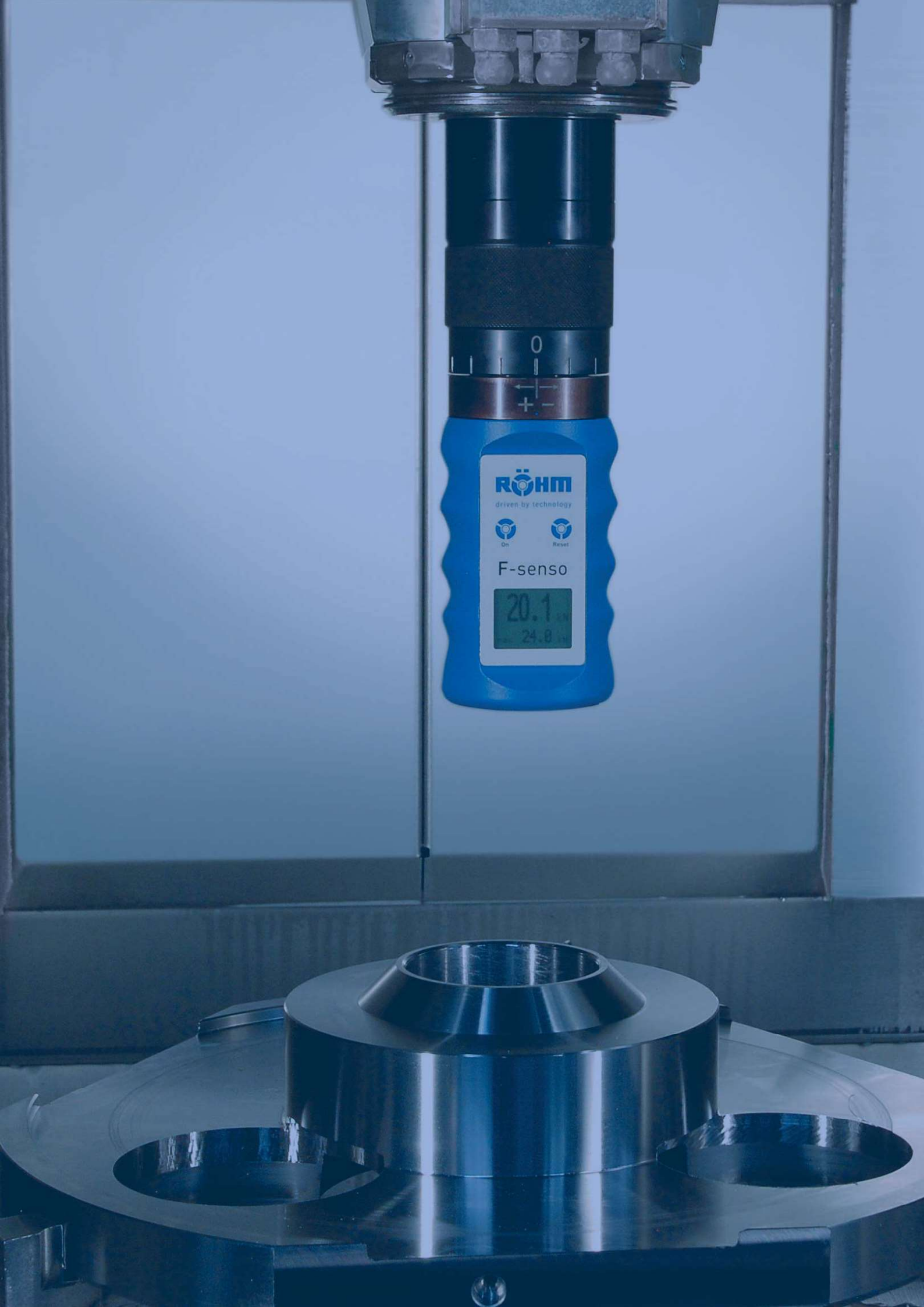
TOOL CLAMPING SYSTEMS

EDITION 8

RÖHM
driven by technology


0
RÖHM
driven by technology
On
Reset
F-senso
20.1
24.0

CONVINCING ACROSS THE BOARD

- - 27 % shorter installation length of clamping set for lower space requirement
- - 27 % shorter distance of plane face to clamping shoulder for compact force flow
- - 33 % lower spring force required for clamping
- + 39 % higher clamping force for safe and reliable clamping of the tools

- Standard DLC coating for longer service life
- Simple and fast installation of clamping sets
- Safe release and ejection due to forced guidance of clamping segments without additional spring elements
- Lower wear of the spindle due to the loss of sliding at the clamping shoulder

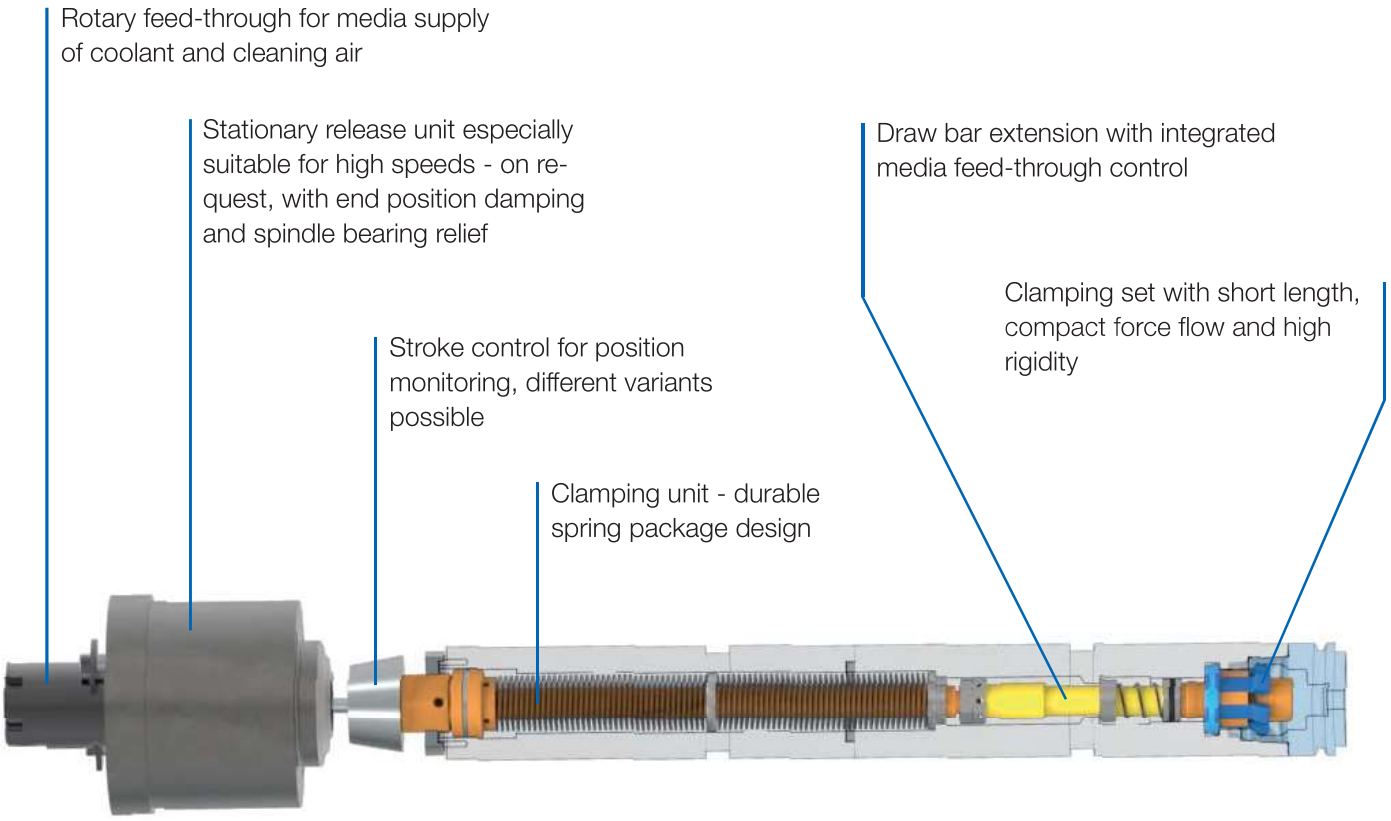
(Compared to the usual clamping systems of size HSK-A 63)

HSK - AUTOMATIC CLAMPING SYSTEM

Reliability, safety and long service life are the main requirements for a tool clamping system. It is also important for clamping systems to be able to be individually adapted to the customer requirements. Many years of experience as well as technical dominance in all areas allow RÖHM to meet these requirements exactly.

ADVANTAGES AT A GLANCE

- Proven functional principle for safe clamping and release of the tools
- 39 % higher clamping force than required in the standard
- Individual adaptation to customer-specific requirements



Technical data

For automatic tool clamping system of positive taper lock tools HSK to DIN 69893

ADVANTAGES:

- Steady clamping force due to the symmetric clamping surfaces of the clamping segments
- Compact power flow resulting in high static and dynamic rigidity of the tool joint
- High power amplification by transmission of the clamping set
- Force controlled release of the collet
- Automatic ejection of the tool by the clamping bolt during release
- Sealed central coolant supply system
- Perfect suitable to be built into the spindles of machine tools and machining centers

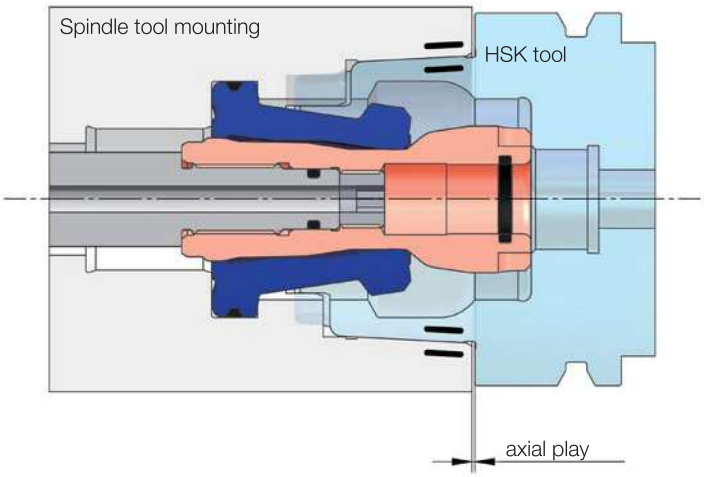
TECHNICAL FEATURES

The advantages of the positive taper lock system originates in the combination of defined radial pretensioned taper and tool face stop. A safe transmission of the torque is archieved by the elastic deformation of the taper resulting in a gap-free connection with the tool. High interchanging and repeating accuracy is leading to increased production quality during the machining.

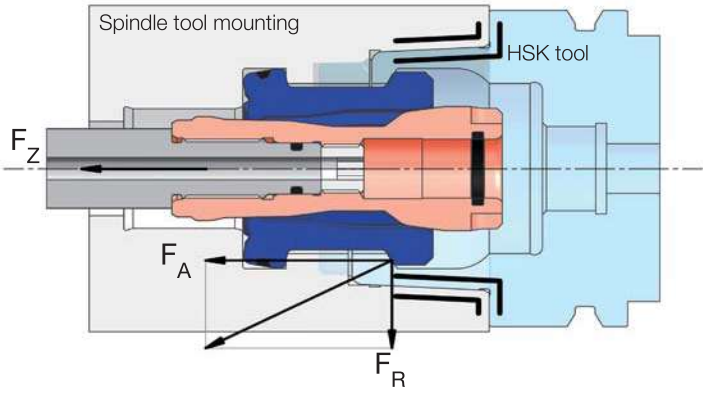
The clamping process is started by the springs and the movement is transmitted to the clamping set by the draw bar, in direction F_Z. The clamping segments of the collet are pushed to the outside by the clamping bolt. The clamping forces are multiple amplified by the angled arrangement of the contact areas. The produced axial forces F_A and radial forces F_R result in a pretension of the positive taper on the entire taper area and, the axial contact area. The proportion of the axial contact force is over 80 % of the total clamping force. This explains the importance of the size of the axial contact area concerning the critical load and rigidity of the taper and hollow shank joint.
See also DIN 69893 - Hollow taper shanks types B, D and F. Hollow taper shanks types A and C have two additional positive drive grooves at the end of the taper which interlock with the tool mounting and produce a form-locking, orientated radial positioning.

During the release the tool will be positively unlocked and ejected from the tool spindle by the multifunctional clamping bolt and taper sleeve.

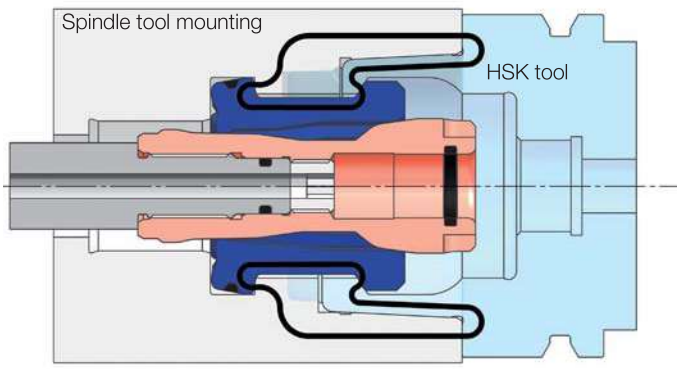
Joining position with locating surface



Clamping situation with locating surface



Clamping situation with compact power flow



Clamping set - Standard

APPLICATION

Clamping set for HSK clamping systems.

TYPE

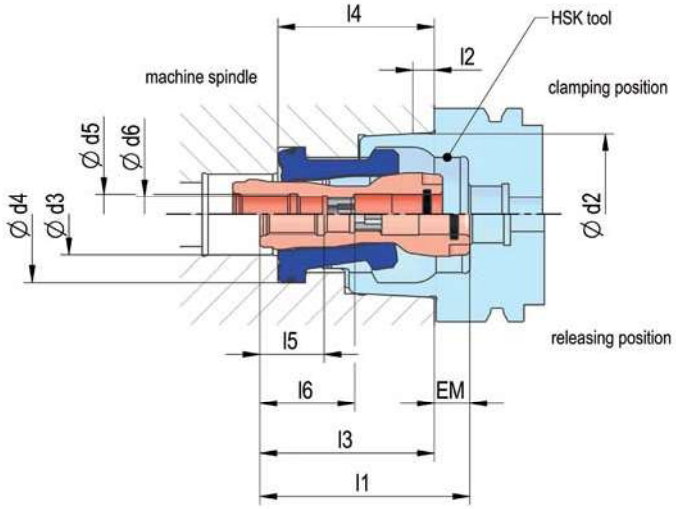
Standard version in compact design.

CUSTOMER BENEFITS

- DLC coating guarantees a longer service life of the clamping set
- Short length for compact force flow and high rigidity
- High force amplification due to transmission in the clamping set
- Safe clamping and unclamping of the tools

TECHNICAL FEATURES

- Connected collet segments simplify installation



C 15

Automatic HSK clamping set - Standard in compact design

Item No.	1037445	1037446	1037447	1037448	1037449	1037450	1037451	1037452
Size HSK-A/C/E/T	25	32	40	50	63	80	100	125
Size HSK-B/D/F	32	40	50	63	80	100	125	160
Total stroke	7	9	13	15	14	17	18	20
Pull-out stroke AM	0,2	0,3	0,5	0,5	0,5	0,5	0,8	0,8
Taper Ø d_2	19	24	30	38	48	60	75	95
d3	10	12	15	18	24	32	40	46
d4	17	21	25,5	32	40	50	63	80
d5	M4	M6x0,75	M8x1	M10x1	M12x1	M16x1,5	M20x1,5	M24x1,5
d6	4,2	6,5	6,4	8	10,5	14,3	17,5	20
l1	28,8	35,1	42,5	50	62	80	98,5	121,2
l2	2,5	3,2	4	5	6,3	8	10	12,5
l3	22,6	26,7	34	39,5	51,5	67	85,2	104,4
l4	20,3	24,5	31,9	37,2	46,2	59,7	73	96,9
l5	9,5	12,5	13	17	19	30	34,5	40
l6	2,5	3	20	26	28	42	51	60
Adjusting size EM	6,2	8,3	8,5	10,5	10,5	13	13,3	16,8
Draw bar pull kN	0,7	1	2	3	4	7,5	10	15
Clamping force kN	3,5	5	10	15	25	37,5	50	70
Max. application speed[1] min^{-1}	70000	48000	36000	30000	24000	18000	14000	10000

[1] Please note the speed diagram according to the corresponding clamping set datasheet

Clamping set - High Speed

APPLICATION

Clamping set suited for high speeds.

TYPE

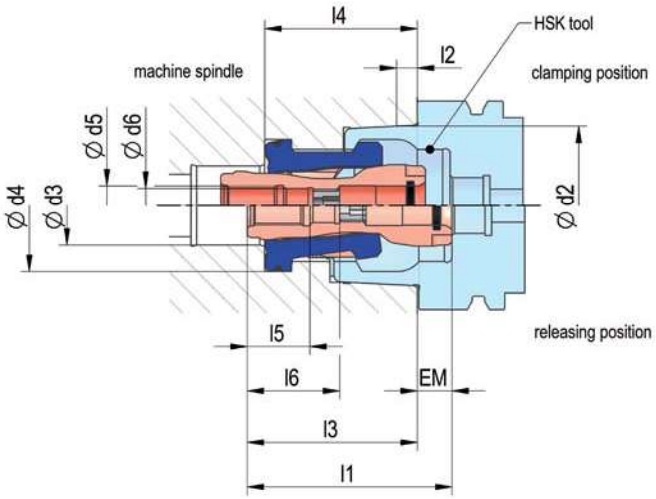
High Speed version for higher speeds due to exact guidance of the clamping segments.

CUSTOMER BENEFITS

- DLC coating guarantees a longer service life of the clamping set
- Short length for compact force flow and high rigidity
- High force amplification due to transmission in the clamping set
- Safe clamping and unclamping of the tools
- High balancing quality maintained due to exact guidance of the collet chuck

TECHNICAL FEATURES

- Connected collet segments simplify installation



C 15

Automatic HSK clamping set High Speed, due to the exact guidance of the collet chuck segments, this clamping set is especially suitable **for higher speeds**

Item No.	594332	1035347	1011063	1037501	1015151	474917	462324
Size HSK-A/C/E/T	25	32	40	50	63	80	100
Size HSK-B/D/F	32	40	50	63	80	100	125
Total stroke	7	9	13	15	14	17	18
Pull-out stroke AM	0,2	0,3	0,5	0,5	0,5	0,5	0,8
Taper Ø d_2	19	24	30	38	48	60	75
d3	10	12	15	18	24	32	40
d4	17	21	25,5	32	40	50	63
d5	M4	M6x0,75	M8x1	M10x1	M12x1	M16x1,5	M20x1,5
d6	4,2	6,5	6,4	8	10,5	14,3	17,5
l1	28,8	35,1	42,5	50	62	80	98,5
l2	2,5	3,2	4	5	6,3	8	10
l3	22,6	26,7	34	39,5	51,5	67	85,2
l4	20,3	24,5	31,9	37,2	46,2	59,7	73
l5	9,5	12,5	13	17	19	30	34,5
l6	2,5	3	20	26	28	42	51
Adjusting size EM	6,2	8,3	8,5	10,5	10,5	13	13,3
Draw bar pull kN	0,7	1	2	3	4	7,5	10
Clamping force kN	3,5	5	10	15	25	37,5	50
Max. application speed[1] min^{-1}	120000	80000	60000	50000	40000	30000	24000

[1] Please note the speed diagram according to the corresponding clamping set datasheet

Assembly tool for HSK clamping sets

APPLICATION

For an easy, fast and save mounting of HSK clamping sets.
Mounting of the collet into the spindle with only a few movements.

TYPE

Please check the suitability for your clamping set before ordering. You may find the information in the Manual.

CUSTOMER BENEFITS

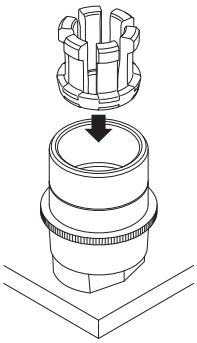
- Avoidance of damages at the clamping set and the spindle
- Easy and save installation of the clamping set
- User-friendly design

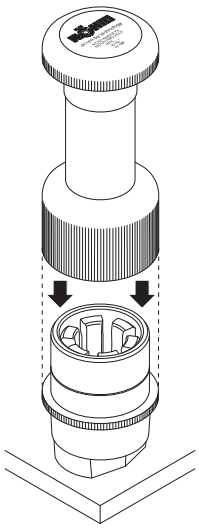
TECHNICAL FEATURES

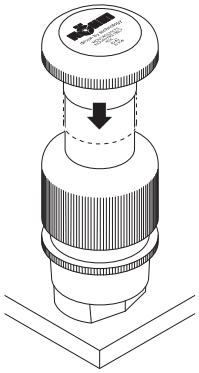
- Available for all HSK sizes A 25 - 125
- Works with all HSK types A/C/E/T/B/D/F
- Fits for RÖHM clamping sets with short and slim segments
- Special design for RÖHM segment collets in „long“ design in size HSK-E-50/F-63

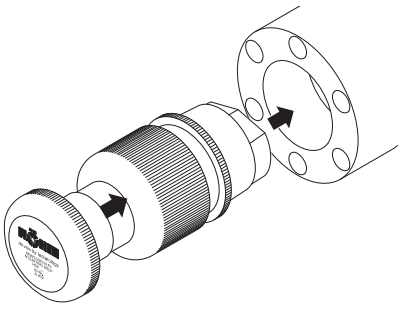
C 15
Assembly tool for HSK clamping sets

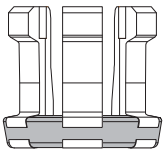
Item No.	1329030	1329025	1329015	1329001	1324230	1329020	1329010	1329035
Size HSK-A/C/E/T	25 (HSK E)	32	40	50	63	80	100	125
Size HSK-B/D/F	32	40	50	63	80	100	125	160

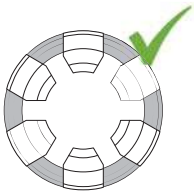


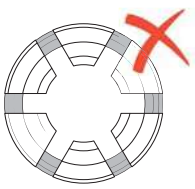












Clamping unit and draw bar extension

APPLICATION

Actuation unit for HSK clamping systems.

TYPE

Spring-actuated clamping unit with individually adapted draw bar extension.

CUSTOMER BENEFITS

- Energy stored in the spring package
- Slender design
- Reliable function thanks to sturdy design

TECHNICAL FEATURES

- Clamping system is designed individually for the spindle

Stationary release unit

APPLICATION

Stationary release unit for tool clamping systems.

TYPE

Hydraulic or pneumatic design, stationary attachment.

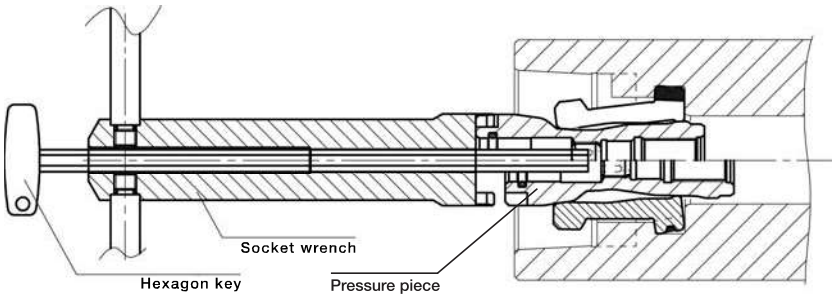
CUSTOMER BENEFITS

- Clamping system and release piston are separated from one another during the spindle rotation
- No oil supply required in the rotating spindle part
- Low-wear operation

TECHNICAL FEATURES

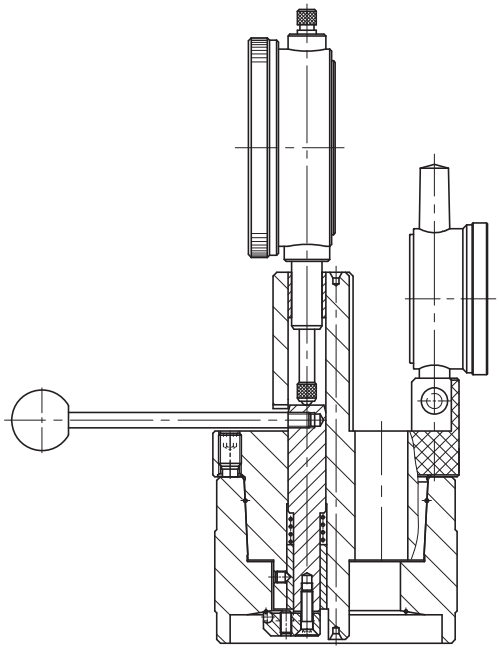
- Release system designed individually for the spindle

Accessories



C 15
Socket wrench for pressure piece screw-in assembly

Item No. Socket wrench	Size HSK-A/C/E/T	Size HSK-B/D/F	Item No. Hexagon wrench	L	SW
830252	32	40	**830253**	wrench	-
831296	40	50	**863494**	200	3
831291	50	63	**367665**	200	4
831274	63	80	**844250**	200	5
831289	80	100	**756660**	200	6
831434	100	125	**381601**	200	8
812550	125	160	**698938**	200	10



C 15
Measuring device for measuring the installation contour (clamping shoulder) for automatic HSK clamping sets

Item No.	1181005	1156601	1179168	1201360	1149877	1233614	1233553	1233615
Size HSK-A/C/E/T	25	32	40	50	63	80	100	125
Size HSK-B/D/F	32	40	50	63	80	100	125	160