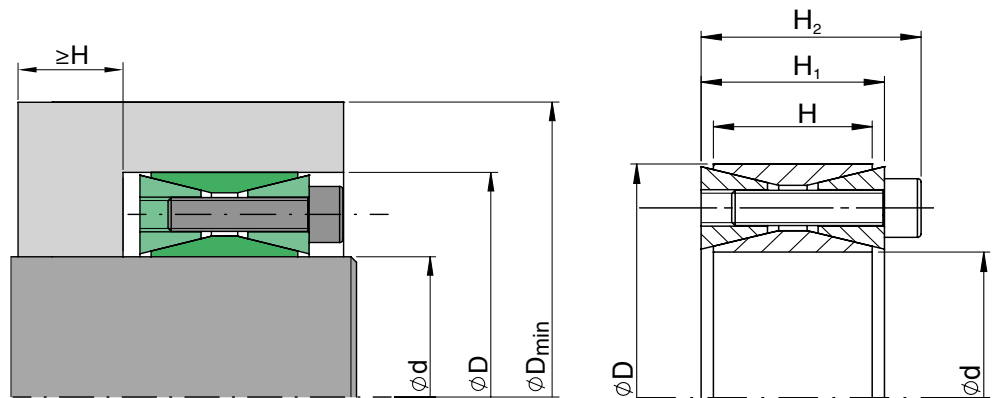


SIT-LOCK® 1 internal locking device - not self-centering



Features

Consisting of two tapered rings with splits, an inner ring and an outer ring, it is particularly suitable for applications that require extensive tolerance. The table shows performance data for the following tolerances:

shaft d h7 - coupling seat on hub H7

shaft d h11 - coupling seat on hub H11

The decrease in performance with h11/H11 tolerances is due to a partial loss of the radial force developed which is required to deform the tapers that are not split.

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® 1 locking device is not self-centering so it requires a centering base between the shaft and hub. Where optimum concentricity is required, a centering base with a width $\geq H$ is recommended.

Installation with non-lubricated surfaces (dry)

The SIT-LOCK® 1 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:

$$M_t, F_{ax} +15\%$$

$$P_w, P_n -8\%$$

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

Axial displacement

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

High radial loads

The SIT-LOCK® 1 locking device is not suitable for high radial loads. The taper angle, which is two times greater than the friction angle ϕ , would develop an additional axial force on the screws, which could lead to them breaking. For these types of applications, please contact our Technical Department.

Surface finish

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

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

Applications with more than one SIT-LOCK® 1 device

Where two or more type 1 locking devices are mounted in a row, the total transmissible torque M_t is:

1 device	$M_t = M_t$ indicated in catalogue
2 devices	$M_t = M_t$ indicated in catalogue $\cdot 1,9$
3 devices	$M_t = M_t$ indicated in catalogue $\cdot 2,7$
4 devices	$M_t = M_t$ indicated in catalogue $\cdot 3,6$

Installation

The locking device is supplied ready to assemble. Clean the hub and 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. If necessary, lightly tap the screws with a hammer.

SIT-LOCK® 1 internal locking device - not self-centering

Dimensions [mm]				Clamping screws DIN 912 12.9			Values with tolerances for shaft h11/hub H11				Values with tolerances for shaft h7/hub H7			
d x D	H	H ₁	H ₂	Number	Type	M _s [Nm]	M _t [Nm]	F _{ax} [kN]	P _w	P _n	M _t [Nm]	F _{ax} [kN]	P _w	P _n
17 x 47	17	20	26	8	M6	17	280	33	301	110	315	37	342	125
18 x 47	17	20	26	8	M6	17	295	33	284	110	335	37	323	125
19 x 47	17	20	26	8	M6	17	310	33	269	110	355	37	306	125
20 x 47	17	20	26	8	M6	17	325	33	255	110	375	37	291	125
22 x 47	17	20	26	8	M6	17	360	33	232	110	410	37	265	125
24 x 50	17	20	26	8	M6	17	395	33	213	100	450	37	243	115
25 x 50	17	20	26	8	M6	17	410	33	204	100	465	37	233	115
28 x 55	17	20	26	10	M6	17	575	41	228	115	655	47	260	130
30 x 55	17	20	26	10	M6	17	615	41	213	115	700	47	243	130
32 x 60	17	20	26	12	M6	17	785	49	239	130	895	56	273	145
35 x 60	17	20	26	12	M6	17	860	49	219	130	980	56	250	145
38 x 65	17	20	26	14	M6	17	1.090	57	235	140	1.240	65	268	155
40 x 65	17	20	26	14	M6	17	1.145	57	224	140	1.305	65	255	155
42 x 75	20	24	32	12	M8	41	1.860	89	280	155	2.170	103	327	185
45 x 75	20	24	32	12	M8	41	1.995	89	261	155	2.325	103	305	185
48 x 80	20	24	32	12	M8	41	2.125	89	245	145	2.480	103	286	170
50 x 80	20	24	32	12	M8	41	2.215	89	235	145	2.585	103	274	170
55 x 85	20	24	32	14	M8	41	2.845	103	249	160	3.320	121	291	190
60 x 90	20	24	32	14	M8	41	3.100	103	229	150	3.620	121	267	180
65 x 95	20	24	32	16	M8	41	3.840	118	241	165	4.480	138	281	195
70 x 110	24	28	38	14	M10	83	5.610	160	253	160	6.705	192	302	195
75 x 115	24	28	38	14	M10	83	6.010	160	236	155	7.185	192	282	185
80 x 120	24	28	38	14	M10	83	6.410	160	221	150	7.665	192	265	175
85 x 125	24	28	38	16	M10	83	7.785	183	238	160	9.305	219	285	195
90 x 130	24	28	38	16	M10	83	8.245	183	225	155	9.850	219	269	185
95 x 135	24	28	38	18	M10	83	9.790	206	240	170	11.700	246	287	200
100 x 145	26	33	45	14	M12	145	11.315	226	231	160	13.945	279	285	195
110 x 155	26	33	45	14	M12	145	12.445	226	210	150	15.340	279	259	185
120 x 165	26	33	45	16	M12	145	15.515	259	220	160	19.125	319	271	195
130 x 180	34	38	50	20	M12	145	21.010	323	194	140	25.900	398	239	175
140 x 190	34	38	50	22	M12	145	24.890	356	198	145	30.680	438	244	180
150 x 200	34	38	50	24	M12	145	29.090	388	202	150	35.860	478	249	185
160 x 210	34	38	50	26	M12	145	33.620	420	205	155	41.440	518	253	190
170 x 225	38	44	58	22	M14	230	40.425	476	195	150	51.120	601	247	185
180 x 235	38	44	58	24	M14	230	46.695	519	201	155	59.045	656	254	195
190 x 250	46	52	66	28	M14	230	57.505	605	184	140	72.715	765	232	175
200 x 260	46	52	66	30	M14	230	64.855	649	187	145	82.010	820	236	180
220 x 285	50	56	72	26	M16	355	84.600	769	185	145	108.660	988	238	185
240 x 305	50	56	72	30	M16	355	106.490	887	196	155	136.775	1.140	252	200
260 x 325	50	56	72	34	M16	355	130.745	1.006	205	165	167.930	1.292	264	210
280 x 355	60	66	84	32	M18	485	157.365	1.124	177	140	204.805	1.463	231	180
300 x 375	60	66	84	36	M18	485	189.685	1.265	186	150	246.865	1.646	243	195
320 x 405	72	78	98	36	M20	690	259.690	1.623	187	150	341.605	2.135	246	194
340 x 425	72	78	98	36	M20	690	275.920	1.623	176	140	362.955	2.135	231	185
360 x 455	84	90	112	36	M22	930	360.740	2.004	176	140	478.385	2.658	233	185
380 x 475	84	90	112	36	M22	930	380.780	2.004	167	135	504.960	2.658	221	175
400 x 495	84	90	112	36	M22	930	400.820	2.004	158	130	531.535	2.658	210	170
420 x 515	84	90	112	40	M22	930	467.625	2.227	167	135	620.125	2.953	222	180
440 x 545	96	102	126	40	M24	1200	557.315	2.533	159	130	750.230	3.410	214	175
460 x 565	96	102	126	40	M24	1200	582.645	2.533	152	125	784.330	3.410	205	165
480 x 585	96	102	126	42	M24	1200	638.380	2.660	153	125	859.355	3.581	206	170
500 x 605	96	102	126	44	M24	1200	696.645	2.787	154	125	937.790	3.751	207	170
520 x 630	96	102	126	45	M24	1200	740.975	2.850	151	125	997.465	3.836	204	170
540 x 650	96	102	126	45	M24	1200	769.475	2.850	146	120	1.035.830	3.836	196	165
560 x 670	96	102	126	48	M24	1200	851.170	3.040	150	125	1.145.805	4.092	202	170
580 x 690	96	102	126	50	M24	1200	918.300	3.167	151	125	1.236.175	4.263	203	170
600 x 710	96	102	126	50	M24	1200	949.965	3.167	146	120	1.278.800	4.263	196	165

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.

Internal - not self-centering