KOMET GROUP

KOMET DIHART Reamax® TS

Modular reaming system

KOMET DIHART Reamax® TS
Modular reaming system

Application:

- All current materials
- Through holes and blind bores
- Small bore tolerances
- Up to 5 × D
- High speed – up to 500 m/min
- Feed – up to 2.4 mm/rev

Benefits for you:

- Faster, high precision tool change
- Absolute minimum setting time
- Maximum flexibility
- Simple and cost effective tool logistics
- High precision adjustment
- Application specified cutting edge geometry

Unlimited flexibility and cost-effectiveness

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

KOMET DIHART 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.

Chip flow

straight

lefthand

Coolant outlet

radial

central

Reaming heads

fixed

adjustable

Wide choice of:

cutting materials

coatings

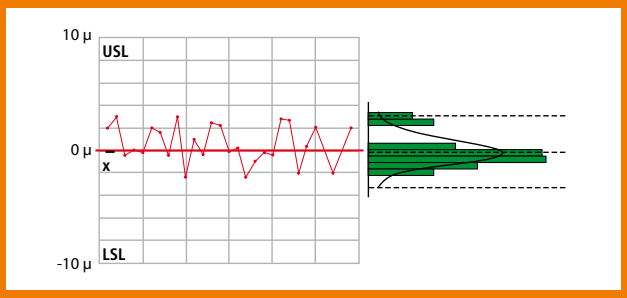
A connection for maximum production reliability

This high-precision connection guarantees safer transfer of the torque which occurs during reaming and the concentricity required for precision machining. KOMET DIHART Reamax® TS is designed for high speed machining.

Minimising setting time

The radial clamping system allows the reaming tools to be changed without removing the holder from the adaptor, reducing the setting time considerably.

KOMET DIHART Reamax® TS provides maximum production reliability for the smallest tolerances.



Multi-flute tools

Adjustable for small tolerances
To compensate for wear and to meet tolerances as small as IT4, all KOMET DIHART 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

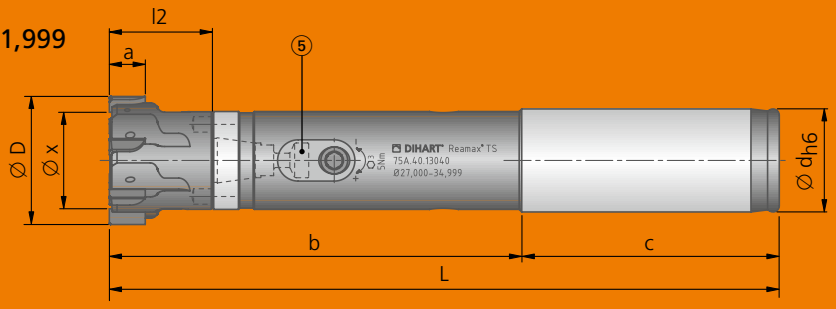
With internal coolant system

The coolant is supplied through the tool with radial or central outlet.

KOMET DIHART Reamax® TS
Reaming Heads Ø 18,000 – 64,999 mm and Holder

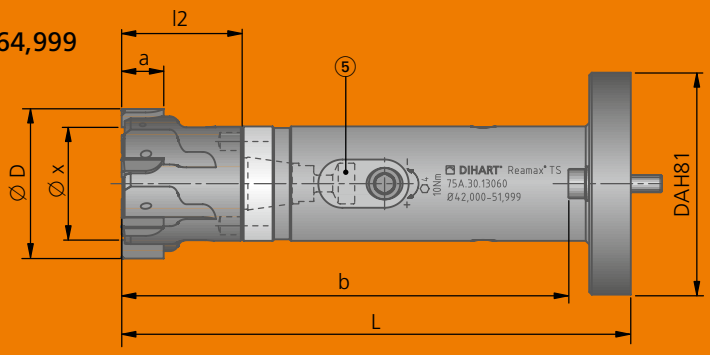
Reaming Heads – expandable
- Carbide and Cermet
- high precision changing
- variety of coatings

Ø 18,000 – 41,999



Holder
- with cylindrical shank similar to DIN1835
- with internal coolant supply

Ø 42,000 – 64,999



Holder
- for DAH® adapters, patent DIHART®
- with internal coolant supply

Reamax® TS						Basic recommendation			
Ø D	Ø x* ~	a ~	l2 ~	No. of flutes	kg	Cutting material / Coating	Reaming head Order No.	Order No.	for material P M K N S H
18,000 – 19,999	∅ D – 4,0	6,0	20	6	0,03				
20,000 – 21,999	∅ D – 4,0	6,0	20	6	0,03	HM	75J.21	75H.21	
22,000 – 26,999	∅ D – 4,2	6,0	20	6	0,04	DST	75J.93	75H.93	GGG
27,000 – 31,799	∅ D – 5,4	6,0	25	6	0,04	TiN	75J.71	75H.71	
31,800 – 34,999	∅ D – 6,0	6,0	25	8	0,05	DBG-N	75J.37	75H.37	
35,000 – 41,999	∅ D – 6,9	6,0	25	8	0,13-0,15	DJC	75J.67	75H.67	
42,000 – 51,999	∅ D – 7,5	6,0	30	8	0,20-0,25				
52,000 – 64,999	∅ D – 8,8	8,0	35	10	0,35-0,45				

Supply includes: Reamax® TS reaming head complete. * minimal diameter for face machining!

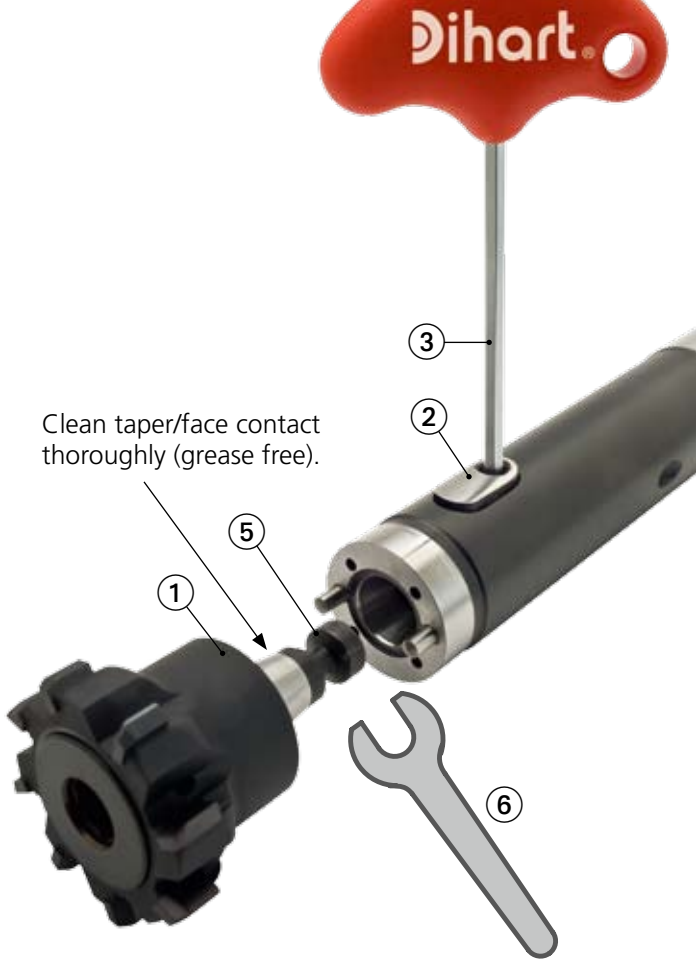
	Short version						Long version						Assembly parts
Ø D	Order No.	L	b	c	Ø d	kg	Order No.	L	b	c	Ø d	kg	Pull studs ⑤ Order No.
18,000 – 19,999	**75A.40.13010**	130	80	50	20	0,2	**75A.40.15010**	190	140	50	20	0,3	**15E.30.10010**
20,000 – 21,999	**75A.40.13020**	130	80	50	20	0,2	**75A.40.15020**	190	140	50	20	0,3	**15E.30.10020**
22,000 – 26,999	**75A.40.13030**	130	80	50	20	0,3	**75A.40.15030**	210	160	50	20	0,4	**15E.30.10030**
27,000 – 31,799 31,800 – 34,999	**75A.40.13040**	176	120	56	25	0,5	**75A.40.15040**	236	180	56	25	0,7	**15E.30.10040**
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**
42,000 – 51,999	**75A.30.13060**	138	120	DAH 81		0,9	**75A.30.15060**	238	220	DAH 81		1,5	**15E.30.10050**
52,000 – 64,999	**75A.30.13070**	138	120	DAH 81		1,0	**75A.30.15070**	238	220	DAH 81		2,0	**15E.30.10070**

Supply includes: Reamax® TS holder with pull stud. Please order reaming head separately.

Patent applied for inside and outside Germany.

KOMET DIHART Reamax® TS
Assembly instructions

- Screw pull stud ⑤ into reaming head and tighten with open-end wrench ⑥.
- Open clamping jaws ② with key ③. Insert reaming head ①.
- Close clamping jaws ② with key ③, noting recommended torque.
- When inserting the reaming head ① this is drawn into its final position by closing the clamping jaws ②.
- When removing the reaming head ① this is pressed out of its position by the clamping jaws ② which allows it to be easily removed from the holder: open the clamping jaws ② with the key ③, remove the reaming head ①.



Nominal size		③ Operating key			④ Hexagonal key*	⑤ Pull studs	⑥ Open-end wrench for pull studs	
	Ø D	Size	Order No.	Torque	Size	Order No.	Size	Order No.
TS1	18,000 – 19,999	8IP	**L05 01240**	1,5 Nm	SW 4	**15E.30.10010**	SW 5	**18589 10005**
TS2	20,000 – 21,999	SW 2,5	**340.35.002**	2,5 Nm	SW 5	**15E.30.10020**	SW 5	**18589 10005**
TS3	22,000 – 26,999	SW 3	**340.35.003**	4 Nm	SW 5	**15E.30.10030**	SW 6	**18589 10006**
TS4	27,000 – 34,999	SW 3	**340.35.003**	5 Nm	SW 8	**15E.30.10040**	SW 8	**18589 10008**
TS5	35,000 – 41,999	SW 3	**340.35.003**	6 Nm	SW 6	**15E.30.10050**	SW 10	**18589 10010**
TS6	42,000 – 51,999	SW 4	**640.43.001**	10 Nm	SW 8	**15E.30.10050**	SW 10	**18589 10010**
TS7	52,000 – 64,999	SW 5	**640.43.002**	13 Nm	SW 10	**15E.30.10070**	SW 13	**18589 10013**

* sold separtly

Adjusting to compensate for wear

The smallest bore tolerances of up to IT4 can be achieved by readjusting with the hexagonal key.

KOMET DIHART Reamax® TS
Guideline values for reaming

Reamax® TS						Recommendation				Alternative				Recommendation				Alternative			
Material group	Strength Rm (N/mm²)	Hardness HB	Material	Material example material code/ DIN		Cutting material/ coating	Order No. ASG	v_c m/min	f_z mm/ tooth	Cutting material/ coating	Order No. ASG	v_c m/min	f_z mm/ tooth	Cutting material/ coating	Order No. ASG	v_c m/min	f_z mm/ tooth	Cutting material/ coating	Order No. ASG	v_c m/min	f_z mm/ tooth
P 1.0	≤ 500		non-alloy steels	St37-2/1.0037; 9SMn28/1.0715; St44-2/1.0044																	
P 2.0	500-900		non-alloy / low alloy steels	St52-2 / 1.0050, C55 / 1.0525, 16MnCr5 / 1.7131		DST	**75J.93** ASG09	120 – 200	0,10 – 0,25	TiN	**75J.71** ASG09	60 – 160	0,10 – 0,20	TiN	**75J.71** ASG09	60 – 120	0,08 – 0,15	TiN	**75J.71** ASG01	60 – 120	0,08 – 0,15
P 2.1	< 500		lead alloys	9SMnPb28 / 1.0718																	
P 3.0	> 900		non alloy / low alloy steels: heat resostant structural, heat treated, nitride and tools steels	42CrMo4 / 1.7225, CK60 / 1.1221		DST	**75J.93** ASG09	70 – 180	0,08 – 0,20	TiN	**75J.71** ASG01	50 – 120	0,05 – 0,20	TiN	**75J.71** ASG01	50 – 120	0,05 – 0,12		–		
P 4.0	> 900		high alloy steels	X6CrMo4 / 1.2341, X165CrMoV12/ 1.2601		TiN	**75J.71** ASG01	15 – 45	0,06 – 0,16		–			TiN	**75J.71** ASG01	15 – 45	0,05 – 0,12		–		
P 4.1			HSS																		
S 5.0		250	special alloys: Inconel, Hastelloy, Nimonic, stc.	Inconel 718/2.4668, Nimonic 80A/2.4631																	
S 5.1	400		titanium, titanium alloys	TiAl5Sn2 / 3.7114																	
M 6.0	≤ 600		stainless steels	X2CrNi189 / 1.4306, X5CrNiMo1810/ 1.4401		TiN	**75J.71** ASG01	15 – 40	0,07 – 0,12	TiN	**75J.71** ASG09	15 – 40	0,07 – 0,20	TiN	**75J.71** ASG01	15 – 40	0,05 – 0,10	TiN	**75J.71** ASG09	15 – 40	0,07 – 0,15
M 6.1	< 900		stainless steels	X8CrNb17/1.4511, X10CrNiMoTi1810/ 1.4571		TiN	**75J.71** ASG01	10 – 35	0,07 – 0,12		–			TiN	**75J.71** ASG01	10 – 35	0,05 – 0,10		–		
M 7.0	> 900		stainless / fireproof steels	X10CrAl7 / 1.4713, X8CrS-38-18/1.4862																	
K 8.0		180	gray cast iron	GG-25/0.6025, GG-35/0.6035		DBG-N	**75J.37** ASG07	80 – 220	0,10 – 0,20	TiN	**75J.71** ASG01	40 – 100	0,10 – 0,20	TiN	**75J.71** ASG01	40 – 100	0,10 – 0,20		–		
K 8.1		250	alloy gray cast iron	GG-NiCr202 / 0.6660		DBG-N	**75J.37** ASG07	35 – 130	0,10 – 0,20	TiN	**75J.71** ASG01	20 – 90	0,10 – 0,20	TiN	**75J.71** ASG01	20 – 90	0,10 – 0,20		–		
K 9.0	≤ 600	130	spheroidal graphite cast iron, ferritic	GGG-40 / 0.7040		DST	**75J.93** ASG07	160 – 280	0,10 – 0,20	DBG-N	**75J.37** ASG07	160 – 280	0,10 – 0,20	DBG-N	**75J.37** ASG07	160 – 240	0,08 – 0,15		–		
K 9.1		230	spheroidal graphite cast iron, ferritic/ perlitic	GGG-50 / 0.7050 GGG-55 / 0.7055 GTW-55 / 0.8055		DST	**75J.93** ASG07	120 – 220	0,08 – 0,20	DBG-N	**75J.37** ASG07	120 – 220	0,08 – 0,20	DBG-N	**75J.37** ASG07	120 – 220	0,08 – 0,15		–		
K 10.0	> 600	250	spheroidal graph. cast iron, perlitic malleable iron	GGG-60 / 0.7060 GTS-65 / 0.8165																	
K 10.1		200	alloyed spheroidal graphite cast iron	GGG-NiCr20-2 / 0.7661		DBG-N	**75J.37** ASG07	50 – 100	0,10 – 0,20	TiN	**75J.71** ASG01	35 – 65	0,10 – 0,20	DBG-N	**75J.37** ASG07	50 – 100	0,08 – 0,15	TiN	**75J.71** ASG01	35 – 65	0,08 – 0,15
K 10.2		300	vermicular cast iron	GGV Ti < 0,2 GGV Ti > 0,2		DBG-N	**75J.37** ASG07	35 – 130	0,10 – 0,20	TiN	**75J.71** ASG01	20 – 90	0,10 – 0,20	DBG-N	**75J.37** ASG07	35 – 130	0,08 – 0,15	TiN	**75J.71** ASG01	20 – 90	0,08 – 0,15
N 12.0		90	copper alloy, brass, lead-alloy bronze, lead bronze: good cut	CuZn36Pb3 / 2.1182, G-CuPb15Sn / 2.1182		TiN	**75J.71** ASG01	50 – 250	0,10 – 0,20	DST	**75J.93** ASG07	120 – 250	0,10 – 0,20	TiN	**75J.71** ASG01	50 – 200	0,10 – 0,20		–		
N 12.1		100	copper alloy, brass, bronze: average cut	CuZn40Al1 / 2.0550, E-Cu57 / 2.0060		TiN	**75J.71** ASG01	50 – 165	0,10 – 0,20	DST	**75J.93** ASG07	100 – 200	0,10 – 0,20	TiN	**75J.71** ASG01	50 – 165	0,10 – 0,20		–		
N 13.0		60	wrought aluminium alloys	AlMg1 / 3.3315, AlMnCu / 3.0517																	
N 13.1		75	cast alum. alloy: Si-content <10% magnesium alloy	G-AlMg5 / 3.3561, G-AlSi9Mg / 3.2373																	
N 14.0		100	cast alum.alloy: Si-content >10%	G-AlSi10Mg / 3.2381																	
H 15.0	1400		hardened steels < 45 HRC																		
H 16.0	1800		hardened steels > 45 HRC																		

Reaming allowance in Dia.:

Dia.-range (mm):	16 – 30	> 30
Reaming allowance in dia. (mm):	0,1 – 0,3	0,2 – 0,5

Recommendation				Alternative				Recommendation				Alternative				Carbide				Carbide			
Cutting material/ coating	Order No. ASG	v_c m/min	f_z mm/ tooth	Cutting material/ coating	Order No. ASG	v_c m/min	f_z mm/ tooth	Cutting material/ coating	Order No. ASG	v_c m/min	f_z mm/ tooth	Cutting material/ coating	Order No. ASG	v_c m/min	f_z mm/ tooth	Cutting material/ coating	Order No. ASG	v_c m/ min	f_z mm/ tooth	Cutting material/ coating	Order No. ASG	v_c m/ min	f_z mm/ tooth
																HM	**75J.21** ASG01	6 – 10	0,07 – 0,12	HM	**75H.21** ASG01	6 – 10	0,07 – 0,12
DST	**75H.93** ASG07	120 – 200	0,10 – 0,20	TiN	**75H.71** ASG01	60 – 160	0,08 – 0,15	TiN	**75H.71** ASG01	60 – 120	0,08 – 0,15		–			HM	**75J.21** ASG02	6 – 10	0,10 – 0,20	HM	**75H.21** ASG02	6 – 10	0,10 – 0,20
																HM	**75J.21** ASG01	10 – 30	0,07 – 0,12	HM	**75H.21** ASG01	10 – 30	0,07 – 0,12
DST	**75H.93** ASG07	70 – 180	0,08 – 0,15	TiN	**75H.71** ASG01	50 – 120	0,07 – 0,12	TiN	**75H.71** ASG01	50 – 120	0,07 – 0,12		–			HM	**75J.21** ASG01	6 – 10	0,05 – 0,10	HM	**75H.21** ASG01	6 – 10	0,05 – 0,10
TiN	**75H.71** ASG01	15 – 45	0,06 – 0,16		–			TiN	**75H.71** ASG01	15 – 45	0,05 – 0,12		–			HM	**75J.21** ASG01	5 – 8	0,05 – 0,10	HM	**75H.21** ASG01	5 – 8	0,05 – 0,10
																HM	**75J.21** ASG03	8 – 12	0,05 – 0,16	HM	**75H.21** ASG03	8 – 12	0,05 – 0,16
TiN	**75H.71** ASG01	15 – 40	0,07 – 0,12		–			TiN	**75H.71** ASG01	15 – 40	0,05 – 0,10		–			HM	**75J.21** ASG01	4 – 7	0,05 – 0,10	HM	**75H.21** ASG01	4 – 7	0,05 – 0,10
TiN	**75H.71** ASG01	10 – 35	0,07 – 0,12		–			TiN	**75H.71** ASG01	10 – 35	0,05 – 0,10		–			HM	**75J.21** ASG01	4 – 7	0,05 – 0,10	HM	**75H.21** ASG01	4 – 7	0,05 – 0,10
DBG-N	**75H.37** ASG07	80 – 220	0,10 – 0,20	TiN	**75H.71** ASG01	40 – 100	0,10 – 0,20	TiN	**75H.71** ASG01	40 – 100	0,10 – 0,20		–			HM	**75J.21** ASG01	8 – 20	0,10 – 0,16	HM	**75H.21** ASG01	8 – 20	0,10 – 0,16
DBG-N	**75H.37** ASG07	35 – 130	0,10 – 0,20	TiN	**75H.71** ASG01	20 – 90	0,10 – 0,20	TiN	**75H.71** ASG01	20 – 90	0,10 – 0,20		–			HM	**75J.21** ASG01	8 – 12	0,10 – 0,16	HM	**75H.21** ASG01	8 – 12	0,10 – 0,16
DST	**75H.93** ASG07	160 – 280	0,10 – 0,20	DBG-N	**75H.37** ASG07	160 – 280	0,10 – 0,20	DBG-N	**75H.37** ASG07	160 – 240	0,08 – 0,15		–			HM	**75J.21** ASG02	9 – 18	0,08 – 0,20	HM	**75H.21** ASG02	9 – 18	0,08 – 0,20
DST	**75H.93** ASG07	120 – 220	0,08 – 0,20	DBG-N	**75H.37** ASG07	120 – 220	0,08 – 0,20	DBG-N	**75H.37** ASG07	120 – 220	0,08 – 0,15		–			HM	**75J.21** ASG01	9 – 18	0,08 – 0,15	HM	**75H.21** ASG01	9 – 18	0,08 – 0,15
DBG-N	**75H.37** ASG07	50 – 100	0,10 – 0,20	TiN	**75H.71** ASG01	35 – 65	0,10 – 0,20	DBG-N	**75H.37** ASG07	50 – 100	0,08 – 0,15	TiN	**75H.71** ASG01	35 – 65	0,08 – 0,15								
DBG-N	**75H.37** ASG07	35 – 130	0,10 – 0,20	TiN	**75H.71** ASG01	20 – 90	0,10 – 0,20	DBG-N	**75H.37** ASG07	35 – 130	0,08 – 0,15	TiN	**75H.71** ASG01	20 – 90	0,08 – 0,15								
TiN	**75H.71** ASG01	50 – 200	0,10 – 0,20	DST	**75H.93** ASG07	120 – 250	0,10 – 0,20	TiN	**75H.71** ASG01	50 – 200	0,10 – 0,20		–			HM	**75J.21** ASG01	10 – 20	0,08 – 0,16	HM	**75H.21** ASG01	10 – 20	0,08 – 0,16
TiN	**75H.71** ASG01	50 – 165	0,10 – 0,20	DST	**75H.93** ASG07	100 – 200	0,10 – 0,20	TiN	**75H.71** ASG01	50 – 165	0,10 – 0,20		–										
																HM	**75J.21** ASG02	10 – 20	0,10 – 0,20	HM	**75H.21** ASG02	10 – 20	0,10 – 0,20
																HM	**75J.21** ASG01	8 – 20	0,10 – 0,20	HM	**75H.21** ASG01	8 – 20	0,10 – 0,20
																HM	**75J.21** ASG01	8 – 20	0,10 – 0,20	HM	**75H.21** ASG01	8 – 20	0,10 – 0,20

Note: The application details shown depend on the environmental and application conditions (e.g. machine, ambient temperature, use of lubricant/coolant and the machining result required). These are subject to correct operating conditions, correct application and compliance with the spindle speed limits given for the tools.

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