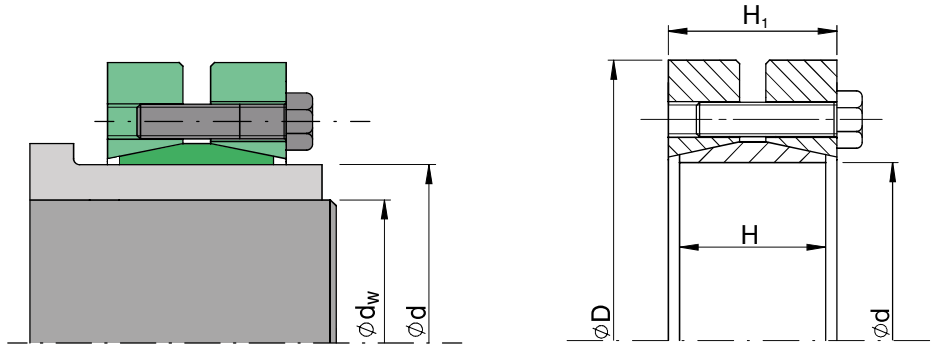


SIT-LOCK® 11 - shrink disc



Features

Composed of a split inner ring and two outer rings without slits. Supplied with DIN 931/933 10.9 screws except for SIT-LOCK® 11S 12.9 which is supplied with DIN 912 12.9 screws.

SIT-LOCK® 11 versions

SIT-LOCK® 11S	standard series (recommended version)
SIT-LOCK® 11S 12.9	(version with DIN 912/933 12.9 screws)
SIT-LOCK® 11H	heavy duty series (for very high torques)
SIT-LOCK® 11L	light series (for low torques)

Coupling tolerances

diameter d h8

diameter d_w tolerances:

from 10 to 30 mm	H6 / j6
from 31 to 50 mm	H6 / h6
from 51 to 80 mm	H6 / g6
from 81 to 1000 mm	H7 / g6

Do not use molybdenum disulphide-based oils or greases on diameter d_w surfaces. The values shown in the table are calculated for diameter surfaces d_w when dry only, not oiled. The diameter d surface can be oiled.

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 bending moment

For applications where there is a bending moment M_f while a torque M_t is also transmitted, check that the $M_{t \text{ tot}}$ value is less than the transmissible torque indicated in the table.

$$M_{t \text{ tot}} = \sqrt{M_t^2 r^2 + 2M_f^2}$$

Applying a bending moment 30% greater than the M_t value indicated in the table is not advised.

Recommended materials for shaft d_w and hub d

The pressure generated on diameter d generates a pressure P_w on the diameter d_w , which allows the transmission of the torque M_t indicated in the table. The pressure generated on the diameter d is distributed over the surface of the diameter d_w at an angle of approximately 16°- 20°. The pressure P_w can be determined using the following formula:

$$P_w = \frac{2 \cdot M_t}{\pi \cdot d_w^2 \cdot H \cdot \mu}$$

Shaft and hub materials with a $\sigma_{0,2} \geq 360 \text{ N/mm}^2$ are recommended. For further information, please contact our Technical Department.

Installation

The SIT-LOCK® 11 locking device is supplied ready to assemble. Clean the d_w shaft contact surfaces thoroughly. Mount the locking device on the hub d and insert the shaft into the bore d_w .

Screw tightening sequence:

- tighten 2 or 4 diametrically opposed screws until the hub surfaces d_w meet;
- gradually tighten the screws until the tightening torque M_s indicated in the table is reached;
- Installation is complete when all screws are tightened to the specified tightening torque M_s .

Removal

Gradually loosen the clamping screws until the locking device is released.

Reusing the locking device

When installing or removing the locking device, check all surfaces for signs of seizing or deformation. Reapply grease to the tapered surfaces of the inner ring and the two tapered bushings, the threads and the clamping screw underheads. Use grease with a coefficient of friction μ of 0.04.

Calculating the permissible axial force

$$F_{ax} = \frac{2 M_t}{d_w}$$

SIT-LOCK® 11S - standard series

Dimensions [mm]					Transmissible torque moment M_t [Nm]	Clamping screws (DIN 931/933 - 10.9)		
d	D	d _w	H	H ₁		N°	Tipo	M _s [Nm]
14	38	11 12	7	11	32 53	4	M5	4
16	41	13 14	11	15	75 96	5	M5	4
24	50	19 20 21	14	19,5	170 210 250	6	M5	4
30	60	24 25 26	16	21,5	300 340 380	7	M5	4
36	72	28 30 31	18	23,5	440 570 630	5	M6	12
44	80	32 35 36	20	25,5	620 780 860	7	M6	12
50	90	38 40 42	22	27,5	940 1.160 1.380	8	M6	12
55	100	42 45 48	23	30,5	1.160 1.520 1.880	8	M6	12
62	110	48 50 52	23	30,5	1.750 2.000 2.250	10	M6	12
68	115	50 55 60	23	30,5	2.000 2.600 3.150	10	M6	12
75	138	55 60 65	25	32,5	2.400 3.200 3.950	7	M8	30
80	145	60 65 70	25	32,5	3.200 3.900 4.600	7	M8	30
85	155	65 70 75	30	39	4.800 6.100 7.400	10	M8	30
90	155	65 70 75	30	39	4.750 6.000 7.250	10	M8	30
95	170	70 75 80	34	44	7.000 7.650 9.150	12	M8	30
100	170	70 75 80	34	44	6.900 7.500 9.000	12	M8	30
110	185	75 80 85	39	50	7.200 9.000 10.800	9	M10	59
115	188	80 85 90	39	50	7.400 9.200 11.100	10	M10	59
120	215	80 85 90	42	54	10.600 13.300 14.500	12	M10	59
125	215	85 90 95	42	54	11.000 13.000 15.000	12	M10	59
130	215	90 95 100	42	54	11.300 13.300 15.400	12	M10	59
140	230	95 100 105	46	60,5	15.100 17.600 20.100	10	M12	100

Follow SIT-LOCK® 11S - standard series

Dimensions [mm]					Transmissible torque moment M_t [Nm]	Clamping screws (DIN 931/933 - 10.9)		
d	D	d_w	H	H_1		Number	Type	M_s [Nm]
155	265	105 110 115	50	64,5	22.000 25.000 28.000	12	M12	100
165	290	115 120 125	56	71	31.000 35.000 39.000	8	M16	250
175	300	125 130 135	56	71	36.000 41.000 45.000	8	M16	250
185	330	135 140 145	71	86	52.000 57.000 62.000	10	M16	250
195	350	140 150 155	71	86	65.000 76.000 81.500	12	M16	250
200	350	150 155 160	71	86	74.000 80.000 86.000	12	M16	250
220	370	160 165 170	88	104	95.000 102.000 110.000	15	M16	250
240	405	170 180 190	92	109	120.000 138.000 156.000	12	M20	490
260	430	190 200 210	103	120	164.000 184.000 205.000	14	M20	490
280	460	210 220 230	114	134	217.000 244.000 270.000	16	M20	490
300	485	230 240 245	122	142	275.000 295.000 315.000	18	M20	490
320	520	240 250 260	122	142	312.000 340.000 374.000	20	M20	490
340	570	250 260 270	134	156	390.000 422.500 460.000	24	M20	490
350	580	270 280 285	140	162	442.000 480.000 500.000	24	M20	490
360	590	280 290 295	140	162	463.000 502.000 522.000	24	M20	490
380	645	290 300 310	144	168	567.000 610.000 658.000	20	M24	840
390	660	300 310 320	144	168	624.000 671.000 718.000	21	M24	840
400	680	315 320 330	144	168	670.000 695.000 744.000	21	M24	840
420	690	330 340 350	164	188	780.000 840.000 900.000	24	M24	840
440	750	340 350 360	177	202	806.000 860.000 917.000	24	M24	840
460	770	360 370 380	177	202	1.000.000 1.070.000 1.140.000	28	M24	840
480	800	380 390 400	188	213	1.170.000 1.240.000 1.310.000	30	M24	840

SIT-LOCK® 11S 12.9 - version with DIN 912/933 12.9 screws

Dimensions [mm]					Transmissible torque moment	Clamping screws (DIN 912/931/933 - 12.9)		
d	D	d _w	H	H ₁	M _t [Nm]	Number	Type	M _s [Nm]
24	50	19 20 21	14	19,5	245 285 325	6	M5	4
30	60	24 25 26	16	21,5	375 415 465	7	M5	4
36	72	28 30 31	18	23,5	910 1.000 1.100	5	M6	14
44	80	32 35 36	20	25,5	1.250 1.600 1.680	7	M6	14
50	90	38 40 42	22	27,5	1.830 2.070 2.350	8	M6	14
55	100	42 45 48	23	30,5	2.020 2.400 2.850	8	M6	14
62	110	48 50 52	23	30,5	3.030 3.190 3.540	10	M6	14
68	115	50 55 60	23	30,5	2.700 3.500 4.420	10	M6	14
75	138	55 60 65	25	32,5	4.100 5.120 6.290	7	M8	35
80	145	60 65 70	25	32,5	4.620 5.690 6.870	7	M8	35
90	155	65 70 75	30	39	6.950 8.350 9.890	10	M8	35
100	170	70 75 80	34	44	8.630 10.250 12.000	12	M8	35
110	185	75 80 85	39	50	11.060 12.940 14.300	9	M10	72
125	215	85 90 95	42	54	16.200 18.700 21.450	12	M10	72
140	230	95 100 105	46	60,5	22.400 25.420 28.680	10	M12	120
155	265	105 110 115	50	64,5	30.120 33.750 37.550	12	M12	120
165	290	115 120 125	56	71	44.500 48.450 53.450	8	M16	300
175	300	125 130 135	56	71	49.200 54.100 59.200	8	M16	300
185	330	135 140 145	71	86	68.300 74.600 81.150	10	M16	300
195	350	140 150 155	71	86	86.650 100.200 107.100	12	M16	300
200	350	150 155 160	71	86	95.750 102.550 109.500	12	M16	300

Follow SIT-LOCK® 11S 12.9 - version with DIN 912/933 12.9 screws

Dimensions [mm]					Transmissible torque moment	Clamping screws (DIN 912/931/933 - 12.9)		
d	D	d _w	H	H ₁	M _t [Nm]	Number	Type	M _s [Nm]
220	370	160 165 170	88	104	124.400 134.500 144.980	15	M16	300
240	405	170 180 190	92	109	157.200 177.200 200.850	12	M20	580
260	430	190 200 210	103	120	211.650 238.300 266.600	14	M20	580
280	460	210 220 230	114	134	278.800 303.800 329.100	16	M20	580
300	485	230 240 245	122	142	349.800 378.000 394.500	18	M20	580
320	520	240 250 260	122	142	404.500 430.900 463.300	20	M20	580
340	570	250 260 270	134	156	499.600 537.300 575.650	24	M20	580
350	580	270 280 285	140	162	550.900 589.400 612.800	24	M20	580
360	590	280 290 295	140	162	573.200 612.000 635.700	24	M20	580
380	645	290 300 310	144	168	715.000 760.800 807.200	20	M24	1000
390	660	300 310 320	144	168	782.100 830.200 874.000	21	M24	1000
400	680	315 320 330	144	168	829.000 853.000 903.000	21	M24	1000
420	690	330 340 350	164	188	987.000 1.043.200 1.100.700	24	M24	1000
440	750	340 350 360	177	202	1.002.800 1.060.400 1.119.000	24	M24	1000
460	770	360 370 380	177	202	1.261.000 1.328.000 1.395.300	28	M24	1000
480	800	380 390 400	188	213	1.434.000 1.506.300 1.580.000	30	M24	1000

SIT-LOCK® 11H - heavy duty series

Dimensions [mm]					Transmissible torque moment M_t [Nm]	Clamping screws (DIN 931/933 - 10.9)		
d	D	d _w	H	H ₁		Number	Type	M _s [Nm]
125	215	85 90 95	55	65	15.000 17.500 20.000	10	M12	100
140	230	95 100 105	60	74	20.600 23.500 26.500	12	M12	100
155	265	105 110 115	66	80	28.600 32.500 36.400	15	M12	100
165	290	115 120 125	72	88	41.000 46.000 50.700	10	M16	250
175	300	125 130 135	72	88	47.000 52.000 57.000	10	M16	250
185	330	135 140 145	92	112	72.000 78.000 86.000	14	M16	250
195	350	140 150 155	92	112	75.000 88.000 96.000	14	M16	250
200	350	145 150 155	92	112	85.000 92.500 100.000	15	M16	250
220	370	160 165 170	114	134	127.000 136.000 146.500	20	M16	250
240	405	170 180 190	120	144	155.000 176.000 198.000	15	M20	490
260	430	190 200 210	136	160	213.000 240.000 268.000	18	M20	490
280	460	210 220 230	148	172	285.000 320.000 355.000	21	M20	490
300	485	230 240 245	152	176	341.000 376.000 394.000	22	M20	490
320	520	240 250 260	160	184	378.500 415.000 451.000	24	M20	490
340	570	250 260 270	176	200	489.500 530.000 578.000	21	M24	840
350	580	270 280 285	176	200	556.000 604.000 629.000	21	M24	840
360	590	280 290 295	180	204	612.000 663.000 689.000	22	M24	840
380	645	290 300 310	180	204	618.000 668.000 719.000	22	M24	840
390	660	300 310 320	188	212	708.000 762.000 814.500	24	M24	840
400	680	315 320 330	188	212	765.000 788.000 845.000	24	M24	840
420	690	330 340 350	214	238	999.000 1.068.000 1.140.000	30	M24	840
440	750	340 350 360	224	252	1.058.000 1.130.000 1.204.000	24	M27	1.250
460	770	360 370 380	224	252	1.320.000 1.420.000 1.500.000	28	M27	1.250

SIT-LOCK® 11L - light series

Dimensions [mm]					Transmissible torque moment	Clamping screws (DIN 931/933 - 10.9)		
d	D	d _w	H	H ₁	M _t [Nm]	Number	Type	M _s [Nm]
125	185	95 100 105	39	51	10.550 12.100 13.800	8	M10	59
140	220	110 120 125	39	51	14.800 18.640 20.500	9	M10	59
155	245	130 135 140	39	51	24.000 26.400 29.000	11	M10	59
165	260	135 140 145	46	62	32.000 35.200 38.500	10	M12	100
175	275	145 150 155	46	62	39.000 42.400 46.000	11	M12	100
185	295	155 160 165	46	62	46.600 50.300 54.000	12	M12	100
195	315	165 170 175	56	72	63.000 67.700 72.500	15	M12	100
200	330	175 180 185	56	72	74.000 79.500 84.500	16	M12	100
220	345	180 190 200	66	84	82.800 93.500 105.000	10	M16	250
240	370	200 210 215	66	84	113.000 127.500 134.500	12	M16	250
260	395	220 230 235	72	92	149.000 165.000 173.000	14	M16	250
280	425	230 240 250	84	104	171.000 189.000 208.000	16	M16	250
300	460	250 260 270	84	104	215.000 234.000 255.000	18	M16	250
320	495	270 280 290	84	106	260.000 284.000 306.000	20	M16	250
340	535	290 300 305	84	106	300.000 324.400 337.000	21	M16	250
350	545	300 305 310	100	122	372.000 385.000 400.000	16	M20	490
360	555	300 310 320	100	122	360.000 388.000 415.000	16	M20	490
380	585	320 325 330	112	136	435.000 451.000 467.000	18	M20	490
390	595	330 340 350	112	136	505.000 540.000 577.000	20	M20	490
400	615	340 350 360	112	136	550.000 587.000 626.000	21	M20	490
420	630	350 360 370	120	144	578.000 617.000 655.000	22	M20	490
440	660	370 380 390	120	144	677.000 719.000 762.000	24	M20	490
460	685	390 400 410	132	158	840.000 890.000 935.000	28	M20	490