

KomPass REAMING



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KomPass REAMING – BENEFITS for you



Perfect reaming technology to new dimensions.

With over a hundred years of experience and expertise, the KOMET brand is synonymous with premium solutions in all aspects of machining. We offer our customers innovative, tailored solutions that make their production more cost-effective at every processing stage of the specific machining operation.

For the economic fine machining of bores, the comprehensive tool programme of standardised KOMET Monomax® monoblock tools, KOMET® Fullmax solid carbide reamers and tailor-made multiblade stepped reamers and on to customer-specific special tools, guarantees accurate, economic and reliable machining.

KOMET Deutschland GmbH is part of the CERATIZIT Group, which operates on an international scale.

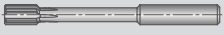
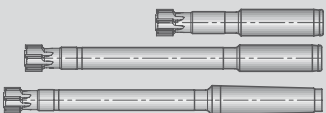
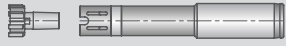
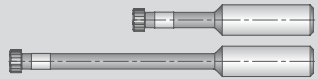
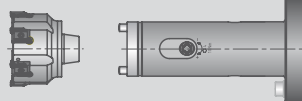
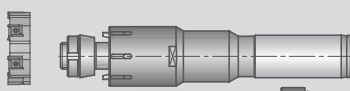
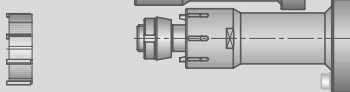
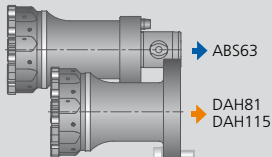
CERATIZIT is a high-tech engineering group that specialises in tool engineering and hard material technologies. The company is privately owned and has its headquarters in Mamer, Luxembourg. It operates over 70 sales offices and employs over 9000 members of staff at its 34 production sites around the globe.

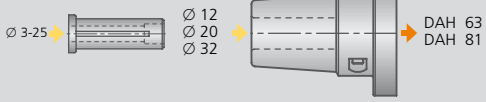
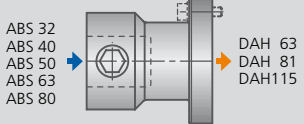
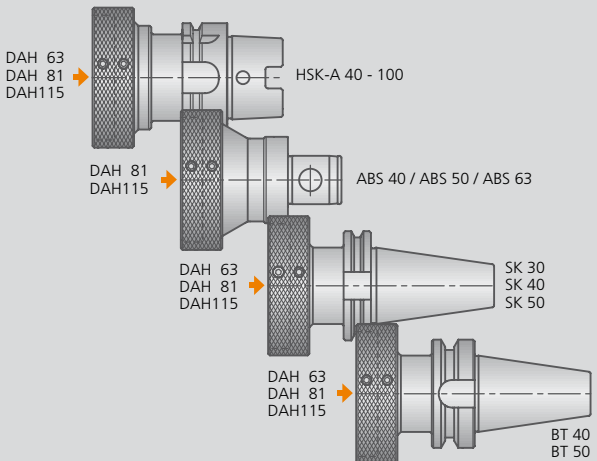
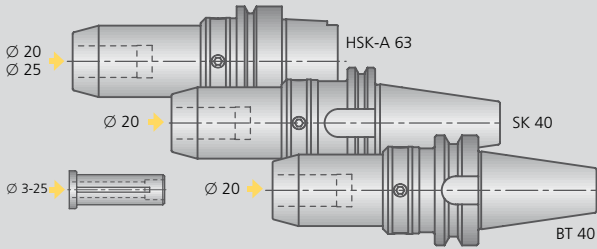
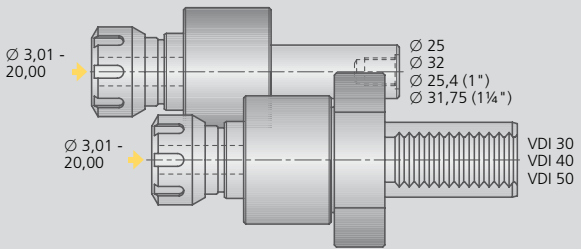


	KOMET® Fullmax	6 – 17	1 
	KOMET Monomax®	18 – 29	2 
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Help table for reaming

4

	Tool
	KOMET® Fullmax ▶ 6 – 17  → Ø 4-20
	KOMET® Monomax® ▶ 18 – 29  → Ø 12 → Ø 16 → Ø 20 MK 2
	KOMET® Rapid set head ▶ 30 – 37  → Ø 16 → Ø 20 → Ø 25 → Ø 32
	KOMET® hi.max ▶ 38 – 47  → Ø 16 → Ø 20 → Ø 25
	KOMET® REAMAX® ▶ 48 – 57  → Ø 16 → Ø 20 → Ø 25 → Ø 32
	KOMET® REAMAX® TS fix ▶ 58 – 65  → Ø 20 → Ø 25
	KOMET® REAMAX® TS ▶ 66 – 71  → Ø 20 → Ø 25 → Ø 32
	KOMET® REAMAX® TS Duo ▶ 72 – 81  → ABS32 → ABS40 → DAH81
	KOMET® Duomax ▶ 82 – 89  → Ø 32 → Ø 40 → ABS50 → ABS63 → ABS80
	KOMET® Cutting ring ▶ 99 – 101  → DAH81 → DAH115
	KOMET® Freemax ▶ 102 – 109  → ABS63 → DAH81 → DAH115

Adaptors
▶ 110 – 121 DAH® Expanding chuck  Ø 3-25 → Ø 12 Ø 20 Ø 32 → DAH 63 DAH 81
DAH® Adaptor  ABS 32 ABS 40 ABS 50 ABS 63 ABS 80 → DAH 63 DAH 81 DAH115
DAH® Compensating holder  DAH 63 DAH 81 DAH115 → HSK-A 40 - 100 DAH 81 DAH115 → ABS 40 / ABS 50 / ABS 63 DAH 63 DAH 81 DAH115 → SK 30 SK 40 SK 50 DAH 63 DAH 81 DAH115 → BT 40 BT 50
DAH® 50 HS Compensating holder  Ø 20 Ø 25 → HSK-A 63 Ø 20 → SK 40 Ø 3-25 → Ø 20 → BT 40
DPS Floating holder  Ø 3,01 - 20,00 → Ø 25 Ø 32 Ø 25,4 (1") Ø 31,75 (1¼") Ø 3,01 - 20,00 → VDI 30 VDI 40 VDI 50
Key → ABS® connection → cylindrical connection → DAH® connection



1



High performance for universal use

KOMET is expanding its solid carbide reaming range with a completely overhauled universal reaming tool, available from stock in the main dimensions both with H7 tolerance and in 1/100 dimensions.

2



The combination of knowledge and experience gained with the previous product line has enabled us to systematically develop the cutting geometry and achieve incredibly high cutting performance in various different materials – even those hardened up to HRC62. At the same time, the modified cutting edge pitch reduces chatter marks and improves chip formation.

3



In addition to optimal cutting edge cooling, the targeted coolant also aids smooth evacuation of chips that are formed. A high-performance coating completes the new design, and can be used for various different materials, thus also contributing to longer tool life, as a result of significant improved wear resistance.

4



These characteristics and properties combine to create the kind of precision for which KOMET is known on the market, as well as its high standards of dimensional accuracy and surface finish quality.

Individually configurable dimensions can be supplied in the diameter range from 2,96 to 20,05 mm. In addition, preferred ranges are available from stock for diameters 4 to 12 mm and 16 mm. There are separate variants matched to blind hole and through hole machining.

5



BENEFITS for you:

- Top performance for many different materials
- New high-performance for universal use
- Optimised geometry for top cutting performance
- Minimal costs per hole as a result of high cutting data and tool life
- Available from stock with dimensions H7 and 1/100 mm

6



7



KOMET® Fullmax K: Outstanding surface quality and long tool life thanks to the optimal combination of geometry and coating.

KOMET® Fullmax N: The extremely smooth coating affords outstanding surface quality, and the chip breaker geometry yields optimal chip formation.

8



KOMET® Fullmax H: Excellent surface quality with minimal cutting edge preparation. Optimal combination of geometry and coating for use in materials with a hardness of up to 62 HRC.

9



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11



KOMET® Fullmax

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Universal reamer
 $\varnothing$ 2,96 – 20,05 mm

8 – 9

Recommended cutting data

14 – 15

Special reamer K | N | H
 $\varnothing$ 2,96 – 20,05 mm

8 – 9

Recommended cutting data

16 – 17

Diameter H7 – available from stock

10 – 11

1/100 Dimensions – available from stock

12 – 13


1

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11


KOMET SERVICE® (Chapter 11)
The KOMET SERVICE® TOOL lifeBoxicon describes tools that are available for the high quality cost-efficient refurbishment of tools.



Tool recommendation

1 2 3 4 5 6 7 8 9 10 11	Material group	Strength Rm (N/mm²)	Hardness HB	Material	Material example, material code / DIN	Machining							
						Order No. ASG = cutting geometry							
						Universal	Special	Universal	Special	Universal	Special	Universal	Special
P	1.0	≤500		non-alloy steels	1.0037 (S235JR) 1.0715 (11SMn30) 1.0044 (S2575JR)	52P.57 ASG 2210		52P.57 ASG 2210		52M.57 ASG 2110		52M.57 ASG 2110	
	2.0	500-900		non-alloy / low alloy steels	1.0050 (E295) 1.0535 (C55) 1.7131 (16MnCr5)	52P.57 ASG 2210		52P.57 ASG 2210		52M.57 ASG 2110		52M.57 ASG 2110	
	2.1	<500		lead alloys	1.0718 (11SMnPb30)	52P.57 ASG 2210		52P.57 ASG 2210		52M.57 ASG 2110		52M.57 ASG 2110	
	3.0	>900		non alloy / low alloy steels; heat resistant structural, heat treated, nitride and tools steels	1.7225 (42CrMo4) 1.1221 (C60E)	52P.57 ASG 2210		52P.57 ASG 2210		52M.57 ASG 2110		52M.57 ASG 2110	
	4.0	>900		high alloy steels	1.2341 (6CrMo15-5) 1.2601 (X165Cr-MoV12)	52P.57 ASG 2210		52P.57 ASG 2210		52M.57 ASG 2110		52M.57 ASG 2110	
	4.1			HSS									
S	5.0		250	special alloys: Inconel, Hastelloy, Nimonic, etc.	2.4668 (NiuCr-19Fe19Nb5Mo3) 2.4631 (Nimonic 80A)	52P.57 ASG 2210		52P.57 ASG 2210		52M.57 ASG 2110		52M.57 ASG 2110	
	5.1	400		titanium, titanium alloys	3.7115 (TiAl5Sn2.5)					52M.57 ASG 2110		52M.57 ASG 2110	
M	6.0	≤600		stainless steels	1.4306 (X2CrNi19-11) 1.4401 (X5CrNi-Mo17-12-2)	52P.57 ASG 2210		52P.57 ASG 2210		52M.57 ASG 2110		52M.57 ASG 2110	
	6.1	<900		stainless steels	1.4511 (X3CrNb17) 1.4571 (X10CrNiMo-Ti17-12-2)	52P.57 ASG 2210		52P.57 ASG 2210		52M.57 ASG 2110		52M.57 ASG 2110	
	7.0	>900		stainless / fireproof steels	1.4713 (X10CrAlSi7) 1.4862 (X8NiCr-Si38-18)	52P.57 ASG 2210		52P.57 ASG 2210		52M.57 ASG 2110		52M.57 ASG 2110	
K	8.0		180	gray cast iron	0.6025 (EN-GJL-250) 0.6035 (EN-GJL-350)	52P.57 ASG 2210	52J.65 ASG 2350	52P.57 ASG 2210	52J.65 ASG 2350	52M.57 ASG 2110	52K.65 ASG 2350	52M.57 ASG 2110	52K.65 ASG 2350
	8.1		250	alloy gray cast iron	0.6660 (GGL-NiCr20 2)	52P.57 ASG 2210	52J.65 ASG 2350	52P.57 ASG 2210	52J.65 ASG 2350	52M.57 ASG 2110	52K.65 ASG 2350	52M.57 ASG 2110	52K.65 ASG 2350
	9.0	≤600	130	spheroidal graphite cast iron, ferritic	0.7040 (EN-GJS-400-15)	52P.57 ASG 2210	52J.65 ASG 2350	52P.57 ASG 2210	52J.65 ASG 2350	52M.57 ASG 2110	52K.65 ASG 2350	52M.57 ASG 2110	52K.65 ASG 2350
	9.1		230	spheroidal graphite cast iron, ferritic/perlitic	0.7050 (EN-GJS-500-7) 0.7055 (GJS-55) 0.8055 (GTW-55)	52P.57 ASG 2210	52J.65 ASG 2350	52P.57 ASG 2210	52J.65 ASG 2350	52M.57 ASG 2110	52K.65 ASG 2350	52M.57 ASG 2110	52K.65 ASG 2350
	10.0	>600	250	spheroidal graphite cast iron, perlitic malleable iron	0.7060 (EN-GJS-600-3) 0.8165 (GTS-65)	52P.57 ASG 2210	52J.65 ASG 2350	52P.57 ASG 2210	52J.65 ASG 2350	52M.57 ASG 2110	52K.65 ASG 2350	52M.57 ASG 2110	52K.65 ASG 2350
	10.1		200	alloyed spheroidal graphite cast iron	0.7661 (EN-GJSA-XNiCr20-2)	52P.57 ASG 2210	52J.65 ASG 2350	52P.57 ASG 2210	52J.65 ASG 2350	52M.57 ASG 2110	52K.65 ASG 2350	52M.57 ASG 2110	52K.65 ASG 2350
	10.2		300	vermicular cast iron	EN-GJV Ti < 0,2 EN-GJV Ti > 0,2	52P.57 ASG 2210	52J.65 ASG 2350	52P.57 ASG 2210	52J.65 ASG 2350	52M.57 ASG 2110	52K.65 ASG 2350	52M.57 ASG 2110	52K.65 ASG 2350
	12.0		90	copper alloy, brass, lead-alloy bronze, lead bronze: good cut	2.0375 (CuZn36Pb3) 2.1182.01 (G-CuPb15Sn)	52P.57 ASG 2210	52N.17 ASG 2270	52P.57 ASG 2210	52N.17 ASG 2270	52M.57 ASG 2110	52Q.17 ASG 2170	52M.57 ASG 2110	52Q.17 ASG 2170
	12.1		100	copper alloy, brass, bronze: average cut	2.0550 (CuZn40Al2) 2.0060 (E-Cu57)	52P.57 ASG 2210	52N.17 ASG 2270	52P.57 ASG 2210	52N.17 ASG 2270	52M.57 ASG 2110	52Q.17 ASG 2170	52M.57 ASG 2110	52Q.17 ASG 2170
	13.0		60	wrought aluminium alloys	3.3315 (AlMg1) 3.0517 (AlMnCu)		52N.17 ASG 2270		52N.17 ASG 2270		52Q.17 ASG 2170		52Q.17 ASG 2170
N	13.1		75	cast alum. alloy: Si-content <10% magnesium alloy	3.3561 (G-AlMg5) 3.2373.61 (G-AlSi9Mg wa)		52N.17 ASG 2270		52N.17 ASG 2270		52Q.17 ASG 2170		52Q.17 ASG 2170
	14.0		100	cast alum. alloy: Si-content >10%	3.2381.01 (G-AlSi10Mg)		52N.17 ASG 2270		52N.17 ASG 2270		52Q.17 ASG 2170		52Q.17 ASG 2170
	15.0	1400		hardened steels < 55 HRC		52P.57 ASG 2210	52G.55 ASG 2360		52G.55 ASG 2360	52M.57 ASG 2110	52H.55 ASG 2360		52H.55 ASG 2360
	16.0	1800		hardened steels > 55 HRC, ≤ 62 HRC		52P.57 ASG 2210	52G.55 ASG 2360		52G.55 ASG 2360	52M.57 ASG 2110	52H.55 ASG 2360		52H.55 ASG 2360
H													

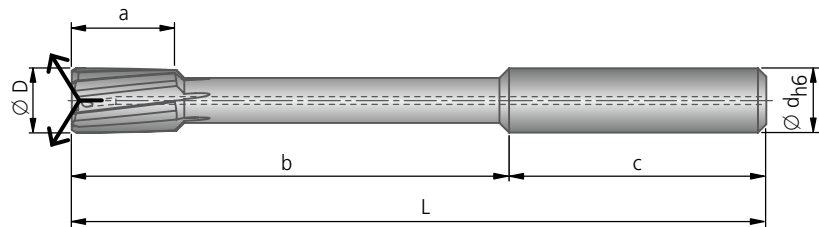
Ø 2,96 – 20,05 mm

KOMET® Fullmax

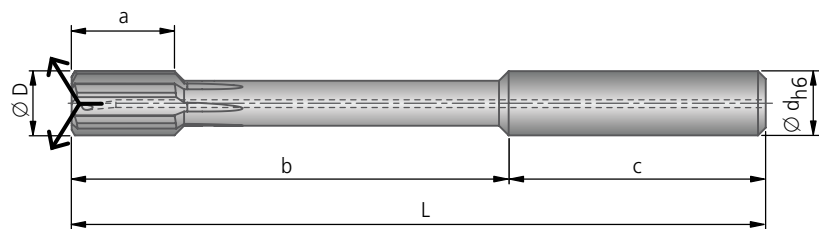
Solid carbide reamer



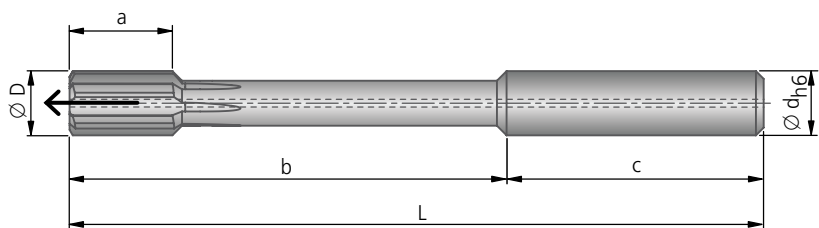
Universal reamer
radially cooled, left slant,
for through hole machining



Special reamer
radially cooled, straight,
for through hole machining



Universal / Special reamer
centrally cooled, straight,
for blind hole machining



Custom reaming tool – selection options!

			Cutting material, coating	Dimensions						
	Order No.	Order No.		Ø D	Cylindrical shank Ødxc	L	b	a ~	Z	kg ~
Universal	52P.57	52M.57	DBG-U	2,96 - 4,05	4x28	60	32	12	4	0,005-0,01
				4,06 - 6,05	6x36	76	40	12	4	0,01-0,03
Special Fullmax K	52J.65	52K.65	DBG-P	6,06 - 8,05	8x36	101	65	16	6	0,03-0,05
				8,06 - 10,05	10x40	108	68	16	6	0,05-0,09
Special Fullmax N	52N.17	52Q.17	DBC-N	10,06 - 12,05	12x45	130	85	20	6	0,09-0,15
				12,06 - 14,05	14x45	130	85	20	6	0,15-0,22
Special Fullmax H	52G.55	52H.55	DBF-A	14,06 - 16,05	16x48	150	102	20	6	0,22-0,31
				16,06 - 18,05	18x48	150	102	20	6	0,31-0,42
				18,06 - 20,05	20x50	160	110	20	6	0,42-0,51

Order example:

Order No. 52P.57 · Bore diameter 4,02 mm · Bore tolerance $^{+0,05}_0$ · Material EN-GJS-400-15

Cutting speed and feed universal reamer see pages 14-15 / special reamer see pages 16-17.

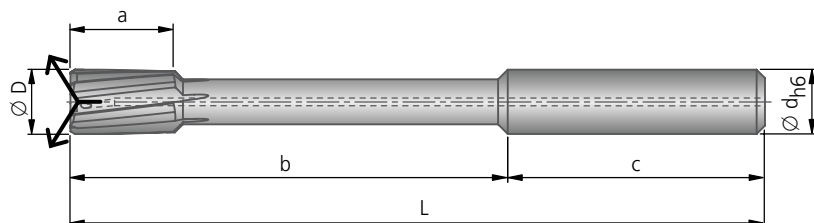
For in-stock H7 series and 1/100 dimensions see pages 10-13.



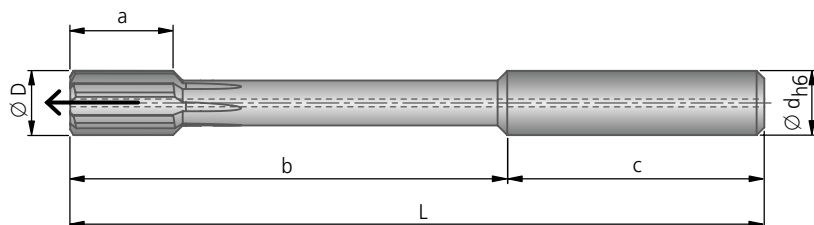
Universal reamer



radially cooled, left slant,
for through hole machining



centrally cooled, straight,
for blind hole machining



Diameter H7 – available from stock

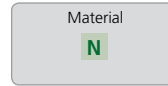
Ø D	Ø d _{xc}	L	b	a ~	Z	kg ~	 Order No. DBG-U	 Order No. DBG-U
4 ^{H7}	4 × 28	60	32	12	4	0,01	52P.57.04H7	52M.57.04H7
5 ^{H7}	6 × 36	76	40	12	4	0,02	52P.57.05H7	52M.57.05H7
6 ^{H7}	6 × 36	76	40	12	4	0,03	52P.57.06H7	52M.57.06H7
7 ^{H7}	8 × 36	101	65	16	6	0,05	52P.57.07H7	52M.57.07H7
8 ^{H7}	8 × 36	101	65	16	6	0,05	52P.57.08H7	52M.57.08H7
9 ^{H7}	10 × 40	108	68	16	6	0,08	52P.57.09H7	52M.57.09H7
10 ^{H7}	10 × 40	108	68	16	6	0,09	52P.57.10H7	52M.57.10H7
11 ^{H7}	12 × 45	130	85	20	6	0,15	52P.57.11H7	52M.57.11H7
12 ^{H7}	12 × 45	130	85	20	6	0,15	52P.57.12H7	52M.57.12H7
16 ^{H7}	16 × 48	150	102	20	6	0,31	52P.57.16H7	52M.57.16H7

Cutting speed and feed see pages 14-15.

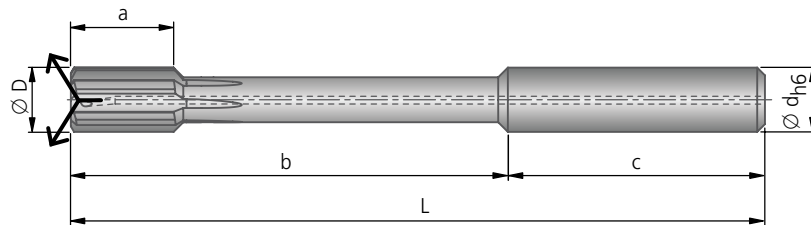
Ø 4^{H7} – 16^{H7} mm

KOMET® Fullmax

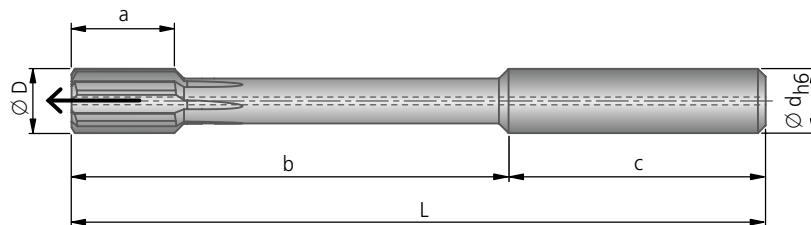
Special reamer N



radially cooled, straight,
for through hole machining



centrally cooled, straight,
for blind hole machining



Diameter H7 – available from stock								
Ø D	Ø dxc	L	b	a	Z	kg		
							Order No. DBC-N	Order No. DBC-N
4 ^{H7}	4 × 28	60	32	12	4	0,01	52N.17.04H7	52Q.17.04H7
5 ^{H7}	6 × 36	76	40	12	4	0,02	52N.17.05H7	52Q.17.05H7
6 ^{H7}	6 × 36	76	40	12	6	0,03	52N.17.06H7	52Q.17.06H7
7 ^{H7}	8 × 36	101	65	16	6	0,05	52N.17.07H7	52Q.17.07H7
8 ^{H7}	8 × 36	101	65	16	6	0,05	52N.17.08H7	52Q.17.08H7
9 ^{H7}	10 × 40	108	68	16	6	0,08	52N.17.09H7	52Q.17.09H7
10 ^{H7}	10 × 40	108	68	16	6	0,09	52N.17.10H7	52Q.17.10H7
11 ^{H7}	12 × 45	130	85	20	6	0,15	52N.17.11H7	52Q.17.11H7
12 ^{H7}	12 × 45	130	85	20	6	0,15	52N.17.12H7	52Q.17.12H7
16 ^{H7}	16 × 48	150	102	20	6	0,31	52N.17.16H7	52Q.17.16H7

Cutting speed and feed see pages 16-17.



KOMET® Fullmax

1/100 Dimensions – available from stock

1



radially cooled, left slant,
for through hole machining

2



centrally cooled, straight,
for blind hole machining

3



4



5



6



7



8



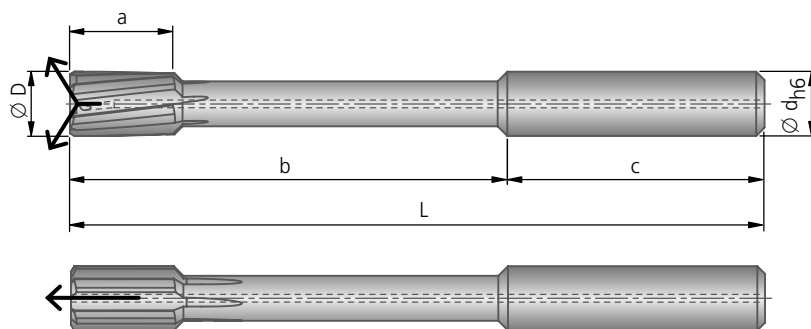
9



10



11



1/100 dimensions – available from stock

Ø D	Order No. DBG-U	Order No. DBG-U	Ø dxc	L	b	a ~	Z	kg ~
3,970	52P.57.0397	52M.57.0397	4x28	60	32	12	4	0,01
3,980	52P.57.0398	52M.57.0398						
3,990	52P.57.0399	52M.57.0399						
4,000	52P.57.0400	52M.57.0400						
4,010	52P.57.0401	52M.57.0401						
4,020	52P.57.0402	52M.57.0402						
4,030	52P.57.0403	52M.57.0403	6x36	76	40	12	4	0,02
4,970	52P.57.0497	52M.57.0497						
4,980	52P.57.0498	52M.57.0498						
4,990	52P.57.0499	52M.57.0499						
5,000	52P.57.0500	52M.57.0500						
5,010	52P.57.0501	52M.57.0501						
5,020	52P.57.0502	52M.57.0502	6x36	76	40	12	4	0,03
5,030	52P.57.0503	52M.57.0503						
5,970	52P.57.0597	52M.57.0597						
5,980	52P.57.0598	52M.57.0598						
5,990	52P.57.0599	52M.57.0599						
6,000	52P.57.0600	52M.57.0600						
6,010	52P.57.0601	52M.57.0601	8x36	101	65	16	6	0,05
6,020	52P.57.0602	52M.57.0602						
6,030	52P.57.0603	52M.57.0603						
6,970	52P.57.0697	52M.57.0697						
6,980	52P.57.0698	52M.57.0698						
6,990	52P.57.0699	52M.57.0699						
7,000	52P.57.0700	52M.57.0700	8x36	101	65	16	6	0,05
7,010	52P.57.0701	52M.57.0701						
7,020	52P.57.0702	52M.57.0702						
7,030	52P.57.0703	52M.57.0703						
7,970	52P.57.0797	52M.57.0797						
7,980	52P.57.0798	52M.57.0798						
7,990	52P.57.0799	52M.57.0799	8x36	101	65	16	6	0,05
8,000	52P.57.0800	52M.57.0800						
8,010	52P.57.0801	52M.57.0801						
8,020	52P.57.0802	52M.57.0802						
8,030	52P.57.0803	52M.57.0803						

Tolerance: Ø3,970 – 5,030 mm = +4µ / Ø5,970 – 16,030 mm = +5µ

1/100 Ø D	Fit sizes which can be used				
.. ,970	U7	X7			
.. ,980	N10	N11	R7		
2 .. ,990	M8	N7	1 N8	N9	
.. ,000	J7	J8	JS7	JS8	JS9
.. ,010	G7	H8			
.. ,020	F8	H9			
.. ,030	E8	F9	H10		

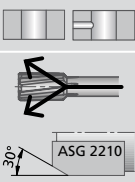
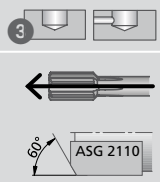
Example: Blind hole Ø 9 N8

1 Tolerance N8 = **2** .. ,990

3 Blind hole

4 Bore diameter 8,990 mm

Order No. **52M.57.0899**

1/100 dimensions – available from stock								
Ø D			Ødxc	L	b	a ~	Z	 ~
	Order No. DBG-U	Order No. DBG-U						
8,970	52P.57.0897	52M.57.0897	10x40	108	68	16	6	0,08
8,980	52P.57.0898	52M.57.0898						
4 8,990	52P.57.0899	52M.57.0899						
9,000	52P.57.0900	52M.57.0900						
9,010	52P.57.0901	52M.57.0901						
9,020	52P.57.0902	52M.57.0902						
9,030	52P.57.0903	52M.57.0903	10x40	108	68	16	6	0,09
9,970	52P.57.0997	52M.57.0997						
9,980	52P.57.0998	52M.57.0998						
9,990	52P.57.0999	52M.57.0999						
10,000	52P.57.1000	52M.57.1000						
10,010	52P.57.1001	52M.57.1001						
10,020	52P.57.1002	52M.57.1002	12x45	130	85	20	6	0,15
10,030	52P.57.1003	52M.57.1003						
10,970	52P.57.1097	52M.57.1097						
10,980	52P.57.1098	52M.57.1098						
10,990	52P.57.1099	52M.57.1099						
11,000	52P.57.1100	52M.57.1100						
11,010	52P.57.1101	52M.57.1101	12x45	130	85	20	6	0,15
11,020	52P.57.1102	52M.57.1102						
11,030	52P.57.1103	52M.57.1103						
11,970	52P.57.1197	52M.57.1197						
11,980	52P.57.1198	52M.57.1198						
11,990	52P.57.1199	52M.57.1199						
12,000	52P.57.1200	52M.57.1200	16x48	150	102	20	6	0,31
12,010	52P.57.1201	52M.57.1201						
12,020	52P.57.1202	52M.57.1202						
12,030	52P.57.1203	52M.57.1203						
15,970	52P.57.1597	52M.57.1597						
15,980	52P.57.1598	52M.57.1598						
15,990	52P.57.1599	52M.57.1599						
16,000	52P.57.1600	52M.57.1600						
16,010	52P.57.1601	52M.57.1601						
16,020	52P.57.1602	52M.57.1602						
16,030	52P.57.1603	52M.57.1603						

Tolerance: Ø3,970 – 5,030 mm = +4µ / Ø5,970 – 16,030 mm = +5µ



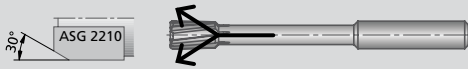
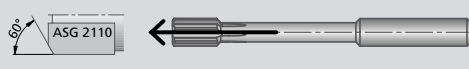
KOMET® Fullmax

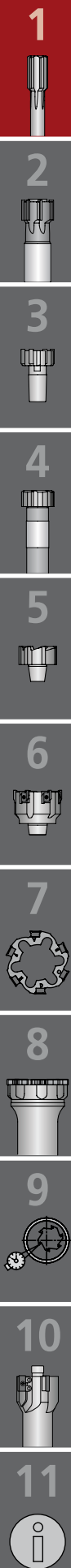
Recommended cutting data – universal reamer



Guideline values for reaming					Cutting speed v_c (m/min)		
Material group	Strength R_m (N/mm ²)	Hardness HB	Material	Material example material code/DIN	optimum · maximum		
P	1.0	≤ 500	non-alloy steels	1.0037 (S235JR) 1.0715 (11SMn30) 1.0044 (S2575JR)	180 250		
	2.0	500-900	non-alloy / low alloy steels	1.0050 (E295) 1.0535 (C55) 1.7131 (16MnCr5)	180 250		
	2.1	< 500	lead alloys	1.0718 (11SMnPb30)	180 250		
	3.0	> 900	non alloy / low alloy steels: heat resistant structural, heat treated, nitride and tools steels	1.7225 (42CrMo4) 1.1221 (C60E)	180 250		
	4.0	> 900	high alloy steels	1.2341 (6CrMo15-5) 1.2601 (X165CrMoV12)	180 250		
	4.1		HSS				
S	5.0	250	special alloys: Inconel, Hastelloy, Nimonic, stc.	2.4668 (NiuCr19Fe19Nb5Mo3) 2.4631 (Nimonic 80A)	40 60		
	5.1	400	titanium, titanium alloys	3.7115 (TiAl5Sn2.5)	30 60		
M	6.0	≤ 600	stainless steels	1.4306 (X2CrNi19-11) 1.4401 (X5CrNiMo17-12-2)	40 80		
	6.1	< 900	stainless steels	1.4511 (X3CrNb17) 1.4571 (X10CrNiMo-Ti17-12-2)	40 60		
	7.0	> 900	stainless / fireproof steels	1.4713 (X10CrAlSi7) 1.4862 (X8NiCrSi38-18)	40 60		
K	8.0	180	gray cast iron	0.6025 (EN-GJL-250) 0.6035 (EN-GJL-350)	120 180		
	8.1	250	alloy gray cast iron	0.6660 (GGL-NiCr20 2)	90 130		
	9.0	≤ 600	spheroidal graphite cast iron, ferritic	0.7040 (EN-GJS-400-15)	200 250		
	9.1	230	spheroidal graphite cast iron, ferritic / perlitic	0.7050 (EN-GJS-500-7) 0.7055 (GGG-55) 0.8055 (GTW-55)	200 250		
	10.0	> 600	spheroidal graphite cast iron, perlitic malleable iron	0.7060 (EN-GJS-600-3) 0.8165 (GTS-65)	120 150		
	10.1	200	alloyed spheroidal graphite cast iron	0.7661 (EN-GJSA-XNiCr20-2)	90 130		
	10.2	300	vermicular cast iron	5.2200 (EN-GJV-350) 5.2300 (EN-GJV-450)	90 130		
	12.0	90	copper alloy, brass, lead-alloy bronze, lead bronze: good cut	2.0375 (CuZn36Pb3) 2.1182.01 (G-CuPb15Sn)	150 250		
N	12.1	100	copper alloy, brass, bronze: average cut	2.0550 (CuZn40Al2) 2.0060 (E-Cu57)	100 150		
	13.0	60	wrought aluminium alloys	3.3315 (AlMg1) 3.0517 (AlMnCu)			
	13.1	75	cast aluminium alloy: Si-content <10% magnesium alloy	3.3561 (G-AlMg5) 3.2373.61 (G-AlSi9Mg wa)			
	14.0	100	cast aluminium alloy: Si-content > 10%	3.2381.01 (G-AlSi10Mg)			
H	15.0	1400	hardened steels < 55 HRC		40 60		
	16.0	1800	hardened steels > 55 HRC, ≤ 62 HRC		30 50		
Reaming allowance in diameter (mm)					P M K N S		
					H	< 55 HRC	
						> 55 HRC	

Recommended cutting data – universal reamer

	Feed f (mm/rev)											
	optimum · maximum						optimum · maximum					
												
	Ø 2,97 - 4,05 ✻ 4	Ø 4,06 - 6,05 ✻ 4	Ø 6,06 - 7,55 ✻ 6	Ø 7,56 - 12,05 ✻ 6	Ø 12,06 - 16,05 ✻ 6	Ø 16,06 - 20,05 ✻ 6	Ø 2,97 - 4,05 ✻ 4	Ø 4,06 - 6,05 ✻ 4	Ø 6,06 - 7,55 ✻ 6	Ø 7,56 - 12,05 ✻ 6	Ø 12,06 - 16,05 ✻ 6	Ø 16,06 - 20,05 ✻ 6
	0,60 0,80	0,70 0,90	1,30 1,60	1,40 1,80	1,50 1,90	1,80 2,20	0,60 0,80	0,70 0,90	1,30 1,60	1,40 1,80	1,50 1,90	1,80 2,20
	0,60 0,80	0,70 0,90	1,30 1,60	1,40 1,80	1,50 1,90	1,80 2,20	0,60 0,80	0,70 0,90	1,30 1,60	1,40 1,80	1,50 1,90	1,80 2,20
	0,60 0,80	0,70 0,90	1,30 1,60	1,40 1,80	1,50 1,90	1,80 2,20	0,60 0,80	0,70 0,90	1,30 1,60	1,40 1,80	1,50 1,90	1,80 2,20
	0,60 0,80	0,70 0,90	1,30 1,60	1,40 1,80	1,50 1,90	1,80 2,20	0,60 0,80	0,70 0,90	1,30 1,60	1,40 1,80	1,50 1,90	1,80 2,20
	0,40 0,50	0,40 0,60	0,90 1,10	1,00 1,20	1,00 1,30	1,30 1,50	0,40 0,50	0,40 0,60	0,90 1,10	1,00 1,20	1,00 1,30	1,30 1,50
	0,30 0,40	0,40 0,50	0,70 0,90	0,80 1,10	0,90 1,10	1,10 1,30	0,30 0,40	0,40 0,50	0,70 0,90	0,80 1,10	0,90 1,10	1,10 1,30
	0,30 0,40	0,40 0,50	0,70 0,90	0,80 1,10	0,90 1,10	1,10 1,30	0,30 0,40	0,40 0,50	0,70 0,90	0,80 1,10	0,90 1,10	1,10 1,30
	0,40 0,60	0,50 0,70	1,00 1,30	1,10 1,40	1,20 1,50	1,40 1,70	0,40 0,60	0,50 0,70	1,00 1,30	1,10 1,40	1,20 1,50	1,40 1,70
	0,40 0,60	0,50 0,70	1,00 1,30	1,10 1,40	1,20 1,50	1,40 1,70	0,40 0,60	0,50 0,70	1,00 1,30	1,10 1,40	1,20 1,50	1,40 1,70
	0,40 0,60	0,50 0,70	1,00 1,30	1,10 1,40	1,20 1,50	1,40 1,70	0,40 0,60	0,50 0,70	1,00 1,30	1,10 1,40	1,20 1,50	1,40 1,70
	0,60 0,80	0,70 0,90	1,30 1,60	1,30 1,60	1,60 2,00	1,90 2,20	0,60 0,80	0,70 0,90	1,30 1,60	1,30 1,60	1,60 2,00	1,90 2,20
	0,50 0,60	0,50 0,70	1,00 1,30	1,00 1,30	1,30 1,60	1,50 1,80	0,50 0,60	0,50 0,70	1,00 1,30	1,00 1,30	1,30 1,60	1,50 1,80
	0,60 0,80	0,70 0,90	1,30 1,60	1,30 1,60	1,60 2,00	1,90 2,20	0,60 0,80	0,70 0,90	1,30 1,60	1,30 1,60	1,60 2,00	1,90 2,20
	0,60 0,80	0,70 0,90	1,30 1,60	1,30 1,60	1,60 2,00	1,90 2,20	0,60 0,80	0,70 0,90	1,30 1,60	1,30 1,60	1,60 2,00	1,90 2,20
	0,50 0,60	0,50 0,70	1,00 1,30	1,00 1,30	1,30 1,60	1,50 1,80	0,50 0,60	0,50 0,70	1,00 1,30	1,00 1,30	1,30 1,60	1,50 1,80
	0,40 0,50	0,40 0,60	0,80 1,00	0,80 1,00	1,00 1,30	1,20 1,50	0,40 0,50	0,40 0,60	0,80 1,00	0,80 1,00	1,00 1,30	1,20 1,50
	0,40 0,50	0,40 0,60	0,80 1,00	0,80 1,00	1,00 1,30	1,20 1,50	0,40 0,50	0,40 0,60	0,80 1,00	0,80 1,00	1,00 1,30	1,20 1,50
	0,50 0,80	0,70 0,90	1,30 1,40	1,40 1,70	1,60 1,90	1,90 2,20	0,50 0,80	0,70 0,90	1,30 1,40	1,40 1,70	1,60 1,90	1,90 2,20
	0,40 0,60	0,60 0,80	1,00 1,20	1,20 1,40	1,30 1,60	1,60 1,80	0,40 0,60	0,60 0,80	1,00 1,20	1,20 1,40	1,30 1,60	1,60 1,80
	0,20 0,30	0,20 0,30	0,40 0,60	0,50 0,60	0,50 0,70	0,60 0,80	0,20 0,30	0,20 0,30	0,40 0,60	0,50 0,60	0,50 0,70	0,60 0,80
	0,20 0,30	0,20 0,30	0,40 0,60	0,50 0,60	0,50 0,70	0,60 0,80	0,20 0,30	0,20 0,30	0,40 0,60	0,50 0,60	0,50 0,70	0,60 0,80
	0,10-0,20	0,10-0,20	0,20	0,20	0,20-0,30	0,30	0,10-0,20	0,10-0,20	0,20	0,20	0,20-0,30	0,30
	0,10-0,20	0,10-0,20	0,20	0,20	0,20	0,20	0,10-0,20	0,10-0,20	0,20	0,20	0,20	0,20
	0,10	0,10	0,10	0,10	0,20	0,20	0,10	0,10	0,10	0,10	0,20	0,20



KOMET® Fullmax K | N | H

Recommended cutting data – special reamer

Guideline values for reaming					KOMET® Fullmax K						
Material group	Strength Rm (N/mm²)	Hardness HB	Material	Material example material code/DIN	DBG-P ASG2350 						
					Cutting speed v _c (m/min)	Feed f (mm/rev), optimum · maximum					
						Ø	Ø	Ø	Ø	Ø	Ø
					optimum maximum	2,97 - 4,05	4,06 - 6,05	6,06 - 7,55	7,56 - 12,05	12,06 - 16,05	16,06 - 20,05
						✱ 6	✱ 6	✱ 8	✱ 8	✱ 8	✱ 8
P	1.0	≤ 500	non-alloy steels	1.0037 (S235JR) 1.0715 (11SMn30) 1.0044 (S2575JR)							
	2.0	500-900	non-alloy / low alloy steels	1.0050 (E295) 1.0535 (C55) 1.7131 (16MnCr5)							
	2.1	< 500	lead alloys	1.0718 (11SMnPb30)							
	3.0	> 900	non alloy / low alloy steels: heat resistant structural, heat treated, nitride and tools steels	1.7225 (42CrMo4) 1.1221 (C60E)							
	4.0	> 900	high alloy steels	1.2341 (6CrMo15-5) 1.2601 (X165CrMoV12)							
	4.1		HSS								
S	5.0	250	special alloys: Inconel, Hastelloy, Nimonic, stc.	2.4668 (NiuCr19Fe19Nb5Mo3) 2.4631 (Nimonic 80A)							
	5.1	400	titanium, titanium alloys	3.7115 (TiAl5Sn2.5)							
M	6.0	≤ 600	stainless steels	1.4306 (X2CrNi19-11) 1.4401 (X5CrNiMo17-12-2)							
	6.1	< 900	stainless steels	1.4511 (X3CrNb17) 1.4571 (X10CrNiMo-Ti17-12-2)							
	7.0	> 900	stainless / fireproof steels	1.4713 (X10CrAlSi7) 1.4862 (X8NiCrSi38-18)							
K	8.0	180	gray cast iron	0.6025 (EN-GJL-250) 0.6035 (EN-GJL-350)	200 250	0,80 1,00	0,90 1,20	1,50 1,90	1,50 1,90	1,80 2,30	2,20 2,60
	8.1	250	alloy gray cast iron	0.6660 (GGL-NiCr20 2)	90 130	0,60 0,90	0,70 1,00	1,20 1,60	1,20 1,60	1,50 1,90	1,80 2,20
	9.0	≤ 600	spheroidal graphite cast iron, ferritic	0.7040 (EN-GJS-400-15)	225 300	0,80 1,00	0,90 1,20	1,50 1,90	1,50 1,90	1,80 2,30	2,20 2,60
	9.1	230	spheroidal graphite cast iron, ferritic / perlitic	0.7050 (EN-GJS-500-7) 0.7055 (GGG-55) 0.8055 (GTW-55)	225 300	0,80 1,00	0,90 1,20	1,50 1,90	1,50 1,90	1,80 2,30	2,20 2,60
	10.0	> 600	spheroidal graphite cast iron, perlitic malleable iron	0.7060 (EN-GJS-600-3) 0.8165 (GTS-65)	120 150	0,60 0,90	0,70 1,00	1,20 1,60	1,20 1,60	1,50 1,90	1,80 2,20
	10.1	200	alloyed spheroidal graphite cast iron	0.7661 (EN-GJSA-XNiCr20-2)	90 130	0,50 0,70	0,60 0,80	1,00 1,20	1,00 1,20	1,20 1,50	1,50 1,70
	10.2	300	vermicular cast iron	5.2200 (EN-GJV-350) 5.2300 (EN-GJV-450)	90 130	0,50 0,70	0,60 0,80	1,00 1,20	1,00 1,20	1,20 1,50	1,50 1,70
N	12.0	90	copper alloy, brass, lead-alloy bronze, lead bronze: good cut	2.0375 (CuZn36Pb3) 2.1182.01 (G-CuPb15Sn)							
	12.1	100	copper alloy, brass, bronze: average cut	2.0550 (CuZn40Al2) 2.0060 (E-Cu57)							
	13.0	60	wrought aluminium alloys	3.3315 (AlMg1) 3.0517 (AlMnCu)							
	13.1	75	cast aluminium alloy: Si-content < 10% magnesium alloy	3.3561 (G-AlMg5) 3.2373.61 (G-AlSi9Mg wa)							
	14.0	100	cast aluminium alloy: Si-content > 10%	3.2381.01 (G-AlSi10Mg)							
H	15.0	< 2000	hardened steels < 55 HRC								
	16.0		hardened steels > 55 HRC, ≤ 62 HRC								
Reaming allowance in diameter (mm)						0,10-0,20	0,10-0,20	0,20	0,20	0,20-0,30	0,30
						K					

Recommended cutting data – special reamer

KOMET Monomax®

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11



One-piece tools – known as monoblock tools – are one of KOMET®'s specialities. The demands which have been made over decades are reflected in an enormous number of types and variations. This successful tool programme has been completely revised and standardised by efficient manufacturing.

BENEFITS for you:

- Designed for small hole diameters
- Can be adjusted for extremely small hole tolerances
- Extremely high process reliability through mono construction
- Precision ground to size

Application:

- Non-alloy and low alloy steels
- Stainless, heat resistant and high alloy steels
- Grey cast iron and spheroidal graphite cast iron
- Copper alloys, brass and bronze
- Aluminium
- Titanium, titanium alloys, CGI and plastic on request

Versions:

- Short and long versions
- Lateral and central coolant outlet for best possible use
- Cutting materials, uncoated and coated carbide or DST
- Diameter 5,600 – 25,899 mm



KOMET Monomax® Page
Reaming tool – short version
 $\varnothing$ 5,600 – 25,899 mm 20 – 21
Reaming tool – long version
 $\varnothing$ 5,600 – 25,899 mm 22 – 23
Reaming tool – Morse taper
 $\varnothing$ 5,600 – 25,899 mm 24
Diameter H7 – available from stock
26 – 27
Recommended cutting data
28 – 29
1

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11


KOMET SERVICE® (Chapter 11)
The KOMET SERVICE® TOOL lifeBox icon describes tools that are available for the high quality cost-efficient refurbishment of tools.



Tool recommendation – short version

1 	Material group	Strength Rm (N/mm²)	Hardness HB	Material	Material example, material code / DIN	Machining			
						Order No. ASG = cutting geometry			
									
2 	1.0	≤500		non-alloy steels	1.0037 (S235JR) 1.0715 (11SMn30) 1.0044 (S2575JR)	56J.93 ASG 4000	56J.71 ASG 4000	56H.93 ASG 3000	56H.71 ASG 3000
	2.0	500-900		non-alloy / low alloy steels	1.0050 (E295) 1.0535 (C55) 1.7131 (16MnCr5)	56J.93 ASG 4000	56J.71 ASG 4000	56H.93 ASG 3000	56H.71 ASG 3000
	2.1	<500		lead alloys	1.0718 (11SMnPb30)	56J.93 ASG 4000	56J.71 ASG 4000	56H.93 ASG 3000	56H.71 ASG 3000
	3.0	>900		non alloy / low alloy steels; heat resistant structural, heat treated, nitride and tool steels	1.7225 (42CrMo4) 1.1221 (C60E)	56J.93 ASG 4000	56J.71 ASG 3000	56H.93 ASG 3000	56H.71 ASG 3000
	4.0	>900		high alloy steels	1.2341 (6CrMo15-5) 1.2601 (X165Cr-MoV12)	56J.71 ASG 0106	56J.71 ASG 0106	56H.71 ASG 0106	56H.71 ASG 0106
3 	4.1			HSS					
4 	5.0		250	special alloys: Inconel, Hastelloy, Nimonic, etc.	2.4668 (NiuCr-19Fe19Nb5Mo3) 2.4631 (Nimonic 80A)				
5 	5.1	400		titanium, titanium alloys	3.7115 (TiAl5Sn2.5)	56J.21 ASG 03		56H.21 ASG 03	
6 	6.0	≤600		stainless steels	1.4306 (X2CrNi19-11) 1.4401 (X5CrNi-Mo17-12-2)	56J.65 ASG 0106	56J.65 ASG 0106	56H.65 ASG 0106	56H.65 ASG 0106
7 	6.1	<900		stainless steels	1.4511 (X3CrNb17) 1.4571 (X10CrNiMo-Ti17-12-2)	56J.65 ASG 0106	56J.65 ASG 0106	56H.65 ASG 0106	56H.65 ASG 0106
8 	7.0	>900		stainless / fireproof steels	1.4713 (X10CrAlSi7) 1.4862 (X8NiCr-Si38-18)	56J.65 ASG 0106	56J.65 ASG 0106	56H.65 ASG 0106	56H.65 ASG 0106
9 	8.0		180	gray cast iron	0.6025 (EN-GJL-250) 0.6035 (EN-GJL-350)	56J.65 ASG 3000	56J.65 ASG 3000	56H.65 ASG 3000	56H.65 ASG 3000
10 	8.1		250	alloy gray cast iron	0.6660 (GGL-NiCr20 2)	56J.65 ASG 3000	56J.65 ASG 3000	56H.65 ASG 3000	56H.65 ASG 3000
11 	9.0	≤600	130	spheroidal graphite cast iron, ferritic	0.7040 (EN-GJS-400-15)	56J.93 ASG 3000	56J.65 ASG 3000	56H.93 ASG 3000	56H.65 ASG 3000
	9.1		230	spheroidal graphite cast iron, ferritic/perlitic	0.7050 (EN-GJS-500-7) 0.7055 (GJS-55) 0.8055 (GTW-55)	56J.93 ASG 3000	56J.65 ASG 3000	56H.93 ASG 3000	56H.65 ASG 3000
	10.0	>600	250	spheroidal graphite cast iron, perlitic malleable iron	0.7060 (EN-GJS-600-3) 0.8165 (GTS-65)	56J.93 ASG 3000	56J.65 ASG 3000	56H.93 ASG 3000	56H.65 ASG 3000
	10.1		200	alloyed spheroidal graphite cast iron	0.7661 (EN-GJSA-XNiCr20-2)	56J.65 ASG 3000	56J.65 ASG 3000	56H.65 ASG 3000	56H.65 ASG 3000
	10.2		300	vermicular cast iron	EN-GJV Ti < 0,2 EN-GJV Ti > 0,2	56J.65 ASG 3000	56J.65 ASG 3000	56H.65 ASG 3000	56H.65 ASG 3000
	12.0		90	copper alloy, brass, lead-alloy bronze, lead bronze: good cut	2.0375 (CuZn36Pb3) 2.1182.01 (G-CuPb15Sn)	56J.93 ASG 3000	56J.71 ASG 3000	56H.93 ASG 3000	56H.71 ASG 3000
	12.1		100	copper alloy, brass, bronze: average cut	2.0550 (CuZn40Al2) 2.0060 (E-Cu57)	56J.71 ASG 3000	56J.71 ASG 3000	56H.71 ASG 3000	56H.71 ASG 3000
	13.0		60	wrought aluminium alloys	3.3315 (AlMg1) 3.0517 (AlMnCu)	56J.17 ASG 0706	56J.17 ASG 0706	56H.17 ASG 0706	56H.17 ASG 0706
	13.1		75	cast alum. alloy: Si-content <10% magnesium alloy	3.3561 (G-AlMg5) 3.2373.61 (G-AlSi9Mg wa)	56J.17 ASG 0706	56J.17 ASG 0706	56H.17 ASG 0706	56H.17 ASG 0706
	14.0		100	cast alum. alloy: Si-content >10%	3.2381.01 (G-AlSi10Mg)	56J.17 ASG 0706	56J.17 ASG 0706	56H.17 ASG 0706	56H.17 ASG 0706
	15.0	1400		hardened steels < 45 HRC					
	16.0	1800		hardened steels > 45 HRC, ≤ 55 HRC					

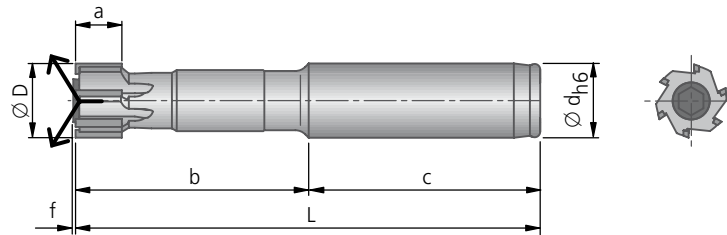
Ø 5,600 – 25,899 mm

KOMET Monomax®

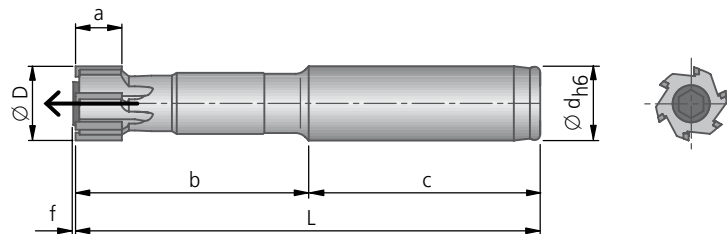
Reaming tool – short version



radially cooled,
for through hole machining



centrally cooled,
for blind hole machining



Custom reaming tool – selection options!

 Order No.		 Order No.		Cutting material, coating	Dimensions						 Z
					Ø D	Cylindrical shank Ø dxc	L	b	f ~	a ~	
56J.93	–	56H.93	–	DST	5,600 - 8,899	12x45	85	40	0,1	9,5	4
56J.67	–	56H.67	–	DJC							
56J.65	–	56H.65	–	DBG-P	8,900 - 15,899	12x45	95	50	0,1	9,5	6
56J.37	–	56H.37	–	DBG-N							
56J.17	–	56H.17	–	DBC	15,900 - 18,899	16x50	100	50	0,1	9,5	6
56J.71	–	56H.71	–	TiN							
56J.21	–	56H.21	–	HM	18,900 - 25,899	20x60	120	60	0,1	9,5	6

Order example:

Order No. 56J.93 · Bore diameter 21 mm · Bore tolerance H7 · Material 1.0037 (S235JR) or ASG3000 (Cutting geometry)

Cutting speed and feed see pages 28-29.

Tool recommendation – long version

1 2 3 4 5 6 7 8 9 10 11	Material group	Strength Rm (N/mm²)	Hardness HB	Material	Material example, material code / DIN	Machining			
						Order No. ASG = cutting geometry			
P	1.0	≤500		non-alloy steels	1.0037 (S235JR) 1.0715 (11SMn30) 1.0044 (S2575JR)	56R.93 ASG 4000	56R.71 ASG 4000	56Q.93 ASG 3000	56Q.71 ASG 3000
	2.0	500-900		non-alloy / low alloy steels	1.0050 (E295) 1.0535 (C55) 1.7131 (16MnCr5)	56R.93 ASG 4000	56R.71 ASG 4000	56Q.93 ASG 3000	56Q.71 ASG 3000
	2.1	<500		lead alloys	1.0718 (11SMnPb30)	56R.93 ASG 4000	56R.71 ASG 4000	56Q.93 ASG 3000	56Q.71 ASG 3000
	3.0	>900		non alloy / low alloy steels; heat resistant structural, heat treated, nitride and tool steels	1.7225 (42CrMo4) 1.1221 (C60E)	56R.93 ASG 4000	56R.71 ASG 3000	56Q.93 ASG 3000	56Q.71 ASG 3000
	4.0	>900		high alloy steels	1.2341 (6CrMo15-5) 1.2601 (X165Cr-MoV12)	56R.71 ASG 0106	56R.71 ASG 0106	56Q.71 ASG 0106	56Q.71 ASG 0106
	4.1			HSS					
S	5.0		250	special alloys: Inconel, Hastelloy, Nimonic, etc.	2.4668 (NiuCr-19Fe19Nb5Mo3) 2.4631 (Nimonic 80A)				
	5.1	400		titanium, titanium alloys	3.7115 (TiAl5Sn2.5)	56R.21 ASG 03		56Q.21 ASG 03	
M	6.0	≤600		stainless steels	1.4306 (X2CrNi19-11) 1.4401 (X5CrNi-Mo17-12-2)	56R.65 ASG 0106	56R.65 ASG 0106	56Q.65 ASG 0106	56Q.65 ASG 0106
	6.1	<900		stainless steels	1.4511 (X3CrNb17) 1.4571 (X10CrNiMo-Ti17-12-2)	56R.65 ASG 0106	56R.65 ASG 0106	56Q.65 ASG 0106	56Q.65 ASG 0106
	7.0	>900		stainless / fireproof steels	1.4713 (X10CrAlSi7) 1.4862 (X8NiCr-Si38-18)	56R.65 ASG 0106	56R.65 ASG 0106	56Q.65 ASG 0106	56Q.65 ASG 0106
K	8.0		180	gray cast iron	0.6025 (EN-GJL-250) 0.6035 (EN-GJL-350)	56R.65 ASG 3000	56R.65 ASG 3000	56Q.65 ASG 3000	56Q.65 ASG 3000
	8.1		250	alloy gray cast iron	0.6660 (GGL-NiCr20 2)	56R.65 ASG 3000	56R.65 ASG 3000	56Q.65 ASG 3000	56Q.65 ASG 3000
	9.0	≤600	130	spheroidal graphite cast iron, ferritic	0.7040 (EN-GJS-400-15)	56R.93 ASG 3000	56R.65 ASG 3000	56Q.93 ASG 3000	56Q.65 ASG 3000
	9.1		230	spheroidal graphite cast iron, ferritic/perlitic	0.7050 (EN-GJS-500-7) 0.7055 (GJS-55) 0.8055 (GTW-55)	56R.93 ASG 3000	56R.65 ASG 3000	56Q.93 ASG 3000	56Q.65 ASG 3000
	10.0	>600	250	spheroidal graphite cast iron, perlitic malleable iron	0.7060 (EN-GJS-600-3) 0.8165 (GTS-65)	56R.93 ASG 3000	56R.65 ASG 3000	56Q.93 ASG 3000	56Q.65 ASG 3000
	10.1		200	alloyed spheroidal graphite cast iron	0.7661 (EN-GJSA-XNiCr20-2)	56R.65 ASG 3000	56R.65 ASG 3000	56Q.65 ASG 3000	56Q.65 ASG 3000
	10.2		300	vermicular cast iron	EN-GJV Ti < 0,2 EN-GJV Ti > 0,2	56R.65 ASG 3000	56R.65 ASG 3000	56Q.65 ASG 3000	56Q.65 ASG 3000
	12.0		90	copper alloy, brass, lead-alloy bronze, lead bronze: good cut	2.0375 (CuZn36Pb3) 2.1182.01 (G-CuPb15Sn)	56R.93 ASG 3000	56R.71 ASG 3000	56Q.93 ASG 3000	56Q.71 ASG 3000
N	12.1		100	copper alloy, brass, bronze: average cut	2.0550 (CuZn40Al2) 2.0060 (E-Cu57)	56R.71 ASG 3000	56R.71 ASG 3000	56Q.71 ASG 3000	56Q.71 ASG 3000
	13.0		60	wrought aluminium alloys	3.3315 (AlMg1) 3.0517 (AlMnCu)	56R.17 ASG 0706	56R.17 ASG 0706	56Q.17 ASG 0706	56Q.17 ASG 0706
	13.1		75	cast alum. alloy: Si-content <10% magnesium alloy	3.3561 (G-AlMg5) 3.2373.61 (G-AlSi9Mg wa)	56R.17 ASG 0706	56R.17 ASG 0706	56Q.17 ASG 0706	56Q.17 ASG 0706
	14.0		100	cast alum. alloy: Si-content >10%	3.2381.01 (G-AlSi10Mg)	56R.17 ASG 0706	56R.17 ASG 0706	56Q.17 ASG 0706	56Q.17 ASG 0706
H	15.0	1400		hardened steels < 45 HRC					
	16.0	1800		hardened steels > 45 HRC, ≤ 55 HRC					

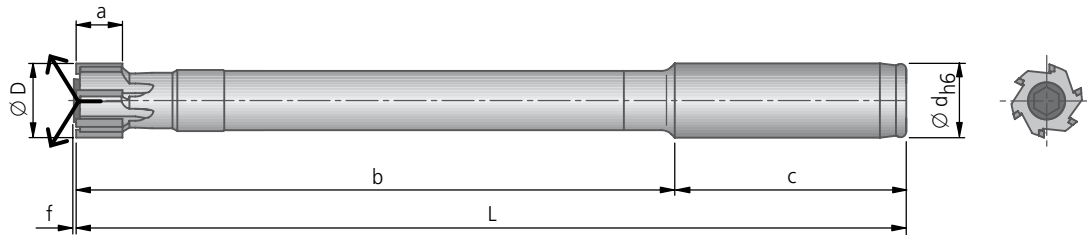
Ø 5,600 – 25,899 mm

KOMET Monomax®

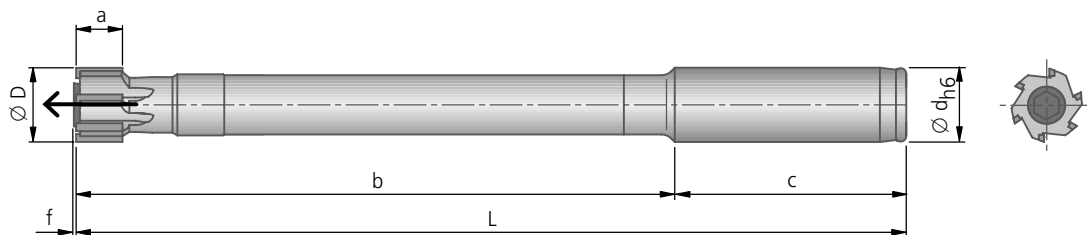
Reaming tool – long version



radially cooled,
for through hole machining



centrally cooled,
for blind hole machining



Custom reaming tool – selection options!

 Order No.		 Order No.		Cutting material, coating	Dimensions						 Z
					Ø D	Cylindrical shank Ø d _{xc}	L	b	f ~	a ~	
56R.93	–	56Q.93	–	DST	5,600 - 8,899	12×45	130	85	0,1	9,5	4
56R.67	–	56Q.67	–	DJC	8,900 - 9,899	12×45	130	85	0,1	9,5	6
56R.65	–	56Q.65	–	DBG-P	9,900 - 15,899	12×45	160	115	0,1	9,5	6
56R.37	–	56Q.37	–	DBG-N	15,900 - 18,899	16×50	180	130	0,1	9,5	6
56R.17	–	56Q.17	–	DBC	18,900 - 25,899	20×60	200	140	0,1	9,5	6
56R.71	–	56Q.71	–	TiN							
56R.21	–	56Q.21	–	HM							

Order example:

Order No. 56R.93 · Bore diameter 21 mm · Bore tolerance H6 · Material 1.0037 (S235JR) or ASG3000 (Cutting geometry)

Cutting speed and feed see pages 28-29.

Reaming tool

Material

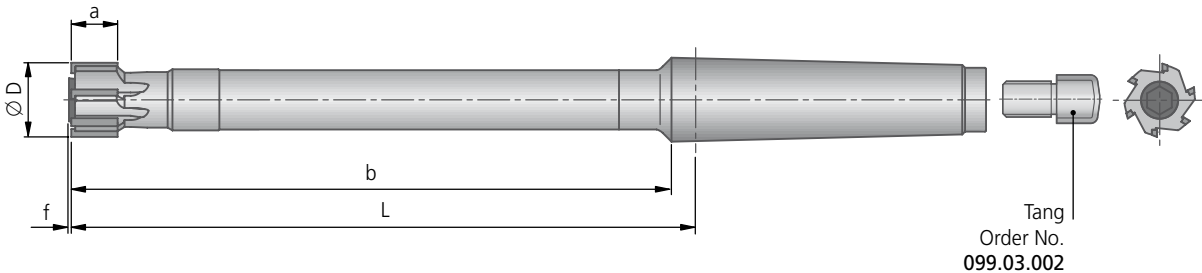
P M K N S



DIN 228
form A



conventional machining



Custom reaming tool – selection options!

 Order No.	Cutting material, coating	Dimensions							
		Ø D	Morse taper MK	L	b	a ~	f ~	Z 	kg 
 56X.21	HM	5,600-8,899	2	90	85	9,5	0,1	4	
		8,900-9,899	2	90	85	9,5	0,1	6	
		9,900-15,899	2	120	115	9,5	0,1	6	
		15,900-18,899	2	135	130	9,5	0,1	6	
		18,900-25,899	2	145	140	9,5	0,1	6	

Order example:
Order No. 56X.21 · Bore diameter 21 mm · Bore tolerance H6 · Material 1.0037 (S235JR) or ASG3000 (Cutting geometry)

Design your own tool!

Is there no solution in the standard range? Are the dimensions not what you require?

Easy Special makes it possible for you create your own combination of standard modules in the widest variety of dimensions. Select the basic type, define the effective length and choose the desired adapter for the tool.

Examples:

Extra long Monomax® reamer
with cylindrical shank

Monomax® reamer
with DAH® / HSK adaptor



1

2

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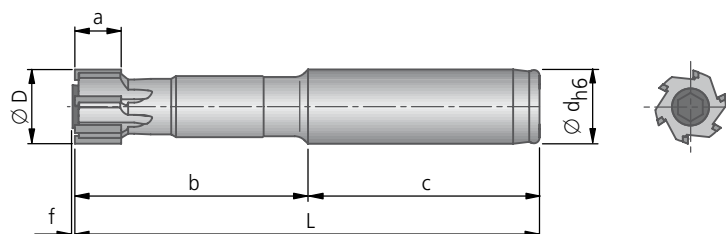
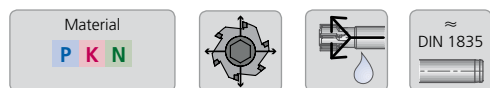
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10

11



Reaming tool – short version



Diameter H7 – available from stock

								P N ¹⁾		P N ¹⁾		P K	
								45° ASG 3000		25° ASG4000		45° ASG 3000	
Ø D	Ø d x c	L	b	f	a	Z	kg	Order No. DST		Order No. DST		Order No. DBG-P	
6 ^{H7}	12 x 45	85	40	0,1	9,5	4		56J.93.06H7N		56J.93.06H7D		56J.65.06H7N	
8 ^{H7}	12 x 45	85	40	0,1	9,5	4		56J.93.08H7N		56J.93.08H7D		56J.65.08H7N	
10 ^{H7}	12 x 45	95	50	0,1	9,5	6		56J.93.10H7N		56J.93.10H7D		56J.65.10H7N	
12 ^{H7}	12 x 45	95	50	0,1	9,5	6		56J.93.12H7N		56J.93.12H7D		56J.65.12H7N	
14 ^{H7}	12 x 45	95	50	0,1	9,5	6		56J.93.14H7N		56J.93.14H7D		56J.65.14H7N	
15 ^{H7}	12 x 45	95	50	0,1	9,5	6		56J.93.15H7N		56J.93.15H7D		56J.65.15H7N	
16 ^{H7}	16 x 50	100	50	0,1	9,5	6		56J.93.16H7N		56J.93.16H7D		56J.65.16H7N	
18 ^{H7}	16 x 50	100	50	0,1	9,5	6		56J.93.18H7N		56J.93.18H7D		56J.65.18H7N	
20 ^{H7}	20 x 60	120	60	0,1	9,5	6		56J.93.20H7N		56J.93.20H7D		56J.65.20H7N	

Diameter H7 – available from stock

								P N ²⁾ P N ³⁾		P N ²⁾ P N ³⁾	
								45° ASG 3000		25° ASG4000	
Ø D	Ø d x c	L	b	f	a	Z	kg	Order No. TiN		Order No. TiN	
6 ^{H7}	12 x 45	85	40	0,1	9,5	4		56J.71.06H7N		56J.71.06H7D	
8 ^{H7}	12 x 45	85	40	0,1	9,5	4		56J.71.08H7N		56J.71.08H7D	
10 ^{H7}	12 x 45	95	50	0,1	9,5	6		56J.71.10H7N		56J.71.10H7D	
12 ^{H7}	12 x 45	95	50	0,1	9,5	6		56J.71.12H7N		56J.71.12H7D	
14 ^{H7}	12 x 45	95	50	0,1	9,5	6		56J.71.14H7N		56J.71.14H7D	
15 ^{H7}	12 x 45	95	50	0,1	9,5	6		56J.71.15H7N		56J.71.15H7D	
16 ^{H7}	16 x 50	100	50	0,1	9,5	6		56J.71.16H7N		56J.71.16H7D	
18 ^{H7}	16 x 50	100	50	0,1	9,5	6		56J.71.18H7N		56J.71.18H7D	
20 ^{H7}	20 x 60	120	60	0,1	9,5	6		56J.71.20H7N		56J.71.20H7D	

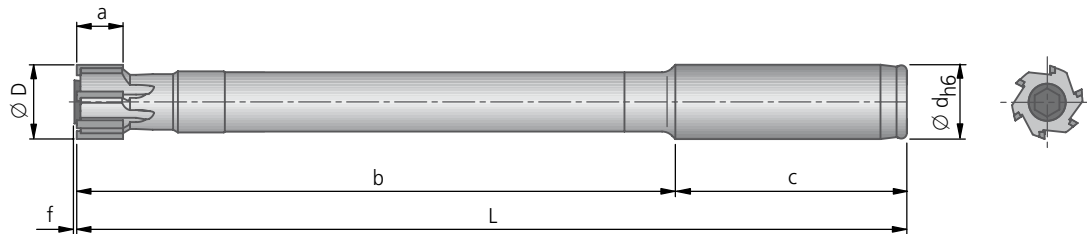
¹⁾ material group 12.0 · ²⁾ material group 12.1 · ³⁾ material group 12.0 | 12.1

Cutting speed and feed see pages 28-29.

Ø 6^{H7} – 20^{H7} mm

KOMET Monomax®

Reaming tool – long version



Diameter H7 – available from stock

								P N ¹⁾		P N ¹⁾		P K	
								45° ASG 3000		25° ASG4000		45° ASG 3000	
Ø D	Ø d × c	L	b	f	a	Z	kg	Order No. DST		Order No. DST		Order No. DBG-P	
6 ^{H7}	12 × 45	130	85	0,1	9,5	4		56R.93.06H7N		56R.93.06H7D		56R.65.06H7N	
8 ^{H7}	12 × 45	130	85	0,1	9,5	4		56R.93.08H7N		56R.93.08H7D		56R.65.08H7N	
10 ^{H7}	12 × 45	160	115	0,1	9,5	6		56R.93.10H7N		56R.93.10H7D		56R.65.10H7N	
12 ^{H7}	12 × 45	160	115	0,1	9,5	6		56R.93.12H7N		56R.93.12H7D		56R.65.12H7N	
14 ^{H7}	12 × 45	160	115	0,1	9,5	6		56R.93.14H7N		56R.93.14H7D		56R.65.14H7N	
15 ^{H7}	12 × 45	160	115	0,1	9,5	6		56R.93.15H7N		56R.93.15H7D		56R.65.15H7N	
16 ^{H7}	16 × 50	180	130	0,1	9,5	6		56R.93.16H7N		56R.93.16H7D		56R.65.16H7N	
18 ^{H7}	16 × 50	180	130	0,1	9,5	6		56R.93.18H7N		56R.93.18H7D		56R.65.18H7N	
20 ^{H7}	20 × 60	200	140	0,1	9,5	6		56R.93.20H7N		56R.93.20H7D		56R.65.20H7N	

Diameter H7 – available from stock

								P N ²⁾ P N ³⁾		P N ²⁾ P N ³⁾	
								45° ASG 3000		25° ASG4000	
Ø D	Ø d × c	L	b	f	a	Z	kg	Order No. TiN		Order No. TiN	
6 ^{H7}	12 × 45	130	85	0,1	9,5	4		56R.71.06H7N		56R.71.06H7D	
8 ^{H7}	12 × 45	130	85	0,1	9,5	4		56R.71.08H7N		56R.71.08H7D	
10 ^{H7}	12 × 45	160	115	0,1	9,5	6		56R.71.10H7N		56R.71.10H7D	
12 ^{H7}	12 × 45	160	115	0,1	9,5	6		56R.71.12H7N		56R.71.12H7D	
14 ^{H7}	12 × 45	160	115	0,1	9,5	6		56R.71.14H7N		56R.71.14H7D	
15 ^{H7}	12 × 45	160	115	0,1	9,5	6		56R.71.15H7N		56R.71.15H7D	
16 ^{H7}	16 × 50	180	130	0,1	9,5	6		56R.71.16H7N		56R.71.16H7D	
18 ^{H7}	16 × 50	180	130	0,1	9,5	6		56R.71.18H7N		56R.71.18H7D	
20 ^{H7}	20 × 60	200	140	0,1	9,5	6		56R.71.20H7N		56R.71.20H7D	

¹⁾ material group 12.0 · ²⁾ material group 12.1 · ³⁾ material group 12.0 | 12.1

Cutting speed and feed see pages 28-29.

Recommended cutting data

Guideline values for reaming					Cutting speed v_c (m/min)													
Material group	Strength Rm (N/mm ²)	Hardness HB	Material	Material example material code/DIN	optimum · maximum						optimum · maximum							
					3xD Reamers short						5xD Reamers long							
					DST	DJC	DBG-P	DBG-N	DBC	TiN	HM	DST	DJC	DBG-P	DBG-N	DBC	TiN	HM
P	1.0	≤ 500	non-alloy steels	1.0037 (S235JR) 1.0715 (11SMn30) 1.0044 (S2575JR)	150 200	150 200				100 140	8 10	120 160	120 160				80 120	8 10
	2.0	500-900	non-alloy / low alloy steels	1.0050 (E295) 1.0535 (C55) 1.7131 (16MnCr5)	150 200	150 200				100 140	8 10	120 160	120 160				80 120	8 10
	2.1	< 500	lead alloys	1.0718 (11SMnPb30)	150 200	150 200				100 140	30 45	120 160	120 160				80 120	30 45
	3.0	> 900	non alloy / low alloy steels: heat resistant structural, heat treated, nitride and tools steels	1.7225 (42CrMo4) 1.1221 (C60E)	150 200	150 200				100 140	7 9	120 160	120 160				80 120	7 9
	4.0	> 900	high alloy steels	1.2341 (6CrMo15-5) 1.2601 (X165CrMoV12)						30 45	5 7						30 45	5 7
	4.1		HSS															
S	5.0		250	special alloys: Inconel, Hastelloy, Nimonic, stc.														
	5.1	400	titanium, titanium alloys	3.7115 (TiAl5Sn2.5)							8 12							8 12
M	6.0	≤ 600	stainless steels	1.4306 (X2CrNi19-11) 1.4401 (X5CrNiMo17-12-2)			45 60			30 40	6 8			45 60			30 40	6 8
	6.1	< 900	stainless steels	1.4511 (X3CrNb17) 1.4571 (X10CrNiMo-Ti17-12-2)			30 50			20 35	5 6			30 50			20 35	5 6
	7.0	> 900	stainless / fireproof steels	1.4713 (X10CrAlSi7) 1.4862 (X8NiCrSi38-18)			30 50			20 35	5 6			30 50			20 35	5 6
K	8.0		180	gray cast iron	0.6025 (EN-GJL-250) 0.6035 (EN-GJL-350)			150 220	150 220	80 130	15 25			120 150	120 150		80 120	15 25
	8.1		250	alloy gray cast iron	0.6660 (GGL-NiCr20 2)			90 130	90 130	50 90	10 15			90 120	90 120		50 90	10 15
	9.0	≤ 600	130	spheroidal graphite cast iron, ferritic	0.7040 (EN-GJS-400-15)	175 300	175 300	175 300	175 300		12 18	150 180	150 180	150 180	150 180			12 18
	9.1		230	spheroidal graphite cast iron, ferritic / perlitic	0.7050 (EN-GJS-500-7) 0.7055 (GGG-55) 0.8055 (GTW-55)	150 250	150 250	150 250	150 250		12 18	120 160	120 160	120 160	120 160			12 18
	10.0	> 600	250	spheroidal graphite cast iron, perlitic malleable iron	0.7060 (EN-GJS-600-3) 0.8165 (GTS-65)	120 180	120 180	120 180	120 180		12 15	120 150	120 150	120 150	120 150			12 15
	10.1		200	alloyed spheroidal graphite cast iron	0.7661 (EN-GJSA-XNiCr20-2)			70 100	70 100	40 60	9 12			70 100	70 100		40 60	9 12
10.2		300	vermicular cast iron	5.2200 (EN-GJV-350) 5.2300 (EN-GJV-450)			80 130	80 130	50 70	9 12			80 130	80 130		50 70	9 12	
N	12.0		90	copper alloy, brass, lead-alloy bronze, lead bronze: good cut	2.0375 (CuZn36Pb3) 2.1182.01 (G-CuPb15Sn)	150 320				120 200	15 30	150 200					120 150	15 30
	12.1		100	copper alloy, brass, bronze:average cut	2.0550 (CuZn40Al2) 2.0060 (E-Cu57)					80 150	12 20						80 120	12 20
	13.0		60	wrought aluminium alloys	3.3315 (AlMg1) 3.0517 (AlMnCu)				150 300		15 30					150 200		15 30
	13.1		75	cast aluminium alloy: Si-content <10% magnesium alloy	3.3561 (G-AlMg5) 3.2373.61 (G-AlSi9Mg wa)				200 300		15 30					150 200		15 30
	14.0		100	cast aluminium alloy: Si-content > 10%	3.2381.01 (G-AlSi10Mg)				200 300		12 20					150 200		12 20
H	15.0	1400	hardened steels < 45 HRC															
	16.0	1800	hardened steels > 45 HRC, ≤ 55 HRC															

Reaming allowance in diameter (mm)

KOMET® Rapid set head

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BENEFITS for you:

- Modular tooling system
- Simple and fastchangeability
- Left hand fluted cuttingblades for highest productivity
- Perfect accuracy
- Various cutting materialsand coatings



KOMET® Rapid set head

Page

Replaceable insert

Ø 9,60 – 60,00 mm

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Holder

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Assembly instructions

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Recommended cutting data

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KOMET SERVICE® (Chapter 11)

The KOMET SERVICE® TOOL lifeBoxicon describes tools that are available for the high quality cost-efficient refurbishment of tools.



KOMET® Rapid set head

Tool recommendation

1 2 3 4 5 6 7 8 9 10 11	Material group	Strength Rm (N/mm²)	Hardness HB	Material	Material example, material code / DIN	Machining			
						Order No. ASG = cutting geometry			
									
P	1.0	≤500		non-alloy steels	1.0037 (S235JR) 1.0715 (11SMn30) 1.0044 (S2575JR)	340.92 ASG 05	340.70 ASG 05	340.93 ASG 3000	340.71 ASG 3000
	2.0	500-900		non-alloy / low alloy steels	1.0050 (E295) 1.0535 (C55) 1.7131 (16MnCr5)	340.92 ASG 05	340.70 ASG 05	340.93 ASG 3000	340.71 ASG 3000
	2.1	<500		lead alloys	1.0718 (11SMnPb30)	340.92 ASG 05	340.70 ASG 05	340.93 ASG 3000	340.71 ASG 3000
	3.0	>900		non alloy / low alloy steels; heat resistant structural, heat treated, nitride and tool steels	1.7225 (42CrMo4) 1.1221 (C60E)	340.92 ASG 05	340.71 ASG 3000	340.93 ASG 3000	340.71 ASG 3000
	4.0	>900		high alloy steels	1.2341 (6CrMo15-5) 1.2601 (X165Cr-MoV12)	340.71 ASG 0106	340.71 ASG 0106	340.71 ASG 0106	340.71 ASG 0106
	4.1			HSS					
S	5.0		250	special alloys: Inconel, Hastelloy, Nimonic, etc.	2.4668 (NiuCr-19Fe19Nb5Mo3) 2.4631 (Nimonic 80A)				
	5.1	400		titanium, titanium alloys	3.7115 (TiAl5Sn2.5)	340.21 ASG 03	340.21 ASG 03	340.21 ASG 03	340.21 ASG 03
M	6.0	≤600		stainless steels	1.4306 (X2CrNi19-11) 1.4401 (X5CrNi-Mo17-12-2)	340.65 ASG 0106	340.65 ASG 0106	340.65 ASG 0106	340.65 ASG 0106
	6.1	<900		stainless steels	1.4511 (X3CrNb17) 1.4571 (X10CrNiMo-Ti17-12-2)	340.65 ASG 0106	340.65 ASG 0106	340.65 ASG 0106	340.65 ASG 0106
	7.0	>900		stainless / fireproof steels	1.4713 (X10CrAlSi7) 1.4862 (X8NiCr-Si38-18)	340.65 ASG 0106	340.65 ASG 0106	340.65 ASG 0106	340.65 ASG 0106
K	8.0		180	gray cast iron	0.6025 (EN-GJL-250) 0.6035 (EN-GJL-350)	340.65 ASG 3000	340.65 ASG 3000	340.65 ASG 3000	340.65 ASG 3000
	8.1		250	alloy gray cast iron	0.6660 (GGL-NiCr20 2)	340.65 ASG 3000	340.65 ASG 3000	340.65 ASG 3000	340.65 ASG 3000
	9.0	≤600	130	spheroidal graphite cast iron, ferritic	0.7040 (EN-GJS-400-15)	340.93 ASG 3000	340.65 ASG 3000	340.93 ASG 3000	340.65 ASG 3000
	9.1		230	spheroidal graphite cast iron, ferritic/perlitic	0.7050 (EN-GJS-500-7) 0.7055 (GJS-55) 0.8055 (GTW-55)	340.93 ASG 3000	340.65 ASG 3000	340.93 ASG 3000	340.65 ASG 3000
	10.0	>600	250	spheroidal graphite cast iron, perlitic malleable iron	0.7060 (EN-GJS-600-3) 0.8165 (GTS-65)	340.93 ASG 3000	340.65 ASG 3000	340.93 ASG 3000	340.65 ASG 3000
	10.1		200	alloyed spheroidal graphite cast iron	0.7661 (EN-GJSA-XNiCr20-2)	340.65 ASG 3000	340.65 ASG 3000	340.65 ASG 3000	340.65 ASG 3000
	10.2		300	vermicular cast iron	EN-GJV Ti < 0,2 EN-GJV Ti > 0,2	340.65 ASG 3000	340.65 ASG 3000	340.65 ASG 3000	340.65 ASG 3000
	12.0		90	copper alloy, brass, lead-alloy bronze, lead bronze: good cut	2.0375 (CuZn36Pb3) 2.1182.01 (G-CuPb15Sn)	340.71 ASG 3000	340.71 ASG 3000	340.71 ASG 3000	340.71 ASG 3000
N	12.1		100	copper alloy, brass, bronze: average cut	2.0550 (CuZn40Al2) 2.0060 (E-Cu57)	340.71 ASG 3000	340.71 ASG 3000	340.71 ASG 3000	340.71 ASG 3000
	13.0		60	wrought aluminium alloys	3.3315 (AlMg1) 3.0517 (AlMnCu)	340.21 ASG 02		340.21 ASG 02	
	13.1		75	cast alum. alloy: Si-content <10% magnesium alloy	3.3561 (G-AlMg5) 3.2373.61 (G-AlSi9Mg wa)	340.21 ASG 3000		340.21 ASG 3000	
	14.0		100	cast alum. alloy: Si-content >10%	3.2381.01 (G-AlSi10Mg)	340.21 ASG 3000		340.21 ASG 3000	
H	15.0	1400		hardened steels < 45 HRC					
	16.0	1800		hardened steels > 45 HRC, ≤ 55 HRC					

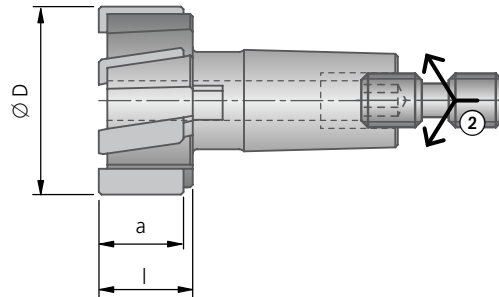
Ø 9,60 – 60,00 mm

KOMET® Rapid set head

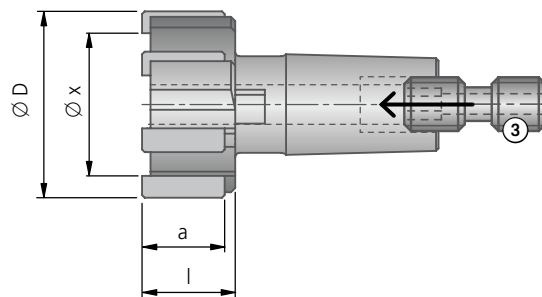
Replaceable insert



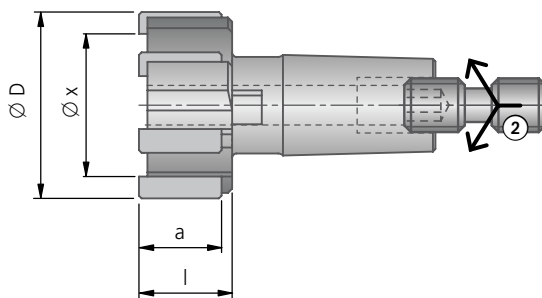
radially cooled, left slant,
for through hole machining



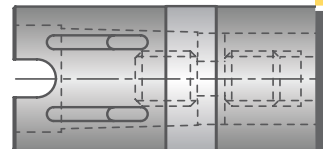
centrally cooled, straight,
for blind hole machining



radially cooled, straight,
for through hole machining



Holder
► 34



Custom reaming head – selection options!

Order No.		Order No.		Cutting material, coating	Dimensions					
					Ø D	min. diameter for face machining Ø x ~	a ~	l ~	Z	Z
340.92	–	340.93	–	DST	9,60 – 12,59	ØD – 3,1	9,5	11	4	4
340.66	–	340.67	–	DJC	12,60 – 15,59	ØD – 3,6	10,5	11	4	4
340.62	–	340.65	–	DBG-P	15,60 – 18,59	ØD – 4,6	10,5	11	4	6
340.37	–	340.38	–	DBG-N	18,60 – 24,00	ØD – 5,1	10,5	11	6	6
340.70	–	340.71	–	TiN	24,01 – 30,10	ØD – 6,0	10,5	11	6	6
340.20	–	340.21	–	HM	30,11 – 40,00	ØD – 7,5	16	17	6	6
					40,01 – 60,00	ØD – 8,0	16	17	6	6

Order example:

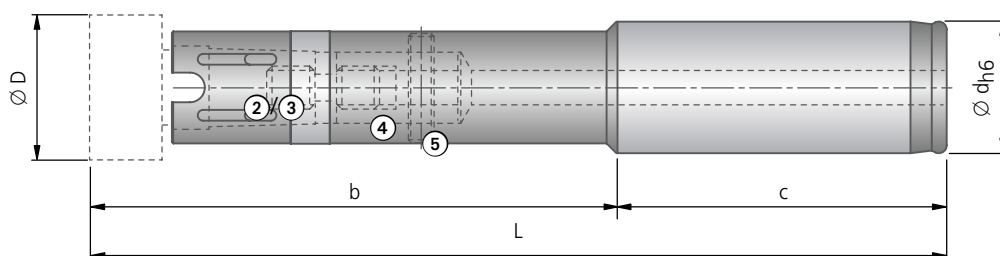
Order No. 340.92 · Bore diameter 21 mm · Bore tolerance H7 · Material 1.0037 (S235JR) or ASG05 (Cutting geometry).

Cutting speed and feed see pages 36 - 37.



KOMET® Rapid set head

Holder



	short version						long version					
for Ø D	Order No.	L	b	c	d h6		Order No.	L	b	c	d h6	
9,60 – 12,59	540.66.000	95	50	45	12		540.36.000	158	113	45	12	
12,60 – 15,59	540.66.001	108	60	48	16		540.36.001	159	111	48	16	
15,60 – 18,59	540.66.002	110	60	50	20		540.36.002	171	121	50	20	
18,60 – 24,00	540.66.003	130	80	50	20		540.36.003	191	141	50	20	
24,01 – 30,10	540.66.004	158	98	60	25		540.36.004	219	159	60	25	
30,11 – 40,00	540.66.005	164	104	60	25		540.36.005	225	165	60	25	
40,01 – 50,70	540.66.006	184	104	80	32		540.36.006	283	203	80	32	
50,71 – 60,00	540.66.007	188,5	108,5	80	32		540.36.007	288,5	208,5	80	32	

	①	②	③	④	⑤	⑥	⑦
for Ø D	Operating key Size Order No.	Differential screw Order No.	Differential screw Order No.	Bush Order No.	Threaded pin Order No.	Screw short version Order No.	Screw long version Order No.
09,60 – 12,59	–	–	–	–	–	540.04.001	540.04.002
12,60 – 15,59	SW2 18050 10020	340.15.001	340.83.001	340.33.001	540.03.001	–	–
15,60 – 18,59	SW2,5 18050 10025	340.15.002	340.83.002	340.33.002	540.03.002	–	–
18,60 – 24,00	SW3 18050 10030	340.15.003	340.83.003	340.33.003	540.03.003	–	–
24,01 – 30,10	SW4 18050 10040	340.15.004	340.83.004	340.33.004	540.03.004	–	–
30,11 – 40,00	SW4 18050 10040	340.15.004	340.83.004	340.33.004	540.03.004	–	–
40,01 – 50,70	SW6 18050 10060	340.15.005	340.83.005	340.33.005	540.03.005	–	–
50,71 – 60,00	SW6 18050 10060	340.15.005	340.83.005	340.33.005	540.03.005	–	–

Supply includes holder:

Ø 9,60 – 12,59: Screw ⑥ or ⑦ (depending on short or long holder version)

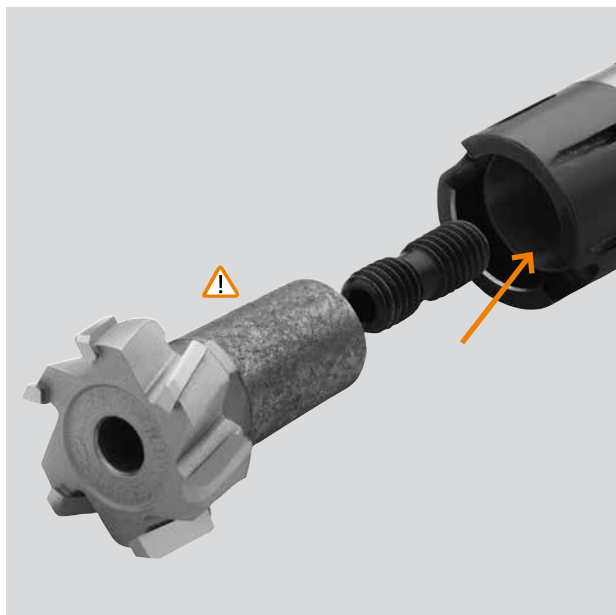
Ø 12,60 – 60,0: Operating key ①, differential screw ②, bush ④, threaded pin ⑤.

Please order differential screw ③ separately if required.

Please order rapid set head separately.

KOMET® Rapid set head

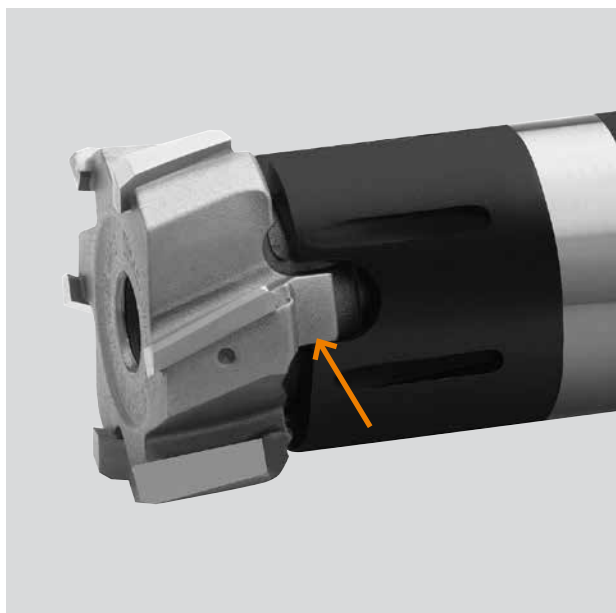
Assembly instructions



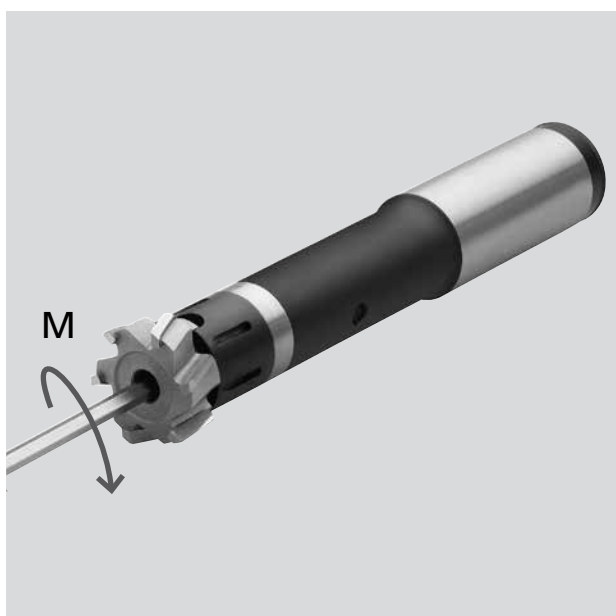
⚠ Each Rapid set head is delivered with slightly greased taper. Do not wipe off! Taper must be slightly greased with copper grease (Order-No.: 15K.10.10001)!

Clean taper in holder thoroughly → free of grease

Differential screw one rotation into the Head (counter-clockwise thread).



Before tightening turn the drive keys of the rapid set head against the direction of machining until it hits the holder.



Tightening the left-/right screw.
Observe the specified starting torque M in the index table.

Dia. range	Starting torque M (Nm)
12,60 – 15,59	0,7 – 0,9
15,60 – 18,59	1,1 – 1,4
18,60 – 24,00	1,8 – 2,3
24,01 – 40,00	3,0 – 3,8
40,01 – 60,00	5,2 – 6,6

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Rapid Set Heads up to Diameter 12,59 mm are assembled with a clamping screw at the back of the holder. The screw has a counter-clockwise thread.

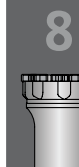
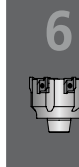
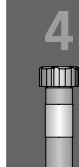
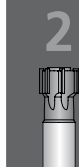
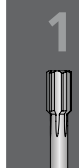
KOMET® Rapid set head

Recommended cutting data

Guideline values for reaming					Cutting speed v_c (m/min)													
Material group	Strength Rm (N/mm ²)	Hardness HB	Material	Material example material code/DIN	optimum · maximum						optimum · maximum							
					3×D Reamers short						5×D Reamers long							
					DST	DIC	DBG-P	DBG-N	TiN	HM	DST	DIC	DBG-P	DBG-N	TiN	HM		
P	1.0	≤ 500	non-alloy steels	1.0037 (S235JR) 1.0715 (11SMn30) 1.0044 (S2575JR)	150 200	150 200			100 140	8 10	120 160	120 160			80 120	8 10		
	2.0	500-900	non-alloy / low alloy steels	1.0050 (E295) 1.0535 (C55) 1.7131 (16MnCr5)	150 200	150 200			100 140	8 10	120 160	120 160			80 120	8 10		
	2.1	< 500	lead alloys	1.0718 (11SMnPb30)	150 200	150 200			100 140	30 45	120 160	120 160			80 120	30 45		
	3.0	> 900	non alloy / low alloy steels: heat resistant structural, heat treated, nitride and tools steels	1.7225 (42CrMo4) 1.1221 (C60E)	150 200	150 200			100 140	7 9	120 160	120 160			80 120	7 9		
	4.0	> 900	high alloy steels	1.2341 (6CrMo15-5) 1.2601 (X165CrMoV12)					30 45	5 7					30 45	5 7		
	4.1		HSS															
S	5.0		250	special alloys: Inconel, Hastelloy, Nimonic, stc.	2.4668 (NiuCr19Fe19Nb5Mo3) 2.4631 (Nimonic 80A)													
	5.1	400	titanium, titanium alloys	3.7115 (TiAl5Sn2.5)						8 12						8 12		
M	6.0	≤ 600	stainless steels	1.4306 (X2CrNi19-11) 1.4401 (X5CrNiMo17-12-2)			45 60		30 40	6 8			45 60		30 40	6 8		
	6.1	< 900	stainless steels	1.4511 (X3CrNb17) 1.4571 (X10CrNiMo-Ti17-12-2)			30 50		20 35	5 6			30 50		20 35	5 6		
	7.0	> 900	stainless / fireproof steels	1.4713 (X10CrAlSi7) 1.4862 (X8NiCrSi38-18)			30 50		20 35	5 6			30 50		20 35	5 6		
K	8.0		180	gray cast iron	0.6025 (EN-GJL-250) 0.6035 (EN-GJL-350)			150 220	150 220	80 130	15 25			120 150	120 150	80 120	15 25	
	8.1		250	alloy gray cast iron	0.6660 (GGL-NiCr20 2)			90 130	90 130	50 90	10 15			90 120	90 120	50 90	10 15	
	9.0	≤ 600	130	spheroidal graphite cast iron, ferritic	0.7040 (EN-GJS-400-15)	175 300	175 300	175 300	175 300		12 18	150 180	150 180	150 180	150 180		12 18	
	9.1		230	spheroidal graphite cast iron, ferritic / perlitic	0.7050 (EN-GJS-500-7) 0.7055 (GGG-55) 0.8055 (GTW-55)	150 250	150 250	150 250	150 250		12 18	120 160	120 160	120 160	120 160		12 18	
	10.0	> 600	250	spheroidal graphite cast iron, perlitic malleable iron	0.7060 (EN-GJS-600-3) 0.8165 (GTS-65)	120 180	120 180	120 180	120 180		12 15	120 150	120 150	120 150	120 150		12 15	
	10.1		200	alloyed spheroidal graphite cast iron	0.7661 (EN-GJSA-XNiCr20-2)			70 100	70 100	40 60	9 12			70 100	70 100	40 60	9 12	
10.2		300	vermicular cast iron	5.2200 (EN-GJV-350) 5.2300 (EN-GJV-450)			80 130	80 130	50 70	9 12			80 130	80 130	50 70	9 12		
N	12.0		90	copper alloy, brass, lead-alloy bronze, lead bronze: good cut	2.0375 (CuZn36Pb3) 2.1182.01 (G-CuPb15Sn)	150 320				120 200	15 30	150 200			120 150	15 30		
	12.1		100	copper alloy, brass, bronze:average cut	2.0550 (CuZn40Al2) 2.0060 (E-Cu57)					80 150	12 20					80 120	12 20	
	13.0		60	wrought aluminium alloys	3.3315 (AlMg1) 3.0517 (AlMnCu)						15 30						15 30	
	13.1		75	cast aluminium alloy: Si-content <10% magnesium alloy	3.3561 (G-AlMg5) 3.2373.61 (G-AlSi9Mg wa)						15 30						15 30	
	14.0		100	cast aluminium alloy: Si-content > 10%	3.2381.01 (G-AlSi10Mg)						12 20						12 20	
H	15.0	1400	hardened steels < 45 HRC															
	16.0	1800	hardened steels > 45 HRC, ≤ 55 HRC															

Reaming allowance in diameter (mm)

	Feed f (mm/rev)									
	optimum · maximum			optimum · maximum			optimum · maximum			
	 ASG3000, ASG0106, ASG03, ASG07, ASG02			 ASG4000, ASG09B, ASG1402, ASG09, ASG1405, ASG1406			 ASG05, ASG0502, ASG04			
	Ø 9,60 - 15,59 ✱ 4	Ø 15,60 - 30,10 ✱ 6	Ø 30,11 - 60 ✱ 6	Ø 9,60 - 15,59 ✱ 4	Ø 15,60 - 30,10 ✱ 6	Ø 30,11 - 60 ✱ 6	Ø 9,60 - 12,59 ✱ 4	Ø 12,60 - 18,59 ✱ 4	Ø 18,60 - 30,10 ✱ 6	Ø 30,11 - 60 ✱ 6
	0,30 0,50	0,90 1,30	1,10 1,50	0,40 0,60	1,20 1,50	1,40 1,90	0,60 0,80	0,80 1,00	1,20 1,50	1,40 1,90
	0,30 0,50	0,90 1,30	1,10 1,50	0,40 0,60	1,20 1,50	1,40 1,90	0,60 0,80	0,80 1,00	1,20 1,50	1,40 1,90
	0,30 0,50	0,90 1,30	1,10 1,50	0,40 0,60	1,20 1,50	1,40 1,90	0,60 0,80	0,80 1,00	1,20 1,50	1,40 1,90
	0,30 0,50	0,90 1,30	1,10 1,50	0,40 0,60	1,20 1,50	1,40 1,90	0,60 0,80	0,80 1,00	1,20 1,50	1,40 1,90
	0,20 0,30	0,60 0,90	0,70 1,10							
	0,20 0,30	0,60 0,90	0,70 1,10							
	0,20 0,30	0,50 0,70	0,60 0,90							
	0,30 0,40	0,80 1,10	0,90 1,30							
	0,30 0,40	0,70 1,00	0,90 1,20							
	0,30 0,40	0,70 1,00	0,90 1,20							
	0,30 0,40	0,70 1,00	0,90 1,20							
	0,40 0,60	1,10 1,50	1,30 1,90							
	0,30 0,50	0,90 1,30	1,10 1,50							
	0,40 0,60	1,10 1,50	1,30 1,90							
	0,40 0,60	1,10 1,50	1,30 1,90							
	0,30 0,50	0,90 1,30	1,10 1,50							
	0,30 0,40	0,70 1,00	0,90 1,20							
	0,30 0,40	0,70 1,00	0,90 1,20							
	0,40 0,60	1,10 1,50	1,20 1,70							
	0,30 0,50	0,90 1,30	1,00 1,40							
	0,30 0,50	0,90 1,30	1,10 1,50							
	0,40 0,60	1,10 1,50	1,20 1,90							
	0,40 0,60	1,10 1,50	1,20 1,90							
	0,10 - 0,30	0,20 - 0,40	0,20 - 0,40	0,10 - 0,30	0,20 - 0,40	0,20 - 0,40	0,10 - 0,30	0,20 - 0,40	0,20 - 0,40	0,20 - 0,40



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With the completely redeveloped KOMET® hi.max monoblock tool, we have succeeded in producing the perfect upgrade to our proven KOMET reaming tools. The new KOMET® hi.max stands out thanks to its extremely high level of stability, which guarantees reliable use and excellent machining performance.

With the KOMET® hi.max, it is no longer necessary to fit individual tool parts (thanks to the monoblock design). This makes the tool significantly easier to handle and use.

BENEFITS for you:

- High machining performance due to combination of cutting topography and cutting material
- Diameter is easy to measure thanks to the cutting edges arranged opposite one another in pairs
- Carbide and cermet versions (uncoated and coated) available for machining various material groups in accordance with the ISO standard
- EASY-TO-USE principle: No accessories, no adjusting, no fitting of individual parts
- Optimum stability and process capability thanks to monoblock design and solid carbide or solid cement cutter part
- Low-cost H7 preferred range with universal geometry for machining through holes and blind holes
- High-performance Cermet H7 preferred range with special geometry for machining steel
- Cylindrical shank similar to DIN 1835
- Comes in 3xD and 5xD versions
- Diameter range 12 - 30 mm


KOMET® hi.max

Page

Reaming tool – short version
 $\varnothing$ 12,000 – 30,000 mm

40 – 41

Reaming tool – long version
 $\varnothing$ 12,000 – 30,000 mm

42 – 43

Diameter H7 – available from stock

44 – 45

Recommended cutting data

46 – 47

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KOMET SERVICE® (Chapter 11)
The KOMET SERVICE® TOOL lifeBoxicon describes tools that are available for the high quality cost-efficient refurbishment of tools.



Tool recommendation: Reaming tool – short version

1 2 3 4 5 6 7 8 9 10 11	Material group	Strength Rm (N/mm²)	Hardness HB	Material	Material example, material code / DIN	Machining									
						Order No. ASG = cutting geometry									
						Universal		Special		Universal		Special		Universal	
						ASG 2210	ASG 05	ASG 2210	ASG 05	ASG 2210	ASG 05	ASG 2210	ASG 05	ASG 2210	ASG 05
P	1.0	≤500		non-alloy steels	1.0037 (S235JR) 1.0715 (11SMn30) 1.0044 (S2575JR)	58N.58 ASG 2210	58N.92 ASG 05	58N.58 ASG 2210		58M.57 ASG 2110	58M.93 ASG 3000	58M.57 ASG 2110		58N.57 ASG 2110	58N.93 ASG 3000
	2.0	500-900		non-alloy / low alloy steels	1.0050 (E295) 1.0535 (C55) 1.7131 (16MnCr5)	58N.58 ASG 2210	58N.92 ASG 05	58N.58 ASG 2210		58M.57 ASG 2110	58M.93 ASG 3000	58M.57 ASG 2110		58N.57 ASG 2110	58N.93 ASG 3000
	2.1	<500		lead alloys	1.0718 (11SMnPb30)	58N.58 ASG 2210	58N.92 ASG 05	58N.58 ASG 2210		58M.57 ASG 2110	58M.93 ASG 3000	58M.57 ASG 2110		58N.57 ASG 2110	58N.93 ASG 3000
	3.0	>900		non alloy / low alloy steels; heat resistant structural, heat treated, nitride and tool steels	1.7225 (42CrMo4) 1.1221 (C60E)	58N.58 ASG 2210	58N.92 ASG 05	58N.58 ASG 2210		58M.57 ASG 2110	58M.93 ASG 3000	58M.57 ASG 2110		58N.57 ASG 2110	58N.93 ASG 3000
	4.0	>900		high alloy steels	1.2341 (6CrMo15-5) 1.2601 (X165Cr-MoV12)	58N.58 ASG 2210	58N.93 ASG 3000	58N.58 ASG 2210		58M.57 ASG 2110	58M.93 ASG 3000	58M.57 ASG 2110		58N.57 ASG 2110	58N.93 ASG 3000
	4.1			HSS											
S	5.0		250	special alloys: Inconel, Hastelloy, Nimonic, etc.	2.4668 (NiuCr-19Fe19Nb5Mo3) 2.4631 (Nimonic 80A)										
	5.1	400		titanium, titanium alloys	3.7115 (TiAl5Sn2.5)	58N.21 ASG 03				58M.21 ASG 03					
	6.0	≤600		stainless steels	1.4306 (X2CrNi19-11) 1.4401 (X5CrNi-Mo17-12-2)	58N.65 ASG 0106		58N.65 ASG 0106		58M.65 ASG 0106		58M.65 ASG 0106		58N.65 ASG 0106	
M	6.1	<900		stainless steels	1.4511 (X3CrNb17) 1.4571 (X10CrNiMo-Ti17-12-2)	58N.65 ASG 0106		58N.65 ASG 0106		58M.65 ASG 0106		58M.65 ASG 0106		58N.65 ASG 0106	
	7.0	>900		stainless / fireproof steels	1.4713 (X10CrAlSi7) 1.4862 (X8NiCr-Si38-18)	58N.65 ASG 0106		58N.65 ASG 0106		58M.65 ASG 0106		58M.65 ASG 0106		58N.65 ASG 0106	
	8.0		180	gray cast iron	0.6025 (EN-GJL-250) 0.6035 (EN-GJL-350)	58N.58 ASG 2210	58N.65 ASG 2350	58N.58 ASG 2210	58N.65 ASG 2350	58M.57 ASG 2110	58M.65 ASG 2350	58M.57 ASG 2110	58M.65 ASG 2350	58N.57 ASG 2110	58N.65 ASG 2350
K	8.1		250	alloy gray cast iron	0.6660 (GGL-NiCr20 2)	58N.58 ASG 2210	58N.65 ASG 2350	58N.58 ASG 2210	58N.65 ASG 2350	58M.57 ASG 2110	58M.65 ASG 2350	58M.57 ASG 2110	58M.65 ASG 2350	58N.57 ASG 2110	58N.65 ASG 2350
	9.0	≤600	130	spheroidal graphite cast iron, ferritic	0.7040 (EN-GJS-400-15)	58N.58 ASG 2210	58N.65 ASG 2350	58N.58 ASG 2210	58N.65 ASG 2350	58M.57 ASG 2110	58M.65 ASG 2350	58M.57 ASG 2110	58M.65 ASG 2350	58N.57 ASG 2110	58N.65 ASG 2350
	9.1		230	spheroidal graphite cast iron, ferritic/perlitic	0.7050 (EN-GJS-500-7) 0.7055 (GJS-55) 0.8055 (GTW-55)	58N.58 ASG 2210	58N.65 ASG 2350	58N.58 ASG 2210	58N.65 ASG 2350	58M.57 ASG 2110	58M.65 ASG 2350	58M.57 ASG 2110	58M.65 ASG 2350	58N.57 ASG 2110	58N.65 ASG 2350
	10.0	>600	250	spheroidal graphite cast iron, perlitic malleable iron	0.7060 (EN-GJS-600-3) 0.8165 (GTS-65)	58N.58 ASG 2210	58N.65 ASG 2350	58N.58 ASG 2210	58N.65 ASG 2350	58M.57 ASG 2110	58M.65 ASG 2350	58M.57 ASG 2110	58M.65 ASG 2350	58N.57 ASG 2110	58N.65 ASG 2350
	10.1		200	alloyed spheroidal graphite cast iron	0.7661 (EN-GJSA-XNiCr20-2)	58N.58 ASG 2210	58N.65 ASG 2350	58N.58 ASG 2210	58N.65 ASG 2350	58M.57 ASG 2110	58M.65 ASG 2350	58M.57 ASG 2110	58M.65 ASG 2350	58N.57 ASG 2110	58N.65 ASG 2350
	10.2		300	vermicular cast iron	EN-GJV Ti < 0,2 EN-GJV Ti > 0,2	58N.58 ASG 2210	58N.65 ASG 2350	58N.58 ASG 2210	58N.65 ASG 2350	58M.57 ASG 2110	58M.65 ASG 2350	58M.57 ASG 2110	58M.65 ASG 2350	58N.57 ASG 2110	58N.65 ASG 2350
N	12.0		90	copper alloy, brass, lead-alloy bronze, lead bronze: good cut	2.0375 (CuZn36Pb3) 2.1182.01 (G-CuPb15Sn)	58N.58 ASG 2210	58N.17 ASG 2270	58N.58 ASG 2210	58N.17 ASG 2270	58M.57 ASG 2110	58M.17 ASG 2170	58M.57 ASG 2110	58M.17 ASG 2170	58N.57 ASG 2110	58N.17 ASG 2170
	12.1		100	copper alloy, brass, bronze: average cut	2.0550 (CuZn40Al2) 2.0060 (E-Cu57)	58N.58 ASG 2210	58N.17 ASG 2270	58N.58 ASG 2210	58N.17 ASG 2270	58M.57 ASG 2110	58M.17 ASG 2170	58M.57 ASG 2110	58M.17 ASG 2170	58N.57 ASG 2110	58N.17 ASG 2170
	13.0		60	wrought aluminium alloys	3.3315 (AlMg1) 3.0517 (AlMnCu)		58N.17 ASG 2270		58N.17 ASG 2270		58M.17 ASG 2170		58M.17 ASG 2170		58N.17 ASG 2170
	13.1		75	cast alum. alloy: Si-content <10% magnesium alloy	3.3561 (G-AlMg5) 3.2373.61 (G-AlSi9Mg wa)		58N.17 ASG 2270		58N.17 ASG 2270		58M.17 ASG 2170		58M.17 ASG 2170		58N.17 ASG 2170
	14.0		100	cast alum. alloy: Si-content >10%	3.2381.01 (G-AlSi10Mg)		58N.17 ASG 2270		58N.17 ASG 2270		58M.17 ASG 2170		58M.17 ASG 2170		58N.17 ASG 2170
	15.0	1400		hardened steels < 45 HRC											
H	16.0	1800		hardened steels > 45 HRC, ≤ 55 HRC											

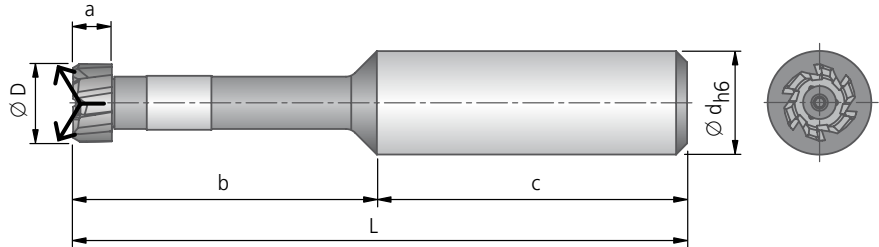
Ø 12,000 – 30,000 mm

KOMET® hi.max

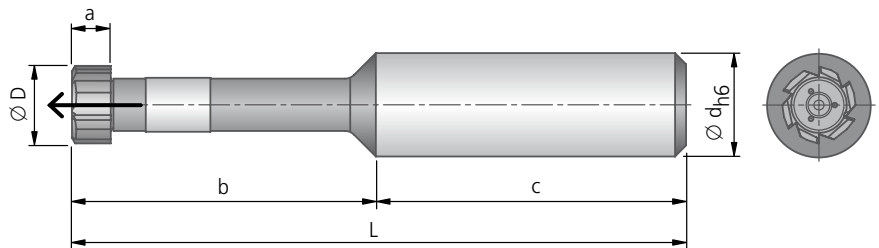
Reaming tool – short version



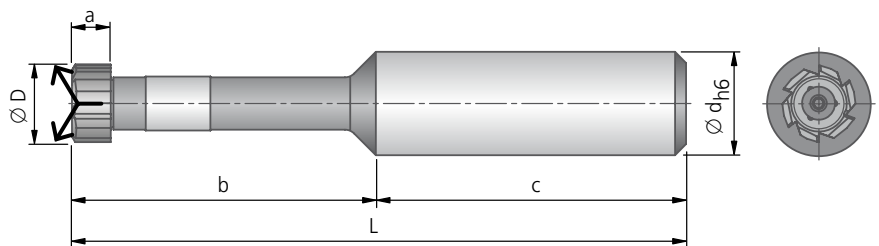
radially cooled, left slant,
for through hole machining



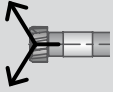
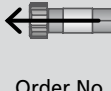
centrally cooled, straight,
for blind hole machining



radially cooled, straight,
for step hole



Custom reaming tool – selection options!

 Order No.			 Order No.		Cutting material, coating	Dimensions						
						Ø D	Cylindrical shank Ødxc	L	b	a ~	 Z	 kg ~
58N.92	–	58N.93	58M.93	–	DST	12,000 - 14,099	16 × 48	95	47	6	6	0,09
58N.82	–	58N.85	58M.85	–	DJP	14,100 - 16,099	16 × 48	95	47	6	6	0,09
58N.62		58N.65	58M.65		DBG-P	16,100 - 18,099	16 × 48	100	52	6	6	0,09
58N.58		58N.57	58M.57		DBG-U	18,100 - 20,099	20 × 50	120	70	6	8	0,11
58N.17		58M.17		DBC		20,100 - 22,099	20 × 50	120	70	6	8	0,18
58N.21		58M.21		HM		22,100 - 24,099	25 × 56	120	64	6	8	0,18
						24,100 - 26,099	25 × 56	120	64	6	8	0,32
						26,100 - 28,099	25 × 56	135	79	7	8	0,32
						28,100 - 30,000	25 × 56	135	79	7	8	0,45

Order example:

Order No. 58N.58 · Bore diameter 21 mm · Bore tolerance H7 · Material 1.0037 (S235JR) or ASG2210 (Cutting geometry)

Cutting speed and feed see pages 46-47.

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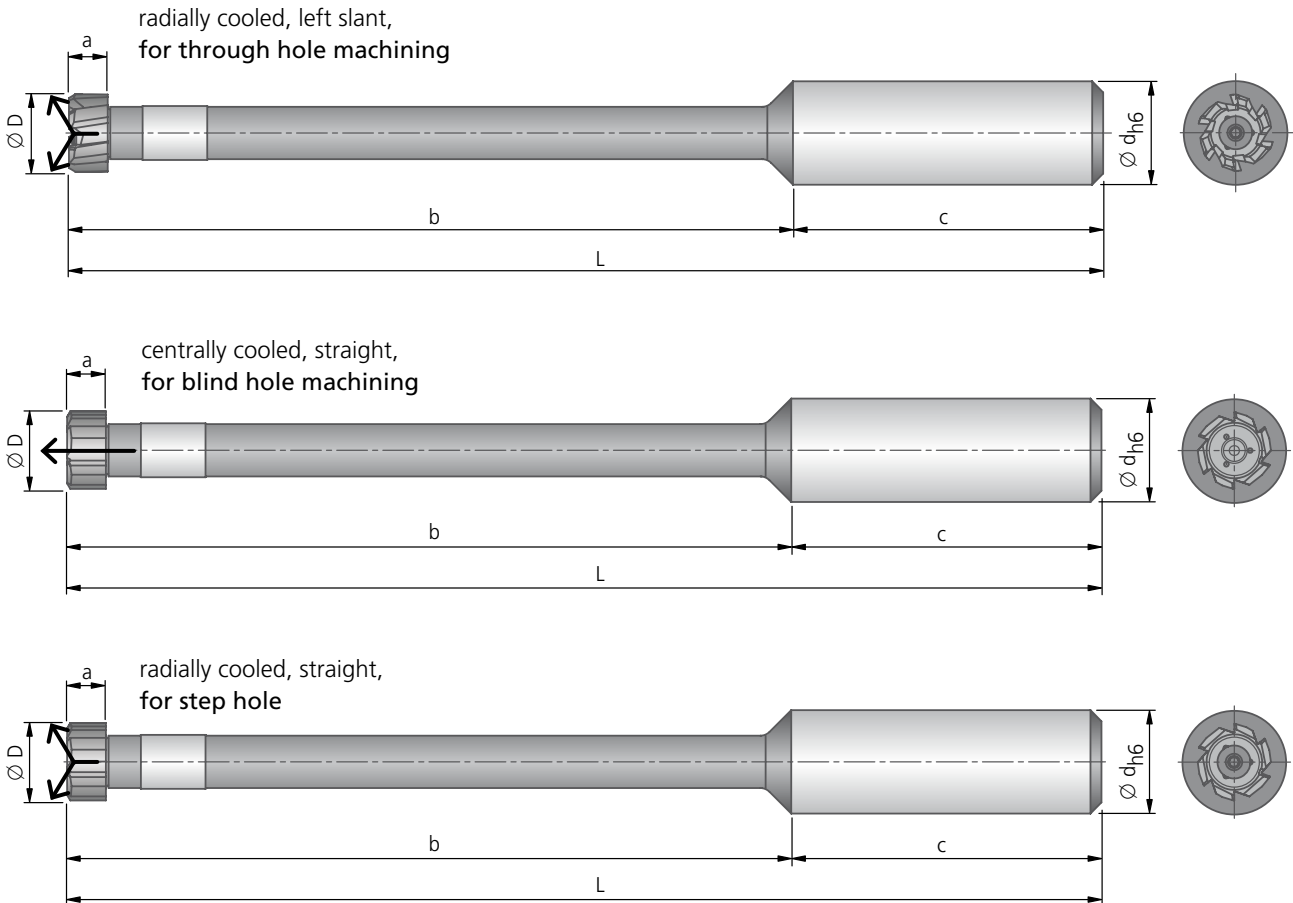
Tool recommendation: Reaming tool – long version

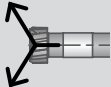
1 2 3 4 5 6 7 8 9 10 11	Material group	Strength Rm (N/mm²)	Hardness HB	Material	Material example, material code / DIN	Machining									
						Order No. ASG = cutting geometry									
						Universal		Special		Universal		Special		Universal	
						ASG 2210	ASG 05	ASG 2210	ASG 2210	ASG 2110	ASG 3000	ASG 2110	ASG 2110	ASG 2110	ASG 3000
P	1.0	≤500		non-alloy steels	1.0037 (S235JR) 1.0715 (11SMn30) 1.0044 (S2575JR)	58U.58 ASG 2210	58U.92 ASG 05	58U.58 ASG 2210		58T.57 ASG 2110	58T.93 ASG 3000	58T.57 ASG 2110		58U.57 ASG 2110	58U.93 ASG 3000
	2.0	500-900		non-alloy / low alloy steels	1.0050 (E295) 1.0535 (C55) 1.7131 (16MnCr5)	58U.58 ASG 2210	58U.92 ASG 05	58U.58 ASG 2210		58T.57 ASG 2110	58T.93 ASG 3000	58T.57 ASG 2110		58U.57 ASG 2110	58U.93 ASG 3000
	2.1	<500		lead alloys	1.0718 (11SMnPb30)	58U.58 ASG 2210	58U.92 ASG 05	58U.58 ASG 2210		58T.57 ASG 2110	58T.93 ASG 3000	58T.57 ASG 2110		58U.57 ASG 2110	58U.93 ASG 3000
	3.0	>900		non alloy / low alloy steels; heat resistant structural, heat treated, nitride and tool steels	1.7225 (42CrMo4) 1.1221 (C60E)	58U.58 ASG 2210	58U.92 ASG 05	58U.58 ASG 2210		58T.57 ASG 2110	58T.93 ASG 3000	58T.57 ASG 2110		58U.57 ASG 2110	58U.93 ASG 3000
	4.0	>900		high alloy steels	1.2341 (6CrMo15-5) 1.2601 (X165Cr-MoV12)	58U.58 ASG 2210	58U.93 ASG 3000	58U.58 ASG 2210		58T.57 ASG 2110	58T.93 ASG 3000	58T.57 ASG 2110		58U.57 ASG 2110	58U.93 ASG 3000
S	4.1			HSS											
	5.0		250	special alloys: Inconel, Hastelloy, Nimonic, etc.	2.4668 (NiuCr-19Fe19Nb5Mo3) 2.4631 (Nimonic 80A)										
	5.1	400		titanium, titanium alloys	3.7115 (TiAl5Sn2.5)	58U.21 ASG 03				58T.21 ASG 03					
M	6.0	≤600		stainless steels	1.4306 (X2CrNi19-11) 1.4401 (X5CrNi-Mo17-12-2)	58U.65 ASG 0106		58U.65 ASG 0106		58T.65 ASG 0106		58T.65 ASG 0106		58U.65 ASG 0106	
	6.1	<900		stainless steels	1.4511 (X3CrNb17) 1.4571 (X10CrNiMo-Ti17-12-2)	58U.65 ASG 0106		58U.65 ASG 0106		58T.65 ASG 0106		58T.65 ASG 0106		58U.65 ASG 0106	
	7.0	>900		stainless / fireproof steels	1.4713 (X10CrAlSi7) 1.4862 (X8NiCr-Si38-18)	58U.65 ASG 0106		58U.65 ASG 0106		58T.65 ASG 0106		58T.65 ASG 0106		58U.65 ASG 0106	
K	8.0		180	gray cast iron	0.6025 (EN-GJL-250) 0.6035 (EN-GJL-350)	58U.58 ASG 2210	58U.65 ASG 2350	58U.58 ASG 2210	58U.65 ASG 2350	58T.57 ASG 2110	58T.65 ASG 2350	58T.57 ASG 2110	58T.65 ASG 2350	58U.57 ASG 2110	58U.65 ASG 2350
	8.1		250	alloy gray cast iron	0.6660 (GGL-NiCr20 2)	58U.58 ASG 2210	58U.65 ASG 2350	58U.58 ASG 2210	58U.65 ASG 2350	58T.57 ASG 2110	58T.65 ASG 2350	58T.57 ASG 2110	58T.65 ASG 2350	58U.57 ASG 2110	58U.65 ASG 2350
	9.0	≤600	130	spheroidal graphite cast iron, ferritic	0.7040 (EN-GJS-400-15)	58U.58 ASG 2210	58U.65 ASG 2350	58U.58 ASG 2210	58U.65 ASG 2350	58T.57 ASG 2110	58T.65 ASG 2350	58T.57 ASG 2110	58T.65 ASG 2350	58U.57 ASG 2110	58U.65 ASG 2350
	9.1		230	spheroidal graphite cast iron, ferritic/perlitic	0.7050 (EN-GJS-500-7) 0.7055 (GJS-55) 0.8055 (GTW-55)	58U.58 ASG 2210	58U.65 ASG 2350	58U.58 ASG 2210	58U.65 ASG 2350	58T.57 ASG 2110	58T.65 ASG 2350	58T.57 ASG 2110	58T.65 ASG 2350	58U.57 ASG 2110	58U.65 ASG 2350
	10.0	>600	250	spheroidal graphite cast iron, perlitic malleable iron	0.7060 (EN-GJS-600-3) 0.8165 (GTS-65)	58U.58 ASG 2210	58U.65 ASG 2350	58U.58 ASG 2210	58U.65 ASG 2350	58T.57 ASG 2110	58T.65 ASG 2350	58T.57 ASG 2110	58T.65 ASG 2350	58U.57 ASG 2110	58U.65 ASG 2350
	10.1		200	alloyed spheroidal graphite cast iron	0.7661 (EN-GJSA-XNiCr20-2)	58U.58 ASG 2210	58U.65 ASG 2350	58U.58 ASG 2210	58U.65 ASG 2350	58T.57 ASG 2110	58T.65 ASG 2350	58T.57 ASG 2110	58T.65 ASG 2350	58U.57 ASG 2110	58U.65 ASG 2350
	10.2		300	vermicular cast iron	EN-GJV Ti < 0.2 EN-GJV Ti > 0.2	58U.58 ASG 2210	58U.65 ASG 2350	58U.58 ASG 2210	58U.65 ASG 2350	58T.57 ASG 2110	58T.65 ASG 2350	58T.57 ASG 2110	58T.65 ASG 2350	58U.57 ASG 2110	58U.65 ASG 2350
N	12.0		90	copper alloy, brass, lead-alloy bronze, lead bronze: good cut	2.0375 (CuZn36Pb3) 2.1182.01 (G-CuPb15Sn)	58U.58 ASG 2210	58U.17 ASG 2270	58U.58 ASG 2210	58U.17 ASG 2270	58T.57 ASG 2110	58T.17 ASG 2170	58T.57 ASG 2110	58T.17 ASG 2170	58U.57 ASG 2110	58U.17 ASG 2170
	12.1		100	copper alloy, brass, bronze: average cut	2.0550 (CuZn40Al2) 2.0060 (E-Cu57)	58U.58 ASG 2210	58U.17 ASG 2270	58U.58 ASG 2210	58U.17 ASG 2270	58T.57 ASG 2110	58T.17 ASG 2170	58T.57 ASG 2110	58T.17 ASG 2170	58U.57 ASG 2110	58U.17 ASG 2170
	13.0		60	wrought aluminium alloys	3.3315 (AlMg1) 3.0517 (AlMnCu)		58U.17 ASG 2270		58U.17 ASG 2270		58T.17 ASG 2170		58T.17 ASG 2170		58U.17 ASG 2170
	13.1		75	cast alum. alloy: Si-content <10% magnesium alloy	3.3561 (G-AlMg5) 3.2373.61 (G-AlSi9Mg wa)		58U.17 ASG 2270		58U.17 ASG 2270		58T.17 ASG 2170		58T.17 ASG 2170		58U.17 ASG 2170
	14.0		100	cast alum. alloy: Si-content >10%	3.2381.01 (G-AlSi10Mg)		58U.17 ASG 2270		58U.17 ASG 2270		58T.17 ASG 2170		58T.17 ASG 2170		58U.17 ASG 2170
H	15.0	1400		hardened steels < 45 HRC											
	16.0	1800		hardened steels > 45 HRC, ≤ 55 HRC											

Ø 12,000 – 30,000 mm

KOMET® hi.max

Reaming tool – long version



Custom reaming tool – selection options!												
 Order No.			 Order No.		Cutting material, coating	Dimensions						
						Ø D	Cylindrical shank Ødxc	L	b	a ~	 Z	 kg ~
58U.92	–	58U.93	58T.93	–	DST	12,000 - 14,099	16 × 48	160	112	6	6	0,13
58U.82	–	58U.85	58T.85	–	DJP	14,100 - 16,099	16 × 48	160	112	6	6	0,15
						16,100 - 18,099	16 × 48	180	132	6	6	0,17
58U.62		58U.65	58T.65		DBG-P	18,100 - 20,099	20 × 50	200	150	6	8	0,20
58U.58		58U.57	58T.57		DBG-U	20,100 - 22,099	20 × 50	200	150	6	8	0,25
						22,100 - 24,099	25 × 56	200	144	6	8	0,35
58U.17			58T.17		DBC	24,100 - 26,099	25 × 56	200	144	6	8	0,45
58U.21			58T.21		HM	26,100 - 28,099	25 × 56	210	154	7	8	0,55
						28,100 - 30,000	25 × 56	210	154	7	8	0,60

Order example:

Order No. 58U.58 · Bore diameter 21 mm · Bore tolerance H7 · Material 1.0037 (S235JR) or ASG2210 (Cutting geometry)

Cutting speed and feed see pages 46-47.

Patent applied for inside and outside Germany

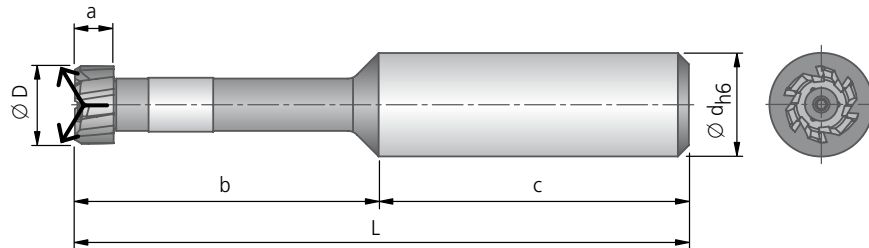
43



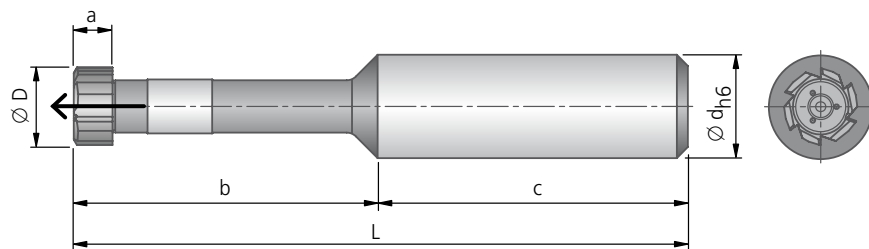
Universal reamer



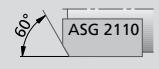
radially cooled, left slant,
for through hole machining



centrally cooled, straight,
for blind hole machining



Diameter H7 – available from stock

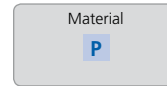
							 P K	 P K
								
Ø D	Ø d × c	L	b	a ~	Z	kg ~	Order No. DBG-U	Order No. DBG-U
12 ^{H7}	16 × 48	95	47	6	6	0,092	58N.58.12H7	58M.57.12H7
14 ^{H7}	16 × 48	95	47	6	6	0,093	58N.58.14H7	58M.57.14H7
15 ^{H7}	16 × 48	95	47	6	6	0,098	58N.58.15H7	58M.57.15H7
16 ^{H7}	16 × 48	95	47	6	6	0,099	58N.58.16H7	58M.57.16H7
18 ^{H7}	16 × 48	100	52	6	6	0,113	58N.58.18H7	58M.57.18H7
20 ^{H7}	20 × 50	120	70	6	8	0,184	58N.58.20H7	58M.57.20H7
22 ^{H7}	20 × 50	120	70	6	8	0,186	58N.58.22H7	58M.57.22H7
24 ^{H7}	25 × 56	120	64	6	8	0,319	58N.58.24H7	58M.57.24H7
25 ^{H7}	25 × 56	120	64	6	8	0,320	58N.58.25H7	58M.57.25H7
26 ^{H7}	25 × 56	120	64	6	8	0,321	58N.58.26H7	58M.57.26H7
28 ^{H7}	25 × 56	135	79	7	8	0,446	58N.58.28H7	58M.57.28H7
30 ^{H7}	25 × 56	135	79	7	8	0,452	58N.58.30H7	58M.57.30H7

Cutting speed and feed see pages 46-47.

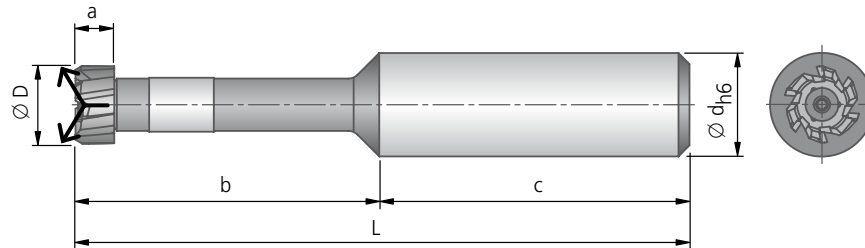
Ø 12^{H7} – 30^{H7} mm

KOMET® hi.max

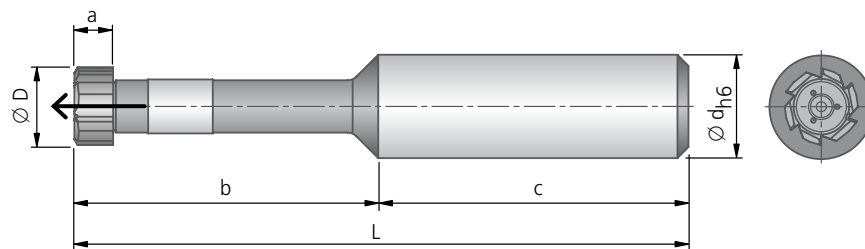
Special reamer P



radially cooled, left slant,
for through hole machining



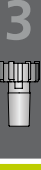
centrally cooled, straight,
for blind hole machining



Diameter H7 – available from stock

Ø D	Ø d × c	L	b	a ~	Z	kg ~		 P	 P
								 25° ASG 05 Order No. DST	 45° ASG 3000 Order No. DST
12 ^{H7}	16 × 48	95	47	6	6	0,092		58N.92.12H7	58M.93.12H7
14 ^{H7}	16 × 48	95	47	6	6	0,093		58N.92.14H7	58M.93.14H7
15 ^{H7}	16 × 48	95	47	6	6	0,098		58N.92.15H7	58M.93.15H7
16 ^{H7}	16 × 48	95	47	6	6	0,099		58N.92.16H7	58M.93.16H7
18 ^{H7}	16 × 48	100	52	6	6	0,113		58N.92.18H7	58M.93.18H7
20 ^{H7}	20 × 50	120	70	6	8	0,184		58N.92.20H7	58M.93.20H7
22 ^{H7}	20 × 50	120	70	6	8	0,186		58N.92.22H7	58M.93.22H7
24 ^{H7}	25 × 56	120	64	6	8	0,319		58N.92.24H7	58M.93.24H7
25 ^{H7}	25 × 56	120	64	6	8	0,320		58N.92.25H7	58M.93.25H7
26 ^{H7}	25 × 56	120	64	6	8	0,321		58N.92.26H7	58M.93.26H7
28 ^{H7}	25 × 56	135	79	7	8	0,446		58N.92.28H7	58M.93.28H7
30 ^{H7}	25 × 56	135	79	7	8	0,452		58N.92.30H7	58M.93.30H7

Cutting speed and feed see pages 46-47.



Recommended cutting data

Guideline values for reaming					Cutting speed v_c (m/min)												
Material group	Strength Rm (N/mm²)	Hardness HB	Material	Material example material code/DIN	optimum · maximum						optimum · maximum						
					3xD Reamers short						5xD Reamers long						
					DST	DIP	DBG-P	DBG-U	DBC	HM	DST	DIP	DBG-P	DBG-U	DBC	HM	
P	1.0	Ⅱ 500	non-alloy steels	1.0037 (S235JR) 1.0715 (11SMn30) 1.0044 (S2575JR)	150 200	150 200		150 200			120 160	120 160		120 160			
	2.0	500-900	non-alloy / low alloy steels	1.0050 (E295) 1.0535 (C55) 1.7131 (16MnCr5)	150 200	150 200		150 200			120 160	120 160		120 160			
	2.1	< 500	lead alloys	1.0718 (11SMnPb30)	150 200	150 200		150 200			120 160	120 160		120 160			
	3.0	> 900	non alloy / low alloy steels: heat resistant structural, heat treated, nitride and tools steels	1.7225 (42CrMo4) 1.1221 (C60E)	150 200	150 200		150 200			120 160	120 160		120 160			
	4.0	> 900	high alloy steels	1.2341 (6CrMo15-5) 1.2601 (X165CrMoV12)	150 200	150 200		150 200			120 160	120 160		120 160			
	4.1		HSS														
S	5.0		250 special alloys: Inconel, Hastelloy, Nimonic, stc.	2.4668 (NiuCr19Fe19Nb5Mo3) 2.4631 (Nimonic 80A)													
	5.1	400	titanium, titanium alloys	3.7115 (TiAl5Sn2.5)						8 12						8 12	
M	6.0	Ⅱ 600	stainless steels	1.4306 (X2CrNi19-11) 1.4401 (X5CrNiMo17-12-2)			40 60						40 60				
	6.1	< 900	stainless steels	1.4511 (X3CrNb17) 1.4571 (X10CrNiMo-Ti17-12-2)			30 50						30 50				
	7.0	> 900	stainless / fireproof steels	1.4713 (X10CrAlSi7) 1.4862 (X8NiCrSi38-18)			30 50						30 50				
K	8.0		180 gray cast iron	0.6025 (EN-GJL-250) 0.6035 (EN-GJL-350)			180 210	120 180					120 180	120 180			
	8.1		250 alloy gray cast iron	0.6660 (GGL-NiCr20 2)			90 130	90 130					90 130	90 130			
	9.0	Ⅱ 600	130 spheroidal graphite cast iron, ferritic	0.7040 (EN-GJS-400-15)	175 300	175 300	200 250	200 250			150 180	150 180	150 180	150 180			
	9.1		230 spheroidal graphite cast iron, ferritic / perlitic	0.7050 (EN-GJS-500-7) 0.7055 (GGG-55) 0.8055 (GTW-55)	150 250	150 250	200 250	200 250			120 160	120 160	150 180	150 180			
	10.0	> 600	250 spheroidal graphite cast iron, perlitic malleable iron	0.7060 (EN-GJS-600-3) 0.8165 (GTS-65)	120 180	120 180	120 150	120 150			120 150	120 150	120 150	120 150			
	10.1		200 alloyed spheroidal graphite cast iron	0.7661 (EN-GJSA-XNiCr20-2)			90 130	90 130					90 130	90 130			
10.2		300 vermicular cast iron	5.2200 (EN-GJV-350) 5.2300 (EN-GJV-450)			90 130	90 130					90 130	90 130				
N	12.0		90 copper alloy, brass, lead-alloy bronze, lead bronze: good cut	2.0375 (CuZn36Pb3) 2.1182.01 (G-CuPb15Sn)				150 250	150 250					120 180	120 180		
	12.1		100 copper alloy, brass, bronze:average cut	2.0550 (CuZn40Al2) 2.0060 (E-Cu57)				100 150	100 150					100 150	100 150		
	13.0		60 wrought aluminium alloys	3.3315 (AlMg1) 3.0517 (AlMnCu)					200 300							150 200	
	13.1		75 cast aluminium alloy: Si-content <10% magnesium alloy	3.3561 (G-AlMg5) 3.2373.61 (G-AlSi9Mg wa)					200 300							150 200	
	14.0		100 cast aluminium alloy: Si-content > 10%	3.2381.01 (G-AlSi10Mg)					200 250							150 200	
H	15.0	1400	hardened steels < 45 HRC														
	16.0	1800	hardened steels > 45 HRC, ≤ 55 HRC														

Reaming allowance in diameter (mm)



The new dimension in high performance reaming

More performance. More flexibility.

The modular reaming tool consists of a tool holder with cylindrical shaft and the KOMET REAMAX® -replaceable insert. A high precision short taper ensures the connection between the replaceable insert and the collet. Precise repeatability of the diameters and an immediate continuation of machining with a new insert are guaranteed.

The high-speed reaming tools KOMET REAMAX® provide maximum cutting capacity through multiple cutting edges and offers all the advantages of replaceable cutting inserts in one system.

- Maximum efficiency and complete process reliability
- Low vibrations during maximum cutting speed
- No re-setting when blades are replaced
- Maximum flexibility for combining cutting materials and coatings along with diameters and geometry of the replaceable inserts are available and can be chosen for each specific application
- Made to measure, available within the shortest time
- Precise repeatability
- Maximum replacement accuracy
- Designed especially for inner coolant supply and minimal lubrication

Simple possible replacement

The KOMET REAMAX® replaceable insert is fixed on to the tool holder with a tie-rod and a clamping nut. There is no need for time and cost intensive setting to the final size as the inserts are manufactured specifically for each application to the exact diameter and tolerance.

With KOMET REAMAX® replacement time is no idle time.

Application:

- All current materials
- Through holes and blind bores
- 3 × D and 5 × D
- High speed – up to 300 m/min
- Feed – up to 2.4 mm/rev

BENEFITS for you:

- Precision ground for guaranteed qualityModular tool system
- Maximum stability through tensile stress for the most demanding machining tasks
- Extremely high repeatability through a tapered flat bearing face
- Extremely high machining performance for the greatest efficiency
- Minimum quantity lubrication (MQL) optimised for environmentally friendly use

KOMET REAMAX®

Page

Replaceable insert

 $\varnothing$ 12,000 – 40,000 mm

50 – 51

Diameter H7 – available from stock

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Recommended cutting data

54 – 55

Holder

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Assembly instructions

56

Assembly parts / Accessories

57

KOMET SERVICE® (Chapter 11)
The KOMET SERVICE® TOOL lifeBoxicon describes tools that are available for the high quality cost-efficient refurbishment of tools.



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Tool recommendation

1 2 3 4 5 6 7 8 9 10 11	Material group	Strength Rm (N/mm²)	Hardness HB	Material	Material example, material code / DIN	Machining			
						Order No. ASG = cutting geometry			
									
P	1.0	≤500		non-alloy steels	1.0037 (S235JR) 1.0715 (11SMn30) 1.0044 (S2575JR)	640.92 ASG 05	640.70 ASG 05	640.93 ASG 3000	640.71 ASG 3000
	2.0	500-900		non-alloy / low alloy steels	1.0050 (E295) 1.0535 (C55) 1.7131 (16MnCr5)	640.92 ASG 05	640.70 ASG 05	640.93 ASG 3000	640.71 ASG 3000
	2.1	<500		lead alloys	1.0718 (11SMnPb30)	640.92 ASG 05	640.70 ASG 05	640.93 ASG 3000	640.71 ASG 3000
	3.0	>900		non alloy / low alloy steels; heat resistant structural, heat treated, nitride and tool steels	1.7225 (42CrMo4) 1.1221 (C60E)	640.92 ASG 05	640.71 ASG 3000	640.93 ASG 3000	640.71 ASG 3000
	4.0	>900		high alloy steels	1.2341 (6CrMo15-5) 1.2601 (X165Cr-MoV12)	640.71 ASG 0106	640.71 ASG 3000	640.71 ASG 0106	640.71 ASG 0106
	4.1			HSS					
S	5.0		250	special alloys: Inconel, Hastelloy, Nimonic, etc.	2.4668 (NiuCr-19Fe19Nb5Mo3) 2.4631 (Nimonic 80A)				
	5.1	400		titanium, titanium alloys	3.7115 (TiAl5Sn2.5)	640.21 ASG 03		640.21 ASG 03	
M	6.0	≤600		stainless steels	1.4306 (X2CrNi19-11) 1.4401 (X5CrNi-Mo17-12-2)	640.65 ASG 0106	640.65 ASG 0106	640.65 ASG 0106	640.65 ASG 0106
	6.1	<900		stainless steels	1.4511 (X3CrNb17) 1.4571 (X10CrNiMo-Ti17-12-2)	640.65 ASG 0106	640.65 ASG 0106	640.65 ASG 0106	640.65 ASG 0106
	7.0	>900		stainless / fireproof steels	1.4713 (X10CrAlSi7) 1.4862 (X8NiCr-Si38-18)	640.65 ASG 0106	640.65 ASG 0106	640.65 ASG 0106	640.65 ASG 0106
K	8.0		180	gray cast iron	0.6025 (EN-GJL-250) 0.6035 (EN-GJL-350)	640.65 ASG 3000	640.65 ASG 3000	640.65 ASG 3000	640.65 ASG 3000
	8.1		250	alloy gray cast iron	0.6660 (GGL-NiCr20 2)	640.65 ASG 3000	640.65 ASG 3000	640.65 ASG 3000	640.65 ASG 3000
	9.0	≤600	130	spheroidal graphite cast iron, ferritic	0.7040 (EN-GJS-400-15)	640.93 ASG 3000	640.65 ASG 3000	640.93 ASG 3000	640.65 ASG 3000
	9.1		230	spheroidal graphite cast iron, ferritic/perlitic	0.7050 (EN-GJS-500-7) 0.7055 (GJS-55) 0.8055 (GTW-55)	640.93 ASG 3000	640.65 ASG 3000	640.93 ASG 3000	640.65 ASG 3000
	10.0	>600	250	spheroidal graphite cast iron, perlitic malleable iron	0.7060 (EN-GJS-600-3) 0.8165 (GTS-65)	640.93 ASG 3000	640.65 ASG 3000	640.93 ASG 3000	640.65 ASG 3000
	10.1		200	alloyed spheroidal graphite cast iron	0.7661 (EN-GJSA-XNiCr20-2)	640.65 ASG 3000	640.65 ASG 3000	640.65 ASG 3000	640.65 ASG 3000
	10.2		300	vermicular cast iron	EN-GJV Ti < 0,2 EN-GJV Ti > 0,2	640.65 ASG 3000	640.65 ASG 3000	640.65 ASG 3000	640.65 ASG 3000
	12.0		90	copper alloy, brass, lead-alloy bronze, lead bronze: good cut	2.0375 (CuZn36Pb3) 2.1182.01 (G-CuPb15Sn)	640.93 ASG 3000	640.71 ASG 3000	640.93 ASG 3000	640.71 ASG 3000
N	12.1		100	copper alloy, brass, bronze: average cut	2.0550 (CuZn40Al2) 2.0060 (E-Cu57)	640.71 ASG 3000	640.71 ASG 3000	640.71 ASG 3000	640.71 ASG 3000
	13.0		60	wrought aluminium alloys	3.3315 (AlMg1) 3.0517 (AlMnCu)	640.27 ASG 0706	640.27 ASG 0706	640.27 ASG 0706	640.27 ASG 0706
	13.1		75	cast alum. alloy: Si-content <10% magnesium alloy	3.3561 (G-AlMg5) 3.2373.61 (G-AlSi9Mg wa)	640.27 ASG 0706	640.27 ASG 0706	640.27 ASG 0706	640.27 ASG 0706
	14.0		100	cast alum. alloy: Si-content >10%	3.2381.01 (G-AlSi10Mg)	640.27 ASG 0706	640.27 ASG 0706	640.27 ASG 0706	640.27 ASG 0706
H	15.0	1400		hardened steels < 45 HRC		640.65 ASG 2360		640.65 ASG 2360	
	16.0	1800		hardened steels > 45 HRC, ≤ 55 HRC		640.65 ASG 2360		640.65 ASG 2360	

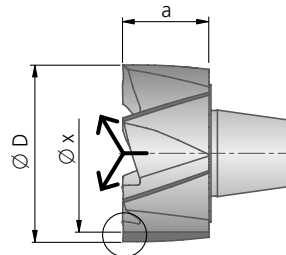
Ø 12,000 – 40,000 mm

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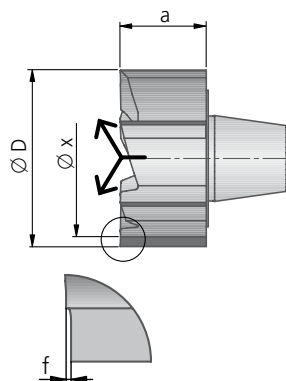
Replaceable insert



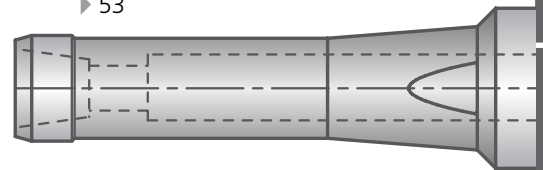
radially cooled, left slant,
for through hole machining



radially cooled, straight,
for blind hole machining



Holder
► 53



⚠ Please note: Don't use Ø 12,000 - 12,500 for blind hole machining

Custom reaming head – selection options!

Order No.		Order No.		Cutting material, coating	Dimensions					
					Ø D	min. diameter for face machining Ø x ~	a ~	f ~	Z	kg
640.92	–	640.93	–	DST	12,000 - 15,999	ØD – 2,5	9,0	0,5	6	
640.66	–	640.67	–	DJC	16,000 - 21,999	ØD – 3,0	9,0	0,5	6	
640.62		640.65		DBG-P	22,000 - 25,999	ØD – 3,0	9,0	0,5	8	
640.36		640.37		DBG-N	26,000 - 32,000	ØD – 4,0	9,0	0,5	8	
640.26		640.27		DBC	32,001 - 40,000	ØD – 4,0	9,0	0,5	8	
640.70		640.71		TiN						
640.20		640.21		HM						

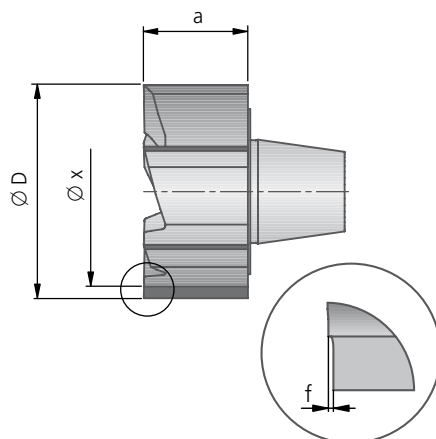
Order example:

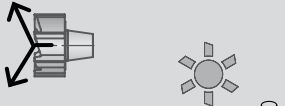
Order No. 640.92 · Bore diameter 21 mm · Bore tolerance H7 · Material 1.0037 (S235JR) or ASG3000 (Cutting geometry).

Cutting speed and feed see pages 54-55.



Replaceable insert



Diameter H7 – available from stock											
						 		 		 	
Ø D	Ø x ~	a ~	f ~	Z	 ~	 Order No. DST	 Order No. DST	 Order No. DBG-P			
15 ^{H7}	12,5	9	0,5	6		640.93.15H7N	640.93.15H7D	640.65.15H7N			
16 ^{H7}	13	9	0,5	6		640.93.16H7N	640.93.16H7D	640.65.16H7N			
18 ^{H7}	15	9	0,5	6		640.93.18H7N	640.93.18H7D	640.65.18H7N			
20 ^{H7}	17	9	0,5	6		640.93.20H7N	640.93.20H7D	640.65.20H7N			
22 ^{H7}	19	9	0,5	8		640.93.22H7N	640.93.22H7D	640.65.22H7N			
24 ^{H7}	21	9	0,5	8		640.93.24H7N	640.93.24H7D	640.65.24H7N			
25 ^{H7}	22	9	0,5	8		640.93.25H7N	640.93.25H7D	640.65.25H7N			
28 ^{H7}	24	9	0,5	8		640.93.28H7N	640.93.28H7D	640.65.28H7N			
30 ^{H7}	26	9	0,5	8		640.93.30H7N	640.93.30H7D	640.65.30H7N			
40 ^{H7}	36	9	0,5	8		640.93.40H7N	640.93.40H7D	640.65.40H7N			

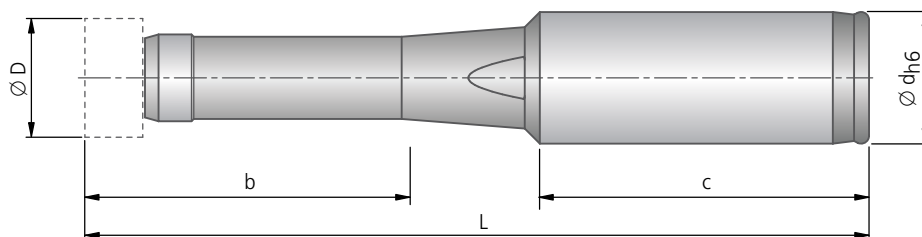
¹⁾ material group 12.0

Cutting speed and feed see pages 54-55.

Holder



⚠ Please note:
Not suitable for shrinking



for Ø D ^{H7}	for Ø D	short version							long version						
															
		Order No.	L	b	c	Ø d	kg		Order No.	L	b	c	Ø d	kg	
15 ^{H7}	12,000 – 15,999	640.01.001	107	3xD	48	16	0,11		640.81.001	137	5xD	48	16	0,13	
16 ^{H7}	16,000 – 21,999	640.01.002	119	3xD	50	20	0,18		640.81.002	169	5xD	50	20	0,23	
18 ^{H7}															
20 ^{H7}															
22 ^{H7}	22,000 – 25,999	640.01.003	140	3xD	56	25	0,34		640.81.003	196	5xD	56	25	0,44	
24 ^{H7}															
25 ^{H7}															
28 ^{H7}	26,000 – 32,000	640.01.005	160	3xD	56	25	0,46		640.81.005	226	5xD	56	25	0,65	
30 ^{H7}															
40 ^{H7}	32,001 – 40,000	640.01.006	199	3xD	60	32	0,86		640.81.006	270	5xD	60	32	1,13	

Supply includes: Holder with assembly parts (page 57). Please order replaceable insert separately.

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KOMET REAMAX®

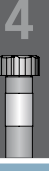
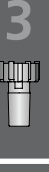
Recommended cutting data

Guideline values for reaming					Cutting speed v_c (m/min)															
Material group	Strength Rm (N/mm ²)	Hardness HB	Material	Material example material code/DIN	optimum · maximum						optimum · maximum									
					3xD Reamers short						5xD Reamers long									
					DST	DJC	DBG-P	DBG-N	DBC	TiN	HM	DST	DJC	DBG-P	DBG-N	DBC		TiN	HM	
P	1.0	≤ 500		non-alloy steels	1.0037 (S235JR) 1.0715 (11SMn30) 1.0044 (S2575JR)	150 200	150 200				100 140	8 10	120 160	120 160				80 120	8 10	
	2.0	500-900		non-alloy / low alloy steels	1.0050 (E295) 1.0535 (C55) 1.7131 (16MnCr5)	150 200	150 200				100 140	8 10	120 160	120 160				80 120	8 10	
	2.1	< 500		lead alloys	1.0718 (11SMnPb30)	150 200	150 200				100 140	30 45	120 160	120 160				80 120	30 45	
	3.0	> 900		non alloy / low alloy steels: heat resistant structural, heat treated, nitride and tools steels	1.7225 (42CrMo4) 1.1221 (C60E)	150 200	150 200				100 140	7 9	120 160	120 160				80 120	7 9	
	4.0	> 900		high alloy steels	1.2341 (6CrMo15-5) 1.2601 (X165CrMoV12)						30 45	5 7						30 45	5 7	
	4.1			HSS																
S	5.0		250	special alloys: Inconel, Hastelloy, Nimonic, stc.	2.4668 (NiuCr19Fe19Nb5Mo3) 2.4631 (Nimonic 80A)															
	5.1	400		titanium, titanium alloys	3.7115 (TiAl5Sn2.5)							8 12							8 12	
M	6.0	≤ 600		stainless steels	1.4306 (X2CrNi19-11) 1.4401 (X5CrNiMo17-12-2)			45 60			30 40	6 8			45 60			30 40	6 8	
	6.1	< 900		stainless steels	1.4511 (X3CrNb17) 1.4571 (X10CrNiMo-Ti17-12-2)			30 50			20 35	5 6			30 50			20 35	5 6	
	7.0	> 900		stainless / fireproof steels	1.4713 (X10CrAlSi7) 1.4862 (X8NiCrSi38-18)			30 50			20 35	5 6			30 50			20 35	5 6	
K	8.0		180	gray cast iron	0.6025 (EN-GJL-250) 0.6035 (EN-GJL-350)			150 220	150 220		80 130	15 25			120 150	120 150		80 120	15 25	
	8.1		250	alloy gray cast iron	0.6660 (GGL-NiCr20 2)			90 130	90 130		50 90	10 15			90 120	90 120		50 90	10 15	
	9.0	≤ 600	130	spheroidal graphite cast iron, ferritic	0.7040 (EN-GJS-400-15)	175 300	175 300	175 300	175 300			12 18	150 180	150 180	150 180	150 180			12 18	
	9.1		230	spheroidal graphite cast iron, ferritic / perlitic	0.7050 (EN-GJS-500-7) 0.7055 (GGG-55) 0.8055 (GTW-55)	150 250	150 250	150 250	150 250			12 18	120 160	120 160	120 160	120 160			12 18	
	10.0	> 600	250	spheroidal graphite cast iron, perlitic malleable iron	0.7060 (EN-GJS-600-3) 0.8165 (GTS-65)	120 180	120 180	120 180	120 180			12 15	120 150	120 150	120 150	120 150			12 15	
	10.1		200	alloyed spheroidal graphite cast iron	0.7661 (EN-GJSA-XNiCr20-2)			70 100	70 100		40 60	9 12			70 100	70 100		40 60	9 12	
	10.2		300	vermicular cast iron	5.2200 (EN-GJV-350) 5.2300 (EN-GJV-450)			80 130	80 130		50 70	9 12			80 130	80 130		50 70	9 12	
N	12.0		90	copper alloy, brass, lead-alloy bronze, lead bronze: good cut	2.0375 (CuZn36Pb3) 2.1182.01 (G-CuPb15Sn)	150 320					120 200	15 30	150 200					120 150	15 30	
	12.1		100	copper alloy, brass, bronze:average cut	2.0550 (CuZn40Al2) 2.0060 (E-Cu57)						80 150	12 20						80 120	12 20	
	13.0		60	wrought aluminium alloys	3.3315 (AlMg1) 3.0517 (AlMnCu)					150 300		15 30					150 200		15 30	
	13.1		75	cast aluminium alloy: Si-content <10% magnesium alloy	3.3561 (G-AlMg5) 3.2373.61 (G-AlSi9Mg wa)						200 300	15 30					150 200		15 30	
	14.0		100	cast aluminium alloy: Si-content > 10%	3.2381.01 (G-AlSi10Mg)						200 300	12 20					150 200		12 20	
H	15.0	1400		hardened steels < 45 HRC					40 60							40 60				
	16.0	1800		hardened steels > 45 HRC, ≤ 55 HRC					30 50							30 50				

Reaming allowance in diameter (mm)

Recommended cutting data

	Feed f (mm/rev)								
	optimum · maximum			optimum · maximum			optimum · maximum		
	 ASG3000, ASG0106, ASG03 ASG07, ASG02	 ASG4000, ASG09B, ASG1402 ASG09, ASG1405 ASG1406	 ASG05, ASG0502, ASG04	Ø 12 - 21,999  6	Ø 22 - 32,000  8	Ø 32,001 - 40  8	Ø 12 - 21,999  6	Ø 22 - 32,000  8	Ø 32,001 - 40  8
	0,90 1,20	1,50 2,00	1,50 2,00	1,10 1,40	1,80 2,40	1,80 2,40	1,10 1,40	1,80 2,40	1,80 2,40
	0,90 1,20	1,50 2,00	1,50 2,00	1,10 1,40	1,80 2,40	1,80 2,40	1,10 1,40	1,80 2,40	1,80 2,40
	0,90 1,20	1,50 2,00	1,50 2,00	1,10 1,40	1,80 2,40	1,80 2,40	1,10 1,40	1,80 2,40	1,80 2,40
	0,90 1,20	1,50 2,00	1,50 2,00	1,10 1,40	1,80 2,40	1,80 2,40	1,10 1,40	1,80 2,40	1,80 2,40
	0,60 0,80	1,00 1,40	1,00 1,40						
	0,60 0,80	1,00 1,40	1,00 1,40						
	0,50 0,70	0,90 1,20	0,90 1,20						
	0,70 1,00	1,20 1,60	1,20 1,60						
	0,70 0,90	1,20 1,60	1,20 1,60						
	0,70 0,90	1,20 1,60	1,20 1,60						
	0,70 0,90	1,20 1,60	1,20 1,60						
	1,00 1,40	1,80 2,40	1,80 2,40						
	0,90 1,20	1,50 2,00	1,50 2,00						
	1,00 1,40	1,80 2,40	1,80 2,40						
	1,00 1,40	1,80 2,40	1,80 2,40						
	0,90 1,20	1,50 2,00	1,50 2,00						
	0,70 0,90	1,20 1,60	1,20 1,60						
	0,70 0,90	1,20 1,60	1,20 1,60						
	1,00 1,40	1,70 2,40	1,70 2,40						
	0,80 1,20	1,40 2,00	1,40 2,00						
	1,00 1,40	1,70 2,40	1,70 2,40						
	1,00 1,40	1,70 2,40	1,70 2,40						
	0,40 0,80	0,60 1,00	0,60 1,00						
	0,40 0,80	0,60 1,00	0,60 1,00						
	0,10 - 0,30	0,20 - 0,40	0,20 - 0,40	0,10 - 0,30	0,20 - 0,40	0,20 - 0,40	0,10 - 0,30	0,20 - 0,40	0,20 - 0,40



KOMET REAMAX®

Assembly instructions

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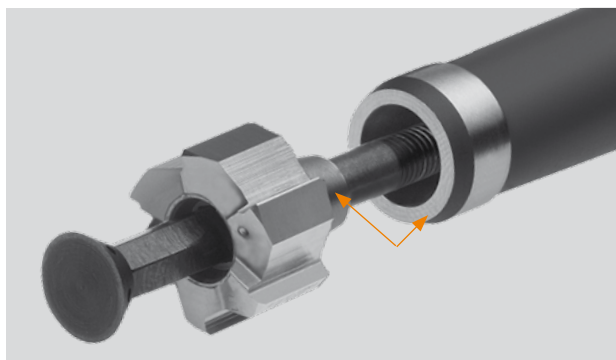
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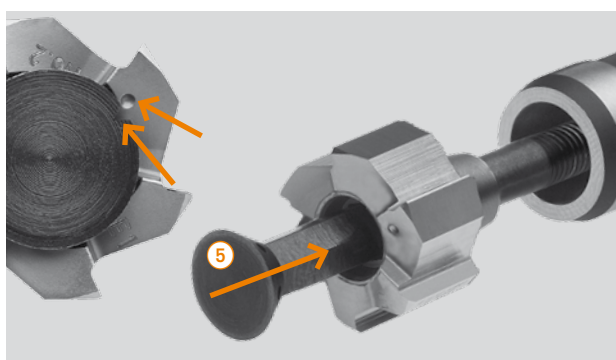
10



11



Clean taper/contactface thoroughly (grease free).
Apply light grease on tie bar thread (5).



Locate tie bar (5) on insert and holder.
Important note: for nominal size 3, 4 and 5, fit with marking on tie bar and insert aligned.



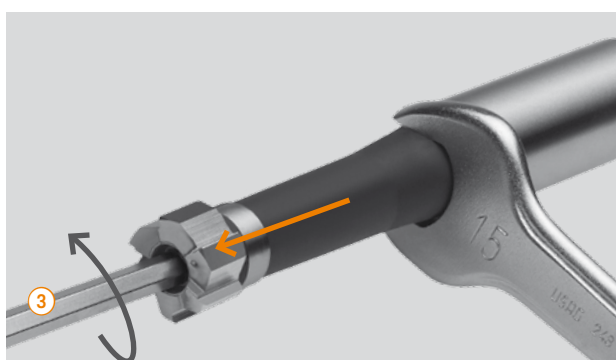
Draw in tie bar with the clamping nut. Before tightening, turn insert and tie bar clockwise until it stops.
Tighten the clamping nut as far as possible using the torque key to the specified starting torque M.

Dia. range	Starting torque M
12,000 – 15,999	4-5 Nm
16,000 – 21,999	6-7 Nm
22,000 – 25,999	10-12 Nm
26,000 – 32,000	18-20 Nm
32,001 – 40,000	26-28 Nm

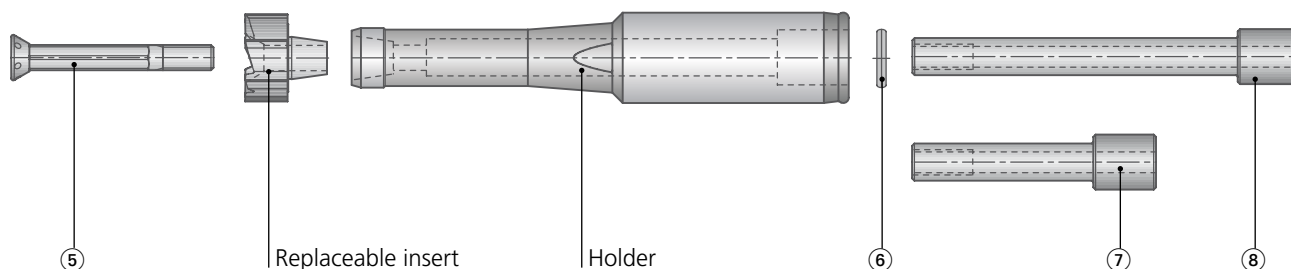


Removing the replaceable insert:

Loosen the clamping screw.
Pull tie bar from holder and insert.



Locate operating key (3) in insert and loosen insert by turning.



for Ø D	for Ø D ^{H7}	③ Operating key 						④ Open-end wrench 	
		Width across flats	Short version Order No.	L	Long version Order No.	L	Starting torque M	Width across flats	Order No.
12,000 – 15,999	15 ^{H7}	SW 4	18050 10040	100	18050 20040	200	4-5 Nm	SW 12	18589 00012
16,000 – 21,999	16 ^{H7}	SW 5	18050 10050	100	18050 35050	350	6-7 Nm	SW 14	18589 00014
	18 ^{H7}								
	20 ^{H7}								
22,000 – 25,999	22 ^{H7}	SW 7	18050 10070	100	18050 35070	350	10-12 Nm	SW 19	18589 00019
	24 ^{H7}								
	25 ^{H7}								
26,000 – 32,000	28 ^{H7}	SW 8	18050 10080	100	18050 35080	350	18-20 Nm	SW 22	18589 00022
	30 ^{H7}								
32,001 – 40,000	40 ^{H7}	SW 10	18050 20100	200	18050 35100	350	26-28 Nm	SW 27	18589 00027

for Ø D	for Ø D ^{H7}	⑤ Tie bar 	⑥ Seeger ring DIN 472 	⑦ Clamping nut short version 	⑧ Clamping nut long version 
		Order No.	Order No.	Order No.	Order No.
12,000 – 15,999	15 ^{H7}	640.03.001	55232 01010	640.04.001	640.84.001
16,000 – 21,999	16 ^{H7}	640.03.002	55232 01210	640.04.002	640.84.002
	18 ^{H7}				
	20 ^{H7}				
22,000 – 25,999	22 ^{H7}	640.03.003	55232 01610	640.04.003	640.84.003
	24 ^{H7}				
	25 ^{H7}				
26,000 – 32,000	28 ^{H7}	640.03.004	55232 01610	640.04.005	640.84.005
	30 ^{H7}				
32,001 – 40,000	40 ^{H7}	640.03.005	55232 02210	640.04.006	640.84.006

Supply includes holder: tie-rod, Seeger ring and clamping nut.

Modular Reaming System

Unlimited flexibility and cost-effectiveness: KOMET REAMAX® TS is a uniform clamping system with a standardised separation point for all reaming heads, offering flexibility and cost-effectiveness thanks to fast and high-precision tool changing.

KOMET REAMAX® TS guarantees a maximum of system modularity thanks to a versatile and clearly structured range of reaming heads which can handle all commonly encountered diameter ranges and machining requirements. Tool costs and logistical expenditure are thereby reduced to a minimum.

Application:

- All current materials
- Through holes and blind bores
- Small bore tolerances
- Up to $5 \times D$
- High speed – up to 300 m/min
- Feed – up to 2.4 mm/rev

A connection for maximum production reliability

This high-precision connection guarantees safer transfer of the torque which occurs during reaming and the concentricity required for precision machining.

KOMET REAMAX® TS is designed for high speed machining.

Adjustable for small tolerances

To compensate for wear and to meet tolerances as small as IT4, all KOMET REAMAX® TS multi-flute tools are adjustable. Maximum repeatable accuracy is achieved without pre-setting, i.e.

- Longer tool life
- Maximum performance
- Extremely tight bore tolerances
- Less machine down time

BENEFITS for you:

- High-precision ground for the highest quality
- Modular tool system for the highest flexibility
- Compensation for wear through simple readjustment
- Integrated concentricity adjustment for short lengths
- Can be adjusted for extremely small hole



The use of inserts is revolutionizing reaming with multiple blade reamers and setting new levels in precision and function.

Each insert has two effective cutting edges. Unlike boring tools, inserts for reaming tools are ground as a complete set directly on the basic element in their specific insert pocket.

The positions of the individual cutting edges on an insert are precisely defined during manufacturing and application. Cutting edges ground in a single operation ensure the degree of precision required for high precision bore machining.

Numerous cutting materials and coatings for machining an extremely wide variety of materials.



KOMET REAMAX® TS

Page

Reaming head REAMAX® TS fix

Ø 18,000 – 30,000 mm	60 – 61
Diameter H7 – available from stock	62 – 63
Recommended cutting data	64 – 65

Reaming head REAMAX® TS

Ø 18,000 – 65,000 mm	66 – 67
Diameter H7 – available from stock	68 – 69
Recommended cutting data	70 – 71

Indexable insert reaming head REAMAX® TS Duo

Ø 42,000 – 70,000 mm	72 – 75
Recommended cutting data	76 – 77

Holder	78 – 79
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Assembly instruction	80
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Assembly parts / Accessories	81
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11



KOMET SERVICE® (Chapter 11)
The KOMET SERVICE® TOOL lifeBoxicon describes tools that are available for the high quality cost-efficient refurbishment of tools.



KOMET REAMAX® TS fix

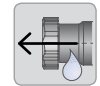
Tool recommendation

	Material group	Strength Rm (N/mm²)	Hardness HB	Material	Material example, material code / DIN	Machining									
						Order No. ASG = cutting geometry									
						Universal	Special	Universal	Special	Universal	Special	Universal	Special	Universal	Special
1	P	1.0	≤500	non-alloy steels	1.0037 (S235JR) 1.0715 (11SMn30) 1.0044 (S2575JR)	78N.58 ASG 2210	78N.92 ASG 05	78N.58 ASG 2210		78M.57 ASG 2110	78M.93 ASG 3000	78M.57 ASG 2110		78N.57 ASG 2110	78N.93 ASG 3000
2		2.0	500-900	non-alloy / low alloy steels	1.0050 (E295) 1.0535 (C55) 1.7131 (16MnCr5)	78N.58 ASG 2210	78N.92 ASG 05	78N.58 ASG 2210		78M.57 ASG 2110	78M.93 ASG 3000	78M.57 ASG 2110		78N.57 ASG 2110	78N.93 ASG 3000
3		2.1	<500	lead alloys	1.0718 (11SMnPb30)	78N.58 ASG 2210	78N.92 ASG 05	78N.58 ASG 2210		78M.57 ASG 2110	78M.93 ASG 3000	78M.57 ASG 2110		78N.57 ASG 2110	78N.93 ASG 3000
4		3.0	>900	non alloy / low alloy steels; heat resistant structural, heat treated, nitride and tool steels	1.7225 (42CrMo4) 1.1221 (C60E)	78N.58 ASG 2210	78N.92 ASG 05	78N.58 ASG 2210		78M.57 ASG 2110	78M.93 ASG 3000	78M.57 ASG 2110		78N.57 ASG 2110	78N.93 ASG 3000
5		4.0	>900	high alloy steels	1.2341 (6CrMo15-5) 1.2601 (X165Cr-MoV12)	78N.58 ASG 2210	78N.93 ASG 3000	78N.58 ASG 2210		78M.57 ASG 2110	78M.93 ASG 3000	78M.57 ASG 2110		78N.57 ASG 2110	78N.93 ASG 3000
6	S	4.1		HSS											
7		5.0	250	special alloys: Inconel, Hastelloy, Nimonic, etc.	2.4668 (NiuCr-19Fe19Nb5Mo3) 2.4631 (Nimonic 80A)										
8		5.1	400	titanium, titanium alloys	3.7115 (TiAl5Sn2.5)	78N.21 ASG 03				78M.21 ASG 03					
9	M	6.0	≤600	stainless steels	1.4306 (X2CrNi19-11) 1.4401 (X5CrNi-Mo17-12-2)	78N.65 ASG 0106		78N.65 ASG 0106		78M.65 ASG 0106		78M.65 ASG 0106		78N.65 ASG 0106	
10		6.1	<900	stainless steels	1.4511 (X3CrNb17) 1.4571 (X10CrNiMo-Ti17-12-2)	78N.65 ASG 0106		78N.65 ASG 0106		78M.65 ASG 0106		78M.65 ASG 0106		78N.65 ASG 0106	
11		7.0	>900	stainless / fireproof steels	1.4713 (X10CrAlSi7) 1.4862 (X8NiCr-Si38-18)	78N.65 ASG 0106		78N.65 ASG 0106		78M.65 ASG 0106		78M.65 ASG 0106		78N.65 ASG 0106	
12	K	8.0	180	gray cast iron	0.6025 (EN-GJL-250) 0.6035 (EN-GJL-350)	78N.58 ASG 2210	78N.65 ASG 2350	78N.58 ASG 2210	78N.65 ASG 2350	78M.57 ASG 2110	78M.65 ASG 2350	78M.57 ASG 2110	78M.65 ASG 2350	78N.57 ASG 2110	78N.65 ASG 2350
13		8.1	250	alloy gray cast iron	0.6660 (GGL-NiCr20 2)	78N.58 ASG 2210	78N.65 ASG 2350	78N.58 ASG 2210	78N.65 ASG 2350	78M.57 ASG 2110	78M.65 ASG 2350	78M.57 ASG 2110	78M.65 ASG 2350	78N.57 ASG 2110	78N.65 ASG 2350
14		9.0	≤600	spheroidal graphite cast iron, ferritic	0.7040 (EN-GJS-400-15)	78N.58 ASG 2210	78N.65 ASG 2350	78N.58 ASG 2210	78N.65 ASG 2350	78M.57 ASG 2110	78M.65 ASG 2350	78M.57 ASG 2110	78M.65 ASG 2350	78N.57 ASG 2110	78N.65 ASG 2350
15		9.1	230	spheroidal graphite cast iron, ferritic/perlitic	0.7050 (EN-GJS-500-7) 0.7055 (GJS-55) 0.8055 (GTW-55)	78N.58 ASG 2210	78N.65 ASG 2350	78N.58 ASG 2210	78N.65 ASG 2350	78M.57 ASG 2110	78M.65 ASG 2350	78M.57 ASG 2110	78M.65 ASG 2350	78N.57 ASG 2110	78N.65 ASG 2350
16		10.0	>600	spheroidal graphite cast iron, perlitic malleable iron	0.7060 (EN-GJS-600-3) 0.8165 (GTS-65)	78N.58 ASG 2210	78N.65 ASG 2350	78N.58 ASG 2210	78N.65 ASG 2350	78M.57 ASG 2110	78M.65 ASG 2350	78M.57 ASG 2110	78M.65 ASG 2350	78N.57 ASG 2110	78N.65 ASG 2350
17	N	10.1	200	alloyed spheroidal graphite cast iron	0.7661 (EN-GJSA-XNiCr20-2)	78N.58 ASG 2210	78N.65 ASG 2350	78N.58 ASG 2210	78N.65 ASG 2350	78M.57 ASG 2110	78M.65 ASG 2350	78M.57 ASG 2110	78M.65 ASG 2350	78N.57 ASG 2110	78N.65 ASG 2350
18		10.2	300	vermicular cast iron	EN-GJV Ti < 0,2 EN-GJV Ti > 0,2	78N.58 ASG 2210	78N.65 ASG 2350	78N.58 ASG 2210	78N.65 ASG 2350	78M.57 ASG 2110	78M.65 ASG 2350	78M.57 ASG 2110	78M.65 ASG 2350	78N.57 ASG 2110	78N.65 ASG 2350
19		12.0	90	copper alloy, brass, lead-alloy bronze, lead bronze: good cut	2.0375 (CuZn36Pb3) 2.1182.01 (G-CuPb15Sn)	78N.58 ASG 2210	78N.17 ASG 2270	78N.58 ASG 2210	78N.17 ASG 2270	78M.57 ASG 2110	78M.17 ASG 2170	78M.57 ASG 2110	78M.17 ASG 2170	78N.57 ASG 2110	78N.17 ASG 2170
20		12.1	100	copper alloy, brass, bronze: average cut	2.0550 (CuZn40Al2) 2.0060 (E-Cu57)	78N.58 ASG 2210	78N.17 ASG 2270	78N.58 ASG 2210	78N.17 ASG 2270	78M.57 ASG 2110	78M.17 ASG 2170	78M.57 ASG 2110	78M.17 ASG 2170	78N.57 ASG 2110	78N.17 ASG 2170
21		13.0	60	wrought aluminium alloys	3.3315 (AlMg1) 3.0517 (AlMnCu)		78N.17 ASG 2270		78N.17 ASG 2270		78M.17 ASG 2170		78M.17 ASG 2170		78N.17 ASG 2170
22	H	13.1	75	cast alum. alloy: Si-content <10% magnesium alloy	3.3561 (G-AlMg5) 3.2373.61 (G-AlSi9Mg wa)		78N.17 ASG 2270		78N.17 ASG 2270		78M.17 ASG 2170		78M.17 ASG 2170		78N.17 ASG 2170
23		14.0	100	cast alum. alloy: Si-content >10%	3.2381.01 (G-AlSi10Mg)		78N.17 ASG 2270		78N.17 ASG 2270		78M.17 ASG 2170		78M.17 ASG 2170		78N.17 ASG 2170
24		15.0	1400	hardened steels < 45 HRC											
25		16.0	1800	hardened steels > 45 HRC, ≤ 55 HRC											

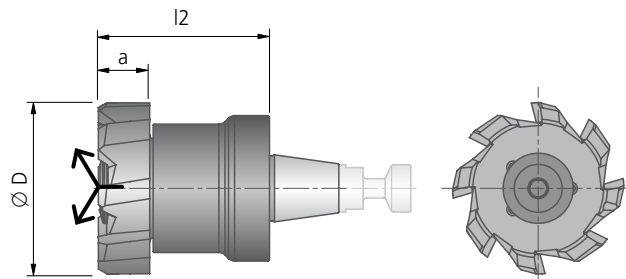
Ø 18,000 – 30,000 mm

KOMET REAMAX® TS fix

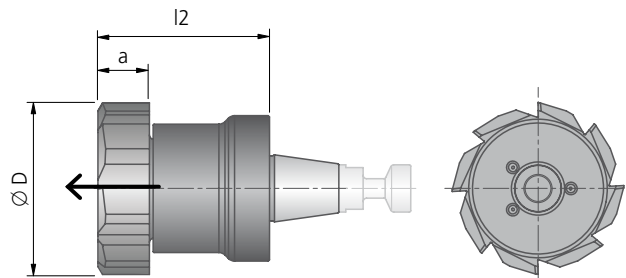
Reaming head



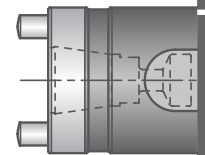
radially cooled, left slant,
for through hole machining



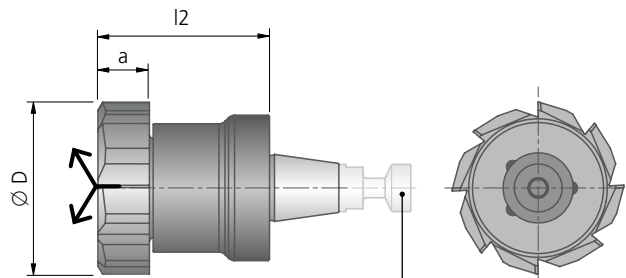
centrally cooled, straight,
for blind hole machining



Holder
► 78

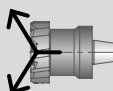
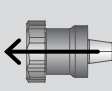


radially cooled, straight,
for step hole



Pull stud included
with the holder

Custom reaming head – selection options!

 Order No.			 Order No.			Dimensions				
						Ø D	a ~	l2 ~	Z 	kg 
						18,000 - 19,999	6	20	8	0,04
78N.92	–	78N.93	78M.93	–	DST	20,000 - 21,999	6	20	8	0,05
78N.82	–	78N.85	78M.85	–	DJP	22,000 - 24,099	6	20	8	0,07
78N.62	78N.65	78M.65	DBG-P			24,100 - 26,099	6	20	8	0,10
78N.58	78N.57	78M.57	DBG-U			26,100 - 26,999	7	20	8	0,11
78N.17	78M.17	DBC				27,000 - 28,099	7	25	8	0,17
78N.21	78M.21	HM				28,100 - 30,000	7	25	8	0,19

Order example:

Order No. 78N.58 · Bore diameter 21 mm · Bore tolerance H7 · Material 1.0037 (S235JR) or ASG2210 (Cutting geometry)

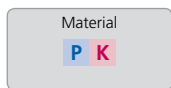
Cutting speed and feed see pages 64-65.



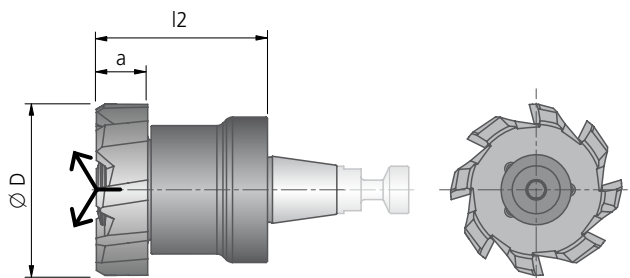
KOMET REAMAX® TS fix

Ø 18^{H7} – 30^{H7} mm

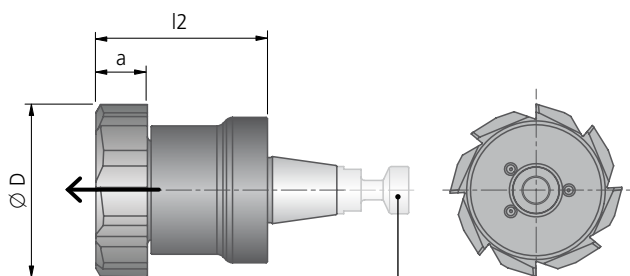
Universal reaming head



radially cooled, left slant,
for through hole machining

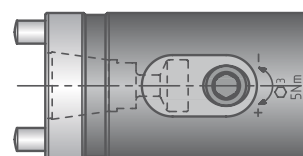


centrally cooled, straight,
for blind hole machining

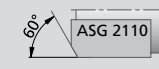


Pull stud included
with the holder

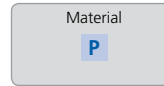
Holder
► 78



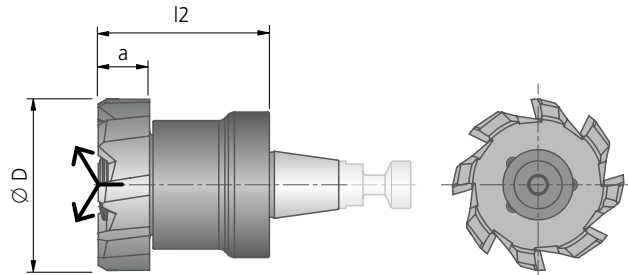
Diameter H7 – available from stock

					 P K	 P K
					 30° ASG 2210	 6° ASG 2110
Ø D	a ~	l2 ~	Z	kg	Order No. DBG-U	Order No. DBG-U
18 ^{H7}	6	20	8	0,041	78N.58.18H7	78M.57.18H7
20 ^{H7}	6	20	8	0,053	78N.58.20H7	78M.57.20H7
22 ^{H7}	6	20	8	0,067	78N.58.22H7	78M.57.22H7
24 ^{H7}	6	20	8	0,070	78N.58.24H7	78M.57.24H7
25 ^{H7}	6	20	8	0,092	78N.58.25H7	78M.57.25H7
26 ^{H7}	6	20	8	0,113	78N.58.26H7	78M.57.26H7
28 ^{H7}	7	25	8	0,176	78N.58.28H7	78M.57.28H7
30 ^{H7}	7	25	8	0,196	78N.58.30H7	78M.57.30H7

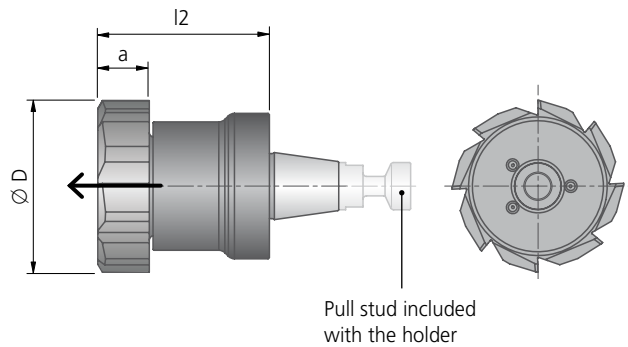
Cutting speed and feed see pages 64-65.



radially cooled, left slant,
for through hole machining



centrally cooled, straight,
for blind hole machining



Holder
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Diameter H7 – available from stock						
Ø D	a ~	l2 ~	Z	kg ~	 P	 P
					 ASG 05 Order No. DST	 ASG 3000 Order No. DST
18 ^{H7}	6	20	8	0,041	78N.92.18H7	78M.93.18H7
20 ^{H7}	6	20	8	0,053	78N.92.20H7	78M.93.20H7
22 ^{H7}	6	20	8	0,067	78N.92.22H7	78M.93.22H7
24 ^{H7}	6	20	8	0,070	78N.92.24H7	78M.93.24H7
25 ^{H7}	6	20	8	0,092	78N.92.25H7	78M.93.25H7
26 ^{H7}	6	20	8	0,113	78N.92.26H7	78M.93.26H7
28 ^{H7}	7	25	8	0,176	78N.92.28H7	78M.93.28H7
30 ^{H7}	7	25	8	0,196	78N.92.30H7	78M.93.30H7

Cutting speed and feed see pages 64-65.



KOMET REAMAX® TS fix

Recommended cutting data

Guideline values for reaming					Cutting speed v_c (m/min)												
Material group	Strength Rm (N/mm²)	Hardness HB	Material	Material example material code/DIN	optimum · maximum						optimum · maximum						
					3xD Reamers short						5xD Reamers long						
					DST	DIP	DBG-P	DBG-U	DBC	HM	DST	DIP	DBG-P	DBG-U	DBC	HM	
P	1.0	≤ 500		non-alloy steels 1.0037 (S235JR) 1.0715 (11SMn30) 1.0044 (S2575JR)	150 200	150 200		150 200			120 160	120 160		120 160			
	2.0	500-900		non-alloy / low alloy steels 1.0050 (E295) 1.0535 (C55) 1.7131 (16MnCr5)	150 200	150 200		150 200			120 160	120 160		120 160			
	2.1	< 500		lead alloys 1.0718 (11SMnPb30)	150 200	150 200		150 200			120 160	120 160		120 160			
	3.0	> 900		non alloy / low alloy steels: heat resistant structural, heat treated, nitride and tools steels 1.7225 (42CrMo4) 1.1221 (C60E)	150 200	150 200		150 200			120 160	120 160		120 160			
	4.0	> 900		high alloy steels 1.2341 (6CrMo15-5) 1.2601 (X165CrMoV12)	150 200	150 200		150 200			120 160	120 160		120 160			
	4.1			HSS													
S	5.0		250	special alloys: Inconel, Hastelloy, Nimonic, stc. 2.4668 (NiuCr19Fe19Nb5Mo3) 2.4631 (Nimonic 80A)													
	5.1	400		titanium, titanium alloys 3.7115 (TiAl5Sn2.5)						8 12						8 12	
M	6.0	≤ 600		stainless steels 1.4306 (X2CrNi19-11) 1.4401 (X5CrNiMo17-12-2)			40 60						40 60				
	6.1	< 900		stainless steels 1.4511 (X3CrNb17) 1.4571 (X10CrNiMo-Ti17-12-2)			30 50						30 50				
	7.0	> 900		stainless / fireproof steels 1.4713 (X10CrAlSi7) 1.4862 (X8NiCrSi38-18)			30 50						30 50				
K	8.0		180	gray cast iron 0.6025 (EN-GJL-250) 0.6035 (EN-GJL-350)			180 210	120 180					120 180	120 180			
	8.1		250	alloy gray cast iron 0.6660 (GGL-NiCr20 2)			90 130	90 130					90 130	90 130			
	9.0	≤ 600	130	spheroidal graphite cast iron, ferritic 0.7040 (EN-GJS-400-15)	175 300	175 300	200 250	200 250			150 180	150 180	150 180	150 180			
	9.1		230	spheroidal graphite cast iron, ferritic / perlitic 0.7050 (EN-GJS-500-7) 0.7055 (GGG-55) 0.8055 (GTW-55)	150 250	150 250	200 250	200 250			120 160	120 160	150 180	150 180			
	10.0	> 600	250	spheroidal graphite cast iron, perlitic malleable iron 0.7060 (EN-GJS-600-3) 0.8165 (GTS-65)	120 180	120 180	120 150	120 150			120 150	120 150	120 150	120 150			
	10.1		200	alloyed spheroidal graphite cast iron 0.7661 (EN-GJSA-XNiCr20-2)			90 130	90 130					90 130	90 130			
10.2		300	vermicular cast iron 5.2200 (EN-GJV-350) 5.2300 (EN-GJV-450)			90 130	90 130					90 130	90 130				
N	12.0		90	copper alloy, brass, lead-alloy bronze, lead bronze: good cut 2.0375 (CuZn36Pb3) 2.1182.01 (G-CuPb15Sn)				150 250	150 250					120 180	120 180		
	12.1		100	copper alloy, brass, bronze:average cut 2.0550 (CuZn40Al2) 2.0060 (E-Cu57)				100 150	100 150					100 150	100 150		
	13.0		60	wrought aluminium alloys 3.3315 (AlMg1) 3.0517 (AlMnCu)					200 300							150 200	
	13.1		75	cast aluminium alloy: Si-content <10% magnesium alloy 3.3561 (G-AlMg5) 3.2373.61 (G-AlSi9Mg wa)					200 300							150 200	
	14.0		100	cast aluminium alloy: Si-content > 10% 3.2381.01 (G-AlSi10Mg)					200 250							150 200	
H	15.0	1400		hardened steels < 45 HRC													
	16.0	1800		hardened steels > 45 HRC, ≤ 55 HRC													

Reaming allowance in diameter (mm)

Recommended cutting data

KOMET REAMAX® TS

Tool recommendation

1 2 3 4 5 6 7 8 9 10 11	Material group	Strength Rm (N/mm²)	Hardness HB	Material	Material example, material code / DIN	Machining			
						Order No. ASG = cutting geometry			
									
P	1.0	≤500		non-alloy steels	1.0037 (S235JR) 1.0715 (11SMn30) 1.0044 (S2575JR)	75J.93 ASG 4000	75J.71 ASG 4000	75H.93 ASG 3000	75H.71 ASG 3000
	2.0	500-900		non-alloy / low alloy steels	1.0050 (E295) 1.0535 (C55) 1.7131 (16MnCr5)	75J.93 ASG 4000	75J.71 ASG 4000	75H.93 ASG 3000	75H.71 ASG 3000
	2.1	<500		lead alloys	1.0718 (11SMnPb30)	75J.93 ASG 4000	75J.71 ASG 4000	75H.93 ASG 3000	75H.71 ASG 3000
	3.0	>900		non alloy / low alloy steels; heat resistant structural, heat treated, nitride and tool steels	1.7225 (42CrMo4) 1.1221 (C60E)	75J.93 ASG 4000	75J.71 ASG 3000	75H.93 ASG 3000	75H.71 ASG 3000
	4.0	>900		high alloy steels	1.2341 (6CrMo15-5) 1.2601 (X165Cr-MoV12)	75J.71 ASG 0106	75J.71 ASG 0106	75H.71 ASG 0106	75H.71 ASG 0106
	4.1			HSS					
S	5.0		250	special alloys: Inconel, Hastelloy, Nimonic, etc.	2.4668 (NiuCr-19Fe19Nb5Mo3) 2.4631 (Nimonic 80A)				
	5.1	400		titanium, titanium alloys	3.7115 (TiAl5Sn2.5)	75J.21 ASG 03		75H.21 ASG 03	
M	6.0	≤600		stainless steels	1.4306 (X2CrNi19-11) 1.4401 (X5CrNi-Mo17-12-2)	75J.65 ASG 0106	75J.65 ASG 0106	75H.65 ASG 0106	75H.65 ASG 0106
	6.1	<900		stainless steels	1.4511 (X3CrNb17) 1.4571 (X10CrNiMo-Ti17-12-2)	75J.65 ASG 0106	75J.65 ASG 0106	75H.65 ASG 0106	75H.65 ASG 0106
	7.0	>900		stainless / fireproof steels	1.4713 (X10CrAlSi7) 1.4862 (X8NiCr-Si38-18)	75J.65 ASG 0106	75J.65 ASG 0106	75H.65 ASG 0106	75H.65 ASG 0106
K	8.0		180	gray cast iron	0.6025 (EN-GJL-250) 0.6035 (EN-GJL-350)	75J.65 ASG 3000	75J.65 ASG 3000	75H.65 ASG 3000	75H.65 ASG 3000
	8.1		250	alloy gray cast iron	0.6660 (GGL-NiCr20 2)	75J.65 ASG 3000	75J.65 ASG 3000	75H.65 ASG 3000	75H.65 ASG 3000
	9.0	≤600	130	spheroidal graphite cast iron, ferritic	0.7040 (EN-GJS-400-15)	75J.93 ASG 3000	75J.65 ASG 3000	75H.93 ASG 3000	75H.65 ASG 3000
	9.1		230	spheroidal graphite cast iron, ferritic/perlitic	0.7050 (EN-GJS-500-7) 0.7055 (GJS-55) 0.8055 (GTW-55)	75J.93 ASG 3000	75J.65 ASG 3000	75H.93 ASG 3000	75H.65 ASG 3000
	10.0	>600	250	spheroidal graphite cast iron, perlitic malleable iron	0.7060 (EN-GJS-600-3) 0.8165 (GTS-65)	75J.93 ASG 3000	75J.65 ASG 3000	75H.93 ASG 3000	75H.65 ASG 3000
	10.1		200	alloyed spheroidal graphite cast iron	0.7661 (EN-GJSA-XNiCr20-2)	75J.65 ASG 3000	75J.65 ASG 3000	75H.65 ASG 3000	75H.65 ASG 3000
	10.2		300	vermicular cast iron	EN-GJV Ti < 0,2 EN-GJV Ti > 0,2	75J.65 ASG 3000	75J.65 ASG 3000	75H.65 ASG 3000	75H.65 ASG 3000
	12.0		90	copper alloy, brass, lead-alloy bronze, lead bronze: good cut	2.0375 (CuZn36Pb3) 2.1182.01 (G-CuPb15Sn)	75J.93 ASG 3000	75J.71 ASG 3000	75H.93 ASG 3000	75H.71 ASG 3000
N	12.1		100	copper alloy, brass, bronze: average cut	2.0550 (CuZn40Al2) 2.0060 (E-Cu57)	75J.71 ASG 3000	75J.71 ASG 3000	75H.71 ASG 3000	75H.71 ASG 3000
	13.0		60	wrought aluminium alloys	3.3315 (AlMg1) 3.0517 (AlMnCu)	75J.17 ASG 0706	75J.17 ASG 0706	75H.17 ASG 0706	75H.17 ASG 0706
	13.1		75	cast alum. alloy: Si-content <10% magnesium alloy	3.3561 (G-AlMg5) 3.2373.61 (G-AlSi9Mg wa)	75J.17 ASG 0706	75J.17 ASG 0706	75H.17 ASG 0706	75H.17 ASG 0706
	14.0		100	cast alum. alloy: Si-content >10%	3.2381.01 (G-AlSi10Mg)	75J.17 ASG 0706	75J.17 ASG 0706	75H.17 ASG 0706	75H.17 ASG 0706
H	15.0	1400		hardened steels < 45 HRC					
	16.0	1800		hardened steels > 45 HRC, ≤ 55 HRC					

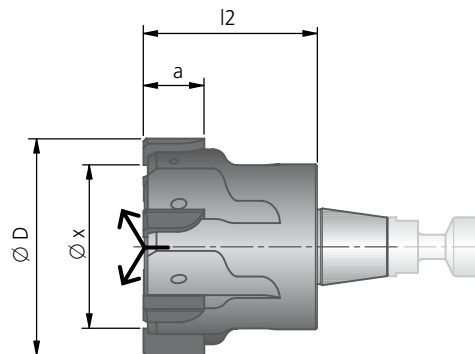
Ø 18,000 – 65,000 mm

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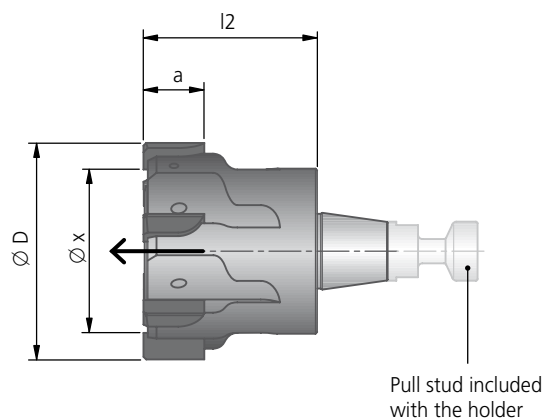
Reaming head



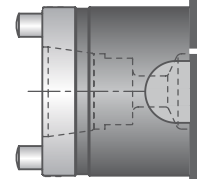
radially cooled,
for through hole machining



centrally cooled,
for blind hole machining



Holder
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Custom reaming head – selection options!										
Order No.		Order No.		Cutting material, coating	Dimensions					
					Ø D	min. diameter for face machining Ø x ~	a ~	l2 ~	Z	kg
75J.93	–	75H.93	–	DST	18,000 - 21,999	ØD – 4,0	6,0	20	6	0,03
75J.67	–	75H.67	–	DJC	22,000 - 26,999	ØD – 4,2	6,0	20	6	0,04
75J.85	–	75H.85	–	DJP	27,000 - 31,799	ØD – 5,4	6,0	25	6	0,04
75J.65	–	75H.65	–	DBG-P	31,800 - 34,999	ØD – 6,0	6,0	25	8	0,05
75J.37	–	75H.37	–	DBG-N	35,000 - 41,999	ØD – 6,9	6,0	25	8	0,13 - 0,15
75J.17	–	75H.17	–	DBC	42,000 - 51,999	ØD – 7,5	6,0	30	8	0,20 - 0,25
75J.71	–	75H.71	–	TiN	52,000 - 65,000	ØD – 8,8	8,0	35	10	0,35 - 0,45
75J.21	–	75H.21	–	HM						

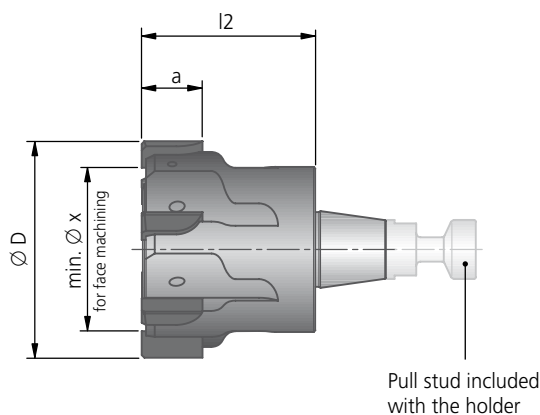
Order example:

Order No. 75J.93 · Bore diameter 21 mm · Bore tolerance H6 · Material 1.0037 (S235JR) or ASG4000 (Cutting geometry).

Cutting speed and feed see pages 70-71.



Reaming head



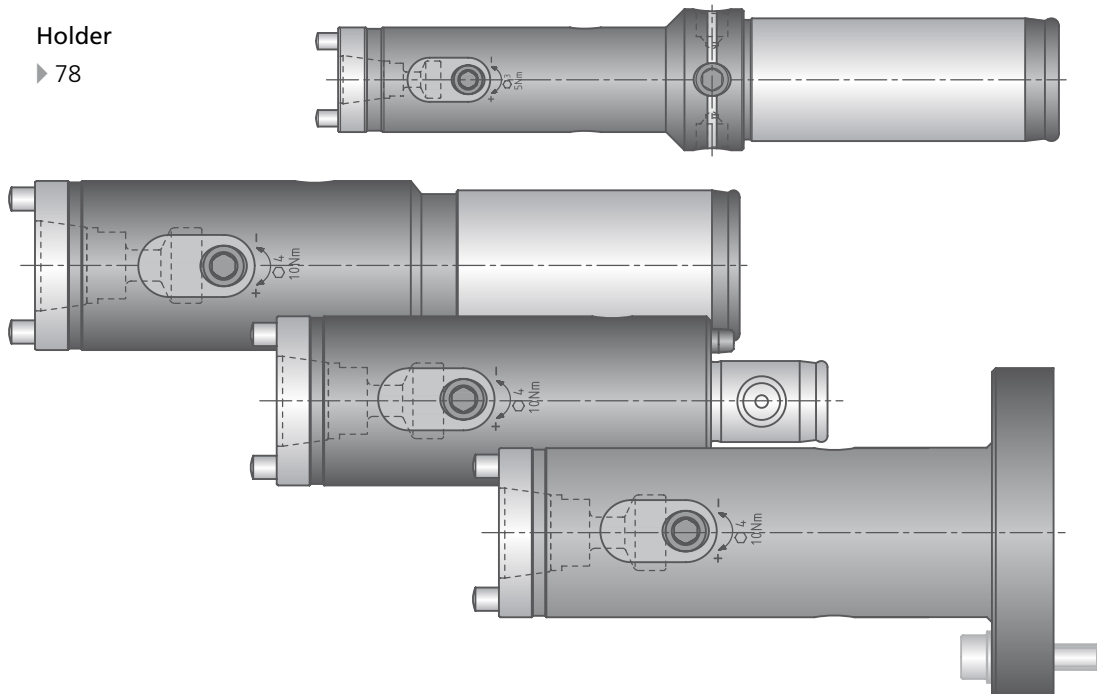
Diameter H7 – available from stock							
Ø D	Ø x ~	a ~	l2 ~	Z	kg ~	    	  
						 Order No. DST	 Order No. DST
18 ^{H7}	14	6	20	6	0,026	75J.93.18H7N	75J.93.18H7D
20 ^{H7}	16	6	20	6	0,033	75J.93.20H7N	75J.93.20H7D
22 ^{H7}	17,8	6	20	6	0,039	75J.93.22H7N	75J.93.22H7D
24 ^{H7}	19,8	6	20	6	0,043	75J.93.24H7N	75J.93.24H7D
25 ^{H7}	20,8	6	20	6	0,044	75J.93.25H7N	75J.93.25H7D
26 ^{H7}	21,8	6	20	6	0,047	75J.93.26H7N	75J.93.26H7D
28 ^{H7}	22,6	6	25	6	0,078	75J.93.28H7N	75J.93.28H7D
30 ^{H7}	24,6	6	25	6	0,080	75J.93.30H7N	75J.93.30H7D
32 ^{H7}	26	6	25	8	0,090	75J.93.32H7N	75J.93.32H7D
35 ^{H7}	28,1	6	25	8	0,130	75J.93.35H7N	75J.93.35H7D
40 ^{H7}	33,1	6	25	8	0,144	75J.93.40H7N	75J.93.40H7D
42 ^{H7}	34,5	6	30	8	0,206	75J.93.42H7N	75J.93.42H7D
50 ^{H7}	42,5	6	30	8	0,226	75J.93.50H7N	75J.93.50H7D
54 ^{H7}	45,2	8	35	10	0,371	75J.93.54H7N	75J.93.54H7D

¹⁾ GJS (spheroidal graphite cast iron) · ³⁾ material group 12.0 · ⁴⁾ material group 12.1 · ⁵⁾ material group 12.0&12.1

Cutting speed and feed see pages 70-71.

Holder

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Diameter H7 – available from stock				
				
				Ø D
Order No. DBG-P	Order No. TiN	Order No. TiN		
75J.65.18H7N	75J.71.18H7N	75J.71.18H7D		18 ^{H7}
75J.65.20H7N	75J.71.20H7N	75J.71.20H7D		20 ^{H7}
75J.65.22H7N	75J.71.22H7N	75J.71.22H7D		22 ^{H7}
75J.65.24H7N	75J.71.24H7N	75J.71.24H7D		24 ^{H7}
75J.65.25H7N	75J.71.25H7N	75J.71.25H7D		25 ^{H7}
	75J.71.26H7N	75J.71.26H7D		26 ^{H7}
75J.65.28H7N	75J.71.28H7N	75J.71.28H7D		28 ^{H7}
75J.65.30H7N	75J.71.30H7N	75J.71.30H7D		30 ^{H7}
75J.65.32H7N	75J.71.32H7N	75J.71.32H7D		32 ^{H7}
75J.65.35H7N	75J.71.35H7N	75J.71.35H7D		35 ^{H7}
75J.65.40H7N	75J.71.40H7N	75J.71.40H7D		40 ^{H7}
	75J.71.42H7N	75J.71.42H7D		42 ^{H7}
75J.65.50H7N	75J.71.50H7N	75J.71.50H7D		50 ^{H7}
	75J.71.54H7N	75J.71.54H7D		54 ^{H7}



KOMET REAMAX® TS

Recommended cutting data

Guideline values for reaming					Cutting speed v_c (m/min)																	
Material group	Strength Rm (N/mm²)	Hardness HB	Material	Material example material code/DIN	optimum · maximum								optimum · maximum									
					3xD Reamers short								5xD Reamers long									
					DST	DJC	DJP	DBG-P	DBG-N	DBC	TiN	HM	DST	DJC	DJP	DBG-P	DBG-N	DBC	TiN	HM		
P	1.0	≤ 500	non-alloy steels	1.0037 (S235JR) 1.0715 (11SMn30) 1.0044 (S2575JR)	150 200	150 200						100 140	8 10	120 160	120 160					80 120	8 10	
	2.0	500-900	non-alloy / low alloy steels	1.0050 (E295) 1.0535 (C55) 1.7131 (16MnCr5)	150 200	150 200						100 140	8 10	120 160	120 160					80 120	8 10	
	2.1	< 500	lead alloys	1.0718 (11SMnPb30)	150 200	150 200						100 140	30 45	120 160	120 160					80 120	30 45	
	3.0	> 900	non alloy / low alloy steels: heat resistant structural, heat treated, nitride and tools steels	1.7225 (42CrMo4) 1.1221 (C60E)	150 200	150 200						100 140	7 9	120 160	120 160					80 120	7 9	
	4.0	> 900	high alloy steels	1.2341 (6CrMo15-5) 1.2601 (X165CrMoV12)								30 45	5 7							30 45	5 7	
	4.1		HSS																			
S	5.0		250	special alloys: Inconel, Hastelloy, Nimonic, stc.	2.4668 (NiuCr19Fe19Nb5Mo3) 2.4631 (Nimonic 80A)																	
	5.1	400	titanium, titanium alloys	3.7115 (TiAl5Sn2.5)									8 12								8 12	
M	6.0	≤ 600	stainless steels	1.4306 (X2CrNi19-11) 1.4401 (X5CrNiMo17-12-2)				45 60				30 40	6 8				45 60			30 40	6 8	
	6.1	< 900	stainless steels	1.4511 (X3CrNb17) 1.4571 (X10CrNiMo-Ti17-12-2)				30 50				20 35	5 6				30 50			20 35	5 6	
	7.0	> 900	stainless / fireproof steels	1.4713 (X10CrAlSi7) 1.4862 (X8NiCrSi38-18)				30 50				20 35	5 6				30 50			20 35	5 6	
K	8.0		180	gray cast iron	0.6025 (EN-GJL-250) 0.6035 (EN-GJL-350)				150 220	150 220		80 130	15 25				120 150	120 150		80 120	15 25	
	8.1		250	alloy gray cast iron	0.6660 (GGL-NiCr20 2)				90 130	90 130		50 90	10 15				90 120	90 120		50 90	10 15	
	9.0	≤ 600	130	spheroidal graphite cast iron, ferritic	0.7040 (EN-GJS-400-15)	175 300	175 300	175 300	175 300	175 300			12 18	150 180	150 180	150 180	150 180	150 180			12 18	
	9.1		230	spheroidal graphite cast iron, ferritic / perlitic	0.7050 (EN-GJS-500-7) 0.7055 (GGG-55) 0.8055 (GTW-55)	150 250	150 250	150 250	150 250	150 250			12 18	120 160	120 160	120 160	120 160	120 160			12 18	
	10.0	> 600	250	spheroidal graphite cast iron, perlitic malleable iron	0.7060 (EN-GJS-600-3) 0.8165 (GTS-65)	120 180	120 180	120 180	120 180	120 180			12 15	120 150	120 150	120 150	120 150	120 150			12 15	
	10.1		200	alloyed spheroidal graphite cast iron	0.7661 (EN-GJSA-XNiCr20-2)				70 100	70 100		40 60	9 12				70 100	70 100		40 60	9 12	
10.2		300	vermicular cast iron	5.2200 (EN-GJV-350) 5.2300 (EN-GJV-450)				80 130	80 130		50 70	9 12				80 130	80 130		50 70	9 12		
N	12.0		90	copper alloy, brass, lead-alloy bronze, lead bronze: good cut	2.0375 (CuZn36Pb3) 2.1182.01 (G-CuPb15Sn)	150 320						120 200	15 30	150 200						120 150	15 30	
	12.1		100	copper alloy, brass, bronze: average cut	2.0550 (CuZn40Al2) 2.0060 (E-Cu57)							80 150	12 20							80 120	12 20	
	13.0		60	wrought aluminium alloys	3.3315 (AlMg1) 3.0517 (AlMnCu)						150 300		15 30						150 200		15 30	
	13.1		75	cast aluminium alloy: Si-content <10% magnesium alloy	3.3561 (G-AlMg5) 3.2373.61 (G-AlSi9Mg wa)						200 300		15 30						150 200		15 30	
	14.0		100	cast aluminium alloy: Si-content > 10%	3.2381.01 (G-AlSi10Mg)						200 300		12 20						150 200		12 20	
H	15.0	1400	hardened steels < 45 HRC																			
	16.0	1800	hardened steels > 45 HRC, ≤ 55 HRC																			

Reaming allowance in diameter (mm)

Recommended cutting data

	Feed f (mm/rev) – with face cut, feed reduced by 30%							
	optimum · maximum				optimum · maximum			
	ASG3000, ASG0106, ASG03, ASG0706 ASG07, ASG02				ASG4000, ASG09B, ASG1402 ASG09, ASG1405, ASG1406			
	Ø 18 - 21,999 ✱ 6	Ø 22 - 31,799 ✱ 6	Ø 31,8 - 51,999 ✱ 8	Ø 52 - 65 ✱ 10	Ø 18 - 21,999 ✱ 6	Ø 22 - 31,799 ✱ 6	Ø 31,8 - 51,999 ✱ 8	Ø 52 - 65 ✱ 10
	0,80 1,10	1,00 1,40	1,30 1,90	1,90 2,80	1,00 1,30	1,20 1,70	1,70 2,30	2,40 3,40
	0,80 1,10	1,00 1,40	1,30 1,90	1,90 2,80	1,00 1,30	1,20 1,70	1,70 2,30	2,40 3,40
	0,80 1,10	1,00 1,40	1,30 1,90	1,90 2,80	1,00 1,30	1,20 1,70	1,70 2,30	2,40 3,40
	0,80 1,10	1,00 1,40	1,30 1,90	1,90 2,80	1,00 1,30	1,20 1,70	1,70 2,30	2,40 3,40
	0,50 0,80	0,70 1,00	0,90 1,30	1,30 2,00				
	0,50 0,80	0,70 1,00	0,90 1,30	1,30 2,00				
	0,40 0,60	0,60 0,80	0,80 1,10	1,10 1,70				
	0,60 0,90	0,80 1,20	1,10 1,60	1,60 2,40				
	0,60 0,90	0,80 1,10	1,10 1,50	1,50 2,30				
	0,60 0,90	0,80 1,10	1,10 1,50	1,50 2,30				
	0,60 0,90	0,80 1,10	1,10 1,50	1,50 2,30				
	0,90 1,30	1,20 1,70	1,60 2,30	2,30 3,40				
	0,80 1,10	1,00 1,40	1,30 1,90	1,90 2,80				
	0,90 1,30	1,20 1,70	1,60 2,30	2,30 3,40	1,20 1,60	1,50 2,00	2,00 2,70	2,90 4,10
	0,90 1,30	1,20 1,70	1,60 2,30	2,30 3,40	1,20 1,60	1,50 2,00	2,00 2,70	2,90 4,10
	0,80 1,10	1,00 1,40	1,30 1,90	1,90 2,80	1,00 1,30	1,20 1,70	1,70 2,30	2,40 3,40
	0,60 0,90	0,80 1,10	1,10 1,50	1,50 2,30				
	0,60 0,90	0,80 1,10	1,10 1,50	1,50 2,30				
	0,90 1,30	1,10 1,70	1,50 2,30	2,10 3,10				
	0,70 1,10	0,90 1,40	1,20 1,90	1,70 2,60				
	0,90 1,30	1,10 1,70	1,50 2,30	2,20 3,40				
	0,90 1,30	1,10 1,70	1,50 2,30	2,20 3,40				
	0,90 1,30	1,10 1,70	1,50 2,30	2,20 3,40				
	0,20 - 0,30	0,20 - 0,30	0,30 - 0,40	0,30 - 0,50	0,20 - 0,30	0,20 - 0,30	0,30 - 0,40	0,30 - 0,50

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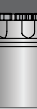
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11



KOMET REAMAX® TS Duo

Tool recommendation

1 2 3 4 5 6 7 8 9 10 11 i	Material group	Strength Rm (N/mm²)	Hardness HB	Material	Material example, material code / DIN	Machining			
						Order No. ASG = cutting geometry			
									
P	1.0	≤500		non-alloy steels	1.0037 (S235JR) 1.0715 (11SMn30) 1.0044 (S2575JR)	77J.93 ASG 4000	77J.71 ASG 4000	77H.93 ASG 3000	77H.71 ASG 3000
	2.0	500-900		non-alloy / low alloy steels	1.0050 (E295) 1.0535 (C55) 1.7131 (16MnCr5)	77J.93 ASG 4000	77J.71 ASG 4000	77H.93 ASG 3000	77H.71 ASG 3000
	2.1	<500		lead alloys	1.0718 (11SMnPb30)	77J.93 ASG 4000	77J.71 ASG 4000	77H.93 ASG 3000	77H.71 ASG 3000
	3.0	>900		non alloy / low alloy steels; heat resistant structural, heat treated, nitride and tool steels	1.7225 (42CrMo4) 1.1221 (C60E)	77J.93 ASG 4000	77J.71 ASG 3000	77H.93 ASG 3000	77H.71 ASG 3000
	4.0	>900		high alloy steels	1.2341 (6CrMo15-5) 1.2601 (X165Cr-MoV12)	77J.71 ASG 0106	77J.71 ASG 0106	77H.71 ASG 0106	77H.71 ASG 0106
S	4.1			HSS					
	5.0		250	special alloys: Inconel, Hastelloy, Nimonic, etc.	2.4668 (NiuCr-19Fe19Nb5Mo3) 2.4631 (Nimonic 80A)				
M	5.1	400		titanium, titanium alloys	3.7115 (TiAl5Sn2.5)	77J.21 ASG 03		77H.21 ASG 03	
	6.0	≤600		stainless steels	1.4306 (X2CrNi19-11) 1.4401 (X5CrNi-Mo17-12-2)	77J.65 ASG 0106	77J.65 ASG 0106	77H.65 ASG 0106	77H.65 ASG 0106
	6.1	<900		stainless steels	1.4511 (X3CrNb17) 1.4571 (X10CrNiMo-Ti17-12-2)	77J.65 ASG 0106	77J.65 ASG 0106	77H.65 ASG 0106	77H.65 ASG 0106
K	7.0	>900		stainless / fireproof steels	1.4713 (X10CrAlSi7) 1.4862 (X8NiCr-Si38-18)	77J.65 ASG 0106	77J.65 ASG 0106	77H.65 ASG 0106	77H.65 ASG 0106
	8.0		180	gray cast iron	0.6025 (EN-GJL-250) 0.6035 (EN-GJL-350)	77J.65 ASG 3000	77J.65 ASG 3000	77H.65 ASG 3000	77H.65 ASG 3000
	8.1		250	alloy gray cast iron	0.6660 (GGL-NiCr20 2)	77J.65 ASG 3000	77J.65 ASG 3000	77H.65 ASG 3000	77H.65 ASG 3000
	9.0	≤600	130	spheroidal graphite cast iron, ferritic	0.7040 (EN-GJS-400-15)	77J.93 ASG 3000	77J.65 ASG 3000	77H.93 ASG 3000	77H.65 ASG 3000
	9.1		230	spheroidal graphite cast iron, ferritic/perlitic	0.7050 (EN-GJS-500-7) 0.7055 (GJS-55) 0.8055 (GTW-55)	77J.93 ASG 3000	77J.65 ASG 3000	77H.93 ASG 3000	77H.65 ASG 3000
	10.0	>600	250	spheroidal graphite cast iron, perlitic malleable iron	0.7060 (EN-GJS-600-3) 0.8165 (GTS-65)	77J.93 ASG 3000	77J.65 ASG 3000	77H.93 ASG 3000	77H.65 ASG 3000
	10.1		200	alloyed spheroidal graphite cast iron	0.7661 (EN-GJSA-XNiCr20-2)	77J.65 ASG 3000	77J.65 ASG 3000	77H.65 ASG 3000	77H.65 ASG 3000
	10.2		300	vermicular cast iron	EN-GJV Ti < 0,2 EN-GJV Ti > 0,2	77J.65 ASG 3000	77J.65 ASG 3000	77H.65 ASG 3000	77H.65 ASG 3000
	12.0		90	copper alloy, brass, lead-alloy bronze, lead bronze: good cut	2.0375 (CuZn36Pb3) 2.1182.01 (G-CuPb15Sn)	77J.93 ASG 3000	77J.93 ASG 3000	77H.93 ASG 3000	77H.93 ASG 3000
	12.1		100	copper alloy, brass, bronze: average cut	2.0550 (CuZn40Al2) 2.0060 (E-Cu57)	77J.71 ASG 3000	77J.71 ASG 3000	77H.71 ASG 3000	77H.71 ASG 3000
N	13.0		60	wrought aluminium alloys	3.3315 (AlMg1) 3.0517 (AlMnCu)	77J.17 ASG 0706	77J.17 ASG 0706	77H.17 ASG 0706	77H.17 ASG 0706
	13.1		75	cast alum. alloy: Si-content <10% magnesium alloy	3.3561 (G-AlMg5) 3.2373.61 (G-AlSi9Mg wa)	77J.17 ASG 0706	77J.17 ASG 0706	77H.17 ASG 0706	77H.17 ASG 0706
	14.0		100	cast alum. alloy: Si-content >10%	3.2381.01 (G-AlSi10Mg)	77J.17 ASG 0706	77J.17 ASG 0706	77H.17 ASG 0706	77H.17 ASG 0706
	15.0	1400		hardened steels < 45 HRC					
H	16.0	1800		hardened steels > 45 HRC, ≤ 55 HRC					

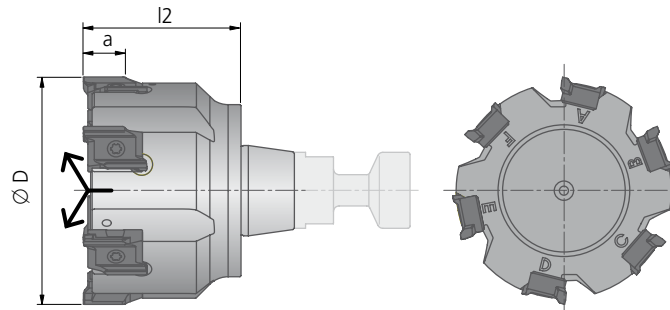
Ø 42,000 – 70,000 mm

KOMET REAMAX® TS Duo

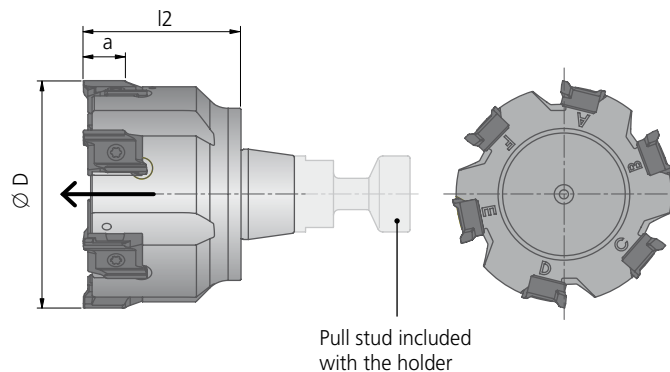
Indexable insert reaming head



radially cooled,
for through hole machining

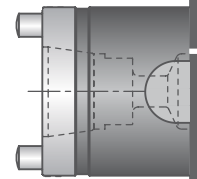


centrally cooled,
for blind hole machining



Pull stud included
with the holder

Holder
► 78



Custom reaming head – selection options!										
 Order No.		 Order No.		Cutting material, coating	Dimensions					
					Ø D	Preferred diameter Ø D	a ~	l2 ~	Z	kg
77J.93	–	77H.93	–	DST	42,000 - 51,999	42	9,0	30	6	
77J.67	–	77H.67	–	DJC						
77J.85		77H.85		DJP	52,000 - 55,999	54	9,0	35	6	
77J.65		77H.65		DBG-P						
77J.37		77H.37		DBG-N						
77J.17		77H.17		DBC	56,000 - 70,000	60	9,0	35	8	
77J.71		77H.71		TiN						
77J.21		77H.21		HM						

New tool order example: Example Order No. **77J.93**

Bore diameter 65 mm · Bore tolerance H6 · Material 1.0037 (S235JR) or ASG4000 (Cutting geometry).

Supply includes: Reaming head mounted with inserts and clamping screws N00 57710 (S3090-9IP 2,25Nm).

Retipping order example: Example Order No. **77R.93**

A reaming head sent back to KOMET by the customer will be delivered fitted with indexable inserts and clamping screws. It is also possible to order one or two indexable insert sets for this reaming head (example Order No. **77S.93**).

Screwdriver see chapter 11.

Cutting speed and feed see pages 76-77.

Patent applied for inside and outside Germany



KOMET REAMAX® TS Duo

Tool recommendation

	Material group	Strength Rm (N/mm²)	Hardness HB	Material	Material example, material code / DIN	Machining			
						Order No. ASG = cutting geometry			
									
1 	P	1.0	≤500	non-alloy steels	1.0037 (S235JR) 1.0715 (11SMn30) 1.0044 (S2575JR)	76J.93 ASG 4000	76J.71 ASG 4000	76H.93 ASG 3000	76H.71 ASG 3000
		2.0	500-900	non-alloy / low alloy steels	1.0050 (E295) 1.0535 (C55) 1.7131 (16MnCr5)	76J.93 ASG 4000	76J.71 ASG 4000	76H.93 ASG 3000	76H.71 ASG 3000
		2.1	<500	lead alloys	1.0718 (11SMnPb30)	76J.93 ASG 4000	76J.71 ASG 4000	76H.93 ASG 3000	76H.71 ASG 3000
		3.0	>900	non alloy / low alloy steels; heat resistant structural, heat treated, nitride and tools steels	1.7225 (42CrMo4) 1.1221 (C60E)	76J.93 ASG 4000	76J.71 ASG 3000	76H.93 ASG 3000	76H.71 ASG 3000
		4.0	>900	high alloy steels	1.2341 (6CrMo15-5) 1.2601 (X165Cr-MoV12)	76J.71 ASG 0106	76J.71 ASG 0106	76H.71 ASG 0106	76H.71 ASG 0106
		4.1		HSS					
2 	S	5.0	250	special alloys: Inconel, Hastelloy, Nimonic, etc.	2.4668 (NiuCr-19Fe19Nb5Mo3) 2.4631 (Nimonic 80A)				
		5.1	400	titanium, titanium alloys	3.7115 (TiAl5Sn2.5)	76J.21 ASG 03		76H.21 ASG 03	
3 	M	6.0	≤600	stainless steels	1.4306 (X2CrNi19-11) 1.4401 (X5CrNi-Mo17-12-2)	76J.65 ASG 0106	76J.65 ASG 0106	76H.65 ASG 0106	76H.65 ASG 0106
		6.1	<900	stainless steels	1.4511 (X3CrNb17) 1.4571 (X10CrNiMo-Ti17-12-2)	76J.65 ASG 0106	76J.65 ASG 0106	76H.65 ASG 0106	76H.65 ASG 0106
		7.0	>900	stainless / fireproof steels	1.4713 (X10CrAlSi7) 1.4862 (X8NiCr-Si38-18)	76J.65 ASG 0106	76J.65 ASG 0106	76H.65 ASG 0106	76H.65 ASG 0106
4 	K	8.0	180	gray cast iron	0.6025 (EN-GJL-250) 0.6035 (EN-GJL-350)	76J.65 ASG 3000	76J.65 ASG 3000	76H.65 ASG 3000	76H.65 ASG 3000
		8.1	250	alloy gray cast iron	0.6660 (GGL-NiCr20 2)	76J.65 ASG 3000	76J.65 ASG 3000	76H.65 ASG 3000	76H.65 ASG 3000
		9.0	≤600	spheroidal graphite cast iron, ferritic	0.7040 (EN-GJS-400-15)	76J.93 ASG 3000	76J.65 ASG 3000	76H.93 ASG 3000	76H.65 ASG 3000
		9.1	230	spheroidal graphite cast iron, ferritic/perlitic	0.7050 (EN-GJS-500-7) 0.7055 (GJS-55) 0.8055 (GTW-55)	76J.93 ASG 3000	76J.65 ASG 3000	76H.93 ASG 3000	76H.65 ASG 3000
		10.0	250	spheroidal graphite cast iron, perlitic malleable iron	0.7060 (EN-GJS-600-3) 0.8165 (GTS-65)	76J.93 ASG 3000	76J.65 ASG 3000	76H.93 ASG 3000	76H.65 ASG 3000
		10.1	200	alloyed spheroidal graphite cast iron	0.7661 (EN-GJSA-XNiCr20-2)	76J.65 ASG 3000	76J.65 ASG 3000	76H.65 ASG 3000	76H.65 ASG 3000
5 	N	10.2	300	vermicular cast iron	EN-GJV Ti < 0,2 EN-GJV Ti > 0,2	76J.65 ASG 3000	76J.65 ASG 3000	76H.65 ASG 3000	76H.65 ASG 3000
		12.0	90	copper alloy, brass, lead-alloy bronze, lead bronze: good cut	2.0375 (CuZn36Pb3) 2.1182.01 (G-CuPb15Sn)	76J.93 ASG 3000	76J.93 ASG 3000	76H.93 ASG 3000	76H.93 ASG 3000
		12.1	100	copper alloy, brass, bronze: average cut	2.0550 (CuZn40Al2) 2.0060 (E-Cu57)	76J.71 ASG 3000	76J.71 ASG 3000	76H.71 ASG 3000	76H.71 ASG 3000
		13.0	60	wrought aluminium alloys	3.3315 (AlMg1) 3.0517 (AlMnCu)	76J.17 ASG 0706	76J.17 ASG 0706	76H.17 ASG 0706	76H.17 ASG 0706
		13.1	75	cast alum. alloy: Si-content <10% magnesium alloy	3.3561 (G-AlMg5) 3.2373.61 (G-AlSi9Mg wa)	76J.17 ASG 0706	76J.17 ASG 0706	76H.17 ASG 0706	76H.17 ASG 0706
		14.0	100	cast alum. alloy: Si-content >10%	3.2381.01 (G-AlSi10Mg)	76J.17 ASG 0706	76J.17 ASG 0706	76H.17 ASG 0706	76H.17 ASG 0706
6 	H	15.0	1400	hardened steels < 45 HRC					
		16.0	1800	hardened steels > 45 HRC, ≤ 55 HRC					

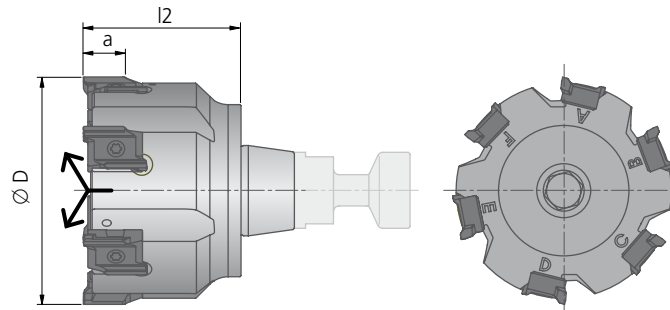
Ø 42,000 – 70,000 mm

KOMET REAMAX® TS Duo

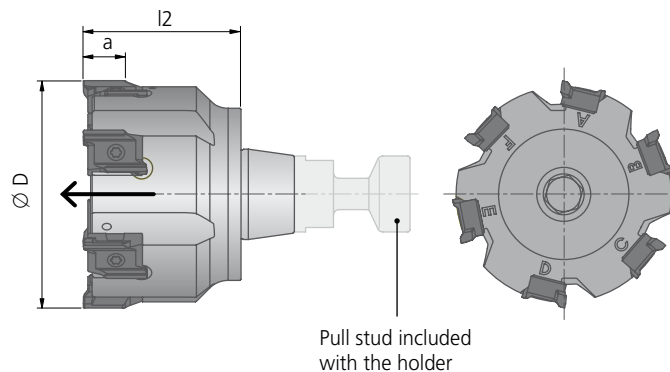
Indexable insert reaming head



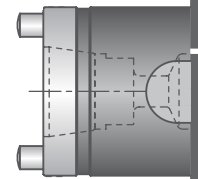
radially cooled,
for through hole machining



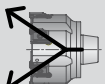
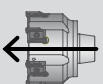
centrally cooled,
for blind hole machining



Holder
► 78



Custom reaming head – selection options!

				Cutting material, coating	Dimensions					
Order No.		Order No.			Ø D	Preferred diameter Ø D	a ~	l2 ~		Z
					42,000 - 51,999	42	9,0	30	6	
76J.93	—	76H.93	—	DST						
76J.67	—	76H.67	—	DJC						
76J.85		76H.85		DJP	52,000 - 55,999	54	9,0	35	6	
76J.65		76H.65		DBG-P						
76J.37		76H.37		DBG-N						
76J.17		76H.17		DBC	56,000 - 70,000	60	9,0	35	8	
76J.71		76H.71		TiN						
76J.21		76H.21		HM						

New tool order example: Example Order No. **76J.93**

Bore diameter 65 mm · Bore tolerance H6 · Material 1.0037 (S235JR) or ASG4000 (Cutting geometry).

Supply includes: Reaming head mounted with inserts and clamping screws N00 57710 (S3090-9IP 2,25Nm).

Retipping order example: Example Order No. **76R.93**

A reaming head sent back to KOMET by the customer will be delivered fitted with indexable inserts and clamping screws. It is also possible to order one or two indexable insert sets for this reaming head (example Order No. **76S.93**).

Screwdriver see chapter 11.

Cutting speed and feed see pages 76-77.

Patent applied for inside and outside Germany

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KOMET REAMAX® TS Duo

Recommended cutting data

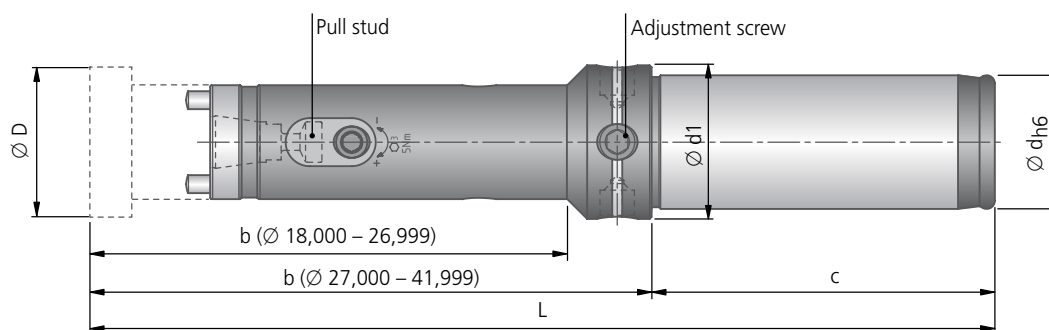
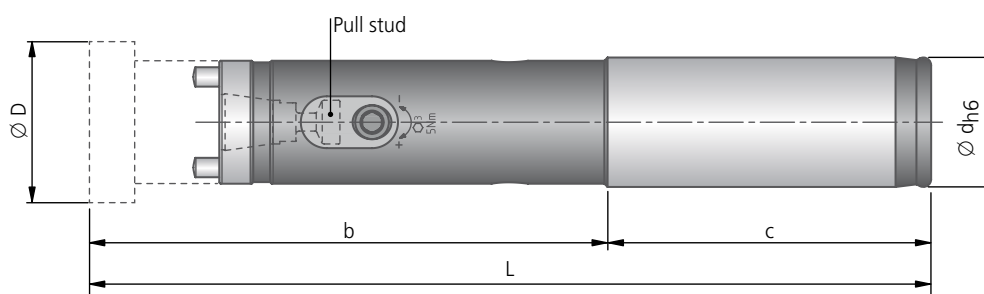
Guideline values for reaming					Cutting speed v_c (m/min)																	
Material group	Strength Rm (N/mm ²)	Hardness HB	Material	Material example material code/DIN	optimum · maximum								optimum · maximum									
					3xD Reamers short								5xD Reamers long									
					DST	DJC	DJP	DBG-P	DBG-N	DBC	TiN	HM	DST	DJC	DJP	DBG-P	DBG-N	DBC	TiN	HM		
P	1.0	≤ 500	non-alloy steels	1.0037 (S235JR) 1.0715 (11SMn30) 1.0044 (S2575JR)	150 200	150 200					100 140	8 10	120 160	120 160					80 120	8 10		
	2.0	500-900	non-alloy / low alloy steels	1.0050 (E295) 1.0535 (C55) 1.7131 (16MnCr5)	150 200	150 200					100 140	8 10	120 160	120 160					80 120	8 10		
	2.1	< 500	lead alloys	1.0718 (11SMnPb30)	150 200	150 200					100 140	30 45	120 160	120 160					80 120	30 45		
	3.0	> 900	non alloy / low alloy steels: heat resistant structural, heat treated, nitride and tools steels	1.7225 (42CrMo4) 1.1221 (C60E)	150 200	150 200					100 140	7 9	120 160	120 160					80 120	7 9		
	4.0	> 900	high alloy steels	1.2341 (6CrMo15-5) 1.2601 (X165CrMoV12)							30 45	5 7							30 45	5 7		
4.1			HSS																			
S	5.0		250	special alloys: Inconel, Hastelloy, Nimonic, stc.	2.4668 (NiuCr19Fe19Nb5Mo3) 2.4631 (Nimonic 80A)																	
	5.1	400	titanium, titanium alloys	3.7115 (TiAl5Sn2.5)								8 12								8 12		
M	6.0	≤ 600	stainless steels	1.4306 (X2CrNi19-11) 1.4401 (X5CrNiMo17-12-2)				45 60			30 40	6 8				45 60			30 40	6 8		
	6.1	< 900	stainless steels	1.4511 (X3CrNb17) 1.4571 (X10CrNiMo-Ti17-12-2)				30 50			20 35	5 6				30 50			20 35	5 6		
	7.0	> 900	stainless / fireproof steels	1.4713 (X10CrAlSi7) 1.4862 (X8NiCrSi38-18)				30 50			20 35	5 6				30 50			20 35	5 6		
K	8.0		180	gray cast iron	0.6025 (EN-GJL-250) 0.6035 (EN-GJL-350)				150 220	150 220		80 130	15 25				120 150	120 150		80 120	15 25	
	8.1		250	alloy gray cast iron	0.6660 (GGL-NiCr20 2)				90 130	90 130		50 90	10 15				90 120	90 120		50 90	10 15	
	9.0	≤ 600	130	spheroidal graphite cast iron, ferritic	0.7040 (EN-GJS-400-15)	175 300	175 300	175 300	175 300	175 300			12 18	150 180	150 180	150 180	150 180	150 180			12 18	
	9.1		230	spheroidal graphite cast iron, ferritic / perlitic	0.7050 (EN-GJS-500-7) 0.7055 (GGG-55) 0.8055 (GTW-55)	150 250	150 250	150 250	150 250	150 250			12 18	120 160	120 160	120 160	120 160	120 160			12 18	
	10.0	> 600	250	spheroidal graphite cast iron, perlitic malleable iron	0.7060 (EN-GJS-600-3) 0.8165 (GTS-65)	120 180	120 180	120 180	120 180	120 180			12 15	120 150	120 150	120 150	120 150	120 150			12 15	
	10.1		200	alloyed spheroidal graphite cast iron	0.7661 (EN-GJSA-XNiCr20-2)				70 100	70 100		40 60	9 12				70 100	70 100		40 60	9 12	
10.2		300	vermicular cast iron	5.2200 (EN-GJV-350) 5.2300 (EN-GJV-450)				80 130	80 130		50 70	9 12				80 130	80 130		50 70	9 12		
N	12.0		90	copper alloy, brass, lead-alloy bronze, lead bronze: good cut	2.0375 (CuZn36Pb3) 2.1182.01 (G-CuPb15Sn)	150 320						120 200	15 30	150 200						120 150	15 30	
	12.1		100	copper alloy, brass, bronze:average cut	2.0550 (CuZn40Al2) 2.0060 (E-Cu57)							80 150	12 20							80 120	12 20	
	13.0		60	wrought aluminium alloys	3.3315 (AlMg1) 3.0517 (AlMnCu)						150 300		15 30						150 200		15 30	
	13.1		75	cast aluminium alloy: Si-content <10% magnesium alloy	3.3561 (G-AlMg5) 3.2373.61 (G-AlSi9Mg wa)						200 300		15 30						150 200		15 30	
	14.0		100	cast aluminium alloy: Si-content > 10%	3.2381.01 (G-AlSi10Mg)						200 300		12 20						150 200		12 20	
H	15.0	1400	hardened steels < 45 HRC																			
	16.0	1800	hardened steels > 45 HRC, ≤ 55 HRC																			

Reaming allowance in diameter (mm)

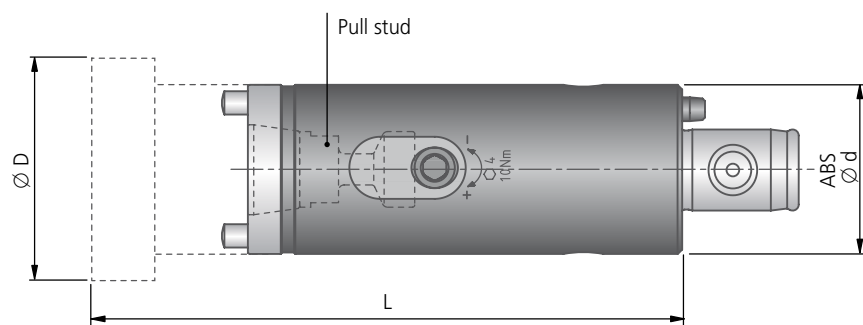
Recommended cutting data

KOMET REAMAX® TS

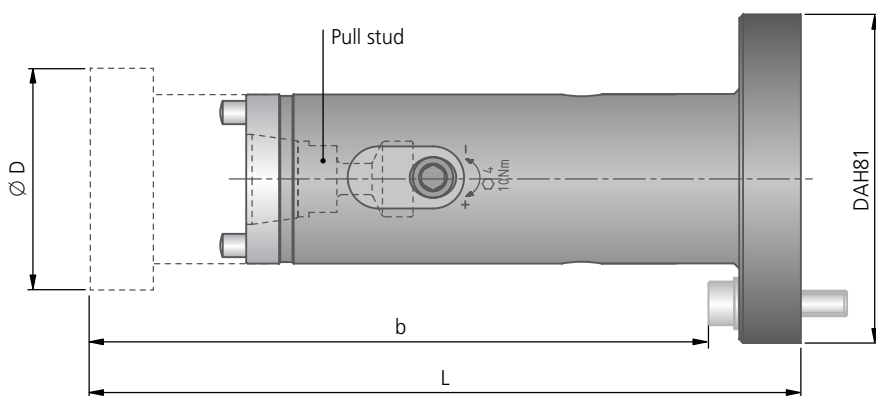
Holder



⚠ Please note:
Holder is pre-clamped and set to a concentricity of < 0.005 mm



ABS® adaptors
see catalogue
"KomPass DRILLING".



DAH® compensation
holder see chapter 9.

≈ DIN 1835														
for Ø D ^{H7}	for Ø D	short version						long version						Pull studs
		Order No.	L	b	c	Ø d		Order No.	L	b	c	Ø d		Order No.
18 ^{H7}	18,000 – 19,999	75A.40.13010	130	80	50	20	0,2	75A.40.15010	190	140	50	20	0,3	15E.30.10010
20 ^{H7}	20,000 – 21,999	75A.40.13020	130	80	50	20	0,2	75A.40.15020	190	140	50	20	0,3	15E.30.10020
22 ^{H7}	22,000 – 26,999	75A.40.13030	130	80	50	20	0,3	75A.40.15030	210	160	50	20	0,4	15E.30.10030
24 ^{H7}														
25 ^{H7}														
26 ^{H7}														
28 ^{H7}	27,000 – 34,999	75A.40.13040	176	120	56	25	0,5	75A.40.15040	236	180	56	25	0,7	15E.30.10040
30 ^{H7}														
32 ^{H7}														
35 ^{H7}	35,000 – 41,999	75A.40.13050	176	120	56	25	0,6	75A.40.15050	256	200	56	25	1,0	15E.30.10050
40 ^{H7}														
42 ^{H7}	42,000 – 51,999	75A.40.13060	180	120	60	32	0,9	75A.40.15060	280	220	60	32	1,5	15E.30.10050
50 ^{H7}														
54 ^{H7}	52,000 – 70,000	75A.40.13070	180	120	60	32	1,0	75A.40.15070	280	220	60	32	1,0	15E.30.10070

DAH® Zero																
for Ø D ^{H7}	for Ø D	short version							long version							Pull studs
		Order No.	L	b	c	Ø d	Ø d1		Order No.	L	b	c	Ø d	Ø d1		Order No.
18 ^{H7}	18,000 – 19,999	75A.41.13010	145	80	50	20	24	0,2	75A.41.15010	205	140	50	20	24	0,3	15E.30.10010
20 ^{H7}	20,000 – 21,999	75A.41.13020	145	80	50	20	25	0,3	75A.41.15020	205	140	50	20	25	0,4	15E.30.10020
22 ^{H7}	22,000 – 26,999	75A.41.13030	145	80	50	20	26,5	0,3	75A.41.15030	225	160	50	20	26,5	0,4	15E.30.10030
24 ^{H7}																
25 ^{H7}																
26 ^{H7}																
28 ^{H7}	27,000 – 34,999	75A.41.13040	176	120	56	25	26	0,5	75A.41.15040	236	180	56	25	26	0,7	15E.30.10040
30 ^{H7}																
32 ^{H7}																
35 ^{H7}																
40 ^{H7}	35,000 – 41,999	75A.41.13050	176	120	56	25	29	0,5	75A.41.15050	256	200	56	25	29	1,05	15E.30.10050

ABS®						
for Ø D ^{H7}	for Ø D	Order No.	L	ABS Ø d		Pull studs Order No.
35 ^{H7}	35,000 – 41,999	75A.60.13050	110	32	0,42	15E.30.10050
40 ^{H7}						
42 ^{H7}	42,000 – 51,999	75A.60.13060	115	32	0,53	15E.30.10050
50 ^{H7}						
54 ^{H7}	52,000 – 70,000	75A.60.13070	125	40	0,83	15E.30.10070

DAH®												
for Ø D ^{H7}	for Ø D	short version					long version					Pull studs
		Order No.	L	b	DAH		Order No.	L	b	DAH		Order No.
42 ^{H7}	42,000 – 51,999	75A.30.13060	138	120	81	0,9	75A.30.15060	238	220	81	1,5	15E.30.10050
50 ^{H7}												
54 ^{H7}	52,000 – 70,000	75A.30.13070	138	120	81	1,0	75A.30.15070	238	220	81	2,0	15E.30.10070

Supply includes: Holder with pull stud.

Please order reaming head separately.

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11



KOMET REAMAX® TS

Assembly instructions

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2



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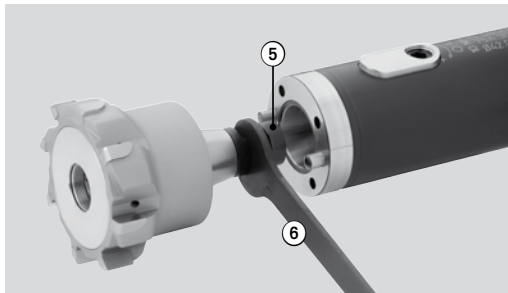
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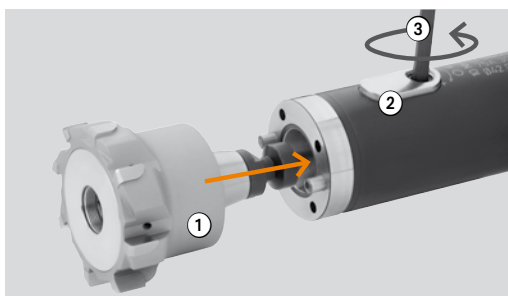


11

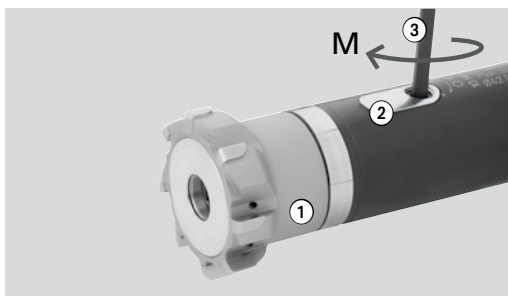


Clean taper/contact face thoroughly (grease free).

Screw pull stud (5) into reaming head and tighten with open-end wrench (6).



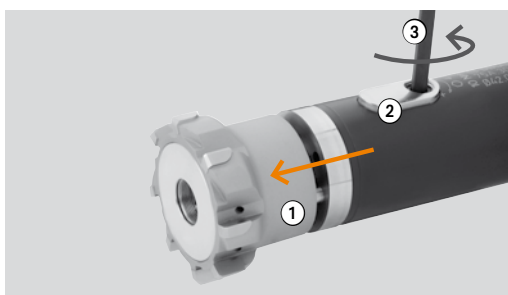
Without fully releasing them, open clamping jaws (2) with key (3). Insert reaming head (1).



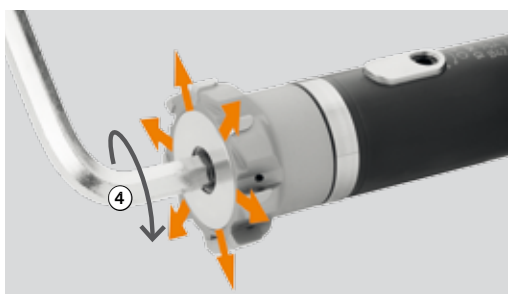
Close clamping jaws (2) with key (3), using recommended torque.

When inserting the reaming head (1) it is drawn into its final position by closing the clamping jaws (2).

Dia. range	Starting torque M
18,000 – 19,999	1,5 Nm
20,000 – 21,999	2,5 Nm
22,000 – 26,999	4 Nm
27,000 – 34,999	5 Nm
35,000 – 41,999	6 Nm
42,000 – 51,999	10 Nm
52,000 – 70,000	13 Nm



When removing the reaming head (1) it is pushed out of its position by the clamping jaws (2) which allows for easy removal from the holder: Without fully releasing them, open clamping jaws (2) with the key (3), remove the reaming head (1).



Adjusting to compensate for wear

Bore tolerances up to IT4 can be achieved by readjusting the reaming head using the hexagonal key (4).



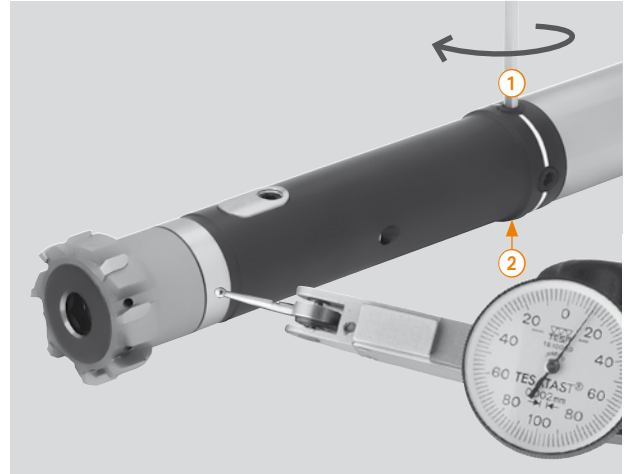
Make sure that the insert seats (5) and inserts are absolutely clean/ grease-free. If necessary, use compressed air to remove dust particles!

- All inserts and insert seats are marked with letters (6). This ensures correct assignment to the insert seat.
- The number markings (7) ensure that all inserts are positioned correctly.
- Tighten the screw (8) N00 57710 (S3090-9IP) to 2.25 Nm. Screwdriver see chapter 8.

Aligning the DAH® Zero holder:

The tool is recommended for a maximum radial alignment of 20 µm.

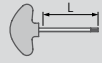
1. Loosen all adjustment screws and pretension to 1 Nm (new tools are delivered already adjusted).
2. Place µm dial against the steady rest bearing position.
3. Using the dial, determine the point of greatest runout error by turning the tool.
4. Using an Allen key, turn the appropriate adjustment screw clockwise ① until half of the runout error is corrected. Then over-tension by approx. 5 µm.
5. Loosen the opposite adjustment screw ② by the amount of over-tension.
6. Set all 4 adjustment screws until runout is less than 2 µm.

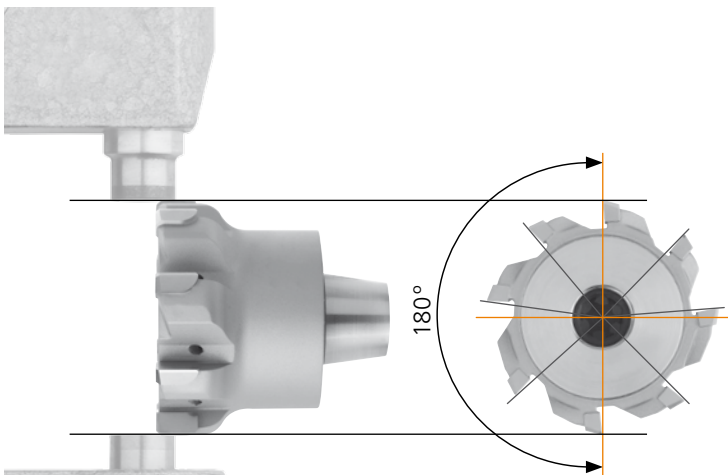


Please note:

- Based on adjustment steps 1 to 6, the runout must be checked and, if necessary, realigned when the adapter is exchanged, the application is changed, every time after wear compensation is adjusted and before every re-use.
- When in use, adjustment screws must always be tightened to 1 Nm.
- The max. readjustment torque is 4.5 Nm.

Assembly parts / Accessories (* not included in supply)

for Ø D	③ Operating key*  Order No. Size	L	④ Hexagonal key*  Width across flats WAF	⑤ Pull studs  Order No.	⑥ Open-end wrench* for pull studs  Order No. WAF
18,000 – 19,999	L05 01240 (8IP/1,5 Nm)		SW 4	15E.30.10010	18589 10005 (SW 5)
20,000 – 21,999	18050 10025 (SW2,5/2,5 Nm)	100	SW 5	15E.30.10020	18589 10005 (SW 5)
22,000 – 26,999	18050 10030 (SW3/4 Nm)	100	SW 5	15E.30.10030	18589 10006 (SW 6)
27,000 – 34,999	18050 10030 (SW3/5 Nm)	100	SW 8	15E.30.10040	18589 10008 (SW 8)
35,000 – 41,999	18050 10030 (SW3/6 Nm)	100	SW 6	15E.30.10050	18589 10010 (SW 10)
42,000 – 51,999	18050 10040 (SW4/10 Nm)	100	SW 8	15E.30.10050	18589 10010 (SW 10)
52,000 – 70,000	18050 10050 (SW5/13 Nm)		SW 10	15E.30.10070	18589 10013 (SW 13)



Caution!

- Uneven angle division !
- Two cutting edges are at 180° from each other = measuring teeth.
- Measure the diameter at the front of the reaming head (due to tapering, see illustration).
- Avoid damaging the cutting edges

REAMAX® TS Duo:

The measuring tooth is located at letter A and is also marked on the holder with a spot. When indexing the insert, the diameter must be readjusted.



KOMET® Cutting ring

We have put our entire wealth of experience into the generation of KOMET® cutting ring, called Duomax.

The KOMET® cutting ring for reaming basic and through holes is established and often copied due to its cost-effectiveness. This is one of the modular multi-blade tooling systems that features the easily replaceable KOMET® cutting ring on the holder. The user gets a finish-ground tool which does not require any time-consuming setting and adjustment work to the individual cutters.

The indexable inserts for reaming have two fully utilisable cutting edges. Each set of indexable inserts saves you a retipping cycle and thereby reduces tool costs and time as well as effort spent on logistics. When retipping is required after delivering double the tool life, this is also much easier to do in comparison with the soldered KOMET® cutting ring, because the number of machining steps in the process has been reduced. In connection with this, the tool life of the basic body is also longer, because it is no longer subjected to thermal stress. In addition, the precision and stability of the basic body has been further improved through optimisation of the basic shape.

A variety of cutting tool materials and coatings enable the individual adaptation of reamers to machining assignments and perfect processing of a wide variety of materials. In the future, a variety of coatings for this will be conceivable that cannot be used on soldered tools. Overall the flexibility with regard to selecting the cutting material and coating for reaming processes will significantly increase productivity. Moreover, tolerance and geometry changes can be accomplished quickly and with little effort.

Variant:

- Diameter from 60,600 – 110,599 mm
- Hole tolerances of $\geq IT5$
- Use with cast metal, solutions for steel, stainless steels, aluminium and other materials to follow

BENEFITS for you:

- Retipping for extremely high cost efficiency
- For large hole diameters
- Modular multi-blade tooling system
- Compensation for wear through simple readjustment
- A variety of cutting materials and coatings
- Extremely high flexibility





The cutting ring system is one of the modular tool ranges from KOMET®. The ring has support zones for non-deformational accommodation of the cutting forces. Expansion zones permit an elastic expansion of the ring for compensating for wear on the cutters.

Through repeated regrinding, the service life of the ring can be increased many times over. Cutting edge wear is compensated – all functional surfaces are fully reground. Reground tools have the same functionality as new ones.

BENEFITS for you:

- For large hole diameters
- Multiple blade
- Modular
- Compensation for wear through simple readjustment
- A variety of cutting materials and coatings
- Can be reground and refitted with cutters for extremely high cost efficiency

	Page
KOMET® Duomax	
Indexable insert cutting ring Ø 60,600 – 110,599 mm	84 – 85
Assembly instructions	86 – 87
Recommended cutting data	88 – 89
KOMET® Cutting ring	
Cutting ring Ø 60,600 – 110,599 mm	90 – 91
Assembly instructions	92 – 93
Recommended cutting data	94 – 95
Holder	96 – 101

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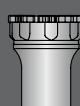
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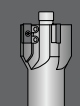
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KOMET SERVICE® (Chapter 11)
The KOMET SERVICE® TOOL lifeBoxicon describes tools that are available for the high quality cost-efficient refurbishment of tools.



Tool recommendation

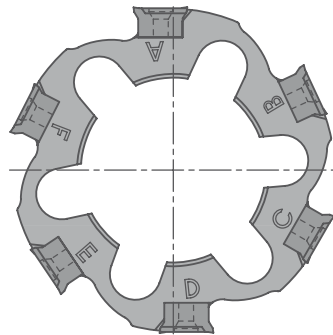
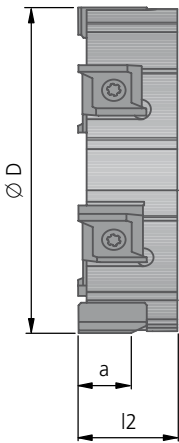


	Material group	Strength Rm (N/mm²)	Hardness HB	Material	Material example, material code / DIN	Machining			
						Order No. ASG = cutting geometry			
P	1.0	≤500		non-alloy steels	1.0037 (S235JR) 1.0715 (11SMn30) 1.0044 (S2575JR)	33G.93 ASG 4000	33G.71 ASG 4000	33G.93 ASG 3000	33G.71 ASG 3000
	2.0	500-900		non-alloy / low alloy steels	1.0050 (E295) 1.0535 (C55) 1.7131 (16MnCr5)	33G.93 ASG 4000	33G.71 ASG 4000	33G.93 ASG 3000	33G.71 ASG 3000
	2.1	<500		lead alloys	1.0718 (11SMnPb30)	33G.93 ASG 4000	33G.71 ASG 4000	33G.93 ASG 3000	33G.71 ASG 3000
	3.0	>900		non alloy / low alloy steels; heat resistant structural, heat treated, nitride and tools steels	1.7225 (42CrMo4) 1.1221 (C60E)	33G.93 ASG 4000	33G.71 ASG 3000	33G.93 ASG 3000	33G.71 ASG 3000
	4.0	>900		high alloy steels	1.2341 (6CrMo15-5) 1.2601 (X165Cr-MoV12)	33G.71 ASG 0106	33G.71 ASG 0106	33G.71 ASG 0106	33G.71 ASG 0106
	4.1			HSS					
S	5.0		250	special alloys: Inconel, Hastelloy, Nimonic, etc.	2.4668 (NiuCr-19Fe19Nb5Mo3) 2.4631 (Nimonic 80A)				
	5.1	400		titanium, titanium alloys	3.7115 (TiAl5Sn2.5)	33G.21 ASG 03		33G.21 ASG 03	
M	6.0	≤600		stainless steels	1.4306 (X2CrNi19-11) 1.4401 (X5CrNi-Mo17-12-2)	33G.65 ASG 0106	33G.65 ASG 0106	33G.65 ASG 0106	33G.65 ASG 0106
	6.1	<900		stainless steels	1.4511 (X3CrNb17) 1.4571 (X10CrNiMo-Ti17-12-2)	33G.65 ASG 0106	33G.65 ASG 0106	33G.65 ASG 0106	33G.65 ASG 0106
	7.0	>900		stainless / fireproof steels	1.4713 (X10CrAlSi7) 1.4862 (X8NiCr-Si38-18)	33G.65 ASG 0106	33G.65 ASG 0106	33G.65 ASG 0106	33G.65 ASG 0106
K	8.0		180	gray cast iron	0.6025 (EN-GJL-250) 0.6035 (EN-GJL-350)	33G.65 ASG 3000	33G.65 ASG 3000	33G.65 ASG 3000	33G.65 ASG 3000
	8.1		250	alloy gray cast iron	0.6660 (GGL-NiCr20 2)	33G.65 ASG 3000	33G.65 ASG 3000	33G.65 ASG 3000	33G.65 ASG 3000
	9.0	≤600	130	spheroidal graphite cast iron, ferritic	0.7040 (EN-GJS-400-15)	33G.93 ASG 3000	33G.65 ASG 3000	33G.93 ASG 3000	33G.65 ASG 3000
	9.1		230	spheroidal graphite cast iron, ferritic/perlitic	0.7050 (EN-GJS-500-7) 0.7055 (GJS-55) 0.8055 (GTW-55)	33G.93 ASG 3000	33G.65 ASG 3000	33G.93 ASG 3000	33G.65 ASG 3000
	10.0	>600	250	spheroidal graphite cast iron, perlitic malleable iron	0.7060 (EN-GJS-600-3) 0.8165 (GTS-65)	33G.93 ASG 3000	33G.65 ASG 3000	33G.93 ASG 3000	33G.65 ASG 3000
	10.1		200	alloyed spheroidal graphite cast iron	0.7661 (EN-GJSA-XNiCr20-2)	33G.65 ASG 3000	33G.65 ASG 3000	33G.65 ASG 3000	33G.65 ASG 3000
	10.2		300	vermicular cast iron	EN-GJV Ti < 0,2 EN-GJV Ti > 0,2	33G.65 ASG 3000	33G.65 ASG 3000	33G.65 ASG 3000	33G.65 ASG 3000
N	12.0		90	copper alloy, brass, lead-alloy bronze, lead bronze: good cut	2.0375 (CuZn36Pb3) 2.1182.01 (G-CuPb15Sn)	33G.93 ASG 3000	33G.71 ASG 3000	33G.93 ASG 3000	33G.71 ASG 3000
	12.1		100	copper alloy, brass, bronze: average cut	2.0550 (CuZn40Al2) 2.0060 (E-Cu57)	33G.71 ASG 3000	33G.71 ASG 3000	33G.71 ASG 3000	33G.71 ASG 3000
	13.0		60	wrought aluminium alloys	3.3315 (AlMg1) 3.0517 (AlMnCu)	33G.17 ASG 0706	33G.17 ASG 0706	33G.17 ASG 0706	33G.17 ASG 0706
	13.1		75	cast alum. alloy: Si-content <10% magnesium alloy	3.3561 (G-AlMg5) 3.2373.61 (G-AlSi9Mg wa)	33G.17 ASG 0706	33G.17 ASG 0706	33G.17 ASG 0706	33G.17 ASG 0706
	14.0		100	cast alum. alloy: Si-content >10%	3.2381.01 (G-AlSi10Mg)	33G.17 ASG 0706	33G.17 ASG 0706	33G.17 ASG 0706	33G.17 ASG 0706
H	15.0	1400		hardened steels < 45 HRC					
	16.0	1800		hardened steels > 45 HRC, ≤ 55 HRC					

Ø 60,600 – 110,599 mm

KOMET® Duomax

Indexable insert cutting ring

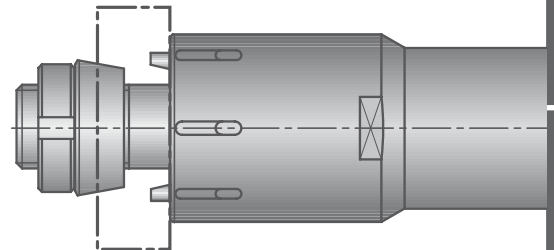


Face cut
Ø – 4,5 mm

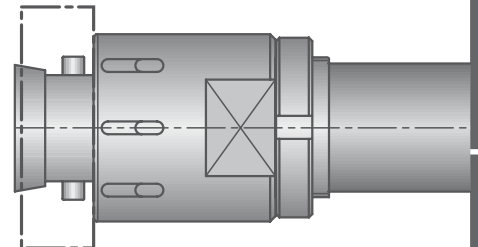
Holder

► 96 - 101

for through hole machining



for blind hole machining



Custom cutting ring – selection options!

Order No.	Cutting material, coating	Dimensions				
		Diameter range Ø D	Preferred diameter Ø D	a ~	l2 ~	Z
33G.93	–	60,600 - 79,599	62	10,3	19,6	6
33G.67	–		65	10,3	19,6	6
33G.85	DJP		70	10,3	19,6	6
33G.65	DBG-P		72	10,3	19,6	6
33G.37	DBG-N		75	10,3	19,6	6
33G.17	DBC	79,600 - 100,599	80	10,3	19,6	8
33G.71	TiN		90	10,3	19,6	8
33G.21	HM		92	10,3	19,6	8
		100,600 - 110,599	100	10,3	19,6	8
			110	10,3	19,6	10

New tool order example: Example Order No. **33G.93**

Bore diameter 62 mm · Bore tolerance H7 · Material 1.0037 (S235JR) or ASG3000 (Cutting geometry).

Supply includes: Cutting ring mounted with inserts and clamping screws N00 57710 (S3090-9IP 2,25Nm).

Retipping order example: Example Order No. **33R.93**

A cutting ring sent back to KOMET by the customer will be delivered fitted with indexable inserts and clamping screws. It is also possible to order one or two indexable insert sets for this cutting ring (example Order No. **33S.93**).

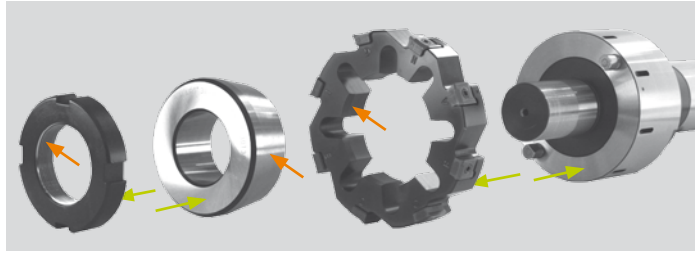
Screwdriver see chapter 11.

Cutting speed and feed see pages 88 - 89.

Patent applied for inside and outside Germany



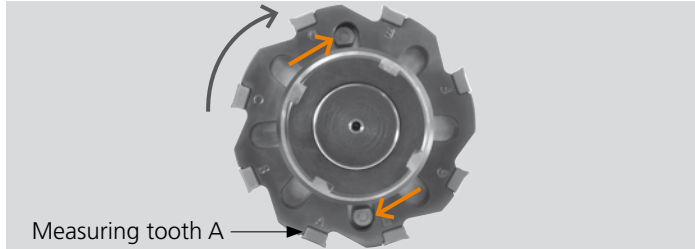
Assembly instructions on holder for through hole machining



Arrow markings:

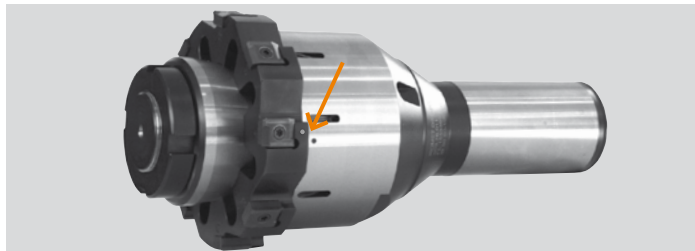
→ light grease

→ Face surfaces on holder and Duomax are grease-free



Positioning of the drive pins to the right of letter A (the measuring tooth is located at letter A and is also marked on the holder with a spot).

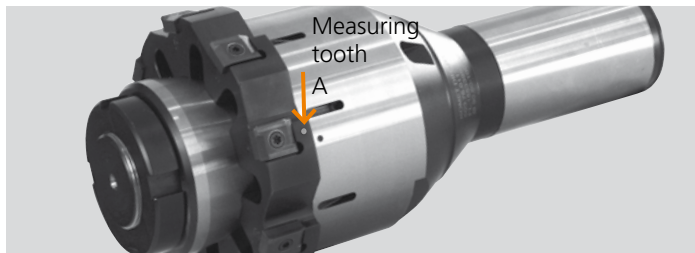
Before tightening and adjusting turn the Duomax against the direction of machining until hitting the drive pins.



Please observe the marking on holder and Duomax, check alignment of the coolant bores.



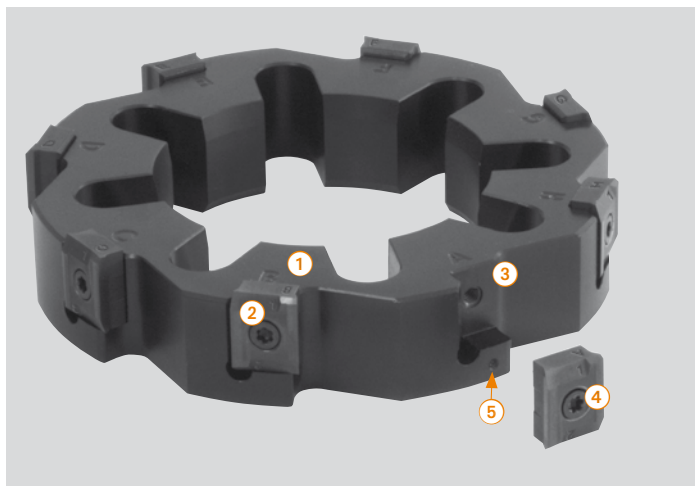
Adjust the diameter to the middle of the tolerance (counter-clockwise thread).



The diameter can only be measured at the marked cutting edges (measuring tooth A) due to unequal angular position!

If the diameter was set too large, the conical ring must be loosened and the Duomax readjusted.

Assembly instructions inserts



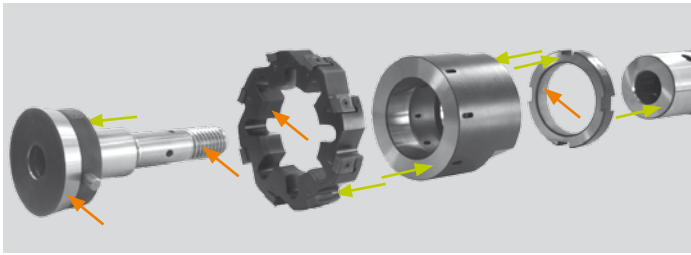
Cleaning:

Make sure that the insert seats ③ and inserts are absolutely clean/grease-free. If necessary, use compressed air to remove dust particles!

Montage:

- All inserts and insert seats are marked with letters ①. This ensures correct assignment to the insert seat.
- The number markings ② ensure that all inserts are positioned correctly.
- Tighten the screw ④ N00 57710 (S3090-9IP) to 2.25 Nm. Screwdriver see chapter 11.

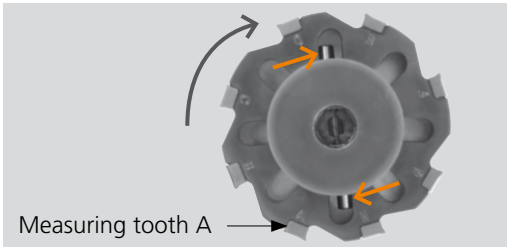
Assembly instructions on holder for blind hole machining



Arrow markings:

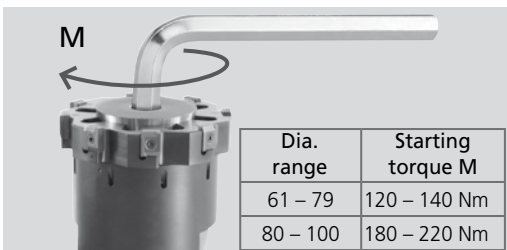
— light grease

— Face surfaces on holder and Duomax are grease-free

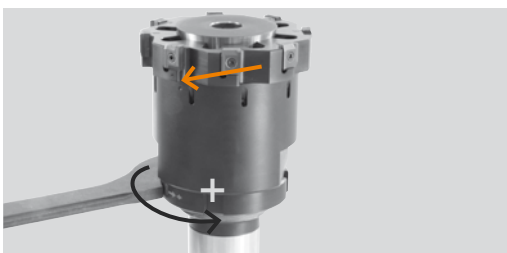


Measuring tooth A

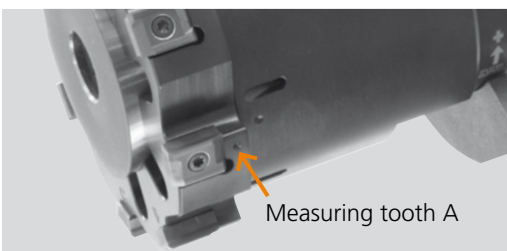
Positioning of the drive pins to the right of letter A (the measuring tooth is located at letter A and is also marked on the holder with a spot). Before tightening and adjusting turn the Duomax against the direction of machining until hitting the drive pins.



Screw the nut onto the holder with the smooth face against the bush. Mount the Duomax with the conical screw. After fastening the conical screw check that there is space between bush and Duomax. Fasten conical screw according to index table.



Please observe the marking on holder and Duomax, check alignment of the coolant bores. Adjust the diameter to the middle of the tolerance.



Measuring tooth A

The diameter can only be measured at the marked cutting edges (measuring tooth A) due to unequal angular position!

If the diameter was set too large, the nut must be loosened and the Duomax readjusted.

Measuring the diameter:

The measuring tooth is located at letter A and is also marked on the holder with a spot ⑤.

Caution!

- Uneven angle division !
- Two cutting edges are at 180° from each other = measuring tooth A.
- Measure the diameter at the front of the cutting ring (due to tapering, see illustration).
- Avoid damaging the cutting edges
- When indexing the insert, the diameter must be readjusted.
- Delivery includes: Duomax with mounted inserts.



Recommended cutting data

Guideline values for reaming					Cutting speed v_c (m/min)																	
Material group	Strength Rm (N/mm ²)	Hardness HB	Material	Material example material code/DIN	optimum · maximum								optimum · maximum									
					3×D Reamers short								5×D Reamers long									
					DST	DJC	DJP	DBG-P	DBG-N	DBC	TiN	HM	DST	DJC	DJP	DBG-P	DBG-N	DBC	TiN	HM		
P	1.0	≤ 500	non-alloy steels	1.0037 (S235JR) 1.0715 (11SMn30) 1.0044 (S2575JR)	150 200	150 200					100 140	8 10	120 160	120 160					80 120	8 10		
	2.0	500-900	non-alloy / low alloy steels	1.0050 (E295) 1.0535 (C55) 1.7131 (16MnCr5)	150 200	150 200					100 140	8 10	120 160	120 160					80 120	8 10		
	2.1	< 500	lead alloys	1.0718 (11SMnPb30)	150 200	150 200					100 140	30 45	120 160	120 160					80 120	30 45		
	3.0	> 900	non alloy / low alloy steels: heat resistant structural, heat treated, nitride and tools steels	1.7225 (42CrMo4) 1.1221 (C60E)	150 200	150 200					100 140	7 9	120 160	120 160					80 120	7 9		
	4.0	> 900	high alloy steels	1.2341 (6CrMo15-5) 1.2601 (X165CrMoV12)							30 45	5 7							30 45	5 7		
4.1			HSS																			
S	5.0		250	special alloys: Inconel, Hastelloy, Nimonic, stc.	2.4668 (NiuCr19Fe19Nb5Mo3) 2.4631 (Nimonic 80A)																	
	5.1	400	titanium, titanium alloys	3.7115 (TiAl5Sn2.5)								8 12								8 12		
M	6.0	≤ 600	stainless steels	1.4306 (X2CrNi19-11) 1.4401 (X5CrNiMo17-12-2)				45 60			30 40	6 8				45 60			30 40	6 8		
	6.1	< 900	stainless steels	1.4511 (X3CrNb17) 1.4571 (X10CrNiMo-Ti17-12-2)				30 50			20 35	5 6				30 50			20 35	5 6		
	7.0	> 900	stainless / fireproof steels	1.4713 (X10CrAlSi7) 1.4862 (X8NiCrSi38-18)				30 50			20 35	5 6				30 50			20 35	5 6		
K	8.0		180	gray cast iron	0.6025 (EN-GJL-250) 0.6035 (EN-GJL-350)				150 220	150 220		80 130	15 25				120 150	120 150		80 120	15 25	
	8.1		250	alloy gray cast iron	0.6660 (GGL-NiCr20 2)				90 130	90 130		50 90	10 15				90 120	90 120		50 90	10 15	
	9.0	≤ 600	130	spheroidal graphite cast iron, ferritic	0.7040 (EN-GJS-400-15)	175 300	175 300	175 300	175 300	175 300			12 18	150 180	150 180	150 180	150 180	150 180			12 18	
	9.1		230	spheroidal graphite cast iron, ferritic / perlitic	0.7050 (EN-GJS-500-7) 0.7055 (GGG-55) 0.8055 (GTW-55)	150 250	150 250	150 250	150 250	150 250			12 18	120 160	120 160	120 160	120 160	120 160			12 18	
	10.0	> 600	250	spheroidal graphite cast iron, perlitic malleable iron	0.7060 (EN-GJS-600-3) 0.8165 (GTS-65)	120 180	120 180	120 180	120 180	120 180			12 15	120 150	120 150	120 150	120 150	120 150			12 15	
	10.1		200	alloyed spheroidal graphite cast iron	0.7661 (EN-GJSA-XNiCr20-2)				70 100	70 100		40 60	9 12				70 100	70 100		40 60	9 12	
10.2		300	vermicular cast iron	5.2200 (EN-GJV-350) 5.2300 (EN-GJV-450)				80 130	80 130		50 70	9 12				80 130	80 130		50 70	9 12		
N	12.0		90	copper alloy, brass, lead-alloy bronze, lead bronze: good cut	2.0375 (CuZn36Pb3) 2.1182.01 (G-CuPb15Sn)	150 320						120 200	15 30	150 200						120 150	15 30	
	12.1		100	copper alloy, brass, bronze:average cut	2.0550 (CuZn40Al2) 2.0060 (E-Cu57)							80 150	12 20							80 120	12 20	
	13.0		60	wrought aluminium alloys	3.3315 (AlMg1) 3.0517 (AlMnCu)						150 300		15 30						150 200		15 30	
	13.1		75	cast aluminium alloy: Si-content <10% magnesium alloy	3.3561 (G-AlMg5) 3.2373.61 (G-AlSi9Mg wa)						200 300		15 30						150 200		15 30	
	14.0		100	cast aluminium alloy: Si-content > 10%	3.2381.01 (G-AlSi10Mg)						200 300		12 20						150 200		12 20	
H	15.0	1400	hardened steels < 45 HRC																			
	16.0	1800	hardened steels > 45 HRC, ≤ 55 HRC																			

Reaming allowance in diameter (mm)

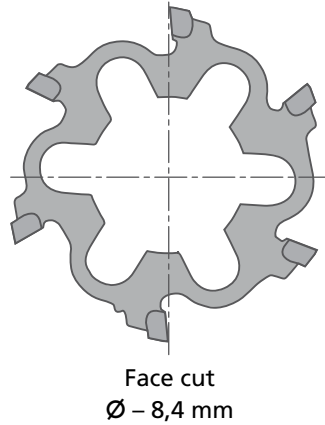
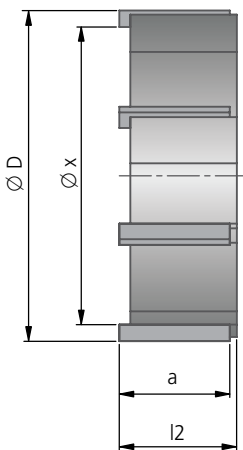
KOMET® Cutting ring

Tool recommendation

	Material group	Strength Rm (N/mm²)	Hardness HB	Material	Material example, material code / DIN	Machining			
						Order No. ASG = cutting geometry			
									
1	P	1.0	≤500	non-alloy steels	1.0037 (S235JR) 1.0715 (11SMn30) 1.0044 (S2575JR)	300.45 ASG 4000	300.05 ASG 4000	300.45 ASG 3000	300.05 ASG 3000
		2.0	500-900	non-alloy / low alloy steels	1.0050 (E295) 1.0535 (C55) 1.7131 (16MnCr5)	300.45 ASG 4000	300.05 ASG 4000	300.45 ASG 3000	300.05 ASG 3000
		2.1	<500	lead alloys	1.0718 (11SMnPb30)	300.45 ASG 4000	300.05 ASG 4000	300.45 ASG 3000	300.05 ASG 3000
		3.0	>900	non alloy / low alloy steels; heat resistant structural, heat treated, nitride and tools steels	1.7225 (42CrMo4) 1.1221 (C60E)	300.45 ASG 4000	300.05 ASG 3000	300.45 ASG 3000	300.05 ASG 3000
		4.0	>900	high alloy steels	1.2341 (6CrMo15-5) 1.2601 (X165Cr- MoV12)	300.05 ASG 0106	300.05 ASG 0106	300.05 ASG 0106	300.05 ASG 0106
4		4.1		HSS					
5	S	5.0	250	special alloys: Inconel, Hastelloy, Nimonic, etc.	2.4668 (NiuCr- 19Fe19Nb5Mo3) 2.4631 (Nimonic 80A)				
		5.1	400	titanium, titanium alloys	3.7115 (TiAl5Sn2.5)	300.25 ASG 03		300.25 ASG 03	
6	M	6.0	≤600	stainless steels	1.4306 (X2CrNi19-11) 1.4401 (X5CrNi- Mo17-12-2)	300.65 ASG 0106	300.65 ASG 0106	300.65 ASG 0106	300.65 ASG 0106
		6.1	<900	stainless steels	1.4511 (X3CrNb17) 1.4571 (X10CrNiMo- Ti17-12-2)	300.65 ASG 0106	300.65 ASG 0106	300.65 ASG 0106	300.65 ASG 0106
		7.0	>900	stainless / fireproof steels	1.4713 (X10CrAlSi7) 1.4862 (X8NiCr- Si38-18)	300.65 ASG 0106	300.65 ASG 0106	300.65 ASG 0106	300.65 ASG 0106
7	K	8.0	180	gray cast iron	0.6025 (EN-GJL-250) 0.6035 (EN-GJL-350)	300.65 ASG 3000	300.65 ASG 3000	300.65 ASG 3000	300.65 ASG 3000
		8.1	250	alloy gray cast iron	0.6660 (GGL-NiCr20 2)	300.65 ASG 3000	300.65 ASG 3000	300.65 ASG 3000	300.65 ASG 3000
		9.0	≤600	spheroidal graphite cast iron, ferritic	0.7040 (EN-GJS-400-15)	300.45 ASG 3000	300.65 ASG 3000	300.45 ASG 3000	300.65 ASG 3000
		9.1	230	spheroidal graphite cast iron, ferritic/perlitic	0.7050 (EN-GJS-500-7) 0.7055 (GJS-55) 0.8055 (GTW-55)	300.45 ASG 3000	300.65 ASG 3000	300.45 ASG 3000	300.65 ASG 3000
		10.0	250	spheroidal graphite cast iron, perlitic malleable iron	0.7060 (EN-GJS-600-3) 0.8165 (GTS-65)	300.45 ASG 3000	300.65 ASG 3000	300.45 ASG 3000	300.65 ASG 3000
		10.1	200	alloyed spheroidal graphite cast iron	0.7661 (EN-GJSA- XNiCr20-2)	300.65 ASG 3000	300.65 ASG 3000	300.65 ASG 3000	300.65 ASG 3000
		10.2	300	vermicular cast iron	EN-GJV Ti < 0,2 EN-GJV Ti > 0,2	300.65 ASG 3000	300.65 ASG 3000	300.65 ASG 3000	300.65 ASG 3000
9	N	12.0	90	copper alloy, brass, lead-alloy bronze, lead bronze: good cut	2.0375 (CuZn36Pb3) 2.1182.01 (G-CuPb15Sn)	300.45 ASG 3000	300.05 ASG 3000	300.45 ASG 3000	300.05 ASG 3000
		12.1	100	copper alloy, brass, bronze: average cut	2.0550 (CuZn40Al2) 2.0060 (E-Cu57)	300.05 ASG 3000	300.05 ASG 3000	300.05 ASG 3000	300.05 ASG 3000
		13.0	60	wrought aluminium alloys	3.3315 (AlMg1) 3.0517 (AlMnCu)	300.17 ASG 0706	300.17 ASG 0706	300.17 ASG 0706	300.17 ASG 0706
		13.1	75	cast alum. alloy: Si-content <10% magnesium alloy	3.3561 (G-AlMg5) 3.2373.61 (G-AlSi9Mg wa)	300.17 ASG 0706	300.17 ASG 0706	300.17 ASG 0706	300.17 ASG 0706
		14.0	100	cast alum. alloy: Si-content >10%	3.2381.01 (G- AlSi10Mg)	300.17 ASG 0706	300.17 ASG 0706	300.17 ASG 0706	300.17 ASG 0706
11	H	15.0	1400	hardened steels < 45 HRC					
		16.0	1800	hardened steels > 45 HRC, ≤ 55 HRC					

Ø 60,600 – 110,599 mm

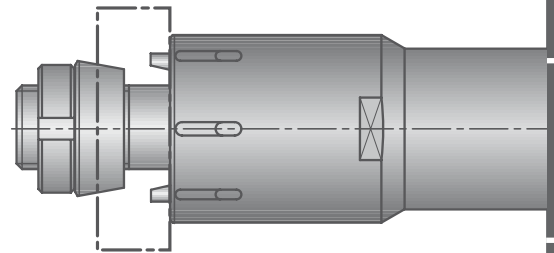
KOMET® Cutting ring



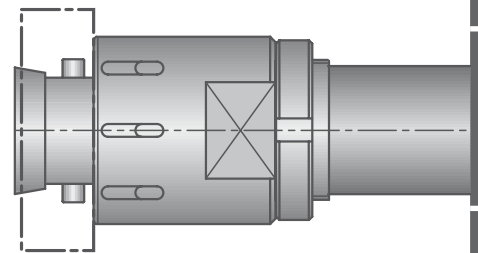
Holder

► 96 - 101

for through hole machining



for blind hole machining



Custom cutting ring – selection options!

 Order No.	Cutting material, coating	Dimensions					
		Ø D	min. diameter for face machining Ø x ~	a ~	HM, TiN DBG-N DBG-P DBC l2 ~	DST DJC l2 ~	 Z
300.45	–	60,600 - 79,599	ØD – 8,4	16,0	18,5	17,5	6
300.08	–						
300.65	DBG-P	79,600 - 100,599	ØD – 8,4	16,0	18,5	17,5	8
300.07	DBG-N						
300.17	DBC						
300.25	HM	100,600 - 110,599	ØD – 8,4	16,0	18,5	17,5	10
300.05	TiN						

Order example:

Order No.300.45 · Bore diameter 71 mm · Bore tolerance H6 · Material 1.0037 (S235JR) or ASG4000 (Cutting geometry).

Cutting ring from dia. 17,60 to 60,59 mm and Ø 110,60 to 300,59 mm on request.

Cutting speed and feed see pages 94 - 95.



KOMET® Cutting ring

Assembly instructions on holder for through hole machining

1



2



3



4



5



6



7



8



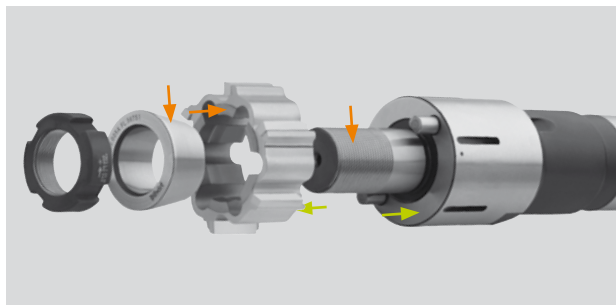
9



10



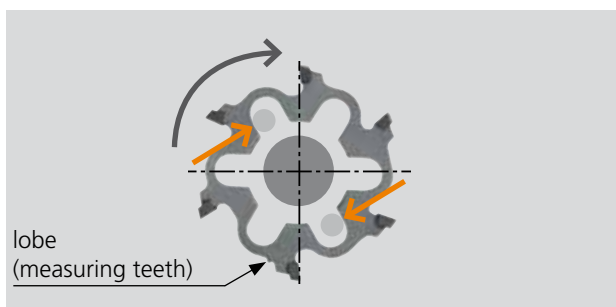
11



Arrow markings:

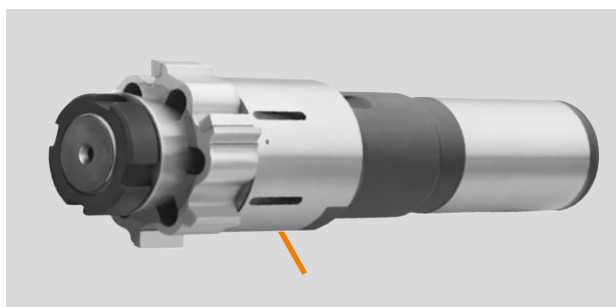
→ light grease

→ Face surfaces on holder and cutting ring are grease-free

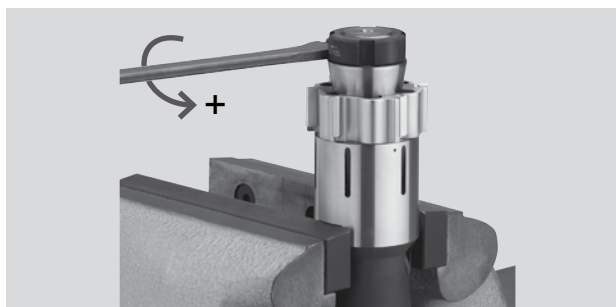


The position for the drive pins is marked with a lobe or in red.

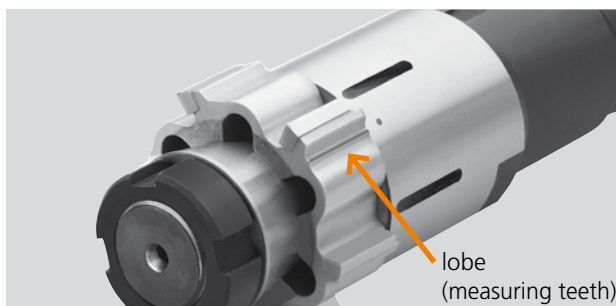
Before tightening and adjusting turn the cutting ring against the direction of machining until hitting the drive pins.



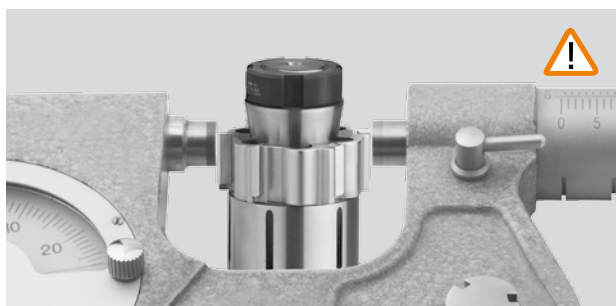
Please observe the marking on holder and cutting ring, check alignment of the coolant bores.



Adjust the diameter to the middle of the tolerance (counter-clockwise thread).



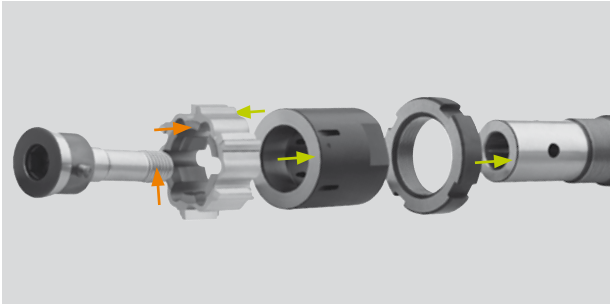
The diameter can only be measured at the marked cutting edges due to unequal angular position!



Measure the diameter

If the diameter was set too large, the conical ring must be loosened and the cutting ring readjusted.

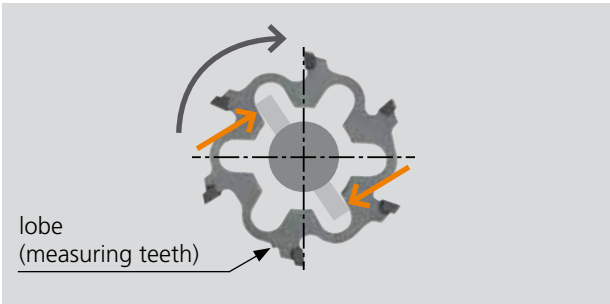
Assembly instructions on holder for blind hole machining



Arrow markings:

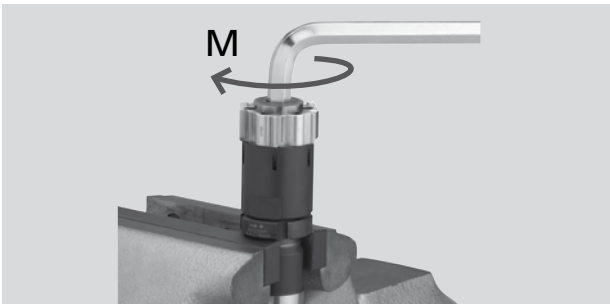
→ light grease

→ Face surfaces on holder and cutting ring are grease-free



The position for the drive pins is marked with a lobe or in red.

Before tightening and adjusting turn the cutting ring against the direction of machining until hitting the drive pin.

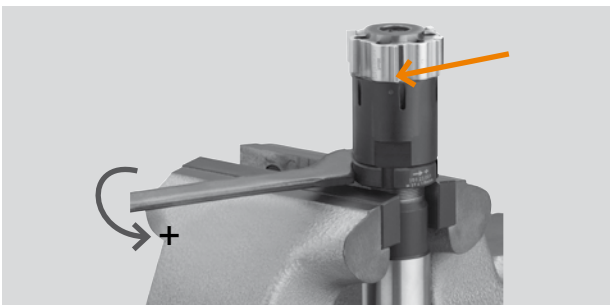


Screw the nut onto the holder with the smooth face against the bush. Mount the cutting ring with the conical screw.

After fastening the conical screw check that there is space between bush and ring.

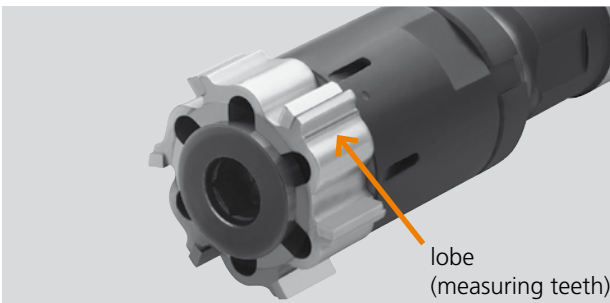
Fasten conical screw according to index table.

Dia. range	Starting torque M
60	90 – 110 Nm
61 – 79	120 – 140 Nm
80 – 100	180 – 220 Nm



Please observe the marking on holder and cutting ring, check alignment of the coolant bores.

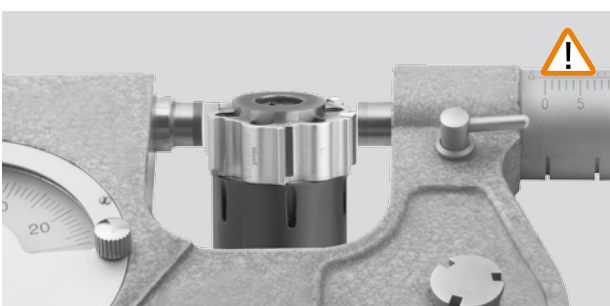
Adjust the diameter to the middle of the tolerance.



The diameter can only be measured at the marked cutting edges due to unequal angular position!

Measure the diameter

If the diameter was set too large, the nut must be loosened and the cutting ring readjusted.



KOMET® Cutting ring

Recommended cutting data

Guideline values for reaming					Cutting speed v_c (m/min)															
Material group	Strength Rm (N/mm²)	Hardness HB	Material	Material example material code/DIN	optimum · maximum						optimum · maximum									
					3xD Reamers short						5xD Reamers long									
					DST	DJC	DBG-P	DBG-N	DBC	TiN	HM	DST	DJC	DBG-P	DBG-N	DBC		TiN	HM	
P	1.0	≤ 500		non-alloy steels	1.0037 (S235JR) 1.0715 (11SMn30) 1.0044 (S2575JR)	150 200	150 200				100 140	8 10	120 160	120 160				80 120	8 10	
	2.0	500-900		non-alloy / low alloy steels	1.0050 (E295) 1.0535 (C55) 1.7131 (16MnCr5)	150 200	150 200				100 140	8 10	120 160	120 160				80 120	8 10	
	2.1	< 500		lead alloys	1.0718 (11SMnPb30)	150 200	150 200				100 140	30 45	120 160	120 160				80 120	30 45	
	3.0	> 900		non alloy / low alloy steels: heat resistant structural, heat treated, nitride and tools steels	1.7225 (42CrMo4) 1.1221 (C60E)	150 200	150 200				100 140	7 9	120 160	120 160				80 120	7 9	
	4.0	> 900		high alloy steels	1.2341 (6CrMo15-5) 1.2601 (X165CrMoV12)						30 45	5 7						30 45	5 7	
	4.1			HSS																
S	5.0		250	special alloys: Inconel, Hastelloy, Nimonic, stc.	2.4668 (NiuCr19Fe19Nb5Mo3) 2.4631 (Nimonic 80A)															
	5.1	400		titanium, titanium alloys	3.7115 (TiAl5Sn2.5)							8 12							8 12	
M	6.0	≤ 600		stainless steels	1.4306 (X2CrNi19-11) 1.4401 (X5CrNiMo17-12-2)			45 60			30 40	6 8			45 60			30 40	6 8	
	6.1	< 900		stainless steels	1.4511 (X3CrNb17) 1.4571 (X10CrNiMo-Ti17-12-2)			30 50			20 35	5 6			30 50			20 35	5 6	
	7.0	> 900		stainless / fireproof steels	1.4713 (X10CrAlSi7) 1.4862 (X8NiCrSi38-18)			30 50			20 35	5 6			30 50			20 35	5 6	
K	8.0		180	gray cast iron	0.6025 (EN-GJL-250) 0.6035 (EN-GJL-350)			150 220	150 220		80 130	15 25			120 150	120 150		80 120	15 25	
	8.1		250	alloy gray cast iron	0.6660 (GGL-NiCr20 2)			90 130	90 130		50 90	10 15			90 120	90 120		50 90	10 15	
	9.0	≤ 600	130	spheroidal graphite cast iron, ferritic	0.7040 (EN-GJS-400-15)	175 300	175 300	175 300	175 300			12 18	150 180	150 180	150 180	150 180			12 18	
	9.1		230	spheroidal graphite cast iron, ferritic / perlitic	0.7050 (EN-GJS-500-7) 0.7055 (GGG-55) 0.8055 (GTW-55)	150 250	150 250	150 250	150 250			12 18	120 160	120 160	120 160	120 160			12 18	
	10.0	> 600	250	spheroidal graphite cast iron, perlitic malleable iron	0.7060 (EN-GJS-600-3) 0.8165 (GTS-65)	120 180	120 180	120 180	120 180			12 15	120 150	120 150	120 150	120 150			12 15	
	10.1		200	alloyed spheroidal graphite cast iron	0.7661 (EN-GJSA-XNiCr20-2)			70 100	70 100		40 60	9 12			70 100	70 100		40 60	9 12	
10.2		300	vermicular cast iron	5.2200 (EN-GJV-350) 5.2300 (EN-GJV-450)			80 130	80 130		50 70	9 12			80 130	80 130		50 70	9 12		
N	12.0		90	copper alloy, brass, lead-alloy bronze, lead bronze: good cut	2.0375 (CuZn36Pb3) 2.1182.01 (G-CuPb15Sn)	150 320					120 200	15 30	150 200					120 150	15 30	
	12.1		100	copper alloy, brass, bronze:average cut	2.0550 (CuZn40Al2) 2.0060 (E-Cu57)						80 150	12 20						80 120	12 20	
	13.0		60	wrought aluminium alloys	3.3315 (AlMg1) 3.0517 (AlMnCu)					150 300		15 30					150 200		15 30	
	13.1		75	cast aluminium alloy: Si-content <10% magnesium alloy	3.3561 (G-AlMg5) 3.2373.61 (G-AlSi9Mg wa)					200 300		15 30					150 200		15 30	
	14.0		100	cast aluminium alloy: Si-content > 10%	3.2381.01 (G-AlSi10Mg)					200 300		12 20					150 200		12 20	
H	15.0	1400		hardened steels < 45 HRC																
	16.0	1800		hardened steels > 45 HRC, ≤ 55 HRC																

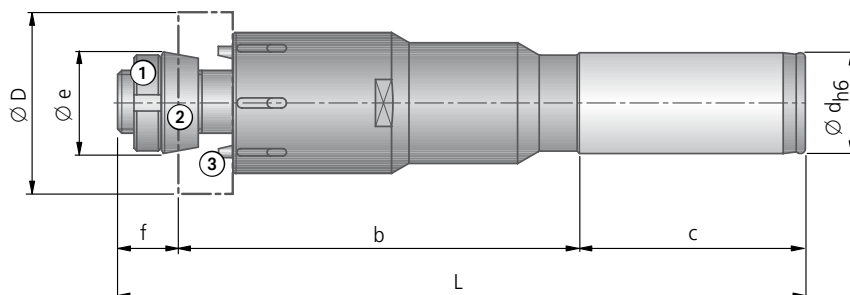
Reaming allowance in diameter (mm)

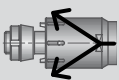
Recommended cutting data

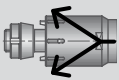
	Feed f (mm/rev)											
	optimum · maximum						optimum · maximum					
	ASG3000, ASG0106, ASG03, ASG0706 ASG07, ASG02						ASG4000, ASG09B, ASG1402 ASG09, ASG1405, ASG1406					
	Ø 17,6 - 22 6	Ø 22 - 32 6	Ø 32 - 50 6	Ø 50 - 79,59 6	Ø 79,6 - 100,59 8	Ø 100,6 - 300,59 10	Ø 17,6 - 22 6	Ø 22 - 32 6	Ø 32 - 50 6	Ø 50 - 79,59 6	Ø 79,6 - 100,59 8	Ø 100,6 - 300,59 10
	0,80 1,10	1,00 1,40	1,00 1,40	1,10 1,70	1,50 2,30	1,90 2,80	1,00 1,30	1,20 1,70	1,20 1,70	1,40 2,00	1,90 2,70	2,40 3,40
	0,80 1,10	1,00 1,40	1,00 1,40	1,10 1,70	1,50 2,30	1,90 2,80	1,00 1,30	1,20 1,70	1,20 1,70	1,40 2,00	1,90 2,70	2,40 3,40
	0,80 1,10	1,00 1,40	1,00 1,40	1,10 1,70	1,50 2,30	1,90 2,80	1,00 1,30	1,20 1,70	1,20 1,70	1,40 2,00	1,90 2,70	2,40 3,40
	0,80 1,10	1,00 1,40	1,00 1,40	1,10 1,70	1,50 2,30	1,90 2,80	1,00 1,30	1,20 1,70	1,20 1,70	1,40 2,00	1,90 2,70	2,40 3,40
	0,50 0,80	0,70 1,00	0,70 1,00	0,80 1,20	1,10 1,60	1,30 2,00						
	0,60 0,90	0,80 1,20	0,80 1,20	0,90 1,40	1,30 1,90	1,60 2,40						
	0,60 0,90	0,80 1,10	0,80 1,10	0,90 1,30	1,20 1,80	1,50 2,30						
	0,60 0,90	0,80 1,10	0,80 1,10	0,90 1,30	1,20 1,80	1,50 2,30						
	0,60 0,90	0,80 1,10	0,80 1,10	0,90 1,30	1,20 1,80	1,50 2,30						
	0,90 1,30	1,20 1,70	1,20 1,70	1,40 2,00	1,90 2,70	2,30 3,40						
	0,80 1,10	1,00 1,40	1,00 1,40	1,10 1,70	1,50 2,30	1,90 2,80						
	0,90 1,30	1,20 1,70	1,20 1,70	1,40 2,00	1,90 2,70	2,30 3,40						
	0,90 1,30	1,20 1,70	1,20 1,70	1,40 2,00	1,90 2,70	2,30 3,40						
	0,80 1,10	1,00 1,40	1,00 1,40	1,10 1,70	1,50 2,30	1,90 2,80						
	0,60 0,90	0,80 1,10	0,80 1,10	0,90 1,30	1,20 1,80	1,50 2,30						
	0,60 0,90	0,80 1,10	0,80 1,10	0,90 1,30	1,20 1,80	1,50 2,30						
	0,90 1,30	1,10 1,70	1,10 1,70	1,20 1,90	1,70 2,50	2,10 3,10						
	0,70 1,10	0,90 1,40	0,90 1,40	1,00 1,50	1,40 2,10	1,70 2,60						
	0,90 1,30	1,10 1,70	1,10 1,70	1,30 2,00	1,70 2,70	2,20 3,40						
	0,90 1,30	1,10 1,70	1,10 1,70	1,30 2,00	1,70 2,70	2,20 3,40						
	0,90 1,30	1,10 1,70	1,10 1,70	1,30 2,00	1,70 2,70	2,20 3,40						
	0,20-0,30	0,20-0,30	0,20-0,40	0,30-0,50	0,30-0,50	0,30-0,50	0,20-0,30	0,20-0,30	0,20-0,40	0,30-0,50	0,30-0,50	0,30-0,50

KOMET® Cutting ring

Holder for through hole machining



short version									①		②	③
Pre-ferred diameter Ø D	Diameter range Ø D	 Order No.	Ø dxc	L	b	Ø e	f	 kg	 Order No.	 Size	 Order No.	 Order No.
62	60,600 – 70,599	503.76.008	32×60	189,5	105	40,0	24,5	1,81	099.00.090	34-36	301.80.006	300.30.007
65												
70												
72	70,600 – 79,599	503.76.009	32×60	189,5	105	40,0	24,5	2,00	099.00.090	34-36	301.80.006	300.30.007
75												
80	79,600 – 90,599	503.76.010	40×70	203,5	105	56,2	28,5	3,40	099.00.092	45-50	301.80.007	300.30.008
90												
92	90,600 – 100,599	503.76.011	40×70	203,5	105	56,2	28,5	6,14	099.00.092	45-50	301.80.007	300.30.008
100												

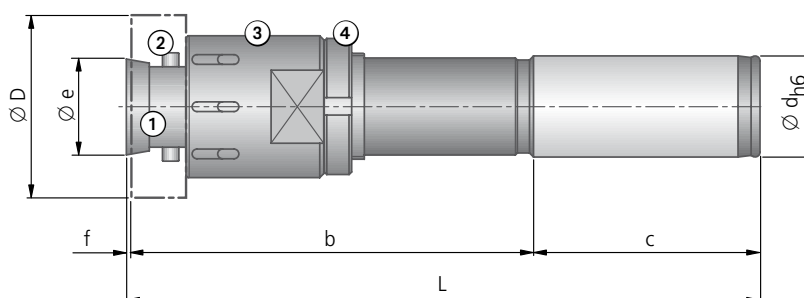
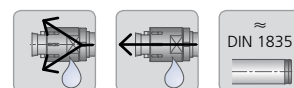
long version									①		②	③
Pre-ferred diameter Ø D	Diameter range Ø D	 Order No.	Ø dxc	L	b	Ø e	f	 kg	 Order No.	 Size	 Order No.	 Order No.
62	60,600 – 70,599	504.76.009	32×60	321,5	237	40,0	24,5	3,46	099.00.090	34-36	301.80.006	300.30.007
65												
70												
72	70,600 – 79,599	504.76.010	32×60	321,5	237	40,0	24,5	3,87	099.00.090	34-36	301.80.006	300.30.007
75												
80	79,600 – 90,599	504.76.011	40×70	338,5	240	56,2	28,5	6,14	099.00.092	45-50	301.80.007	300.30.008
90												
92	90,600 – 100,599	504.76.012	40×70	338,5	240	56,2	28,5		099.00.092	45-50	301.80.007	300.30.008
100												

Supply includes: Holder with ①, ② and ③. Please order cutting ring separately.

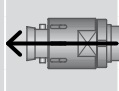
Cylindrical shank with flat available on request

KOMET® Cutting ring

Holder for blind hole machining



short version											①		②	③	④	
Pre-ferred diameter Ø D	Diameter range Ø D			Ø dxc	L	b	Ø e	f		Conical screw		Pin	Bush	Nut		
		Order No.	Order No.							Order No.	Order No.	Order No.	Order No.			
62	60,600 – 70,599	513.76.008	513.81.008	32x60	166,5	105	37,0	1,5	1,78	510.55.007	510.45.007	350.14.002	510.15.008	350.23.002	52-55	
65																
70																
72	70,600 – 79,599	513.76.009	513.81.009	32x60	166,5	105	37,0	1,5	1,76	510.55.007	510.45.007	350.14.002	510.15.009	350.23.002	52-55	
75																
80	79,600 – 90,599	513.76.010	513.81.010	40x70	176,5	105	53,2	1,5	3,13	510.55.008	510.45.008	350.14.003	510.15.010	350.23.003	68-75	
90																
92	90,600 – 100,599	513.76.011	513.81.011	40x70	176,5	105	53,2	1,5		510.55.008	510.45.008	350.14.003	510.15.011	350.23.003	68-75	
100																

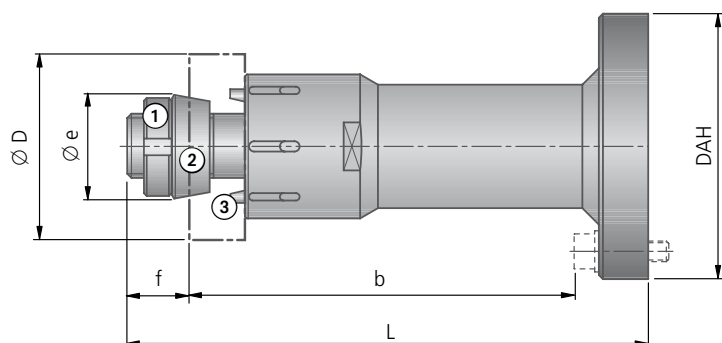
long version											①		②	③	④		
Pre-ferred diameter Ø D	Diameter range Ø D			Order No.	Order No.	Ø dxc	L	b	Ø e	f		Conical screw 		Pin	Bush 	Nut 	
62	60,600 – 70,599	514.76.008	514.81.008	32x60	298,5	237	37,0	1,5	2,90			510.55.007	510.45.007	350.14.002	510.15.008	350.23.002	52-55
65																	
70																	
72	70,600 – 79,599	514.76.009	514.81.009	32x60	298,5	237	37,0	1,5	3,01			510.55.007	510.45.007	350.14.002	510.15.009	350.23.002	52-55
75																	
80	79,600 – 90,599	514.76.010	514.81.010	40x70	311,5	240	53,2	1,5	4,90			510.55.008	510.45.008	350.14.003	510.15.010	350.23.003	68-75
90																	
92	90,600 – 100,599	514.76.011	514.81.011	40x70	311,5	240	53,2	1,5	5,55			510.55.008	510.45.008	350.14.003	510.15.011	350.23.003	68-75
100																	

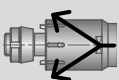
Supply includes: Holder with ①, ②, ③ and ④. Please order cutting ring separately.

Cylindrical shank with flat available on request

KOMET® Cutting ring

Holder for through hole machining



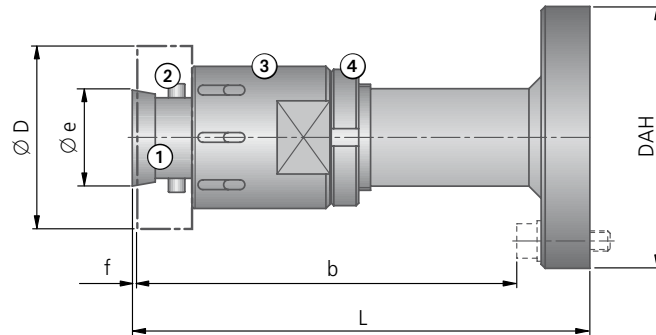
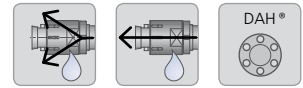
Pre-ferred diameter Ø D	Diameter range Ø D	 Order No.	DAH	L	b	Ø e	f	 kg	① Nut	Hook spanner	② Conical ring	③ Positioning pin
									 Order No.	 Size DIN1810A	 Order No.	 Order No.
62	60,600 – 70,599	507.02.043	81	141,5	99	40,0	24,5	1,70	099.00.090	34-36	301.80.006	300.30.007
65												
70												
72	70,600 – 79,599	507.02.044	81	141,5	99	40,0	24,5	1,90	099.00.090	34-36	301.80.006	300.30.007
75												
62	60,600 – 70,599	507.02.008	115	146	96	40,0	24,5	2,50	099.00.090	34-36	301.80.006	300.30.007
65												
70												
72	70,600 – 79,599	507.02.009	115	146	96	40,0	24,5	2,79	099.00.090	34-36	301.80.006	300.30.007
75												
80	79,600 – 90,599	507.02.010	115	150	96	56,2	28,5	3,80	099.00.092	45-50	301.80.007	300.30.008
90												
92	90,600 – 100,599	507.02.011	115	150	96	56,2	28,5	4,22	099.00.092	45-50	301.80.007	300.30.008
100												
110	100,600 – 110,599	507.02.012	115	158	97	73,4	35,5	5,50	099.00.095	58-62	306.20.001	300.30.008

Supply includes: Holder with ①, ② and ③. Please order cutting ring separately.
DAH® adaptors see chapter 9.

Further holders on request

KOMET® Cutting ring

Holder for blind hole machining



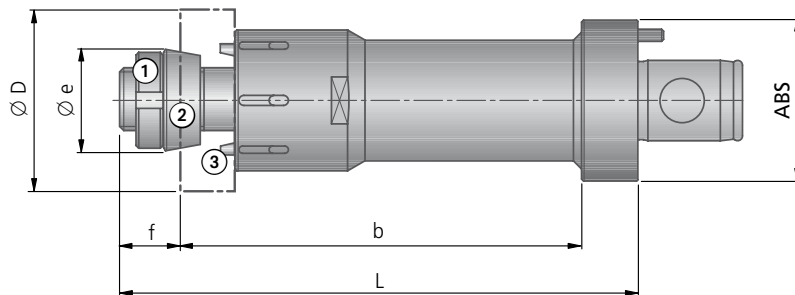
Pre-ferred diameter Ø D	Diameter range Ø D			DAH	L	b	Ø e	f	~	kg	① Conical screw		② Pin	③ Bush	④ Nut	DIN 1810 A
		Order No.	Order No.								Order No.	Order No.	Order No.	Order No.	Order No.	
62	60,600 – 70,599	517.76.008	517.81.008	115	147	120	37,0	1,5	2,52	510.55.007	510.45.007	350.14.002	510.15.008	350.23.002	52-55	
65																
70																
72	70,600 – 79,599	517.76.009	517.81.009	115	147	120	37,0	1,5	2,52	510.55.007	510.45.007	350.14.002	510.15.009	350.23.002	52-55	
75																
80	79,600 – 90,599	517.76.010	517.81.010	115	157	130	53,2	1,5	3,95	510.55.008	510.45.008	350.14.003	510.15.010	350.23.003	68-75	
90																
92	90,600 – 100,599	517.76.011	517.81.011	115	157	130	53,2	1,5	4,33	510.55.008	510.45.008	350.14.003	510.15.011	350.23.003	68-75	
100																

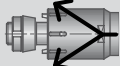
Supply includes: Holder with ①, ②, ③ and ④. Please order cutting ring separately.
DAH® adaptors see chapter 9.

Further holders on request

KOMET® Cutting ring

Holder for through hole machining



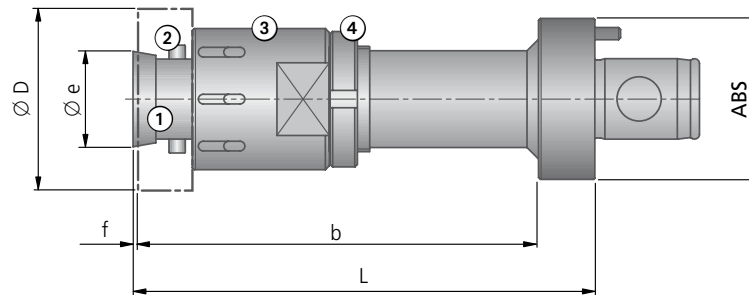
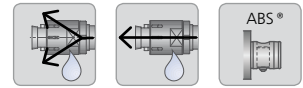
									①		②	③
Pre-ferred diameter Ø D	Diameter range Ø D	 Order No.	ABS	L	b	Ø e	f		Nut	Hook spanner	Conical ring	Positioning pin
									 Order No.	 Size	 Order No.	 Order No.
62	60,600 – 65,599	508.53.020	50	143,5	105	40,0	24,5	1,95	099.00.090	34-36	301.80.006	300.30.007
65 70	65,600 – 70,599	508.53.021	63	149,5	105	40,0	24,5	2,33	099.00.090	34-36	301.80.006	300.30.007
72 75	70,600 – 79,599	508.53.009	63	149,5	105	40,0	24,5	2,50	099.00.090	34-36	301.80.006	300.30.007
80 90	79,600 – 90,599	508.53.010	63	153,5	105	56,2	28,5	3,55	099.00.092	45-50	301.80.007	300.30.008
92 100	90,600 – 100,599	508.53.011	63	153,5	105	56,2	28,5	3,93	099.00.092	45-50	301.80.007	300.30.008
110	100,600 – 110,599	508.53.022	80	167	106,5	73,4	35,5	6,21	099.00.095	58-62	306.20.001	300.30.008

Supply includes: Holder with ①, ② and ③. Please order cutting ring separately.
ABS® adaptors see catalogue "KomPass DRILLING".

Further holders on request

KOMET® Cutting ring

Holder for blind hole machining



Pre-ferred diameter Ø D	Diameter range Ø D			ABS	L	b	Ø e	f	~ kg	① Conical screw		② Pin	③ Bush	④ Nut	DIN 1810 A
		Order No.	Order No.							Order No.	Order No.	Order No.	Order No.	Order No.	
62	60,600 – 65,599	518.78.013	518.82.013	50	120,5	105	37,0	1,5	1,75	510.55.007	510.45.007	350.14.002	510.15.008	350.23.002	52-55
65 70	65,600 – 70,599	518.78.014	518.82.014	63	126,5	105	37,0	1,5	2,15	510.55.007	510.45.007	350.14.002	510.15.008	350.23.002	52-55
72 75	70,600 – 79,599	518.78.009	518.82.009	63	126,5	105	37,0	1,5	2,23	510.55.007	510.45.007	350.14.002	510.15.009	350.23.002	52-55
80 90	79,600 – 90,599	518.78.010	518.82.010	63	126,5	105	53,2	1,5	3,29	510.55.008	510.45.008	350.14.003	510.15.010	350.23.003	68-75
92 100	90,600 – 100,599	518.78.011	518.82.011	63	126,5	105	53,2	1,5	3,60	510.55.008	510.45.008	350.14.003	510.15.011	350.23.003	68-75

Supply includes: Holder with ①, ②, ③ and ④. Please order cutting ring separately.
ABS® adaptors see catalogue "KomPass DRILLING".

Further holders on request





Indexable insert technology has revolutionised reaming with multiple-cutting-edge reamers and has set new standards in terms of cost efficiency and functionality.

We have always focused on minimising tool wear and thus ensure maximum productivity at our customers. We have now applied this approach to our reaming tools and simplified handling at the same time. One new feature of our KOMET® Freemax is that the user can choose the position of the inserts, similar to how other machining tools currently work. This means that they are easier to fit, quicker and more reliable.

The KOMET® Freemax has three cutting edges per insert, making handling for the user extremely flexible. This makes our KOMET® Freemax truly unique.

BENEFITS for you:

- Triple-edged indexable inserts that can be freely assigned
- Coated carbide and cermet inserts available for machining all material groups in accordance with the ISO standard
- The clear assignment of each cutting edge by marking on figures prevents incorrect positioning
- High level of stability thanks to the tangential fitting of the indexable inserts
- High-precision ground indexable inserts for maximum quality
- Can be fitted in KOMET DAH® compensating holders or with ABS® connection
- EASY-TO-USE principle: Handling is straightforward and the need for adjustments is minimal
- DBG-P coating for better performance

KOMET® Freemax

Page

Diameter H7 – available from stock 104

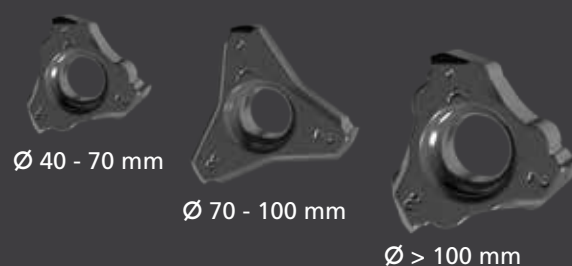
Indexable insert set

Ø 69,900 – 100,100 mm 106 – 107

Holder 105

Assembly instructions 108

Recommended cutting data 109



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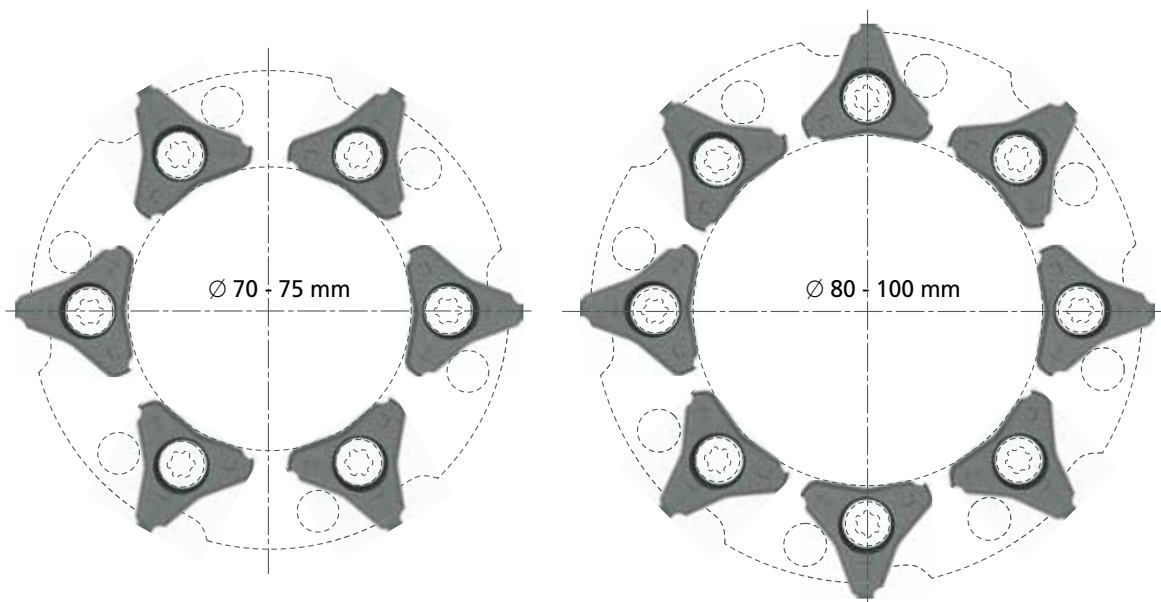
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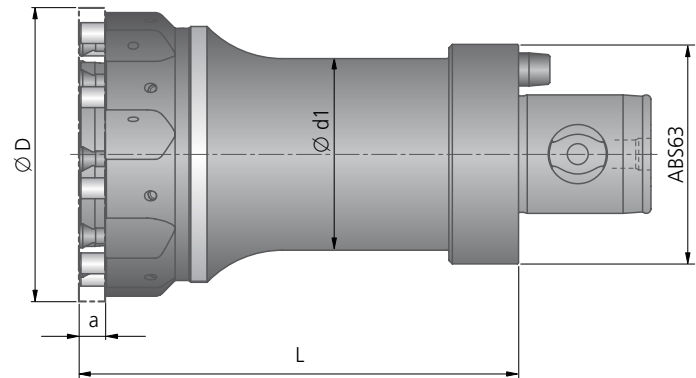
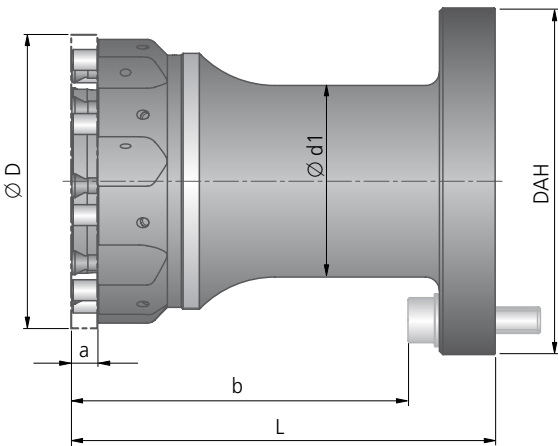
Indexable insert set



Diameter H7 – available from stock						
Ø D	Z	               	          	       	   	
		 45° Order No. DST	 25° Order No. DST	 45° Order No. DBG-P	 25° Order No. DBG-P	
70 ^{H7}	6	71G.93.0700N	71G.93.0700D	71G.65.0700N	71G.65.0700D	
75 ^{H7}	6	71G.93.0750N	71G.93.0750D	71G.65.0750N	71G.65.0750D	
80 ^{H7}	8	71H.93.0800N	71H.93.0800D	71H.65.0800N	71H.65.0800D	
85 ^{H7}	8	71H.93.0850N	71H.93.0850D	71H.65.0850N	71H.65.0850D	
90 ^{H7}	8	71H.93.0900N	71H.93.0900D	71H.65.0900N	71H.65.0900D	
95 ^{H7}	8	71H.93.0950N	71H.93.0950D	71H.65.0950N	71H.65.0950D	
100 ^{H7}	8	71H.93.1000N	71H.93.1000D	71H.65.1000N	71H.65.1000D	

¹⁾ material group 9.0 | 9.1 | 10.0 · ²⁾ material group 12.0 · ³⁾ material group 12.0 | 12.1

Cutting speed and feed see page 109.



DAH®								ABS®						Clamping screw  Order No. Article
Order No.	DAH	Ø d1	L	b	a ~	kg		Order No.	ABS	Ø d1	L	a ~	kg	
72A.30.07000	81	38	117	99	7	1,8		72A.60.07000	63	50	125	7	2,7	N00 56861 S4514-20IP 4,3 Nm
72A.30.07500	81	38	117	99	7	2,0		72A.60.07500	63	50	125	7	2,9	
72A.30.08000	115	55	121,5	96	7	3,3		72A.60.08000	63	60	125	7	3,2	
72A.30.08500	115	55	121,5	96	7	3,5		72A.60.08500	63	60	125	7	3,4	
72A.30.09000	115	55	121,5	96	7	3,7		72A.60.09000	63	60	125	7	3,7	
72A.30.09500	115	55	121,5	96	7	3,9		72A.60.09500	63	60	125	7	4	
72A.30.10000	115	55	121,5	96	7	4,2		72A.60.10000	63	60	125	7	4,3	

Supply includes: Holder with clamping screw.

Please order insert separately. Screwdriver see chapter 11.

DAH® adaptors see chapter 9. / ABS® adaptors see catalogue "KomPass DRILLING".

Further holders on request

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Tool recommendation

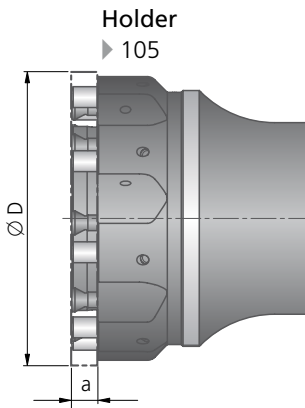
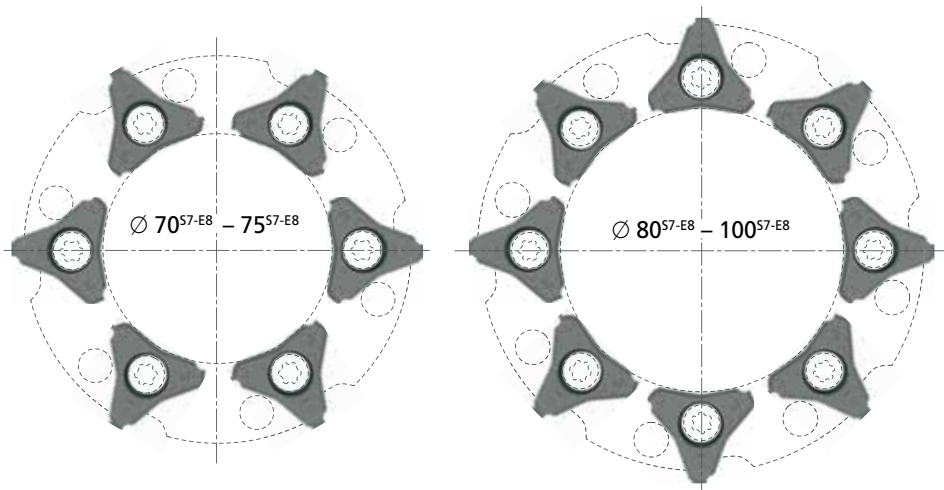


					Machining			
Material group	Strength Rm (N/mm²)	Hardness HB	Material	Material example, material code / DIN	Order No. ASG = cutting geometry			
								
P	1.0	≤500	non-alloy steels	1.0037 (S235JR) 1.0715 (11SMn30) 1.0044 (S2575JR)	71G.93 71H.93 ASG 4000	71G.65 71H.65 ASG 4000	71G.93 71H.93 ASG 3000	71G.65 71H.65 ASG 3000
	2.0	500-900	non-alloy / low alloy steels	1.0050 (E295) 1.0535 (C55) 1.7131 (16MnCr5)	71G.93 71H.93 ASG 4000	71G.65 71H.65 ASG 4000	71G.93 71H.93 ASG 3000	71G.65 71H.65 ASG 3000
	2.1	<500	lead alloys	1.0718 (11SMnPb30)	71G.93 71H.93 ASG 4000	71G.65 71H.65 ASG 4000	71G.93 71H.93 ASG 3000	71G.65 71H.65 ASG 3000
	3.0	>900	non alloy / low alloy steels; heat resistant structural, heat treated, nitride and tools steels	1.7225 (42CrMo4) 1.1221 (C60E)	71G.93 71H.93 ASG 4000	71G.65 71H.65 ASG 4000	71G.93 71H.93 ASG 3000	71G.65 71H.65 ASG 3000
	4.0	>900	high alloy steels	1.2341 (6CrMo15-5) 1.2601 (X165Cr-MoV12)	71G.93 71H.93 ASG 3000	71G.65 71H.65 ASG 3000	71G.93 71H.93 ASG 3000	71G.65 71H.65 ASG 3000
	4.1		HSS					
S	5.0	250	special alloys: Inconel, Hastelloy, Nimonic, etc.	2.4668 (NiuCr-19Fe19Nb5Mo3) 2.4631 (Nimonic 80A)				
	5.1	400	titanium, titanium alloys	3.7115 (TiAl5Sn2.5)				
M	6.0	≤600	stainless steels	1.4306 (X2CrNi19-11) 1.4401 (X5CrNi-Mo17-12-2)				
	6.1	<900	stainless steels	1.4511 (X3CrNb17) 1.4571 (X10CrNiMo-Ti17-12-2)				
	7.0	>900	stainless / fireproof steels	1.4713 (X10CrAlSi7) 1.4862 (X8NiCr-Si38-18)				
K	8.0	180	gray cast iron	0.6025 (EN-GJL-250) 0.6035 (EN-GJL-350)	71G.65 71H.65 ASG 3000	71G.65 71H.65 ASG 3000	71G.65 71H.65 ASG 3000	71G.65 71H.65 ASG 3000
	8.1	250	alloy gray cast iron	0.6660 (GGL-NiCr20 2)	71G.65 71H.65 ASG 3000	71G.65 71H.65 ASG 3000	71G.65 71H.65 ASG 3000	71G.65 71H.65 ASG 3000
	9.0	≤600	spheroidal graphite cast iron, ferritic	0.7040 (EN-GJS-400-15)	71G.65 71H.65 ASG 3000	71G.65 71H.65 ASG 3000	71G.65 71H.65 ASG 3000	71G.65 71H.65 ASG 3000
	9.1	230	spheroidal graphite cast iron, ferritic/perlitic	0.7050 (EN-GJS-500-7) 0.7055 (GJS-55) 0.8055 (GTW-55)	71G.65 71H.65 ASG 3000	71G.65 71H.65 ASG 3000	71G.65 71H.65 ASG 3000	71G.65 71H.65 ASG 3000
	10.0	>600	spheroidal graphite cast iron, perlitic malleable iron	0.7060 (EN-GJS-600-3) 0.8165 (GTS-65)	71G.65 71H.65 ASG 3000	71G.65 71H.65 ASG 3000	71G.65 71H.65 ASG 3000	71G.65 71H.65 ASG 3000
	10.1	200	alloyed spheroidal graphite cast iron	0.7661 (EN-GJSA-XNiCr20-2)	71G.65 71H.65 ASG 3000	71G.65 71H.65 ASG 3000	71G.65 71H.65 ASG 3000	71G.65 71H.65 ASG 3000
	10.2	300	vermicular cast iron	EN-GJV Ti < 0,2 EN-GJV Ti > 0,2	71G.65 71H.65 ASG 3000	71G.65 71H.65 ASG 3000	71G.65 71H.65 ASG 3000	71G.65 71H.65 ASG 3000
	12.0	90	copper alloy, brass, lead-alloy bronze, lead bronze: good cut	2.0375 (CuZn36Pb3) 2.1182.01 (G-CuPb15Sn)	71G.93 71H.93 ASG 4000	71G.65 71H.65 ASG 4000	71G.93 71H.93 ASG 3000	71G.65 71H.65 ASG 3000
N	12.1	100	copper alloy, brass, bronze: average cut	2.0550 (CuZn40Al2) 2.0060 (E-Cu57)	71G.65 71H.65 ASG 4000	71G.65 71H.65 ASG 4000	71G.65 71H.65 ASG 3000	71G.65 71H.65 ASG 3000
	13.0	60	wrought aluminium alloys	3.3315 (AlMg1) 3.0517 (AlMnCu)				
	13.1	75	cast alum. alloy: Si-content <10% magnesium alloy	3.3561 (G-AlMg5) 3.2373.61 (G-AlSi9Mg wa)				
	14.0	100	cast alum. alloy: Si-content >10%	3.2381.01 (G-AlSi10Mg)				
H	15.0	1400	hardened steels < 45 HRC					
	16.0	1800	hardened steels > 45 HRC, ≤ 55 HRC					

Ø 70^{S7-E8} – 100^{S7-E8} mm

KOMET® Freemax

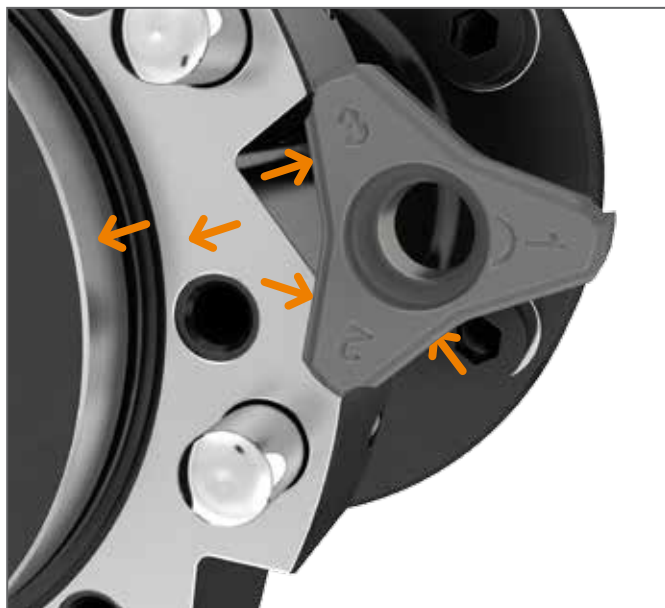
Indexable insert set



Custom indexable insert set – selection options!							
Ø 70 – 75	Ø 80 – 100	Cutting material, coating	Dimensions				
			Ø D	Achievable tolerance range	a ~	 Z	
Order No. Z = 6	Order No. Z = 8						
71G.93	71H.93	DST	70	S7 – E8	7,0	6	
			75	S7 – E8	7,0	6	
			80	S7 – E8	7,0	8	
			85	S7 – E8	7,0	8	
71G.65	71H.65	DBG-P	90	S7 – E8	7,0	8	
			95	S7 – E8	7,0	8	
			100	S7 – E8	7,0	8	

Order example:
Order No. 71G.93 · Bore diameter 70 mm · Bore tolerance S7 · Material 1.0037 (S235JR) or ASG3000 (Cutting geometry).
Cutting speed and feed see pages 109.





Cleaning

→ Make sure that the end faces and contact surfaces on basic bodies and indexable inserts are absolutely clean/grease-free. If necessary, remove tiny dust particles with compressed air.



Assembly

All indexable inserts have number markings ①. During assembly, make sure that all indexable inserts are fitted with the same cutting edge (number markings 1, 2, 3). Place the indexable insert on the collar and on the positioning pin ②. Tighten the clamping screw ③ to a defined torque => use a torque wrench.

Perform exactly the same procedure when switching from cutting edge 1 to cutting edge 2 or 3.

Diameter range	70 - 100 mm
Torque	4,30 Nm
Clamping screw	N00 56861 S4514-20IP
Torque tool	L05 00961
Replaceable blade	L05 00770



Recommended cutting data

Guideline values for reaming					Cutting speed v_c (m/min)				Feed f (mm/rev)			
Material group	Strength R _m (N/mm ²)	Hardness HB	Material	Material example, material code / DIN	optimum maximum		optimum maximum		optimum maximum		optimum maximum	
					Reamers short		Reamers long		ASG 3000		ASG 4000	
					3xD		5xD		Ø 69,6 - 79,599 ✱ 6	Ø 79,6 - 100,599 ✱ 8	Ø 69,6 - 79,599 ✱ 6	Ø 79,6 - 100,599 ✱ 8
					DST	DBG-P	DST	DBG-P				
P	1.0	≤500	non-alloy steels	1.0037 (S235JR) 1.0715 (11SMn30) 1.0044 (S2575JR)	150 200	150 200	120 160	120 160	1,10 1,70	1,50 2,30	1,40 2,00	1,90 2,70
	2.0	500-900	non-alloy / low alloy steels	1.0050 (E295) 1.0535 (C55) 1.7131 (16MnCr5)	150 200	150 200	120 160	120 160	1,10 1,70	1,50 2,30	1,40 2,00	1,90 2,70
	2.1	<500	lead alloys	1.0718 (11SMnPb30)	150 200	150 200	120 160	120 160	1,10 1,70	1,50 2,30	1,40 2,00	1,90 2,70
	3.0	>900	non alloy / low alloy steels: heat resistant structural, heat treated, nitride and tools steels	1.7225 (42CrMo4) 1.1221 (C60E)	150 200	150 200	120 160	120 160	1,10 1,70	1,50 2,30	1,40 2,00	1,90 2,70
	4.0	>900	high alloy steels	1.2341 (6CrMo15-5) 1.2601 (X165CrMoV12)	150 200	150 200	150 200	120 160	0,80 1,20	1,10 1,60		
	4.1		HSS									
S	5.0		250	special alloys: Inconel, Hastelloy, Nimonic, stc.								
	5.1	400	titanium, titanium alloys	3.7115 (TiAl5Sn2.5)								
M	6.0	≤600	stainless steels	1.4306 (X2CrNi19-11) 1.4401 (X5CrNi-Mo17-12-2)								
	6.1	<900	stainless steels	1.4511 (X3CrNb17) 1.4571 (X10CrNiMo-Ti17-12-2)								
	7.0	>900	stainless / fireproof steels	1.4713 (X10CrAlSi7) 1.4862 (X8NiCrSi38-18)								
K	8.0		180	gray cast iron	0.6025 (EN-GJL-250) 0.6035 (EN-GJL-350)	150 220		120 150	1,40 2,00	1,90 2,70		
	8.1		250	alloy gray cast iron	0.6660 (GGL-NiCr20 2)	90 130		90 130	1,10 1,70	1,50 2,30		
	9.0	≤600	130	spheroidal graphite cast iron, ferritic	0.7040 (EN-GJS-400-15)	175 300	175 300	150 180	1,40 2,00	1,90 2,70		
	9.1		230	spheroidal graphite cast iron, ferritic/perlitic	0.7050 (EN-GJS-500-7) 0.7055 (GJS-55) 0.8055 (GTW-55)	150 250	150 250	120 160	1,40 2,00	1,90 2,70		
	10.0	>600	250	spheroidal graphite cast iron, perlitic malleable iron	0.7060 (EN-GJS-600-3) 0.8165 (GTS-65)	120 180	120 180	120 150	1,10 1,70	1,50 2,30		
	10.1		200	alloyed spheroidal graphite cast iron	0.7661 (EN-GJSA- XNiCr20-2)		70 100	70 100	0,90 1,30	1,20 1,80		
	10.2		300	vermicular cast iron	EN-GJV Ti < 0,2 EN-GJV Ti > 0,2		80 130	80 130	0,90 1,30	1,20 1,80		
	12.0		90	copper alloy, brass, lead-alloy bronze, lead bronze: good cut	2.0375 (CuZn36Pb3) 2.1182.01 (G-CuPb15Sn)	150 300	150 300	120 180	1,20 1,90	1,70 2,50		
N	12.1		100	copper alloy, brass, bronze: average cut	2.0550 (CuZn40Al2) 2.0060 (E-Cu57)		100 150	100 150	1,00 1,50	1,40 2,10		
	13.0		60	wrought aluminium alloys	3.3315 (AlMg1) 3.0517 (AlMnCu)							
	13.1		75	cast alum. alloy: Si-content <10% magnesium alloy	3.3561 (G-AlMg5) 3.2373.61 (G-AlSi9Mg wa)							
	14.0		100	cast alum. alloy: Si-content >10%	3.2381.01(G-AlSi10Mg)							
H	15.0	1400		hardened steels < 45 HRC								
	16.0	1800		hardened steels > 45 HRC, ≤ 55 HRC								



KOMET® Compensating Holder



KOMET DAH® compensating holders are static compensating systems, floating holder DPS are dynamic compensating systems. Axis and concentricity errors are compensated for extremely simply.

Using the patented KOMET DAH® the concentricity of reaming tools and all rotating machining tools can be adjusted quickly, effortlessly and with utmost precision on the machine.

Precision bore machining can therefore be executed with extremely high cutting speeds and feed values.

The bore quality achieved, such as circularity, cylindricity and surface finishing, leaves nothing to be desired.

The use of the KOMET DAH® enables you to machine precision bores up to tolerance class IT 4.

BENEFITS for you:

- Compensation systems for μ -precise concentricity
- Easy correction of concentricity and axis error
- Optimised for extremely high speeds
- Designed for internal coolant supply
- Tools rotating concentrically guarantee long tool life

Compensating holder

Page

DAH® Compensating holder

with HSK-A adaptor	112
with ABS® adaptor	112
with taper shank	113
Assembly instructions	114
Assembly parts / accessories	115

Adaptor for DAH®

116 – 117

with expanding chuck
with ABS® adaptor

DAH® 50 HS Compensating holder

118 – 119

for high speed machining

DPS Floating holder

120 – 121

with VDI connection
with cylindrical shank

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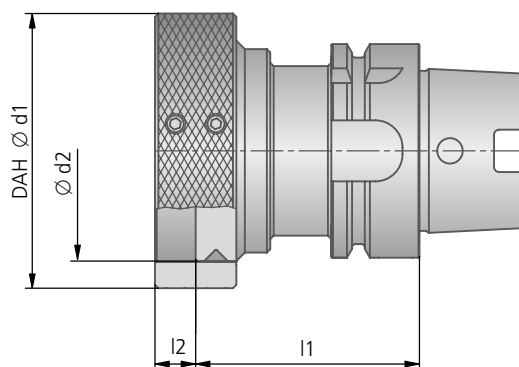
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KOMET DAH® Compensating holder

with HSK adaptor DIN 69893 A

■ with internal coolant supply

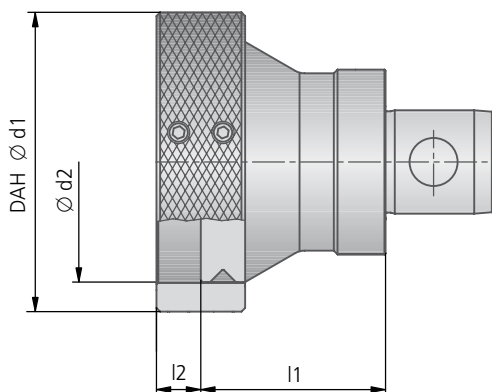


Supply includes: DAH® compensating holder complete with assembling screws. DAH® Assembly parts see page 115.

HSK-A						
Order No.	DAH Ø d1	HSK-A	Ø d2	l1	l2	kg
545.07.011	63	63	50	66	12	1,47
545.07.002	81	40	65	52	12	0,97
545.07.003	81	50	65	66	12	1,39
545.07.004	81	63	65	66	12	1,78
545.07.009	81	80	65	76	12	2,62
545.07.010	81	100	65	76	12	3,58
545.07.005	115	80	100	76	16	1,75
545.07.006	115	100	100	79	16	5,18

with ABS® adaptor

■ with internal coolant supply



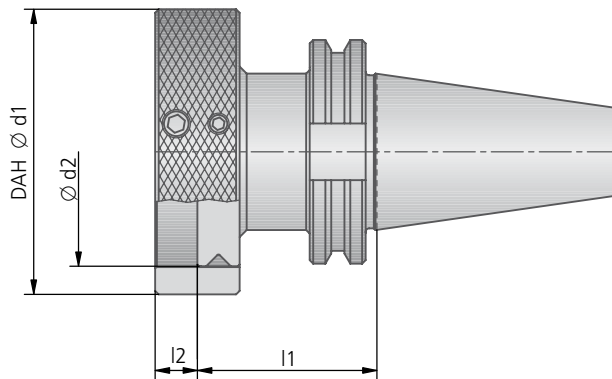
Supply includes: DAH® compensating holder complete with assembling screws. DAH® Assembly parts see page 115.
ABS® adaptors see catalogue "KomPass DRILLING"

ABS®						
Order No.	DAH Ø d1	ABS	Ø d2	l1	l2	kg
545.00.001	81	40	65	50	12	0,90
545.00.003	81	50	65	50	12	1,45
545.00.002	115	63	100	54	16	2,75

KOMET DAH® Compensating holder

with taper shank DIN 69871 AD/B

with internal coolant supply ■
long version on request ■

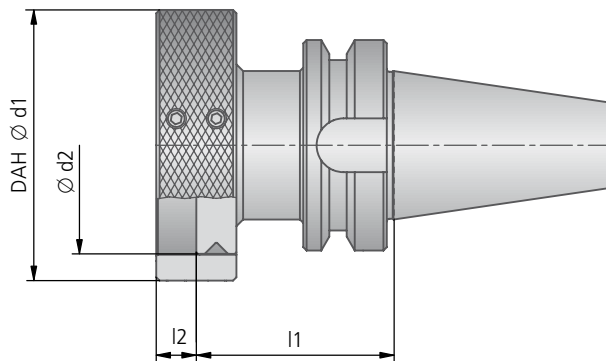


Supply includes: DAH® compensating holder complete with assembling screws. DAH® Assembly parts see page 115.

DIN 69871 AD/B						
Order No.	DAH Ø d1	SK	Ø d2	l1	l2	kg
545.10.010	63	30	50	51	12	0,98
545.10.011	63	40	50	51	12	1,45
545.10.001	81	40	65	51	12	1,62
545.10.003	81	50	65	51	12	3,69
545.10.004	115	50	100	69	16	5,61

with taper shank JIS B 6339 AD/B (MAS 403 BT)

with internal coolant supply ■
long version on request ■



Supply includes: DAH® compensating holder complete with assembling screws. DAH® Assembly parts see page 115.

JIS B 6339 AD/B						
Order No.	DAH Ø d1	BT	Ø d2	l1	l2	kg
545.77.011	63	40	50	59	12	1,55
545.77.001	81	40	65	59	12	1,79
545.77.003	81	50	65	70	12	4,68
545.77.004	115	50	100	88	16	6,60



KOMET DAH® Compensating holder

Assembly instructions

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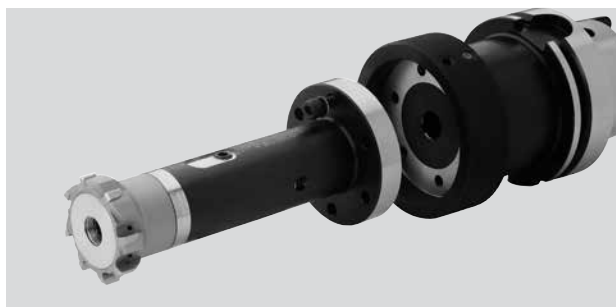
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Clean grinding surfaces thoroughly
→ dry and free of grease.



Pre-load evenly with the 6 assembling screws ②
(pressing the spring washer level)



Adjusting the DAH® must be done in the machine on
the spindle where the tool will be in use afterwards!

Determine the highest point by rotating (largest
concentricity error).
Rotate the threaded pin ④ to the highest point.
Correct half of the measured runout error by inserting the
thread pin ④.
Repeat this procedure until the runout error is < 5 µ.

Center the indicator on the gauge line.



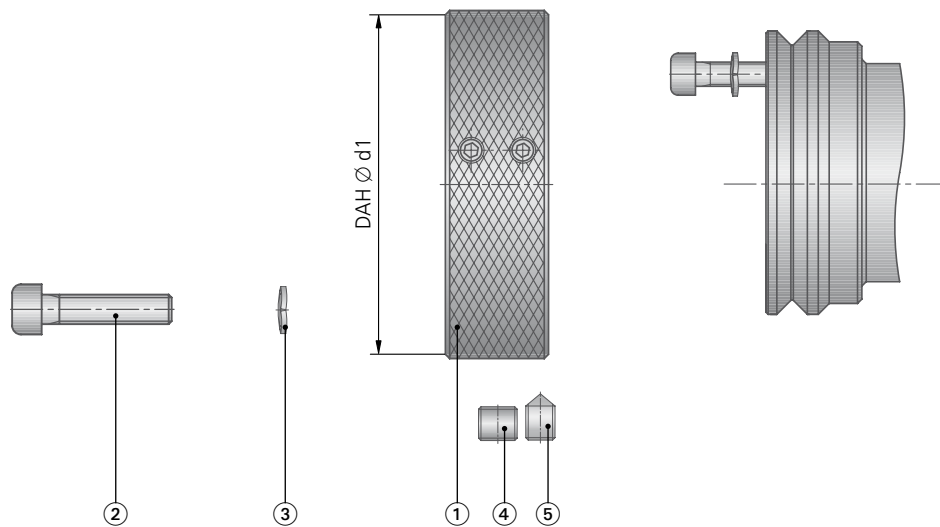
Tighten the assembling screw ②
cross-wise. Please observe the
specified starting torque M in the
index-table. After fastening, fix the
adjusting ring ① by locking the
thread pin ④.

DAH Ø d1	Starting torque M
63	7 – 9 Nm
81	7 – 9 Nm
115	25 – 35 Nm

Finally check the runout once more.
«should be» < 5 µ

KOMET DAH® Compensating holder

Assembly parts / Accessories



	①	②		③	④		⑤	
	Adjusting ring	Assembling screw		Spring washer	Thread pin		Thread pin	
for DAH Ø d1	Order No.	Article	Order No.	Order No.	Article	Order No.	Article	Order No.
63	545.25.010	M5×22	55011 05022	545.27.001	M8×6	55051 08006	M6×8	55052 06008
81	545.25.001	M5×22	55011 05022	545.27.001	M8×6	55051 08006	M6×10	55052 06010
115	545.25.002	M8×30	55011 08030	545.27.002	M8×8	55051 08008	M8×10	55052 08010

Assembly parts ABS®

ABS location hole	
ABS	Order No. Spares assortment ①
32	N00 15261
40	N00 15271
50	N00 15281
63	N00 15291
80	N00 15301

ABS location spigot	
ABS	Order No. Spares assortment ②
32	N00 17661
40	N00 17671
50	N00 17681
63	N00 17691
80	N00 17701

Individual spares (spares assortment) are supplied for replacement purposes only. Any other use is not permitted and represents an infringement of the patent.

Assembly parts HSK-A

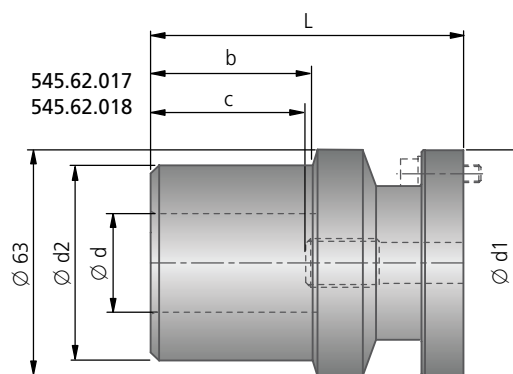
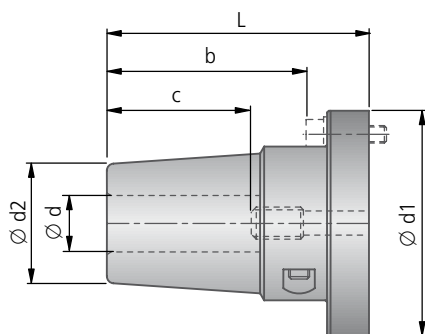
HSK-A Coolant supply unit		
HSK-A	Order No. Spares assortment	Order No. O ring
40	51391 00040	2× 52911 00751
50	51391 00050	2× 52911 00920
63	51391 00063	1× 52911 01025 1× 52911 01020
80	51391 00080	2× 52911 01320
100	51391 00100	2× 52911 01430

Supply includes HSK-A spares assortment: Coolant tube, locking collar and two O rings.

KOMET DAH® Adaptor

Expanding chuck for tools with cylindrical shank

- with internal coolant supply
- length adjustment from outside

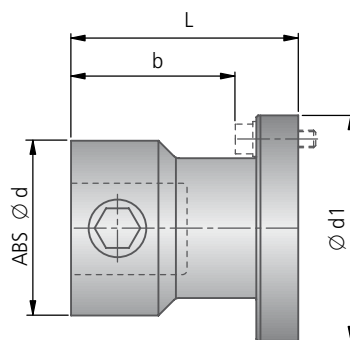


Supply includes: DAH® adaptor complete. Adaptor sleeve see page 117.

Expanding chuck								
Order No.	Ø d	DAH	Ø d1	Ø d2	L	b	c	kg
545.62.004	12	63	49,5	24	70	52	35 - 45	0,43
545.62.014	12	81	64,5	24	70	52	35 - 45	
545.62.015	16	81	64,5	34	75	57	39 - 49	
545.62.016	20	81	64,5	37	75	57	41 - 51	0,78
545.62.017	25	81	64,5	50	110	52	46 - 56	1,43
545.62.018	32	81	64,5	60	115	59	51 - 61	1,72

for tools with ABS® connection

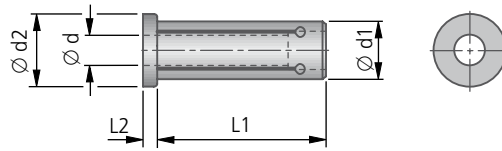
- with internal coolant supply



Supply includes: DAH® adaptor complete. Further ABS® adaptors see catalogue "KomPass DRILLING"

ABS®						
Order No.	ABS Ø d	DAH	Ø d1	L	b	kg
545.40.006	32	63	49,5	42	24	
545.40.007	32	81	64,5	35	17	
545.40.001	40	81	64,5	35	17	0,44
545.40.003	50	81	64,5	65	47	0,83
545.40.004	50	115	99,5	46	20,5	1,19
545.40.002	63	115	99,5	52	26,5	1,46
545.40.005	80	115	99,5	110	85	3,12

KOMET® Adaptor sleeve for expanding chuck



Adaptor sleeve						
Order No.	Ø d	Ø d1	Ø d2	L1	L2	
L01 14291	3	12	16,5	45	2	0,1
L01 14301	4					
L01 14311	5					
L01 14321	6					
L01 14331	8					
L01 14261	3	20	24	50,5	2	0,1
L01 14271	4					
L01 14281	5					
L01 14201	6					
L01 14211	8					
L01 14221	10					
L01 14231	12					
L01 14241	14	25	29	54,5	2	0,1
L01 14251	16					
L01 14400	6					
L01 14410	8					
L01 14420	10					
L01 14430	12					
L01 14440	14					
L01 14450	16					
L01 14460	18					
L01 14470	20	32	35,5	60,5	2	0,3
L01 14501	6					
L01 14511	8					
L01 14521	10					
L01 14531	12					
L01 14540	14					
L01 14551	16					
L01 14561	18					
L01 14571	20					
L01 14581	25					

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KOMET DAH® 50 HS Compensating holder

High speed machining – with maximum quality

1



For maximum precision and concentricity

KOMET DAH® 50 HS compensating holders ensure that the tool runs concentrically. They allow precision adjustment of the tool in the μm range at the cutter eliminating any machine spindle error.

Maximum concentricity guarantees reliable production within extremely close tolerances.

The quality of the bore, including surface quality, circularity, roundness and parallelism and above all the dimensional accuracy are improved considerably.

This significantly increases the process reliability with multiple blade reamers.

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BENEFITS for you:

- Proven hydro-expansion clamping
- Maximum concentricity and repetition accuracy $< 1 \mu$ for uniform blade contact
- Extremely simple concentricity adjustment
- Compact design
- Optimum vibration damping for excellent surface quality
- Flexible clamping range with reduction sleeves
- Speeds up to 25.000 rpm
- For minimal lubrication (MLC)

Simple handling – reduced machine idle times

In comparison to previous solutions the hydro-expansion chuck is integrated into the new compensating holders. This means one less interface.

Four adjustable screws allow rapid and precise adjustment of the concentricity of the multiple blade reamer, reducing concentricity errors to virtually zero. The extremely slim design of these new compensating holders ensures that they fit easily into practically all tool magazines.

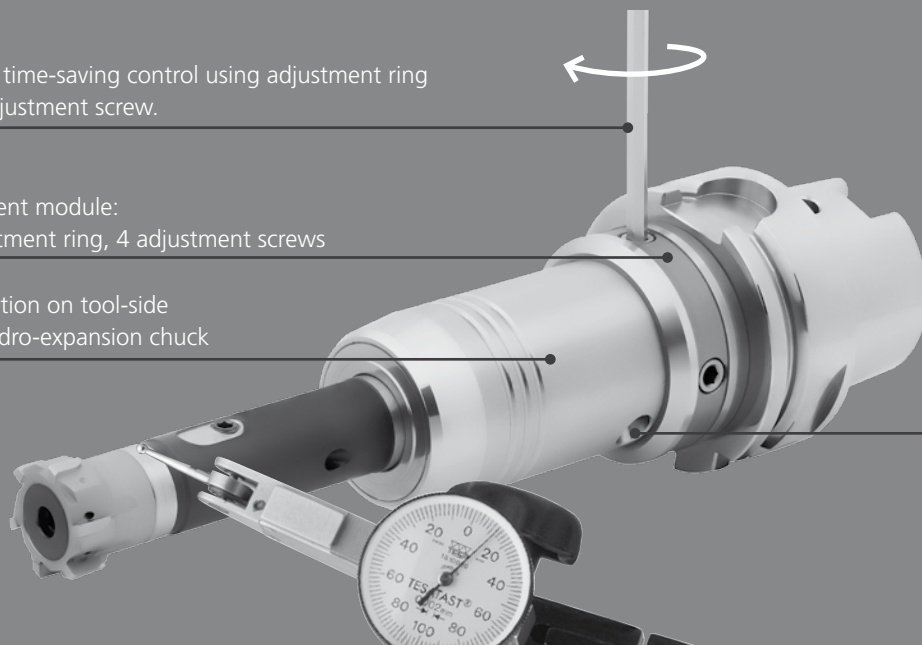
The KOMET DAH® 50 HS compensating holders enable the concentricity of a tool to be adjusted with μ -precision at the bezel position, thereby eliminating any machine spindle error.

Simple, time-saving control using adjustment ring with adjustment screw.

Alignment module:
1 adjustment ring, 4 adjustment screws

Connection on tool-side
with hydro-expansion chuck

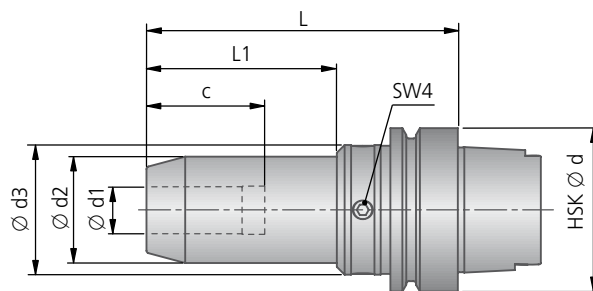
Tightening screw
for clamping tool



KOMET DAH® 50 HS

with HSK adaptor

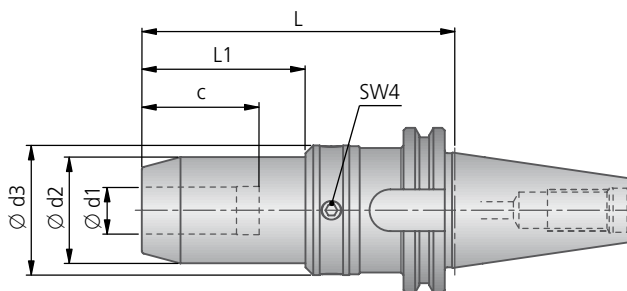
with internal coolant supply ■
clamping range Ø 3 – 25 mm ■



HSK								
Order No.	HSK Ø d	Ø d1	Ø d2	Ø d3	L	L1	c	kg
54B.10.00030	63	20	41	50	110	63,1	52,5	1,30
54B.10.00040	63	25	50,5	60,5	135	72,1	57	2,16

with taper shank DIN 99871 AD

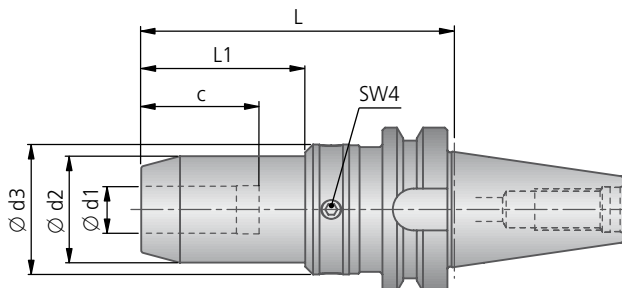
with internal coolant supply ■
clamping range Ø 3 – 20 mm ■



DIN 99871 AD								
Order No.	SK	Ø d1	Ø d2	Ø d3	L	L1	c	kg
54B.90.00030	40	20	41	50	110	65	41	1,50

with taper shank JIS B 6339 AD (MAS 403 BT)

with internal coolant supply ■
clamping range Ø 3 – 20 mm ■



JIS B 6339 AD (MAS 403 BT)								
Order No.	BT	Ø d1	Ø d2	Ø d3	L	L1	c	kg
54B.91.00030	40	20	41	50	115	69,1	41	1,70

Supply includes:

Compensating holder complete. Adapter sleeve for clamping range Ø 3 – 16 mm see page 117.

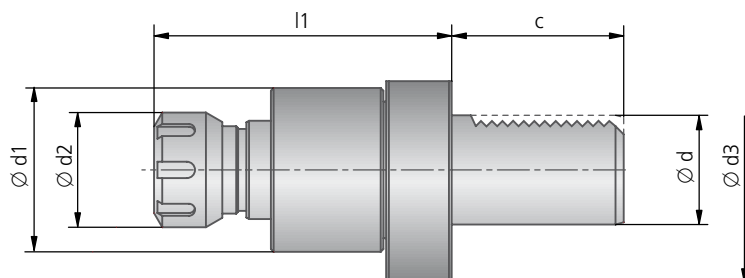


KOMET® DPS Floating holder

with VDI connection DIN 69880

- for stationary tools
- with internal coolant supply

- angular compensation 30' (not adjustable)
- radial play 0,08 mm (not adjustable)



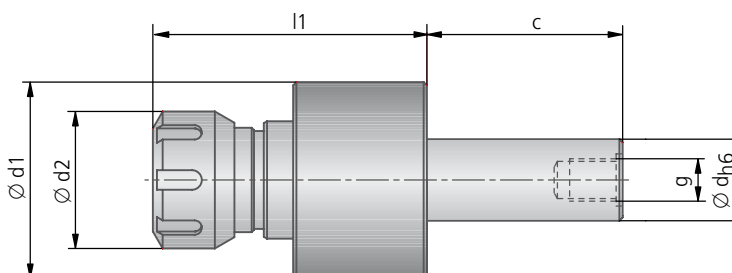
Supply includes: DPS floating holder with collet nut. Please order collets and washer (page 121) separately.

VDI								Accessories	
Oder No.	VDI Ø d	Ø d1	Ø d2	Ø d3	l1	c		Collet nut  Oder No.	Collet  Size
57B.49.00010	30	59	42	68	109	55	1,85	51200 00425	ER 25
57B.49.00020	40	59	42	83	109	63	2,60	51200 00425	ER 25
57B.49.00030	40	64	50	83	116	63	2,74	51200 00432	ER 32
57B.49.00040	50	64	50	98	116	78	3,60	51200 00432	ER 32

with cylindrical shank similar to DIN 1835

- for stationary tools
- with internal coolant supply

- angular compensation 30' (not adjustable)
- radial play 0,08 mm (not adjustable)

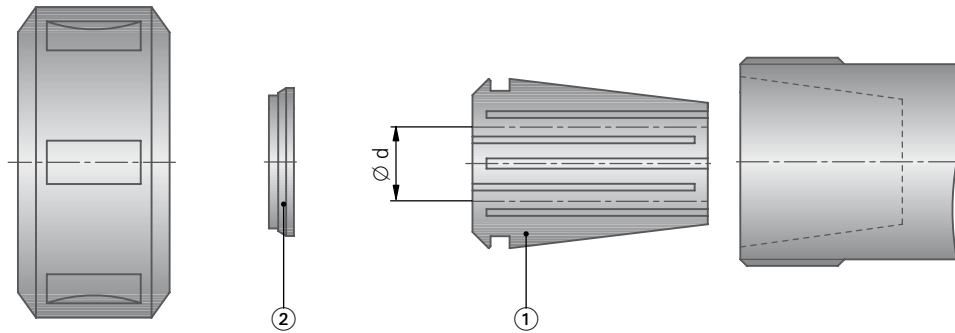


Supply includes: DPS floating holder with collet nut. Please order collets and washer (page 121) separately.

≈ DIN 1835								Accessories	
Oder No.	Cylindrical shank Ø dh6	Ø d1	Ø d2	l1	c	g		Collet nut  Oder No.	Collet  Size
57B.40.00010	25	59	42	84	60	G 1/4	1,11	51200 00425	ER 25
57B.40.00020	32	64	50	91	80	G 3/8	1,70	51200 00432	ER 32
57B.50.00010	25,4 (1")	59	42	84	60	G 1/4	1,03	51200 00425	ER 25
57B.50.00020	31,75 (1 1/4")	64	50	91	80	G 3/8	1,77	51200 00432	ER 32

KOMET® Collets

for DPS floating holder



ER 25			
Collet ①		Washer ②	
Ø d	Oder No.	Ø d	Oder No.
4,00 – 3,01	A33 54000.0400	3,50 – 3,01	52806 25035
		4,00 – 3,51	52806 25040
5,00 – 4,01	A33 54000.0500	4,50 – 4,01	52806 25045
		5,00 – 4,51	52806 25050
6,00 – 5,01	A33 54000.0600	5,50 – 5,01	52806 25055
		6,00 – 5,51	52806 25060
7,00 – 6,01	A33 54000.0700	6,50 – 6,01	52806 25065
		7,00 – 6,51	52806 25070
8,00 – 7,01	A33 54000.0800	7,50 – 7,01	52806 25075
		8,00 – 7,51	52806 25080
9,00 – 8,01	A33 54000.0900	8,50 – 8,01	52806 25085
		9,00 – 8,51	52806 25090
10,00 – 9,01	A33 54000.1000	9,50 – 9,01	52806 25095
		10,00 – 9,51	52806 25100
11,00 – 10,01	A33 54000.1100	10,50 – 10,01	52806 25105
		11,00 – 10,51	52806 25110
12,00 – 11,01	A33 54000.1200	11,50 – 11,01	52806 25115
		12,00 – 11,51	52806 25120
13,00 – 12,01	A33 54000.1300	12,50 – 12,01	52806 25125
		13,00 – 12,51	52806 25130
14,00 – 13,01	A33 54000.1400	13,50 – 13,01	52806 25135
		14,00 – 13,51	52806 25140
15,00 – 14,01	A33 54000.1500	14,50 – 14,01	52806 25145
		15,00 – 14,51	52806 25150
16,00 – 15,01	A33 54000.1600	15,50 – 15,01	52806 25155
		16,00 – 15,51	52806 25160

ER 32			
Collet ①		Washer ②	
Ø d	Oder No.	Ø d	Oder No.
4,00 – 3,01	A33 55000.0400	3,50 – 3,01	52806 32035
		4,00 – 3,51	52806 32040
5,00 – 4,01	A33 55000.0500	4,50 – 4,01	52806 32045
		5,00 – 4,51	52806 32050
6,00 – 5,01	A33 55000.0600	5,50 – 5,01	52806 32055
		6,00 – 5,51	52806 32060
7,00 – 6,01	A33 55000.0700	6,50 – 6,01	52806 32065
		7,00 – 6,51	52806 32070
8,00 – 7,01	A33 55000.0800	7,50 – 7,01	52806 32075
		8,00 – 7,51	52806 32080
9,00 – 8,01	A33 55000.0900	8,50 – 8,01	52806 32085
		9,00 – 8,51	52806 32090
10,00 – 9,01	A33 55000.1000	9,50 – 9,01	52806 32095
		10,00 – 9,51	52806 32100
11,00 – 10,01	A33 55000.1100	10,50 – 10,01	52806 32105
		11,00 – 10,51	52806 32110
12,00 – 11,01	A33 55000.1200	11,50 – 11,01	52806 32115
		12,00 – 11,51	52806 32120
13,00 – 12,01	A33 55000.1300	12,50 – 12,01	52806 32125
		13,00 – 12,51	52806 32130
14,00 – 13,01	A33 55000.1400	13,50 – 13,01	52806 32135
		14,00 – 13,51	52806 32140
15,00 – 14,01	A33 55000.1500	14,50 – 14,01	52806 32145
		15,00 – 14,51	52806 32150
16,00 – 15,01	A33 55000.1600	15,50 – 15,01	52806 32155
		16,00 – 15,51	52806 32160
17,00 – 16,01	A33 55000.1700	16,50 – 16,01	52806 32165
		17,00 – 16,51	52806 32170
18,00 – 17,01	A33 55000.1800	17,50 – 17,01	52806 32175
		18,00 – 17,51	52806 32180
19,00 – 18,01	A33 55000.1900	18,50 – 18,01	52806 32185
		19,00 – 18,51	52806 32190
20,00 – 19,01	A33 55000.2000	19,50 – 19,01	52806 32195
		20,00 – 19,51	52806 32200



KOMET® Reaming with insert technology

In collaboration with the application specialists at KOMET®, it is of course also possible for fixed versions and individual stepped tools as well as diameters to be designed and manufactured which can be combined with the various different tool connections.

Indexable insert reaming tools are available on request. They are designed as integral tools or as a modular tool system, depending on application. For extremely small tolerances, they can be produced in an adjustable version.

The tools can be supplied in single or multi-step versions from a diameter of 42 mm.

Monoblock tools both fixed and adjustable
Reaming tools are available as monoblock tools with indexable insert technology from a diameter of 42 mm and are designed in either adjustable or fixed versions.

Stepped tools
Stepped tools are individually manufactured as special tools and are available in a fixed design.



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Insert technology

Page

Insert reaming

124 – 125

Assembly instruction

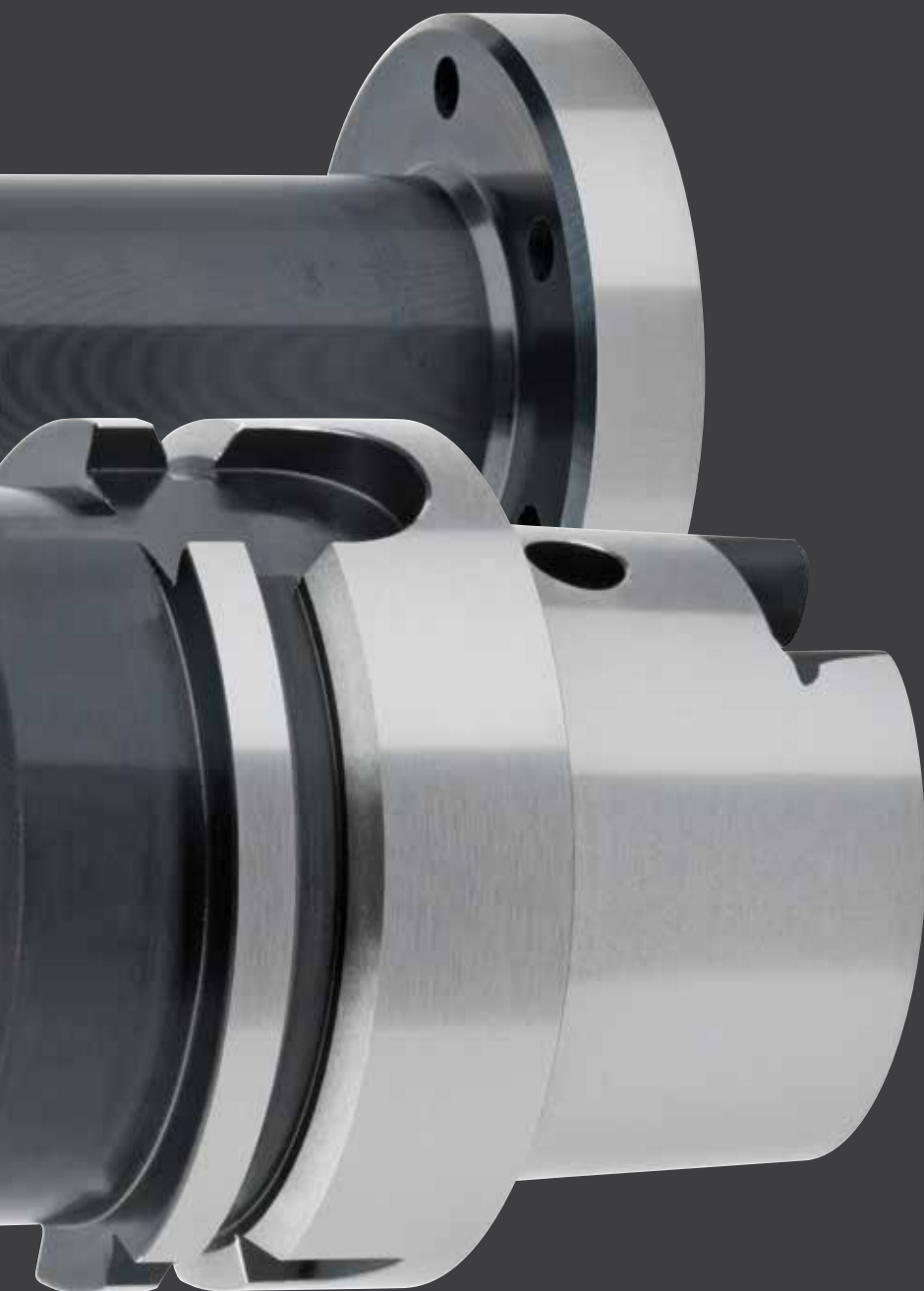
KOMET® MicroSet System

126 – 129

Assembly instructions, Inquiry

Special tools

130 – 131



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Reaming with insert technology

The Technology

The use of inserts is revolutionising reaming with multiple blade reamers and setting new levels in precision and function.

Each insert has two effective cutting edges. Unlike boring tools, inserts for reaming tools are ground as a complete set directly on the basic element in their specific insert pocket.

The positions of the individual cutting edges on an insert are precisely defined during manufacturing and application. Cutting edges ground in a single operation ensure the degree of precision required for high precision bore machining.

Numerous cutting materials and coatings for machining an extremely wide variety of materials.

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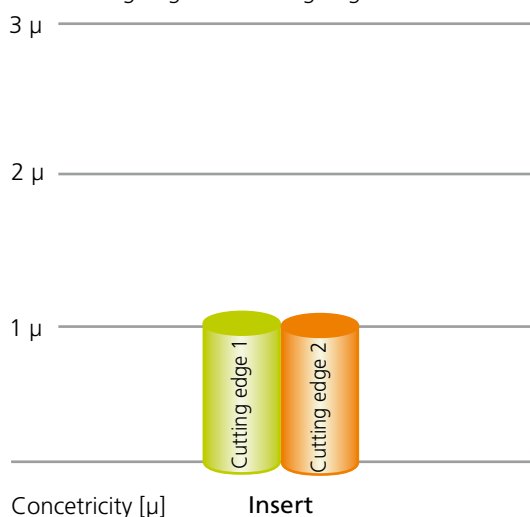


BENEFITS for you:

- Ground to size for maximum precision
- Low cost tool logistics
- Shortest preparation time
- Maximum flexibility
- Concept can be used for an extremely wide variety of tools
- Low cost changes to tool and geometry
- Can be adjusted for extremely small bore tolerances

Precision of rotations

Cutting edge 1 – Cutting edge 2



Two cutting edge insert

Without affecting the tool's precision inserts can be rotated in the shortest possible time.

This minimises setting time and doubles the tool life by using two cutting edges.



Design your own tool!

We check your specifications for technical feasibility and you receive a prompt reply.

Assembly instructions

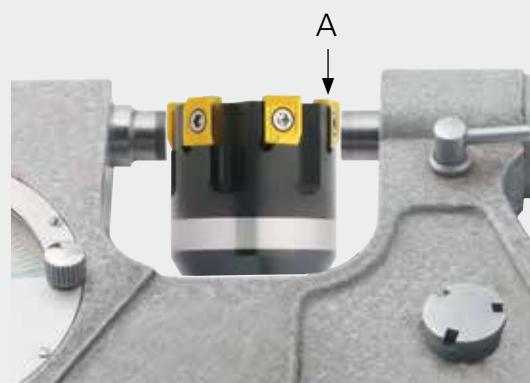
Cleaning:

Make sure that the insert seats ③ and indexable inserts are absolutely clean/grease-free. If necessary, use compressed air to remove dust particles!

Assembly:

- All indexable inserts and insert seats are marked with letters ①. This ensures correct assignment to the insert seat.
- The number markings ② ensure that all indexable inserts are positioned correctly.

Tighten the screw ④ N00 57710 (S3090-9IP) to 2.25 Nm. Screwdriver see chapter 11.

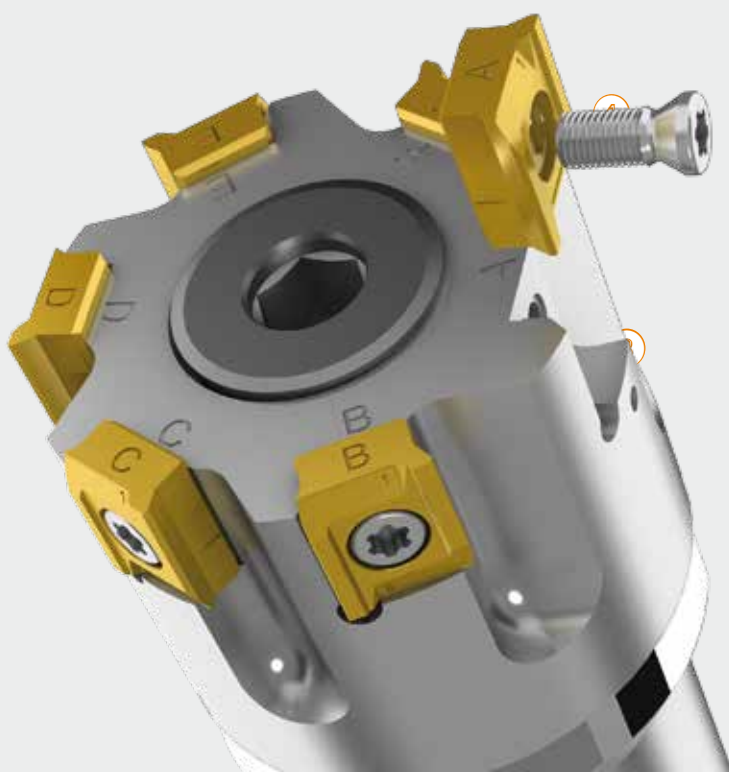


Measuring the diameter:

The measuring tooth is located at letter A and is also marked on the holder with a spot ⑥. If the diameter is too large, loosen the conical screw ⑤ and turn it to the right to set the correct diameter. The conical screw ⑤ does not have to be removed completely !

Caution!

- Uneven angle division !
- Two cutting edges are at 180° from each other = measuring tooth A.
- Measure the diameter at the front of the reaming head (due to tapering, see illustration).
- Avoid damaging the cutting edges
- When indexing the insert, the diameter must be readjusted.



KOMET® MicroSet System

1



Reaming with Adjustable Inserts

The new reamers from KOMET which boast individually adjustable inserts are an alternative to the ready-to-use ground tool variants. These reamers also feature multiple blades and offer maximum flexibility, reduce logistics with regard to retipping and enable cost savings thanks to the favourably priced inserts which are available from stock.

2



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The single-blade inserts are screwed in place and set to a diameter and tapering using a newly developed fine adjustment system for indexable inserts with μm accuracy. This makes hole tolerances of $\geq \text{IT5}$ easily achievable. The reference dimension is provided by two measuring blocks.

4



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Only 14 inserts for the diameter range of 40 to 140 mm. Maximum flexibility in terms of fields of application, availability and variety of cutting materials and coatings are features of this tool, because certain components, tolerances, volumes, etc., often determine which combinations are used.

6



Precision and productivity

7



Even when the demands on a component are particularly high and the highest precision is required, the KOMET® MicroSet System gives you a special advantage: The tools can be readjusted at any time. All that needs to be done is to readjust the indexable inserts in the precision adjustment system to the required diameter. Only when the cutting edges are worn do they need to be replaced.

8



The special strengths of the KOMET® MicroSet System can truly be seen when used with special tools, especially with stepped tools that the user can arrange themselves. Thanks to the variety of possible combinations, the user quickly puts together a suitable reamer that is ideally matched to the component with regard to its materials, tolerances and volumes.

9



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Before: Good machining using PCD tool

11



BENEFITS for you:

- Maximum flexibility
- Reduces logistics with regard to retipping
- Inserts available from stock
- Individually adjustable inserts
- Simple handling when making adjustments and changing the inserts

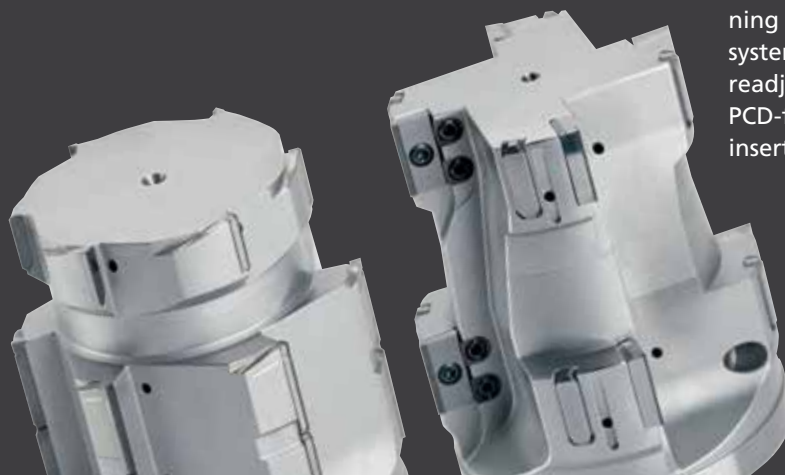
Variant:

- Diameter range of 40 – 140 mm
- Hole tolerances of $\geq \text{IT5}$
- Use with cast metal, solutions for steel, stainless steel, aluminium and other materials to follow
- The tool concept can be used in special and multiple dies

The MicroSet tool shown uses this advantage perfectly and solves the application requirements better than the previously used brazed PCD tools. An inability to correct the brazed PCD plates, particularly in the second stage, results in operating times of different lengths and irregular repair costs.

The standard indexable inserts available from stock (fitted with PCD in this case) make up for long repair cycles and not only increase the flexibility of the system but also the productivity and the profitability of an application.

New: Flexible machining using MicroSet system tool thanks to readjustment of the PCD-fitted indexable inserts





BENEFITS for you:

- Simplified logistics thanks to standard indexable inserts available from stock
- Can be fitted with CBN or PCD indexable inserts for a variety of machining requirements
- Uncomplicated readjustment using a precision-controlled adjustment system
- Can be used as a repeat operation tool e.g. integrated milling and reaming
- Easy and uncomplicated setting also on electronic presetting device



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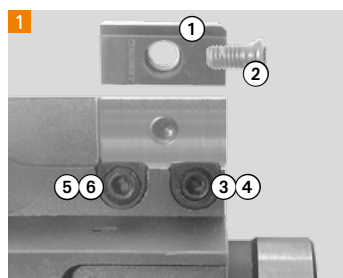


11



KOMET® MicroSet System					Setting device
Ø D	Insert		Clamping screw	Wedge	 Order No.
	DST for material P	DBG-N for material K			
	Order No.	Order No.	Order No. Article	Order No.	
40,000 – 44,999	70W.93.02040A	70W.37.01040A	N00 57241 S3070-8IP 2,25 Nm	15F.00.30001	059.33.4154
45,000 – 49,999	70W.93.02045A	70W.37.01045A			
50,000 – 54,999	70W.93.02050A	70W.37.01050A			
55,000 – 59,999	70W.93.02055A	70W.37.01055A			
60,000 – 64,999	70W.93.02060A	70W.37.01060A			
65,000 – 69,999	70W.93.02065A	70W.37.01065A			
70,000 – 74,999	70W.93.02070A	70W.37.01070A			
75,000 – 79,999	70W.93.02075A	70W.37.01075A			
80,000 – 89,999	70W.93.02080A	70W.37.01080A			
90,000 – 99,999	70W.93.02090A	70W.37.01090A			
100,000 – 109,999	70W.93.02100A	70W.37.01100A			
110,000 – 119,999	70W.93.02110A	70W.37.01110A			
120,000 – 129,999	70W.93.02120A	70W.37.01120A			
130,000 – 140,000	70W.93.02130A	70W.37.01130A			

Assembly instructions



Assembly parts (Fig. 1)

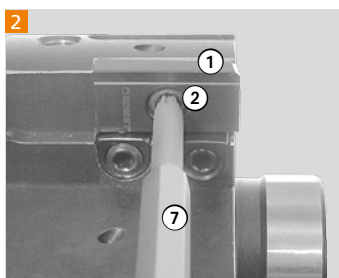
- ① indexable insert
② clamping screw

Setting machining dia.

- ③ adjusting wedge, ④ differential screw

Setting conicity

- ⑤ adjusting wedge, ⑥ differential screw

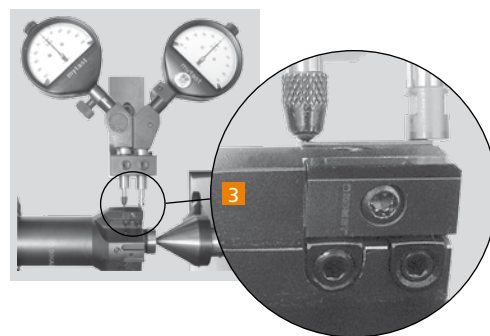


Fit the indexable insert:

Make sure that the insert seat is clean.

Place the indexable insert ① into the insert seat and tighten the clamping screw ② only slightly.

Use torque wrench ⑦ (2,25 Nm) (Fig.2).



Reference dia. as reference dimension "0" for setting the machining dia. and conicity (Fig. 3), reference dia. is marked on tool.

Preset the machining dia. (Fig. 4) and conicity (Fig. 5):

Use an Allen key ⑧ (width across flats SW2) to turn the differential screws ④ and ⑥ until the indexable insert ① is set to approx. 10 µm below the desired machining dia. and approx. 25 µm over the reference dia.

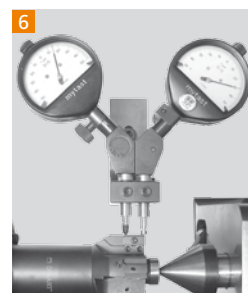
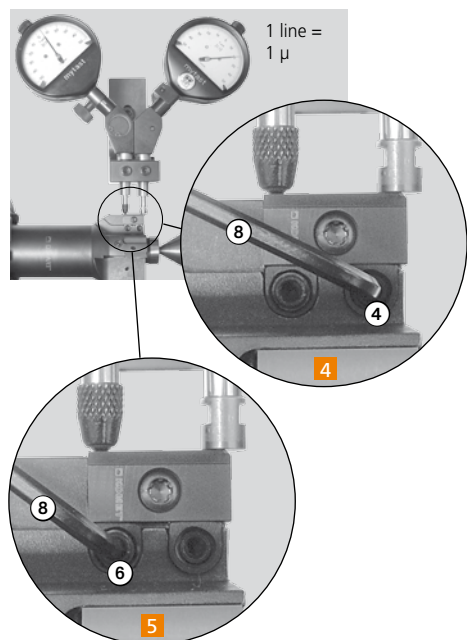
Secure the insert:

Use a torque wrench ⑦ (2,25 Nm) to secure the indexable insert ① at the preset tightening torque (Fig. 2).

Set the final machining dia. (Fig. 4) and conicity (Fig 5):

When tightened, the indexable insert ① is set to the machining diameter and the specified conicity using the differential screws ④ and ⑥.

Tool after setting (Fig 6).



Design your own tool!

Unique: Reaming with Adjustable Inserts!

The tools are specially manufactured for each application, with four to eight cutting edges on a basic body and for length/diameter ratios up to $2 \times D$.

We check your specifications for technical feasibility and you receive a prompt reply.

Company:

Contact:

Department:

E-Mail:

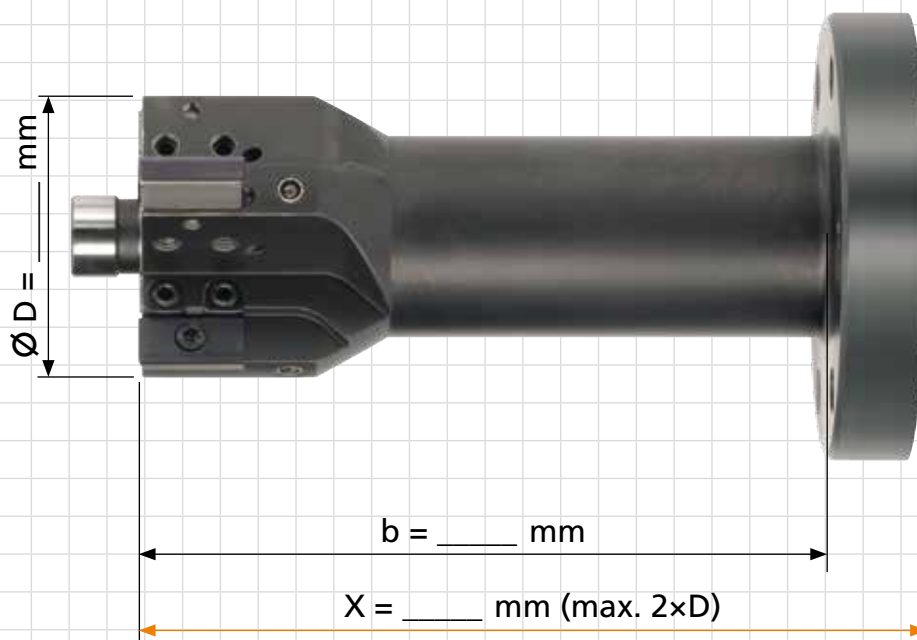
Telephone:

Customer-No.:

Fax:

Distributor:

Date:



Material to be machined:

Machining method

☐ through hole

☐ blind hole

Length of bore:

Interrupted cut

☐ yes ☐ no

Tolerance:

Required surface:

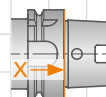
Allowance in Ø:

Required cutting material

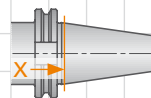
Holder / Adaptor (Type and size)



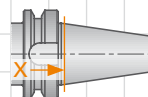
☐ DAH _____



☐ HSK _____
DIN 69893 A



☐ SK _____
DIN 69871 AD/B



☐ BT _____
JIS B 6339 AD/B
(MAS 403 BT)

other adaptors on request

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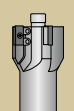
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KOMET® Special tools

Special solutions and multi-step tools – Greater range of functions, lower machining costs

The development of specific solutions for customers represents a major area of competence for KOMET®.

It is often impossible to carry out machining tasks with standard tools because of the demands for form, tolerance or quality which require special process analysis and tool development work.

Special tools can be requested and ordered at any time.

References to applications can be found in our application examples.

BENEFITS for you:

- Optimised application design
- Major reduction of non-productive time
- Technical advice by KOMET® technicians
- Combining several machining operations
- Highest efficiency and productivity

Special systems: Machining bearing bores for cam shafts

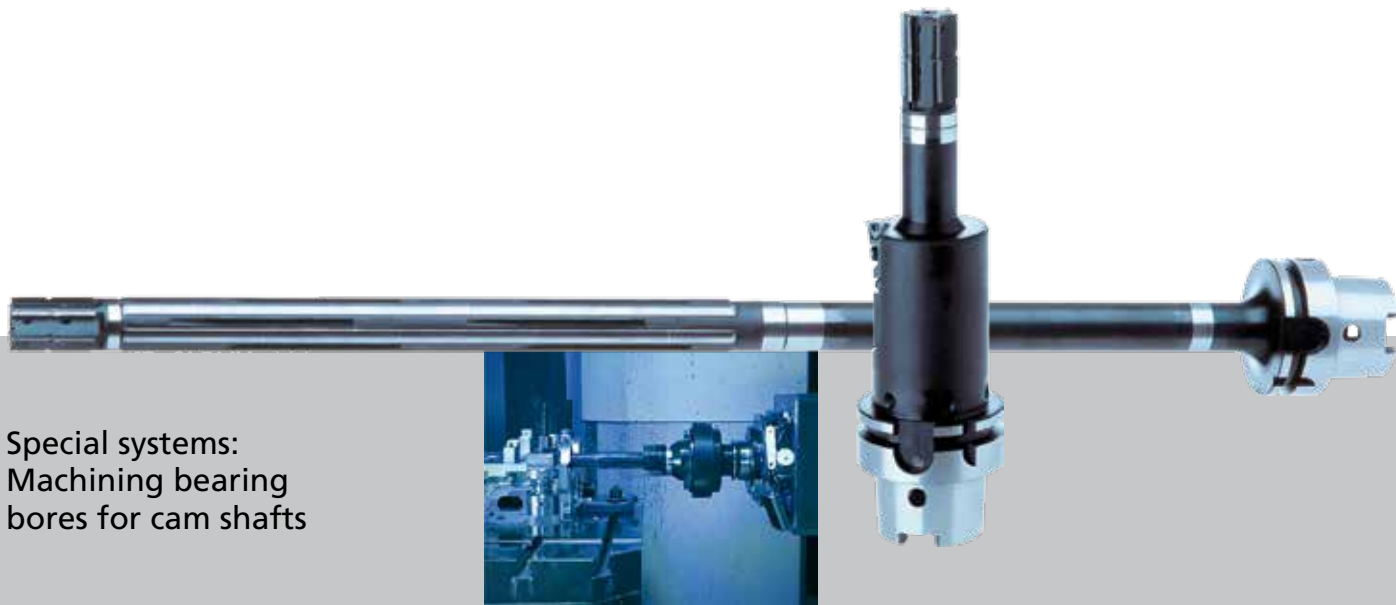
Example:
Finish machining operation for camshaft bearing for cylinder heads in Ck AlSi9Cu3 for car engines.

The task:
To simplify the process on transfer lines or machining centres.

The solution:
Using the newly developed tool, machining the cylinder heads on transfer lines is reduced to one station. On machining centres a pilot tool short, stable fitted with PCD inserts is initially used to pre-machine the bores for the first journal. The finishing tool (also with PCD inserts), which matches the length of the engine, then reams all the bores to size: $\varnothing 26,045 \text{ H7}$.

The concept has now become well established in engine and vehicle manufacturing.

The cutting values are:
 $v_c = 220 \text{ m/min}$; $f = 1080 \text{ mm/min}$.



With its multi-flute stepped reaming tools and special solutions, KOMET® improves the economics of reaming. The latest generation of tools is characterised by extremely high cutting speeds and high feed rates. Designed to suit workpiece and material, they guarantee dimensional stability and reliable production.

Multi-step tools

Multi-step and modular reaming tools from KOMET® improve production performance. KOMET® increases the range of functions for the tools and in doing so reduces machining costs.



Special tools

- Use of latest technology
- Tool design to suit application
- Advice from KOMET® experts
- Stand the test in many references
- Multi-flute reaming tools for best performance
- Reduction in ancillary costs

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The ideas factory

The IDEEN-FABRIK reflects the evolution of KOMET from a tool manufacturer into a creative expert for solutions covering all aspects of boring, reaming, thread milling and mechatronic tools.

The central objective is to offer our customers and employees scope for creative working and learning.

On a total area of 2,500 m², we have created a modern, multi-storey factory environment. The IDEEN-FABRIK was deliberately not constructed as a separate, detached training building, but integrated directly above a manufacturing business.

While the metal swarf flies down below, ideas are exchanged above. By this, we aim to demonstrate that the work here is always associated with new ideas and creative ambition.



TOOLS+IDEAS®

KOMET is the worldwide technology leader for innovative tool concepts and complete solutions for drilling machining.

Our customers know us as a manufacturer of premium tools, and know the ideas behind our solutions. The further creativity is still unused, and remains to be discovered. We have set ourselves the objective of exploiting the added value thus created for the benefit of our customers.

We call this TOOLS+IDEAS. A new and different way of being able to offer our customers long-term, sustainable advantages through a plus in support and services.

Our IDEEN-FABRIK in Besigheim is the first step in this direction.

Informations

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Screwdriver | Key 142

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KOMET SERVICE® – Page 144 – 147

A network of local partners that provide professional tool refurbishment, trade tools and manufacture customized solid carbide special tools

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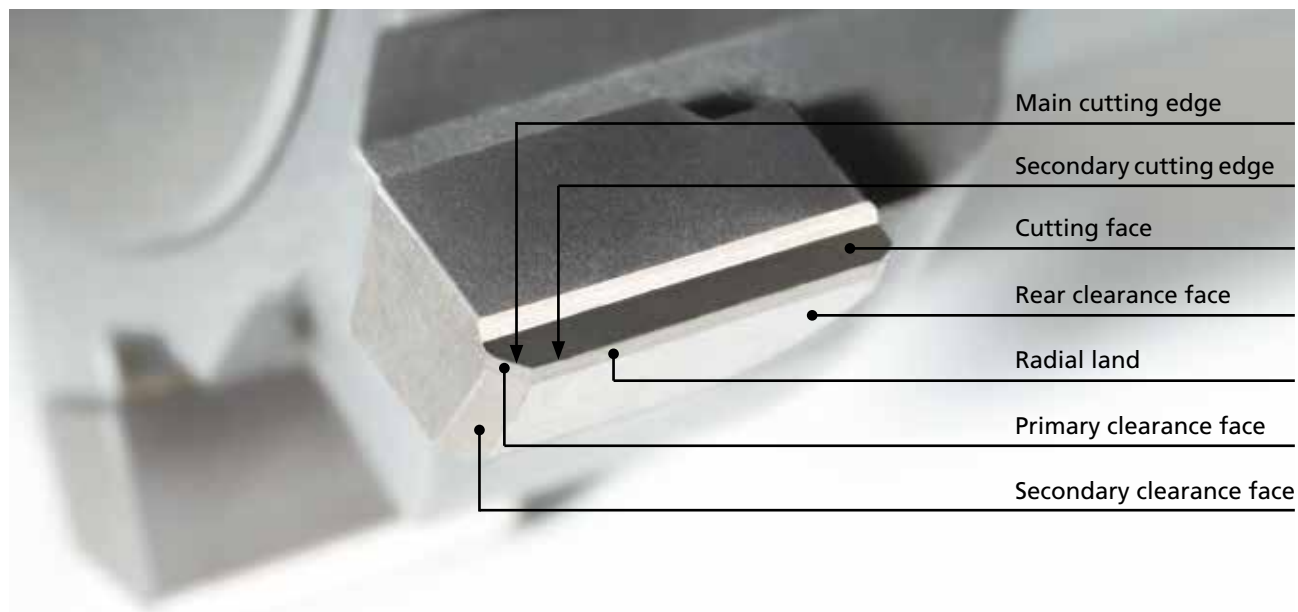


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KOMET® ASG – Cutting geometry

The cutting geometry (ASG) comprises:



Standard geometries			
Geometry	Flute form	Chip evacuation	Bevel angles
ASG0106	straight	↔	45° ASG 0106
ASG02	straight	↔	45° ASG 02
ASG03	straight	↔	30° ASG 03
ASG05	left-hand fluted	↔	25° ASG 05
ASG2110	straight	↔	60° ASG 2110
ASG2170	straight	↔	60° ASG 2170
ASG2210	helical	↔	30° ASG 2210
ASG2270	straight	↔	30° ASG 2270
ASG2350	straight	↔	30° ASG 2350
ASG2360	straight	↔	30° ASG 2360

Standard geometries			
Geometry	Flute form	Chip evacuation	Bevel angles
ASG3000	straight	↔	45° ASG 3000
ASG4000	straight	←	25° ASG 4000
ASG0706	straight	↔	45° ASG 0706

Special geometries			
Geometry	Flute form	Chip evacuation comment	Bevel angles
ASG0703	straight	face cutting	90° ASG 0703 0,2×45°
ASG0704	straight	face cutting, for increased positional accuracy	90° ASG 0704 0,05×45°
ASG09B	straight	chip breaking < Ø 32 mm	ASG 09B
ASG1402	straight	chip breaking > Ø 32 mm	ASG 1402

The new chip control geometry

Long and uncontrolled chips are a common problem.

Remedying this often requires the machine operator to manually intervene, and the resulting poor process-reliability in machining makes the operating times and the machining results difficult to estimate and calculate.

The KOMET® reaming specialists set about making systematic improvements. The ASG3000 and ASG4000 were developed.

By adding an additional flute, chip deflection is defined and led along the cutting edge. In long-chipping materials, short and tight helical chips are formed that prevent the classic problems of ball or thread chips from forming. In addition, blockages of coolant holes and the erosion of base bodies no longer occur.

With this extra benefit and the performance remaining at least equally good in terms of drilling quality and tool life by comparison with the existing standard ASG07 and ASG09 geometry, the ASG3000 and the ASG4000 are setting new standards. The ASG3000 is now the first choice of geometry and has replaced the existing ASG07. The ASG4000 replaces the ASG09.

BENEFITS for you:

- Process reliability when working with long-chipping materials
- Improved chip control
- Shorter, tightly twisted chips
- No erosion due to chips on steel base bodies
- No penetration of chips into coolant holes





Cutting materials and coatings

Cutting tool material designation	Standard designation	Cutting speed range v_c (m/min)												Properties
		5	10	25	50	100	150	200	250	300	400	500		
HM	HF-K10	P											Fine-grained carbide, uncoated: • Conventional reaming in all materials	
		M												
		K												
		N												
		S												
		H												
TiN	HC-K10	P											PVD-TiN: • TiN-coated K10 fine-grained carbide • Smooth surface • Minimal affinity to a large number of materials • For medium cutting speeds	
		M												
		K												
		N												
		S												
		H												
DBG-N	HC-K10	P											PVD-AlTiN: • AlTiN-coated K10 fine-grained carbide • For high cutting speeds • Suitable for MQL applications • For cast iron materials • For hard reaming < HRC 55	
		M												
		K												
		N												
		S												
		H												
DBG-P	HC-K10	P											PVD-TiAlN-based: • TiAlN-coated K10 fine-grained carbide • For high cutting speeds • Suitable for MQL applications • For universal use in a large number of materials	
		M												
		K												
		N												
		S												
		H												
DBG-U	HC-K10	P											PVD-AlTiN: • AlTiN-coated K10 fine-grained carbide • For high cutting speeds • Suitable for MQL applications • For universal use in a large number of materials • For hard reaming < HRC 62	
		M												
		K												
		N												
		S												
		H												
DBF-A	HC-K10	P											PVD-AlCrN-based: • AlCrN-coated K10 fine-grained carbide • For hard reaming < HRC 62	
		M												
		K												
		N												
		S												
		H												
DBC	HC-K10	P											PACVD-a-C:H: • DLC-coated K10 fine-grained carbide (DLC = diamond-like carbon) • The DLC coating has a very smooth surface • Suitable for aluminium alloys and copper alloys	
		M												
		K												
		N												
		S												
		H												
DBC-N	HC-K10	P											PACVD-a-C:H: • DLC-coated K10 fine-grained carbide (DLC = diamond-like carbon) • The DLC coating has an extremely high level of hardness • The DLC coating has a very smooth surface • Suitable for aluminium alloys and copper alloys	
		M												
		K												
		N												
		S												
		H												
DST	HT-P15	P											Cermet, uncoated: • Cermet with high wear resistance • For high cutting speeds • For structural steel and low-alloy steels up to 1200 N/mm ² • Conditionally suitable for spheroidal graphite cast iron • Not suitable for interrupted cuts	
		M												
		K												
		N												
		S												
		H												
DJC	HC-P15	P											PVD-AlTiN: • AlTiN-coated cermet • For high cutting speeds • Suitable for spheroidal graphite cast iron • Suitable for MQL applications • Not suitable for interrupted cuts	
		M												
		K												
		N												
		S												
		H												
DJP	HC-P15	P											PVD-TiAlN: • TiAlN-coated cermet • For high cutting speeds • Suitable for MQL applications • For universal use in a large number of materials	
		M												
		K												
		N												
		S												
		H												
PKD	DP	P											PCD: • Polycrystalline diamond is an ultra-hard cutting tool material • For maximum cutting speeds • For Alu alloys and Cu alloys, CFRP, GFRP, MMC • Suitable for MQL applications	
		M												
		K												
		N												
		S												
		H												
DSN	BL	P											CBN: • Cubic boron nitride is an ultra-hard cutting tool material • For pearlitic cast iron materials • For hardened steels up to HRC 62	
		M												
		K												
		N												
		S												
		H												
		5	10	25	50	100	150	200	250	300	400	500	1) Spheroidal graphite cast iron 2) Pearlitic cast iron materials	

main area of application
 suitable in some cases

Attainable surface quality														
Material group	Surface finish class		N11	N10	N9	N8	N7	N6	N5	N4	N3	N2	N1	
	Mean surface finish R_a		25	12,5	6,3	3,2	1,6	0,8	0,4	0,2	0,1	0,05	0,025	
	Average surface uniformity R_z		100	63	40	25	16	10	6,3	4	2,5	1,6	1	0,63
P	1.0 – 4.0	structural steel, low alloy steels: case-hardened steels, heat-treated steel												
S	5.0	special alloys: Inconel												
	5.1	titanium, titanium alloys												
M	6.0 – 7.0	stainless steels, fireproof steels												
K	8.0 – 10.2	gray cast iron, ferritic												
		gray cast iron, perlitic												
		spheroidal graphite cast iron, ferritic												
		spheroidal graphite cast iron, perlitic												
N	12.0	copper alloy, brass												
	13.0	wrought aluminium alloys												
	13.1	cast aluminium alloy: Si-content < 10%												
	14.0	cast aluminium alloy: Si-content > 10%												
H	15.0	hardened steels < 45 HRC												
	16.0	hardened steels > 45 HRC, ≤ 55 HRC												

Achievable  limited achievability (all other surface values on request)

Measuring

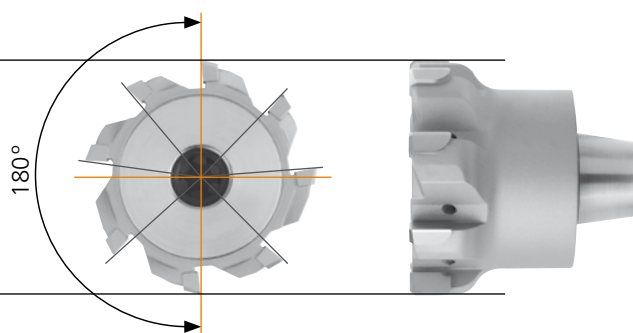
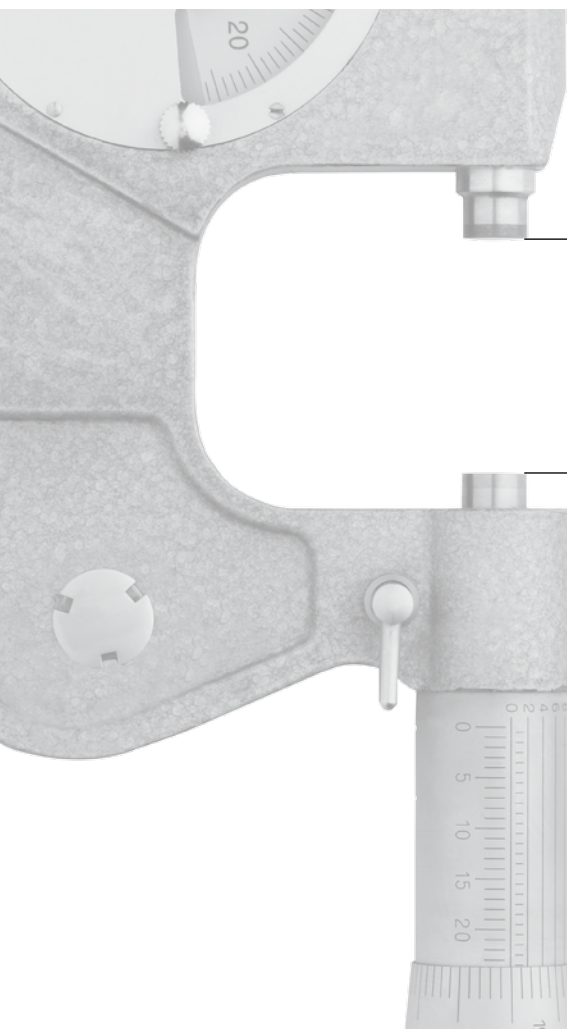


Unequal angular position!

Only two cutting edges are 180° in opposite line → Measuring teeth

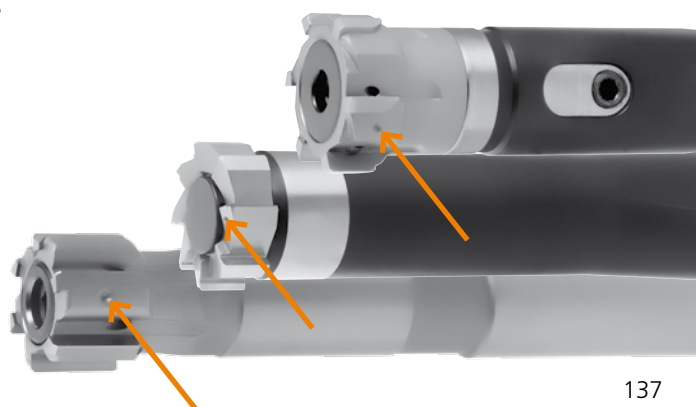
Because the tools are tapered measurement has to be done at the front of the cutting edge.

PCD tipped reamers require non-contact measuring device!



Mark of measuring teeth

- Drive pin, lobe
- Number
- Punch-mark



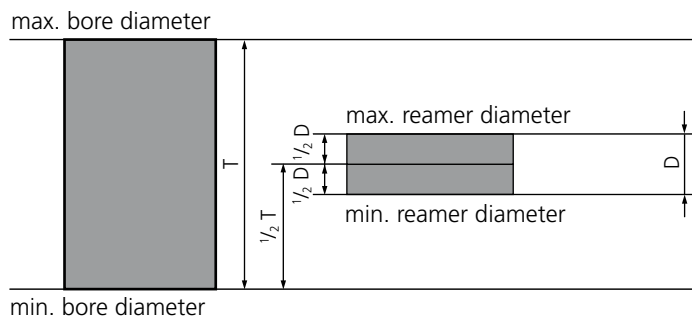
Form and positional tolerances					
Tolerance type	Symbols and characteristics to tolerance		Drawing details examples	Explanation	Tolerance zone
Form tolerances		Straightness of a line or axis		The axis of the cylindrical part of the pin must lie within the cylinder to $t = 0.03$ mm	
		Circular form of a disc, a cylinder, a cone, etc.		The circumference line of any cross section must be contained in a circular ring with a width to $t = 0.02$ mm	
		Cylindrical form		The surface to tolerance must lie within two coaxial cylinders which have a radial spacing to $t = 0.05$ mm	
Positional tolerances	Directional tolerances	Parallelism of a line (axis) with reference to a basic straight line		The top axis must lie in a square-shaped area, within 0.1 mm in the vertical and 0.2 mm in the horizontal direction. The area will lie parallel to the basic axis of bore A.	
		Parallelism of a surface with reference to a basic plane		Any 100 mm long section of the top surface must lie with a gap of 0.01 mm between two parallel planes. The planes will lie parallel to the lower surface (basic surface).	
	Location tolerances	Position of lines, axes or surfaces in relation to one another or to one or several basic elements		The axis of the hole must lie within a cylinder with a diameter to tolerance $t = 0.05$ mm, whose axis lies at the precise geometrical place (with dimensions as shown in boxes).	
		Concentricity of an axis or a point in relation to a basic axis (basic point)		The axis of the part of the shaft to tolerance must lie within a cylinder with a diameter to tolerance $t = 0.03$ mm, whose axis aligns with the base axis.	

IT tolerance class (µm)												
Nominal dimension range	IT 1	IT 2	IT 3	IT 4	IT 5	IT 6	IT 7	IT 8	IT 9	IT 10	IT 11	IT 12
1 – 3 mm	0,8	1,2	2	3	4	6	10	14	25	40	60	100
> 3 – 6 mm	1	1,5	2,5	4	5	8	12	18	30	48	75	120
> 6 – 10 mm	1	1,5	2,5	4	6	9	15	22	36	58	90	150
> 10 – 18 mm	1,2	2	3	5	8	11	18	27	43	70	110	180
> 18 – 30 mm	1,5	2,5	4	6	9	13	21	33	52	84	130	210
> 30 – 50 mm	1,5	2,5	4	7	11	16	25	39	62	100	160	250
> 50 – 80 mm	2	3	5	8	13	19	30	46	74	120	190	300
> 80 – 120 mm	2,5	4	6	10	15	22	35	54	87	140	220	350
> 120 – 180 mm	3,5	5	8	12	18	25	40	63	100	160	250	400
> 180 – 250 mm	4,5	7	10	14	20	29	46	72	115	185	290	460
> 250 – 315 mm	6	8	12	16	23	32	52	81	130	210	320	520

Manufacturing tolerance of KOMET® reamers

Manufacturing tolerance of expandable reamers

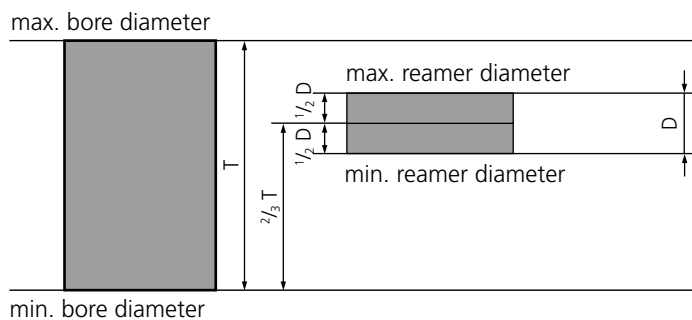
The diameter of an expandable reamer is ground to the middle of the bore tolerance T.
The expansion feature of these tools allows for compensation of wear.



T = Tolerance field of bore
D = Manufacturing tolerance of reamer

Manufacturing tolerance of solid reamers

The manufacturing tolerance field D of the solid reamers is in the upper third of the bore tolerance T.



T = Tolerance field of bore
D = Manufacturing tolerance of reamer

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KOMET® Technical application hints

Problems • Possible Causes → Solutions

1



Bore too large

- Concentricity error of the reamer in the spindle → Use DAH® compensating holder and correct concentricity
- Alignment not precise, reamer cuts at the back end → Correct alignment and use DPS floating holder
- Built-up edge → reduce cutting speed v_c for uncoated carbide cutting material, increase for DST and coated cutting material or increase the oil content of the coolant
- Reamer too big → have the reamer reworked

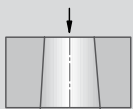
2



Bore too small

- Worn reamer → have the reamer readjusted, replaced or repaired
- Reaming allowance too small → Increase reaming allowance
- Cutting forces too big → reduce feed or choose a different cutting geometry (ASG)
- Reamer too small → have reamer readjusted, replaced or repaired

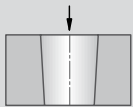
3



Conical bore, tapered

- Faulty alignment → Correct alignment and use DPS floating holder
- Misalignment of head-stock in relation to turret → correct turret and use DPS floating holder

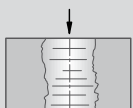
4



Conical bore, lipped

- Faulty alignment. Cutting edges press at start → Correct alignment and use DPS floating holder

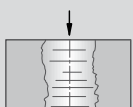
5



Bore not true

- Concentricity error of reamer too large → correct concentricity using DAH® compensation system
- Faulty alignment → Correct alignment and use DPS floating holder
- Asymmetrical cutting through uneven entry surface → Countersink bore
- Deformation through clamping of the work piece → Correct clamping of the work piece
- Poor premachining → optimise premachining
- Feed too high → reduce feed

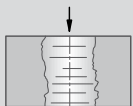
6



Bore shows chatter marks

- Cutting speed too high → reduce cutting speed
- L to D ratio too large → reduce the entry speed, pilot the bore or choose a different cutting geometry (ASG)

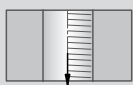
7



Surface quality unsatisfactory

- Cutting edge build-up → reduce cutting speed v_c for uncoated carbide cutting material, increase for DST and coated cutting material or increase oil content of the coolant
- Cutters worn → have cutters repaired or replace tool
- Concentricity error of reamer → correct concentricity using DAH® compensation system
- Failing or insufficient coolant, chips getting jammed → use internal coolant supply and increase coolant pressure
- Unsuitable coolant → increase the oil content of the coolant
- Wrong cutting data → use data according to catalogue recommendation

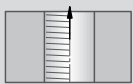
8



Scoring in bore «feed marks»

- Cutters defective (outbreaks) → replace reamer or have repaired
- Cutting edge build-ups → reduce cutting speed v_c for uncoated carbide cutting material, and increase for DST and coated cutting material or increase oil content of the coolant

9



Scoring in bore «retraction marks»

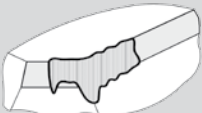
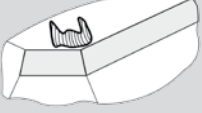
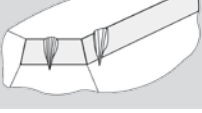
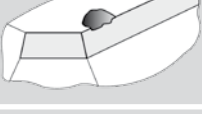
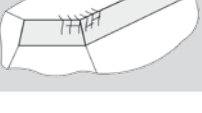
- Reamer is allowed to travel too far out of the bore → Only allow the reamer to travel out of the bore 2 mm more than the cutting length at the most
- Material springs back → retraction not at a high speed, but with increased (2-3 times) feed speed

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	Flank wear Reduce cutting speed or use a cutting material or coating with higher abrasion resistance.
	Major breakage Reduce feed rate and stock allowance. Use carbide with coating instead of DST for interrupted bores.
	Pitting of chip surface Reduce cutting speed or use a more positive rake angle.
	Edge wear Increase cutting speed or use a more positive rake angle.
	Notch wear Reduce cutting speed or use a cutting material or coating with higher abrasion resistance.
	Fatigue wear Reduce feed rate, increase stability of the reamer.
	Built-up on chip surface Use positive cutting geometry, increase oil content of coolant, reduce cutting speed v_c for uncoated carbide cutting material, increase for DST and coated cutting material.
	Hairline cracks Use enough coolant and inner coolant supply, reduce cutting speed.

Usage and Safety Notes

Safety notes:

- The application data specified in the "Recommended application areas" depends on the ambient and application conditions (e.g. the machine, ambient temperature, lubricant/cooling lubricant used and desired machining results): these presuppose appropriate application conditions, use and compliance with the spindle speed limits specified for the tools.
- To prevent damage to machine and tool, we recommend that the drive power be calculated in advance. The drive power which is actually available will be found in the machine manufacturer's spindle speed/performance diagram.
- Safety equipment should be provided to protect personnel from flying chips.
Please see our safety note (enclosed with packing).

Hazard warning:

If using tungsten carbide-based hard metal products together with cobalt as a binder metal, please read our safety data sheets, which are available for you to download from our website.

(<http://www.kometgroup.com/navigation-top/download/service/datenblaetter.html>)

Liability information:

Subject to change. KOMET is not liable for damages resulting from selecting the incorrect tools.

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Torque tools | Screwdriver | Key

Reduce your costs: The correct torque protects you from warranty claims.

Protect your health: With a patented SoftFinish® handle design to protect your hands and muscles while you work. Recommended by German doctors and therapists from the AGR (German Campaign for Healthier Backs).

Increase your efficiency: The correct torque protects you from material damage and needing to perform rework.

Increase your process reliability: Preset torque for repetitive processes.

To ensure the correct starting torque on screws, the torque key from the TORX® and TORX PLUS® system has. Complies with the following requirements: EN ISO 6789, BS EN 26789, ASME B107.14M (with certificate).

Preset torque tools

- For controlled screwdriving work, for example in series production or in applications that are frequently repeated.
- Click signal which can be heard and felt clearly when the set torque value is reached.
- Each rotary screwdriver handle provides a ratio between guidance, speed and torque that is perfectly adapted to the screwdriving task at hand.
- Logged inspection of individual parts immediately after manufacture in the plant.

TorqueFix® torque tool
with fixed preset torque
accuracy: $\pm 6\%$
release torque: + 30%

TorqueFix®	
Torque	Order No.
0,38 Nm	L05 00901
0,62 Nm	L05 00911
0,90 Nm	L05 00921
1,01 Nm	L05 03301
1,28 Nm	L05 00931
2,25 Nm	L05 03311
2,50 Nm	L05 00941
2,80 Nm	L05 00951
4,30 Nm	L05 00961
6,25 Nm	L05 00971
8 Nm	L05 03400

easyTorque torque tool
with fixed preset torque
accuracy: $\pm 10\%$
release torque: unbounded

easyTorque	
Torque	Order No.
0,38 Nm	L05 00902
0,62 Nm	L05 00912
1,01 Nm	L05 00922
1,28 Nm	L05 00932
1,8 Nm	L05 03320
2,25 Nm	L05 00942
2,50 Nm	L05 00952
2,80 Nm	L05 00962
4,30 Nm	L05 00972

Replaceable blade		
Size	Order No.	Torque max.
5IP	L05 00700	0,5 Nm
6IP	L05 00710	1,01 Nm
7IP	L05 00720	1,3 Nm
8IP	L05 00730	2,25 Nm
9IP	L05 00740	3,0 Nm
10IP	L05 00750	4,5 Nm
15IP	L05 00760	6,6 Nm
20IP	L05 00770	8,0 Nm
SW4	L05 03410	8,0 Nm

TORX PLUS®	
Size	Order No.
5IP	L05 00800
6IP	L05 00810
7IP	L05 00820
8IP	L05 00830
9IP	L05 00840
10IP	L05 00850
15IP	L05 00860
20IP	L05 00870

TORX PLUS®	
Size	Order No.
5IP	L05 01110
6IP	L05 01120
8IP	L05 01240

TORX®	
Size	Order No.
T15	L05 00607
T20	L05 00608

TORX®	
Size	Order No.
T8	L05 00605

The TORX® keys do fit the new TORX PLUS® shape but we recommend only TORX PLUS® keys be used for tightening screws.

TORX® and TORX PLUS® are registered trademarks for the Acument Intellectual Properties, LLC, Troy Mich., US
TorqueFix®, TorqueVario® and SoftFinish® are registered trademarks for the Wiha Werkzeuge GmbH, Schonach



Changing the torque

- ① Remove blade
- ② Insert adjusting key in variable torque key handle and turn to set the required torque. The appropriate IP size can be read from the graduated scale.
- ③ Push blade in again

TorqueVario® torque tool

Variable adjustment

TorqueVario®					
Size	Torque	Order No.	Adjusting key	Replaceable blades	
5IP – 7IP	0,38 – 1,01 Nm	L05 00781	L05 00990	5IP	L05 00700
				6IP	L05 00710
				7IP	L05 00720
				9IP	L05 00740
9IP – 20IP	2,25 – 6,25 Nm	L05 00791	L05 00990	10IP	L05 00750
				15IP	L05 00760
				20IP	L05 00770

Supply includes:

Torque wrench with adjusting key and replaceable blades.

TorqueVario®-S torque tool

Variable adjustment

TorqueVario®-S			appropriate replaceable blade	
Size	Torque	Order No.	Size	Order No.
T8 – T20	0,8 – 5 Nm (0,2 Nm)	L05 00600	T8	L05 00601
			T15	L05 00603
			T20	L05 00604

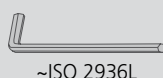
Supply includes: Torque wrench with adjusting key without replaceable blade.

Allen key



Size	Order No.
SW1,5	18591 10015
SW2,5	18591 10025
SW3	18591 10030
SW4	18591 10040
SW5	18591 10050
SW6	18591 10060
SW10	18591 10100

Allen key



Size	Order No.
SW4	18591 10041

Key



Size	Order No.
16	18701 80016
22	18701 80022
27	18701 80027
32	18701 80032
40	18701 80040
50	18701 80050

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**Fast, flexible
and always close to you.**

A network of local partners that provide professional
tool refurbishment, trade tools and manufacture
customized solid carbide special tools:

Everything from a single source.

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Tool reconditioning that matches the original quality

Our conditioning experts analyse your tools both from a technical point of view and in terms of cost-effectiveness, and custom recondition them based on this assessment.

Fully customised coating

It goes without saying that KOMET tools are always given the same coating as they had originally.

We meet your specific needs and complete the coating within a few days – even with other common coatings available on the market.

Special tools

Thanks to expert technical project engineering and design planning by your KOMET SERVICE® partner, you will be provided with a special tool tailor-made from solid carbide to your exact requirements in next to no time.



Tool reworking

Our partners will happily adapt your tools for you, quickly and flexibly.

TOOLlife range

Buy KomPass TOOLlife tools directly from your KOMET SERVICE® partner.

Strong and supportive network

Extensive network of KOMET SERVICE® partners – wherever you are.

Collection and delivery service

Your KOMET SERVICE® partner will get your tools back to you in just a few days.



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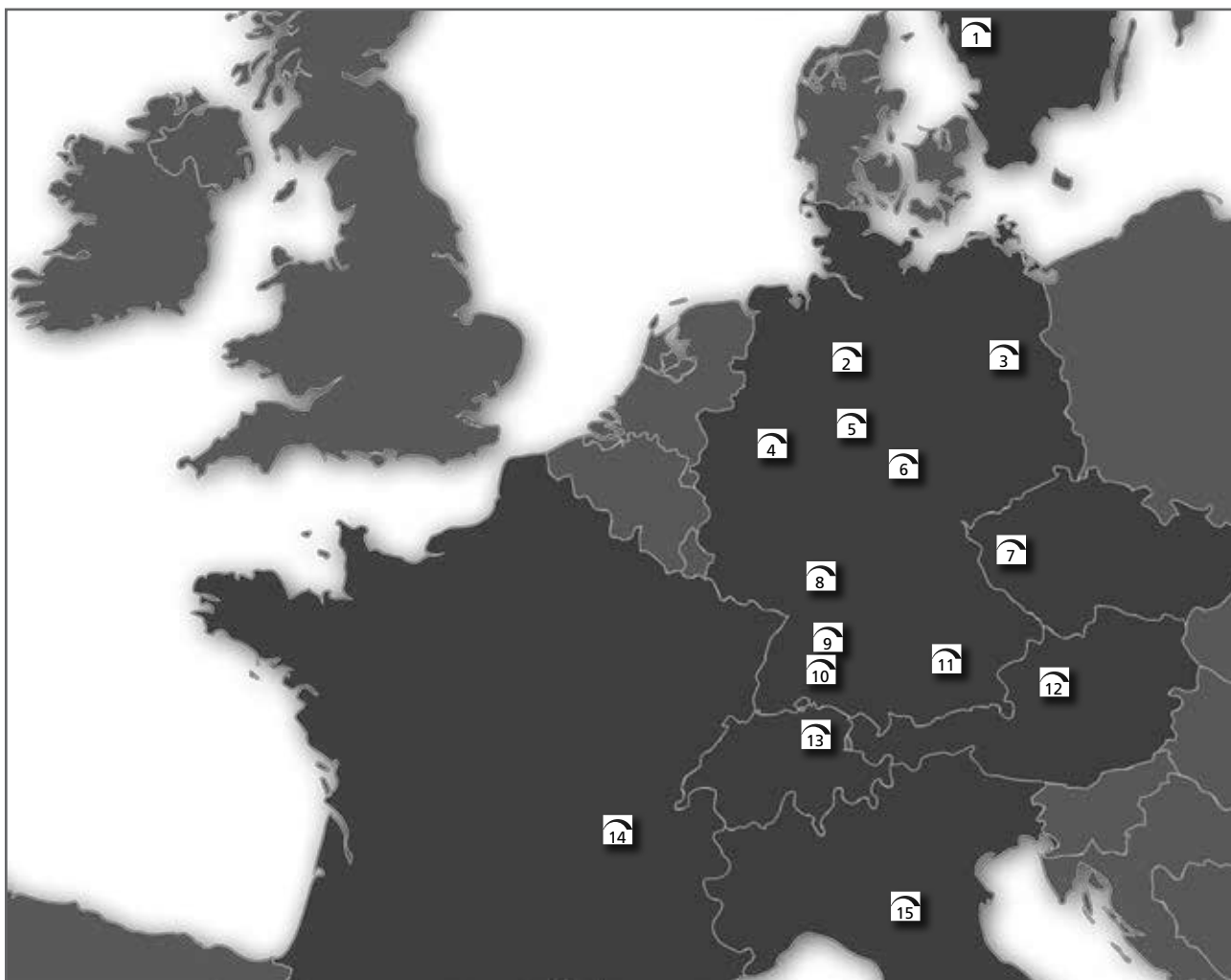


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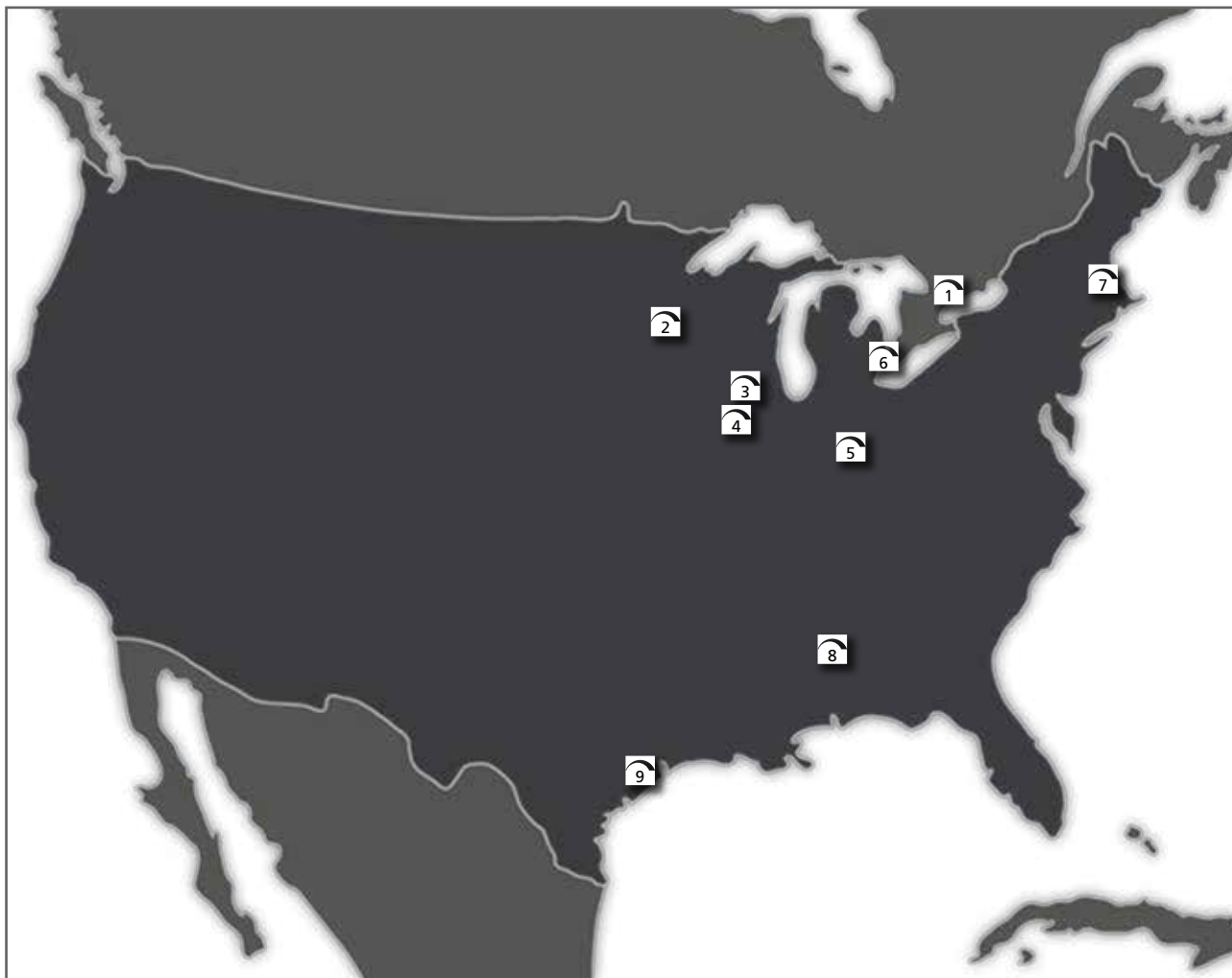
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8	Andre Woitschach GmbH Max-Berk-Straße 2 D-69226 Nussloch Tel. +49 6224 16334 Fax +49 6224 16365 woitschach@kometservice.com
9	Werkzeugschleiferei Liebrich Trochtfelfingerstraße 9 D-70567 Stuttgart Tel. +49 711 714995 Fax +49 711 712645 liebrich@kometservice.com
10	NB Werkzeugtechnik Im Anwandel 12 D-72459 Albstadt Tel. +49 7432 2009422 Fax +49 7432 2009424 nb@kometservice.com
11	WEMA GmbH Raiffeisenstraße 9 D-85276 Pfaffenhofen Tel. +49 8441 859160 Fax +49 8441 8591620 wema@kometservice.com

12	Gradauer G.M.B.H. Ternberger Straße 1a A-4596 Steinbach/Steyr Tel. +43 7257 7366 Fax +43 7257 7366 gradauer@kometservice.com
13	TBS Werkzeugschärferei AG Schändrichstrasse 6 CH-9230 Flawil Tel. +41 71 3949030 Fax +41 71 3949039 tbs@kometservice.com
14	AFLY, Affûtage Lyonnais S.A.S. 200 rue Léon Blum F-69100 Villeurbanne Tel. +33 472 148939 Fax +33 472 140320 afly@kometservice.com
15	PROJET SERVICE COMMERCIALE SRL Via Raimondo dalla Costa, 271/1 I-41122 Modena - C.F. e P.I.: 03149110367 Tel. 059/250062 - 059/4734320 Fax 059/2558219 pjs@kometservice.com

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1 Castelar Tool & Grinding Inc.
2775 Slough St.
L4T 1G2, Mississauga, Ontario, Canada
Tel. +1 9056773090
Fax +1 9056773091
castelar@kometservice.com

2 NTM, Inc.
140 NE Liberty Street
Minneapolis, MN 55432, USA
Tel. +1 763 780 1420
Fax +1 763 780 8921
Toll Free +1 800 274 4686
ntm@kometservice.com

3 Ekstrom Carlson
5248 27th Avenue
Rockford, IL 61109, USA
Tel. +1 815 394 1744
Fax +1 815 316 8120
ekstrom@kometservice.com

4 Countyline Tool, Inc.
3303 N. Main Street
East Peoria, IL 61611, USA
Tel. +1 309 694 2400
Fax +1 309 694 2445
countyline@kometservice.com

5 Tri-State Tool Grinding
5311-A Robert Ave
Cincinnati, OH 45248, USA
Tel. +1 513 347 0100
Fax +1 513 347 3728
tristate@kometservice.com

6 Brecker's ABC Tool Company
15919 East 12 Mile Road
Roseville, MI 48066, USA
Tel. +1 5867791122
Fax +1 5867790157
breckers@kometservice.com

7 Razor Tool, Inc.
41 Elm Street
Stoneham, MA 02180, USA
Tel. +1 7816541582
razortool@kometservice.com

8 Cutting Tool Engineers, Inc.
208 Commerce Parkway
Pelham, AL 35124, USA
Tel. +1 2057330100
Fax +1 2057330191
CTE@kometservice.com

9 Grinding Technology, LLC
220 Barren Springs Drive
Houston, TX 77090, USA
Tel. +1 7139107719
Fax +1 7139107554
GT@kometservice.com

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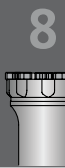
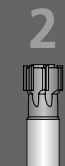
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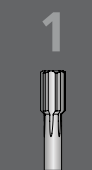
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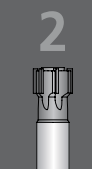
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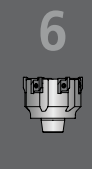
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A PLUS for our customers and the environment

The company targets

KOMET pursues a consistent policy of investments and achieves long-term and profitable growth via continuous improvement of products and processes as well as via consistent qualification of employees. This increases the value of the company. KOMET consistently increases its innovation quota via research and development, offering the market new products every year. KOMET is a premium quality manufacturer and motivates employee qualification and customers in their IDEAS FACTORY. The training quota of vocational beginners is exemplary for the entire field of business.

The products and services

KOMET products and services offer the customer incomparable added value. KOMET develops, manufactures and sells the comprehensive, modular portfolio on bore machining as full-range suppliers. KOMET offers the innovative technologies, thereby taking the high economic viability, best quality and most attractive designs into account. KOMET sees itself not purely as a tool manufacturer, but rather as suppliers of innovative solutions and ideas for the benefit of the customer: **TOOLS+IDEAS®**.

The customer

KOMET places value on long-term, binding customer relations, seeing itself as a partner of the customer in a balance of benefit supplies and benefit harvests.

KOMET records customers' demands and then produces the most effective ideas and tool solutions for their machining tasks. KOMET offers the customer information and collaboration via their worldwide presence in local Service Centres. The IDEAS FACTORY supports vocation-related training and further qualifications for customers.

The environment / surroundings

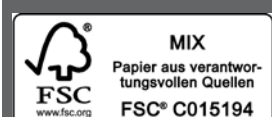
KOMET feels itself obliged to avoid any wastage, and therefore commits itself to responsible usage of raw materials and careful utilisation of remaining materials.

KOMET management is well aware of its responsibilities towards society, and creates the foundations for modern working environments and working conditions. The specifications on ergonomics and work safety are taken into account. Beholden to the founder, Robert Breuning, KOMET supports the site at Besigheim, maintaining direct contact to schools and social facilities in the region.

With these claims in mind, KOMET has introduced a modern, integrated management system, known as KMS (KOMET Management System), which is certified in accordance with ISO 9001:2008, ISO 14001:2009 and the German „Akkreditierungs-und Zulassungsverordnung Arbeitsförderung – AZAV“.

Certification

<http://www.kometgroup.com/navigation-top/download/service/zertifikate.html>



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GERMANY

KOMET Deutschland GmbH
Zeppelinstraße 3 · 74354 Besigheim
Tel. +49 7143 3730 · Fax +49 7143 373233 · info@kometgroup.com

KOMET Deutschland GmbH · Werk Stuttgart
Ruppmannstraße 32 · 70565 Stuttgart-Vaihingen
Tel. +49 711 788910 · Fax +49 711 7889111

FRANCE

KOMET S.à.r.l.
4 rue de Copenhague · 67300 Schiltigheim
Tel. +33(0) 4 37 46 09 00 · Fax +33(0) 4 78 35 36 57 · info.fr@kometgroup.com

GREAT BRITAIN

KOMET (UK) Ltd.
Palmerston House · 814 Brighton Road · CR8 2BR · Purley / Surrey
Tel. +44(0)1827 302518 · Fax +44(0)20 8655 8501 · info.uk@kometgroup.com

ITALY

KOMET Utensili S.R.L.
Via Massimo Gorki n. 11 · 20098 S. Giuliano Mil.
Tel. +39 02 98 40 28 1 · Fax +39 02 98 44 96 2 · info.it@kometgroup.com

AUSTRIA

KOMET Deutschland GmbH
Zeppelinstraße 3 · DE-74354 Besigheim
Tel. +43 512 28355932 · Fax +43 512 28355999 · info.at@kometgroup.com

POLAND

KOMET-URPOL Sp. z o.o.
ul. Przyjaźni 47 b · PL 47-225 Kędzierzyn-Koźle
Tel. +48 77 405 31 00 · Fax +48 77 405 31 10 · info.pl@kometgroup.com

RUSSIA

OOO KOMET GROUP
ul. Bakhrushina 32/1 · 115054 Moscow
Tel. +7 495 956 04 82 · Fax +7 495 956 82 63 · info.ru@kometgroup.com

SWITZERLAND

KOMET Deutschland GmbH
Zeppelinstraße 3 · DE-74354 Besigheim
Tel. +49 7143 3730 · Fax +49 7143 373233 · info@kometgroup.com

SPAIN

KOMET IBERICA TOOLS S.L.
Av. Corts Catalanes 9-11 · Planta baja, local 6B · 08173 Sant Cugat Del Valles
Tel. +34 93 5839620 · Fax +34 93 5839612 · info.es@kometgroup.com

SWEDEN · DENMARK · NORWAY

KOMET Scandinavia AB
Box 9177 · SE-200 39 Malmö
Tel. +46 40 49 28 40 · Fax +46 40 49 19 95 · scandinavia@kometgroup.com

CZECH REPUBLIC · SLOVAK REPUBLIC

KOMET GROUP CZ s.r.o.
Připotoční 1519/10b, 101 00, Praha 10
Tel. +420 246 083 105 · Fax +420 235 311 890 · info.cz@kometgroup.com

TURKEY

KOMET KESICI TAKIMLAR SAN. VE TIC. LTD. ŞTİ
Istanbul World Trade Center · EGS Business Park Block B2 / 127 · 34149 Yesilköy-Bakirköy / Istanbul
Tel. +90 544 273 1846 · Fax +90 212 465 8447 · info.tr@kometgroup.com

USA

KOMET of America, Inc.
2050 Mitchell Blvd. · Schaumburg · IL 60193-4544
Tel. +1 (847) 923-8400 · +1 (847) 923-8480
Fax +1 (800) 865-6638
customerservice.us@kometgroup.com

CANADA

KOMET of CANADA Tooling Solutions ULC
2775 Slough St. · Mississauga, Ontario L4T 1G2 · Canada
Tel. +1 (905) 551-1743
customerservice.ca@kometgroup.com

MEXICO

KOMET de México S. de R. L. de C.V.
Acceso 1 Nave 8 No. 116 · Fraccionamiento Industrial La Montaña
Querétaro, Qro. C.P 76150 México
Tel. +52 442-210-9020
customerservice.mx@kometgroup.com

CHINA

KOMET GROUP Precision Tools (Taicang) Co.,Ltd.
No. 5 Schaeffler Road Taicang, Jiangsu Province, PRC 215400
Tel. +86 512 53575758 · Fax +86 512 53575759
info.cn@kometgroup.com

JAPAN

KOMET GROUP KK
180-0006 · 1-22-2 Naka-cho Musashino-shi
Tokyo Japan · Grand Preo Musashino 203
Tel. +81(0)422 50 0682 · Fax +81(0)422 50 0683
info.jp@kometgroup.com

KOREA

KOMET Korea Co.,Ltd.
#201,Lotte IT Castle-2, 98, Gasan digital 2-ro,
Geumcheon-gu, Seoul, Korea 153-768
Tel. +82(0)2.2082-6300 · Fax +82(0)2.2082-6309
info.kr@kometkorea.com

INDIA

KOMET Precision Tools India Pvt. Ltd.
16J, Attibele Industrial Area · BANGALORE - 562 107
Tel. +91 80 6772 8000 · Fax +91 80 6772 8100
info.in@kometgroup.com

THAILAND

KOMET GROUP Precision Tools (Thailand) Co.,Ltd.
16th Floor Unit A, Bangna Tower A
2/3 Moo 14, Bangna - Trad Road, K.M. 6.5
Bangkaew, Bangplee, Samutprakarn, 10540
Tel. +66 (0)2 797 0717
info.sea@kometgroup.com

www.kometgroup.com

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