

Technical features

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
- Self-locking effect via the clamping bolt in 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

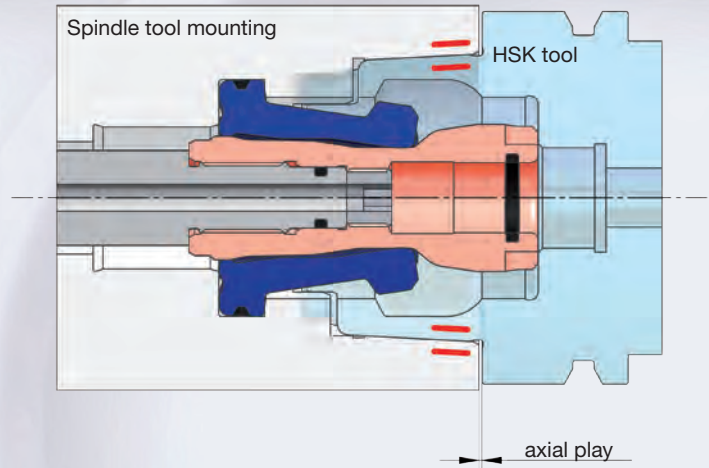
The advantages of the positive taper lock system originates in the combination of defined radial pretensioned taper and tool face stop. A safe transmission of the torque is achieved by the elastic deformation of the taper resulting in a gap-free connection with the tool. High interchanging and repeating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

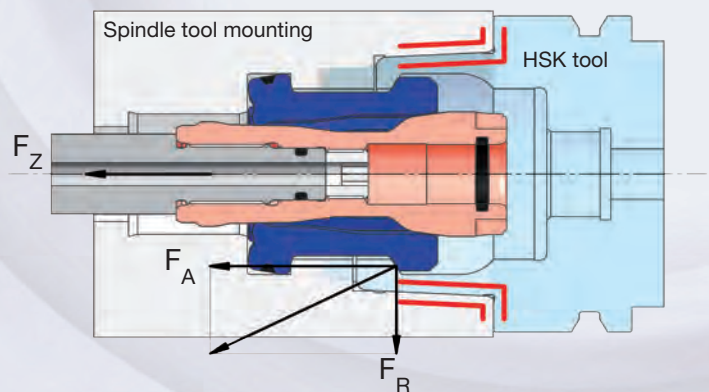
See also DIN 69893 - Hollow taper shanks types B, D and F. Hollow taper shanks types A and C have two additional positive drive grooves at the end of the taper which interlock with the tool mounting and produce a form-locking, orientated radial positioning.

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

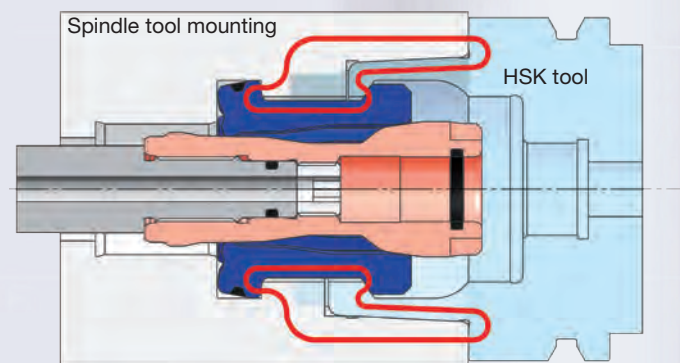
Joining position with locating surface



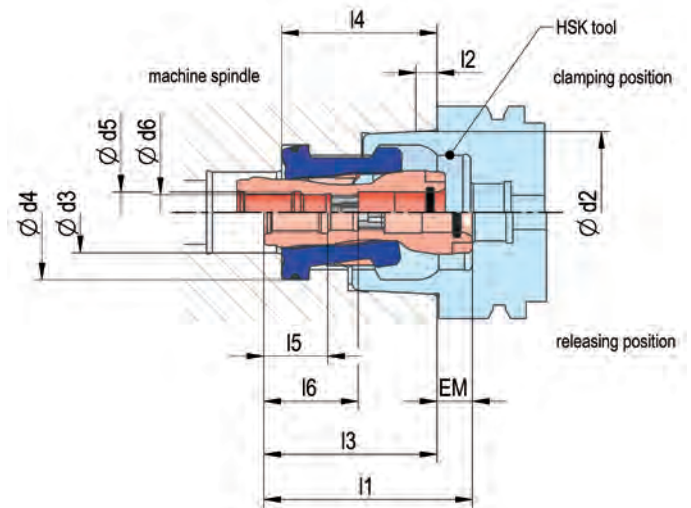
Clamping situation with locating surface



Clamping situation with compact power flow



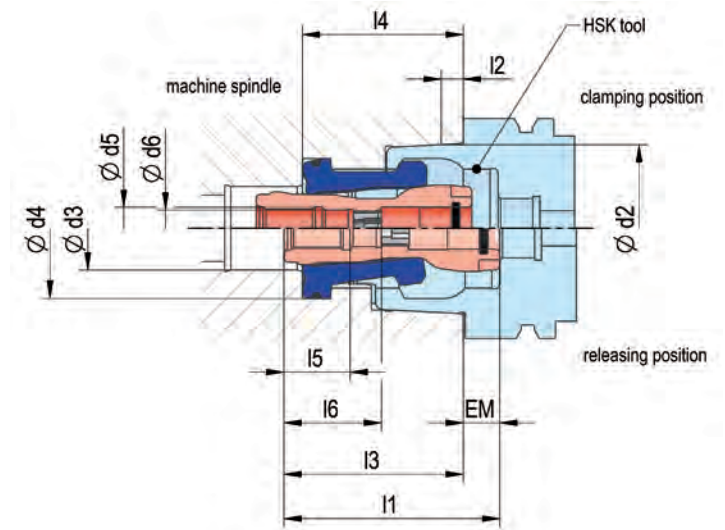
High Speed - with guided collet



Tool group C 15
Type 288-64
Automatic HSK-Clamping Set with guided collet
Precise guiding of the clamping segments makes this clamping set especially suitable for higher speeds.

Item no.	594332 ●	1035347 ●	1011063 ●	1037501 ●	1015151 ●	474917 ●	462324 ▲
Clamping unit HSK	E25/B32	A32/B40	A40/B50	A50/B63	A63/B80	A80/B100	A100/B125
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 $\varnothing d_2$	19	24	30	38	48	60	75
d_3	10	12	15	18	24	32	40
d_4	17	21	25,5	32	40	50	63
d_5	M4	M6x0,75	M8x1	M10x1	M12x1	M16x1,5	M20x1,5
d_6	4,2	6,5	6,4	8	10,5	14,3	17,5
l_1	28,8	35,1	42,5	50	62	80	98,5
l_2	2,5	3,2	4	5	6,3	8	10
l_3	22,6	26,7	34	39,5	51,5	67	85,2
l_4	20,3	24,5	31,9	37,2	46,2	59,7	73
l_5	9,5	12,5	13	17	19	30	34,5
l_6	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
Pull-in-force kN	3,5	5	10	15	25	37,5	50
Max. application speed min ⁻¹	120000	80000	60000	50000	40000	30000	24000

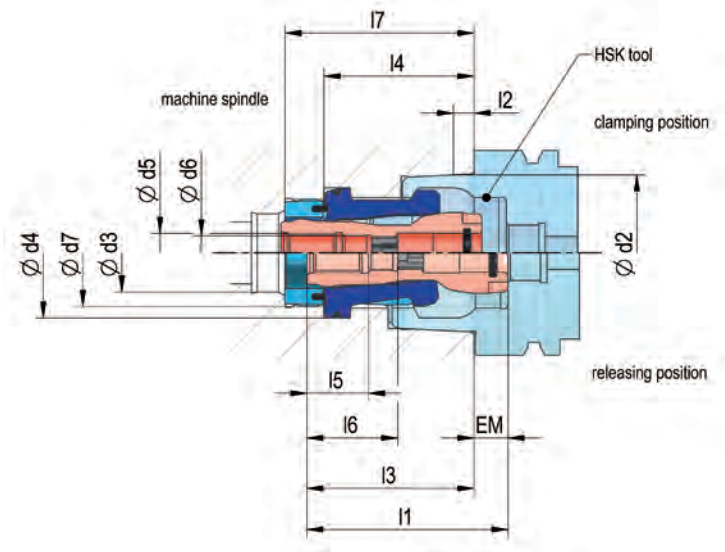
Standard



Tool group C 15
Type 288-64
Automatic HSK-Clamping set
- standard

Item no.	1037445 ▲	1037446 ●	1037447 ■	1037448 ●	1037449 ●	1037450 ●	1037451 ■	1037452 ▲
Clamping unit HSK	E25 / B32	A32 / B40	A40 / B50	A50 / B63	A63 / B80	A80 / B100	A100 / B125	A125 / B160
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 $\varnothing d_2$	19	24	30	38	48	60	75	94,996
d_3	10	12	15	18	24	32	40	46
d_4	17	21	25,5	32	40	50	63	80
d_5	M4	M6x0,75	M8x1	M10x1	M12x1	M16x1,5	M20x1,5	M24x1,5
d_6	4,2	6,5	6,4	8	10,5	14,3	17,5	20
l_1	28,8	35,1	42,5	50	62	80	98,5	121,2
l_2	2,5	3,2	4	5	6,3	8	10	12,5
l_3	22,6	26,7	34	39,5	51,5	67	85,2	104,4
l_4	20,3	24,5	31,9	37,2	46,2	59,7	73	96,9
l_5	9,5	12,5	13	17	19	30	34,5	40
l_6	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
Pull-in-force kN	3,5	5	10	15	25	37,5	50	70
Max. application speed min ⁻¹	70000	48000	36000	30000	24000	18000	14000	10000

With retaining collet



Tool group C 15
Type 288-64

Automatic HSK-Clamping Set with retaining collet
Saving time while changing tools, this clamping set with retaining collet will enable you to make multiple steps in the same time window.

Item no.	1024067 ●	1019609 ▲	1024145 ●	1015265 ■	1004827 ■
Clamping unit HSK	A40/B50	A50/B63	A63/B80	A80/B100	A100/B125
Total stroke	13	15	16	17	18
Pull-out stroke AM	0,5	0,5	0,5	0,5	0,8
Taper Ø d ₂	30	38	48	60	75
d ₃	15	18	24	27	40
d ₄	25,5	32	40	50	63
d ₅	M8x1	M10x1	M12x1	M16x1,5	M20x1,5
d ₆	6,4	8	10,5	14,3	17,5
d ₇	M20x1	M25x1	M33x1	M40x1	M53x1,5
l ₁	42,5	50	62	80	98,5
l ₂	4	5	6,3	8	10
l ₃	34	39,5	51,5	67	85,2
l ₄	31,85	37,15	46,2	59,7	73
l ₅	13	17	19	30	34,5
l ₆	20	26	28	42	51
l ₇	38	41,5	58,2	75	106
Adjusting size EM	8,5	10,5	10,5	13	13,3
Draw bar pull kN	2	3	4	7,5	10
Pull-in-force kN	10	15	25	37,5	50
Max. application speed min ⁻¹	48000	40000	32000	24000	20000