rotating use



Heavy wear on one side on central drill bit
- insufficient guiding → check length setting on central drill bit



Fracture on external cutting edge
- feed rate too high → reduce feed rate
- interrupted cut → change to tougher insert grade
- cutting edge corner radius too small → use insert with larger cutting edge radius



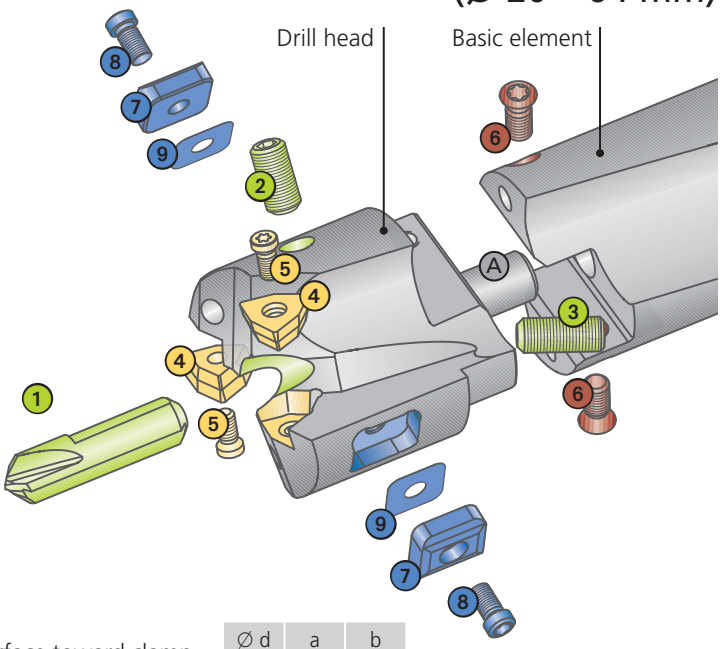
Bore too small/ too large with adjustable tool
- wrong cutting edge radius used → use correct cutting edge radius
- setting wrong → correct setting

KOMET KUB Centron®

Mounting Instructions

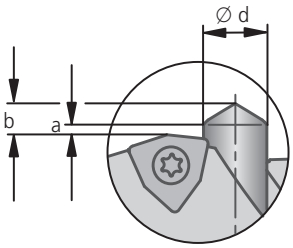
Ø 0.787 – 2.520 inch (Ø 20 – 64 mm)

1. Central drill bit
2. Clamping screw for central drill bit
3. Adjusting screw for central drill bit
4. Indexable inserts
5. Clamping screw for indexable inserts
6. Clamping screw for basic element
7. Guide pad
8. Clamping screw for guide pad
9. Shim for adjusting guide pad



Fitting central drill bit ① / indexable inserts ④:
- Insert central drill bit ① in drill head with clamping surface toward clamping screw ② and clamp.
- Insert indexable inserts ④ and tighten clamping screw ⑤ with recommended torque. The bore diameters of the drill heads were produced for a corner radius of 0.4 mm. Ensure proper seating at contact surface and circumference when installing indexable insert ④.

Ø d	a	b
0.197 (5)	0.039 (1.0)	0.089 (2.25)
0.236 (6)	0.043 (1.1)	0.104 (2.65)
0.315 (8)	0.049 (1.25)	0.133 (3.38)
0.394 (10)	0.049 (1.25)	0.152 (3.86)
0.472 (12)	0.057 (1.45)	0.184 (4.67)
0.630 (16)	0.071 (1.8)	0.228 (5.78)
0.787 (20)	0.098 (2.5)	0.311 (7.91)

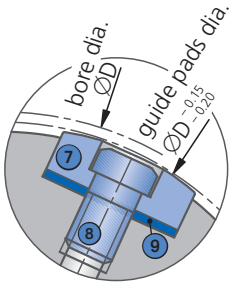


Length adjustment central drill bit ①: In principle there is no need to adjust the length of the central drill bit (preset at works). However, if an alternative length setting is required, this can be achieved by applying the adjusting screw ③ (→ table).

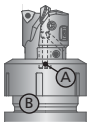
Fitting drill head:
- Insert drill head in basic element and measure diameter at outside indexable insert.
- Remove drill head again, turn by 180° and insert in basic element again. Measure diameter again.
- Production tolerances can result in different diameters. Always select position with largest measured diameter.
- Screw in both clamping screws ⑥ and alternately fasten them slightly. Then tighten with recommended torque.

Changing the guide pads ⑦:
The guide pads can be changed if worn or damaged. When using new guide pads check these are correctly aligned. (→ Setting Guide Pads).

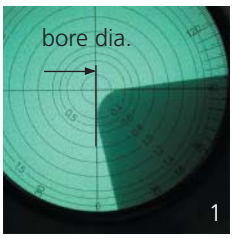
Setting guide pads for through holes:
The bore diameters for the drill heads are quoted for inserts with corner radius of R0.4 mm.
On delivery the guide pads are arranged for use with blind bores and lie a minimum of 0.25 mm below the bore diameter.
For through holes we recommend the use of our shim sets to adjust the guide pads.



If the overall length (complete tool) exceeds the measurement range of the presetter, locate drill head on centering pin Ⓐ in chuck Ⓑ.



Procedure:
- Measure ACTUAL diameter of drill head with indexable insert installed (Figure 1).
- Determine diameter of guide pads individually and adjust to recommended value (Figure 2).

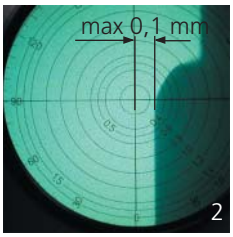


Example:
Drill Head dia. = 1.380"
Guide pads dia. = 1.380" $^{-0.006}_{-0.008}$ = 1.374 inch = 1.372 inch
Guide pad diameter must be between 1.374" and 1.372".

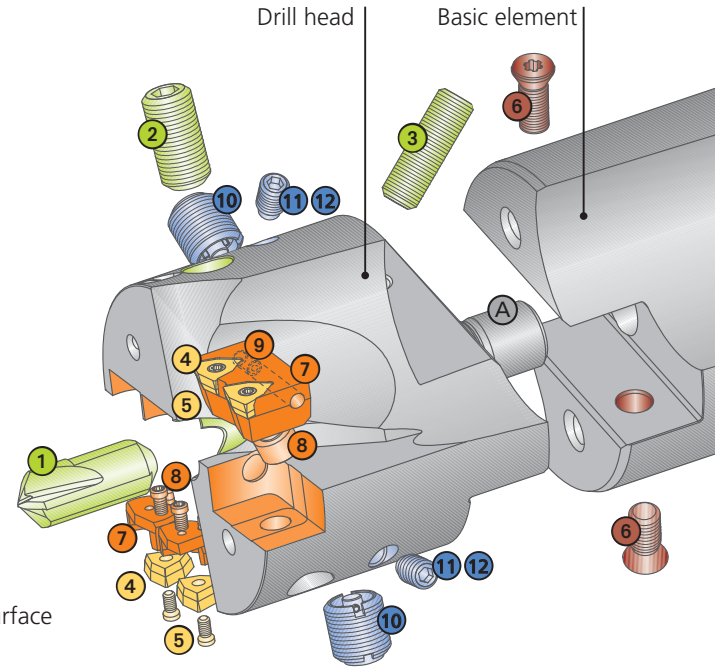
Shims ⑨ for through holes

Set 1: for Ø 0.787"-1.772", Order No. L01 04190
consisting of: 4× t = 0.001 inch, 2× t = 0.002 inch
2× t = 0.003 inch, 2× t = 0.004 mm

Set 2: for Ø 1.811"-2.520", Order No. L01 04240
consisting of: 4× t = 0.001 inch, 2× t = 0.002 inch
2× t = 0.003 inch, 2× t = 0.004 inch



1 Central drill bit
2 Clamping screw for central drill bit
3 Adjusting screw for central drill bit
4 Indexable inserts
5 Clamping screw for indexable inserts
6 Clamping screw for basic element
7 Insert seating
8 Location screw for insert seating
9 Adjusting screw for insert seating
10 Carbide pin
11 Threaded pin
12 Copper disc



Fitting central drill bit ① / indexable inserts ④:

- Insert central drill bit ① in drill head with clamping surface toward clamping screw ② and clamp.
- Insert indexable inserts ④ in insert seatings ⑦ and tighten clamping screw ⑤ with recommended torque. The bore diameters of the drill heads were produced for a corner radius of 0.4 mm. Ensure proper seating at contact surface and circumference when installing indexable insert ④.
- Insert indexable insert seatings ⑦ in drill head and tighten location screws ⑧ with recommended torque.

Length adjustment central drill bit ①: see page 184

Fitting drill head: see page 184

Set bore diameter:

- The external insert seating can be set 1 mm in the diameter.
- Loosen the location screw ⑧ and refasten slightly.
- Using adjusting screw ⑨ set the required diameter.
- Fully tighten location screw ⑧.

Setting guide elements (carbide pin):

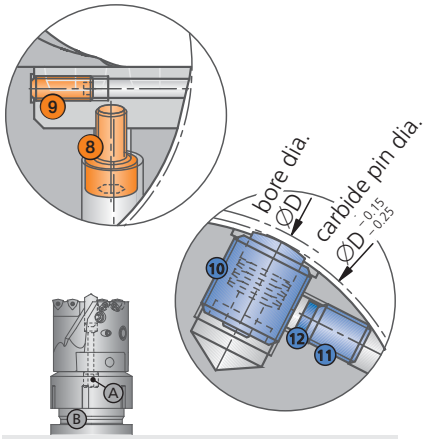
- Loosen threaded pin ⑪.
- Adjust carbide pin ⑩ with key L01 04370 to diameter (see section).
- Using threaded pin ⑪ clamp carbide pin ⑩.

Please note: Before the tool is used, the threaded pin ⑪ must be checked for firm seating due to possible settling of the copper disc ⑫.

If the overall length (complete tool) exceeds the measurement range of the presetter, locate drill head on centering pin Ⓐ in chuck Ⓑ.

Procedure:

- Measure ACTUAL diameter of drill head with indexable insert installed (Figure 1, page 184).
- Determine diameter of carbide pins individually and adjust to recommended value (Figure 2, page 184).



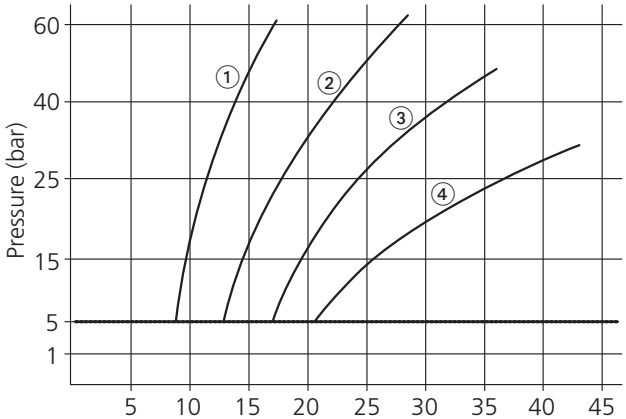
Example:

Drill Head dia. = 72.06 mm

Carbide pin dia. = 72.06 $^{-0.15}_{-0.25}$ = 71.91 mm = 71.81 mm

Carbide pin diameter must be between 71.91 and 71.81 mm.

Coolant Flow / Coolant Pressure



Recommended coolant pressure
① up to Ø 22.9 mm
② up to Ø 37.0 mm
③ up to Ø 69.9 mm
④ from Ø 70.0 mm

Minimum coolant pressure

The coolant is supplied centrally onto the cutting edges through the basic element or the drill head by means of ground coolant channels in the central drill bit and on the drill head face. It is essential for central coolant supply to be used. The coolant helps produce the best possible chip formation and chip removal. Coolant pressure should not be less than the minimum 5 bar. Increasing the coolant pressure to 10–20 bar improves the boring process.

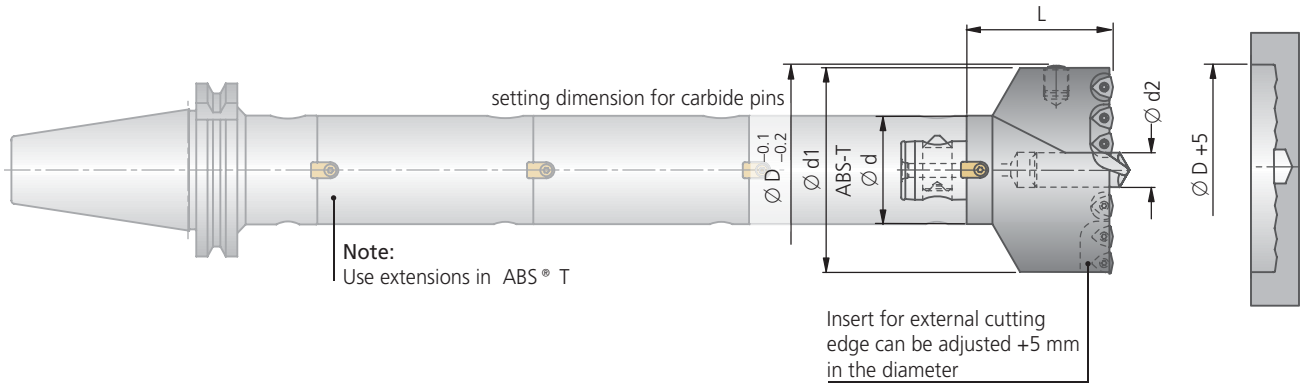
Important: See chapter 8 for more application details and safety notes!

KOMET KUB® V464 — Ø 80 – 155 mm

Insert Drill (drill head) with ABS® T Connection, R.H. cutting

L / D	solid drilling	blind hole	forge/casting skin, interface	angled	convex	cross bore	centering bore	chamber	stack plate drilling	rough boring	adjustable
6×D	●	●	◐	○	○	○	○	○	✕	✕	●

● very good ◐ good ○ possible: see technical notes, page 182 ✕ not possible



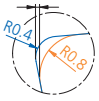
Drill Head						Basic recommendation				Assembly parts	Accessories
						Insert -01 -11			for workpiece material	Clamping screw	Screwdriver
Ø D +5mm	ABS-T Ø d	Order No.	Ø d1	L	kg	Order No. ▽▽Size	ISO-Code	Piece	P M K N S H	Order No. Description	Order No. Description
80	50	V46 40801	78.5	75	1.75	W29 34010.048425 W29 34010.047930 W29 34010.0462 W29 34110.0477	WOEX 06T304-01 BK8425 WOEX 06T304-01 BK7930 WOEX 06T304-01 BK62 WOEX 06T304-11 BK77	4	● ● ● ●	N00 57521 S/M3.5×7.3-10IP 2.8 Nm	L05 00850 10IP
85	50	V46 40851	83.5	75	1.80						
90	50	V46 40901	87.5	75	2.06						
95	50	V46 40951	92.5	75	2.16						
100	63	V46 41001	97.2	85	3.12	W29 42010.048425 W29 42010.047930 W29 42010.0462 W29 42110.0477	WOEX 080404-01 BK8425 WOEX 080404-01 BK7930 WOEX 080404-01 BK62 WOEX 080404-11 BK77	4	● ● ● ●	N00 57531 S/M4.5×9-15IP 6.25 Nm	L05 00860 15IP
105	63	V46 41051	102.5	85	2.92						
110	63	V46 41101	107.5	85	3.20						
115	63	V46 41151	112.5	85	3.35						
120	63	V46 41201	118.5	85	3.60	W29 34010.048425 W29 34010.047930 W29 34010.0462 W29 34110.0477	WOEX 06T304-01 BK8425 WOEX 06T304-01 BK7930 WOEX 06T304-01 BK62 WOEX 06T304-11 BK77	6	● ● ● ●	N00 57521 S/M3.5×7.3-10IP 2.8 Nm	L05 00850 10IP
125	63	V46 41251	123.5	85	3.82						
130	80	V46 41301	127.5	90	5.62						
135	80	V46 41351	132.5	90	5.52						
140	80	V46 41401	137.5	90	5.79						
145	80	V46 41451	142.5	90	5.95	W29 42010.048425 W29 42010.047930 W29 42010.0462 W29 42110.0477	WOEX 080404-01 BK8425 WOEX 080404-01 BK7930 WOEX 080404-01 BK62 WOEX 080404-11 BK77	6	● ● ● ●	N00 57531 S/M4.5×9-15IP 6.25 Nm	L05 00860 15IP
150	80	V46 41501	147.5	90	6.08						
155	80	V46 41551	152.5	90	6.50						

Supply includes:
Drill head with mounting parts. Please order insert, central drill bit and accessories separately.

For assembly parts and accessories, see page 187.

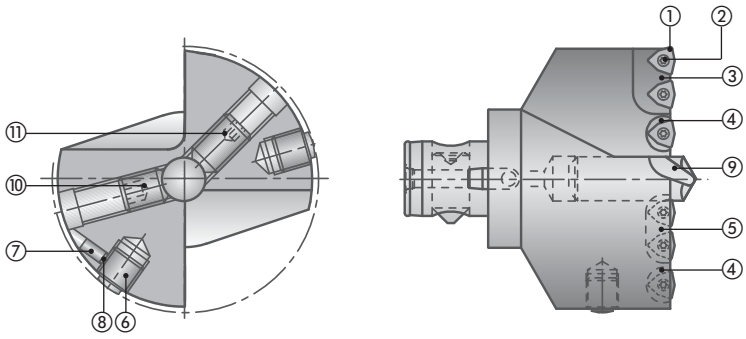
For torsional dampeners we recommend the use of appropriate reducers (available on request).

	Central drill bit			
				for workpiece material
Ø D	Order No.	Coating	Ø d2	P M K N S H
80 - 110	V95 10063.0089 V95 10063.0090	HSS TiN HSS TiAlN	16	● ● ● ●
115 - 155	V95 10213.0089 V95 10213.0090	HSS TiN HSS TiAlN	20	● ● ● ●



Note re. insert radius:
The nominal dimension Ø is only achieved with the appropriate standardised insert radius.
Insert radii which deviate from this will alter the nominal dimension Ø (see Chapter 8)

Boring range ∅ 80-155 mm



Ø D	Inserts ①					Carbide pin ⑥			
	Assembly parts			Accessories		Assembly parts			
	Clamping screw ② for inserts			Screwdriver		Carbide pin ⑥	Key for ⑥	Threaded pin ⑦	Copper disc ⑧
	Description	Order No.	Nm	Description	Order No.	Order No.	Order No.	Order No. Description	Order No. Description
80 – 95	S/M3.5×7.3-10IP	N00 57521	2.8	10IP	L05 00850	L01 04300	L01 04350	55051 06008 M6×8	L01 04450 ∅4.5×1.5
100–115	S/M4.5×9-15IP	N00 57531	6.25	15IP	L05 00860				
120–125	S/M3.5×7.3-10IP	N00 57521	2.8	10IP	L05 00850				
130–140	S/M3.5×7.3-10IP	N00 57521	2.8	10IP	L05 00850				
145–155	S/M4.5×9-15IP	N00 57531	6.25	15IP	L05 00860				

Ø D	Insert seating ③, ④ and ⑤								
	Assembly parts								
	Insert seating ③		Location screw for ③	Insert seating ④		Insert seating ⑤		Pin for ④+⑤	Location screw for ④+⑤
	Order No.	Qty.	Order No. Description	Order No.	Qty.	Order No.	Qty.	Order No. Description	Order No. Description
80	D53 53360	1	55011 05012 M5×12	–		D53 53350	1	N00 52000 1.8/2×4.5	N00 55701 M3.5×5-8IP
85	D53 53370	1	55011 05012 M5×12	D50 55100	1	D50 50300	1	N00 52000 1.8/2×4.5	N00 55701 M3.5×5-8IP
90	D53 53380	1							
95	D53 53390	1							
100	D53 53400	1	55011 05012 M5×12	D50 55110	1	D50 50310	1	N00 52010 3/4×5.5	N00 55821 M4.5×9-10IP
105	D53 53410	1							
110	D53 53420	1							
115	D53 53430	1							
120	D53 53360	1	55011 05012 M5×12	D50 55100	3	D53 53350	1	N00 52000 1.8/2×4.5	N00 55701 M3.5×5-8IP
125	D53 53360	1		D50 55100	3	D50 50300	1		
130	D53 53380	1	55011 05012 M5×12	D50 55100	3	D50 50300	1	N00 52000 1.8/2×4.5	N00 55701 M3.5×5-8IP
135	D53 53380	1							
140	D53 53390	1							
145	D53 53400	1	55011 05012 M5×12	D50 55110	3	D50 50310	1	N00 52010 3/4×5.5	N00 55821 M4.5×9-10IP
150	D53 53400	1							
155	D53 53400	1							

Ø D	Central drill bit ⑨								
	Accessories			Assembly parts					
	Central drill bit ⑨			Clamping screw ⑩ for central drill bit				Adjusting screw ⑪ for central drill bit	
	∅	Order No. HSS TiAlN coated	Order No. HSS TiN coated	Description	SW	Torque	Order No.	Description	Order No.
80	16	V95 10063.0090	V95 10063.0089	M12×16	6	25 Nm	N00 70370	M12×16	5505212016
85 –110	16	V95 10063.0090	V95 10063.0089	M12×20	6	25 Nm	N00 70380	M12×20	5505212020
115–155	20	V95 10213.0090	V95 10213.0089	M16×20	8	35 Nm	N00 70460	M16×22	N00 70800

Guideline values for solid drilling						KUB® V464					
						Max. feed f (mm/rev) · Cutting speed v_c (m/min)					
						Ø 80 – 99		Ø 100 – 119		Ø 120 – 159	
Material group		Strength Rm (N/mm²)	Hardness HB	Material	Material example, material code / DIN	f mm/U	HSS * v_c m/min	f mm/rev	HSS * v_c m/min	f mm/rev	HSS * v_c m/min
P	1.0	≤500		non-alloy steels	St37-2 / 1.0037; 9SMn28 / 1.0715; St44-2 / 1.0044	0.10	200	0.12	200	0.12	200
P	2.0	500-900		non-alloy / low alloy steels	St52-2 / 1.0050, C55 / 1.0525, 16MnCr5 / 1.7131	0.12	180	0.14	180	0.16	180
P	2.1	<500		lead alloys	9SMnPb28 / 1.0718	0.12	200	0.14	200	0.16	200
P	3.0	>900		non alloy / low alloy steels: heat resistant structural, heat treated, nitride and tools steels	42CrMo4 / 1.7225, CK60 / 1.1221	0.12	160	0.14	160	0.16	160
P	4.0	>900		high alloy steels	X6CrMo4 / 1.2341, X165CrMoV12 / 1.2601	0.12	140	0.14	140	0.16	140
P	4.1			HSS		0.10	60	0.12	60	0.14	60
S	5.0		250	special alloys: Inconel, Hastelloy, Nimonic, stc.	Inconel 718 / 2.4668, Nimonic 80A / 2.4631	–		–		–	
S	5.1	400		titanium, titanium alloys	TiAl5Sn2 / 3.7114	–		–		–	
M	6.0	≤600		stainless steels	X2CrNi189 / 1.4306, X5CrNiMo1810 / 1.4401	0.10	100	0.12	100	0.14	160
M	6.1	<900		stainless steels	X8CrNb17 / 1.4511, X10CrNiMoTi1810 / 1.4571	0.12	100	0.14	100	0.14	140
M	7.0	>900		stainless / fireproof steels	X10CrAl7 / 1.4713, X8CrS-38-18 / 1.4862	0.12	100	0.14	100	0.14	100
K	8.0		180	gray cast iron	GG-25 / 0.6025, GG-35 / 0.6035	0.16	180	0.16	180	0.25	180
K	8.1		250	alloy gray cast iron	GG-NiCr202 / 0.6660	0.14	140	0.16	140	0.20	140
K	9.0	≤600	130	spheroidal graphite cast iron, ferritic	GGG-40 / 0.7040	0.14	140	0.16	140	0.20	140
K	9.1		230	spheroidal graphite cast iron, ferritic / perlitic	GGG-50 / 0.7050 GGG-55 / 0.7055 GTW-55 / 0.8055	0.14	120	0.16	120	0.20	120
K	10.0	>600	250	spheroidal graphite cast iron, perlitic malleable iron	GGG-60 / 0.7060 GTS-65 / 0.8165	0.12	100	0.14	100	0.18	100
K	10.1		200	alloyed spheroidal graphite cast iron	GGG-NiCr20-2 / 0.7661	0.12	80	0.14	80	0.16	80
K	10.2		300	vermicular cast iron	GGV Ti < 0,2 GGV Ti > 0,2	0.12	80	0.14	80	0.16	80
N	12.0		90	copper alloy, brass, lead-alloy bronze, lead bronze: good cut	CuZn36Pb3 / 2.1182, G-CuPb15Sn / 2.1182	0.16	180	0.20	180	0.25	180
N	12.1		100	copper alloy, brass, bronze: average cut	CuZn40Al1 / 2.0550, E-Cu57 / 2.0060	0.08	200	0.10	200	0.12	200
N	13.0		60	wrought aluminium alloys	AlMg1 / 3.3315, AlMnCu / 3.0517	0.08	300	0.10	300	0.12	300
N	13.1		75	cast alum. alloy: Si-content <10% magnesium alloy	G-AlMg5 / 3.3561, G-AlSi9Mg / 3.2373	0.14	200	0.16	200	0.16	200
N	14.0		100	cast alum. alloy: Si-content >10%	G-AlSi10Mg / 3.2381	0.12	160	0.14	160	0.14	160
H	15.0	1400		hardened steels < 45 HRC		–		–		–	
H	16.0	1800		hardened steels > 45 HRC		–		–		–	

* Cutting values shown are maximum values relating on the nominal diameter of the drill head using the respective central drill bit.

Alternative Inserts

	ØD	Order No. ▽▽ Size	ISO-Code	for workpiece material P M K N S H
		Insert -03 -13		
for better chip control	80 – 99	W29 34130.048425	WOEX 06T304-13 BK8425	
		W29 34030.046425	WOEX 06T304-03 BK6425	
		W29 34130.047935	WOEX 06T304-13 BK7935	
	100 – 119	W29 42130.048425	WOEX 080404-13 BK8425	
		W29 42030.046425	WOEX 080404-03 BK6425	
		W29 42130.047935	WOEX 080404-13 BK7935	
	120 – 144	W29 34130.048425	WOEX 06T304-13 BK8425	
		W29 34030.046425	WOEX 06T304-03 BK6425	
		W29 34130.047935	WOEX 06T304-13 BK7935	
	145 – 159	W29 42130.048425	WOEX 080404-13 BK8425	
		W29 42030.046425	WOEX 080404-03 BK6425	
		W29 42130.047935	WOEX 080404-13 BK7935	

Alternative Inserts

	ØD	Order No. ▽▽ Size	ISO-Code	for workpiece material P M K N S H
		Insert -01 -11 -13		
for higher cutting speed	80 – 99	W29 34010.0472	WOEX 06T304-01 BK72	
		W29 34110.0450	WOEX 06T304-11 BK50	
	100 – 119	W29 42010.0472	WOEX 080404-01 BK72	
		W29 42110.0450	WOEX 080404-11 BK50	
	120 – 144	W29 34010.0472	WOEX 06T304-01 BK72	
		W29 34110.0450	WOEX 06T304-11 BK50	
	145 – 159	W29 42010.0472	WOEX 080404-01 BK72	
		W29 42110.0450	WOEX 080404-11 BK50	
for greater strength	80 – 99	W29 34010.047930	WOEX 06T304-01 BK7930	
		W29 34010.0404	WOEX 06T304-01 P40	
		W29 34010.0421	WOEX 06T304-01 K10	
		W29 34110.0421	WOEX 06T304-11 K10	
	100 – 119	W29 42010.047930	WOEX 080404-01 BK7930	
		W29 42010.0404	WOEX 080404-01 P40	
		W29 42010.0421	WOEX 080404-01 K10	
		W29 42110.0421	WOEX 080404-11 K10	
	120 – 144	W29 34010.047930	WOEX 06T304-01 BK7930	
		W29 34010.0404	WOEX 06T304-01 P40	
		W29 34010.0421	WOEX 06T304-01 K10	
		W29 34110.0421	WOEX 06T304-11 K10	
	145 – 159	W29 42010.047930	WOEX 080404-01 BK7930	
		W29 42010.0404	WOEX 080404-01 P40	
		W29 42010.0421	WOEX 080404-01 K10	
		W29 42110.0421	WOEX 080404-11 K10	

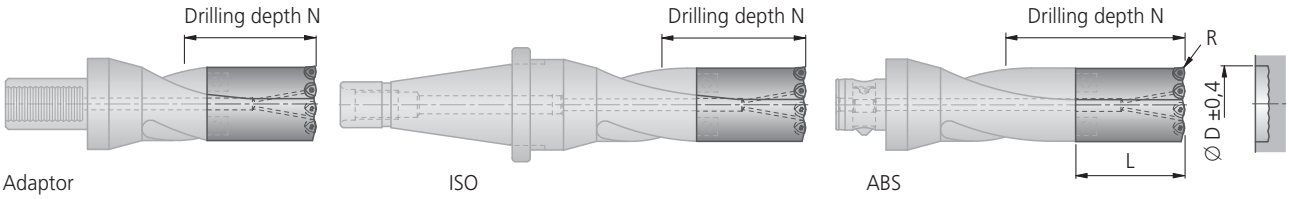
Important: See chapter 8 for more application details and safety notes!

KOMET KUB® V50 Ø 83 – 128 mm

Drill Head with ABS® Connection, Taper or VDI Shank, R.H. cutting

L / D	solid drilling	blind hole	forge/casting skin, interface	angled	convex	cross bore	centering bore	chamber	stack plate drilling	rough boring	adjustable
4×D	●	●	◐	○	○	○	○	○	✕	✕	✕

● very good ◐ good ○ possible ✕ not possible

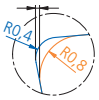


Drill Head				Basic recommendation			Assembly parts	Accessories
Ø D	Order No.	for R0.8 L	kg	Insert -01 -11 Order No. ▽▽ Size	ISO-Code	for workpiece material P M K N S H	Clamping screw Order No. Description	Screwdriver Order No. Description
83	V50 30830	120	2.35	W29 34010.088425 W29 34010.047930 W29 34010.0862 W29 34110.0477	WOEX 06T308-01 BK8425 WOEX 06T304-01 BK7930 WOEX 06T308-01 BK62 WOEX 06T304-11 BK77	● ● ● ●	N00 57521 S/M3.5×7.3-10IP 2.8 Nm	L05 00850 10IP
88	V50 30880	120	2.56					
93	V50 30930	120	2.88	W29 42010.088425 W29 42010.047930 W29 42010.0862 W29 42110.0477	WOEX 080408-01 BK8425 WOEX 080404-01 BK7930 WOEX 080408-01 BK62 WOEX 080404-11 BK77	● ● ● ●	N00 57531 S/M4.5×9-15IP 6.25 Nm	L05 00860 15IP
98	V50 30980	120	3.22					
103	V50 31030	120	3.56					
108	V50 31080	120	3.94					
113	V50 31130	120	4.17	W29 50010.088425 W29 50010.047930 W29 50010.0862 W29 50110.0477	WOEX 100508-01 BK8425 WOEX 100504-01 BK7930 WOEX 100508-01 BK62 WOEX 100504-11 BK77	● ● ● ●	N00 57531 S/M4.5×9-15IP 6.25 Nm	L05 00860 15IP
118	V50 31180	120	4.71					
123	V50 31230	120	5.11					
128	V50 31280	120	5.66					

Supply includes:
Drill head with assembly parts. Please order insert and accessories separately.

The KUB® drill basic elements can be supplied on request for boring depths N 1×D to 4×D with ABS® connection (from ABS100) and with adaptors to DIN 69880 (VDI 3425 B/2) from NC50 and all ISO adaptors from ISO50.
To process the enquiry, we require details of the type and size of connection and required boring depth.

	Assembly parts						
	Insert seating internal	Insert seating external	Clamping screw			Pin	
Ø D	Order No.	Order No.	Description	Nm	Order No.	Description	Order No.
83 – 88	D50 55300	D50 55100	M3.5×5-8IP	2.25	N00 55701	1.8/2×4.5	N00 52000
93 –108	D50 55310	D50 55110	M4.5×9-10IP	4.3	N00 55821	3/4×5.5	N00 52010
113–128	D50 55320	D50 55120	M4.5×9-10IP	4.3	N00 55821	3/4×5.5	N00 52010



Note re. insert radius:
The nominal dimension Ø is only achieved with the appropriate standardised insert radius.
Insert radii which deviate from this will alter the nominal dimension Ø (see Chapter 8)

Patent applied for inside and outside Germany (ABS)

Guideline values for solid drilling						v_c	Max. f (mm/rev)		
							4×D		
Material group		Strength Rm (N/mm²)	Hardness HB	Material	Material example, material code/DIN	Cutting speed v_c (m/min)	∅ 83 – 88	∅ 93 – 108	∅ 113 – 128
P	1.0	≤500		non-alloy steels	St37-2 / 1.0037; 9SMn28 / 1.0715; St44-2 / 1.0044	200	0.10	0.12	0.12
P	2.0	500-900		non-alloy / low alloy steels	St52-2 / 1.0050, C55 / 1.0525, 16MnCr5 / 1.7131	180	0.12	0.14	0.16
P	2.1	<500		lead alloys	9SMnPb28 / 1.0718	200	0.12	0.14	0.16
P	3.0	>900		non alloy / low alloy steels: heat resistant structural, heat treated, nitride and tools steels	42CrMo4 / 1.7225, CK60 / 1.1221	160	0.12	0.14	0.16
P	4.0	>900		high alloy steels	X6CrMo4 / 1.2341, X165CrMoV12 / 1.2601	140	0.12	0.14	0.16
P	4.1			HSS		60	0.10	0.12	0.14
S	5.0		250	special alloys: Inconel, Hastelloy, Nimonic, stc.	Inconel 718 / 2.4668, Nimonic 80A / 2.4631	–	–	–	–
S	5.1	400		titanium, titanium alloys	TiAl5Sn2 / 3.7114	–	–	–	–
M	6.0	≤600		stainless steels	X2CrNi189 / 1.4306, X5CrNiMo1810 / 1.4401	160	0.10	0.12	0.14
M	6.1	<900		stainless steels	X8CrNb17 / 1.4511, X10CrNiMoTi1810 / 1.4571	140	0.12	0.14	0.14
M	7.0	>900		stainless / fireproof steels	X10CrAl7 / 1.4713, X8CrS-38-18 / 1.4862	100	0.12	0.14	0.14
K	8.0		180	gray cast iron	GG-25 / 0.6025, GG-35 / 0.6035	180	0.16	0.16	0.25
K	8.1		250	alloy gray cast iron	GG-NiCr202 / 0.6660	140	0.14	0.16	0.20
K	9.0	≤600	130	spheroidal graphite cast iron, ferritic	GGG-40 / 0.7040	140	0.14	0.16	0.20
K	9.1		230	spheroidal graphite cast iron, ferritic / perlitic	GGG-50 / 0.7050 GGG-55 / 0.7055 GTW-55 / 0.8055	120	0.14	0.16	0.20
K	10.0	>600	250	spheroidal graphite cast iron, perlitic malleable iron	GGG-60 / 0.7060 GTS-65 / 0.8165	100	0.12	0.14	0.18
K	10.1		200	alloyed spheroidal graphite cast iron	GGG-NiCr20-2 / 0.7661	80	0.12	0.14	0.16
K	10.2		300	vermicular cast iron	GGV Ti < 0,2 GGV Ti > 0,2	80	0.12	0.14	0.16
N	12.0		90	copper alloy, brass, lead-alloy bronze, lead bronze: good cut	CuZn36Pb3 / 2.1182, G-CuPb15Sn / 2.1182	180	0.16	0.20	0.25
N	12.1		100	copper alloy, brass, bronze: average cut	CuZn40Al1 / 2.0550, E-Cu57 / 2.0060	200	0.08	0.10	0.12
N	13.0		60	wrought aluminium alloys	AlMg1 / 3.3315, AlMnCu / 3.0517	300	0.08	0.10	0.12
N	13.1		75	cast alum. alloy: Si-content <10% magnesium alloy	G-AlMg5 / 3.3561, G-AlSi9Mg / 3.2373	200	0.14	0.16	0.16
N	14.0		100	cast alum. alloy: Si-content >10%	G-AlSi10Mg / 3.2381	160	0.12	0.14	0.14
H	15.0	1400		hardened steels < 45 HRC		–	–	–	–
H	16.0	1800		hardened steels > 45 HRC		–	–	–	–

Alternative Inserts				
		Insert -03 -13 -01 -11		for workpiece material
	ØD	Order No. ▽▽ Size	ISO-Code	P M K N S H
for better chip control	83 – 88	**W29 34130.048425**	WOEX 06T304-13 BK8425	◐
		W29 34030.046425	WOEX 06T304-03 BK6425	◐ ◑
		W29 34130.047935	WOEX 06T304-13 BK7935	◑
	93 – 108	**W29 42130.048425**	WOEX 080404-13 BK8425	◐
		W29 42030.046425	WOEX 080404-03 BK6425	◐ ◑
		W29 42130.047935	WOEX 080404-13 BK7935	◑
	113 – 128	**W29 50130.048425**	WOEX 100504-13 BK8425	◐
		W29 50030.046425	WOEX 100504-03 BK6425	◐ ◑
		W29 50130.047935	WOEX 100504-13 BK7935	◑
for higher cutting speed	83 – 88	**W29 34010.0472**	WOEX 06T304-01 BK72	◐
		W29 34110.0450	WOEX 06T304-11 BK50	◐
	93 – 108	**W29 42010.0472**	WOEX 080404-01 BK72	◐
		W29 42110.0450	WOEX 080404-11 BK50	◐
	113 – 128	**W29 50010.0872**	WOEX 100508-01 BK72	◐
		W29 50110.0450	WOEX 100504-11 BK50	◐
for greater strength	83 – 88	**W29 34010.047930**	WOEX 06T304-01 BK7930	◐
		W29 34010.0404	WOEX 06T304-01 P40	◐ ◑
		W29 34010.0421	WOEX 06T304-01 K10	◐
		W29 34110.0421	WOEX 06T304-11 K10	◐
	93 – 108	**W29 42010.047930**	WOEX 080404-01 BK7930	◐
		W29 42010.0404	WOEX 080404-01 P40	◐ ◑
		W29 42010.0421	WOEX 080404-01 K10	◐
		W29 42110.0421	WOEX 080404-11 K10	◐
	113 – 128	**W29 50010.047930**	WOEX 100504-01 BK7930	◐
		W29 50010.0804	WOEX 100508-01 P40	◐ ◑
		W29 50010.0821	WOEX 100508-01 K10	◐
		W29 50110.0421	WOEX 100504-11 K10	◐

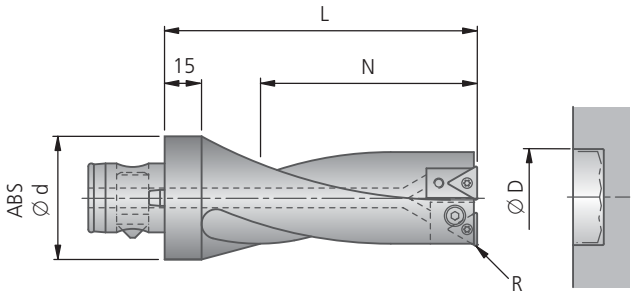
Cutting values shown are maximum values relating to the basic recommendations for cutting materials given.
Important: See chapter 8 for more application details and safety notes!

KOMET® V71 Ø 37 – 64 mm

Flat Bottoming Tool with ABS® Connection, R.H. cutting

L / D	solid drilling	blind hole	forge/casting skin, interface	angled	convex	cross bore	centering bore	chamber	stack plate drilling	rough boring	adjustable
3×D	✕	◐	✕	✕	✕	✕	✕	✕	✕	●	●

● very good ◐ good ○ possible ✕ not possible



Please note! The flat bottoming tool must not be connected to the M01 (ABS-MV) adjustable device but only to adaptors, reducers or extensions.

Adjustment range Ø D	ABS Ø d	Order No.	R	N	L	kg	Basic recommendation: Insert Order No. ▽▽Size	Basic recommendation: Insert ISO-Code	Basic recommendation: for workpiece material P M K N S H	Assembly parts: Clamping screw Order No. Description	Accessories: Screwdriver Order No. Description
37 – 43	50	V71 00200	0.5	111	161	1.18	W30 26660.058425	TOHX 140305EN-G06 BK8425	●	N00 56021 S/M3.5×6.2-10IP 2.8 Nm	L05 00850 10IP
							W30 26660.0503	TOHX 140305EN-G06 P25M	●		
43 – 48	50	V71 00210	0.5	129	179	1.49	W30 26660.0521	TOHX 140305EN-G06 K10	●		
							W30 26720.0521	TOHX140305FN-G12 K10	●		
48 – 52	63	V71 00250	0.8	144	199	2.27	W30 44660.0803	TOHX22T308EN-G06 P25M	●	N00 56401 S/M5×9.4-20IP 6.25 Nm	L05 00870 20IP
52 – 58	63	V71 00260	0.8	156	211	2.51	W30 44660.0821	TOHX22T308EN-G06 K10	●		
58 – 64	80	V71 00330	0.8	174	229	4.12	W30 44720.0821	TOHX22T308FN-G12 K10	●		

Supply includes:
Flat bottoming tool with assembly parts. Please order insert and accessories separately.

Rigid machine conditions are essential!

The adjustable flat bottoming tool is primarily used for flat bottoming the the bottom face in blind bores. The external cutting edge is radially adjustable and the internal cutting edge axially adjustable for facing flat the bottom of the bore.
The flat bottoming tool will also remachine the bore diameter.

	Assembly parts							
	Insert seating internal	Insert seating external	Cylindrical screw DIN 7984		Screw		Threaded pin DIN 913	
Ø D	Order No.	Order No.	Description	Order No.	Description	Order No.	Description	Order No.
37 – 48	D53 05310	D53 05110	M4×8	55012 04008	VPS-M2.6×6	L02 30300	M3×8	55051 03008
48 – 64	D53 05320	D53 05120	M6×12	51247 06012		–	M4×8	55051 04008

Patent applied for inside and outside Germany (ABS)

Guideline values for flat bottoming						v_c	Max. f (mm/rev)	
Material group		Strength Rm (N/mm²)	Hardness HB	Material	Material example, material code/DIN	Cutting speed v_c (m/min)	3×D	
							∅ 37 – 48	∅ 48 – 64
P	1.0	≤500		non-alloy steels	St37-2 / 1.0037; 9SMn28 / 1.0715; St44-2 / 1.0044	120	0.08	0.08
P	2.0	500-900		non-alloy / low alloy steels	St52-2 / 1.0050, C55 / 1.0525, 16MnCr5 / 1.7131	120	0.08	0.08
P	2.1	<500		lead alloys	9SMnPb28 / 1.0718	120	0.08	0.08
P	3.0	>900		non alloy / low alloy steels: heat resistant structural, heat treated, nitride and tools steels	42CrMo4 / 1.7225, CK60 / 1.1221	90	0.06	0.08
P	4.0	>900		high alloy steels	X6CrMo4 / 1.2341, X165CrMoV12 / 1.2601	90	0.05	0.07
P	4.1			HSS		–	–	–
S	5.0		250	special alloys: Inconel, Hastelloy, Nimonic, stc.	Inconel 718 / 2.4668, Nimonic 80A / 2.4631	–	–	–
S	5.1	400		titanium, titanium alloys	TiAl5Sn2 / 3.7114	–	–	–
M	6.0	≤600		stainless steels	X2CrNi189 / 1.4306, X5CrNiMo1810 / 1.4401	60	0.07	0.09
M	6.1	<900		stainless steels	X8CrNb17 / 1.4511, X10CrNiMoTi1810 / 1.4571	60	0.07	0.09
M	7.0	>900		stainless / fireproof steels	X10CrAl7 / 1.4713, X8CrS-38-18 / 1.4862	60	0.07	0.09
K	8.0		180	gray cast iron	GG-25 / 0.6025, GG-35 / 0.6035	120	0.12	0.14
K	8.1		250	alloy gray cast iron	GG-NiCr202 / 0.6660	120	0.12	0.14
K	9.0	≤600	130	spheroidal graphite cast iron, ferritic	GGG-40 / 0.7040	90	0.10	0.12
K	9.1		230	spheroidal graphite cast iron, ferritic / perlitic	GGG-50 / 0.7050 GGG-55 / 0.7055 GTW-55 / 0.8055	90	0.10	0.12
K	10.0	>600	250	spheroidal graphite cast iron, perlitic malleable iron	GGG-60 / 0.7060 GTS-65 / 0.8165	90	0.10	0.12
K	10.1		200	alloyed spheroidal graphite cast iron	GGG-NiCr20-2 / 0.7661	90	0.10	0.12
K	10.2		300	vermicular cast iron	GGV Ti < 0,2 GGV Ti > 0,2	90	0.10	0.12
N	12.0		90	copper alloy, brass, lead-alloy bronze, lead bronze: good cut	CuZn36Pb3 / 2.1182, G-CuPb15Sn / 2.1182	180	0.12	0.14
N	12.1		100	copper alloy, brass, bronze: average cut	CuZn40Al1 / 2.0550, E-Cu57 / 2.0060	180	0.12	0.14
N	13.0		60	wrought aluminium alloys	AlMg1 / 3.3315, AlMnCu / 3.0517	220	0.08	0.10
N	13.1		75	cast alum. alloy: Si-content <10% magnesium alloy	G-AlMg5 / 3.3561, G-AlSi9Mg / 3.2373	220	0.08	0.10
N	14.0		100	cast alum. alloy: Si-content >10%	G-AlSi10Mg / 3.2381	220	0.10	0.12
H	15.0	1400		hardened steels < 45 HRC		–	–	–
H	16.0	1800		hardened steels > 45 HRC		–	–	–

Alternative Inserts				
	∅D	Insert Order No. ▽▽ Size	ISO-Code	for workpiece material P M K N S H
for better chip control	37 – 48	W30 26720.0503	TOHX 140305EN-G12 P25M	◐ ◑
	48 – 64	–		
for higher cutting speed	37 – 48	W30 26660.0560	TOHX 140305EN-G06 BK60	◐ ◑
	48 – 64	W30 44660.0860	TOHX 22T308EN-G06 BK60	◐
for greater strength	37 – 48	W30 26660.0503	TOHX 140605EN-G06 P25M	◐
	48 – 64	–		

Cutting values shown are maximum values relating to the basic recommendations for cutting materials given.
Important: See chapter 8 for more application details and safety notes!

Ø 83 – 198 mm

Trepannning tool with ABS® connection, taper or VDI shank, R.H. cutting

L / D	solid drilling	blind hole	forge/casting skin, interface	angled	convex	cross bore	centering bore	chamber	stack plate drilling	rough boring	adjustable
3×D	●	✕	◐	◐	◐	◐	●	●	✕	✕	✕

● very good ◐ good ○ possible ✕ not possible

The KUB® drill basic elements are available on request for drilling depths N 1×D to 3×D with ABS® connection (ABS100, ABS125) and adaptors to SK 50 and cylindrical shank DIN 69880 from NC 50.

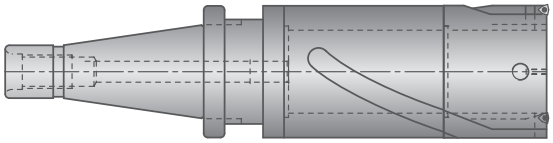
For administration purposes, please provide details of the type and size of connection and the required drilling depth with the enquiry.

The KOMET® trepanning tool is used to enable recycling of residue when cutting particulary expensive materials or using this for verification. Because the tool only removes a ring of material, the amount of power required is very low, making it suitable for machining larger holes on less powerful machine tools.

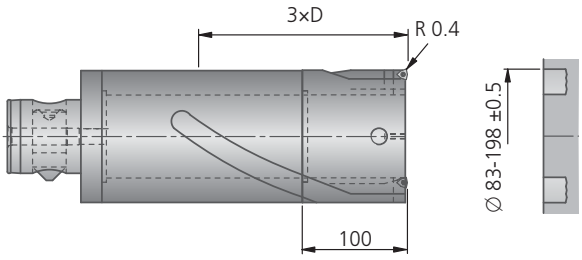
With central coolant supply.

available on request

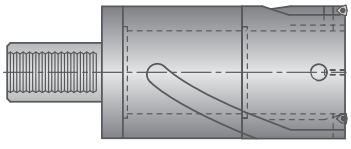
Taper shank



ABS Adaptor



Adaptor DIN 69880



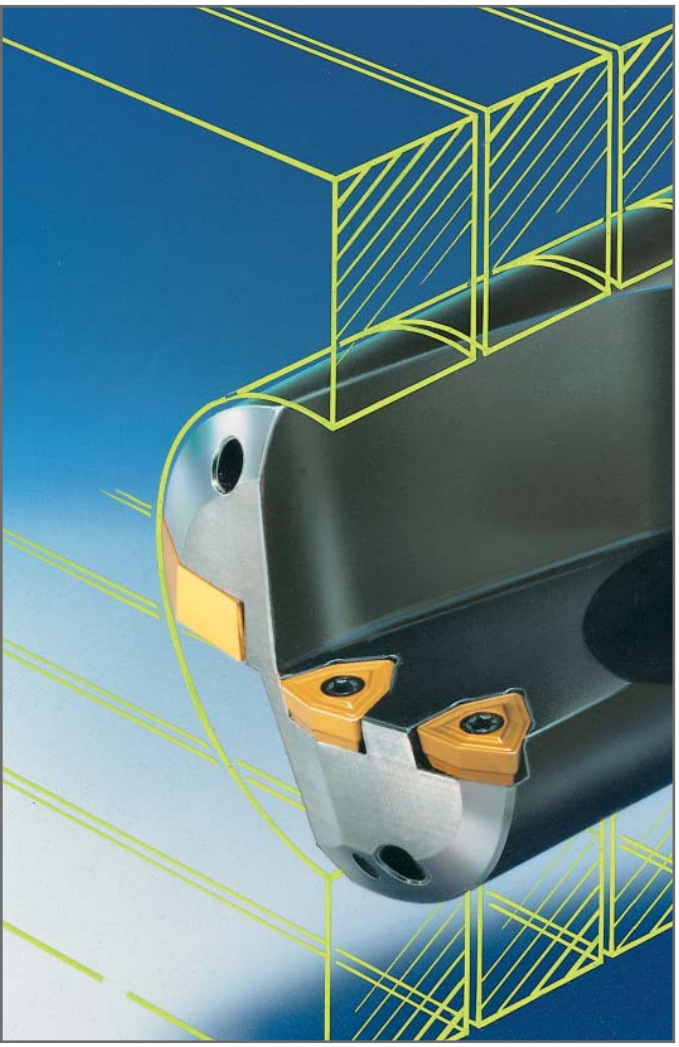
Please note:
Trepanning tool must be removed manually. Cutting width 25 mm

Assembly parts				
Insert seating external	Insert seating middle	Insert seating internal	Cylindrical screw	
Order No.	Order No.	Order No.	Description	Order No.
D53 55500	D53 55600	D53 55700	M4×12	5501104012

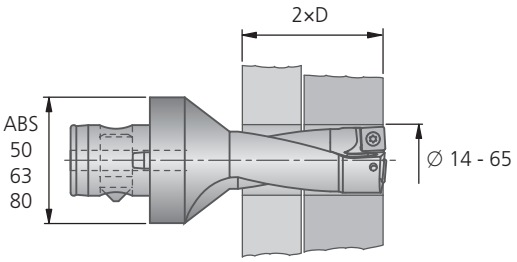
Patent applied for inside and outside Germany (ABS)

If workpieces are stacked close together, the disc produced would fall away during movement to the next workpiece and lie in front of the tool. This would destroy the inserts.

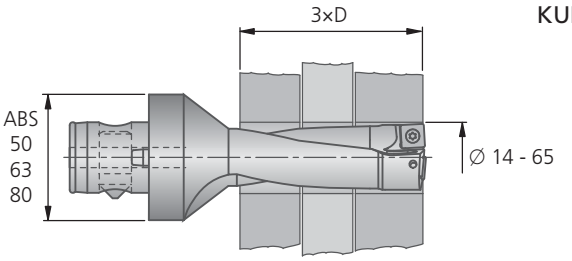
Because of the way their cutting edges are arranged, KUB® drills cut the material right up to the changeover point to the next workpiece.



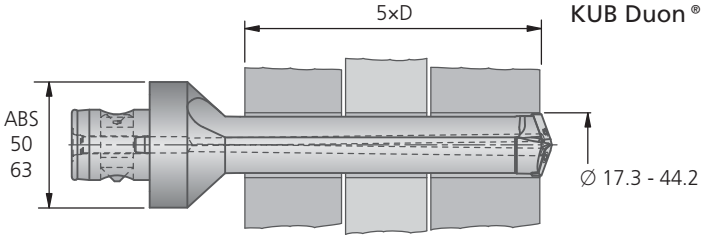
KUB Quatron®



KUB Quatron®



KUB Duon®



KUB® Drill
available on request