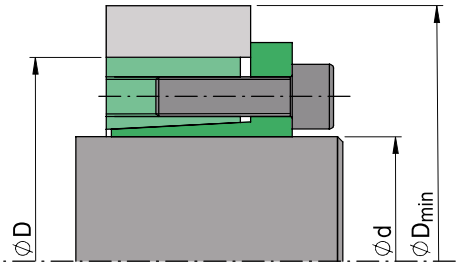
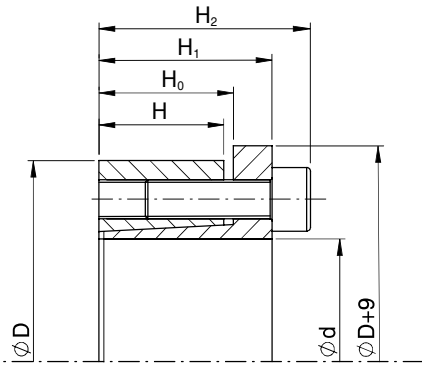
SIT-LOCK® 7 internal locking device - self-centering





Features

Composed of an inner ring and outer ring both with splits. This type of locking device is particularly suitable for applications that require excellent hub-to-shaft concentricity and perpendicularity. It is also used for locking hubs with limited widths. The table shows performance data for the following tolerances:

shaft d h8 - coupling seat on hub H8

Do not use molybdenum disulphide-based oils or greases that reduce the coefficient of friction μ. The values in the table are calculated with μ 0.12.

Hub to shaft centering

The SIT-LOCK® 7 locking device is self-centering so it does not require a centering base between the shaft and hub. This allows for hubs with reduced widths which saves on materials and leads to reduced costs.

Installation with non-lubricated surfaces (dry)

The SIT-LOCK® 7 locking device is lubricated with oil before delivery to protect it from oxidation during storage. The values shown in the table have been calculated for applications with oiled contact surfaces. For dry installation, the values are:

M_t, F_{ax} +5%

P_w, P_n -16%

To get these values, the locking device must be completely disassembled and all its component surfaces must be cleaned with solvent. The shaft and hub contact surfaces must also be completely clean and oil-free.

Axial displacement

When tightening the screws there is no hub to shaft axial displacement.

Radial loads

SIT-LOCK® 7 is suitable for use with applications subject to high radial loads. For further information, please contact our Technical Department.

Surface finish

Normal surface finish is sufficient. The following values are recommended:

$R_a \leq 3{,}2\ \mu m$ - $R_t \leq 16\ \mu m$

Installation

The locking device is supplied ready to assemble. Clean the shaft contact surfaces thoroughly and apply oil. Mount the shaft, hub and locking device in the desired position.

Screw tightening sequence:

- tighten two diametrically opposed screws until the locking device surfaces make contact with the shaft and hub;
- tighten all screws to 50% of the screw tightening torque value M_s indicated in the table in a 'criss-cross' sequence;
- repeat to 100% of the M_s tightening torque indicated in the table;
- in continuous sequence, check that the tightening torque M_s has been achieved.

Removal

Gradually loosen the clamping screws. Remove the clamping screws and insert them into the special removal threads on the inner ring flange.
Tighten the screws in a 'criss-cross' sequence until the locking device is released.

Reusing the locking device

When reusing the locking device, check all the surfaces are clean and show no obvious signs of deformation or seizing. Clean and oil all surfaces and threads. Check the screws have not been deformed. Oil the screws and assemble the locking device as originally supplied.

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Dimensions [mm]					Clamping screws DIN 912 12.9			Values with tolerances for shaft h8/hub H8			
d x D	H	H_0	H_1	H_2	Number	Type	M_s [Nm]	M_t [Nm]	F_{ax} [kN]	P_w [N/mm²]	P_n [N/mm²]
18 x 47	17	22	28	34	5	M6	17	252	28	243	95
19 x 47	17	22	28	34	5	M6	17	266	28	230	95
20 x 47	17	22	28	34	5	M6	17	280	28	219	95
22 x 47	17	22	28	34	5	M6	17	308	28	199	95
24 x 50	17	22	28	34	5	M6	17	336	28	182	90
25 x 50	17	22	28	34	6	M6	17	421	34	210	105
28 x 55	17	22	28	34	6	M6	17	471	34	188	95
30 x 55	17	22	28	34	6	M6	17	505	34	175	95
32 x 60	17	22	28	34	8	M6	17	718	45	219	115
35 x 60	17	22	28	34	8	M6	17	785	45	200	115
38 x 65	17	22	28	34	8	M6	17	852	45	184	110
40 x 65	17	22	28	34	8	M6	17	897	45	175	110
42 x 75	20	25	33	41	7	M8	41	1.523	73	229	130
45 x 75	20	25	33	41	7	M8	41	1.632	73	214	130
48 x 80	20	25	33	41	7	M8	41	1.741	73	200	120
50 x 80	20	25	33	41	7	M8	41	1.813	73	192	120
55 x 85	20	25	33	41	8	M8	41	2.280	83	200	130
60 x 90	20	25	33	41	8	M8	41	2.487	83	183	120
65 x 95	20	25	33	41	9	M8	41	3.031	93	190	130
70 x 110	24	30	40	50	8	M10	83	4.607	132	208	130
75 x 115	24	30	40	50	8	M10	83	4.936	132	194	125
80 x 120	24	30	40	50	8	M10	83	5.265	132	182	120
85 x 125	24	30	40	50	9	M10	83	6.293	148	193	130
90 x 130	24	30	40	50	9	M10	83	6.664	148	182	125
95 x 135	24	30	40	50	10	M10	83	7.815	165	191	135
100 x 145	26	32	44	56	8	M12	145	9.582	192	196	135
110 x 155	26	32	44	56	8	M12	145	10.541	192	178	125
120 x 165	26	32	44	56	9	M12	145	12.936	216	183	135
130 x 180	34	40	54	64	12	M12	145	18.686	287	173	125
140 x 190	34	40	54	68	9	M14	230	20.708	296	165	120
150 x 200	34	40	54	68	10	M14	230	24.652	329	171	130
160 x 210	34	40	54	68	11	M14	230	28.925	362	176	135
170 x 225	44	50	64	78	12	M14	230	33.527	394	140	105
180 x 235	44	50	64	78	12	M14	230	35.499	394	132	100
190 x 250	44	50	64	78	15	M14	230	46.839	493	156	120
200 x 260	44	50	64	78	15	M14	230	49.305	493	149	115

M_s	Screw tightening torque	Nm
M_t	Transmissible torque	Nm
F_{ax}	Transmissible axial force	kN
P_w	Pressure on shaft	N/mm²
P_n	Pressure on hub	N/mm²

IMPORTANT: The screw tightening torque M_S can be reduced by 40% of the value indicated in the table. M_t, F_{ax}, P_w, P_n decrease proportionally. For further information, please contact our Technical Department.

For larger diameters or dimensions different to those in the table, please contact us.