

Shrink Discs RLK 603

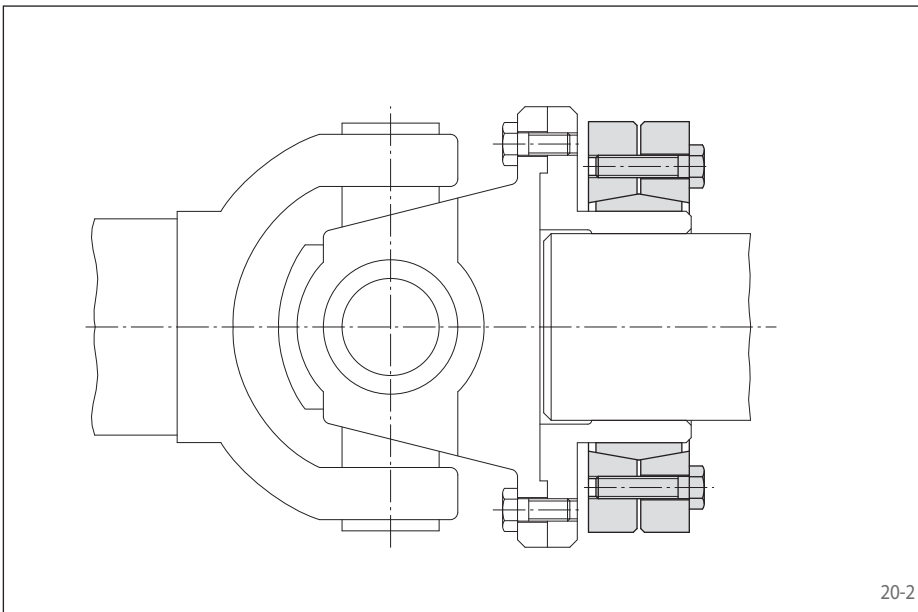
three-part design
high transmissible torques



20-1

Features

- High transmissible torques
- Tightening of clamping screws with a torque wrench
- Easy disassembly without jacking screws
- Centres the hollow shaft or hub to the shaft
- For hollow shafts or hubs with outer diameters of 14 mm up to 500 mm



20-2

Application example

Backlash free connection of a cardan shaft flange to a machine shaft with a Shrink Disc RLK 603. The backlash free connection reduces the risk of fretting corrosion. As a result, the connection can be easily disassembled even after long periods of operation.

Transmissible torques and axial forces

The transmissible torques or axial forces listed on the following three pages are subject to the following tolerances, surface characteristics and material requirement. Please contact us in the case of deviations.

Tolerances

d_w		Hollow shaft bore ISO	Shaft ISO	Joint clearance	
> mm	≤ mm			min. mm	max. mm
6	10	H6	j6	-0,007	0,011
10	18			-0,008	0,014
18	30			-0,009	0,017
30	50	H6	h6	0	0,032
50	80	H6	g6	0,029	0,048
80	120	H7	g6	0,012	0,069
120	180			0,014	0,079
180	250			0,015	0,090
250	315			0,017	0,101
315	360			0,018	0,111

Other fits may be selected, provided the joint clearance between the shaft and the hollow shaft remains within the indicated ranges.

Surfaces

Average surface roughness at the contact surfaces between the shaft and the hollow shaft $R_z = 10 \dots 25 \mu\text{m}$.

Materials

The following apply to the shaft and the hollow shaft:

- Yield strength $R_e \geq 340 \text{ N/mm}^2$
- E-module ca. 206 kN/mm^2

Installation

Please request our installation and operating instructions for Shrink Discs RLK 603.

Simultaneous transmission of torque and axial force

The transmissible torques M which are shown in the tables apply for axial forces $F = 0 \text{ kN}$ and conversely, the indicated axial forces F apply to torques $M = 0 \text{ Nm}$. If torque and axial force are to be transmitted simultaneously, the transmissible torque and the transmissible axial force are reduced. Please refer to the technical points on page 27.

Example for ordering

Shrink Disc RLK 603 for hollow shaft with an outer diameter $d = 100 \text{ mm}$:

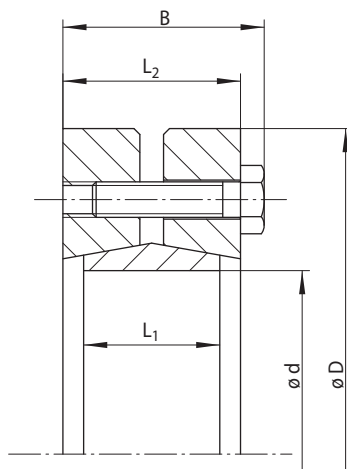
- RLK 603-100
Article number 4200-100301-000000

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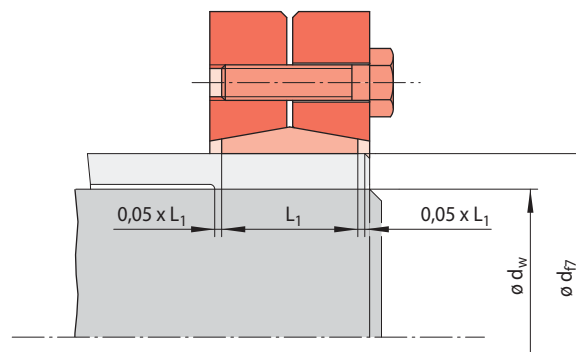
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Shrink Disc released

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Shrink Disc clamped

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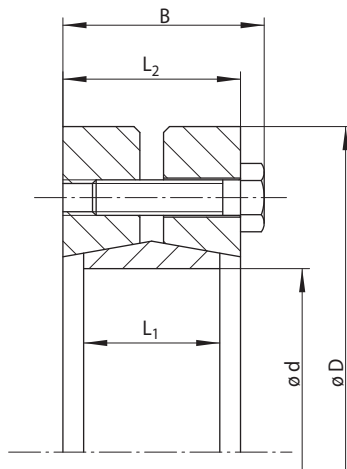
Dimensions						Technical Data							Article number
Size d mm	D mm	B mm	L ₁ mm	L ₂ mm	d _w * mm	Transmissible torque or axial force		Clamping screws				Weight	
						M Nm	F kN	Tightening torque M _S Nm	Number	Size	Length mm	kg	
14	38	15	9	11	10	25	5	4	4	M 5	10	0,1	4200-014301-000000
					11	35	6						
					12	50	8						
16	41	19	11	15	12	50	8	4	5	M 5	14	0,1	4200-016301-000000
					13	70	10						
					14	90	12						
20	50	23	14	19	15	130	17	4	6	M 5	18	0,2	4200-020301-000000
					16	150	18						
					18	200	22						
24	50	23	14	19	19	180	18	4	6	M 5	18	0,2	4200-024301-000000
					20	210	21						
					21	250	23						
30	60	25	16	21	24	310	25	6	6	M 5	18	0,3	4200-030301-000000
					25	340	27						
					26	380	29						
36	72	27	18	23	28	460	32	12	5	M 6	20	0,5	4200-036301-000000
					30	590	39						
					31	630	40						
44	80	29	20	25	32	630	39	12	7	M 6	22	0,6	4200-044301-A01000
					35	780	44						
					36	860	47						
50	90	31	22	27	38	940	49	12	8	M 6	22	0,8	4200-050301-A01001
					40	1100	55						
					42	1300	61						
55	100	34	23	30	42	1200	57	12	8	M 6	25	1,1	4200-055301-000000
					45	1500	66						
					48	1900	79						
62	110	34	23	30	48	1800	75	12	10	M 6	25	1,3	4200-062301-000000
					50	2200	88						
					52	2400	92						
68	115	34	23	30	50	2000	80	12	10	M 6	25	1,4	4200-068301-000000
					55	2500	90						
					60	3100	100						
75	138	37	25	32	55	2500	90	30	7	M 8	30	2,3	4200-075301-000000
					60	3200	100						
					65	3900	120						
80	145	37	25	32	60	3200	100	30	7	M 8	30	2,5	4200-080301-000000
					65	3900	120						
					70	4600	130						
90	155	44	30	39	65	4700	140	30	10	M 8	25	3,3	4200-090301-000000
					70	6000	170						
					75	7200	190						
100	170	49	34	44	70	6300	180	30	12	M 8	35	4,4	4200-100301-000000
					75	7500	200						
					80	9000	220						
110	185	56	39	50	75	7200	190	59	9	M 10	40	6,0	4200-110301-000000
					80	9000	220						
					85	10400	240						

* The shaft diameters d_w listed in the table are selected examples. For other shaft diameters d_w see the technical specifications on page 27.

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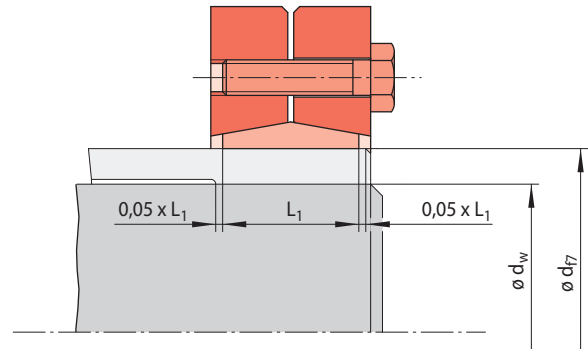
three-part design
high transmissible torques

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Shrink Disc clamped

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Dimensions						Technical Data							Article number
Size d mm	D mm	B mm	L ₁ mm	L ₂ mm	d _w * mm	Transmissible torque or axial force		Clamping screws				Weight	
						M Nm	F kN	Tightening torque M _S Nm	Number	Size	Length mm	kg	
115	185	56	39	50	80	8 500	210	59	9	M 10	40	6,0	4200-115301-000000
					85	9 300	210						
					90	11 300	250						
120	215	58	42	52	80	10 500	260	59	12	M 10	40	9,0	4200-120301-000000
					85	12 100	280						
					90	14 400	320						
125	215	58	42	52	85	11 000	250	59	12	M 10	40	8,7	4200-125301-000000
					90	13 000	280						
					95	15 000	310						
130	215	58	42	52	90	12 000	260	59	12	M 10	40	8,3	4200-130301-000000
					95	14 400	300						
					100	17 000	340						
140	230	68	46	60	95	14 900	310	100	10	M 12	45	10,7	4200-140301-000000
					100	17 000	340						
					105	20 000	380						
155	265	72	50	64	105	20 000	380	100	12	M 12	50	16,0	4200-155301-000000
					110	23 000	410						
					115	26 000	450						
160	265	72	50	64	110	21 900	390	100	12	M 12	50	15,4	4200-160301-000000
					115	25 200	430						
					120	28 600	470						
165	290	81	56	71	115	31 500	540	250	8	M 16	60	21,7	4200-165301-000000
					120	35 600	590						
					125	39 000	620						
170	290	81	56	71	120	31 700	520	250	8	M 16	60	21,1	4200-170301-000000
					125	35 800	570						
					130	40 000	610						
175	300	81	56	71	125	34 500	550	250	8	M 16	60	22,7	4200-175301-000000
					130	38 900	590						
					135	43 400	640						
180	300	81	56	71	130	36 700	560	250	8	M 16	60	22,0	4200-180301-000000
					135	41 100	600						
					140	45 700	650						
185	330	96	71	86	135	49 200	720	250	10	M 16	65	35,0	4200-185301-000000
					140	54 600	780						
					145	60 400	830						
190	330	96	71	86	140	51 900	740	250	10	M 16	65	34,1	4200-190301-000000
					145	57 400	790						
					150	63 200	840						
195	350	96	71	86	140	61 600	880	250	12	M 16	65	39,6	4200-195301-000000
					150	74 500	990						
					155	81 300	1 040						
200	350	96	71	86	150	71 200	940	250	12	M 16	65	38,7	4200-200301-000000
					155	77 900	1 000						
					160	84 700	1 050						
220	370	114	88	104	160	90 700	1 130	250	15	M 16	80	50,0	4200-220301-000000
					165	98 600	1 190						
					170	106 000	1 240						

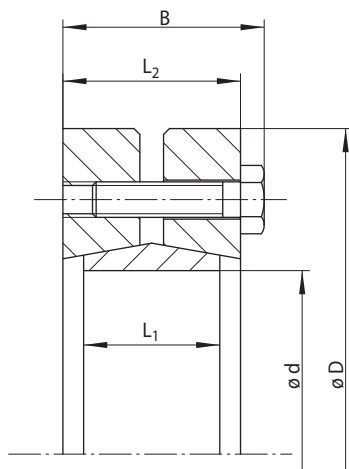
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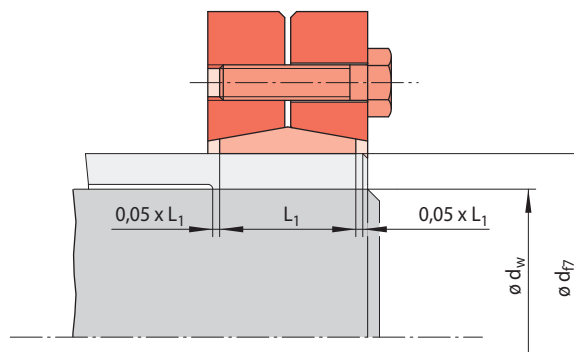
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Shrink Disc clamped

23-2

Dimensions						Technical Data							Article number
Size d mm	D mm	B mm	L ₁ mm	L ₂ mm	d _w * mm	Transmissible torque or axial force		Clamping screws				Weight	
						M Nm	F kN	Tightening torque M _s Nm	Number	Size	Length mm	kg	
240	405	121	92	108	170	119 000	1 400	490	12	M 20	80	62,0	4200-240301-000000
					180	138 000	1 530						
					190	156 000	1 640						
260	430	133	103	120	190	161 000	1 690	490	14	M 20	90	77,0	4200-260301-000000
					200	184 000	1 840						
					210	204 000	1 940						
280	460	147	114	134	210	213 000	2 020	490	16	M 20	100	97,0	4200-280301-000000
					220	240 000	2 180						
					230	269 000	2 330						
300	485	155	122	142	230	274 000	2 380	490	18	M 20	100	116,0	4200-300301-000000
					240	296 000	2 460						
					245	316 000	2 570						
320	520	155	122	142	240	310 000	2 580	490	20	M 20	100	133,0	4200-320301-000000
					250	340 000	2 720						
					260	373 000	2 860						
340	570	169	134	156	250	381 000	3 040	490	24	M 20	110	183,0	4200-340301-000000
					260	412 000	3 160						
					270	453 000	3 350						
360	590	175	140	162	280	453 000	3 230	490	24	M 20	110	186,0	4200-360301-000000
					290	495 000	3 410						
					295	517 000	3 500						
380	645	183	144	168	290	570 000	3 900	840	20	M 24	120	239,0	4200-380301-000000
					300	610 000	4 070						
					310	660 000	4 260						
390	660	183	144	168	300	625 000	4 170	840	21	M 24	120	260,0	4200-390301-000000
					310	670 000	4 325						
					320	720 000	4 500						
400	680	183	144	168	315	671 000	4 270	840	21	M 24	120	280,0	4200-400301-000000
					320	695 000	4 340						
					330	745 000	4 500						
420	690	203	164	188	330	782 000	4 460	840	24	M 24	130	316,0	4200-420301-000000
					340	841 000	5 000						
					350	902 000	5 200						
440	750	217	177	202	340	805 000	4 760	840	24	M 24	140	408,0	4200-440301-000000
					350	861 000	4 930						
					360	920 000	5 120						
460	770	217	177	202	360	1 000 000	5 560	840	28	M 24	140	420,0	4200-460301-000000
					370	1 073 000	5 820						
					380	1 141 000	6 020						
480	800	228	188	213	380	1 175 000	6 200	840	30	M 24	140	505,0	4200-480301-000000
					390	1 250 000	6 450						
					400	1 312 000	6 580						
500	850	230	188	213	400	1 314 000	6 570	1 250	24	M 27	150	575,0	4200-500301-000000
					410	1 382 000	6 740						
					420	1 460 000	7 000						

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