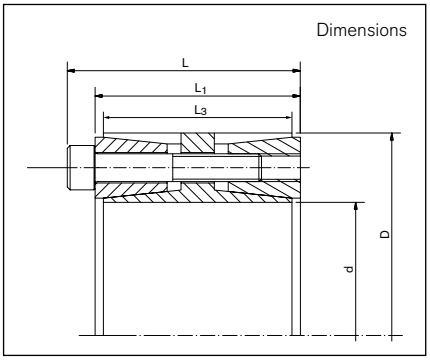
RINGFEDER® Locking Assemblies for Bending Moments **RfN 7015.1**



Basic dimensions when screws are not tightened

d = Inner diameter
D = Outer diameter
L = Overall length
L_1 = Overall length (without screws)
L_3 = Width of ring
n_{Sc} = Quantity of screws
D_G = Thread
$T_{Ared.}$ = Redused tightened torque of the screws under bending load
T without M_b = Transmissible torque at given T_A without bending moment
p_W without M_b = Surface pressure on shaft at given T_A without bending moment
p_N without M_b = Surface pressure on hub at given T_A without bending moment

$M_b$max. = Max. bending moment under the specified T_A
$T_{res.}$ at $M_b$max. = Remaining transmissible torque at indicated Mb and $T_{Ared.}$
$p_W$max. at $M_b$max. = Max. surface pressure on shaft at max. bending moment
$p_N$max. at $M_b$max. = Max. surface pressure on hub at max. bending moment
$p_W$min. at $M_b$max. = Min. surface pressure on shaft at max. bending moment
$p_N$min. at $M_b$max. = Min. surface pressure on hub at max. bending moment
F_{ax} at $M_b$max. = Transmissible axial force at max. bending moment
D_N min at $R_{p0,2}$ = Min. hub outer diameter depending of the hub yield point $R_{p0,2}$ and part of bending moment
Gw = Weight

Locking Assembly dimensions				Locking screws ISO 4762-12.9				T without	p_W without	p_N without		T_{res} at	p_{Wmax} at	p_{Nmax} at	p_{Wmin} at	p_{Nmin} at	F_{ax} at	D_N min. at Rp0,2			
d x D	L	L_1	L_3	n_{Sc}	D_G	T_A	F_{ax}	$M_b$max	$M_b$max	$M_b$max	$M_b$max	$M_b$max	$M_b$max	$M_b$max	$M_b$max	$M_b$max	$M_b$max	250	350	450	Gw
mm	mm				mm	Nm	kN	Nm	N/mm²		Nm		N/mm²				kN	[N/mm²]			kg
100 x 145	75	65	60	9	M 10 x 55	83	132	6575	91	63	6540	681	125	86	57	39	14	192	179	172	4,1
110 x 155	75	65	60	10	M 10 x 55	83	146	8037	92	65	7900	1475	130	92	55	39	27	210	194	186	4,4
120 x 165	75	65	60	12	M 10 x 55	83	175	10521	101	74	10460	1128	147	107	56	41	19	238	215	205	4,8
130 x 180	84	74	68	15	M 10 x 60	83	219	14247	101	73	14170	1476	145	105	58	42	23	258	234	223	6,5
140 x 190	84	74	68	15	M 10 x 60	83	219	15343	94	69	15260	1589	138	101	50	37	23	269	245	234	7
150 x 200	84	74	68	16	M 10 x 60	83	234	17534	94	70	17440	1816	140	105	47	35	24	288	261	248	7,4
160 x 210	84	74	68	18	M 10 x 60	83	263	21041	99	75	20930	2160	151	115	46	35	27	317	282	267	7,8
170 x 225	93	81	75	15	M 12 x 65	145	322	27352	105	80	27210	2788	159	120	52	39	33	348	307	289	10
180 x 235	93	81	75	16	M 12 x 65	145	343	30892	106	81	30730	3161	164	125	49	37	35	374	326	306	10,6
190 x 250	106	94	88	18	M 12 x 75	145	386	36684	96	73	36500	3674	144	109	48	37	39	371	333	315	14,3

To continue see next page

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!

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Locking Assembly dimensions				Locking screws ISO 4762-12.9				T	p_W	p_N		T_{res}	p_{Wmax}	p_{Nmax}	p_{Wmin}	p_{Nmin}	F_{ax}	D_N min. at Rp0,2			
								without										250	350	450	
d x D	L	L_1	L_3	n_{Sc}	D_G	T_A	F_{ax}	M_bmax	M_bmax	M_bmax	M_bmax	at M_bmax	at M_bmax	at M_bmax	at M_bmax	at M_bmax	at M_bmax	[N/mm²]			Gw
mm	mm				mm	Nm	kN	Nm	N/mm²		Nm		N/mm²				kN	mm			kg
200 x 260	106	94	88	20	M 12 x 75	145	429	42906	101	78	42690	4298	154	119	48	37	43	406	357	336	15
220 x 285	116	104	98	21	M 12 x 80	145	451	49556	89	69	49300	5033	135	104	43	33	46	416	375	356	19,8
240 x 305	116	104	98	24	M 12 x 80	145	515	61784	93	73	61470	6225	145	114	41	32	52	470	415	391	21,4
260 x 325	116	104	98	27	M 12 x 80	145	579	75300	97	77	74920	7552	155	124	38	30	58	531	458	428	23
280 x 355	140	126	120	28	M 14 x 100	230	822	115034	106	84	114450	11574	164	129	49	39	83	605	513	476	35,2
300 x 375	140	126	120	28	M 14 x 100	230	822	123250	99	80	122630	12351	157	125	42	34	82	623	534	498	37,4
320 x 405	158	142	135	28	M 16 x 110	355	1125	179962	110	87	179050	18093	171	135	49	39	113	716	597	551	51,3
340 x 425	158	142	135	28	M 16 x 110	355	1125	191209	103	83	190250	19131	164	131	42	34	113	733	618	573	54,1
360 x 455	183	165	158	24	M 18 x 140	485	1165	209622	84	67	208570	20978	130	103	38	30	117	668	600	570	75,4
380 x 475	183	165	158	27	M 18 x 140	485	1310	248927	90	72	247670	24980	141	113	38	30	131	736	648	611	79
400 x 495	183	165	158	32	M 18 x 140	485	1553	310552	101	82	308990	31104	162	131	40	32	156	861	723	669	82,8
420 x 515	183	165	158	32	M 18 x 140	485	1553	326079	96	78	324440	32655	157	128	35	28	155	879	744	691	86,5
440 x 545	200	180	172	27	M 20 x 140	690	1694	372775	91	74	370900	37338	147	119	35	28	170	871	758	711	110
460 x 565	200	180	172	27	M 20 x 140	690	1694	389719	87	71	387760	39026	143	117	31	25	170	891	779	732	114
480 x 585	200	180	172	30	M 20 x 140	690	1883	451848	93	76	449500	46004	155	127	30	25	192	986	839	781	119
500 x 605	200	180	172	30	M 20 x 140	690	1883	470675	89	74	468300	47224	151	125	27	22	189	1006	861	802	123
520 x 630	220	200	190	32	M 20 x 150	690	2008	522135	80	66	519500	52395	134	110	27	22	202	961	851	804	148
540 x 650	220	200	190	32	M 20 x 150	690	2008	542218	77	64	539400	55205	131	109	24	20	204	982	873	826	154
560 x 670	220	200	190	36	M 20 x 150	690	2259	632587	84	70	629400	63421	144	120	24	20	227	1084	938	878	160
580 x 690	220	200	190	36	M 20 x 150	690	2259	655180	81	68	651890	65573	141	119	21	18	226	1104	960	900	165
600 x 710	220	200	190	36	M 20 x 150	690	2259	677772	78	66	674370	67823	138	117	18	16	226	1125	982	922	170
620 x 730	220	200	190	36	M 20 x 150	690	2259	700364	76	64	696850	70074	136	115	16	13	226	1146	1004	944	175
640 x 750	220	200	190	36	M 20 x 150	690	2259	722957	73	63	705037	159967	132	113	15	13	500	1160	1022	963	180
660 x 770	220	200	190	40	M 20 x 150	690	2510	828388	79	68	783300	269570	142	122	16	14	817	1260	1085	1014	194
680 x 790	220	200	190	40	M 20 x 150	690	2510	853491	77	66	783300	338951	138	119	15	13	997	1268	1101	1032	199
700 x 810	220	200	190	40	M 20 x 150	690	2510	878593	75	64	783300	397954	134	116	15	13	1137	1277	1117	1049	205
720 x 830	220	200	190	40	M 20 x 150	690	2510	903696	73	63	783300	450675	131	113	15	13	1252	1287	1133	1067	210
740 x 850	220	200	190	42	M 20 x 150	690	2636	975239	74	65	822500	524008	133	116	15	13	1416	1341	1172	1101	216
760 x 870	220	200	190	42	M 20 x 150	690	2636	1001596	72	63	822500	571567	130	113	14	13	1504	1351	1188	1119	221
780 x 890	220	200	190	42	M 20 x 150	690	2636	1027954	70	62	822500	616590	127	111	14	12	1581	1362	1205	1137	227
800 x 910	220	200	190	42	M 20 x 150	690	2636	1054312	69	60	822500	659597	123	108	14	12	1649	1374	1222	1155	232

More sizes on request

Ordering example: RfN 7015.1

Type	d	D
RfN 7015.1	160	210

Technical Information

- **Surface finishes: Shaft and hub bores $R_a \leq 3{,}2$ µm**
- **Tolerances: Shaft: h8 · Hub: H8**

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!

Subject to technical change.