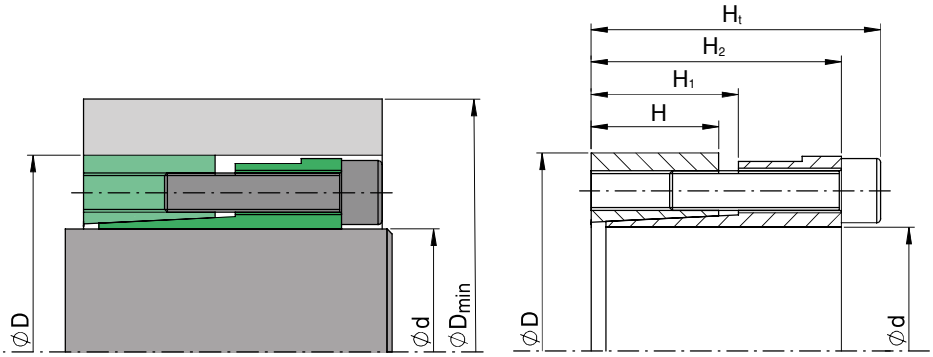
SIT-LOCK® 5A internal locking device - self-centering



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® 5A 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® 5A 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

SIT-LOCK® 5A 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_t	H_2	H_1	H	Number	Type	M_s [Nm]	M_t [Nm]	F_{ax} [kN]	P_w [N/mm²]	P_n [N/mm²]
18 x 47	48	42	29	26	6	M6	17	492	55	310	120
19 x 47	48	42	29	26	6	M6	17	520	55	294	120
20 x 47	48	42	29	26	6	M6	17	547	55	279	120
22 x 47	48	42	29	26	6	M6	17	602	55	254	120
24 x 50	48	42	29	26	6	M6	17	657	55	233	110
25 x 50	48	42	29	26	6	M6	17	684	55	223	110
28 x 55	48	42	29	26	6	M6	17	766	55	199	100
30 x 55	48	42	29	26	6	M6	17	821	55	186	100
32 x 60	48	42	29	26	9	M6	17	1.313	82	262	140
35 x 60	48	42	29	26	9	M6	17	1.436	82	239	140
38 x 65	48	42	29	26	9	M6	17	1.559	82	220	130
40 x 65	48	42	29	26	9	M6	17	1.641	82	209	130
42 x 75	59	51	34	30	6	M8	41	2.123	101	213	120
45 x 75	59	51	34	30	6	M8	41	2.275	101	199	120
48 x 80	59	51	34	30	6	M8	41	2.426	101	186	110
50 x 80	59	51	34	30	6	M8	41	2.527	101	179	110
55 x 85	59	51	34	30	9	M8	41	4.170	152	244	160
60 x 90	59	51	34	30	9	M8	41	4.549	152	223	150
65 x 95	59	51	34	30	9	M8	41	4.928	152	206	140
70 x 110	66	56	45	40	7	M10	83	6.555	187	177	115
75 x 115	66	56	45	40	7	M10	83	7.023	187	166	110
80 x 120	66	56	45	40	7	M10	83	7.491	187	155	105
85 x 125	66	56	45	40	8	M10	83	9.096	214	167	115
90 x 130	66	56	45	40	8	M10	83	9.631	214	158	110
95 x 135	66	56	45	40	10	M10	83	12.708	268	187	130
100 x 145	77	65	52	45	7	M12	145	13.634	273	161	110
110 x 155	77	65	52	45	8	M12	145	17.931	326	175	125
120 x 165	77	65	52	45	10	M12	145	24.450	408	200	145
130 x 180	77	65	52	45	12	M12	145	31.787	489	222	160
140 x 190	88	74	59	50	10	M14	230	39.141	559	212	155
150 x 200	88	74	59	50	12	M14	230	50.325	671	237	180
160 x 210	88	74	59	50	12	M14	230	53.680	671	222	170
170 x 225	88	74	59	50	14	M14	230	66.540	783	244	185
180 x 235	88	74	59	50	14	M14	230	70.455	783	231	175
190 x 250	88	74	59	50	15	M14	230	79.681	839	234	180
200 x 260	88	74	59	50	17	M14	230	95.058	951	252	195

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.