



**KOMET DIHART Reamax<sup>®</sup> TS**  
Modular reaming system



## Modular Reaming System

The flexible and cost effective DIHART Reamax® TS offers a precise clamping system with a standard connection for all DIHART® Reamax® TS reaming heads, offering flexibility and cost-effectiveness thanks to fast and high-precision tool changing.

DIHART Reamax® TS offer system modularity due to a versatile and clearly structured range of reaming heads which can handle all common diameter ranges and machining requirements. Tool costs and holder inventory are thereby reduced to a minimum.

## BENEFITS for you:

- High-precision manufacturing for guaranteed quality
- Modular tool system for the highest flexibility
- Compensation for wear through simple adjustment
- Integrated run-out adjustment for short lengths
- Can be adjusted for extremely small hole

## Application:

- All current materials
- Through and blind holes
- Small bore tolerances
- Up to 5 x D
- High speed – up to 985 ft/min (300 m/min)
- High feed – up to 0.094 in/rev (2.4 mm/rev)

## A connection for maximum production reliability

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

## Multi-flute tools

Wear compensating for small tolerances and able to machine bore tolerances as small as IT4, all DIHART Reamax® TS multi-flute tools are adjustable. Maximum repeatable accuracy is achieved without pre-setting

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

## Internal coolant system

The coolant is supplied through the tool with flute or blind hole coolant styles.



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**Reaming Head**  
 Ø 0.7087 – 2.5591 inch (Ø 18.000 – 65.000 mm) 16

**Holder**

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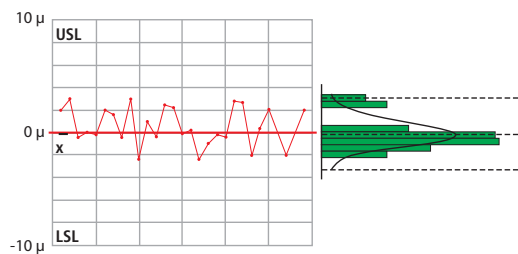
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**Minimal setting time**



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

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



# DIHART Reamax® TS

## Tool Recommendation

Material group	Strength Rm (lbf/in <sup>2</sup> )	Hardness HB	Material	Material example ANSI / SAE	High-speed machining					
										
					Order No.	Cutting geometry (ASG)	Cutting material/coating	Order No.	Cutting geometry (ASG)	Cutting material/coating
P	1.0	≤ 72,500	non-alloy steels	1010 1144 1213	75J.93	ASG09	DST	75J.71	ASG09	TiN
	2.0	72,500 - 130,000	non-alloy / low alloy steels	1055 5115 5120	75J.93	ASG09	DST	75J.71	ASG09	TiN
	2.1	< 72,500	lead alloys	12L14	75J.93	ASG09	DST	75J.71	ASG09	TiN
	3.0	> 130,000	non alloy / low alloy steels: heat resistant structural, heat treated, nitride and tools steels	1064 4140	75J.93	ASG09	DST	75J.71	ASG07	TiN
	4.0	> 130,000	high alloy steels	H13 H21	75J.71	ASG0106	TiN	75J.71	ASG0106	TiN
	4.1		HSS	M10 T4						
S	5.0		250 special alloys: Inconel, Hastelloy, Nimonic, stc.	Inconel® 718 Nimonic® 80A						
	5.1	58,000	titanium, titanium alloys	Ti-6Al-4V						
M	6.0	≤ 87,000	stainless steels	304L 316	75J.71	ASG0106	TiN	75J.71	ASG0106	TiN
	6.1	< 130,000	stainless steels	630	75J.71	ASG0106	TiN	75J.71	ASG0106	TiN
	7.0	> 130,000	stainless / fireproof steels	403 420	75J.71	ASG0106	TiN	75J.71	ASG0106	TiN
K	8.0		180 gray cast iron	Class 25 G3000	75J.37	ASG07	DBG-N	75J.37	ASG07	DBG-N
	8.1		250 alloy gray cast iron	A436 Type 2	75J.37	ASG07	DBG-N	75J.37	ASG07	DBG-N
	9.0	≤ 87,000	130 ductile cast iron, ferritic	60-40-18 D4512	75J.93	ASG07	DST	75J.37	ASG07	DBG-N
	9.1		230 ductile cast iron, ferritic / perlitic	80-55-06 D5506	75J.37	ASG07	DBG-N	75J.37	ASG07	DBG-N
	10.0	> 87,000	250 spheroidal graphite cast iron, perlitic malleable iron	100-70-03 07003	75J.37	ASG07	DBG-N	75J.37	ASG07	DBG-N
	10.1		200 alloyed spheroidal graphite cast iron	A43D2	75J.37	ASG07	DBG-N	75J.37	ASG07	DBG-N
10.2		300 vermicular cast iron		75J.37	ASG07	DBG-N	75J.37	ASG07	DBG-N	
N	12.0		90 copper alloy, brass, lead-alloy bronze, lead bronze: good cut	316	75J.93	ASG07	DST	75J.71	ASG07	TiN
	12.1		100 copper alloy, brass, bronze: average cut		75J.71	ASG07	TiN	75J.71	ASG07	TiN
	13.0		60 wrought aluminum alloys	6151 7075	75J.17	ASG0706	DBC			
	13.1		75 cast aluminum alloy: Si-content < 10% magnesium alloy	380 A356.0	75J.17	ASG0706	DBC			
	14.0		100 cast aluminum alloy: Si-content > 10%	383 A413.0	75J.17	ASG0706	DBC			
H	15.0	203,000	hardened steels < 45 HRC		75J.37	ASG0106	DBG-N			
	16.0	261,000	hardened steels > 45 HRC, ≤ 55 HRC		75J.37	ASG0106	DBG-N			

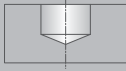
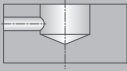
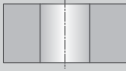
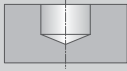
For inquiries concerning tools for materials without a recommendation, please contact us.

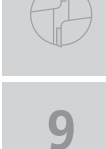
Patent applied for inside and outside Germany (Reamax®)

# DIHART Reamax® TS


## Tool Recommendation



	High-speed machining						Conventional machining					
												
	Order No.	Cutting geometry (ASG)	Cutting material/coating	Order No.	Cutting geometry (ASG)	Cutting material/coating	Order No.	Cutting geometry (ASG)	Cutting material	Order No.	Cutting geometry (ASG)	Cutting material
	75H.93	ASG07	DST	75H.71	ASG07	TiN	75J.21	ASG07	HM	75H.21	ASG07	HM
	75H.93	ASG07	DST	75H.71	ASG07	TiN	75J.21	ASG02	HM	75H.21	ASG02	HM
	75H.93	ASG07	DST	75H.71	ASG07	TiN	75J.21	ASG07	HM	75H.21	ASG07	HM
	75H.93	ASG07	DST	75H.71	ASG07	TiN	75J.21	ASG07	HM	75H.21	ASG07	HM
	75H.71	ASG0106	TiN	75H.71	ASG0106	TiN	75J.21	ASG0106	HM	75H.21	ASG0106	HM
							75J.21	ASG03	HM	75H.21	ASG03	HM
	75H.71	ASG0106	TiN	75H.71	ASG0106	TiN	75J.21	ASG0106	HM	75H.21	ASG0106	HM
	75H.71	ASG0106	TiN	75H.71	ASG0106	TiN	75J.21	ASG0106	HM	75H.21	ASG0106	HM
	75H.71	ASG0106	TiN	75H.71	ASG0106	TiN	75J.21	ASG0106	HM	75H.21	ASG0106	HM
	75H.37	ASG07	DBG-N	75H.37	ASG07	DBG-N	75J.21	ASG07	HM	75H.21	ASG07	HM
	75H.37	ASG07	DBG-N	75H.37	ASG07	DBG-N	75J.21	ASG07	HM	75H.21	ASG07	HM
	75H.93	ASG07	DST	75H.37	ASG07	DBG-N	75J.21	ASG02	HM	75H.21	ASG02	HM
	75H.37	ASG07	DBG-N	75H.37	ASG07	DBG-N	75J.21	ASG07	HM	75H.21	ASG07	HM
	75H.37	ASG07	DBG-N	75H.37	ASG07	DBG-N	75J.21	ASG07	HM	75H.21	ASG07	HM
	75H.37	ASG07	DBG-N	75H.37	ASG07	DBG-N	75J.21	ASG07	HM	75H.21	ASG07	HM
	75H.37	ASG07	DBG-N	75H.37	ASG07	DBG-N	75J.21	ASG07	HM	75H.21	ASG07	HM
	75H.93	ASG07	DST	75H.71	ASG07	TiN	75J.21	ASG0106	HM	75H.21	ASG0106	HM
	75H.71	ASG07	TiN	75H.71	ASG07	TiN	75J.21	ASG0106	HM	75H.21	ASG0106	HM
	75H.17	ASG0706	DBC				75J.21	ASG02	HM	75H.21	ASG02	HM
	75H.17	ASG0706	DBC				75J.21	ASG07	HM	75H.21	ASG07	HM
	75H.17	ASG0706	DBC				75J.21	ASG07	HM	75H.21	ASG07	HM
	75H.37	ASG0106	DBG-N									
	75H.37	ASG0106	DBG-N									



Cutting speed and feed see pages 112-113

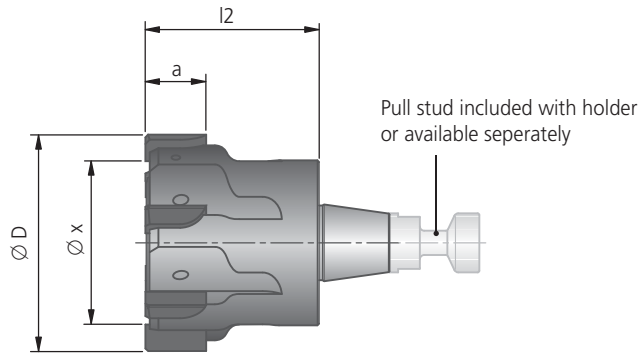
Important: See chapter  for more application details and safety notes!





# DIHART Reamax® TS



## Reaming Head – expandable

Ø 0.7087 – 2.5591 inch  
(Ø 18.000 – 65.000 mm)



Reamax® TS		
Cutting material / coating	 Order No.	 Order No.
HM	75J.21	75H.21
TiN	75J.71	75H.71
DBG-N	75J.37	75H.37
DST	75J.93	75H.93
DJC	75J.67	75H.67
DBF	75J.47	75H.47
DBC	75J.17	75H.17

(..) = mm

Dimensions					
Ø D	min. diameter for front cutting Ø x ~	a ~	l2 ~	 No. of teeth	 lbs
0.7087 – 0.7873 (18.000 – 19.999)	Ø D – 0.157 (Ø D – 4.0)	0.236 (6.0)	0.787 (20)	6	0.07
0.7874 – 0.8661 (20.000 – 21.999)	Ø D – 0.157 (Ø D – 4.0)	0.236 (6.0)	0.787 (20)	6	0.07
0.8662 – 1.0629 (22.000 – 26.999)	Ø D – 0.165 (Ø D – 4.2)	0.236 (6.0)	0.787 (20)	6	0.09
1.0630 – 1.2519 (27.000 – 31.799)	Ø D – 0.213 (Ø D – 5.4)	0.236 (6.0)	0.984 (25)	6	0.09
1.2520 – 1.3779 (31.800 – 34.999)	Ø D – 0.236 (Ø D – 6.0)	0.236 (6.0)	0.984 (25)	8	0.11
1.3780 – 1.6535 (35.000 – 41.999)	Ø D – 0.272 (Ø D – 6.9)	0.236 (6.0)	0.984 (25)	8	0.29-0.33
1.6536 – 2.0472 (42.000 – 51.999)	Ø D – 0.295 (Ø D – 7.5)	0.236 (6.0)	1.181 (30)	8	0.44-0.55
2.0473 – 2.5591 (52.000 – 65.000)	Ø D – 0.346 (Ø D – 8.8)	0.315 (8.0)	1.378 (35)	10	0.77-0.99

Preferred range available from stock. See page 102-103.

Order example:

Order No.	Bore Diameter	Bore Tolerance	Material or ASG
75J.93	Ø 0.709 (Ø 18 mm)	+0.0005/-0	Ductile iron ferritic

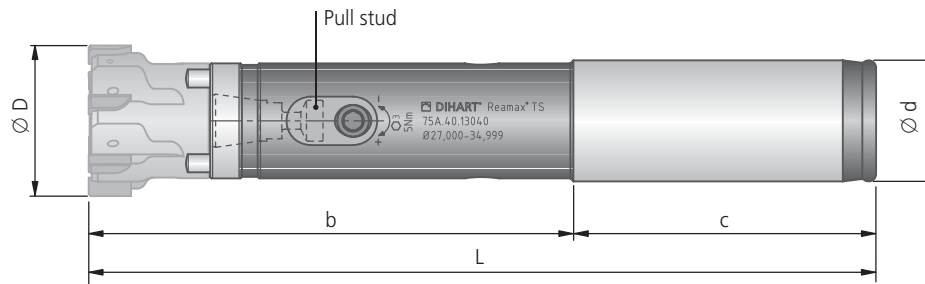
Patent applied for inside and outside Germany (Reamax®)

Ø 0.7087 – 2.5591 inch  
(Ø 18.000 – 65.000 mm)

## DIHART Reamax® TS

Holder with cylindrical shank similar to DIN 1835

with internal coolant supply ■



(..) = mm

Ø D	Short version						Long version					
	Order No.	L	b	c	Ø d	lbs	Order No.	L	b	c	Ø d	lbs
0.7087 – 0.7873 (18.000 - 19.999)	75A.40.13010	5.118 (130)	3.150 (80)	1.968 (50)	0.787 (20)	0.44	75A.40.15010	7.480 (190)	5.512 (140)	1.968 (50)	0.787 (20)	0.66
0.7874 – 0.8661 (20.000 - 21.999)	75A.40.13020	5.118 (130)	3.150 (80)	1.968 (50)	0.787 (20)	0.44	75A.40.15020	7.480 (190)	5.512 (140)	1.968 (50)	0.787 (20)	0.66
0.8662 – 1.0629 (22.000 - 26.999)	75A.40.13030	5.118 (130)	3.150 (80)	1.968 (50)	0.787 (20)	0.66	75A.40.15030	8.268 (210)	6.299 (160)	1.968 (50)	0.787 (20)	0.88
1.0630 – 1.2519 (27.000 - 31.799)	75A.40.13040	6.929 (176)	4.724 (120)	2.205 (56)	0.984 (25)	1.10	75A.40.15040	9.291 (236)	7.087 (180)	2.205 (56)	0.984 (25)	1.54
1.2520 – 1.3779 (31.800 - 34.999)												
1.3780 – 1.6535 (35.000 - 41.999)	75A.40.13050	6.929 (176)	4.724 (120)	2.205 (56)	0.984 (25)	1.32	75A.40.15050	10.079 (256)	7.874 (200)	2.205 (56)	0.984 (25)	2.20
1.6536 – 2.0472 (42.000 - 51.999)	75A.40.13060	7.087 (180)	4.724 (120)	2.362 (60)	1.260 (32)	1.98	75A.40.15060	11.024 (280)	8.661 (220)	2.362 (60)	1.260 (32)	3.31
2.0473 – 2.5591 (52.000 - 65.000)	75A.40.13070	7.087 (180)	4.724 (120)	2.362 (60)	1.260 (32)	2.20	75A.40.15070	11.024 (280)	8.661 (220)	2.362 (60)	1.260 (32)	4.41

**Includes:** Reamax® TS holder complete with operating key, pull stud and open-end wrench (→ page 21).  
Please order reaming head separately.



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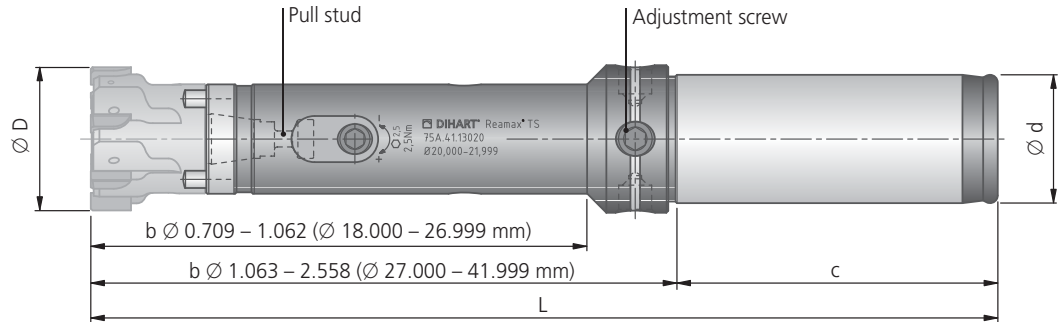
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# DIHART Reamax® TS



DAH® Zero Holder with cylindrical shank similar to DIN 1835

Ø 0.7087 – 1.6535 inch  
(Ø 18.000 – 41.999 mm)

- with internal coolant supply
- holder is set to a run-out of < 0.0002" (< 0.005 mm)



(..) = mm

Ø D	Short version						Long version					
	Order No.	L	b	c	Ø d		Order No.	L	b	c	Ø d	
0.7087 – 0.7873 (18.000 - 19.999)	75A.41.13010	5.709 (145)	3.150 (80)	1.968 (50)	0.787 (20)	0.44	75A.41.15010	8.071 (205)	5.512 (140)	1.968 (50)	0.787 (20)	0.66
0.7874 – 0.8661 (20.000 - 21.999)	75A.41.13020	5.709 (145)	3.150 (80)	1.968 (50)	0.787 (20)	0.66	75A.41.15020	8.071 (205)	5.512 (140)	1.968 (50)	0.787 (20)	0.88
0.8662 – 1.0629 (22.000 - 26.999)	75A.41.13030	5.709 (145)	3.150 (80)	1.968 (50)	0.787 (20)	0.66	75A.41.15030	8.858 (225)	6.299 (160)	1.968 (50)	0.787 (20)	0.88
1.0630 – 1.3779 (27.000 - 34.999)	75A.41.13040	6.929 (176)	4.724 (120)	2.205 (56)	0.984 (25)	1.10	75A.41.15040	9.291 (236)	7.087 (180)	2.205 (56)	0.984 (25)	1.54
1.3780 – 1.6535 (35.000 - 41.999)	75A.41.13050	6.929 (176)	4.724 (120)	2.205 (56)	0.984 (25)	1.10	75A.41.15050	10.079 (256)	7.874 (200)	2.205 (56)	0.984 (25)	2.31

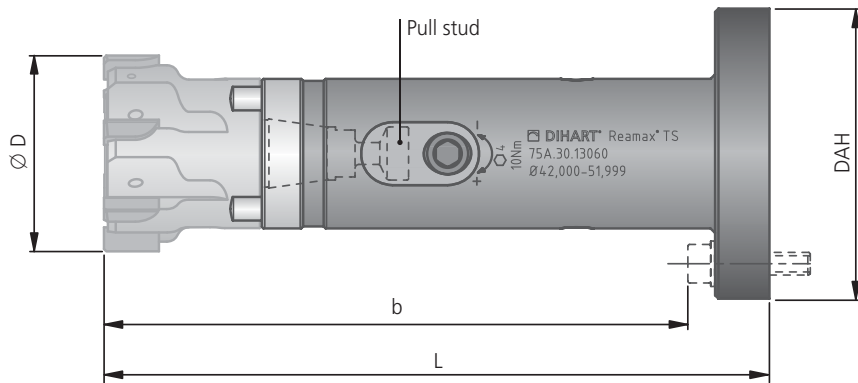
Includes: DAH® Zero holder complete with operating key, pull stud and open-end wrench (→ page 21).  
Please order reaming head separately.





Ø 1.6536 – 2.5591 inch  
(Ø 42.000 – 65.000 mm)

## DIHART Reamax® TS Holder with DAH® Connection

with internal coolant supply ■



(..) = mm

Ø D	Short version					Long version				
	Order No.	L	b	DAH		Order No.	L	b	DAH	
1.6536 – 2.0472 (42.000 - 51.999)	75A.30.13060	5.433 (138)	4.724 (120)	81	1.98	75A.30.15060	9.370 (238)	8.661 (220)	81	3.31
2.0473 – 2.5591 (52.000 - 65.000)	75A.30.13070	5.433 (138)	4.724 (120)	81	2.20	75A.30.15070	9.370 (238)	8.661 (220)	81	4.41

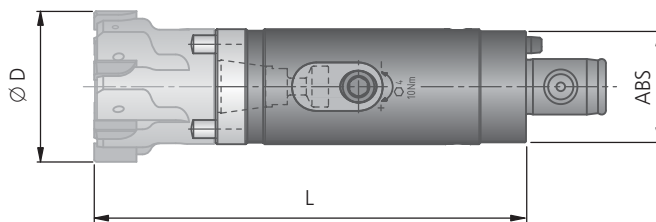
**Includes:** Reamax® TS holder with operating key, pull stud and open-end wrench (→ page 21).

Please order reaming head separately. DAH® compensation holder see chapter 10.


Ø 1.3780 – 2.5591 inch  
(Ø 35.000 – 65.000 mm)

## Holder with ABS® Connection

with internal coolant supply ■



(..) = mm

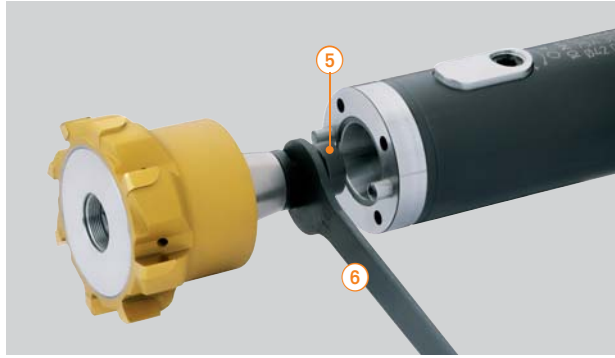
Dimensions				
Ø D	Order No.	L	ABS	
1.3780 – 1.6535 (35.000 - 41.999)	75A.60.13050	4.331 (110)	32	0.92
1.6536 – 2.0472 (42.000 - 51.999)	75A.60.13060	4.527 (115)	32	1.17
2.0473 – 2.5591 (52.000 - 65.000)	75A.60.13070	4.921 (125)	40	1.83

**Includes:** Reamax® TS holder with operating key, pull stud and open-end wrench (→ page 21).

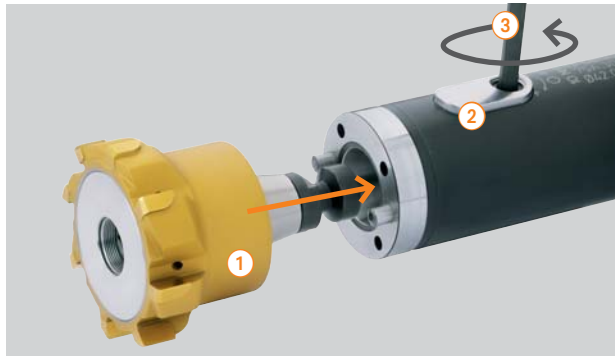
Please order reaming head separately.

# DIHART Reamax® TS

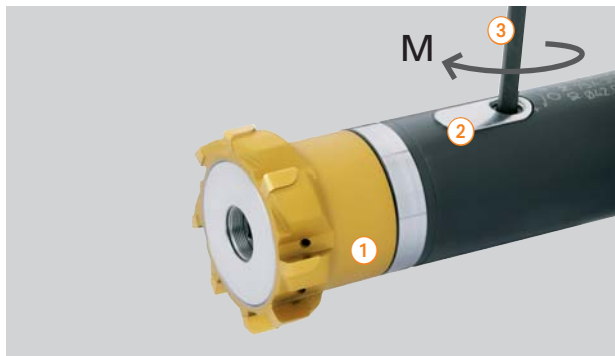
## Assembly instructions



Clean taper/face contact thoroughly (grease and debris free).  
Screw pull stud ⑤ into reaming head and tighten with open-end wrench ⑥.

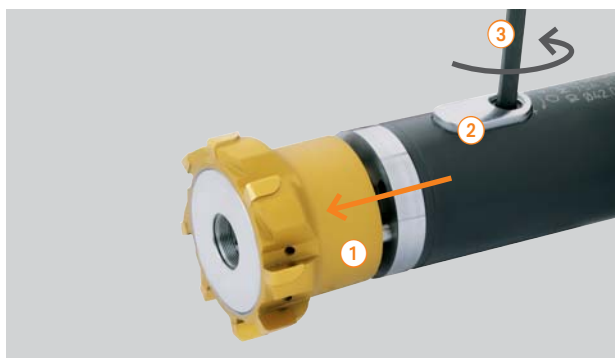


Open clamping jaws ② with key ③.  
Insert reaming head ①.

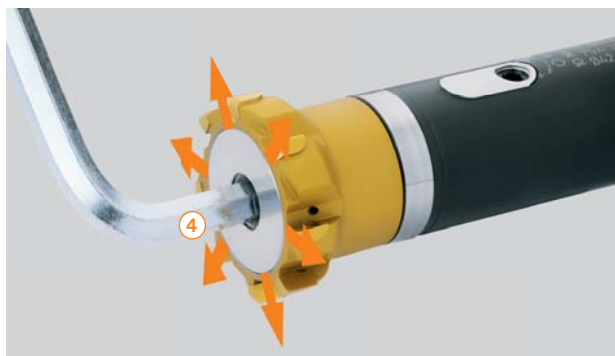


Close clamping jaws ② with key ③, noting recommended torque.  
When inserting the reaming head ① this is drawn into its final position by the clamping jaws ②.

Dia. range	Torque M
0.7087 – 0.7873 (18.000 - 19.999)	13 in-lbs (1.5 Nm)
0.7874 – 0.8661 (20.000 - 21.999)	22 in-lbs (2.5 Nm)
0.8662 – 1.0629 (22.000 - 26.999)	35 in-lbs (4 Nm)
1.0630 - 1.3779 (27.000 - 34.999)	44 in-lbs (5 Nm)
1.3780 - 1.6535 (35.000 - 41.999)	53 in-lbs (6 Nm)
1.6535 - 2.0472 (42.000 - 51.999)	88 in-lbs (10 Nm)
2.0473 - 2.5591 (52.000 - 65.000)	111 in-lbs (13 Nm)



When removing, the reaming head ① 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.



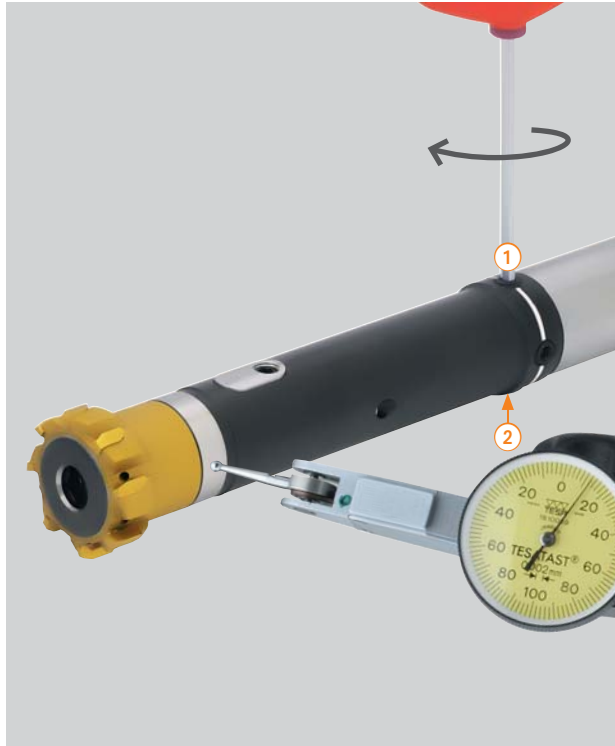
### Adjusting to compensate for wear

The bore tolerances as small as IT4 can be achieved by adjusting with the hexagonal key ④.  
Hexagonal wrench not included with Reamax® TS heads or holders.

Patent applied for inside and outside Germany (Reamax®)

# DIHART Reamax® TS

## Operating Instruction DAH® Zero



### Adjusting:





- Set the indicator dial by adjusting the bezel position.
- Locate the highest run-out point on the dial by rotating the tool.
- Turn the adjustment screw clockwise using an Allen key ①, correcting the run-out. Over-tension by approx. 5 µm.
- Engage the opposite adjustment screws ② and drive back the tool by the specified over-tension value.
- Engage the two other adjustment screws.
- Align all 4 adjustment screws until concentricity is < 2 µm.

### Please note:

- Only unscrew the adjustment screws by a max of ½ to 1 rotation.
- Never use the holder without the reamer head clamped and then only when the adjustment screws are tightened.
- In order to properly set this tool, an indicator with 0.002mm or 0.0001" discrimination is required.
- Indicate the tool when mounted in the machine spindle.

## Replacement parts / Accessories

(..) = mm

Ø D	③ Operating key 				④ Hexagonal key* 	⑤ Pull studs 	⑥ Open-end wrench for pull studs 	
	Size	Order No.	L	Torque M	Size	Order No.	Size	Order No.
0.7087 – 0.7873 (18.000 - 19.999)	8IP	L05 01240		13.3 in-lbs (1.5 Nm)	SW 4	15E.30.10010	SW 5	18589 10005
0.7874 – 0.8661 (20.000 - 21.999)	SW 2.5	18050 10025	100	22.1 in-lbs (2.5 Nm)	SW 5	15E.30.10020	SW 5	18589 10005
0.8662 – 1.0629 (22.000 - 26.999)	SW 3	18050 10030	100	35.4 in-lbs (4 Nm)	SW 5	15E.30.10030	SW 6	18589 10006
1.0630 - 1.3779 (27.000 - 34.999)	SW 3	18050 10030	100	44.3 in-lbs (5 Nm)	SW 8	15E.30.10040	SW 8	18589 10008
1.3780 - 1.6535 (35.000 - 41.999)	SW 3	18050 10030	100	53.1 in-lbs (6 Nm)	SW 6	15E.30.10050	SW 10	18589 10010
1.6535 - 2.0472 (42.000 - 51.999)	SW 4	18050 10040	100	88.5 in-lbs (10 Nm)	SW 8	15E.30.10050	SW 10	18589 10010
2.0473 - 2.5590 (52.000 - 64.999)	SW 5	18050 10050	100	115 in-lbs (13 Nm)	SW 10	15E.30.10070	SW 13	18589 10013

\* not included with Reamax® TS heads or holders.



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