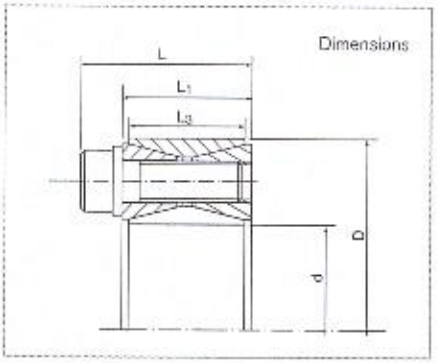
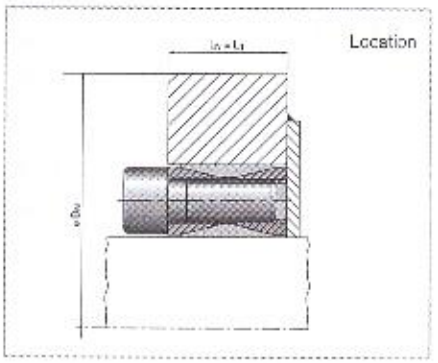
Locking Assemblies Bending Loads

RINGFEDER® RfN 7012

Extreme loads in belt drums

self-centering | **without axial displacement** | with low surface pressure





Locking Assembly dimensions						Locking screws																	
d	x	D	L	L_1	L_3	n_{Sc}	D_G	T_{Ared}	T		F_{ax}	p_W	p_N	$M_b$max	p_{Wmax} at $M_b$max	p_{Nmax} at $M_b$max	p_{Wmin} at $M_b$max	p_{Nmin} at $M_b$max	T_{res} at $M_b$max	F_{ax} at $M_b$max	$D_{N\,min}$ at $R_{P0,2}$ 250 [N/mm²]	350 [N/mm²]	450 [N/mm²]	Gw
mm			mm					Nm	Nm			N/mm²		Nm	N/mm²				Nm	kN	mm			kg
100	x	145	47	33	25	14	M12 x 30	125	9591		192	195	135	7210	331	228	60	41	6325	126	—	317	255	2,01
110	x	155	47	33	25	14	M12 x 30	125	10488		191	177	126	7840	311	221	43	30	6865	127	—	326	266	2,15
120	x	165	47	33	25	15	M12 x 30	125	13004		217	184	134	8960	325	236	44	32	9425	157	—	375	296	2,35
130	x	180	52	38	34	20	M12 x 35	125	17522		270	162	117	11310	285	206	38	28	13383	206	—	355	296	3,51
140	x	190	52	38	34	22	M12 x 35	125	20651		295	154	121	10160	256	197	61	45	17981	257	—	360	325	3,85
150	x	200	52	38	34	24	M12 x 35	125	24046		321	157	125	9020	252	189	81	61	22280	297	—	367	374	4,07
160	x	210	52	38	34	26	M12 x 35	125	27574		346	159	129	7870	239	182	99	75	26532	332	—	374	323	4,3
170	x	225	60	44	38	22	M14 x 40	199	32486		382	157	119	21570	291	220	22	17	24292	285	—	473	385	5,78
180	x	235	60	44	38	24	M14 x 40	199	37391		415	161	123	18960	273	209	49	38	32227	358	—	469	390	6,05
190	x	250	68	52	46	28	M14 x 45	199	45890		483	147	111	24070	242	184	51	39	39071	411	—	449	387	8,25
200	x	260	68	52	46	30	M14 x 45	199	51590		516	149	114	21150	228	176	69	53	47055	471	623	453	394	8,55
220	x	285	74	56	50	26	M16 x 50	295	66374		603	145	112	32670	242	187	49	38	57777	525	—	518	444	11,22
240	x	305	74	56	50	30	M16 x 50	295	83094		692	153	120	29930	208	164	98	77	80566	671	669	509	448	12,2
260	x	325	74	56	50	34	M16 x 60	295	101512		781	159	127	16810	201	161	117	94	100111	770	700	539	474	13,2
280	x	355	86,5	66	60	32	M18 x 60	405	124233		887	140	111	38440	204	161	76	60	118136	844	764	585	517	19,2
300	x	375	86,5	66	60	36	M18 x 60	405	149101		994	146	117	24820	165	148	108	86	147020	980	742	590	529	20,5
320	x	405	100,5	78	72	36	M20 x 70	560	207104		1294	149	118	37220	188	148	110	87	203732	1273	803	638	571	29,6
340	x	425	100,5	78	72	36	M20 x 70	560	219216		1290	140	112	57920	196	157	83	66	211426	1244	861	690	613	31,1
360	x	455	116	90	84	30	M22 x 80	760	282418		1569	138	109	74630	189	150	86	68	272379	1513	910	720	644	42,2
380	x	475	116	90	84	36	M22 x 80	760	297102		1564	130	104	67000	187	150	73	58	284078	1496	949	751	672	44
400	x	495	116	90	84	36	M22 x 80	760	311738		1559	123	99	159460	217	175	29	23	273024	1366	1183	860	748	46
420	x	515	116	90	84	40	M22 x 80	760	366587		1727	130	106	93580	186	151	74	60	350308	1668	1039	819	732	50
440	x	545	130	102	96	40	M24 x 90	1000	442835		2013	125	102	113140	176	142	75	62	428139	1946	1041	840	757	64,6
460	x	565	130	102	96	40	M24 x 90	1000	461682		2007	121	98	177330	195	159	46	37	426286	1853	1200	924	819	67,4
480	x	585	130	102	96	42	M24 x 90	1000	504497		2102	121	98	168140	189	155	53	43	475653	1982	1229	943	830	71
500	x	605	130	102	96	44	M24 x 90	1000	549139		2197	121	100	158960	183	151	60	49	525529	2103	1221	952	859	72,6
520	x	630	130	102	96	46	M24 x 90	1000	592595		2241	119	98	164480	192	158	46	38	548239	2112	1239	1017	911	81

Locking Assemblies Bending Loads RINGFEDER® RfN 7012

Locking Assembly dimensions						Locking screws																	
d	x	D	L	L_1	L_3	n_{SC}	D_G	T_{Ared}	T	F_{ax}	p_W	p_N	$M_b$max	p_{Wmax} at $M_b$max	p_{Nmax} at $M_b$max	p_{Wmin} at $M_b$max	p_{Nmin} at $M_b$max	T_{res} at $M_b$max	F_{ax} at $M_b$max	$D_{N\,min}$ at $R_{p0,2}$ 250	350	450	Gw
mm			mm					Nm	Nm		N/mm²		Nm	N/mm²				Nm	kN	[N/mm²]			kg
540	x	650	130	102	96	45	M24 x 90	1000	603639	2235	114	96	258670	207	172	21	18	545408	2020	1516	1115	878	82
560	x	670	130	102	96	46	M24 x 90	1000	666213	2379	117	98	272600	191	160	48	36	531313	2255	1429	1095	972	85
580	x	690	130	102	96	50	M24 x 90	1000	717182	2473	118	99	283610	186	156	50	42	607672	2371	1436	1117	992	88
600	x	710	130	102	96	50	M24 x 90	1000	740342	2468	114	96	257800	200	169	27	23	690210	2301	1619	1264	1055	91
620	x	730	130	102	96	52	M24 x 90	1000	793092	2551	114	97	258610	195	165	33	28	760986	2422	1622	1222	1073	93
640	x	750	130	102	96	54	M24 x 90	1000	843441	2555	115	98	249429	190	162	39	33	811994	2537	1628	1240	1095	96
660	x	770	130	102	96	56	M24 x 90	1000	906684	2748	115	99	240240	186	159	44	38	874277	2649	1635	1259	1115	99
680	x	790	130	102	96	56	M24 x 90	1000	932418	2742	111	96	304429	198	171	25	21	881324	2592	1621	1247	1179	102
700	x	810	130	102	96	60	M24 x 90	1000	1026547	2933	116	100	227870	177	153	54	47	1002277	2854	1654	1256	1186	104
720	x	830	130	102	96	60	M24 x 90	1000	1054013	2928	112	97	256060	189	164	35	31	1014455	2818	1827	1383	1213	107
740	x	850	130	102	96	62	M24 x 90	1000	1117485	3020	113	98	276870	185	161	40	36	1082644	2926	1833	1401	1236	110
760	x	870	130	102	96	64	M24 x 90	1000	1182737	3112	113	99	267660	182	159	45	39	1152048	3032	1840	1419	1258	113
780	x	890	130	102	96	65	M24 x 90	1000	1230529	3156	112	98	295180	185	162	38	34	1194909	3061	1931	1472	1300	116
800	x	910	130	102	96	66	M24 x 90	1000	1279783	3199	111	97	322680	189	166	32	28	1238436	3089	2026	1525	1341	118
820	x	930	130	102	96	68	M24 x 90	1000	1349444	3291	111	98	313500	185	163	37	32	1312524	3201	2030	1543	1361	121
840	x	950	130	102	96	70	M24 x 90	1000	1420874	3383	111	98	304310	182	161	41	36	1387904	3305	2037	1561	1381	124
860	x	970	130	102	96	72	M24 x 90	1000	1494068	3475	112	99	295130	178	158	45	40	1464629	3406	2044	1579	1401	127
880	x	990	130	102	96	74	M24 x 90	1000	1568026	3565	112	100	285940	175	156	49	43	1542750	3506	2053	1598	1421	129
900	x	1010	130	102	96	75	M24 x 90	1000	1624087	3609	111	99	313440	178	159	43	38	1593554	3541	2142	1650	1462	132
920	x	1030	130	102	96	76	M24 x 90	1000	1683004	3662	110	98	340940	182	162	38	34	1645045	3576	2233	1702	1503	135
940	x	1050	130	102	96	78	M24 x 90	1000	1758331	3743	110	99	331750	179	160	42	37	1727770	3576	2240	1720	1523	138
960	x	1070	130	102	96	80	M24 x 90	1000	1840411	3834	110	99	322570	176	158	45	40	1811522	3775	2247	1739	1543	140
980	x	1090	130	102	96	81	M24 x 90	1000	1893788	3877	109	98	350070	179	161	40	36	1867256	3811	2337	1791	1534	143
1000	x	1110	130	102	96	82	M24 x 90	1000	1960015	3920	108	98	377570	182	164	35	32	1923036	3847	2430	1841	1525	146

More sizes on request

To continue see next page

Locking Assemblies Bending Loads RINGFEDER® RfN 7012

Explanations

d	= Inner diameter	p_W	= Surface pressure on shaft at given T_A	T_{res} at M_bmax	= Remaining transmissible torque at indicated Mbmax and specified torque
D	= Outer diameter	p_N	= Surface pressure on hub at given T_A	F_{ax} at M_bmax	= Transmissible axial force at max. bending moment
L	= Overall length	M_bmax	= Max. bending moment under the specified T_A	$D_{N\ min}$ at $Rp_{0,2}$	= Min. hub outer diameter depending of the given hub yield point $Rp_{0,2}$ and part of bending moment
L_1	= Overall length (without screws)	p_{Wmax} at M_bmax	= Max. surface pressure on shaft at max. bending moment	Gw	= Weight
L_g	= Width of ring	p_{Nmax} at M_bmax	= Max. surface pressure on hub at max. bending moment		
n_{Sc}	= Quantity of screws	p_{Wmin} at M_bmax	= Min. surface pressure on shaft at max. bending moment		
D_G	= Thread	p_{Nmin} at M_bmax	= Min. surface pressure on hub at max. bending moment		
T_{Ared}	= Reduced tightened torque of the screws under bending load				
T	= Transmissible torque at given T_A				
F_{ax}	= Transmissible axial force				

Ordering example

Locking Assembly	d	D
RfN 7012	160	210

Further information on
RINGFEDER® RfN 7012
on **www.ringfeder.com**

Technical Information

- Surface finishes: Shaft and hub bores $R_a \leq 3{,}2$ µm
- Tolerances: Shaft: h9 - Hub: H9

Remark: The Values of the shaft- and hub pressures have been calculated with the screw tightening shown in the tables. Increase resp. reduction of the screw tightening torque results in different calculation values!

The specified pressures at $M_b$max. are sometimes very low. An operation near these limit values may therefore lead to increased fretting corrosion! More options with reduced bending moments (M_b 20% - M_b 80%) are also available.