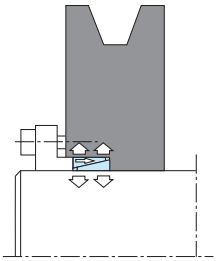
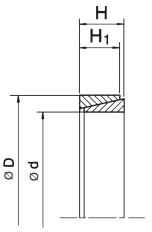
SIT-LOCK® 2 - Not Self-Centering

Locking elements consist of one internal and one external tapered rings. They are designed to work in combination with a clamp flange which can be bolted on a hub or shaft depending on application need. The number of locking screws depends on the torque to be transmitted. SIT-LOCK® 2 requires very small axial installation dimensions. Up to 4 units can be arranged behind each other, allowing high torques to be transmitted.





Note: SIT-LOCK® 2 in slotted execution is available upon request

$$M_T = \frac{(N°screws \cdot P_v) - P_o}{0,54} \cdot 0,12 \cdot \frac{d}{2000}$$

The values of Pv and Ms are stated in the DIN 912 table.

Note:
The values stated in this catalogue are valid for application 1 (see following page).
With applications 2, MT, Fax, pw, pn, are increased by 25%.

Installation

Carefully clean contact surfaces of shaft and hub. Then lightly oil both surfaces with standard mineral oil. Position the SIT-LOCK® on the shaft and into the hub machined bore. Align them as required by the application. Gradually and uniformly tighten the locking screws to the tightening torque (Ms).

You must tighten the screws in diametrically opposite sequence in stages:
- hand tighten the screws until the surfaces are in contact
- carefully check the position of the hub onto the shaft
- tighten the screws to half the value of the tightening torque (Ms) stated in the catalogue
- repeat the operation until the tightening torque is reached, using the dynamometric screw-driver
- check every locking screw to insure it has been tightened to the specific tightening torque

Make sure the clamping flange is not laying on the hub and the distance between flange and hub is equally spaced.

Do not use lubricant like "Molykote" or molybdenum disulfide based oils.

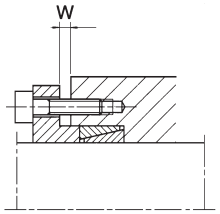
Removal

Gradually loosen opposite clamping screws in stages until the SIT-LOCK® is released. In case it should jam, it is necessary to lightly hammer the hub.

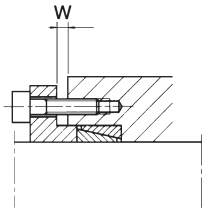
Maximum allowable roughness
Rt 6 µm
Maximum recommended tolerance
shaft h 6 - hub H7 per ∅ ≤ 40
shaft h 8 - hub H8 per ∅ ≥ 42

Calculation of (M_T) with more SIT-LOCK®2	
1 unit	$M_T = M_T$ table
2 units	$M_T = M_T$ table x 1,55
3 units	$M_T = M_T$ table x 1,85
4 units	$M_T = M_T$ table x 2,02

Application 1



Application 2



Dimensions [mm]			Axial force	Total axial force	Performances		"W" - Number of elements arranged in parallel [mm]				Pressure [N/mm^2]	
d x D	H	H_1	P_0 [kN]	P_{tot} [kN]	M_T [Nm]	F_{ax} [kN]	1	2	3	4	P_w	P_n
6 x 9	4,5	3,7	-	4	2,7	0,9	2,5	2,5	3	4	106	71
7 x 10	4,5	3,7	-	5	3,9	1,1	2,5	2,5	3	4	114	80
8 x 11	4,5	3,7	-	6	5,3	1,3	2,5	2,5	3	4	119	87
9 x 12	4,5	3,7	8	15	7,4	1,6	2,5	2,5	3	4	130	98
10 x 13	4,5	3,7	7	16	10,0	2,0	2,5	2,5	3	4	143	110
12 x 15	4,5	3,7	7	16	12,0	2,0	2,5	2,5	3	4	119	96
13 x 16	4,5	3,7	7	16	13,7	2,1	2,5	2,5	3	4	116	95
14 x 18	6,3	5,3	11	26	23,3	3,3	3,5	3,5	4,5	5,5	119	93
15 x 19	6,3	5,3	11	27	27,0	3,6	3,5	3,5	4,5	5,5	120	95
16 x 20	6,3	5,3	10	27	30,2	3,8	3,5	3,5	4,5	5,5	118	95
17 x 21	6,3	5,3	10	27	32,9	3,9	3,5	3,5	4,5	5,5	114	92
18 x 22	6,3	5,3	9	33	47,7	5,3	3,5	3,5	4,5	5,5	147	121
19 x 24	6,3	5,3	13	33	43,3	4,6	3,5	3,5	4,5	5,5	120	95
20 x 25	6,3	5,3	12	33	46,7	4,7	3,5	3,5	4,5	5,5	117	93
22 x 26	6,3	5,3	9	34	61,1	5,6	3,5	3,5	4,5	5,5	126	107
24 x 28	6,3	5,3	8	34	68,3	5,7	3,5	3,5	4,5	5,5	119	102
25 x 30	6,3	5,3	10	37	75,0	6,0	3,5	3,5	4,5	5,5	120	100
28 x 32	6,3	5,3	8	40	101,1	7,2	3,5	3,5	4,5	5,5	129	113
30 x 35	6,3	5,3	9	40	104,7	7,0	3,5	3,5	4,5	5,5	116	100
32 x 36	6,3	5,3	8	44	128,4	8,0	3,5	3,5	4,5	5,5	125	112
35 x 40	7	6	10	54	171,1	9,8	3,5	3,5	4,5	5,5	124	108
36 x 42	7	6	12	57	181,2	10,1	3,5	3,5	4,5	5,5	124	106
38 x 44	7	6	11	60	206,9	10,9	3,5	3,5	4,5	5,5	127	109
40 x 45	8	6,6	14	70	249,3	12,5	3,5	4,5	5,5	6,5	125	111
42 x 48	8	6,6	16	75	277,7	13,2	3,5	4,5	5,5	6,5	127	111
45 x 52	10	8,6	28	110	408,5	18,2	3,5	4,5	5,5	6,5	124	108
48 x 55	10	8,6	25	110	454,9	19,0	3,5	4,5	5,5	6,5	122	106
50 x 57	10	8,6	24	110	480,0	19,2	3,5	4,5	5,5	6,5	118	104
55 x 62	10	8,6	22	120	600,7	21,8	3,5	4,5	5,5	6,5	123	109
56 x 64	12	10,4	30	150	749,8	26,8	3,5	4,5	5,5	7	122	107
60 x 68	12	10,4	28	160	883,3	29,4	3,5	4,5	5,5	7	125	110
63 x 71	12	10,4	27	170	1.004,5	31,9	3,5	4,5	5,5	7	129	115
65 x 73	12	10,4	26	170	1.043,6	32,1	3,5	4,5	5,5	7	126	112
70 x 79	14	12,2	31	210	1.392,2	39,8	3,5	5	6,5	7,5	124	109
71 x 80	14	12,2	31	220	1.491,0	42,0	3,5	5	6,5	7,5	129	114
75 x 84	14	12,2	35	230	1.627,5	43,4	3,5	5	6,5	7,5	126	112
80 x 91	17	15	48	300	2.240,0	56,0	4	6	6,5	8	124	109
85 x 96	17	15	46	320	2.592,5	61,0	4	6	6,5	8	127	112
90 x 101	17	15	44	330	2.864,0	63,6	4	6	6,5	8	125	111
95 x 106	17	15	41	340	3.152,9	66,4	4	6	6,5	8	124	111
100 x 114	21	18,7	61	460	4.433,3	88,7	5	6	7	9	126	110
110 x 124	21	18,7	66	475	4.998,9	90,9	5	6	7	9	117	104
120 x 134	21	18,7	60	475	5.529,3	92,2	5	6	7	9	109	98
130 x 148	28	25,3	96	700	8.720,1	134,2	5	7	9	11	108	95
140 x 158	28	25,3	89	740	10.126,7	144,7	6	7	9	11	108	96
150 x 168	28	25,3	85	790	11.750,0	156,7	6	7	8	11	110	98
160 x 178	28	25,3	79	950	15.491,6	193,6	6	7	9	11	127	114
170 x 191	33	30	117	1.180	20.071,3	236,1	7	9	10	12	123	109
180 x 201	33	30	111	1.200	21.774,0	241,9	7	9	10	12	119	106
190 x 211	33	30	105	1.300	25.227,8	265,6	7	9	10	12	124	111
200 x 224	38	34,8	134	1.600	32.573,3	325,7	7	8	11	13	124	111
220 x 244	38	34,8	142	1.700	37.185,2	344,6	7	9	11	13	124	111
320 x 360	65	59	292	3.492	113.950	710,0	10	15	20	25	321	100

Note: For assemblies of larger dimensions, contact our Technical Department

Design of the screws center distance (l)

a) For applications with screws clamped on the hub:
   l = D + 12 + ∅ screw [mm]
b) For applications with screws clamped on the shaft:
   l = d – 12 – ∅ screw [mm]

Design of the flange thickness (S_f)

a) For applications with screws quality 12,9 (DIN 912):
   S_f = ∅ screw x 1,8 [mm]
b) For applications with screws quality 8,8 (DIN 912):
   S_f = ∅ screw x 1,3 [mm]

Note: flanges are available on request

M_S	Screw tightening torque	Nm
M_T	Transmissible torque moment	Nm
F_{ax}	Transmissible axial load	N
p_w	Shaft pressure	N/mm^2
p_n	Hub pressure	N/mm^2