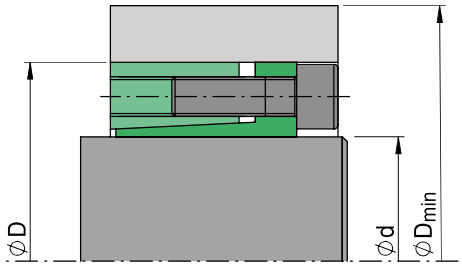
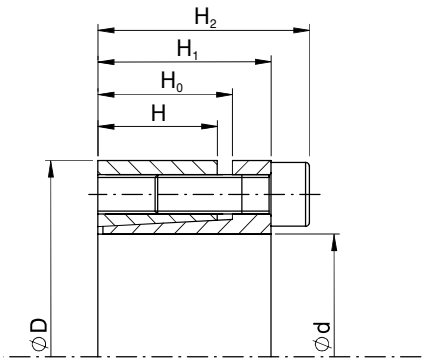
SIT-LOCK® 6 internal locking device - self-centering





Features

Composed of an inner ring and outer ring both with splits. This type of locking device is particularly suitable for applications that require good 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® 6 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® 6 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} +8%

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® 6 locking device is suitable for 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.

SIT-LOCK® 6 internal locking device - self-centering

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	14	331	37	318	120
19 x 47	17	22	28	34	5	M6	14	349	37	302	120
20 x 47	17	22	28	34	5	M6	14	367	37	287	120
22 x 47	17	22	28	34	5	M6	14	404	37	261	120
24 x 50	17	22	28	34	5	M6	14	441	37	239	115
25 x 50	17	22	28	34	6	M6	14	551	44	275	140
28 x 55	17	22	28	34	6	M6	14	617	44	246	125
30 x 55	17	22	28	34	6	M6	14	661	44	229	125
32 x 60	17	22	28	34	8	M6	14	940	59	287	150
35 x 60	17	22	28	34	8	M6	14	1.029	59	262	150
38 x 65	17	22	28	34	8	M6	14	1.117	59	241	140
40 x 65	17	22	28	34	8	M6	14	1.176	59	229	140
42 x 75	20	25	33	41	7	M8	35	2.069	99	311	175
45 x 75	20	25	33	41	7	M8	35	2.216	99	290	175
48 x 80	20	25	33	41	7	M8	35	2.364	99	272	160
50 x 80	20	25	33	41	7	M8	35	2.463	99	260	160
55 x 85	20	25	33	41	8	M8	35	3.096	113	271	175
60 x 90	20	25	33	41	8	M8	35	3.377	113	249	165
65 x 95	20	25	33	41	9	M8	35	4.116	127	258	175
70 x 110	24	30	40	50	8	M10	70	6.181	177	279	175
75 x 115	24	30	40	50	8	M10	70	6.623	177	260	170
80 x 120	24	30	40	50	8	M10	70	7.064	177	244	165
85 x 125	24	30	40	50	9	M10	70	8.444	199	258	175
90 x 130	24	30	40	50	9	M10	70	8.941	199	244	170
95 x 135	24	30	40	50	10	M10	70	10.486	221	257	180
100 x 145	26	32	44	56	8	M12	125	13.142	263	268	185
110 x 155	26	32	44	56	8	M12	125	14.456	263	244	175
120 x 165	26	32	44	56	9	M12	125	17.741	296	251	185
130 x 180	34	40	54	64	12	M12	125	25.626	394	237	170
140 x 190	34	40	54	68	9	M14	190	27.214	389	217	160
150 x 200	34	40	54	68	10	M14	190	32.398	432	225	170
160 x 210	34	40	54	68	11	M14	190	38.013	475	232	175
170 x 225	44	50	64	78	12	M14	190	44.061	518	184	140
180 x 235	44	50	64	78	12	M14	190	46.653	518	174	135
190 x 250	44	50	64	78	15	M14	190	61.556	648	206	155
200 x 260	44	50	64	78	15	M14	190	64.796	648	195	150

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 30% 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.