

Locking Assembly RfN 7014 Typical installation

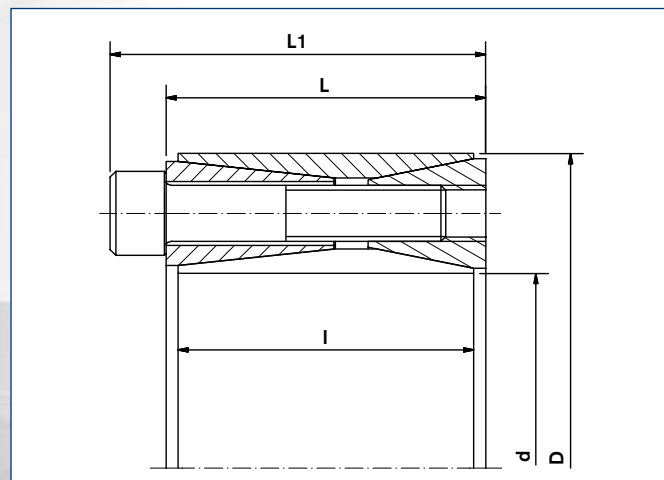
Characteristics

Large transmission of peripheral forces – Due to the long, flat tapers it is possible to transmit maximum torques and axial forces with **one** RfN 7014 locking assembly.

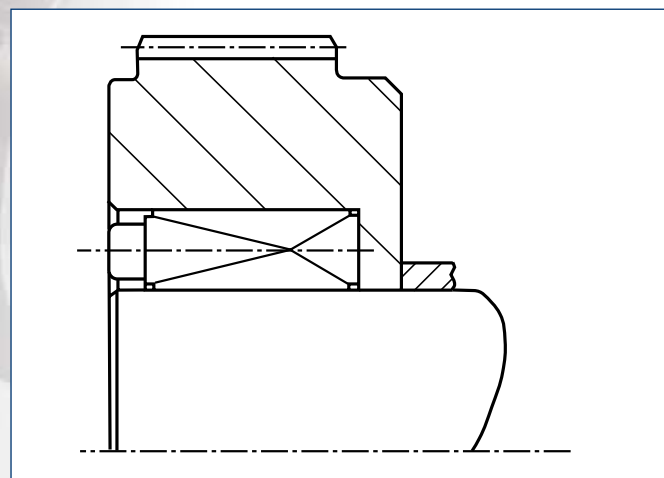
Maximum reliability – Due to the shallow tapers and the relatively wide construction (large guide lengths) the Locking Assemblies RfN 7014 center themselves. During installation, the Locking Assembly, shaft and hub remain in position relative to each other. The shaft and hub are subject to pure clamping pressure, providing additional safety compared to 3 piece designs.

Example applications:

Heavy pulleys, construction of heavy machinery, couplings, cable sheaves



Locking Assembly RfN 7014 · Dimensions



Locking Assembly RfN 7014 · Mounting of Gear

Locking Assembly dimensions								Transmissible torques or axial forces		Surface Pressure		Locking screws DIN EN ISO 4762-12.9			Weight	min. D _N *			
d x D	d	C ₁	D	C ₂	L	I	L ₁	T	F _{ax}	Shaft P _w	Hub P _N	n	Thread d _G	T _A	WT	Rp0,2[psi]			
mm	Inch							lb-ft	lbs	psi			mm	lb-ft	lbs	Inch			lb-ft
																36000	45000	62000	T _{max}
70 x 120	2.756	+0	4.724	-0	2.441	2.205	2.913	5053	44964	29009	17405	8	M 12 x 55	107	7.3	7.104	6.505	5.937	5827
80 x 130	3.150	-0.003	5.118	+0.003	2.441	2.205	2.913	8593	65198	37712	23207	12	M 12 x 55	107	8.2	9.054	7.936	6.970	9958
90 x 140	3.543		5.512		2.441	2.205	2.913	9589	65198	33360	21757	12	M 12 x 55	107	8.8	9.341	8.289	7.355	11138
100 x 160	3.937	+0	6.299	-0	3.150	2.913	3.701	14531	87680	30459	18856	12	M 14 x 70	170	16	9.844	8.927	8.074	17113
110 x 170	4.331	-0.0035	6.693	+0.0035	3.150	2.913	3.701	19621	110162	34811	23207	14	M 14 x 70	170	17	11.841	10.379	9.115	21760
120 x 180	4.724		7.087		3.150	2.913	3.701	21318	107914	31910	21757	15	M 14 x 70	170	18	12.011	10.658	9.457	25670
130 x 190	5.118		7.480		3.150	2.913	3.701	23014	107914	30459	20306	15	M 14 x 70	170	19	12.164	10.916	9.782	27809
140 x 200	5.512		7.874		3.150	2.913	3.701	29653	128147	33360	23207	17	M 14 x 70	170	21	13.930	12.210	10.724	33931
150 x 210	5.906	+0	8.268	-0	3.150	2.913	3.701	31645	128147	30459	21757	18	M 14 x 70	170	22	14.012	12.434	11.033	38505
160 x 230	6.299	-0.004	9.055	+0.004	3.701	3.465	4.331	47209	179856	33360	23207	17	M 16 x 80	262	33	16.019	14.042	12.332	52446
170 x 240	6.693		9.449		3.701	3.465	4.331	50012	179856	30459	21757	18	M 16 x 80	262	35	16.013	14.210	12.609	59011
180 x 250	7.087		9.843		3.701	3.465	4.331	61224	206835	34811	24658	20	M 16 x 80	262	36	18.214	15.752	13.686	69411
190 x 260	7.480		10.236		3.701	3.465	4.331	64912	206835	31910	23207	21	M 16 x 80	262	38	18.109	15.873	13.941	76935
200 x 270	7.874	+0	10.630	-0	3.701	3.465	4.331	77452	236061	34811	26108	23	M 16 x 80	262	41	20.623	17.571	15.093	88664
220 x 300	8.661	-0.0045	11.811	+0.0045	4.567	4.331	5.276	90729	251799	27559	20306	21	M 18 x 100	358	61	19.208	17.237	15.445	108875
240 x 320	9.449		12.598		4.567	4.331	5.276	112858	287770	29009	21757	24	M 18 x 100	358	66	21.350	18.945	16.811	135725
260 x 340	10.236		13.386		4.567	4.331	5.276	137200	321493	29009	23207	26	M 18 x 100	358	71	23.682	20.758	18.231	159329
280 x 370	11.024	+0	14.567	-0	5.354	5.118	6.142	169656	370953	27559	21757	24	M 20 x 120	509	101	24.687	21.906	19.438	201374
300 x 390	11.811	-0.005	15.354	+0.005	5.354	5.118	6.142	180721	370953	26108	20306	24	M 20 x 120	509	108	24.969	22.408	20.078	215758

* B ≥ L+2x (L1-L) necessary

More sizes on request

■ Mounting of Locking Assembly

The values for T, F_{ax}, P_w and P_N apply to Locking Assemblies installed in oiled condition.

■ Surface finishes

For shafts and hub bores

R_a ≤ 125 RMS

■ Tolerances

We recommend the following mounting tolerances

shaft: k9-h9 · hub: N9-H9 - see table above

■ Location of several Locking Assemblies RfN 7014

Two Locking Assemblies at most can be installed in series. In this case the transmission values of the above table will be double.

Note: For the removal of the Locking Assembly a step in the hub or shaft is required (see location drawing page 18).

■ Change of screw tightening torques

A reduction of the contact pressures and the transmission values by reducing the tightening torque of the screws is possible. The admissible lower limit is a 20% reduction of tightening torque. There is an approximate linear relationship between T, T_A, F_{ax}, P_w and P_N.

Explanations to tables

d, D, L, l, L_1 = Basic dimensions, Locking Assemblies not tightened

T = transmissible torque

F_{ax} = transmissible axial force

p_W = surface pressure between Locking Assembly and shaft

p_N = surface pressure between Locking Assembly and hub

n = fastener quantity

d_G = clamping thread

d_D = metric pullout thread dia.

T_A = maximum tightening torque for the screws considered in order to determine the values T, F_{ax}, p_W and p_N

D_N = minimum required outside hub diameter

$R_{p0,2}$ = minimum required yield point of hub material

T_{max} = maximum theoretical transmissible torque

B = minimum hub width (calculation formula at www.ringfeder.com)

C_1 = Shaft Tolerances

C_2 = Bore Tolerances

s = metric hex key size (across flats)



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