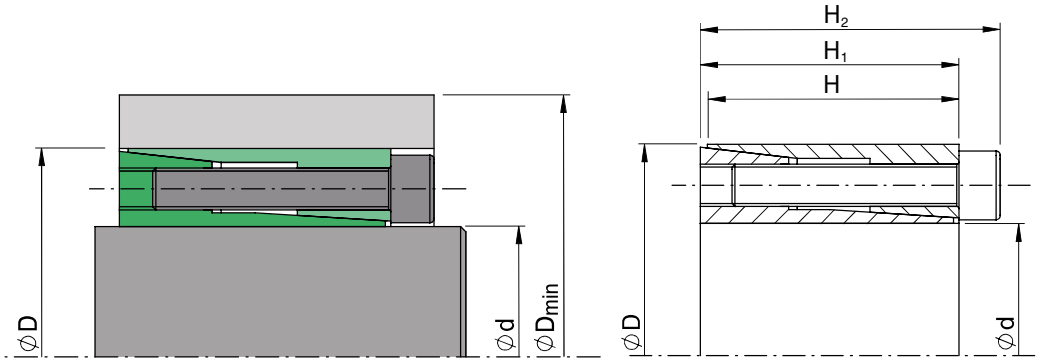
SIT-LOCK® 15 internal locking device - self-centering



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. 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® 15 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® 15 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} +15%

P_w, P_n -13%

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 a hub to shaft axial displacement. The extent of axial displacement depends on the tolerances.

Radial loads

The SIT-LOCK® 15 locking device is suitable for applications subject to medium 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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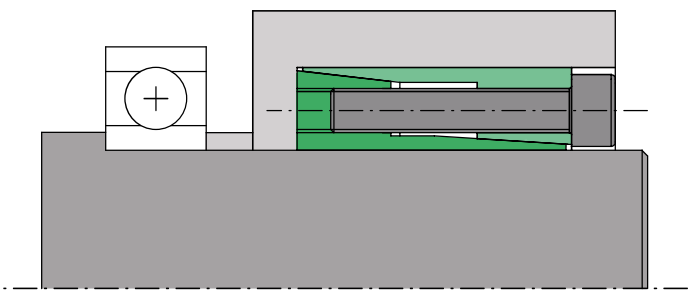
Dimensions [mm]				Clamping screws DIN 912 12.9			Values with tolerances for shaft h8/hub H8			
d x D	H_2	H_1	H	Number	Type	M_S [Nm]	M_t [Nm]	F_{ax} [kN]	P_W [N/mm²]	P_n [N/mm²]
5 x 16	13,5	11	10,5	3	M2,5	1,2	8	3	155	50
6 x 16	13,5	11	10,5	3	M2,5	1,2	9	3	131	50
6,35 x 16	13,5	11	10,5	3	M2,5	1,2	10	3	124	50
7 x 17	13,5	11	10,5	3	M2,5	1,2	11	3	112	45
8 x 18	13,5	11	10,5	3	M2,5	1,2	12	3	98	45
9 x 20	15	13	12,5	4	M2,5	1,2	19	4	98	45
9,53 x 20	15	13	12,5	4	M2,5	1,2	20	4	93	45
10 x 20	15,5	13	12,5	4	M2,5	1,2	21	4	88	45
11 x 22	15,5	13	12,5	4	M2,5	1,2	23	4	80	40
12 x 22	15,5	13	12,5	4	M2,5	1,2	25	4	74	40
14 x 26	20	17	16,5	4	M3	2,1	40	6	66	35
15 x 28	20	17	16,5	4	M3	2,1	43	6	62	35
16 x 32	21	17	16,5	4	M4	4,9	85	11	107	55
17 x 35	25	21	20,5	4	M4	4,9	90	11	80	40
18 x 35	25	21	20,5	4	M4	4,9	95	11	77	40
19 x 35	25	21	20,5	4	M4	4,9	101	11	73	40
20 x 38	26	21	20,5	4	M5	10	173	17	112	60
22 x 40	26	21	20,5	4	M5	10	191	17	102	55
24 x 47	32	26	25	4	M6	17	294	24	105	55
25 x 47	32	26	25	4	M6	17	306	24	104	55
28 x 50	32	26	25	6	M6	17	514	37	140	80
30 x 55	32	26	25	6	M6	17	550	37	130	70
32 x 55	32	26	25	6	M6	17	587	37	122	70
35 x 60	37	31	30	8	M6	17	856	49	120	70
38 x 65	37	31	30	8	M6	17	929	49	110	65
40 x 65	37	31	28	8	M6	17	978	49	105	65
42 x 75	44	36	35	6	M8	41	1.424	68	120	70
45 x 75	44	36	35	6	M8	41	1.525	68	115	70
48 x 80	44	36	35	8	M8	41	2.169	90	145	85
50 x 80	44	36	35	8	M8	41	2.260	90	140	85

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.



Using SIT-LOCK® 15 to lock a hub while axially locking a bearing. For further information, please contact our Technical Department.