

US 03.2016



 **RINGFEDER**

Shrink Discs, Shaft & Flange Couplings

Partner for Performance

 **RINGFEDER**
POWER TRANSMISSION



Welcome to your system supplier for every aspect of power transmission



RINGFEDER POWER TRANSMISSION

- We say what we mean and mean what we say.
- We see things from our customers' perspective.
- We are considerate of our employees and their families as well as our environment and the society.

RINGFEDER POWER TRANSMISSION is the global market leader in the niche markets of drive technology and is well regarded for its customer-specific, application-oriented solutions that ensure excellent and failure-free operation for its clients.





Mars Rover:
Courtesy NASA/
JPL-Caltech



We offer locking devices, couplings, bearing housings and damping technology for OEMs but also for the final customer under our strong brand names RINGFEDER, TSCHAN, HENFEL and GERWAH. Our brand ECOLOC supplies reliable products off the shelf.

We not only provide competent advice to our customers on the basis of our 90 years of experience but also develop innovative ideas in cooperation with them. This is part of our aspiration to be the **Partner for Performance**.

Around the power transmission we promise

- Excellent know-how for our challenging customers
- Best cost-benefit ratio
- Short reaction times and a high product availability



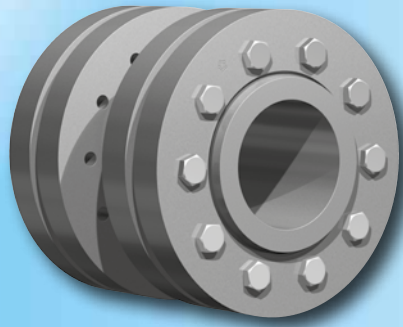
Shrink Discs

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Calculation program for Locking Assemblies and Locking Elements

In order to meet the complex requirements on the correct design and selection of RINGFEDER products under practise-relevant demands, RINGFEDER POWER TRANSMISSION has developed a calculation program.
Interested? Visit our website at www.ringfeder.com!





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Content

Content

All technical details and information are non-binding and cannot be used as a basis for legal claims. The user is obligated to determine whether the represented products meet his requirements. We reserve the right at all times to carry out modifications in the interests of technical progress. Upon the issue of this catalogue all previous brochures and questionnaires on the products displayed are no longer valid.

Content

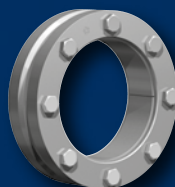
RINGFEDER® Shrink Discs



RfN 4022
Standard Series



RfN 4023
Heavy Duty Series



RfN 4051
Light Duty Series



RfN 4051
Light Duty Series,
split/half



RfN 4061
Standard Series



RfN 4061
Standard Series,
split/half



RfN 4071
Standard Series



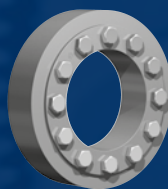
RfN 4071
Standard Series,
split/half



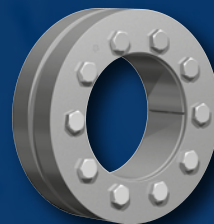
RfN 4073
Mini Series



RfN 4161
Standard Series



RfN 4181
Heavy Duty Series



RfN 4091
Heavy Duty Series



RfN 4091
Heavy Duty Series, split/half



Characteristics

Shrink discs are the modern method for creating a mechanical shrink fit. The shrink disc consists of either one or two thrust rings with tapered bores and a mating tapered inner ring. By tightening locking screws the thrust rings are drawn together compressing the inner ring and applying pressure to the outside of the hub clamping it to the shaft. Being positioned around the hub there is only one interface transmitting the loads giving the shrink disc method distinct advantages such as offering the possibility of very concentric and well balanced connections that are suited to high speed applications. Traditional shrink fits require complicated calculations, close machining tolerances and fine surface finishes, they also need considerable effort with mounting and removal. The shrink disc connection has none of these disadvantages and is better than any of the other usual connection methods with regard to fatigue strength under alternating torsional stress.

Unlimited range of applications – RINGFEDER® Shrink Disc connections are suitable for securing all types of hubs onto shafts and axles. Replacing traditional shrink fits, keys and polygon connections, splined shafts etc. So cog wheels and sprockets, levers, lifters, cam discs, pulleys or brake discs, balance wheels, couplings, slip on gear mechanisms, flanges, pulley wheels and rotors can be attached absolutely reliable.

Clearances considered for the calculation of the function values:

d_w		ISO	max. Clearance S
above inch	up to inch		inch
0.236	0.394	H6/j6	0.0005
0.394	0.709		0.0006
0.709	1.181	H6/h6	0.0007
1.181	1.969	H6/g6	0.0013
1.969	3.150	H7/g6	0.0019
3.150	4.724		0.0027
4.724	7.087		0.0031
7.087	9.843		0.0035
9.843	12.402		0.0040
12.402	15.748		0.0044
15.748	19.685		0.0048
19.685	24.803		0.0054
24.803	31.496		0.0061

Table is not valid for: RfN 4012, RfN 4022, RfN 4023

Surface finishes

For shaft diameter d_w : Peak-to-valley height $R_a \leq 125$ RMS.

Any other tolerances can be chosen. As long as the stated max. clearance is not exceeded, there will be no variations of the functional characteristics.

Explanations to tables

Basic dimensions when screws are not tightened

d	=	Inner diameter
D	=	Outer diameter
d _w	=	Solid shaft diameter
d ₁	=	Pitch circle diameter
L	=	Overall length
L ₁	=	Overall length without screws
L ₂	=	Thrust ring width
L ₃	=	Width of ring
L _B	=	Width of the half shrink disc
Z	=	Depth of center value
T _A	=	Max. tightened torque of the screws
T	=	Transmissible torque at given T _A
F _{ax}	=	Transmissible axial force
G _w	=	Weight
P	=	Hub surface pressure
σ _v	=	Equivalent stress in the hub
n _{Sc}	=	Quantity of screws
G	=	Center diameter
R	=	Radius
T _{max}	=	Max. transmissible torque
σ _v	=	Calculated combined stress in the hub extension (d/d _w) under consideration of the tangential, radial and torsional stresses following the equation:

$$\sigma_v = \sqrt{\frac{1}{2} [(\sigma_x - \sigma_y)^2 + (\sigma_y - \sigma_z)^2 + (\sigma_z - \sigma_x)^2] + 3\tau^2}$$

Additional loads, e.g. tension, thrust or bending have to be taken into consideration accordingly.

Function values

The functional characteristics are valid with the screw tightening torque listed in the tables and the following assumed conditions:

The locking screws are lubricated using MoS₂ (μ_{tot} = 0,1).

The tapered cones are lubricated using MoS₂ (μ = 0,05).

The contact surfaces (d_w) are in lightly oiled condition with coefficient of friction μ = 0,12.

The hub and shaft materials have a modulus of elasticity of 210,000 N/mm². (Lower values result in increased values for T and F_{ax} with reduced tangential stress.)

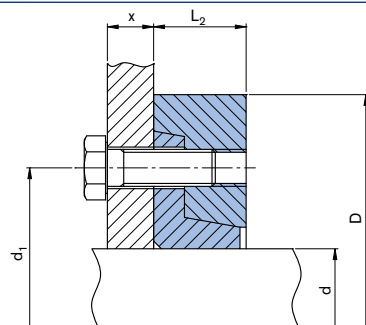
The maximum clearance S is being fully utilized.

The shaft being used is solid, for hollow shaft applications the functional values will change.

In cases where the assumed conditions do not apply then contact our Technical Department where we will be happy to assist you with your application.

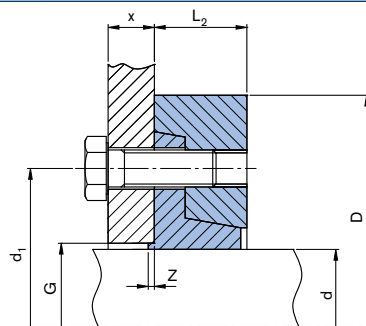
Description of configurations

SDA



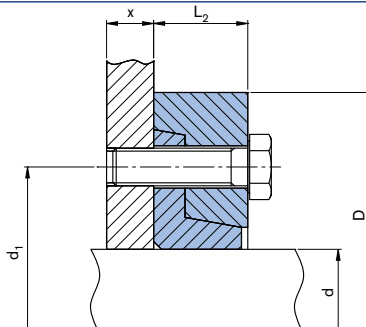
RfN 4022 configuration SDA thread in shrink disc without centering

SDB



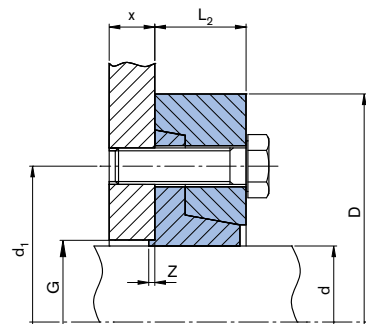
RfN 4022 configuration SDB thread in shrink disc with centering

SDC



RfN 4022 configuration SDC through boring in shrink disc without centering

SDD



RfN 4022 configuration SDD through boring in shrink disc with centering

Type	Shrink Discs dimensions								Transmissible torques	Locking screws ¹⁾ ISO 4014 / 4017 - 10.9					
	d	x	D	d	x	D	d ₁			G ²⁾	L ₂		Z	T _A ¹⁾	T
	mm			inch			inch	inch	inch	inch	ft-lbs	ft-lbs			lbs
12 SD-x	11 12 --	x	35	0.433 0.472 --	x	1.378	0.945	0.551	0.433	0.059	9	37 37 --	3	M6	0.22
14 SD-x	13 14 --	x	38	0.512 0.551 --	x	1.496	1.024	0.630	0.472	0.059	9	52 52 --	3	M6	0.22
16 SD-x	15 16	x	41	0.591 0.630 --	x	1.614	1.102	0.709	0.591	0.079	9	59 59 --	3	M6	0.22
18 SD-x	17 18 --	x	44	0.669 0.709 --	x	1.732	1.181	0.787	0.591	0.079	9	96 96 --	4	M6	0.22
20 SD-x	19 20 --	x	47	0.748 0.787 --	x	1.850	1.260	0.866	0.591	0.079	9	103 103 --	4	M6	0.44
25 SD-x	22 24 25*	x	50	0.866 0.945 0.984	x	1.969	1.417	1.063	0.748	0.079	9	148 148 148	5	M6	0.44
30 SD-x	26 28 30	x	60	1.024 1.102 1.181	x	2.362	1.732	1.260	0.748	0.118	9	221 221 221	6	M6	0.66
35 SD-x	32 35 36	x	72	1.260 1.378 1.417	x	2.835	2.047	1.496	0.827	0.118	22	332 369 369	5	M8	1.10
40 SD-x	38 40 44	x	80	1.496 1.575 1.732	x	3.150	2.402	1.811	0.906	0.118	22	531 553 553	6	M8	1.32
50 SD-x	42 45 50	x	90	1.654 1.772 1.969	x	3.543	2.677	2.087	0.984	0.118	22	738 959 959	8	M8	1.98
55 SD-x	45 52 55	x	100	1.772 2.047 2.165	x	3.937	2.835	2.283	1.063	0.118	22	1,180 1,180 1,180	8	M8	2.65
60 SD-x	50 60 62	x	110	1.969 2.362 2.441	x	4.331	3.150	2.480	1.063	0.118	22	1,475 1,475 1,475	9	M8	3.09
70 SD-x	60 65 70	x	115	2.362 2.559 2.756	x	4.528	3.386	2.913	1.063	0.157	22	1,549 1,549 1,549	9	M8	3.09
80 SD-x	70 75 80	x	138	2.756 2.953 3.150	x	5.433	3.937	3.307	1.142	0.157	45	2,950 2,950 2,950	10	M10	4.85
90 SD-x	80 85 90	x	155	3.150 3.346 3.543	x	6.102	4.488	3.701	1.378	0.157	45	4,204 4,204 4,204	12	M10	7.5
100 SD-x	90 95 100	x	170	3.543 3.740 3.937	x	6.693	4.882	4.094	1.575	0.157	75	6,196 6,196 6,196	12	M12	11.0
110 SD-x	100 105 110	x	185	3.937 4.134 4.331	x	7.283	5.354	4.567	1.850	0.197	75	6,786 6,786 6,786	12	M12	13.2

*Screws ISO 4762

x = Configuration **SDA** = Thread in shrink disc without centering **SDB** = Thread in shrink disc with centering
SDC = Through boring in shrink disc without centering **SDD** = Through boring in shrink disc with centering

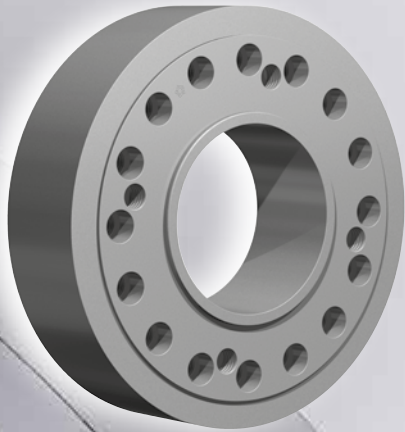
¹⁾ Shrink disc delivered without screws. Tightening torques for screws quantity see table

²⁾ The bore tolerance of the customer component should be within the fit tolerance G6 and H7

- Surface finishes
For shaft R_a ≤ 3,2 µm
- Tolerances
For shaft h9
- When using a hollow shaft instead of a solid shaft
please contact our Engineering-Team

Explanations to tables: Page 9

To continue see next page



Characteristics

Reduced dimensions – for lower transmissible torques, especially for applications with restricted space.

Slitted inner ring – low forces and pressures on hub and shaft.

Compensation of small tolerance errors – please contact our engineers.

Maximum reliability – suitable for static, dynamic and impact loads.

Simplified manufacture – only plain shaft and bore diameters with easily achieved surface finish and tolerances are required.

Easy mounting – no steps, keyways, splines are required, therefore hubs can be located and locked at any point or angle on the shaft. RINGFEDER® Shrink Discs use standard screws tightened with standard tools. No additional machining or fitting work is required.

Easy removal – after loosening the locking screws, the RINGFEDER® Shrink Disc will self release and the hub will move freely on the shaft.

Low susceptibility to contamination – when the locking screws are tightened the functional contact surfaces are pressed firmly together and prevent the ingress of dirt and moisture.

Type	Shrink Discs dimensions							T _A ¹⁾	Transmissible torques	Locking screws ¹⁾ ISO 4014 / 4017 - 10.9		Gw		
	d	x	D	d	x	D	d ₁			G ²⁾	L ₂		Z	Quantity
	mm			inch			inch		inch	inch	inch		ft-lbs	
125 SD-x	115			4.528							14751			
	120	x	215	4.724	x	8.465	6.299	4.961	1.969	0.197	185	12	M16	19.8
	125			4.921							15,489			
140 SD-x	130			5.118							19,177			
	135	x	230	5.315	x	9.055	6.772	5.748	2.126	0.197	185	14	M16	24.3
	140			5.512							19,177			
155 SD-x	150			5.906							22,864			
	155	x	263	6.102	x	10.354	7.559	6.535	2.283	0.197	185	15	M16	33.1
	160			6.299							22,864			
170 SD-x	160			6.299							26,552			
	165	x	290	6.496	x	11.417	8.031	6.929	2.441	0.197	185	16	M16	46.3
	170			6.693							26,552			
180 SD-x	170			6.693							31,715			
	175	x	300	6.890	x	11.811	8.583	7.323	2.441	0.197	185	18	M16	48.5
	180			7.087							31,715			
190 SD-x	180			7.087							44,254			
	185	x	320	7.283	x	12.598	9.134	7.717	3.110	0.197	361	15	M20	70.6
	190			7.480							44,254			
200 SD-x	190			7.480							49,417			
	195	x	340	7.677	x	13.386	9.685	8.110	3.110	0.197	361	16	M20	81.6
	200			7.874							49,417			
220 SD-x	200			7.874							68,593			
	210	x	370	8.268	x	14.567	10.630	8.898	3.858	0.197	627	14	M24	117
	220			8.661							68,593			
240 SD-x	220			8.661							86,295			
	230	x	405	9.055	x	15.945	11.654	9.685	3.976	0.197	627	16	M24	146
	240			9.449							86,295			
260 SD-x	240			9.449							92,933			
	250	x	430	9.843	x	16.929	12.520	10.472	4.409	0.197	627	16	M24	176
	260			10.236							92,933			
280 SD-x	260			10.236							111,372			
	270	x	460	10.630	x	18.110	13.386	11.260	4.961	0.197	627	18	M24	227
	280			11.024							111,372			
300 SD-x	280			11.024							131,286			
	290	x	485	11.417	x	19.094	14.173	12.047	5.118	0.197	627	20	M24	256
	300			11.811							131,286			
320 SD-x	280			11.024							182,915			
	300	x	520	11.811	x	20.472	14.961	12.992	5.118	0.197	920	20	M27	295
	320			12.598							182,915			
340 SD-x	300			11.811							202,830			
	320	x	570	12.598	x	22.441	15.827	13.780	5.669	0.197	920	21	M27	408
	340			13.386							202,830			
360 SD-x	320			12.598							213,893			
	340	x	590	13.386	x	23.228	16.693	14.567	5.669	0.315	920	21	M27	379
	360			14.173							213,893			
390 SD-x	350			13.780							267,735			
	370	x	630	14.567	x	24.803	18.031	15.748	5.827	0.315	1,250	20	M30	490
	390			15.354							267,735			
420 SD-x	380			14.961							300,188			
	400	x	650	15.748	x	25.591	19.291	16.929	6.614	0.315	1,250	21	M30	558
	420			16.535							300,188			
440 SD-x	400			15.748							314,201			
	420	x	670	16.535	x	26.378	20.157	17.717	6.929	0.315	1,250	21	M30	606
	440			17.323							314,201			

Ordering examples: RfN 4022

Series	Type	d
RfN 4022	170 SDA	6.496
RfN 4022	170 SDB	6.496
RfN 4022	170 SDC	6.496
RfN 4022	170 SDD	6.496

x = Configuration (Description of configurations see page 10)

¹⁾ Shrink disc delivered without screws. Tightening torques for screws quantity see table

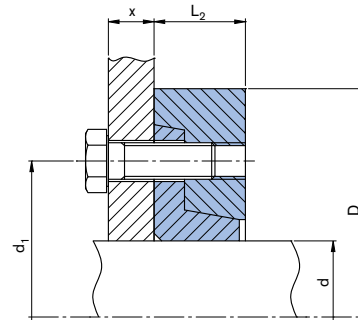
²⁾ The bore tolerance of the customer component should be within the fit tolerance G6 and H7

[More sizes on request](#)

- Surface finishes
For shaft R_a ≤ 3,2 µm
- Tolerances
For shaft h9
- When using a hollow shaft instead of a solid shaft please contact our Engineering-Team

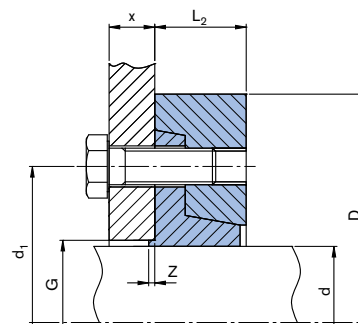
Description of configurations

SDA



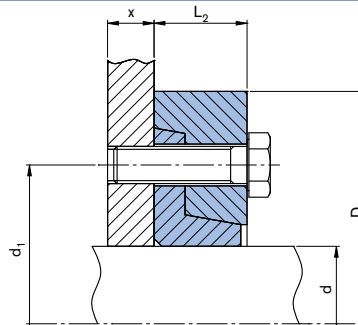
RfN 4023 configuration SDA thread in shrink disc without centering

SDB



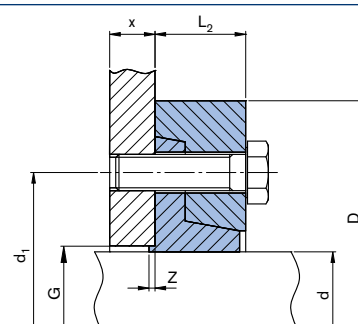
RfN 4023 configuration SDB thread in shrink disc with centering

SDC



RfN 4023 configuration SDC through boring in shrink disc without centering

SDD



RfN 4023 configuration SDD through boring in shrink disc with centering

Type	Shrink Discs dimensions								Transmissible torques	Locking screws ¹⁾ ISO 4014 / 4017 - 10.9		
	d	x	D	d ₁	G ²⁾	L ₂	Z			T	Quantity	
	mm		inch	inch	inch	inch	inch		ft-lbs			
50 SD-x	40		1.575						1,033			
	45	x	115	1.772	x	4.528	3.307	2.087	1.181	0.118	75	4.41
	50		1.969						1,623	7	M12	
60 SD-x	50		1.969						2,434			
	55	x	120	2.165	x	4.724	3.701	2.480	1.339	0.118	75	4.85
	60		2.362						1,696	9	M12	
70 SD-x	60		2.362						4,278			
	65	x	155	2.559	x	6.102	4.409	2.913	1.575	0.157	185	10.4
	70		2.756						5,605	8	M16	
80 SD-x	70		2.756						6,933			
	75	x	167	2.953	x	6.575	5.118	3.307	1.732	0.157	185	13.5
	80		3.150						5,900	9	M16	
90 SD-x	80		3.150						7,376			
	85	x	185	3.346	x	7.283	5.669	3.701	1.969	0.157	185	17.6
	90		3.543						8,851	12	M16	
100 SD-x	90		3.543						11,063			
	95	x	197	3.740	x	7.756	6.142	4.094	2.126	0.157	185	20.9
	100		3.937						13,276	14	M16	
110 SD-x	100		3.937						11,801			
	105	x	215	4.134	x	8.465	6.535	4.567	2.283	0.197	361	26.5
	110		4.331						14,014	10	M20	
120 SD-x	110		4.331						16,964			
	115	x	230	4.528	x	9.055	7.323	4.961	2.559	0.197	361	33.1
	120		4.724						16,226	14	M20	
140 SD-x	120		4.724						19,914			
	130	x	290	5.118	x	11.417	8.504	5.748	2.992	0.197	361	66.2
	140		5.512						24,340	16	M20	
160 SD-x	140		5.512						28,027			
	150	x	320	5.906	x	12.598	9.213	6.535	3.268	0.197	627	88.2
	160		6.299						31,715	14	M24	
180 SD-x	160		6.299						47,204			
	170	x	340	6.693	x	13.386	10.866	7.323	3.701	0.197	627	106
	180		7.087						56,792	16	M24	
200 SD-x	180		7.087						56,792			
	190	x	370	7.480	x	14.567	11.417	8.110	3.780	0.197	920	126
	200		7.874						62,693	16	M27	
220 SD-x	200		7.874						74,494			
	210	x	405	8.268	x	15.945	12.598	8.898	3.819	0.197	920	157
	220		8.661						76,706	18	M27	

x = Configuration **SDA** = Thread in shrink disc without centering **SDB** = Thread in shrink disc with centering
SDC = Through boring in shrink disc without centering **SDD** = Through boring in shrink disc with centering

¹⁾ Shrink disc delivered without screws. Tightening torques for screws quantity see table

²⁾ The bore tolerance of the customer component should be within the fit tolerance G6 and H7

- Surface finishes
For shaft R_a ≤ 3,2 µm
- Tolerances
For shaft h9
- When using a hollow shaft instead of a solid shaft
please contact our Engineering-Team

Explanations to tables: Page 9

To continue see next page

Ordering examples: RfN 4023

Series	Type	d
RfN 4023	50 SDA	1.772
RfN 4023	50 SDB	1.772
RfN 4023	50 SDC	1.772
RfN 4023	50 SDD	1.772

Characteristics

Heavy design – suitable for high torque and bending moments.

Slitted inner ring – low forces and pressures on hub and shaft.

Compensation of small tolerance errors – please contact our engineers.

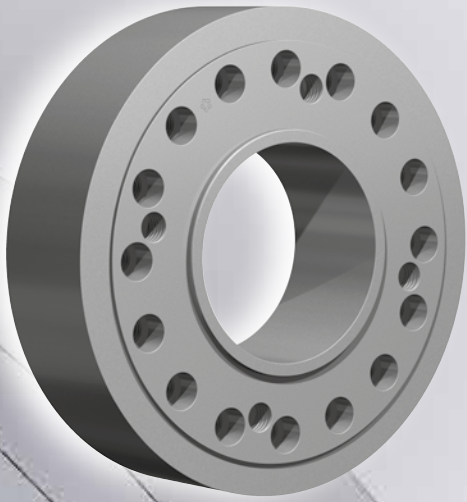
Maximum reliability – suitable for static, dynamic and impact loads.

Simplified manufacture – only plain shaft and bore diameters with easily achieved surface finish and tolerances are required.

Easy mounting – no steps, keyways, splines are required, therefore hubs can be located and locked at any point or angle on the shaft. RINGFEDER® Shrink Discs use standard screws tightened with standard tools. No additional machining or fitting work is required.

Easy removal – after loosening the locking screws, the RINGFEDER® Shrink Disc will self release and the hub will move freely on the shaft.

Low susceptibility to contamination – when the locking screws are tightened the functional contact surfaces are pressed firmly together and prevent the ingress of dirt and moisture.



Type	Shrink Discs dimensions							T _A ¹⁾	Transmissible torques	Locking screws ¹⁾ ISO 4014 / 4017 - 10.9		Gw			
	d	x	D	d	x	D	d ₁			G ²⁾	L ₂		Z	Quantity	Thread
	mm			inch			inch		inch	inch	inch		ft-lbs		lbs
240 SD-x	220			8.661							155,626				
	230	x	430	9.055	x	16.929	13.386	9.685	4.331	0.197	920	155,626	20	M27	190
	240			9.449							155,626				
260 SD-x	240			9.449							172,590				
	250	x	460	9.843	x	18.110	14.016	11.260	4.685	0.197	920	172,590	21	M27	240
	260			10.236							171,114				
280 SD-x	260			10.236							172,590				
	270	x	485	10.630	x	19.094	14.173	12.047	4.921	0.197	920	172,590	21	M27	276
	280			11.024							172,590				
300 SD-x	280			11.024							182,178				
	290	x	520	11.417	x	20.472	14.961	12.992	5.118	0.197	920	182,178	21	M27	318
	300			11.811							182,178				
320 SD-x	300			11.811							220,531				
	310	x	550	12.205	x	21.654	15.827	13.780	5.354	0.315	920	220,531	24	M27	368
	320			12.598							220,531				
340 SD-x	320			12.598							232,332				
	330	x	570	12.992	x	22.441	16.693	14.567	5.591	0.315	920	232,332	24	M27	404
	340			13.386							232,332				
360 SD-x	340			13.386							302,400				
	350	x	610	13.780	x	24.016	17.874	15.748	5.787	0.315	1,250	302,400	24	M30	481
	360			14.173							302,400				
390 SD-x	360			14.173							323,790				
	380	x	630	14.961	x	24.803	19.134	16.929	6.575	0.315	1,250	323,790	24	M30	551
	390			15.354							323,790				
420 SD-x	390			15.354							337,066				
	410	x	670	16.142	x	26.378	19.921	17.717	6.890	0.394	1,250	337,066	24	M30	644
	420			16.535							337,066				
440 SD-x	400			15.748							414,510				
	420	x	700	16.535	x	27.559	21.024	18.504	6.890	0.394	1,250	414,510	28	M30	701
	440			17.323							414,510				

x = Configuration **SDA** = Thread in shrink disc without centering
SDC = Through boring in shrink disc without centering

SDB = Thread in shrink disc with centering
SDD = Through boring in shrink disc with centering

¹⁾ Shrink disc delivered without screws. Tightening torques for screws quantity see table

²⁾ The bore tolerance of the customer component should be within the fit tolerance G6 and H7

■ **Surface finishes**
For shaft $R_a \leq 3,2 \mu m$

■ **Tolerances**
For shaft h9

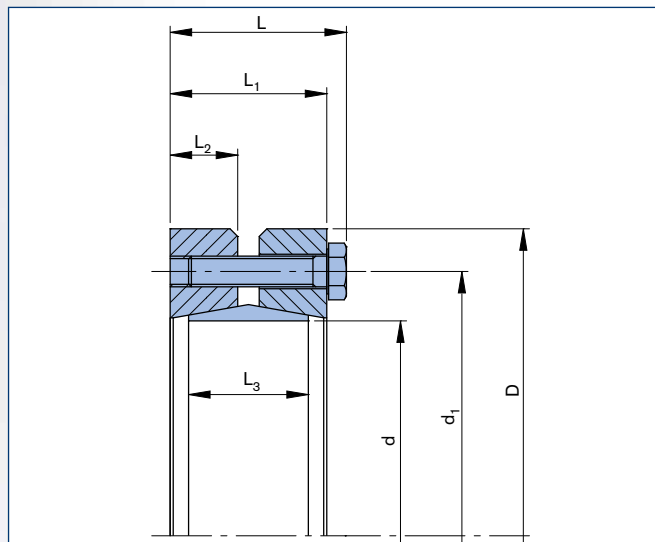
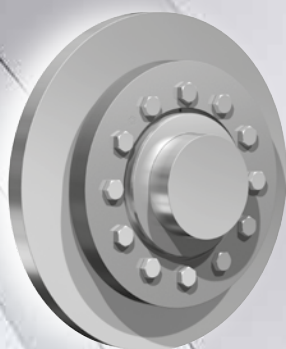
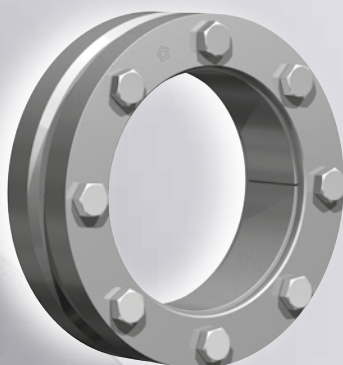
Explanations to tables: Page 9

[More sizes on request](#)

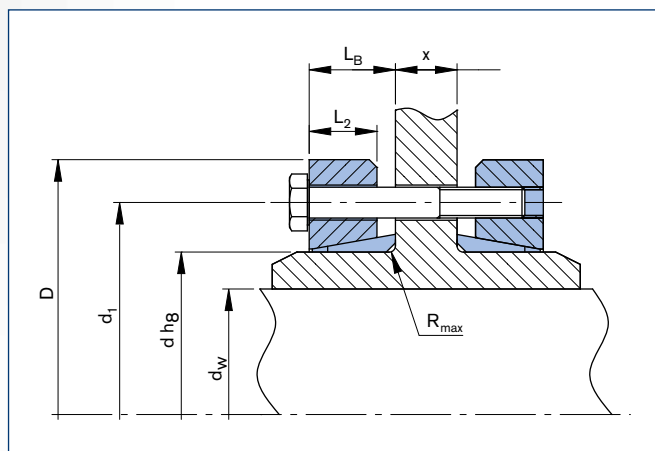
■ **When using a hollow shaft instead of a solid shaft**
please contact our Engineering-Team

Ordering examples: RfN 4023

Series	Type	d
RfN 4023	280 SDA	10.630
RfN 4023	280 SDB	10.630
RfN 4023	280 SDC	10.630
RfN 4023	280 SDD	10.630



RINGFEDER® Shrink Disc RfN 4051 · Dimensions

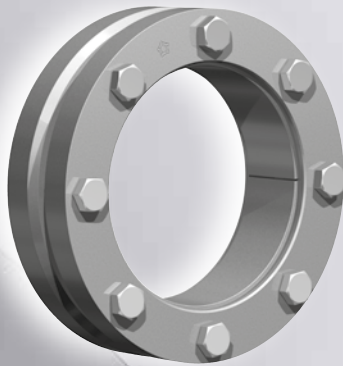


RINGFEDER® Shrink Disc RfN 4051 GT · Location

Shrink discs GT (split)

In the application shown above special screws according to the dimension X are required, which have to be ordered accordingly. When dimension „ X “ larger than $2 \cdot L_1$ is chosen, a reduction of the transmissible torque up to 50% has to be considered to the type GT.

Shrink Discs dimensions											Transmissible torques or axial forces				Locking screws ¹⁾ ISO 4014 / 4017 - 10.9						
d	x	D	d	x	D	d _w	d ₁	L	L ₁	L ₂	L ₃	L _B	T _A ¹⁾	T	F _{ax}	P	σ _v	Quantity	Thread	Gw	T _{max}
mm			inch		inch	inch	inch	inch	inch	inch	inch	inch	ft-lbs	ft-lbs	lbs	psi	psi			lbs	ft-lbs
125	x	185	4.921	x	7.283	3.740	6.220	2.283	2.008	0.866	1.535	1.201	45	7,781	49,458	27,723	40,350	8	M10	11.2	9,736
						3.937								8,925	53,954						11,156
						4.134								10,178	58,451						12,723
140	x	220	5.512	x	8.661	4.331	6.890	2.283	2.008	0.866	1.535	1.215	45	10,916	59,575	27,868	40,786	9	M10	17.6	13,645
						4.724								13,748	69,691						17,185
						4.921								15,120	73,063						18,900
155	x	245	6.102	x	9.646	5.118	7.559	2.283	2.008	0.866	1.535	1.201	45	17,702	82,056	30,771	42,527	11	M10	22.0	22,127
						5.315								19,472	87,676						24,340
						5.512								21,390	92,172						26,737
165	x	260	6.496	x	10.236	5.709	8.268	2.756	2.441	1.024	1.811	1.417	75	28,396	119,149	32,512	47,462	10	M12	30.9	35,495
						5.512								25,962	112,405						32,453
						5.315								23,602	106,785						29,502
175	x	275	6.890	x	10.827	6.102	8.661	2.756	2.441	1.024	1.811	1.417	75	33,928	132,638	33,674	48,478	11	M12	32.4	42,410
						5.709								28,765	120,273						35,956
						5.906								31,273	125,894						39,091
185	x	295	7.283	x	11.614	6.496	8.858	2.756	2.441	1.024	1.811	1.417	75	39,829	146,126	34,835	49,494	12	M12	37.9	49,785
						6.299								37,100	140,506						46,374
						6.102								34,371	134,886						42,963
195	x	315	7.677	x	12.402	6.890	9.331	3.150	2.835	1.220	2.205	1.614	75	53,474	185,468	33,819	51,526	15	M12	52.5	66,842
						6.693								49,933	178,724						62,416
						6.496								46,467	170,856						58,083
200	x	330	7.874	x	12.992	7.283	9.528	3.150	2.835	1.220	2.205	1.614	75	62,325	205,701	35,270	63,864	16	M12	59.1	77,905
						6.890								54,580	191,088						68,224
						7.087								58,637	200,081						73,295
220	x	345	8.661	x	13.583	7.874	10.433	3.701	3.307	1.417	2.598	1.850	185	77,445	237,175	31,932	53,268	10	M16	70.5	96,805
						7.480								68,963	220,314						86,203
						7.087								61,071	206,825						76,338
240	x	370	9.449	x	14.567	7.874	11.417	3.701	3.307	1.417	2.598	1.850	185	83,345	255,159	35,270	44,124	12	M16	79.4	104,181
						8.268								94,040	272,020						117,549
						8.465								99,203	281,012						124,003
260	x	395	10.236	x	15.551	9.252	12.205	4.016	3.622	1.575	2.835	2.067	185	127,600	331,595	34,835	52,833	14	M16	106.0	159,498
						8.661								109,898	303,494						137,371
						9.055								121,699	322,602						152,122
280	x	425	11.024	x	16.732	9.843	13.110	4.488	4.094	1.811	3.307	2.343	185	153,415	373,185	31,642	47,027	16	M16	132.0	191,766
						9.449								139,401	352,952						174,249
						9.055								126,124	333,843						157,654
300	x	460	11.811	x	18.110	9.843	14.094	4.488	4.094	1.811	3.307	2.343	185	158,578	386,673	33,238	40,495	18	M16	154.0	198,220
						10.630								188,080	424,891						235,098
						10.236								172,591	404,658						215,737
320	x	495	12.598	x	19.488	11.417	14.882	4.567	4.173	1.890	3.307	2.382	185	225,696	477,721	34,690	51,526	20	M16	185.0	282,117
						10.630								191,768	436,131						239,708
						11.024								209,470	456,364						261,835
340	x	535	13.386	x	21.063	12.008	15.827	4.567	4.173	1.890	3.307	2.382	185	248,561	496,830	34,254	47,317	21	M16	220.0	310,698
						11.811								238,973	485,590						298,713
						11.417								221,271	465,357						276,586
350	x	545	13.780	x	21.457	11.811	16.260	5.315	4.803	2.126	3.937	2.697	361	274,376	558,653	33,383	42,382	16	M20	265.0	342,966
						12.008								283,964	571,017						354,952
						12.205								295,028	582,258						368,781
360	x	555	14.173	x	21.850	12.598	16.654	5.315	4.803	2.126	3.937	2.697	361	306,092	582,258	32,367	45,576	16	M20	276.0	382,610
						11.811								265,525	539,544						331,903
						12.205								286,177	562,025						357,718
380	x	585	14.961	x	23.031	12.992	17.402	5.866	5.354	2.362	4.409	2.972	361	344,445	637,336	30,916	41,366	18	M20	331.0	430,552
						12.795								332,644	624,972						415,801
						12.598								320,843	611,483						401,049
390	x	595	15.354	x	23.425	12.992	17.795	5.866	5.354	2.362	4.409	3.071	361	372,473	687,919	33,383	41,366	20	M20	344.0	465,586
						13.386								398,288	713,772						497,854
						13.780								425,578	740,749						531,967



Characteristics

Light design – suitable for medium transmissible values when space is limited.

Slitted inner ring – low forces and pressures on hub and shaft.

Compensation of small tolerance errors – please contact our engineers.

Maximum reliability – suitable for static, dynamic and impact loads.

Simplified manufacture – only plain shaft and bore diameters with easily achieved surface finish and tolerances are required.

Easy replacement – the RINGFEDER® Shrink Disc is free from any form fit.

Easy mounting – no steps, keyways, splines are required, therefore hubs can be located and locked at any point or angle on the shaft. RINGFEDER® Shrink Discs use standard screws tightened with standard tools. No additional machining or fitting work is required.

Low susceptibility to contamination – when the locking screws are tightened the functional contact surfaces are pressed firmly together and prevent the ingress of dirt and moisture.

Shrink discs GT (split)

In the application shown above special screws according to the dimension X are required, which have to be ordered accordingly. When dimension „X“ larger than $2 \cdot L_1$ (RfN 4051 Light Duty Series, Page 20) is chosen, a reduction of the transmissible torque up to 50% has to be considered to the type GT.

Shrink Discs dimensions												Transmissible torques or axial forces				Locking screws ¹⁾ ISO 4014 / 4017 - 10.9						
d	x	D	d	x	D	d _w	d ₁	L	L ₁	L ₂	L ₃	L _B	T _A ¹⁾	T	F _{ax}	P	σ _v	Quantity	Thread	Gw	T _{max}	
mm		inch		inch	inch	inch	inch	inch	inch	inch	inch	inch	ft-lbs	ft-lbs	lbs	psi	psi			lbs	ft-lbs	
400	x	615	15.748	x	24.213	14.173	18.189	5.866	5.354	2.362	4.409	3.071	361	461,719	782,339	34,254	50,075	21	M20	362.0	577,142	
						13.386								405,664	727,260						42,237	507,074
						13.780								432,954	755,362						45,140	541,186
420	x	630	16.535	x	24.803	14.567	19.094	6.181	5.669	2.520	4.724	3.228	361	483,108	796,951	31,787	43,108	22	M20	408.0	603,879	
						14.173								455,081	769,974						40,205	568,845
						13.780								426,315	741,873						38,463	532,889
440	x	660	17.323	x	25.984	14.567	19.882	6.181	5.669	2.520	4.724	3.228	361	499,335	822,805	33,238	39,770	24	M20	452.0	624,162	
						14.961								530,313	850,906						41,657	662,884
						15.354								562,028	879,007						44,850	702,528
460	x	685	18.110	x	26.969	16.142	20.748	6.732	6.220	2.795	5.197	3.602	361	689,628	1,029,630	33,674	47,608	28	M20	518.0	862,948	
						15.354								619,559	971,179						41,076	774,440
						15.748								656,437	1,002,653						43,398	820,538
480	x	715	18.898	x	28.150	16.535	21.535	6.732	6.220	2.795	5.197	3.602	361	694,053	1,007,149	32,222	42,092	28	M20	562.0	867,557	
						16.732								712,493	1,022,436						43,689	890,606
						16.142								657,175	977,924						39,915	821,460
500	x	750	19.685	x	29.528	16.732	22.323	6.732	6.220	2.795	5.197	3.602	361	727,244	1,044,242	33,093	39,915	30	M20	628.0	909,045	
						16.929								747,158	1,059,305						40,786	933,938
						17.323								786,250	1,089,204						43,108	982,801

¹⁾ Shrink disc GT (split) delivered without screws. Tightening torques for screws quantity see table

- Surface finishes
For shaft $R_a \leq 3,2 \mu m$
- Tolerances
For shaft see table page 8
- When using a hollow shaft instead of a solid shaft
please contact our Engineering-Team

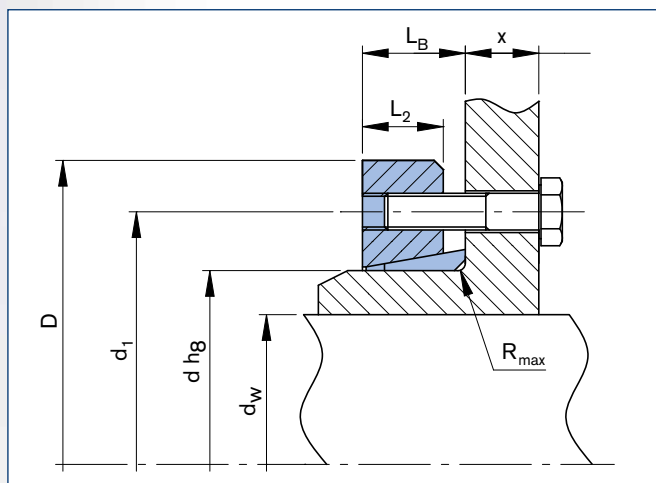
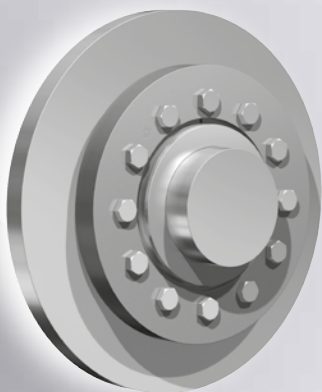
Explanations to tables: Page 9

More sizes on request

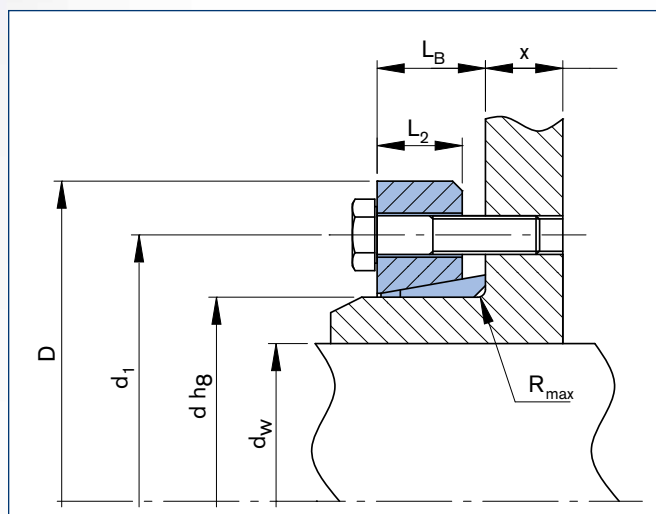
Ordering examples: RfN 4051

Series	d	D	Version
RfN 4051	16.535	24.803	-
RfN 4051	16.535	24.803	GT

GT = Split



RINGFEDER® Shrink Disc RfN 4051 HT · Dimensions



RINGFEDER® Shrink Disc RfN 4051 HC · Dimensions

Half shrink discs

Type HT (Threaded holes in thrust ring)

Type HC (Clearance holes in thrust ring)

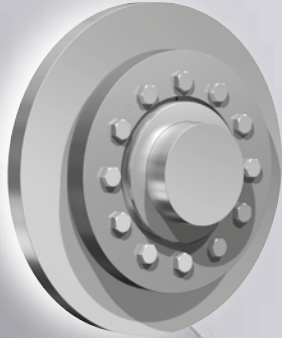
Shrink Discs dimensions												Transmissible torques or axial forces		Locking screws ¹⁾ ISO 4014 / 4017 - 10.9		
d	x	D	d	x	D	d _w	d ₁	L _B	L ₂	R	T _A ¹⁾	T	F _{ax}	Quantity	Thread	Gw
mm			inch			inch	inch	inch	inch	inch	ft-lbs	ft-lbs	lbs			lbs
125	x	185	4.921	x	7.283	3.740	6.220	1.201	0.866	0.189	45	3,891	24,747	8	M10	5.51
						3.937						4,462	26,997			
						4.134						5,089	29,247			
140	x	220	5.512	x	8.661	4.331	6.890	1.215	0.866	0.189	45	5,458	29,697	9	M10	8.82
						4.724						6,874	34,871			
						4.921						7,560	36,446			
155	x	245	6.102	x	9.646	5.118	7.559	1.201	0.866	0.189	45	8,851	40,946	11	M10	11.0
						5.315						9,736	43,870			
						5.512						10,695	46,120			
165	x	260	6.496	x	10.236	5.315	8.268	1.417	1.024	0.189	75	11,801	53,319	10	M12	15.4
						5.512						12,981	56,244			
						5.709						14,198	59,619			
175	x	275	6.890	x	10.827	5.709	8.661	1.417	1.024	0.189	75	14,382	60,069	11	M12	15.9
						5.906						15,636	62,993			
						6.102						16,964	66,368			
185	x	295	7.283	x	11.614	6.102	8.858	1.417	1.024	0.189	75	17,185	67,493	12	M12	18.7
						6.299						18,550	70,305			
						6.496						19,914	73,117			
195	x	315	7.677	x	12.402	6.496	9.331	1.614	1.220	0.189	75	23,233	85,491	15	M12	25.8
						6.693						24,966	89,428			
						6.890						26,737	92,803			
200	x	330	7.874	x	12.992	6.890	9.528	1.614	1.220	0.189	75	27,290	95,615	16	M12	28.9
						7.087						29,318	100,114			
						7.283						31,162	102,927			
220	x	345	8.661	x	13.583	7.087	10.433	1.850	1.417	0.189	185	30,535	103,489	10	M16	34.4
						7.480						34,481	110,238			
						7.874						38,722	118,675			
240	x	370	9.449	x	14.567	7.874	11.417	1.850	1.417	0.189	185	41,672	127,674	12	M16	38.6
						8.268						47,020	136,110			
						8.465						49,601	140,610			
260	x	395	10.236	x	15.551	8.661	12.205	2.067	1.575	0.252	185	54,948	151,859	14	M16	52.9
						9.055						60,849	161,420			
						9.252						63,799	165,920			
280	x	425	11.024	x	16.732	9.055	13.110	2.343	1.811	0.252	185	63,062	167,045	16	M16	66.1
						9.449						69,700	176,606			
						9.843						76,706	186,730			
300	x	460	11.811	x	18.110	9.843	14.094	2.343	1.811	0.252	185	79,288	193,479	18	M16	76.1
						10.236						86,295	202,478			
						10.630						94,039	212,602			
320	x	495	12.598	x	19.488	10.630	14.882	2.382	1.890	0.252	185	95,883	218,227	20	M16	92.6
						11.024						104,734	228,351			
						11.417						112,847	239,037			
340	x	535	13.386	x	21.063	11.417	15.827	2.382	1.890	0.252	185	110,634	232,850	21	M16	110
						11.811						119,485	242,974			
						12.008						124,279	248,598			
350	x	545	13.780	x	21.457	11.811	16.260	2.697	2.126	0.252	361	137,187	279,533	16	M20	132
						12.008						141,981	285,720			
						12.205						147,512	291,344			
360	x	555	14.173	x	21.850	11.811	16.654	2.697	2.126	0.252	361	132,761	269,971	16	M20	138
						12.205						143,087	281,220			
						12.598						153,044	291,344			
380	x	585	14.961	x	23.031	12.598	17.402	2.972	2.362	0.252	361	160,420	305,967	18	M20	165
						12.795						166,320	312,717			
						12.992						172,221	318,903			
390	x	595	15.354	x	23.425	12.992	17.795	3.071	2.362	0.331	361	186,234	344,213	20	M20	172
						13.386						199,142	357,149			
						13.780						212,787	370,648			

¹⁾ Shrink disc delivered without screws. Tightening torques for screws quantity see table

- Surface finishes
For shaft $R_a \leq 3,2 \mu m$
- Tolerances
For shaft see table page 8
- When using a hollow shaft instead of a solid shaft
please contact our Engineering-Team

Explanations to tables: Page 9

To continue see next page



Characteristics

Light design – suitable for medium transmissible values when space is limited.

Slitted inner ring – low forces and pressures on hub and shaft.

Compensation of small tolerance errors – please contact our engineers.

Maximum reliability – suitable for static, dynamic and impact loads.

Simplified manufacture – only plain shaft and bore diameters with easily achieved surface finish and tolerances are required.

Easy replacement – the RINGFEDER® Shrink Disc is free from any form fit.

Easy mounting – no steps, keyways, splines are required, therefore hubs can be located and locked at any point or angle on the shaft. RINGFEDER® Shrink Discs use standard screws tightened with standard tools. No additional machining or fitting work is required.

Low susceptibility to contamination – when the locking screws are tightened the functional contact surfaces are pressed firmly together and prevent the ingress of dirt and moisture.

Half shrink discs

Type HT (Threaded holes in thrust ring)

Type HC (Clearance holes in thrust ring)

Shrink Discs dimensions										T _A ¹⁾	Transmissible torques or axial forces		Locking screws ¹⁾ ISO 4014 / 4017 - 10.9		Gw
d	x	D	d	x	D	d _w	d ₁	L _B	L ₂		T	F _{ax}	Quantity	Thread	
mm			inch			inch	inch	inch	inch	inch	ft-lbs	lbs			lbs
400	x	615	15.748	x	24.213	13.386	18.189	3.071	2.362	0.331	361	202,830	21	M20	177
						13.780						216,474			
						14.173						230,857			
420	x	630	16.535	x	24.803	13.780	19.094	3.228	2.520	0.331	361	213,155	22	M20	204
						14.173						227,538			
						14.567						241,552			
440	x	660	17.323	x	25.984	14.567	19.882	3.228	2.520	0.331	361	249,665	24	M20	226
						14.961						265,154			
						15.354						281,011			
460	x	685	18.110	x	26.969	15.354	20.748	3.602	2.795	0.390	361	309,776	28	M20	259
						15.748						328,215			
						16.142						344,810			
480	x	715	18.898	x	28.150	16.142	21.535	3.602	2.795	0.390	361	328,584	28	M20	281
						16.535						347,023			
						16.732						356,242			
500	x	750	19.685	x	29.528	16.732	22.323	3.602	2.795	0.390	361	363,618	30	M20	314
						16.929						373,575			
						17.323						393,121			

¹⁾ Shrink disc delivered without screws. Tightening torques for screws quantity see table

- Surface finishes
For shaft $R_a \leq 3,2 \mu m$
- Tolerances
For shaft see table page 8
- When using a hollow shaft instead of a solid shaft
please contact our Engineering-Team

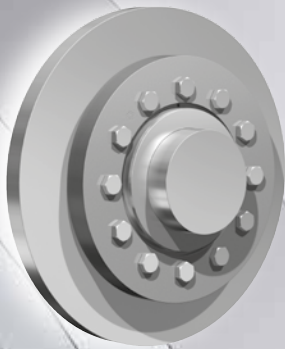
Explanations to tables: Page 9

Ordering examples: RfN 4051

Series	d	D	Version
RfN 4051	16.535	24.803	HT
RfN 4051	16.535	24.803	HC

HT = Half shrink disc with threaded holes in thrust ring

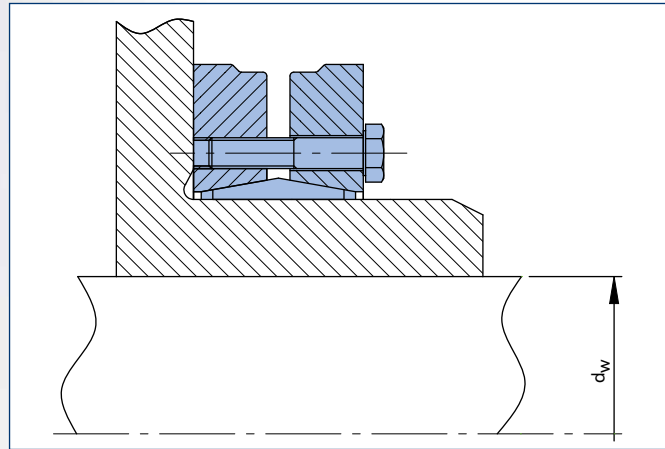
HC = Half shrink disc with clearance holes in thrust ring



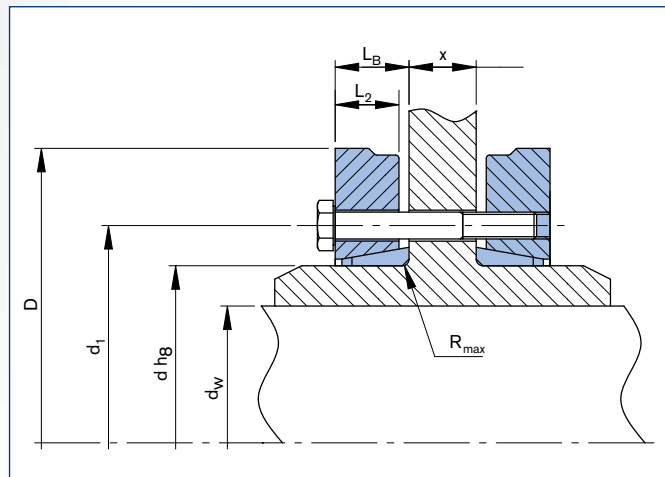
**OPTIONAL
NICKEL PLATED**

Shrink discs GT (split)

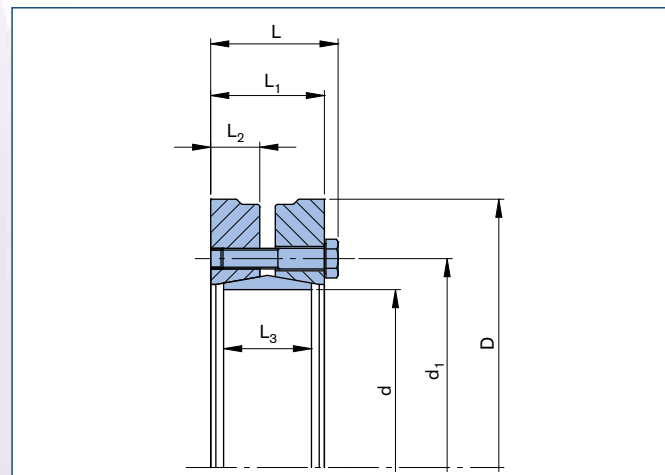
In the application shown above special screws according to the dimension X are required, which have to be ordered accordingly. When dimension „X“ larger than $2 \cdot L_1$ (RfN 4061 Standard Series, Page 28) is chosen, a reduction of the transmissible torque up to 50% has to be considered to the type GT.



RINGFEDER® Shrink Disc RfN 4061 · Location



RINGFEDER® Shrink Disc RfN 4061 GT · Location



RINGFEDER® Shrink Disc RfN 4061 · Dimensions

Shrink Discs dimensions											Transmissible torques or axial forces				Locking screws ¹⁾ ISO 4014 / 4017 - 10.9						
d	x	D	d	x	D	d _w	d ₁	L	L ₁	L ₂	L ₃	L _B	T _A ¹⁾	T	F _{ax}	P	σ _v	Quantity	Thread	Gw	T _{max}
mm			inch			inch	inch	inch	inch	inch	inch	inch	ft-lbs	ft-lbs	lbs	psi	psi			lbs	ft-lbs
14	x	37	0.551	x	1.457	0.394	0.945	0.583	0.472	0.197	0.354	0.374	2	22	1,800		60,235	3	M4*		28
						0.433								27	1,800	68,799	34				
						0.472								35	2,250	80,846	44				
16	x	41	0.630	x	1.614	0.472	1.063	0.728	0.591	0.246	0.472	0.374	3	52	3,375		73,879	4	M5		66
						0.512								66	4,050	83,458	81				
						0.551								81	4,500	112,342	96				
18	x	44	0.709	x	1.732	0.551	1.142	0.728	0.591	0.246	0.472	0.374	3	66	3,600		66,622	4	M5		81
						0.591								74	4,050	75,911	96				
						0.630								89	4,500	102,327	118				
20	x	46	0.787	x	1.811	0.591	1.260	0.827	0.689	0.276	0.472	0.453	3	81	4,500		67,057	5	M5		103
						0.630								103	4,949	72,137	125				
						0.669								118	5,399	84,184	148				
21	x	50	0.827	x	1.969	0.630	1.417	0.886	0.748	0.315	0.591	0.465	3.7	148	6,974		77,507	6	M5		184
						0.669								170	7,649	87,377	214				
						0.709								192	8,324	108,278	243				
24	x	50	0.945	x	1.969	0.748	1.417	0.886	0.748	0.315	0.591	0.465	3.7	177	7,199		71,847	6	M5		221
						0.787								199	7,874	80,410	251				
						0.827								221	8,549	98,553	288				
30	x	52	1.181	x	2.047	0.945	1.634	1.024	0.886	0.374	0.709	0.504	3.7	258	8,549		56,607	7	M5		332
						0.984								295	9,224	61,832	369				
						1.024								325	9,674	71,411	413				
36	x	72	1.417	x	2.835	1.102	2.047	1.083	0.925	0.394	0.709	0.543	9	435	11,924		56,607	5	M6		538
						1.181								509	13,049	63,574	634				
						1.220								516	13,049	77,798	656				
38	x	72	1.496	x	2.835	1.142	2.165	1.181	1.024	0.413	0.827	0.598	9	516	13,949		54,865	6	M6		656
						1.181								568	14,623	57,187	715				
						1.220								575	14,173	68,799	723				
40	x	72	1.575	x	2.835	1.181	2.244	1.122	0.965	0.413	0.748	0.583	9	531	13,724		54,429	6	M6		664
						1.220								538	13,274	65,315	671				
						1.260								583	13,949	66,767	730				
44	x	80	1.732	x	3.150	1.260	2.480	1.181	1.024	0.433	0.787	0.602	9	590	14,173		62,267	7	M6		738
						1.378								738	16,423	64,444	922				
						1.417								774	17,098	66,476	996				
48	x	80	1.890	x	3.150	1.417	2.677	1.181	1.024	0.433	0.866	0.622	9	664	14,623		53,849	7	M6		848
						1.496								774	16,198	55,155	996				
						1.575								885	17,548	58,493	1,143				
50	x	90	1.969	x	3.543	1.496	2.756	1.240	1.083	0.472	0.886	0.642	9	996	20,023		60,671	9	M6		1,217
						1.575								1,106	21,598	62,848	1,401				
						1.654								1,254	23,173	67,783	1,586				
55	x	100	2.165	x	3.937	1.654	2.953	1.358	1.201	0.512	0.906	0.701	9	959	17,548		49,785	8	M6		1,180
						1.772								1,143	19,573	52,107	1,438				
						1.890								1,328	21,598	59,509	1,696				
62	x	110	2.441	x	4.331	1.890	3.386	1.358	1.201	0.512	0.906	0.701	9	1,770	28,347		59,074	12	M6		2,213
						1.969								1,955	29,922	60,816	2,434				
						2.047								2,065	30,597	69,960	2,581				
68	x	115	2.677	x	4.528	1.969	3.386	1.358	1.201	0.512	0.925	0.701	9	1,401	21,373		45,576	10	M6		1,733
						2.165								1,660	23,398	53,268	2,102				
						2.362								2,102	27,222	59,655	2,655				
75	x	138	2.953	x	5.433	2.165	3.937	1.488	1.280	0.551	0.984	0.776	22	1,955	27,222		54,720	7	M8		2,434
						2.362								2,434	31,272	55,445	3,061				
						2.559								2,987	35,546	60,380	3,762				
80	x	145	3.150	x	5.709	2.362	3.937	1.488	1.280	0.551	0.984	0.776	22	2,360	28,347		51,236	7	M8		2,950
						2.559								2,876	32,172	51,962	3,614				
						2.756								3,393	35,996	56,897	4,241				

Characteristics

Standard series – this is the most popular shrink disc. High transmission values are possible and by varying the screw tightening torque the shrink disc can be adapted to the design specification.

Slitted inner ring – low forces and pressures on hub and shaft.

Compensation of small tolerance errors – please contact our engineers.

Maximum reliability – suitable for static, dynamic and impact loads.

Simplified manufacture – only plain shaft and bore diameters with easily achieved surface finish and tolerances are required.

Easy replacement – the RINGFEDER® Shrink Disc is free from any form fit.

Easy mounting – no steps, keyways, splines are required, therefore hubs can be located and locked at any point or angle on the shaft. RINGFEDER® Shrink Discs use standard screws tightened with standard tools. No additional machining or fitting work is required.

Easy removal – after loosening the locking screws, the RINGFEDER® Shrink Disc will self release and the hub will move freely on the shaft.

Low susceptibility to contamination – when the locking screws are tightened the functional contact surfaces are pressed firmly together and prevent the ingress of dirt and moisture.

OPTIONAL
NICKEL PLATED

Shrink Discs dimensions											Transmissible torques or axial forces		P	σ_v	Locking screws ¹⁾ ISO 4014 / 4017 - 10.9		Gw	T _{max}
d	x	D	d _w	d ₁	L	L ₁	L ₂	L ₃	L _B	T _A ¹⁾	T	F _{ax}			Quantity	Thread		
mm		inch	inch	inch	inch	inch	inch	inch	inch	ft-lbs	ft-lbs	lbs	psi	psi			lbs	ft-lbs
85	x	155	3.346	x	6.102	2.362					3,577	42,520		58,639	11	M8	7.7	4,462
						2.559	4.488	1.803	1.594	0.630	1.181	0.906	22	4,278				5,347
						2.756					5,015	52,869		61,977				6,269
90	x	155	3.543	x	6.102	2.559					3,540	39,146		51,236	10	M8	7.2	4,425
						2.756	4.488	1.752	1.535	0.669	1.181	0.906	22	4,462				5,569
						2.953					5,384	48,370		53,994				6,749
95	x	170	3.740	x	6.693	2.559					3,946	43,870		50,656	12	M8	10.4	4,942
						2.756	5.000	2.067	1.858	0.748	1.339	0.925	22	4,979				6,232
						2.953					6,011	53,994		51,526				7,523
100	x	170	3.937	x	6.693	2.756					5,126	45,445		48,043	12	M8	9.9	6,417
						2.953	5.000	2.067	1.858	0.748	1.339	1.004	22	5,605				7,007
						3.150					6,712	55,119		49,059				8,371
110	x	185	4.331	x	7.283	2.953					6,011	58,269		45,866	10	M10	13.9	7,486
						3.150	5.709	2.339	2.087	0.906	1.654	1.122	45	7,449				9,293
						3.346					8,998	66,593		51,817				11,248
115	x	185	4.528	x	7.283	3.150					7,007	60,069		43,834	10	M10	13.4	8,740
						3.543	5.709	2.457	2.205	0.906	1.654	1.260	45	8,925				11,137
						3.740					10,363	74,017		51,236				12,944
125	x	215	4.921	x	8.465	3.346					8,150	67,493		51,381	12	M10	19.2	10,178
						3.543	6.299	2.378	2.126	0.906	1.654	1.260	45	9,662				12,059
						3.740					11,174	79,866		51,091				13,977
140	x	230	5.512	x	9.055	3.740					11,137	82,116		48,769	10	M12	23.4	13,903
						3.937	6.890	2.677	2.382	1.024	1.811	1.398	75	12,944				16,153
						4.134					14,751	95,390		48,624				18,439
165	x	290	6.496	x	11.417	4.528					23,159	135,211		48,478	8	M16	47.8	28,986
						4.724	8.268	3.189	2.795	1.220	2.205	1.594	185	26,183				32,748
						4.921					29,060	149,384		50,510				36,325
185	x	330	7.283	x	12.992	5.315					38,722	176,831		44,560	10	M16	79.4	48,384
						5.512	9.291	3.795	3.402	1.504	2.795	1.890	185	42,299				52,846
						5.709					46,024	195,729		45,576				57,530
195	x	350	7.677	x	13.780	5.512					48,642	212,152		48,188	12	M16	88.2	60,812
						5.906	9.685	3.780	3.386	1.504	2.795	1.890	185	57,235				71,544
						6.102					61,771	243,199		50,075				77,223
200	x	350	7.874	x	13.780	5.906					55,317	224,976		47,317	12	M16	86	69,146
						6.102	9.685	3.780	3.386	1.504	2.795	1.890	185	59,743				74,641
						6.299					64,315	245,449		48,914				80,394

¹⁾ Shrink disc GT (split) delivered without screws. Tightening torques for screws quantity see table

- Surface finishes
For shaft $R_a \leq 3,2 \mu m$
- Tolerances
For shaft see table page 8
- When using a hollow shaft instead of a solid shaft
please contact our Engineering-Team

Explanations to tables: Page 9

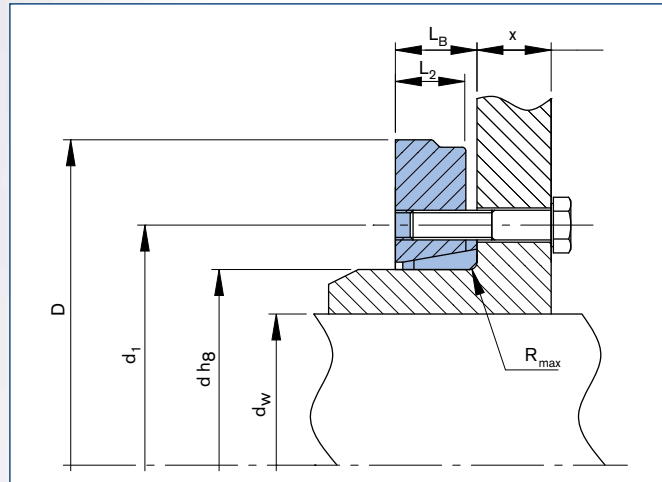
Ordering examples: RfN 4061

Series	d	D	Version
RfN 4061	7.677	13.780	-
RfN 4061	7.677	13.780	N
RfN 4061	7.677	13.780	GT
RfN 4061	7.677	13.780	GT-N

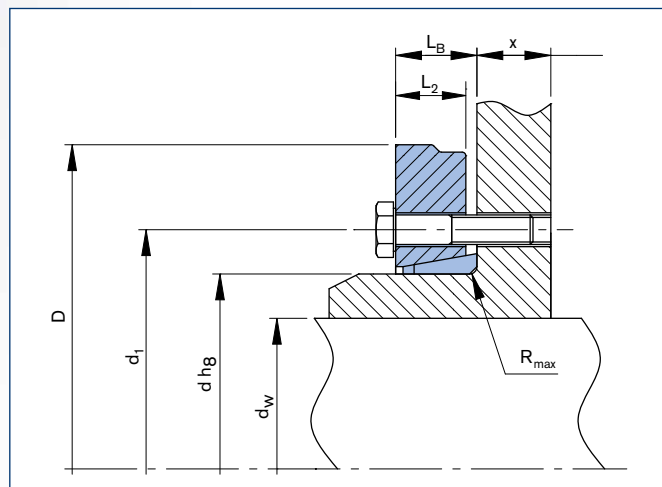
N = Nickel plated series
GT = Split
GT-N = Split-nickel plated



**OPTIONAL
NICKEL PLATED**



RINGFEDER® Shrink Disc RfN 4061 HT version



RINGFEDER® Shrink Disc RfN 4061 HC · Dimensions

Half shrink discs

Type HT (Threaded holes in thrust ring)

Type HC (Clearance holes in thrust ring)

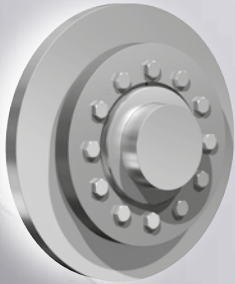
Shrink Discs dimensions												Transmissible torques or axial forces		Locking screws ¹⁾ ISO 4014 / 4017 - 10.9			
d	x	D	d	x	D	d _w	d ₁	L _B	L ₂	R	T _A ¹⁾	T	F _{ax}	Quantity	Thread	Gw	T _{max}
mm			inch			inch	inch	inch	inch	inch	ft-lbs	ft-lbs	lbs			lbs	ft-lbs
14	x	37	0.551	x	1.457	0.394	0.945	0.374	0.197	0.039	2	11	900	3	M4	0.1	13
						0.433						13	900				17
						0.472						17	1,125				22
16	x	41	0.630	x	1.614	0.472	1.063	0.374	0.246	0.039	3	26	1,687	4	M5	0.1	33
						0.512						33	2,025				41
						0.551						41	2,250				48
18	x	44	0.709	x	1.732	0.551	1.142	0.374	0.246	0.039	3	33	1,800	4	M5	0.2	41
						0.591						37	2,025				48
						0.630						44	2,250				59
20	x	46	0.787	x	1.811	0.591	1.260	0.453	0.276	0.051	3	41	2,250	5	M5	0.2	52
						0.630						52	2,475				63
						0.669						59	2,700				74
21	x	50	0.827	x	1.969	0.630	1.417	0.465	0.315	0.051	3.7	74	3,487	6	M5	0.2	92
						0.669						85	3,825				107
						0.709						96	4,162				122
24	x	50	0.945	x	1.969	0.748	1.417	0.465	0.315	0.051	3.7	89	3,600	6	M5	0.2	111
						0.787						100	3,937				125
						0.827						111	4,275				144
30	x	52	1.181	x	2.047	0.945	1.634	0.504	0.374	0.051	3.7	129	4,275	7	M5	0.2	166
						0.984						148	4,612				184
						1.024						162	4,837				207
36	x	72	1.417	x	2.835	1.220	2.047	0.543	0.394	0.051	9	258	6,524	5	M6	0.6	328
						1.181						254	6,524				317
						1.102						218	5,962				269
38	x	72	1.496	x	2.835	1.142	2.165	0.598	0.413	0.051	9	258	6,974	6	M6	0.6	328
						1.181						284	7,312				358
						1.220						288	7,087				361
40	x	72	1.575	x	2.835	1.181	2.244	0.583	0.413	0.051	9	266	6,862	6	M6	0.6	332
						1.220						269	6,637				336
						1.260						291	6,974				365
44	x	80	1.732	x	3.150	1.260	2.480	0.602	0.433	0.110	9	295	7,087	7	M6	0.6	369
						1.378						369	8,212				461
						1.417						387	8,549				498
48	x	80	1.890	x	3.150	1.575	2.677	0.622	0.433	0.110	9	443	8,774	7	M6	0.7	572
						1.496						387	8,099				498
						1.417						332	7,312				424
50	x	90	1.969	x	3.543	1.654	2.756	0.642	0.472	0.110	9	627	11,586	9	M6	0.9	793
						1.496						498	10,011				608
						1.575						553	10,799				701
55	x	100	2.165	x	3.937	1.890	2.953	0.701	0.512	0.110	9	664	10,799	8	M6	1.2	848
						1.772						572	9,786				719
						1.654						479	8,774				590
62	x	110	2.441	x	4.331	1.890	3.386	0.701	0.512	0.110	9	885	14,173	12	M6	1.4	1,106
						1.969						977	14,961				1,217
						2.047						1,033	15,298				1,291
68	x	115	2.677	x	4.528	1.969	3.386	0.701	0.512	0.110	9	701	10,686	10	M6	1.5	867
						2.165						830	11,699				1,051
						2.362						1,051	13,611				1,328
75	x	138	2.953	x	5.433	2.165	3.937	0.776	0.551	0.110	22	977	13,611	7	M8	2.5	1,217
						2.362						1,217	15,636				1,530
						2.559						1,494	17,773				1,881
80	x	145	3.150	x	5.709	2.362	3.937	0.776	0.551	0.110	22	1,180	14,173	7	M8	2.6	1,475
						2.559						1,438	16,086				1,807
						2.756						1,696	17,998				2,120
85	x	155	3.346	x	6.102	2.362	4.488	0.906	0.630	0.130	22	1,789	21,260	11	M8	3.6	2,231
						2.559						2,139	23,847				2,674
						2.756						2,508	26,435				3,135

¹⁾ Shrink disc delivered without screws. Tightening torques for screws quantity see table

- Surface finishes
For shaft $R_a \leq 3,2 \mu m$
- Tolerances
For shaft see table page 8
- When using a hollow shaft instead of a solid shaft
please contact our Engineering-Team

Explanations to tables: Page 9

To continue see next page



OPTIONAL
NICKEL PLATED

Characteristics

Standard series – this is the most popular shrink disc. High transmission values are possible and by varying the screw tightening torque the shrink disc can be adapted to the design specification.

Slitted inner ring – low forces and pressures on hub and shaft.

Compensation of small tolerance errors – please contact our engineers.

Maximum reliability – suitable for static, dynamic and impact loads.

Simplified manufacture – only plain shaft and bore diameters with easily achieved surface finish and tolerances are required.

Easy replacement – the RINGFEDER® Shrink Disc is free from any form fit.

Easy mounting – no steps, keyways, splines are required, therefore hubs can be located and locked at any point or angle on the shaft. RINGFEDER® Shrink Discs use standard screws tightened with standard tools. No additional machining or fitting work is required.

Easy removal – after loosening the locking screws, the RINGFEDER® Shrink Disc will self release and the hub will move freely on the shaft.

Low susceptibility to contamination – when the locking screws are tightened the functional contact surfaces are pressed firmly together and prevent the ingress of dirt and moisture.

Shrink Discs dimensions								Transmissible torques or axial forces		Locking screws ¹⁾ ISO 4014 / 4017 - 10.9							
d	x	D	d	x	D	d _w	d ₁	L _B	L ₂	R	T _A ¹⁾	T	F _{ax}	Quantity	Thread	Gw	T _{max}
mm			inch			inch	inch	inch	inch	inch	ft-lbs	ft-lbs	lbs			lbs	ft-lbs
90	x	155	3.543	x	6.102	2.559	4.488	0.906	0.669	0.130	22	1,770	19,573	10	M8	3.4	2,213
						2.756						2,784					
						2.953						3,374					
95	x	170	3.740	x	6.693	2.559	5.000	0.925	0.748	0.130	22	1,973	21,935	12	M8	4.9	2,471
						2.756						3,116					
						2.953						3,762					
100	x	170	3.937	x	6.693	2.756	5.000	1.004	0.748	0.130	22	2,563	22,723	12	M8	4.7	3,208
						2.953						3,503					
						3.150						4,186					
110	x	185	4.331	x	7.283	2.953	5.709	1.122	0.906	0.189	45	3,006	29,134	10	M10	6.5	3,743
						3.346						5,624					
						3.150						4,647					
115	x	185	4.528	x	7.283	3.150	5.709	1.260	0.906	0.189	45	3,503	30,034	10	M10	6.4	4,370
						3.543						5,569					
						3.740						6,472					
125	x	215	4.921	x	8.465	3.346	6.299	1.260	0.906	0.189	45	4,075	33,746	12	M10	9.3	5,089
						3.543						6,030					
						3.740						6,988					
140	x	230	5.512	x	9.055	3.740	6.890	1.398	1.024	0.189	75	5,569	41,058	10	M12	11.4	6,952
						3.937						8,076					
						4.134						9,220					
165	x	290	6.496	x	11.417	4.528	8.268	1.594	1.220	0.189	185	11,580	67,605	8	M16	23.1	14,493
						4.724						16,374					
						4.921						18,162					
185	x	330	7.283	x	12.992	5.709	9.291	1.890	1.504	0.189	185	23,012	97,865	10	M16	38.6	28,765
						5.315						24,192					
						5.512						26,423					
195	x	350	7.677	x	13.780	5.906	9.685	1.890	1.504	0.189	185	28,617	116,425	12	M16	43.0	35,772
						6.102						38,611					
						5.512						30,406					
200	x	350	7.874	x	13.780	5.906	9.685	1.890	1.504	0.189	185	27,659	112,488	12	M16	41.9	34,573
						6.102						37,321					
						6.299						40,197					

¹⁾ Shrink disc delivered without screws. Tightening torques for screws quantity see table

- Surface finishes
For shaft $R_a \leq 3,2 \mu m$
- Tolerances
For shaft see table page 8
- When using a hollow shaft instead of a solid shaft
please contact our Engineering-Team

Explanations to tables: Page 9

Ordering examples: RfN 4061

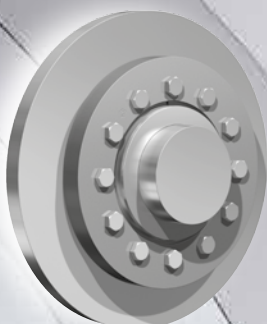
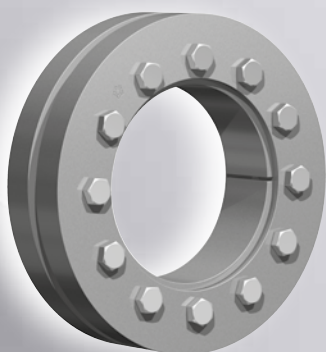
Series	d	D	Version
RfN 4061	4.331	7.283	HT
RfN 4061	4.331	7.283	HT-N
RfN 4061	4.331	7.283	HC
RfN 4061	4.331	7.283	HC-N

HT = Half shrink disc with threaded holes in thrust ring

HT-N = Half shrink disc with threaded holes in thrust ring - nickel plated

HC = Half shrink disc with clearance holes in thrust ring

HC-N = Half shrink disc with clearance holes in thrust ring - nickel plated



Characteristics

Standard series – this is the most popular shrink disc. High transmission values are possible and by varying the screw tightening torque the shrink disc can be adapted to the design specification.

Slitted inner ring – low forces and pressures on hub and shaft.

Compensation of small tolerance errors – please contact our engineers.

Maximum reliability – suitable for static, dynamic and impact loads.

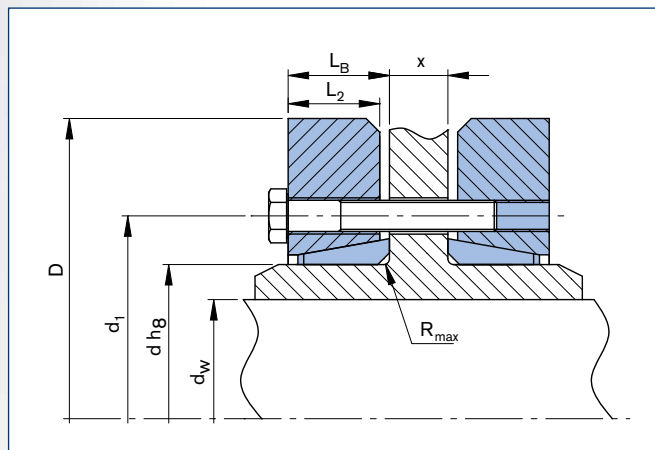
Simplified manufacture – only plain shaft and bore diameters with easily achieved surface finish and tolerances are required.

Easy replacement – the RINGFEDER® Shrink Disc is free from any form fit.

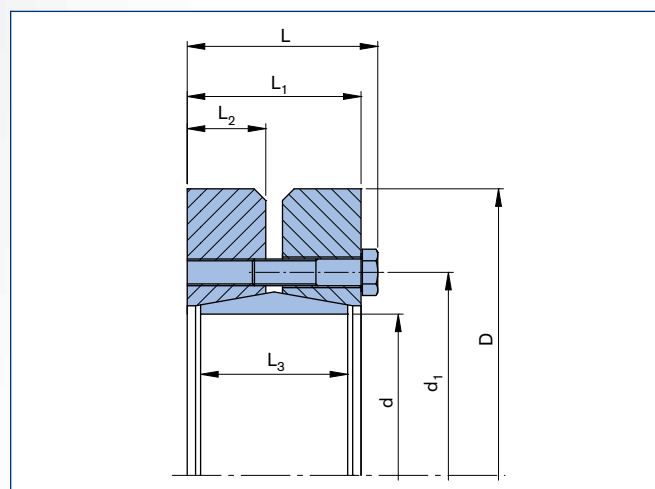
Easy mounting – no steps, keyways, splines are required, therefore hubs can be located and locked at any point or angle on the shaft. RINGFEDER® Shrink Discs use standard screws tightened with standard tools. No additional machining or fitting work is required.

Easy removal – after loosening the locking screws, the RINGFEDER® Shrink Disc will self release and the hub will move freely on the shaft.

Low susceptibility to contamination – when the locking screws are tightened the functional contact surfaces are pressed firmly together and prevent the ingress of dirt and moisture.



RINGFEDER® Shrink Disc RfN 4071 GT · Location



RINGFEDER® Shrink Disc RfN 4071 · Dimensions

Shrink Discs dimensions											Transmissible torques or axial forces				Locking screws ¹⁾ ISO 4014 / 4017 - 10.9			
d	x	D	d _w	d ₁	L	L ₁	L ₂	L ₃	L _B	T _A ¹⁾	T	F _{ax}	P	σ _v	Quantity	Thread	Gw	T _{max}
mm		inch	inch	inch	inch	inch	inch	inch	inch	ft-lbs	ft-lbs	lbs	psi	psi			lbs	ft-lbs
220	x	370	8.661	10.630	4.488	4.094	1.850	3.465	2.343	185	70,068	267,721	35,996	42,818	15	M16	119	87,585
			14.567	6.496							75,231	278,745	35,996	43,253				94,039
				6.693							81,132	290,219	35,996	43,979				101,415
240	x	405	9.449	11.614	4.803	4.291	1.929	3.622	2.441	361	101,784	354,562	39,479	45,721	12	M20	148	127,229
			15.945	6.693							88,507	329,365	39,479	44,850				110,634
				7.480							115,060	376,835	39,479	48,478				143,825
260	x	430	10.236	12.638	5.236	4.724	2.126	4.055	2.657	361	151,200	452,202	38,028	47,753	14	M20	181	189,000
			16.929	7.874							135,711	422,955	38,028	45,576				169,639
				7.480							120,960	395,958	38,028	44,414				151,200
280	x	460	11.024	13.622	5.787	5.276	2.362	4.488	3.012	361	160,051	470,200	36,431	42,818	16	M20	225	200,064
			18.110	8.661							179,965	499,447	36,431	44,414				224,956
				9.055							199,142	528,694	36,431	47,027				248,927
300	x	485	11.811	14.331	6.102	5.591	2.520	4.803	3.130	361	232,332	593,037	35,706	45,285	18	M20	260	290,415
			19.094	9.449							217,581	577,513	35,706	43,979				271,976
				9.055							202,830	546,917	35,706	42,237				253,537
320	x	520	12.598	15.197	6.102	5.591	2.520	4.803	3.130	361	230,119	595,511	37,302	42,527	20	M20	289	287,649
			20.472	9.843							250,771	626,783	37,302	43,689				313,464
				11.220							275,848	652,430	37,302	46,446				344,810
340	x	570	13.386	16.063	6.654	6.142	2.795	5.276	3.406	361	287,649	701,700	38,318	42,818	24	M20	410	359,561
			22.441	10.236							311,620	730,947	38,318	44,560				389,525
				10.630							339,279	764,918	38,318	46,011				424,098
350	x	580	13.780	17.008	6.890	6.378	2.874	5.512	3.524	361	326,002	737,021	35,561	41,947	24	M20	430	407,503
			22.835	11.024							354,030	771,668	35,561	43,544				442,537
				11.220							368,781	787,416	35,561	44,560				460,976
360	x	590	14.173	17.008	6.890	6.378	2.874	5.512	3.524	361	341,491	744,671	34,545	40,931	24	M20	450	426,864
			23.228	11.614							385,007	795,515	34,545	43,253				481,259
				11.417							370,256	778,642	34,545	42,382				462,820
380	x	645	14.961	18.031	7.205	6.614	2.992	5.669	3.642	620	418,198	879,656	38,173	43,544	20	M24	527	522,747
			25.394	11.811							449,913	917,902	38,173	44,560				562,391
				12.205							485,316	955,698	38,173	46,446				606,645
390	x	660	15.354	18.425	7.205	6.614	2.992	5.669	3.642	620	460,239	935,900	39,189	44,269	21	M24	573	575,298
			25.984	12.205							494,904	974,146	39,189	45,576				618,630
				12.598							529,570	1,008,792	39,189	48,043				661,962
400	x	680	15.748	18.898	7.205	6.614	2.992	5.669	3.642	620	494,167	958,398	38,173	43,834	21	M24	617	617,708
			26.772	12.598							512,606	977,521	38,173	44,995				640,757
				12.992							548,746	1,012,392	38,173	47,027				685,933
420	x	690	16.535	19.843	7.992	7.402	3.386	6.457	4.193	620	575,298	1,091,134	36,431	42,818	24	M24	697	719,123
			27.165	13.386							619,552	1,133,879	36,431	44,414				774,440
				13.780							663,806	1,174,375	36,431	46,737				829,757
440	x	750	17.323	20.748	8.543	7.953	3.583	6.969	4.469	620	594,475	1,066,386	32,367	38,754	24	M24	899	743,094
			29.528	13.780							634,303	1,104,632	32,367	39,770				792,879
				14.173							676,344	1,145,128	32,367	41,366				845,430
460	x	770	18.110	21.535	8.543	7.953	3.583	6.969	4.469	620	737,562	1,275,614	35,996	42,527	28	M24	926	921,953
			30.315	14.567							789,191	1,318,359	35,996	43,689				986,489
				14.961							1,032,587	1,361,105	35,996	45,576				1,290,734
480	x	800	18.898	22.441	8.976	8.386	3.780	7.402	4.685	620	862,948	1,383,602	34,835	40,931	30	M24	1,113	1,078,684
			31.496	15.354							914,577	1,428,598	34,835	42,382				1,143,221
				15.748							966,206	1,473,593	34,835	44,414				1,207,758
500	x	850	19.685	23.228	9.055	8.386	3.780	7.402	4.685	920	967,681	1,475,843	35,125	41,221	24	M27	1,268	1,209,602
			33.465	16.142							1,017,836	1,514,088	35,125	43,108				1,272,294
				16.535							1,073,153	1,559,084	35,125	45,140				1,341,441

¹⁾ Shrink disc GT (split) delivered without screws. Tightening torques for screws quantity see table

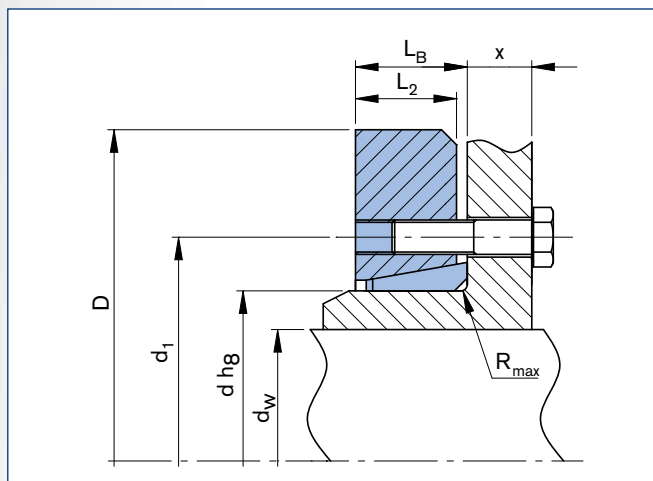
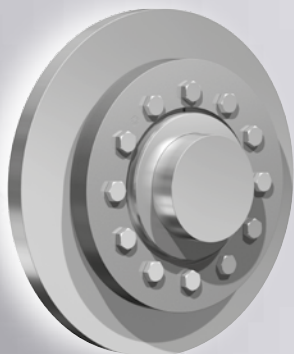
- Surface finishes
For shaft $R_a \leq 3,2 \mu m$
- Tolerances
For shaft see table page 8
- When using a hollow shaft instead of a solid shaft
please contact our Engineering-Team

Explanations to tables: Page 9

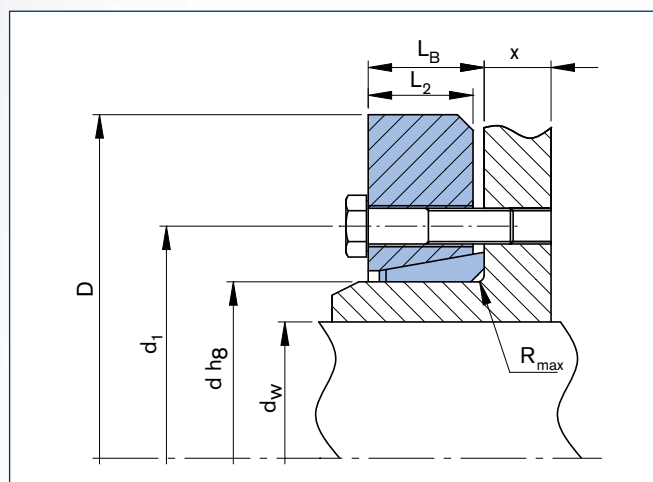
Ordering examples: RfN 4071

Series	d	D	Version
RfN 4071	15.354	25.984	-
RfN 4071	15.354	25.984	GT

GT = Split



RINGFEDER® Shrink Disc RfN 4071 HT version



RINGFEDER® Shrink Disc RfN 4071 HC · Dimensions

Half shrink discs

Type HT (Threaded holes in thrust ring)

Type HC (Clearance holes in thrust ring)

Shrink Discs dimensions										T _A ¹⁾	Transmissible torques or axial forces		Locking screws ¹⁾ ISO 4014 / 4017 - 10.9		Gw	T _{max}
d	x	D	d	x	D	d _w	d ₁	L _B	L ₂	R	T	F _{ax}	Quantity	Thread		
mm			inch			inch	inch	inch	inch	inch	ft-lbs	lbs			lbs	ft-lbs
220	x	370	8.661	x	14.567	6.299	10.630	2.343	1.850	0.291	185	35,034	15	M16	60	43,793
						6.496						37,616				47,020
						6.693						40,566				50,707
240	x	405	9.449	x	15.945	7.087	11.614	2.441	1.929	0.291	361	50,892	12	M20	74	63,615
						6.693						44,254				55,317
						7.480						57,530				71,912
260	x	430	10.236	x	16.929	8.268	12.638	2.657	2.126	0.291	361	75,600	14	M20	90	94,500
						7.874						67,856				84,820
						7.480						60,480				75,600
280	x	460	11.024	x	18.110	8.268	13.622	3.012	2.362	0.331	361	80,025	16	M20	112	100,032
						8.661						89,983				112,478
						9.055						99,571				124,464
300	x	485	11.811	x	19.094	9.646	14.331	3.130	2.520	0.331	361	116,166	18	M20	130	145,208
						9.449						108,790				135,988
						9.055						101,415				126,768
320	x	520	12.598	x	20.472	9.449	15.197	3.130	2.520	0.331	361	115,060	20	M20	144	143,825
						9.843						125,386				156,732
						10.236						137,924				172,405
340	x	570	13.386	x	22.441	9.843	16.063	3.406	2.795	0.331	361	143,825	24	M20	205	179,781
						10.236						155,810				194,762
						10.630						169,639				212,049
350	x	580	13.780	x	22.835	10.630	17.008	3.524	2.874	0.331	361	163,001	24	M20	215	203,752
						11.024						177,015				221,269
						11.220						184,391				230,488
360	x	590	14.173	x	23.228	11.024	17.008	3.524	2.874	0.331	361	170,746	24	M20	225	213,432
						11.614						192,504				240,630
						11.417						185,128				231,410
380	x	645	14.961	x	25.394	11.417	18.031	3.642	2.992	0.331	620	209,099	20	M24	263	261,374
						11.811						224,956				281,196
						12.205						242,658				303,322
390	x	660	15.354	x	25.984	11.811	18.425	3.642	2.992	0.331	620	230,119	21	M24	287	287,649
						12.205						247,452				309,315
						12.598						264,785				330,981
400	x	680	15.748	x	26.772	12.402	18.898	3.642	2.992	0.331	620	247,083	21	M24	309	308,854
						12.598						256,303				320,378
						12.992						274,373				342,966
420	x	690	16.535	x	27.165	12.992	19.843	4.193	3.386	0.390	620	287,649	24	M24	348	359,561
						13.386						309,776				387,220
						13.780						331,903				414,879
440	x	750	17.323	x	29.528	13.386	20.748	4.469	3.583	0.390	620	297,237	24	M24	450	371,547
						13.780						317,152				396,440
						14.173						338,172				422,715
460	x	770	18.110	x	30.315	14.173	21.535	4.469	3.583	0.390	620	368,781	28	M24	463	460,976
						14.567						394,596				493,245
						14.961						516,293				645,367
480	x	800	18.898	x	31.496	14.961	22.441	4.685	3.780	0.390	620	431,474	30	M24	557	539,342
						15.354						457,288				571,611
						15.748						483,103				603,879
500	x	850	19.685	x	33.465	15.748	23.228	4.685	3.780	0.390	920	483,841	24	M27	634	604,801
						16.142						508,918				636,147
						16.535						536,576				670,720

¹⁾ Shrink disc delivered without screws. Tightening torques for screws quantity see table

- Surface finishes
For shaft R_a ≤ 3,2 µm
- Tolerances
For shaft see table page 8
- When using a hollow shaft instead of a solid shaft
please contact our Engineering-Team

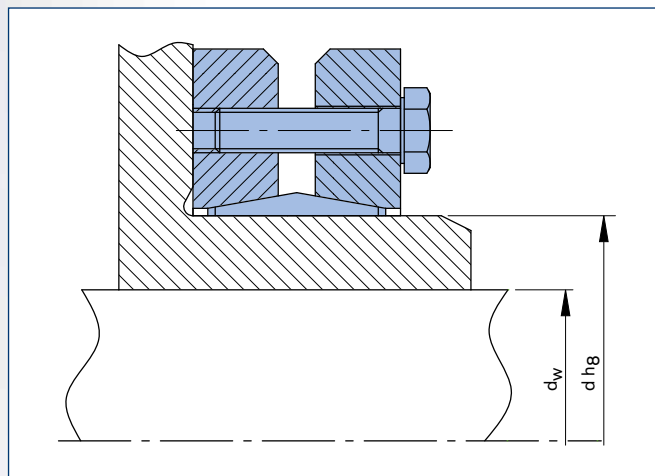
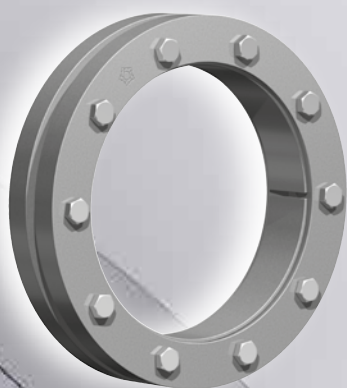
Explanations to tables: Page 9

Ordering examples: RfN 4071

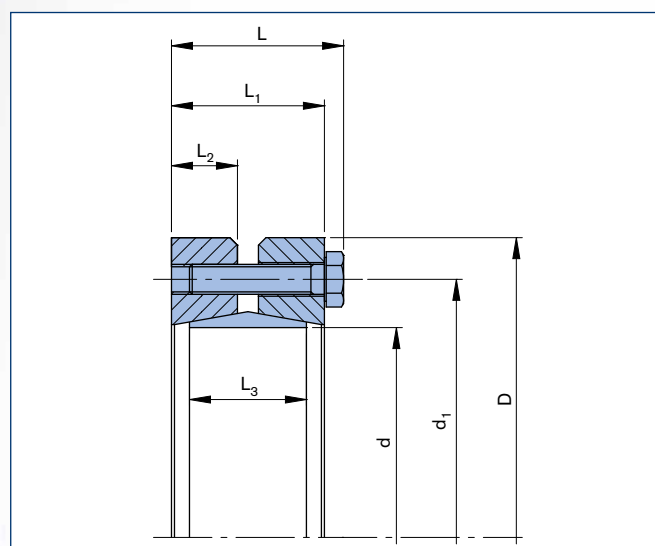
Series	d	D	Version
RfN 4071	16.535	27.165	HT
RfN 4071	16.535	27.165	HC

HT = Half shrink disc with threaded holes in thrust ring

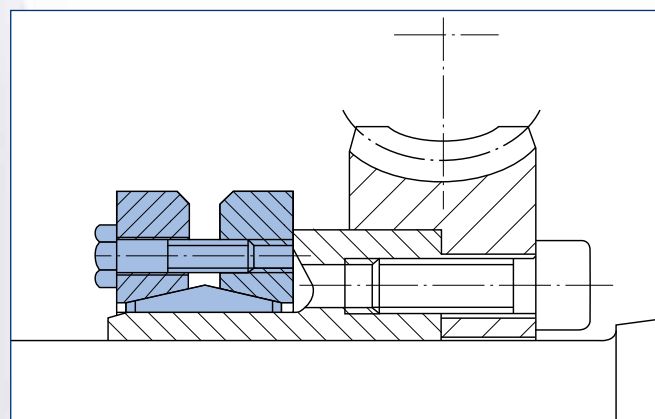
HC = Half shrink disc with clearance holes in thrust ring



RINGFEDER® Shrink Disc RfN 4073 · Location



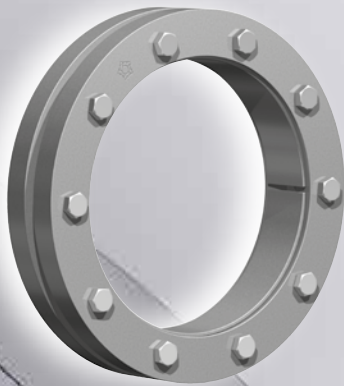
RINGFEDER® Shrink Disc RfN 4073 · Dimensions



Example of application: Worm gear

¹⁾ Shrink disc delivered without screws. Tightening torques for screws quantity see table

- Explanations to tables: Page 9** To continue see next page



Characteristics

Mini series – this range is a very compact design with low inertia values. It is ideally suited for mechanical seal and small gearbox applications.

Slitted inner ring – low forces and pressures on hub and shaft.

Compensation of small tolerance errors – please contact our engineers.

Maximum reliability – suitable for static, dynamic and impact loads.

Simplified manufacture – only plain shaft and bore diameters with easily achieved surface finish and tolerances are required.

Easy replacement – the RINGFEDER® Shrink Disc is free from any form fit.

Easy mounting – no steps, keyways, splines are required, therefore hubs can be located and locked at any point or angle on the shaft. RINGFEDER® Shrink Discs use standard screws tightened with standard tools. No additional machining or fitting work is required.

Easy removal – after loosening the locking screws, the RINGFEDER® Shrink Disc will self release and the hub will move freely on the shaft.

Low susceptibility to contamination – when the locking screws are tightened the functional contact surfaces are pressed firmly together and prevent the ingress of dirt and moisture.

Shrink Discs dimensions											Transmissible torques or axial forces				Locking screws ¹⁾ ISO 4014 / 4017 - 8.8							
d	x	D	d	x	D	d _w	d ₁	L	L ₁	L ₂	L ₃	T _A ¹⁾	T	F _{ax}	P	σ _v	Quantity	Thread	Gw	T _{max}		
mm		inch		inch	inch	inch	inch	inch	inch	inch	inch	ft-lbs	ft-lbs	lbs	psi	psi			lbs	ft-lbs		
105	x	150	4.134	x	5.906	3.622	5.039	1.260	1.102	0.453	0.866	9	2,213	18,223	18,143	34,690	9	M6	3.90	2,766		
						3.740							2,456	19,573							35,706	3,068
						3.858							2,714	21,035							38,609	3,393
112	x	158	4.409	x	6.220	3.937	5.315	1.260	1.102	0.453	0.866	9	2,500	19,010	16,982	32,658	9	M6	4.21	3,127		
						4.094							2,840	20,810							34,980	2,633
						4.173							3,024	21,598							38,318	3,776
120	x	164	4.724	x	6.457	4.173	5.551	1.417	1.260	0.512	0.984	9	2,876	20,585	15,531	30,190	10	M6	4.85	3,592		
						4.331							3,245	22,498							31,496	4,057
						4.409							3,444	23,398							33,383	4,300
130	x	172	5.118	x	6.772	4.528	5.945	1.417	1.260	0.512	0.984	9	3,135	22,273	14,369	27,723	10	M6	4.87	3,924		
						4.724							3,607	22,835							29,319	4,507
						4.803							3,762	23,398							32,658	4,706
140	x	182	5.512	x	7.165	4.921	6.339	1.417	1.260	0.512	0.984	9	4,197	30,372	15,966	30,190	12	M6	5.29	5,244		
						5.039							4,529	26,885							30,916	5,657
						5.118							4,757	27,897							31,932	5,945
150	x	194	5.906	x	7.638	5.315	6.732	1.417	1.260	0.512	0.984	9	4,632	26,097	14,950	28,158	12	M6	5.95	5,782		
						5.433							4,964	27,222							29,029	6,210
						5.512							5,200	28,122							29,900	6,498
160	x	204	6.299	x	8.031	5.591	7.126	1.417	1.260	0.512	0.984	9	4,691	24,972	13,934	25,981	12	M6	6.17	5,856		
						5.709							5,015	26,322							26,416	6,269
						5.827							5,355	27,447							27,142	6,690

¹⁾ Different quality of screws. ISO 4014/4017 - 8.8

¹⁾ Shrink disc delivered without screws. Tightening torques for screws quantity see table

■ Surface finishes
For shaft $R_a \leq 3,2 \mu m$

■ Tolerances
For shaft see table page 8

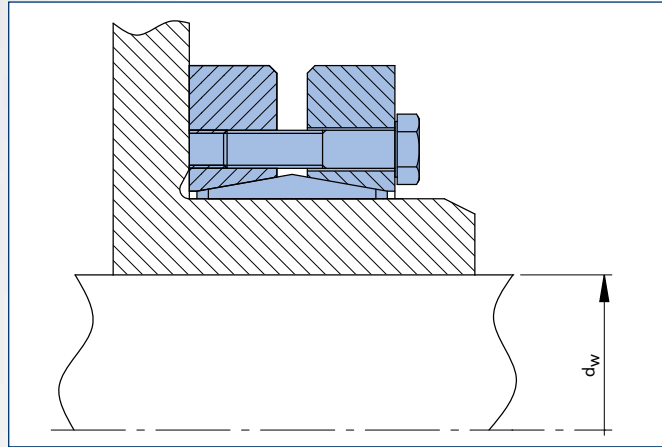
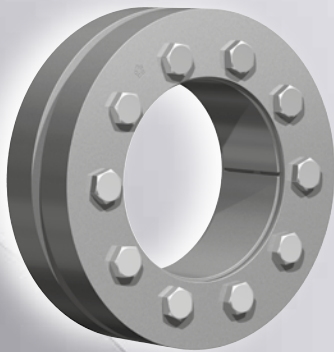
Explanations to tables: Page 9

More sizes on request

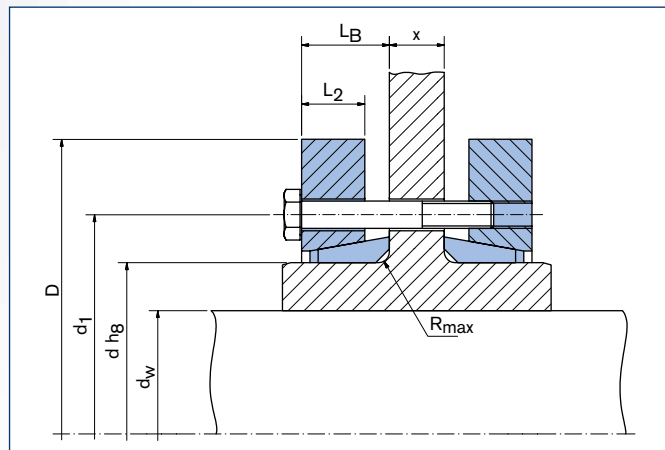
■ When using a hollow shaft instead of a solid shaft
please contact our Engineering-Team

Ordering example: RfN 4073

Series	d	D
RfN 4073	1.811	3.150



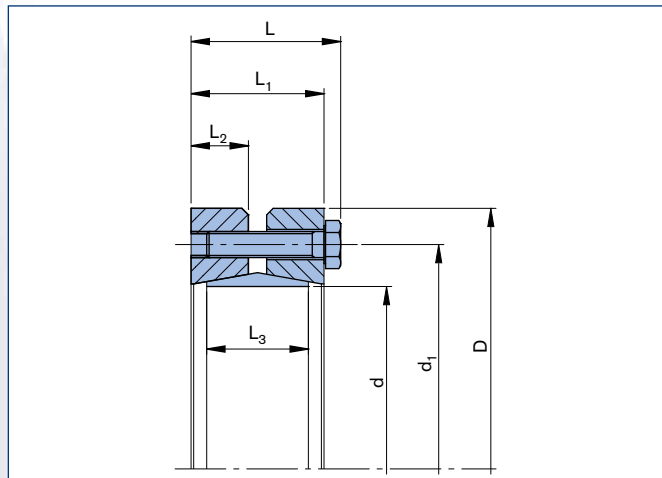
RINGFEDER® Shrink Disc RfN 4091 · Location



RINGFEDER® Shrink Disc RfN 4091 GT · Location

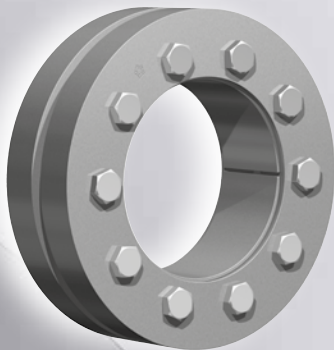
Shrink discs GT (split)

In the application shown above special screws according to the dimension X are required, which have to be ordered accordingly. When dimension „X“ larger than $2 \cdot L_1$ is chosen, a reduction of the transmissible torque up to 50% has to be considered to the type GT.



RINGFEDER® Shrink Disc RfN 4091 · Dimensions

Shrink Discs dimensions											Transmissible torques or axial forces				Locking screws ¹⁾ ISO 4014 / 4017 - 10.9						
d	x	D	d	x	D	d _w	d ₁	L	L ₁	L ₂	L ₃	L _B	T _A ¹⁾	T	F _{ax}	P	σ _v	Quantity	Thread	Gw	T _{max}
mm			inch			inch	inch	inch	inch	inch	inch	inch	ft-lbs	ft-lbs	lbs	psi	psi			lbs	ft-lbs
50	x	95	1.969	x	3.740	1.496	2.874	1.752	1.535	0.669	1.181	0.906	18	1,328	23,847	41,366	59,509	7	M8	3.1	1,660
						1.575								1,549	25,872		64,880				1,936
						1.654								1,770	27,897		74,169				2,213
55	x	105	2.165	x	4.134	1.772	3.071	1.752	1.535	0.669	1.181	0.906	21	1,991	30,372	42,092	66,331	7	M8	3.8	2,489
						1.654								1,660	27,447		58,639				2,075
						1.890								2,360	33,296		83,313				2,950
62	x	115	2.441	x	4.528	2.047	3.346	1.752	1.535	0.669	1.181	0.906	22	2,655	32,622	40,060	66,476	7	M8	4.4	3,319
						1.969								2,508	31,947		58,203				3,135
						1.890								2,176	30,147		54,575				2,720
68	x	118	2.677	x	4.646	1.969	3.661	1.929	1.732	0.748	1.339	1.063	22	2,655	33,071	37,738	48,478	8	M8	4.6	3,319
						2.165								3,393	37,796		52,542				4,241
						2.362								4,204	42,745		68,944				5,255
75	x	145	2.953	x	5.709	2.559	4.134	2.087	1.811	0.787	1.417	1.063	45	5,163	56,019	43,834	78,378	7	M10	8.4	6,454
						2.362								4,204	49,720		63,428				5,255
						2.165								3,393	43,420		58,493				4,241
80	x	145	3.150	x	5.709	2.362	4.134	2.087	1.811	0.787	1.417	1.063	45	4,204	44,995	41,076	55,010	7	M10	7.9	5,255
						2.559								5,163	50,845		59,945				6,454
						2.756								6,196	56,919		74,024				7,744
90	x	160	3.543	x	6.299	2.559	4.567	2.244	1.969	0.866	1.575	1.142	45	4,942	48,820	37,593	49,204	8	M10	10.6	6,177
						2.756								5,974	54,669		51,091				7,468
						2.953								7,081	60,519		57,332				8,851
100	x	170	3.937	x	6.693	2.756	4.961	2.402	2.126	0.906	1.732	1.260	45	6,491	59,619	38,463	48,478	10	M10	12.3	8,113
						2.953								7,376	65,918		49,640				9,220
						3.150								8,998	72,217		53,413				11,248
110	x	185	4.331	x	7.283	2.953	5.433	2.638	2.362	1.024	1.969	1.378	45	8,113	69,293	36,867	45,866	12	M10	16.8	10,141
						3.150								9,515	76,042		46,592				11,893
						3.346								10,842	79,192		52,252				13,553
125	x	215	4.921	x	8.465	3.346	6.299	2.874	2.559	1.102	2.165	1.476	75	11,063	79,866	35,996	48,043	10	M12	24.3	13,829
						3.543								12,907	87,291		48,043				16,134
						3.740								14,751	94,940		48,914				18,439
135	x	212	5.315	x	8.346	3.740	6.772	3.346	3.031	1.260	2.362	1.772	75	15,931	102,589	36,431	47,753	12	M12	23.6	19,914
						3.543								13,866	94,490		47,898				16,595
						4.134								20,504	119,462		49,059				25,630
140	x	300	5.512	x	11.811	4.331	8.661	4.173	3.780	1.654	3.150	2.126	185	43,295	246,574	52,252	68,218	12	M16	78.3	54,100
						3.937								34,665	211,927		62,848				43,332
						3.543								27,069	183,805		61,396				33,817
155	x	263	6.102	x	10.354	4.134	7.756	3.602	3.307	1.378	2.598	1.772	75	21,316	123,962	35,996	44,995	15	M12	43.2	26,626
						4.331								23,897	132,736		45,140				29,871
						4.528								26,700	141,735		45,576				33,375
165	x	290	6.496	x	11.417	4.921	8.268	3.858	3.465	1.496	2.835	1.929	185	37,394	183,355	39,189	49,930	10	M16	57.3	46,743
						4.724								33,928	176,606		47,608				42,410
						4.528								30,240	166,482		47,027				37,800
175	x	300	6.890	x	11.811	4.921	8.661	4.882	4.488	1.969	3.622	2.323	185	53,695	262,097	43,689	53,268	15	M16	80.5	67,118
						5.118								58,931	276,720		54,284				73,646
						5.315								64,389	291,119		56,026				80,468
185	x	330	7.283	x	12.992	5.315	9.291	4.803	4.409	1.969	3.622	2.402	185	53,104	247,474	38,173	47,462	14	M16	104	66,381
						5.112								57,530	258,722		48,478				71,912
						5.709								63,430	269,971		50,075				79,288
190	x	350	7.480	x	13.780	5.315	9.409	5.079	4.587	1.969	3.622	2.441	350	70,142	316,991	48,043	56,026	12	M20	121	87,659
						5.512								76,264	332,515		56,897				95,330
						6.102								96,326	379,085		63,864				120,407
195	x	350	7.677	x	13.780	5.512	9.685	4.803	4.409	1.969	3.622	2.500	185	55,317	241,849	36,286	44,995	14	M16	117	69,146
						5.906								64,905	265,472		46,301				81,132
						6.102								70,806	277,845		47,898				88,507
200	x	350	7.874	x	13.780	5.709	9.685	4.803	4.409	1.969	3.622	2.500	185	62,693	263,222	37,883	46,011	15	M16	110	78,366
						5.906								68,224	276,720		46,737				85,281
						6.102								73,756	290,219		47,898				92,195



Characteristics

Heavy design – for highest transmission values.

Slitted inner ring – low forces and pressures on hub and shaft.

Compensation of small tolerance errors – please contact our engineers.

Maximum reliability – suitable for static, dynamic and impact loads.

Simplified manufacture – only plain shaft and bore diameters with easily achieved surface finish and tolerances are required.

Easy replacement – the RINGFEDER® Shrink Disc is free from any form fit.

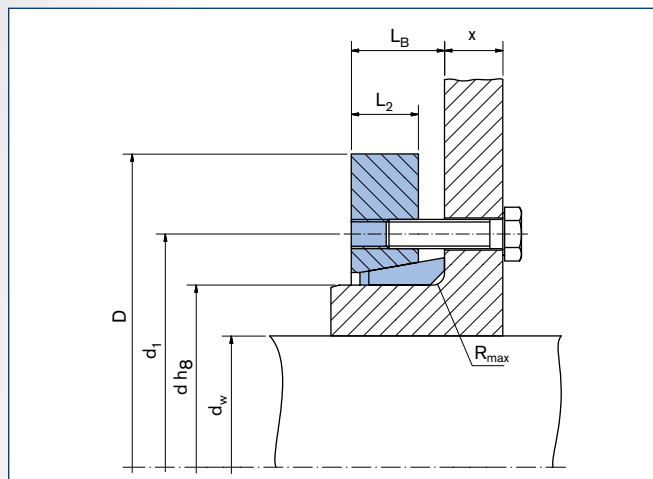
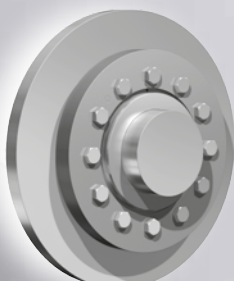
Easy mounting – no steps, keyways, splines are required, therefore hubs can be located and locked at any point or angle on the shaft.

RINGFEDER® Shrink Discs use standard screws tightened with standard tools. No additional machining or fitting work is required.

Easy removal – after loosening the locking screws, the RINGFEDER® Shrink Disc will self release and the hub will move freely on the shaft.

Low susceptibility to contamination – when the locking screws are tightened the functional contact surfaces are pressed firmly together and prevent the ingress of dirt and moisture.

Shrink Discs dimensions											Transmissible torques or axial forces				Locking screws ¹⁾ ISO 4014 / 4017 - 10.9						
d	x	D	d	x	D	d _w	d ₁	L	L ₁	L ₂	L ₃	L _B	T _A ¹⁾	T	F _{ax}	P	σ _v	Quantity	Thread	Gw	T _{max}
mm			inch		inch	inch	inch	inch	inch	inch	inch	inch	ft-lbs	ft-lbs	lbs	psi	psi			lbs	ft-lbs
220	x	370	8.661	x	14.567	6.496	10.630	5.669	5.276	2.362	4.488	2.933	185	100,308	371,210	37,012	45,866	20	M16	143	125,386
						6.299								93,670	357,712		44,850				117,088
						6.693								108,053	386,959		47,172				135,066
240	x	405	9.449	x	15.945	7.480	11.614	6.181	5.669	2.559	4.724	3.130	361	146,037	467,950	37,883	49,494	15	M20	192	182,547
						6.693								129,811	440,953		45,721				162,264
						7.480								114,322	409,456		44,269				142,903
260	x	430	10.236	x	16.929	7.874	12.638	6.811	6.299	2.835	5.354	3.445	361	157,101	508,446	37,012	44,705	18	M20	220	196,376
						8.268								177,015	544,442		46,737				221,269
						9.055								197,667	580,438		50,220				247,083
280	x	460	11.024	x	18.110	8.661	13.622	7.283	6.772	3.071	5.827	3.780	361	261,835	695,176	36,867	51,672	21	M20	291	327,293
						8.268								236,020	654,680		47,462				295,025
						9.055								210,205	616,434		44,995				262,756
300	x	485	11.811	x	19.094	9.449	14.331	7.441	6.929	3.150	5.984	3.858	361	251,509	665,929	35,125	43,253	22	M20	309	314,386
						9.646								277,323	704,175		45,866				346,654
						9.449								290,599	723,298		47,462				363,249
320	x	520	12.598	x	20.472	9.843	15.197	7.736	7.244	3.228	6.299	4.016	361	278,798	708,674	34,109	40,931	24	M20	364	348,498
						9.843								306,088	748,045		42,673				382,610
						10.236								332,640	780,667		46,156				415,801
340	x	570	13.386	x	22.441	9.843	16.535	8.465	7.874	3.622	6.929	4.331	620	361,037	879,656	36,722	42,818	21	M24	529	451,296
						10.236								390,908	916,777		44,995				488,635
						10.630								426,311	961,772		47,317				532,889
350	x	580	13.780	x	22.835	10.630	16.732	8.465	7.874	3.622	6.929	4.331	620	410,084	927,351	35,851	44,124	21	M24	545	512,606
						11.024								445,487	971,896		46,446				556,859
						11.220								463,926	993,269		48,043				579,908
360	x	590	14.173	x	23.228	11.024	17.008	8.622	8.031	3.622	7.087	4.508	620	451,388	983,145	35,561	43,979	22	M24	551	564,235
						11.417								489,004	1,028,140		46,446				611,255
						11.614								508,180	1,050,638		48,188				635,225
380	x	645	14.961	x	25.394	11.811	18.031	8.622	8.031	3.622	7.087	4.508	620	492,691	1,002,268	33,819	42,092	22	M24	705	615,864
						11.417								455,813	960,648		40,495				569,767
						12.205								530,307	1,045,014		44,560				662,884
390	x	660	15.354	x	25.984	12.598	18.425	8.937	8.346	3.780	7.402	4.665	620	600,744	1,145,128	34,254	46,156	24	M24	772	750,930
						12.205								562,022	1,104,632		43,108				702,528
						11.811								522,194	1,060,762		41,221				652,742
400	x	680	15.748	x	26.772	12.402	18.898	8.937	8.346	3.780	7.402	4.665	620	564,235	1,092,258	33,528	41,366	24	M24	816	705,294
						12.598								581,199	1,108,457		42,673				726,499
						12.992								623,240	1,153,002		45,285				779,050
420	x	690	16.535	x	27.165	12.992	19.843	9.961	9.370	4.370	8.425	5.177	620	736,824	1,362,230	34,980	43,834	30	M24	904	921,031
						13.780								840,821	1,465,719		49,640				1,051,026
						13.386								787,716	1,413,974		46,156				984,645
440	x	750	17.323	x	29.528	13.386	20.748	10.591	9.921	4.528	8.819	5.453	920	780,341	1,401,600	33,528	41,076	24	M27	1,190	975,426
						13.780								833,445	1,453,345		42,818				1,041,806
						14.173								888,025	1,505,089		45,285				1,110,031
460	x	770	18.110	x	30.315	14.173	21.535	10.591	9.921	4.528	8.819	5.551	920	973,582	1,673,821	37,302	45,285	28	M27	1,190	1,216,977
						14.567								1,047,338	1,732,315		47,317				1,309,173
						14.961								1,106,343	1,788,559		50,220				1,382,929
480	x	800	18.898	x	31.496	14.961	22.835	11.457	10.787	5.039	9.685	5.984	920	1,132,158	1,817,806	34,980	43,834	30	M27	1,433	1,415,197
						15.354								1,199,276	1,876,300		46,156				1,499,095
						15.748								1,268,607	1,934,794		49,349				1,585,758
500	x	850	19.685	x	34.465	15.748	23.622	11.457	10.787	5.039	9.685	5.984	920	1,290,734	1,968,540	35,706	44,850	32	M27	1,653	1,613,417
						16.142								1,357,114	2,020,284		47,608				1,696,393
						16.535								1,430,870	2,081,028		50,801				1,788,588

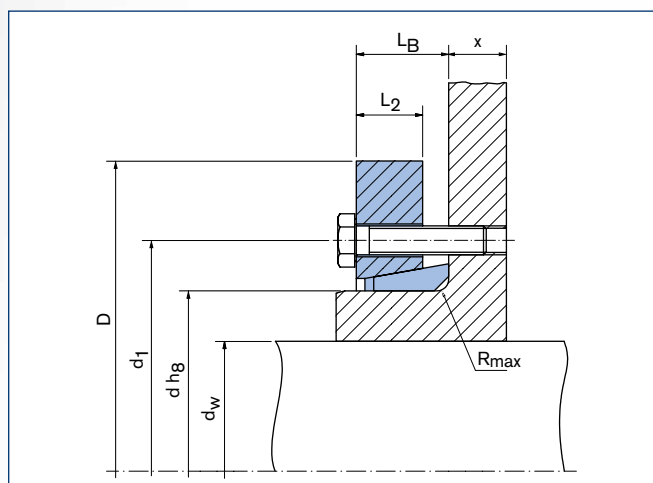


RINGFEDER® Shrink Disc RfN 4091 HT

Half shrink discs

Type HT (Threaded holes in thrust ring)

Type HC (Clearance holes in thrust ring)



RINGFEDER® Shrink Disc RfN 4091 HC · Dimensions

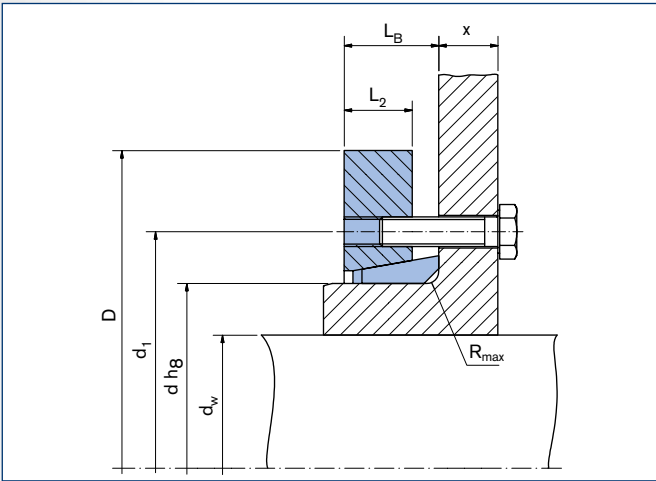
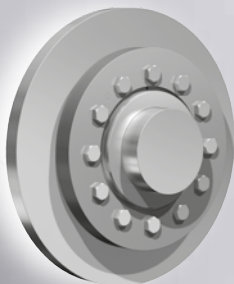
Shrink Discs dimensions												Transmissible torques or axial forces		Locking screws ¹⁾ ISO 4014 / 4017 - 10.9			
d	x	D	d	x	D	d _w	d ₁	L _B	L ₂	R	T _A ¹⁾	T	F _{ax}	Quantity	Thread	Gw	T _{max}
mm			inch			inch	inch	inch	inch	inch	ft-lbs	ft-lbs	lbs			lbs	ft-lbs
50	x	95	1.969	x	3.740	1.575	2.874	0.906	0.669	0.071	18	774	12,936	7	M8	1.54	968
						1.654						885	13,949				1,106
						1.496						664	11,924				830
55	x	105	2.165	x	4.134	1.654	3.071	0.906	0.669	0.071	21	830	13,724	7	M8	1.87	1,037
						1.772						996	15,186				1,245
						1.890						1,180	16,648				1,475
62	x	115	2.441	x	4.528	1.890	3.346	0.906	0.669	0.071	22	1,088	15,073	7	M8	2.20	1,360
						1.969						1,254	15,973				1,567
						2.047						1,328	16,311				1,660
68	x	118	2.677	x	4.646	1.969	3.661	1.063	0.748	0.110	22	1,328	16,536	8	M8	2.31	1,660
						2.165						1,696	18,898				2,120
						2.362						2,102	21,373				2,628
75	x	145	2.953	x	5.709	2.165	4.134	1.063	0.787	0.110	45	1,586	21,710	7	M10	4.19	2,120
						2.362						2,102	24,860				2,628
						2.559						2,581	28,010				3,227
80	x	145	3.150	x	5.709	2.362	4.134	1.063	0.787	0.110	45	2,102	22,498	7	M10	3.97	2,628
						2.559						2,581	25,422				3,227
						2.756						3,098	28,459				3,872
90	x	160	3.543	x	6.299	2.559	4.567	1.142	0.866	0.110	45	2,471	24,410	8	M10	5.29	3,089
						2.756						2,987	27,335				3,734
						2.953						3,540	30,259				4,425
100	x	170	3.937	x	6.693	2.756	4.961	1.260	0.906	0.130	45	3,245	29,809	10	M10	6.17	4,057
						2.953						3,688	32,959				4,610
						3.150						4,499	36,109				5,624
110	x	185	4.331	x	7.283	2.953	5.433	1.378	1.024	0.130	45	4,057	34,646	12	M10	8.38	5,071
						3.150						4,757	38,021				5,947
						3.346						5,421	39,596				6,776
125	x	215	4.921	x	8.465	3.543	6.299	1.476	1.102	0.130	75	6,454	43,645	10	M12	12.1	8,067
						3.740						7,376	47,470				9,220
						3.346						5,532	39,933				6,915
135	x	212	5.315	x	8.346	3.543	6.772	1.772	1.260	0.189	75	6,933	47,245	12	M12	11.6	8,298
						3.740						7,966	51,295				9,957
						4.134						10,252	59,731				12,815
140	x	300	5.512	x	11.811	3.543	8.661	2.126	1.654	0.189	185	13,534	91,903	12	M16	38.6	18,347
						3.937						17,333	105,964				23,556
						4.331						21,647	123,287				29,318
155	x	263	6.102	x	10.354	4.134	7.795	1.772	1.378	0.189	75	9,957	61,418	15	M12	21.5	12,446
						4.331						11,432	65,805				14,290
						4.528						12,539	70,193				15,673
165	x	290	6.496	x	11.417	4.528	8.268	1.929	1.496	0.189	185	15,120	83,241	10	M16	28.7	18,900
						4.724						16,964	88,303				21,205
						4.921						18,697	91,678				23,371
175	x	300	6.890	x	11.811	4.921	8.661	2.323	1.969	0.189	185	26,847	131,049	10	M16	32.0	33,559
						5.118						29,466	138,360				36,823
						5.315						32,195	145,559				40,234
185	x	330	7.283	x	12.992	5.315	9.291	2.402	1.969	0.189	185	26,552	123,737	14	M16	51.8	33,190
						5.512						28,765	129,361				35,956
						5.709						31,715	134,986				39,644
190	x	350	7.480	x	13.780	5.315	9.409	2.441	1.969	0.189	350	35,071	158,496	12	M20	57.3	43,830
						5.512						38,132	166,257				47,665
						6.102						48,163	189,542				60,203
195	x	350	7.677	x	13.780	5.512	9.685	2.500	1.969	0.189	185	27,659	120,925	14	M16	58.4	34,573
						5.906						32,453	132,736				40,566
						6.102						35,403	138,923				44,254

¹⁾ Shrink disc delivered without screws. Tightening torques for screws quantity see table

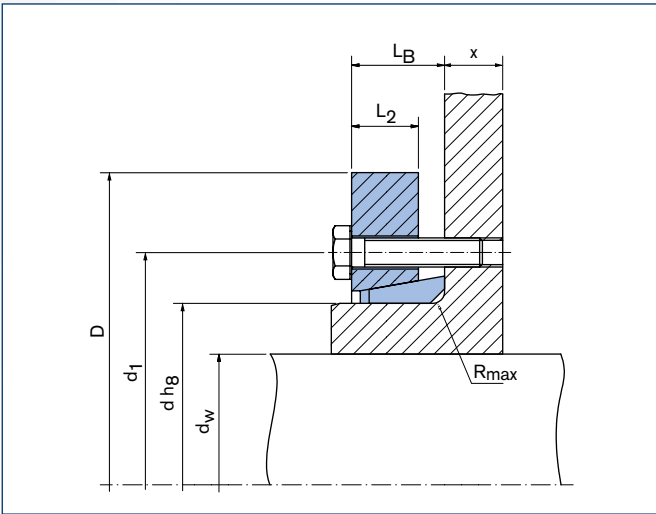
- Surface finishes
For shaft $R_a \leq 3,2 \mu m$
- Tolerances
For shaft see table page 8
- When using a hollow shaft instead of a solid shaft
please contact our Engineering-Team

Explanations to tables: Page 9

To continue see next page



RINGFEDER® Shrink Disc RfN 4091 HT



RINGFEDER® Shrink Disc RfN 4091 HC · Dimensions

Shrink Discs dimensions										T _A ¹⁾	Transmissible torques or axial forces		Locking screws ¹⁾ ISO 4014 / 4017 - 10.9		Gw	T _{max}
d	x	D	d	x	D	d _w	d ₁	L _B	L ₂		T	F _{ax}	Quantity	Thread		
mm			inch			inch	inch	inch	inch	ft-lbs	ft-lbs	lbs			lbs	ft-lbs
200	x	350	7.874	x	13.780	5.906	9.685	2.500	1.969	0.189	185	34,112	15	M16	55.1	42,640
						6.102						36,878				46,098
						5.709						31,346				39,183
220	x	370	8.661	x	14.567	6.299	10.630	2.933	2.362	0.252	185	46,835	20	M16	71.7	58,544
						6.496						50,154				62,693
						6.693						54,026				67,533
240	x	405	9.449	x	15.945	6.693	11.614	3.130	2.559	0.252	361	57,161	15	M20	96.0	71,451
						7.087						64,905				81,132
						7.480						73,019				91,273
260	x	430	10.236	x	16.929	7.480	12.638	3.445	2.835	0.252	361	78,550	18	M20	110	98,188
						7.874						88,507				110,634
						8.268						98,833				123,542
280	x	460	11.024	x	18.110	8.268	13.622	3.780	3.071	0.331	361	105,103	21	M20	146	131,378
						8.661						118,010				147,512
						9.055						130,917				163,647
300	x	485	11.811	x	19.094	9.055	14.331	3.858	3.150	0.331	361	125,754	22	M20	154	157,193
						9.449						138,662				173,327
						9.646						145,300				181,625
320	x	520	12.598	x	20.472	9.449	15.197	4.016	3.228	0.331	361	139,399	24	M20	182	174,323
						9.843						153,044				191,305
						10.236						166,320				207,900
340	x	570	13.386	x	22.441	9.843	16.535	4.331	3.622	0.331	620	180,518	21	M24	265	225,648
						10.236						195,454				244,317
						10.630						213,155				266,444
350	x	580	13.780	x	22.835	10.630	16.732	4.331	3.622	0.331	620	205,042	21	M24	272	256,303
						11.024						222,744				278,430
						11.220						231,963				289,954
360	x	590	14.173	x	23.228	11.417	17.008	4.508	3.622	0.390	620	244,502	22	M24	276	305,627
						11.614						254,090				317,613
						11.811						265,154				282,117
380	x	645	14.961	x	25.394	11.417	18.031	4.508	3.622	0.390	620	227,907	22	M24	353	284,883
						11.811						246,346				307,932
						12.205						261,097				331,442
390	x	660	15.354	x	25.984	11.811	18.425	4.665	3.780	0.390	620	261,097	24	M24	386	326,371
						12.205						281,011				351,264
						12.598						300,372				375,465
400	x	680	15.748	x	26.772	12.402	18.898	4.665	3.780	0.390	620	282,117	24	M24	408	352,647
						12.598						290,599				363,249
						12.992						311,620				389,525
420	x	690	16.535	x	27.165	12.992	19.843	5.177	4.370	0.390	620	368,412	30	M24	452	460,515
						13.386						393,858				492,323
						13.780						420,410				525,513
440	x	750	17.323	x	29.528	13.386	20.748	5.453	4.528	0.390	920	390,170	24	M27	595	487,713
						13.780						416,723				520,903
						14.173						444,012				555,015
460	x	770	18.110	x	30.315	14.173	21.535	5.551	4.528	0.488	920	486,791	28	M27	595	608,489
						14.567						523,669				654,586
						14.961						553,172				691,464
480	x	800	18.898	x	31.496	14.961	22.835	5.984	5.039	0.488	920	566,079	30	M27	717	707,599
						15.354						599,638				749,547
						15.748						634,303				792,879
500	x	850	19.685	x	33.465	15.748	23.622	5.984	5.039	0.488	920	645,367	32	M27	827	806,708
						16.142						678,557				848,196
						16.535						715,435				894,294

¹⁾ Shrink disc delivered without screws. Tightening torques for screws quantity see table

■ Surface finishes
For shaft R_a ≤ 3,2 µm

■ Tolerances
For shaft see table page 8

Explanations to tables: Page 9

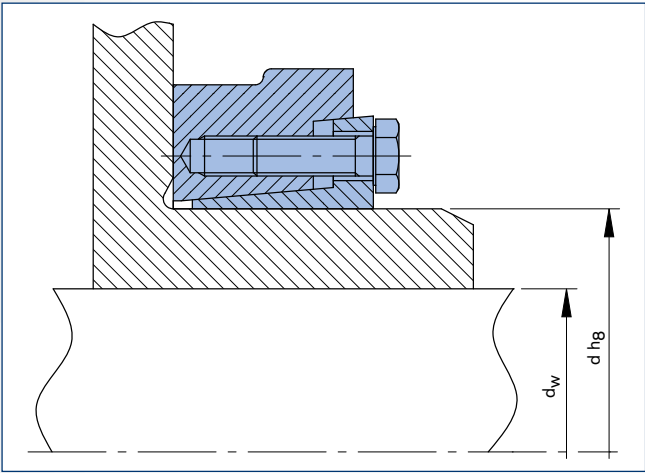
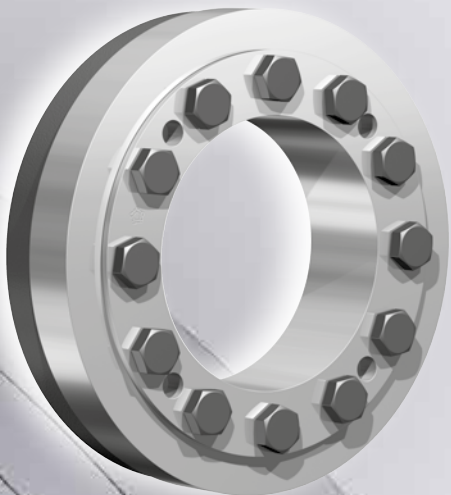
■ When using a hollow shaft instead of a solid shaft please contact our Engineering-Team

Ordering examples: RfN 4091

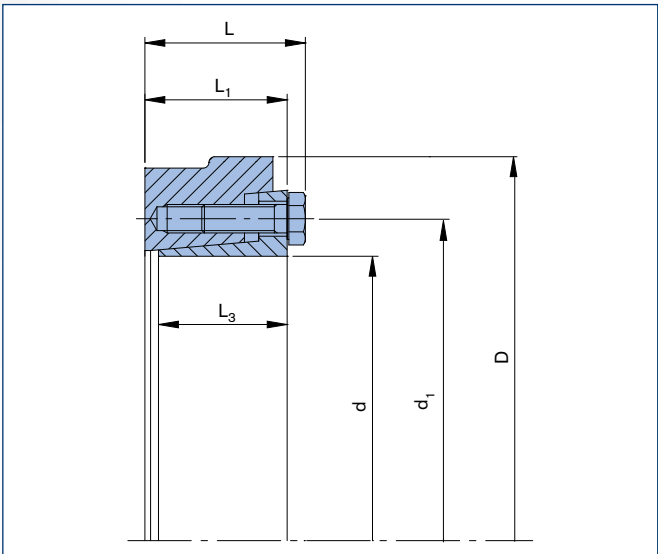
Series	d	D	Version
RfN 4091	18.110	30.315	HT
RfN 4091	18.110	30.315	HC

HT = Half shrink disc with threaded holes in thrust ring

HC = Half shrink disc with clearance holes in thrust ring



RINGFEDER® Shrink Disc RfN 4161 · Location



RINGFEDER® Shrink Disc RfN 4161 · Dimensions

Shrink Discs dimensions										T _A	Transmissible torques or axial forces		Locking screws ISO 4014 / 4017 - 12.9	G _w	T _{max}		
d	x	D	d	x	D	d _w	d ₁	L	L ₁		L ₃	T	F _{ax}			Thread	
mm			inch			inch			inch			ft-lbs	ft-lbs	lbs		lbs	ft-lbs
18	x	44	0.709	x	1.732	0.591	1.181	0.748	0.591	0.512	9	59	2,473	M6	0.44	65	
						0.630	1.181			0.512		81	3,147				
						--	--			--		--	--				
20	x	47	0.787	x	1.850	0.669	1.260	0.768	0.610	0.531	9	111	4,047	M6	0.44	122	
						0.709	1.260			0.531		133	4,496				
						--	--			--		--	--				
24	x	50	0.945	x	1.969	0.748	1.417	0.866	0.709	0.591	9	118	3,822	M6	0.44	130	
						0.787	1.417			0.591		155	4,496				
						0.866	1.417			0.591		207	5,620				
26	x	51.5	1.024	x	2.028	0.787	1.496	0.866	0.709	0.630	9	170	5,171	M6	0.44	187	
						0.866	1.496			0.630		221	6,070				
						0.945	1.496			0.630		229	6,519				
30	x	60	1.181	x	2.362	0.945	1.732	0.945	0.787	0.669	9	199	5,171	M6	0.66	219	
						0.984	1.732			0.669		236	5,620				
						1.024	1.732			0.669		266	6,295				
36	x	72	1.417	x	2.835	1.063	2.047	1.083	0.866	0.728	26	376	8,318	M8	1.10	414	
						1.181	2.047			0.728		524	10,566				
						1.299	2.047			0.728		701	13,039				
38	x	72	1.496	x	2.835	1.299	2.126	1.083	0.866	0.728	26	634	11,690	M8	1.10	698	
						1.063	2.126			0.728		354	8,093				
						1.181	2.126			0.728		479	9,667				
40	x	80	1.575	x	3.150	1.339	2.402	1.161	0.945	0.807	26	597	10,791	M8	1.54	657	
						1.378	2.402			0.807		649	11,240				
						1.457	2.402			0.807		708	11,690				
44	x	80	1.732	x	3.150	1.378	2.402	1.161	0.945	0.807	26	590	11,690	M8	1.32	649	
						1.417	2.402			0.807		656	12,814				
						1.457	2.402			0.807		774	13,489				
50	x	90	1.969	x	3.543	1.496	2.677	1.240	1.024	0.866	26	1,106	17,760	M8	1.76	1,217	
						1.575	2.677			0.866		1,254	19,558				
						1.654	2.677			0.866		1,475	21,132				
55	x	100	2.165	x	3.937	1.654	2.835	1.358	1.142	0.984	26	1,180	17,535	M8	2.42	1,298	
						1.772	2.835			0.984		1,475	19,783				
						1.890	2.835			0.984		1,770	22,256				
60	x	110	2.362	x	4.331	2.047	3.150	1.358	1.142	0.965	26	1,991	23,605	M8	2.87	2,191	
						1.890	3.150			0.965		1,623	20,682				
						1.969	3.150			0.965		1,844	22,031				
62	x	110	2.441	x	4.331	1.890	3.150	1.358	1.142	0.965	26	1,623	20,682	M8	2.87	1,785	
						1.969	3.150			0.965		1,844	22,031				
						2.047	3.150			0.965		1,991	23,605				
68	x	115	2.677	x	4.528	1.969	3.386	1.358	1.142	0.965	26	1,770	21,132	M8	3.09	1,947	
						2.165	3.386			0.965		2,213	24,954				
						2.362	3.386			0.965		2,803	28,776				
75	x	138	2.953	x	5.433	2.165	3.937	1.476	1.220	1.035	52	2,729	30,349	M10	5.07	3,002	
						2.362	3.937			1.035		3,467	35,070				
						2.559	3.937			1.035		4,278	39,791				
80	x	141	3.150	x	5.551	2.362	4.094	1.476	1.220	1.024	52	3,098	31,698	M10	5.07	3,408	
						2.559	4.094			1.024		3,835	35,969				
						2.756	4.094			1.024		4,647	40,466				
85	x	155	3.346	x	6.102	2.559	4.488	1.752	1.496	1.339	52	4,352	41,814	M10	7.72	4,787	
						2.756	4.488			1.339		5,310	45,861				
						2.953	4.488			1.339		6,269	51,032				
90	x	155	3.543	x	6.102	2.559	4.488	1.752	1.496	1.299	52	4,352	40,915	M10	7.72	4,787	
						2.756	4.488			1.299		5,310	45,861				
						2.953	4.488			1.299		6,269	51,032				
95	x	170	3.740	x	6.693	2.756	4.882	1.949	1.693	1.476	52	5,458	47,884	M10	11.0	6,004	
						2.953	4.882			1.476		6,564	53,055				
						3.150	4.882			1.476		7,671	58,450				
100	x	185	3.937	x	7.283	3.150	5.472	2.224	1.929	1.693	90	11,063	83,179	M12	14.8	12,170	
						3.346	5.472			1.693		12,760	89,924				
						3.543	5.472			1.693		14,456	96,668				

■ Surface finishes
For shaft R_a ≤ 3,2 µm

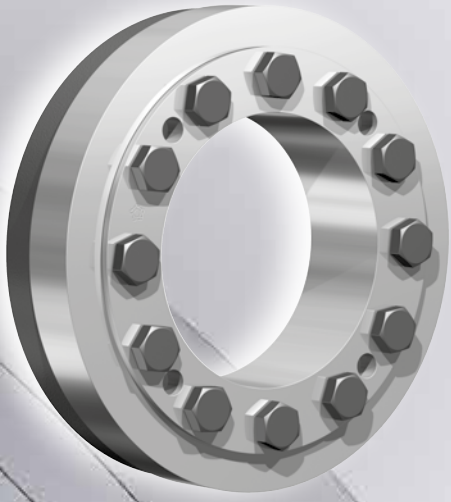
■ Tolerances
For shaft see table page 8

■ When using a hollow shaft instead of a solid shaft
please contact our Engineering-Team

■ Hub with yield strength R_{p0,2} ≥ 360 N/mm²

Explanations to tables: Page 9

To continue see next page



Characteristics

Standard design – for high transmission values.

Slitted inner ring – low forces and pressures on hub and shaft.

Compensation of small tolerance errors – please contact our engineers.

Maximum reliability – suitable for static, dynamic and impact loads.

Simplified manufacture – only plain shaft and bore diameters with easily achieved surface finish and tolerances are required.

Easy replacement – the RINGFEDER® Shrink Disc is free from any form fit.

Easy mounting – no steps, keyways, splines are required, therefore hubs can be located and locked at any point or angle on the shaft. RINGFEDER® Shrink Discs use standard screws tightened with standard tools. No additional machining or fitting work is required.

Short installation time – cost savings particularly in serial production.

Easy removal – after loosening the locking screws, the RINGFEDER® Shrink Disc will self release and the hub will move freely on the shaft.

Low susceptibility to contamination – when the locking screws are tightened the functional contact surfaces are pressed firmly together and prevent the ingress of dirt and moisture.

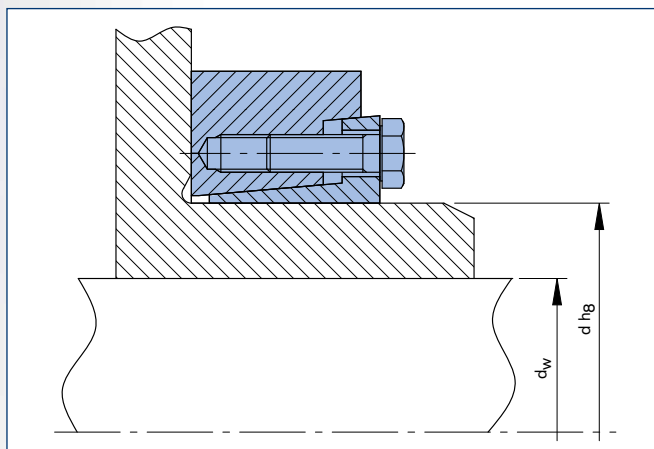
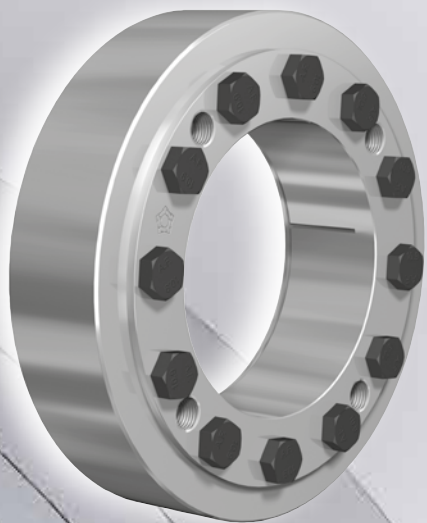
Shrink Discs dimensions											Transmissible torques or axial forces		Locking screws ISO 4014 / 4017 - 12.9			
d	x	D	d	x	D	d _w	d ₁	L	L ₁	L ₃	T _A	T	F _{ax}	Thread	Gw	T _{max}
mm			inch			inch		inch			ft-lbs	ft-lbs	lbs		lbs	ft-lbs
105	x	185	4.134	x	7.283	3.543	5.472	2.224	1.929	1.693	90	13,719	97,567	M12	14.1	15,091
						3.150	5.472			1.693		10,252	78,233			11,277
						3.346	5.472			1.693		11,875	85,427			13,062
110	x	185	4.331	x	7.283	3.150	5.472	2.224	1.929	1.693	90	11,432	85,427	M12	13.5	12,575
						3.346	5.472			1.693		13,129	92,172			14,444
						3.543	5.472			1.693		14,751	98,916			16,226
115	x	200	4.528	x	7.874	3.346	5.906	2.461	2.165	1.890	90	12,686	91,048	M12	17.6	13,955
						3.543	5.906			1.890		14,677	99,590			16,145
						3.740	5.906			1.890		16,890	108,358			18,579
120	x	200	4.724	x	7.874	3.346	5.906	2.461	2.165	1.890	90	12,686	91,048	M12	17.0	13,955
						3.543	5.906			1.890		14,677	99,590			16,145
						3.740	5.906			1.890		16,890	108,358			18,579
125	x	215	4.921	x	8.465	3.543	6.181	2.382	2.087	1.831	90	14,161	94,420	M12	19.6	15,577
						3.740	6.181			1.831		16,005	101,164			17,606
						3.937	6.181			1.831		17,997	107,908			19,796
130	x	230	5.118	x	9.055	4.331	6.772	2.579	2.283	2.008	90	26,552	146,126	M12	25.4	28,470
						3.740	6.772			2.008		19,103	121,397			21,013
						3.937	6.772			2.008		21,389	130,389			23,528
135	x	230	5.315	x	9.055	3.740	6.772	2.638	2.283	2.008	140	15,821	101,614	M14	24.5	17,403
						3.937	6.772			2.008		17,923	109,257			19,715
						4.331	6.772			2.008		22,496	124,769			24,708
140	x	230	5.512	x	9.055	3.937	6.772	2.638	2.283	2.008	140	18,660	112,404	M14	23.6	20,526
						4.134	6.772			2.008		20,652	119,149			22,717
						4.528	6.772			2.008		26,257	137,133			28,883
150	x	263	5.906	x	10.354	4.331	7.480	2.795	2.441	2.165	140	27,290	151,296	M14	35.9	30,019
						4.724	7.480			2.165		33,412	169,506			36,753
						4.921	7.480			2.165		36,657	178,723			40,323
155	x	263	6.102	x	10.354	4.331	7.480	2.795	2.441	2.165	140	24,340	134,885	M14	34.8	26,774
						4.528	7.480			2.165		26,995	143,203			29,694
						4.724	7.480			2.165		29,871	151,521			32,858
160	x	290	6.299	x	11.417	5.315	7.874	3.071	2.677	2.402	215	53,473	240,546	M16	49.2	58,821
						4.724	7.874			2.402		42,262	213,568			46,489
						5.118	7.874			2.402		49,195	229,305			54,115
165	x	290	6.496	x	11.417	5.315	7.874	3.071	2.677	2.402	215	53,473	240,546	M16	47.8	58,821
						4.921	7.874			2.402		45,360	220,313			49,896
						4.724	7.874			2.402		41,672	211,320			45,839
170	x	300	6.693	x	11.811	5.709	8.268	3.083	2.689	2.402	215	57,825	243,018	M16	49.2	63,607
						5.118	8.268			2.402		44,991	210,871			49,490
						5.512	8.268			2.402		53,326	229,980			58,658
175	x	300	6.890	x	11.811	5.512	8.268	3.083	2.689	2.402	215	53,473	231,553	M16	47.8	58,821
						5.118	8.268			2.402		45,360	202,328			49,896
						5.315	8.268			2.402		49,417	222,561			54,358
180	x	320	7.087	x	12.598	6.102	8.819	3.819	3.386	3.051	215	80,616	314,957	M16	75.0	88,677
						5.906	8.819			3.051		74,789	303,942			82,268
						5.512	8.819			3.051		63,799	278,089			70,179
185	x	320	7.283	x	12.598	5.512	8.819	3.819	3.386	3.051	215	70,806	281,011	M16	73.0	77,887
						5.709	8.819			3.051		76,706	303,492			84,377
						6.102	8.819			3.051		88,507	348,454			97,358
190	x	340	7.480	x	13.386	6.299	9.370	3.764	3.370	3.031	215	83,713	314,732	M16	79.2	92,085
						5.906	9.370			3.031		67,856	281,011			74,641
						6.102	9.370			3.031		73,019	292,252			80,321
195	x	340	7.677	x	13.386	6.299	9.370	3.764	3.370	3.031	215	87,991	335,190	M16	77.2	96,790
						6.496	9.370			3.031		93,007	343,733			102,307
						5.906	9.370			3.031		75,969	308,887			83,566
200	x	340	7.874	x	13.386	5.906	9.370	3.768	3.374	3.031	215	79,657	325,973	M16	75.0	87,622
						6.102	9.370			3.031		85,557	337,213			94,113
						6.299	9.370			3.031		91,458	348,454			100,603

- Surface finishes
For shaft $R_a \leq 3,2 \mu m$
- Tolerances
For shaft see table page 8
- When using a hollow shaft instead of a solid shaft
please contact our Engineering-Team
- Hub with yield strength $Rp0,2 \geq 360 N/mm^2$

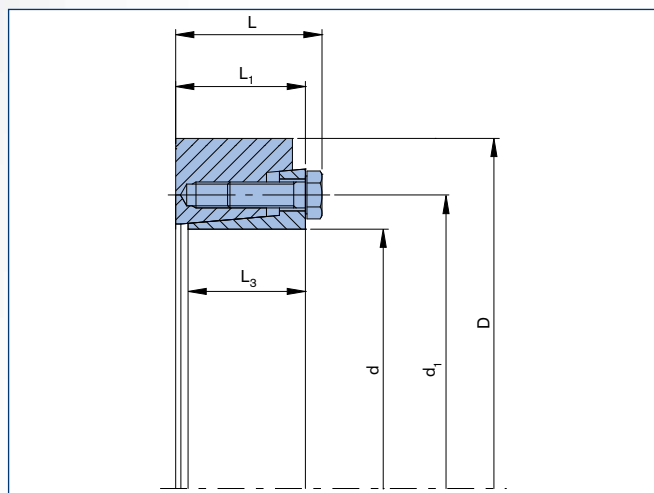
Explanations to tables: Page 9

Ordering example: RfN 4161

Series	d	D
RfN 4161	5.906	10.354



RINGFEDER® Shrink Disc RfN 4181 · Location



RINGFEDER® Shrink Disc RfN 4181 · Dimensions

Shrink Discs dimensions										T _A	Transmissible torques or axial forces		Locking screws ISO 4014 / 4017 - 12.9		Gw	T _{max}
d	x	D	d	x	D	d _w	L	L ₁	L ₃		T	F _{ax}	Thread			
mm			inch			inch					ft-lbs	lbs			lbs	ft-lbs
220	x	370	8.661	x	14.567	6.299	4.567	4.055	3.425	428	118,010	449,952	M20		117	129,811
						6.693			3.425		134,236	483,698				147,660
						7.087			3.425		151,938	517,445				167,132
240	x	405	9.449	x	15.945	6.693	4.803	4.291	3.622	428	140,137	506,196	M20		148	154,150
						7.087			3.622		158,576	539,942				174,433
						7.874			3.622		198,404	607,435				218,245
260	x	430	10.236	x	16.929	7.480	5.079	4.567	4.016	428	182,178	584,938	M20		171	200,396
						7.874			4.016		204,305	618,684				224,735
						8.661			4.016		250,771	697,426			219	275,848
280	x	460	11.024	x	18.110	8.268	5.276	4.764	4.606	428	207,992	604,286	M20		219	228,792
						8.661			4.606		230,857	640,057				253,943
						9.449			4.606		280,274	712,499				308,301
300	x	485	11.811	x	19.094	8.661	6.181	5.591	4.803	725	283,961	787,416	M24		263	312,358
						9.055			4.803		313,464	832,411				344,810
						9.843			4.803		372,469	911,153				409,716
320	x	520	12.598	x	20.472	9.449	6.165	5.575	4.882	725	327,478	832,411	M24		291	360,225
						9.843			4.882		359,930	878,306				395,923
						10.630			4.882		427,786	966,497				470,565
340	x	570	13.386	x	22.441	9.843	6.693	6.102	5.315	725	415,985	1,012,392	M24		411	457,583
						10.236			5.315		451,388	1,057,387				496,527
						11.024			5.315		530,307	1,158,626				583,338
350	x	580	13.780	x	22.835	10.630	7.008	6.417	5.512	725	435,162	983,145	M24		417	478,678
						11.024			5.512		479,415	1,044,564				527,357
						11.417			5.512		516,293	1,086,184				567,923
360	x	590	14.173	x	23.228	10.630	6.732	6.142	5.236	725	485,316	1,091,134	M24		428	533,847
						11.024			5.236		525,144	1,147,378				577,659
						11.811			5.236		608,489	1,237,368				669,338
380	x	640	14.961	x	25.197	11.417	7.283	6.614	5.827	1,070	542,108	1,140,403	M27		546	596,319
						11.811			5.827		582,674	1,184,724				640,941
						12.205			5.827		623,240	1,226,569				685,564
390	x	650	15.354	x	25.591	11.417	7.323	6.614	5.669	1,400	666,018	1,406,100	M30		570	732,620
						11.811			5.669		715,435	1,451,095				786,979
						12.598			5.669		818,694	1,563,583				900,563
400	x	660	15.748	x	25.984	11.811	7.992	7.323	6.614	1,070	590,050	1,199,797	M27		697	649,055
						12.205			6.614		641,679	1,262,790				705,847
						12.598			6.614		663,806	1,265,490				730,186
420	x	670	16.535	x	26.378	12.598	8.071	7.323	6.535	1,400	714,698	1,362,455	M30		655	786,167
						12.992			6.535		765,589	1,415,324				842,148
						13.780			6.535		872,536	1,521,288				959,789
440	x	740	17.323	x	29.134	13.386	8.386	7.638	7.126	1,400	893,925	1,603,854	M30		848	983,318
						13.780			7.126		952,930	1,660,998				1,048,223
						14.567			7.126		1,076,841	1,775,511				1,184,525
460	x	770	18.110	x	30.315	14.173	8.780	7.953	6.772	1,070	1,129,945	1,914,771	M27		1,047	1,242,939
						14.567			6.772		1,199,276	1,977,314				1,319,203
						15.354			6.772		1,346,788	2,106,675				1,481,467
480	x	800	18.898	x	31.496	14.961	9.173	8.425	7.402	1,400	1,343,838	2,157,295	M30		1,092	1,478,222
						15.354			7.402		1,422,757	2,225,463				1,565,033
						16.142			7.402		1,586,496	2,360,673				1,745,145
500	x	850	19.685	x	33.465	15.748	9.213	8.465	7.480	1,400	1,530,441	2,334,126	M30		1,381	1,683,485
						16.142			7.480		1,615,998	2,404,543				1,777,598
						16.929			7.480		1,793,751	2,544,929				1,973,126
520	x	850	20.472	x	33.465	16.535	9.803	9.094	7.795	1,400	1,375,553	1,998,012	M30		1,420	1,512,740
						16.929			7.795		1,408,006	1,997,562				1,548,880
						17.323			7.795		1,475,124	2,045,032				1,622,636
530	x	850	20.866	x	33.465	16.929	10.236	9.449	8.110	1,400	1,767,936	2,508,482	M30		1,440	1,944,730
						17.323			8.110		1,859,040	2,577,550				2,044,944
						18.110			8.110		2,048,517	2,716,810				2,253,369

- Surface finishes
For shaft $R_a \leq 3,2 \mu m$
- Tolerances
For shaft see table page 8
- When using a hollow shaft instead of a solid shaft
please contact our Engineering-Team
- Hub with yield strength $Rp0,2 \geq 360 N/mm^2$

Explanations to tables: Page 9
To continue see next page

Ordering example: RfN 4181

Series	d	D
RfN 4181	10.236	16.929

Characteristics

Two part shrink disc heavy duty series – with additional guide mechanism for the inner ring. For the transmission of maximum torques.

Highest reliability – applicable for static, dynamic and impact loads.

Simplified manufacture – only plain shaft and bore diameters with easily achieved surface finish and tolerances are required.

Fully replaceable – the RINGFEDER® Shrink Discs work without any positive locking.

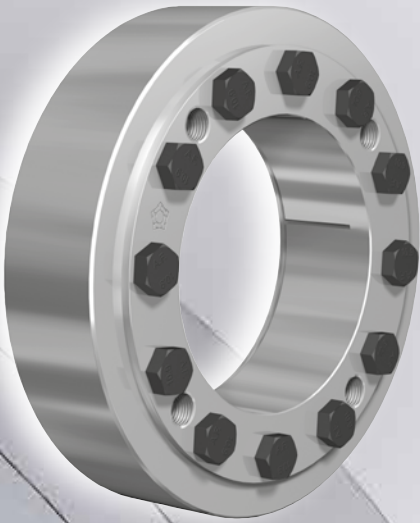
Visual check of the tightening status – minimisation of faults during assembly.

Easy mounting – RINGFEDER® Shrink Discs use standard screws and tightened using standard tools. No additional machining or fitting work is required.

Short assembly times – cost savings particularly in the case of series production.

Low susceptibility to contamination – when the locking screws are tightened the contact (functional) surfaces are pressed firmly together and prevent the ingress of dirt and moisture.

Easy adjustability – no stops, steps, keyways, splines etc. are required therefore, hubs can be located and locked at any point or angle on the shaft.



Shrink Discs dimensions										Transmissible torques or axial forces		Locking screws ISO 4014 / 4017 - 12.9			
d	x	D	d	x	D	d _w	L	L ₁	L ₃	T _A	T	F _{ax}	Thread	Gw	T _{max}
mm			inch			inch	inch			ft-lbs	ft-lbs	lbs		lbs	ft-lbs
540	x	910	21.260	x	35.827	17.323	10.276	9.528	8.386	1,400	1,445,622	2,002,286	M30	1,765	1,792,276
						17.717			8.386		1,519,378	2,058,530			1,880,783
						18.110			8.386		1,593,134	2,114,774			1,976,666
560	x	940	22.047	x	37.008	17.717	10.236	9.449	8.110	1,400	1,877,095	2,544,704	M30	1,651	2,064,805
						18.110			8.110		1,969,295	2,611,746			2,166,224
						18.898			8.110		2,160,703	2,746,057			2,376,774
580	x	960	22.835	x	37.795	18.110	10.984	10.236	8.976	1,400	2,141,880	2,840,547	M30	2,068	2,356,511
						18.504			8.976		2,189,084	3,128,516			2,408,140
						18.898			8.976		2,291,605	2,912,314			2,520,987
590	x	960	23.228	x	37.795	18.504	14.961	14.213	11.260	1,400	2,959,099	3,840,790	M30	2,588	3,255,009
						18.898			11.260		3,097,161	3,936,405			3,406,877
						19.685			11.260		3,383,229	4,127,860			3,721,551
620	x	970	24.409	x	38.189	19.685	11.969	11.220	9.606	1,400	2,509,186	3,061,473	M30	1,955	2,760,105
						20.472			9.606		2,734,880	3,208,383			3,008,368
						21.260			9.606		2,970,900	3,356,192			3,267,990
640	x	1040	25.197	x	40.945	20.472	12.874	12.047	10.827	1,990	2,816,749	3,304,447	M33	2,795	3,097,760
						21.260			10.827		2,924,433	3,304,447			3,217,245
						22.047			10.827		3,033,593	3,304,447			3,336,730
660	x	1040	25.984	x	40.945	20.866	16.457	15.591	12.205	2,580	4,246,882	4,893,228	M36	3,193	4,671,570
						21.654			12.205		4,600,100	5,102,456			5,060,110
						22.441			12.205		4,968,158	5,317,308			5,464,973
700	x	1140	27.559	x	44.882	22.047	12.402	11.575	10.236	1,990	3,332,821	3,630,663	M33	3,235	3,666,104
						22.835			10.236		3,599,303	3,785,896			3,959,233
						23.622			10.236		3,878,101	3,943,154			4,265,911
750	x	1150	29.528	x	45.276	23.622	13.386	16.850	14.173	2,580	5,656,363	5,751,061	M36	4,073	6,221,999
						24.409			14.173		6,069,134	5,971,763			6,676,048
						25.591			14.173		6,716,900	6,304,052			7,388,589
800	x	1230	31.496	x	48.425	25.197	14.685	13.858	11.654	1,990	5,087,673	4,775,341	M33	4,176	5,596,440
						25.984			11.654		5,441,732	5,030,013			5,985,906
						27.559			11.654		6,188,514	5,393,350			6,807,365

- Surface finishes
For shaft $R_a \leq 3,2 \mu m$
- Tolerances
For shaft see table page 8

- When using a hollow shaft instead of a solid shaft
please contact our Engineering-Team
- Hub with yield strength $Rp0,2 \geq 360 N/mm^2$

Explanations to tables: Page 9
More sizes on request

Ordering example: RfN 4181

Series	d	D
RfN 4181	10.236	16.929

RINGFEDER® Stainless steel products

STAINLESS STEEL

Shrink Discs



RfN 4061
Standard Series,
stainless steel

Characteristics

Standard series – High transmission values are possible and by varying the screw tightening torque the shrink disc can be adapted to the design specification.

Slitted inner ring – low forces and pressures on hub and shaft.

Compensation of small tolerance errors – please contact our engineers.

Maximum reliability – suitable for static, dynamic and impact loads.

Simplified manufacture – only plain shaft and bore diameters with easily achieved surface finish and tolerances are required.

Easy replacement – the RINGFEDER® Shrink Disc is free from any form fit.

Easy mounting – no steps, keyways, splines are required, therefore hubs can be located and locked at any point or angle on the shaft. RINGFEDER® Shrink Discs use standard screws tightened with standard tools. No additional machining or fitting work is required.

Easy removal – after loosening the locking screws, the RINGFEDER® Shrink Disc will self release and the hub will move freely on the shaft.

Low susceptibility to contamination – when the locking screws are tightened the functional contact surfaces are pressed firmly together and prevent the ingress of dirt and moisture.

Explanations to tables

Basic dimensions when screws are not tightened

d	=	Inner diameter
D	=	Outer diameter
d _w	=	Solid shaft diameter
d ₁	=	Pitch circle diameter
L	=	Overall length
L ₁	=	Overall length without screws
L ₂	=	Thrust ring width
L ₃	=	Width of ring
T _A	=	Max. tightened torque of the screws
T	=	Transmissible torque at given T _A
F _{ax}	=	Transmissible axial force
G _w	=	Weight
P	=	Hub surface pressure
σ _v	=	Equivalent stress in the hub
n _{Sc}	=	Quantity of screws
T _{max}	=	Max. transmissible torque
σ _v	=	Calculated combined stress in the hub extension (d/d _w) under consideration of the tangential, radial and torsional stresses following the equation:

$$\sigma_v = \sqrt{\frac{1}{2} [(\sigma_x - \sigma_y)^2 + (\sigma_y - \sigma_z)^2 + (\sigma_z - \sigma_x)^2] + 3\tau^2}$$

Additional loads, e.g. tension, thrust or bending have to be taken into consideration accordingly.

Function values

The functional characteristics are valid with the screw tightening torque listed in the tables and the following assumed conditions:

The locking screws are lubricated using MoS₂ (μ_{tot} = 0,1).

The tapered cones are lubricated using MoS₂ (μ = 0,05).

The contact surfaces (d_w) are in lightly oiled condition with coefficient of friction μ = 0,12.

The hub and shaft materials have a modulus of elasticity of 210,000 N/mm². (Lower values result in increased values for T and F_{ax} with reduced tangential stress.)

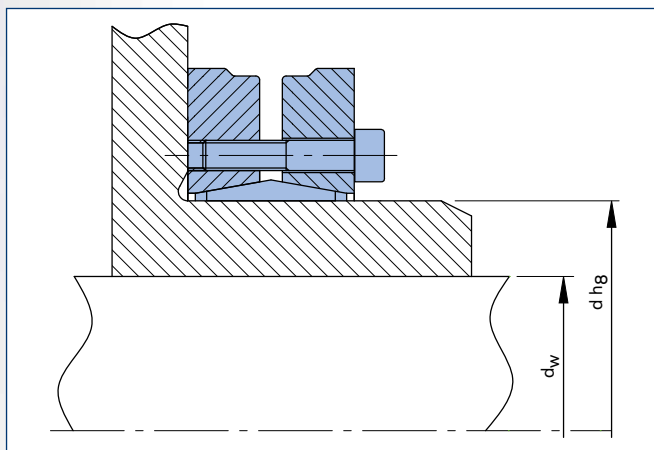
The maximum clearance S is being fully utilized.

The shaft being used is solid, for hollow shaft applications the functional values will change.

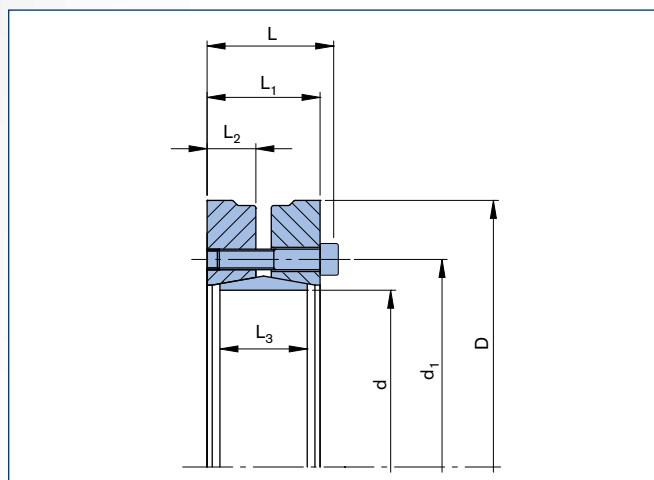
In cases where the assumed conditions do not apply then contact our Technical Department where we will be happy to assist you with your application.



STAINLESS STEEL



RINGFEDER® Shrink Disc RfN 4061 stainless steel · Location

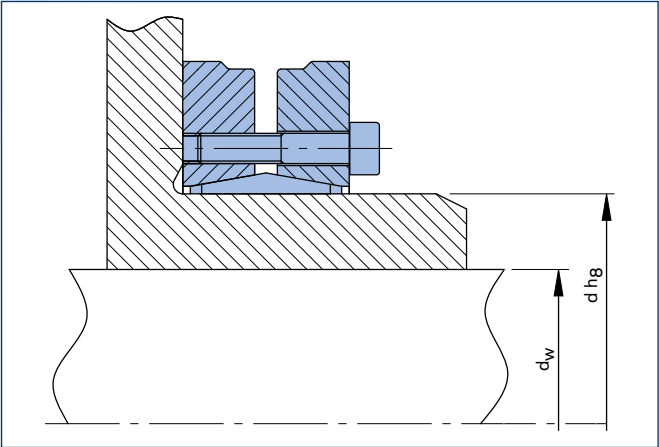


RINGFEDER® Shrink Disc RfN 4061 stainless steel · Dimensions

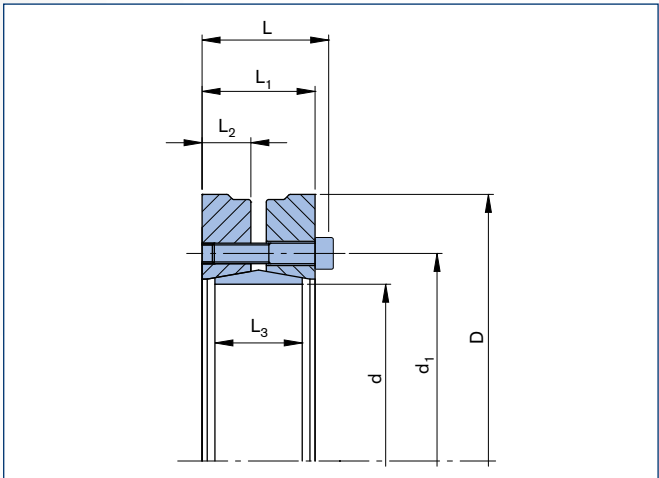
Shrink Discs dimensions											Transmissible torques or axial forces				High-strength special screws ISO 4762							
d	x	D	d	x	D	d _w	d ₁	L	L ₁	L ₂	L ₃	T _A	T	F _{ax}	P	σ _v	Quantity	Thread	Gw	T _{max}		
mm		inch		inch		inch				ft-lbs	ft-lbs	lbs	psi	psi					lbs	ft-lbs		
14	x	37	0.551	x	1.457	0.394	0.945	0.583	0.472	0.197	0.354	2	22	1,800	40,350	60,235	3	M4	0.2	28		
						0.433	0.945						27	1,800							68,799	34
						0.472	0.945						35	2,250							80,846	44
16	x	41	0.630	x	1.614	0.472	1.063	0.728	0.591	0.246	0.472	3	52	3,375	48,769	73,879	4	M5	0.2	66		
						0.512	1.063						66	4,050							83,458	81
						0.551	1.063						81	4,500							112,342	96
18	x	44	0.709	x	1.732	0.551	1.142	0.728	0.591	0.246	0.472	3	66	3,600	43,398	66,622	4	M5	0.4	81		
						0.591	1.142						74	4,050							75,911	96
						0.630	1.142						89	4,500							102,327	118
20	x	46	0.787	x	1.811	0.591	1.260	0.827	0.689	0.276	0.472	3	81	4,500	48,769	67,057	5	M5	0.4	103		
						0.630	1.260						103	4,949							72,137	125
						0.669	1.260						118	5,399							84,184	148
21	x	50	0.827	x	1.969	0.630	1.417	0.886	0.748	0.315	0.591	4	148	6,974	55,736	77,507	6	M5	0.4	184		
						0.669	1.417						170	7,649							87,377	214
						0.709	1.417						192	8,324							108,278	243
24	x	50	0.945	x	1.969	0.748	1.417	0.886	0.748	0.315	0.591	4	177	7,199	48,769	71,847	6	M5	0.4	221		
						0.787	1.417						199	7,874							80,410	251
						0.827	1.417						221	8,549							98,553	288
30	x	60	1.181	x	2.362	0.945	1.634	1.024	0.886	0.374	0.709	4	258	8,549	37,883	56,607	7	M5	0.4	332		
						0.984	1.634						295	9,224							61,832	369
						1.024	1.634						325	9,674							71,411	413
36	x	72	1.417	x	2.835	1.102	2.047	1.083	0.925	0.394	0.709	9	435	11,924	43,979	56,607	5	M6	1.1	538		
						1.181	2.047						509	13,049							63,574	634
						1.220	2.047						516	13,049							77,798	656
38	x	72	1.496	x	2.835	1.142	2.165	1.181	1.024	0.413	0.827	9	516	13,949	42,818	54,865	6	M6	1.1	656		
						1.181	2.165						568	14,623							57,187	715
						1.220	2.165						575	14,173							68,799	723
40	x	72	1.575	x	2.835	1.181	2.244	1.122	0.965	0.413	0.748	9	531	13,724	44,995	54,429	6	M6	1.1	664		
						1.220	2.244						538	13,274							65,315	671
						1.260	2.244						583	13,949							66,767	730
44	x	80	1.732	x	3.150	1.260	2.480	1.181	1.024	0.433	0.787	9	590	14,173	45,285	62,267	7	M6	1.1	738		
						1.378	2.480						738	16,423							64,444	922
						1.417	2.480						774	17,098							66,476	996
48	x	80	1.890	x	3.150	1.417	2.677	1.181	1.024	0.433	0.866	9	664	14,623	37,738	53,849	7	M6	1.3	848		
						1.496	2.677						774	16,198							55,155	996
						1.575	2.677						885	17,548							58,493	1,143
50	x	90	1.969	x	3.543	1.496	2.756	1.240	1.083	0.472	0.886	9	996	20,023	45,576	60,671	9	M6	2.0	1,217		
						1.575	2.756						1,106	21,598							62,848	1,401
						1.654	2.756						1,254	23,173							67,783	1,586
55	x	100	2.165	x	3.937	1.654	2.953	1.358	1.201	0.512	0.906	9	959	17,548	35,996	49,785	8	M6	2.4	1,180		
						1.772	2.953						1,143	19,573							52,107	1,438
						1.890	2.953						1,328	21,598							59,509	1,696
62	x	110	2.441	x	4.331	1.890	3.386	1.358	1.201	0.512	0.906	9	1,770	28,347	47,898	59,074	12	M6	2.9	2,213		
						1.969	3.386						1,955	29,922							60,816	2,434
						2.047	3.386						2,065	30,597							69,960	2,581
68	x	115	2.677	x	4.528	1.969	3.386	1.358	1.201	0.512	0.925	9	1,401	21,373	35,561	45,576	10	M6	3.1	1,733		
						2.165	3.386						1,660	23,398							53,268	2,102
						2.362	3.386						2,102	27,222							59,655	2,655
75	x	138	2.953	x	5.433	2.165	3.937	1.488	1.280	0.551	0.984	22	1,955	27,222	40,205	54,720	7	M8	5.1	2,434		
						2.362	3.937						2,434	31,272							55,445	3,061
						2.559	3.937						2,987	35,546							60,380	3,762
80	x	145	3.150	x	5.709	2.362	3.937	1.488	1.280	0.551	0.984	22	2,360	28,347	37,593	51,236	7	M8	5.5	2,950		
						2.559	3.937						2,876	32,172							51,962	3,614
						2.756	3.937						3,393	35,996							56,897	4,241



STAINLESS STEEL



RINGFEDER® Shrink Disc RfN 4061 stainless steel · Location



RINGFEDER® Shrink Disc RfN 4061 stainless steel · Dimensions

Shrink Discs dimensions												Transmissible torques or axial forces				High-strength special screws ISO 4762				
d	x	D	d	x	D	d _w	d ₁	L	L ₁	L ₂	L ₃	T _A	T	F _{ax}	P	σ _v	Quantity	Thread	Gw	T _{max}
mm		inch		inch		inch					ft-lbs	ft-lbs	lbs	psi	psi			lbs	ft-lbs	
85	x	155	3.346	x	6.102	2.362	4.488	1.803	1.594	0.630	1.181	22	3,577	42,520	47,172	58,639	11	M8	7.7	4,462
						2.559	4.488						4,278	47,695						5,347
						2.756	4.488						5,015	52,869						6,269
90	x	155	3.543	x	6.102	2.559	4.488	1.752	1.535	0.669	1.181	22	3,540	39,146	39,770	51,236	10	M8	7.3	4,425
						2.756	4.488						4,462	43,870						5,569
						2.953	4.488						5,384	48,370						6,749
95	x	170	3.740	x	6.693	2.559	5.000	2.067	1.858	0.748	1.339	22	3,946	43,870	39,915	50,656	12	M8	10.4	4,942
						2.756	5.000						4,979	48,820						6,232
						2.953	5.000						6,011	53,994						7,523
100	x	170	3.937	x	6.693	2.756	5.000	2.067	1.858	0.748	1.339	22	5,126	45,445	37,883	48,043	12	M8	9.9	6,417
						2.953	5.000						5,605	50,170						7,007
						3.150	5.000						6,712	55,119						8,371
110	x	185	4.331	x	7.283	2.953	5.709	2.339	2.087	0.906	1.654	44	6,011	58,269	36,867	45,866	10	M10	13.9	7,486
						3.150	5.709						7,449	64,118						9,293
						3.346	5.709						8,998	66,593						11,248
115	x	185	4.528	x	7.283	3.150	5.709	2.457	2.205	0.906	1.654	44	7,007	60,069	35,270	43,834	10	M10	13.4	8,740
						3.543	5.709						8,925	67,943						11,137
						3.740	5.709						10,363	74,017						12,944
125	x	215	4.921	x	8.465	3.346	6.299	2.378	2.126	0.906	1.654	44	8,150	67,493	39,044	51,381	12	M10	19.2	10,178
						3.543	6.299						9,662	73,567						12,059
						3.740	6.299						11,174	79,866						13,977
140	x	230	5.512	x	9.055	3.740	6.890	2.677	2.382	1.024	1.811	74	11,137	82,116	38,173	48,769	10	M12	23.4	13,903
						3.937	6.890						12,944	88,866						16,153
						4.134	6.890						14,751	95,390						18,439
165	x	290	6.496	x	11.417	4.528	8.268	3.189	2.795	1.220	2.205	184	23,159	135,211	40,641	48,478	8	M16	47.8	28,986
						4.724	8.268						26,183	143,310						32,748
						4.921	8.268						29,060	149,384						36,325
185	x	330	7.283	x	12.992	5.315	9.291	3.795	3.402	1.504	2.795	184	38,722	176,831	35,706	44,560	10	M16	79.4	48,384
						5.512	9.291						42,299	186,280						52,846
						5.709	9.291						46,024	195,729						57,530
195	x	350	7.677	x	13.780	5.512	9.685	3.780	3.386	1.504	2.795	184	48,642	212,152	40,641	48,188	12	M16	88.2	60,812
						5.906	9.685						57,235	232,850						71,544
						6.102	9.685						61,771	243,199						77,223
200	x	350	7.874	x	13.780	5.906	9.685	3.780	3.386	1.504	2.795	184	55,317	224,976	39,625	47,317	12	M16	86.0	69,146
						6.102	9.685						59,743	235,100						74,641
						6.299	9.685						64,315	245,449						80,394

■ Surface finishes
For shaft $R_a \leq 3,2 \mu m$

■ Tolerances
For shaft see table page 8

Explanations to tables: Page 61

More sizes on request

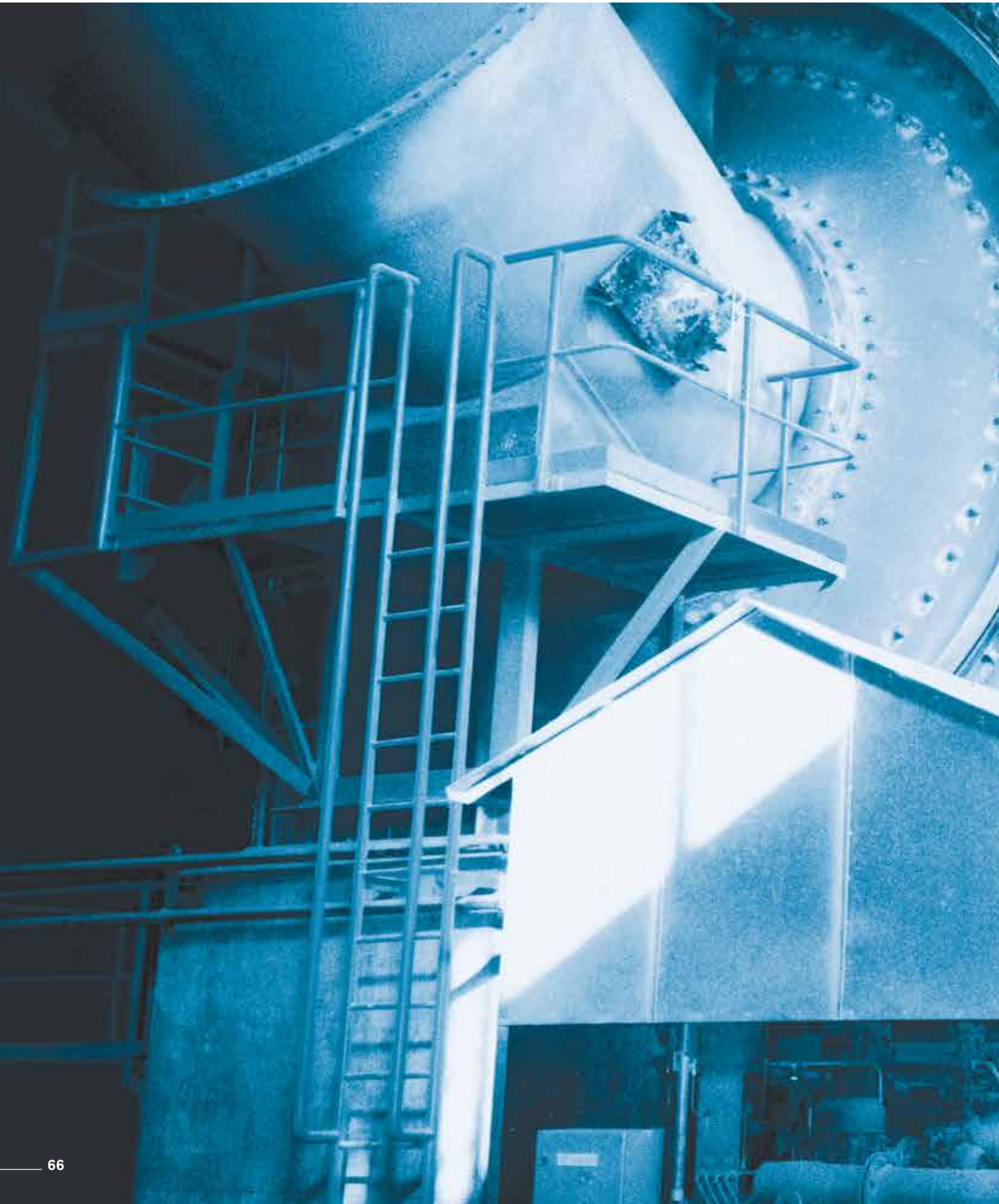
■ When using a hollow shaft instead of a solid shaft
please contact our Engineering-Team

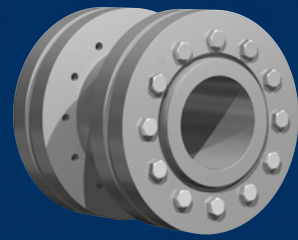
Ordering example: RfN 4061

Series	d	D	Version
RfN 4061	3.740	6.693	SST

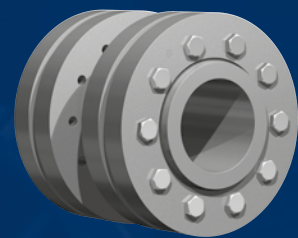
SST = Stainless steel

RINGFEDER® Shaft Couplings





RfN 5071



RfN 5091

Characteristics

Shrink discs are the modern method for creating a mechanical shrink fit. The shrink disc consists of either one or two thrust rings with tapered bores and a mating tapered inner ring. By tightening locking screws the thrust rings are drawn together compressing the inner ring and applying pressure to the outside of the hub clamping it to the shaft. Being positioned around the hub there is only one interface transmitting the loads giving the shrink disc method distinct advantages such as offering the possibility of very concentric and well balanced connections that are suited to high speed applications. Traditional shrink fits require complicated calculations, close machining tolerances and fine surface finishes, they also need considerable effort with mounting and removal. The shrink disc connection has none of these disadvantages and is better than any of the other usual connection methods with regard to fatigue strength under alternating torsional stress.

Unlimited range of applications – RINGFEDER® Shrink Disc connections are suitable for securing all types of hubs onto shafts and axles. Replacing traditional shrink fits, keys and polygon connections, splined shafts etc. So cog wheels and sprockets, levers, lifters, cam discs, pulleys or brake discs, balance wheels, couplings, slip on gear mechanisms, flanges, pulley wheels and rotors can be attached absolutely reliable.

Explanations to tables

Basic dimensions when screws are not tightened

d	=	Inner diameter
D	=	Outer diameter
d _w	=	Solid shaft diameter
L _{total}	=	Total length (several parts)
L	=	Overall length
T _A	=	Max. tightened torque of the screws
T	=	Transmissible torque at given T _A
F _{ax}	=	Transmissible axial force

Additional loads, e.g. tension, thrust or bending have to be taken into consideration accordingly.

Function values

The functional characteristics are valid with the screw tightening torque listed in the tables and the following assumed conditions:

The locking screws are lubricated using MoS₂ ($\mu_{\text{tot}} = 0,1$).

The tapered cones are lubricated using MoS₂ ($\mu = 0,05$).

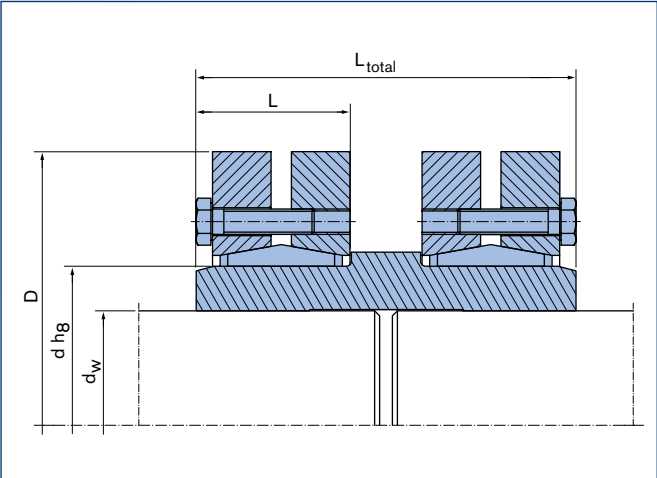
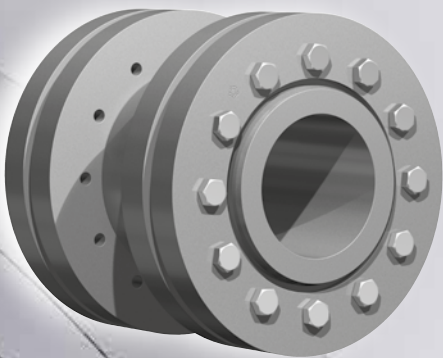
The contact surfaces (d_w) are in lightly oiled condition with coefficient of friction $\mu = 0,12$.

The hub and shaft materials have a modulus of elasticity of 210,000 N/mm². (Lower values result in increased values for T and F_{ax} with reduced tangential stress.)

The maximum clearance S is being fully utilized.

The shaft being used is solid, for hollow shaft applications the functional values will change.

In cases where the assumed conditions do not apply then contact our Technical Department where we will be happy to assist you with your application.



RINGFEDER® Shaft Coupling RfN 5071 · Dimensions

Explanations

- T_A = Max. tightened torque of the screws
- T = Transmissible torque at given T_A
- F_{ax} = Transmissible axial force

For all shaft couplings intermediate values for T and F_{ax} can be calculated dependent on T_A and the clearance S . In addition, stepped shaft couplings are available for different shaft diameters.

If required, we like to be of assistance.

Clearances considered for the calculation of the function values:

d_w		ISO	max. Clearance S
above inch	up to inch		inch
0.236	0.394	H6/j6	0.0005
0.394	0.709		0.0006
0.709	1.181	H6/h6	0.0007
1.181	1.969	H6/g6	0.0013
1.969	3.150	H7/g6	0.0019
3.150	4.724		0.0027
4.724	7.087		0.0031
7.087	9.843		0.0035
9.843	12.402		0.0040
12.402	15.748		0.0044
15.748	19.685		0.0048
19.685	24.803		0.0054
24.803	31.496		0.0061

Surface

For shaft diameter d_w : Peak-to-valley height $R_a \leq 125$ RMS.

Shaft couplings dimensions						T _A	Transmissible torques or axial forces		Locking Screws DIN EN ISO 4014 / 4017 - 10.9 Thread
d	x	D	d	x	D		T	F _{ax}	
mm			inch			ft-lbs	ft-lbs	lbs	
20	x	46	0.787	x	1.811	0.591 0.630 0.669	81 103 118	4,496 4,946 5,395	M5
24	x	50	0.945	x	1.969	0.748 0.787 0.827	177 199 221	7,194 7,868 8,543	M5
30	x	52	1.181	x	2.047	0.945 0.984 1.024	258 295 325	8,543 9,217 9,667	M5
36	x	72	1.417	x	2.835	1.102 1.181 1.220	435 509 516	11,915 13,039	M6
40	x	72	1.575	x	2.835	1.181 1.220 1.260	531 538 583	13,713 13,264 13,938	M6
44	x	80	1.732	x	3.150	1.260 1.378 1.417	590 738 774	14,163 16,411 17,085	M6
50	x	90	1.969	x	3.543	1.496 1.575 1.654	996 1,106 1,254	20,008 21,582 23,155	M6
55	x	100	2.165	x	3.937	1.654 1.772 1.890	959 1,143 1,328	17,535 19,558 21,582	M6
62	x	110	2.441	x	4.331	1.890 1.969 2.047	1,770 1,955 2,065	28,326 29,900 30,574	M6
68	x	115	2.677	x	4.528	1.969 2.165 2.362	1,401 1,660 2,102	21,357 23,380 27,202	M6
75	x	138	2.953	x	5.433	2.165 2.362 2.559	1,955 2,434 2,987	27,202 31,248 35,520	M8
80	x	145	3.150	x	5.709	2.362 2.559 2.756	2,360 2,876 3,393	28,326 32,148 35,969	M8
90	x	155	3.543	x	6.102	2.559 2.756 2.953	3,540 4,462 5,414	39,117 43,838 48,334	M8
100	x	170	3.937	x	6.693	2.756 2.953 3.150	5,126 5,605 6,712	45,411 50,132 55,078	M8
110	x	185	4.331	x	7.283	2.953 3.150 3.346	6,011 7,449 8,998	58,226 64,071 66,543	M10
125	x	215	4.921	x	8.465	3.346 3.543 3.740	8,150 9,662 11,174	67,443 73,513 79,807	M10
140	x	230	5.512	x	9.055	3.740 3.937 4.134	11,137 12,944 14,751	82,055 88,800 95,319	M12
165	x	290	6.496	x	11.417	4.528 4.724 4.921	23,159 26,183 29,060	135,110 143,203 149,273	M16
185	x	330	7.283	x	12.992	5.315 5.512 5.709	38,722 42,299 46,024	176,700 186,142 195,584	M16

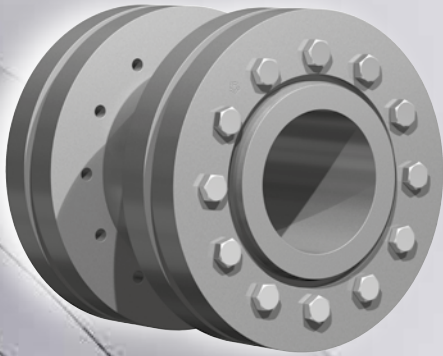
■ Surface finishes
For shaft $R_a \leq 3,2 \mu m$

■ Tolerances
For shaft see table page 70

Explanations to tables: Page 69

To continue see next page

■ When using a hollow shaft instead of a solid shaft
please contact our Engineering-Team



For all shaft couplings intermediate values for T and F_{ax} can be calculated dependent on T_A and the clearance S . In addition, stepped shaft couplings are available for different shaft diameters.

If required, we like to be of assistance.

Characteristics

Standard series – this is the most popular shrink disc. High transmission values are possible and by varying the screw tightening torque the shrink disc can be adapted to the design specification.

Slitted inner ring – low forces and pressures on hub and shaft.

Compensation of small tolerance errors – please contact our engineers.

Maximum reliability – suitable for static, dynamic and impact loads.

Simplified manufacture – only plain shaft and bore diameters with easily achieved surface finish and tolerances are required.

Easy replacement – the RINGFEDER® Shrink Disc is free from any form fit.

Easy mounting – no steps, keyways, splines are required, therefore hubs can be located and locked at any point or angle on the shaft. RINGFEDER® Shrink Discs use standard screws tightened with standard tools. No additional machining or fitting work is required.

Easy removal – after loosening the locking screws, the RINGFEDER® Shrink Disc will self release and the hub will move freely on the shaft.

Low susceptibility to contamination – when the locking screws are tightened the functional contact surfaces are pressed firmly together and prevent the ingress of dirt and moisture.

Shaft couplings dimensions							Transmissible torques or axial forces		Locking Screws DIN EN ISO 4014 / 4017 - 10.9 Thread			
d	x	D	d	x	D	d _w	L _{total}	L	T _A	T	F _{ax}	
mm			inch			inch	inch	inch	ft-lbs	ft-lbs	lbs	
200	x	350	7.874	x	13.780	5.906	11.417	3.780	185	55,317	224,809	M16
						6.102				59,743	234,925	
						6.299				64,315	245,267	
220	x	370	8.661	x	14.567	6.299	12.205	4.488	185	70,068	267,523	M16
						6.496				75,231	278,538	
						6.693				81,132	290,003	
240	x	405	9.449	x	15.945	6.693	13.780	4.803	361	88,507	329,120	M20
						7.087				101,784	354,299	
						7.480				115,060	376,555	
260	x	430	10.236	x	16.929	7.480	15.354	5.236	361	120,960	395,664	M20
						7.874				135,711	422,641	
						8.268				151,200	451,866	
280	x	460	11.024	x	18.110	8.268	16.929	5.787	361	160,051	469,851	M20
						8.661				179,965	499,076	
						9.055				199,142	528,301	
300	x	485	11.811	x	19.094	9.055	17.520	6.102	361	202,830	546,510	M20
						9.449				217,581	577,084	
						9.646				232,332	592,596	
320	x	520	12.598	x	20.472	9.449	18.110	6.102	361	230,119	595,069	M20
						9.843				250,771	626,318	
						10.236				275,848	651,946	
340	x	570	13.386	x	22.441	9.843	18.898	6.654	361	287,649	701,179	M20
						10.236				311,620	730,404	
						10.630				339,279	764,350	
350	x	580	13.780	x	22.835	10.630	19.291	6.890	361	326,002	736,474	M20
						11.024				354,030	771,095	
						11.220				368,781	786,831	
360	x	590	14.173	x	23.228	11.024	19.685	6.890	361	341,491	744,117	M20
						11.417				370,256	778,064	
						11.614				385,007	794,924	
380	x	645	14.961	x	25.394	11.417	20.866	7.205	620	418,198	879,003	M24
						11.811				449,913	917,220	
						12.205				485,316	954,988	
390	x	660	15.354	x	25.984	11.811	21.260	7.205	620	460,239	935,205	M24
						12.205				494,904	973,423	
						12.598				529,570	1,008,043	
400	x	680	15.748	x	26.772	12.402	21.260	7.205	620	494,167	957,686	M24
						12.598				512,606	976,795	
						12.992				548,746	1,011,640	
420	x	690	16.535	x	27.165	12.992	22.835	7.992	620	575,298	1,090,323	M24
						13.386				619,552	1,133,037	
						13.780				663,806	1,173,502	
440	x	750	17.323	x	29.528	13.386	23.622	8.661	620	594,475	1,065,594	M24
						13.780				634,303	1,103,812	
						14.173				676,344	1,144,277	
460	x	770	18.110	x	30.315	14.173	24.409	8.661	620	737,562	1,274,666	M24
						14.567				789,191	1,317,380	
						14.961				840,821	1,360,094	
480	x	800	18.898	x	31.496	14.961	25.394	9.055	620	862,948	1,382,575	M24
						15.354				914,577	1,427,537	
						15.748				966,206	1,472,498	
500	x	850	19.685	x	33.465	15.748	26.378	9.055	920	967,681	1,474,746	M27
						16.142				1,017,836	1,512,964	
						16.535				1,073,153	1,557,926	

■ Surface finishes
For shaft R_a ≤ 3,2 µm

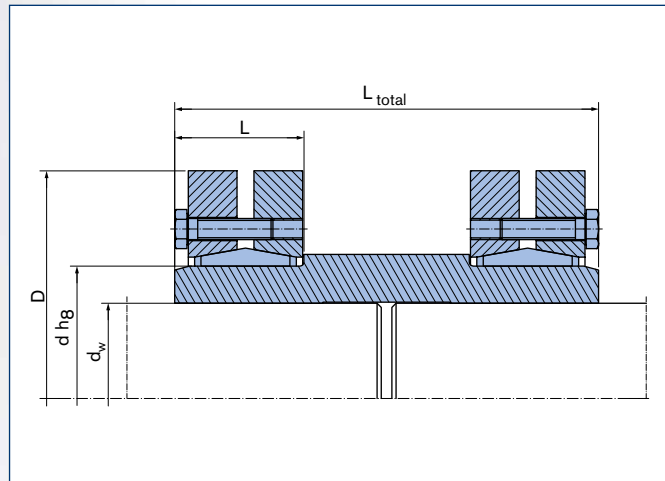
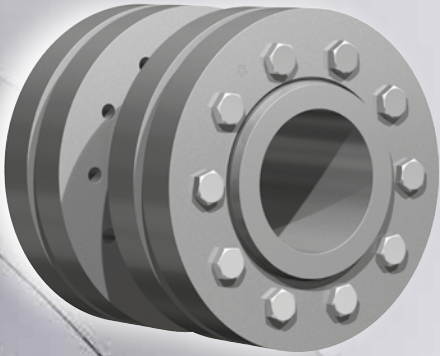
■ Tolerances
For shaft see table page 70

Explanations to tables: Page 69

■ When using a hollow shaft instead of a solid shaft
please contact our Engineering-Team

Ordering example: RfN 5071

Series	d	d _w
RfN 5071	15.354	25.984



RINGFEDER® Shaft Coupling RfN 5091 · Dimensions

For all shaft couplings intermediate values for T and F_{ax} can be calculated dependent on T_A and the clearance S . In addition, stepped shaft couplings are available for different shaft diameters.

If required, we like to be of assistance.

Shaft couplings dimensions					T _A	Transmissible torques or axial forces		Locking Screws DIN EN ISO 4014 / 4017 - 10.9 Thread
d x D	d x D	d _w	L _{total}	L		T	F _{ax}	
mm	inch	inch	inch	inch		ft-lbs	lbs	
125 x 215	4.921 x 8.465	3.346	7.874	2.874	75	11,063	79,807	M12
		3.543				12,907	87,226	
		3.740				14,751	94,869	
140 x 300	5.512 x 11.811	3.543	8.661	4.173	185	27,069	97,342	M16
		3.937				34,665	105,435	
		4.331				43,295	112,404	
155 x 263	6.102 x 10.354	4.134	9.055	3.622	75	21,316	123,645	M12
		4.331				23,897	132,637	
		4.528				26,700	141,630	
165 x 290	6.496 x 11.417	4.528	9.449	3.858	185	30,240	166,359	M16
		4.724				33,928	176,475	
		4.921				37,394	183,219	
175 x 300	6.890 x 11.811	4.921	10.433	4.882	185	53,695	261,902	M16
		5.118				58,931	276,515	
		5.315				64,389	291,128	
185 x 330	7.283 x 12.992	5.315	10.433	4.803	185	53,104	247,290	M16
		5.512				57,530	258,530	
		5.709				63,430	269,771	
195 x 350	7.677 x 13.780	5.512	11.024	4.803	185	55,317	241,670	M16
		5.906				64,905	267,073	
		6.102				70,806	277,639	
200 x 350	7.874 x 13.780	5.906	11.417	4.803	185	68,224	276,515	M16
		6.102				73,756	290,003	
		6.299				78,919	302,368	
220 x 370	8.661 x 14.567	6.299	12.205	5.669	185	93,670	357,446	M16
		6.496				100,308	370,935	
		6.693				108,053	386,671	
240 x 405	9.449 x 15.945	6.693	13.780	6.181	361	114,322	409,152	M20
		7.087				129,811	440,625	
		7.480				146,037	467,603	
260 x 430	10.236 x 16.929	7.480	15.354	6.811	361	157,101	508,068	M20
		7.874				177,015	544,038	
		8.268				197,667	580,007	
280 x 460	11.024 x 18.110	8.268	16.929	7.283	361	210,205	615,976	M20
		8.661				236,020	654,194	
		9.055				261,835	694,660	
300 x 485	11.811 x 19.094	9.055	17.520	7.441	361	251,509	665,434	M20
		9.449				277,323	703,652	
		9.646				290,599	722,761	
320 x 520	12.598 x 20.472	9.449	18.110	7.756	361	278,798	708,148	M20
		9.843				306,088	747,490	
		10.236				332,641	780,087	
340 x 570	13.386 x 22.441	9.843	18.898	8.465	620	361,037	879,003	M24
		10.236				390,908	916,096	
		10.630				426,311	961,058	
350 x 580	13.780 x 22.835	10.630	19.291	8.465	620	410,085	926,662	M24
		11.024				445,488	971,174	
		11.220				463,927	992,531	
360 x 590	14.173 x 23.228	11.024	19.685	8.622	620	451,388	982,415	M24
		11.417				489,004	1,027,377	
		11.614				508,180	1,049,858	
380 x 645	14.961 x 25.394	11.417	20.866	8.622	620	455,813	959,934	M24
		11.811				492,691	1,001,524	
		12.205				530,307	1,044,237	

■ Surface finishes
For shaft R_a ≤ 3,2 µm

■ Tolerances
For shaft see table page 70

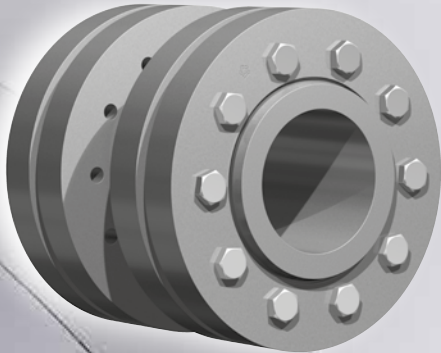
Explanations to tables: Page 69

To continue see next page

■ When using a hollow shaft instead of a solid shaft
please contact our Engineering-Team

Ordering example: RfN 5091

Series	d	d _w
RfN 5091	9.449	15.945



For all shaft couplings intermediate values for T and F_{ax} can be calculated dependent on T_A and the clearance S . In addition, stepped shaft couplings are available for different shaft diameters.

If required, we like to be of assistance.

Characteristics

Heavy design – for highest transmission values.

Slitted inner ring – low forces and pressures on hub and shaft.

Compensation of small tolerance errors – please contact our engineers.

Maximum reliability – suitable for static, dynamic and impact loads.

Simplified manufacture – only plain shaft and bore diameters with easily achieved surface finish and tolerances are required.

Easy replacement – the RINGFEDER® Shrink Disc is free from any form fit.

Easy mounting – no steps, keyways, splines are required, therefore hubs can be located and locked at any point or angle on the shaft. RINGFEDER® Shrink Discs use standard screws tightened with standard tools. No additional machining or fitting work is required.

Easy removal – after loosening the locking screws, the RINGFEDER® Shrink Disc will self release and the hub will move freely on the shaft.

Low susceptibility to contamination – when the locking screws are tightened the functional contact surfaces are pressed firmly together and prevent the ingress of dirt and moisture.

Shaft couplings dimensions					T _A	Transmissible torques or axial forces		Locking Screws DIN EN ISO 4014 / 4017 - 10.9 Thread
d x D	d x D	d _w	L _{total}	L		T	F _{ax}	
mm	inch	inch	inch	inch		ft-lbs	lbs	
390 x 660	15.354 x 25.984	11.811	21.260	8.937	620	522,194	1,059,974	M24
		12.205				562,022	1,103,812	
		12.598				600,744	1,144,277	
400 x 680	15.748 x 26.772	12.402	21.260	8.937	620	564,235	1,091,447	M24
		12.598				581,199	1,107,633	
		12.992				623,240	1,152,146	
420 x 690	16.535 x 27.165	12.992	22.835	9.961	620	736,825	1,361,218	M24
		13.386				787,716	1,412,924	
		13.780				840,821	1,464,630	
440 x 750	17.323 x 29.528	13.386	23.622	10.591	920	780,341	1,400,559	M27
		13.780				833,445	1,452,265	
		14.173				888,025	1,503,972	
460 x 770	18.110 x 30.315	14.173	24.409	10.591	920	973,582	1,672,578	M27
		14.567				104,7338	1,731,029	
		14.961				1,106,343	1,787,231	
480 x 800	18.898 x 31.496	14.961	25.394	11.457	920	1,132,158	1,816,456	M27
		15.354				1,199,276	1,874,906	
		15.748				1,268,607	1,933,357	
500 x 850	19.685 x 33.465	15.748	26.378	11.457	920	1,290,734	1,967,078	M27
		16.142				1,357,114	2,018,784	
		16.535				1,430,870	2,079,482	

■ Surface finishes
For shaft $R_a \leq 3,2 \mu m$

■ Tolerances
For shaft see table page 70

Explanations to tables: Page 69

■ When using a hollow shaft instead of a solid shaft
please contact our Engineering-Team

Ordering example: RfN 5091

Series	d	d _w
RfN 5091	14.173	11.024

Flange Couplings **RINGFEDER® RfN 5571**



RINGFEDER® Flange Couplings are the better alternative to press fits. Neither additional components such as keyways or wedges, nor a warming of the outer section and cooling of the inner section are required. The flange coupling is simply pushed onto the shaft

and fastened so it is frictionally engaged by tightening the screws in the shrink disc. They transfer torque and bending moments as well as axial and radial forces.

Advantages

- *Strong connection with high torque capacity*
- *Easy assembly and disassembly*
- *Backlash-free shaft hub connection*
- *High level of true running accuracy*

Applications

- *Mining companies*
- *Plant manufacturers*
- *Gearbox manufacturers*

Designs

Version A Shrink Discs with hexagon head screws



HM

Centering outside



HF

Centering inside



Version B Shrink Discs with hexagon socket head cap screws



HM

Centering outside

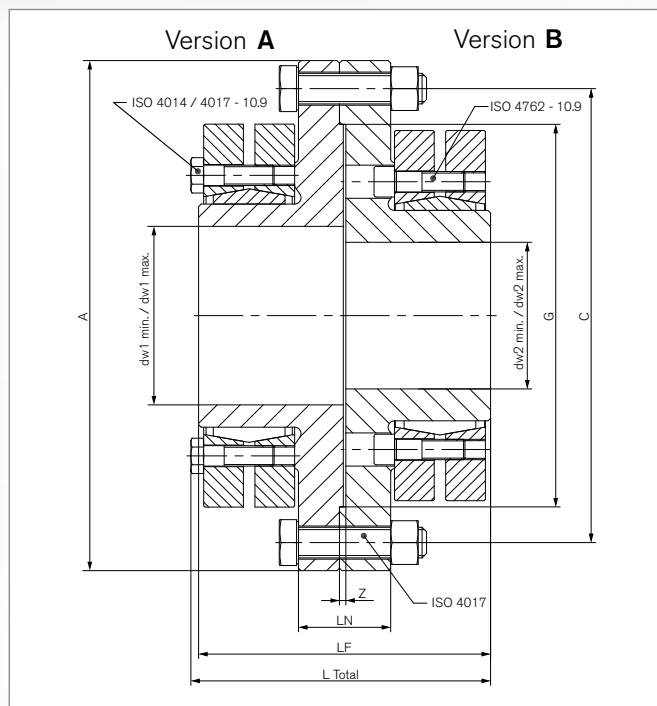


HF

Centering inside



Flange Couplings **RINGFEDER® RfN 5571**



Explanations to tables

Basic dimensions when screws are not tightened

- dw1** = Solid shaft diameter
- dw2** = Solid shaft diameter
- A** = Max. outer diameter
- C** = Pitch circle diameter
- G** = Center diameter
- LF** = Total length of the mated flanges (HM+HF)
- LN** = Flange width
- Ltotal** = Total length (several parts)
- Z** = Depth of center value
- T** = Transmissible torque at given T_A
- nSc3** = Quantity of screws at flange
- DG3** = Thread of the flange screws
- TA3** = Tightening torque of the flange bolts (D_{G3})
- nSD** = Quantity of screws (Shrink disc)
- DSD** = Diameter of screws (Shrink disc)
- TA** = Max. tightened torque of the clamping screws
- Gw** = Weight

Flange Couplings RINGFEDER® RfN 5571

Size	Flange couplings dimensions									Transmissible torques T	Flange screws ISO 4017			Shrink disc screws Version A: ISO 4014/4017 - 10.9 Version B: ISO 4762 - 10.9				Gw
	d _{w1}	d _{w2}	A	C	G	L _F	L _N	L _{total}	Z		n _{Sc3}	D _{G3}	T _{A3}	Size	n _{SD}	D _{SD}	T _A	
	inch	inch	inch	inch	inch	inch	inch	inch	inch		pcs.	mm	ft-lbs	inch	pcs.	mm	ft-lbs	
075	2.756	2.756	9.449	8.268	6.693	5.354	1.732	5.787	0.157	5,148	6	M16	155	100x170	12	M 8	22	57
	2.953	2.953								5,606				100x170	12	M 8	22	
	3.150	3.150								6,712				100x170	12	M 8	22	
090	2.756	2.756	12.008	10.433	8.465	6.299	1.890	6.654	0.197	5,148	6	M20	310	100x170	12	M 8	22	106
	2.953	2.953								5,606				100x170	12	M 8	22	
	3.150	3.150								6,712				100x170	12	M 8	22	
	>3.150	>3.150								6,823				125x215	12	M 10	44	
	3.543	3.543								9,662				125x215	12	M 10	44	
	3.937	3.937								13,166				125x215	12	M 10	44	
100	3.543	3.543	13.386	11.260	9.055	7.480	2.205	7.756	0.197	10,105	5	M24	531	130x215	12	M 10	44	139
	3.740	3.740								11,654				130x215	12	M 10	44	
	3.937	3.937								13,424				130x215	12	M 10	44	
	>3.937	>3.937								12,944				140x230	10	M 12	74	
	4.331	4.331								16,890				140x230	10	M 12	74	
	4.528	4.528								19,051				140x230	10	M 12	74	
120	3.740	3.740	15.748	14.016	11.811	8.976	2.835	9.449	0.197	11,137	8	M24	531	140x230	10	M 12	74	265
	4.134	4.134								14,751				140x230	10	M 12	74	
	4.528	4.528								19,066				140x230	10	M 12	74	
	>4.528	>4.528								23,197				165x290	8	M 16	184	
	4.921	4.921								29,060				165x290	8	M 16	184	
	5.315	5.315								36,473				165x290	8	M 16	184	
130	4.528	4.528	15.748	14.016	11.811	8.976	2.835	9.449	0.197	23,197	8	M24	531	165x290	8	M 16	184	265
	4.921	4.921								29,060				165x290	8	M 16	184	
	5.315	5.315								36,473				165x290	8	M 16	184	
	>5.315	>5.315								33,559				175x300	8	M 16	184	
	5.413	5.413								35,071				175x300	8	M 16	184	
	5.512	5.512								36,657				175x300	8	M 16	184	
150	4.921	4.921	18.701	16.535	13.780	10.945	3.543	11.417	0.236	27,032	10	M30	1,069	175x300	8	M 16	184	474
	5.118	5.118								30,646				175x300	8	M 16	184	
	5.512	5.512								36,657				175x300	8	M 16	184	
	>5.512	>5.512								48,643				195x350	12	M 16	184	
	5.906	5.906								57,235				195x350	12	M 16	184	
	6.496	6.496								71,471				195x350	12	M 16	184	
165	5.512	5.512	20.079	17.323	14.567	12.362	3.543	12.835	0.236	48,643	14	M30	1,069	195x350	12	M 16	184	595
	5.906	5.906								57,235				195x350	12	M 16	184	
	6.496	6.496								71,471				195x350	12	M 16	184	
	>6.496	>6.496								76,117				220x370	15	M 16	184	
	6.693	6.693								81,612				220x370	15	M 16	184	
	7.087	7.087								93,266				220x370	15	M 16	184	
180	6.299	6.299	21.260	18.701	15.945	12.677	3.465	13.346	0.236	70,807	16	M30	1,069	220x370	15	M 16	184	683
	6.693	6.693								81,612				220x370	15	M 16	184	
	7.087	7.087								93,266				220x370	15	M 16	184	
	>7.087	>7.087								104,329				240x405	12	M 20	361	
	7.480	7.480								118,269				240x405	12	M 20	361	
	7.874	7.874								133,168				240x405	12	M 20	361	
200	6.693	6.693	22.047	19.685	16.929	14.488	4.331	15.079	0.315	91,311	16	M30	1,069	240x405	12	M 20	361	871
	7.283	7.283								111,189				240x405	12	M 20	361	
	7.874	7.874								133,168				240x405	12	M 20	361	
	>7.874	>7.874								140,323				260x430	14	M 20	361	
	8.268	8.268								157,029				260x430	14	M 20	361	
	8.661	8.661								174,693				260x430	14	M 20	361	
220	7.480	7.480	23.228	20.866	18.110	15.433	4.094	16.024	0.315	124,649	18	M30	1,069	260x430	14	M 20	361	981
	8.071	8.071								148,547				260x430	14	M 20	361	
	8.661	8.661								174,693				260x430	14	M 20	361	
	>8.661	>8.661								181,774				280x460	16	M 20	361	
	9.055	9.055								201,246				280x460	16	M 20	361	
	9.449	9.449								221,787				280x460	16	M 20	361	

Flange Couplings RINGFEDER® RfN 5571

Size	Flange couplings dimensions									Transmissible torques T	Flange screws ISO 4017			Shrink disc screws Version A: ISO 4014/4017 - 10.9 Version B: ISO 4762 - 10.9				Gw
	d _{w1}	d _{w2}	A	C	G	L _F	L _N	L _{total}	Z		n _{Sc3}	D _{G3}	T _{A3}	Size	n _{SD}	D _{SD}	T _A	
	inch	inch	inch	inch	inch	inch	inch	inch	inch		pcs.	mm	ft-lbs	inch	pcs.	mm	ft-lbs	
240	8.268	8.268	24.213	21.850	19.094	16.063	4.094	16.654	0.315	163,335	20	M30	1,069	280x460	16	M 20	361	1,102
	8.858	8.858								191,363				280x460	16	M 20	361	
	9.449	9.449								221,787				280x460	16	M 20	361	
	>9.449	>9.449								229,052				300x485	18	M 20	361	
	9.843	9.843								251,327				300x485	18	M 20	361	
	10.236	10.236								273,417				300x485	18	M 20	361	
260	9.055	9.055	27.953	25.197	22.441	17.717	4.646	18.307	0.315	207,884	24	M30	1,069	300x485	18	M 20	361	1,720
	9.646	9.646								240,042				300x485	18	M 20	361	
	10.236	10.236								273,417				300x485	18	M 20	361	
	>10.236	>10.236								314,057				340x570	24	M 20	361	
	10.827	10.827								356,394				340x570	24	M 20	361	
	11.417	11.417								401,644				340x570	24	M 20	361	
290	9.055	9.055	28.346	25.984	23.228	17.717	4.173	18.307	0.315	240,448	24	M30	1,069	340x570	24	M 20	361	1,742
	10.236	10.236								314,057				340x570	24	M 20	361	
	11.417	11.417								401,644				340x570	24	M 20	361	
	>11.417	>11.417								373,063				360x590	24	M 20	361	
	12.008	12.008								418,128				360x590	24	M 20	361	
	12.598	12.598								420,267				360x590	24	M 20	361	
310	11.024	11.024	31.693	28.937	25.984	19.055	4.488	19.291	0.315	344,519	28	M30	1,069	360x590	24	M 20	361	2,337
	11.811	11.811								402,787				360x590	24	M 20	361	
	12.598	12.598								464,595				360x590	24	M 20	361	
	>12.598	>12.598								530,718				390x660	21	M 24	620	
	12.992	12.992								545,802				390x660	21	M 24	620	
	13.386	13.386								545,802				390x660	21	M 24	620	
340	11.811	11.811	32.874	30.315	27.165	20.787	4.803	21.181	0.394	461,866	30	M30	1,069	390x660	21	M 24	620	2,712
	12.598	12.598								530,718				390x660	21	M 24	620	
	13.386	13.386								607,610				390x660	21	M 24	620	
	>13.386	>13.386								612,884				420x690	24	M 24	620	
	13.780	13.780								612,884				420x690	24	M 24	620	
	14.173	14.173								612,884				420x690	24	M 24	620	
380	12.992	12.992	36.220	33.268	30.315	21.890	5.039	22.598	0.394	592,933	35	M30	1,069	420x690	24	M 24	620	3,131
	13.583	13.583								654,925				420x690	24	M 24	620	
	14.173	14.173								720,200				420x690	24	M 24	620	
	>14.173	>14.173								754,165				460x770	28	M 24	620	
	14.764	14.764								774,449				460x770	28	M 24	620	
	15.354	15.354								774,449				460x770	28	M 24	620	
410	14.173	14.173	40.551	37.008	33.465	24.331	6.142	24.724	0.472	754,165	32	M36	1,770	460x770	28	M 24	620	4,850
	14.764	14.764								825,673				460x770	28	M 24	620	
	15.354	15.354								900,573				460x770	28	M 24	620	
	>15.354	>15.354								913,222				500x850	24	M 27	922	
	16.142	16.142								993,249				500x850	24	M 27	922	
	16.929	16.929								1,128,925				500x850	24	M 27	922	
440	15.748	15.748	43.307	39.370	35.433	27.402	6.299	27.323	0.551	965,737	36	M36	1,770	500x850	24	M 27	922	5,908
	16.339	16.339								1,043,145				500x850	24	M 27	922	
	16.929	16.929								1,128,925				500x850	24	M 27	922	
	>16.929	>16.929								1,319,107				530x900	30	M 27	922	
	17.520	17.520								1,389,951				530x900	30	M 27	922	
	18.110	18.110								1,389,951				530x900	30	M 27	922	
470	16.929	16.929	46.457	42.520	38.583	29.291	6.457	29.449	0.551	1,319,107	40	M36	1,770	530x900	30	M 27	922	7,363
	17.520	17.520								1,422,773				530x900	30	M 27	922	
	18.110	18.110								1,530,716				530x900	30	M 27	922	
	>18.110	>18.110								1,621,179				590x980	36	M 27	922	
	18.898	18.898								1,667,941				590x980	36	M 27	922	
	19.685	19.685								1,667,941				590x980	36	M 27	922	

Flange Couplings RINGFEDER® RfN 5571

Size	Flange couplings dimensions									Transmissible torques T	Flange screws ISO 4017			Shrink disc screws Version A: ISO 4014/4017 - 10.9 Version B: ISO 4762 - 10.9				Gw
	d _{w1}	d _{w2}	A	C	G	L _F	L _N	L _{total}	Z		n _{Sc3}	D _{G3}	T _{A3}	Size	n _{SD}	D _{SD}	T _A	
	inch	inch	inch	inch	inch	inch	inch	inch	inch		pcs.	mm	ft-lbs	inch	pcs.	mm	ft-lbs	
500	18.504	18.504	47.638	43.701	40.157	29.291	6.457	29.449	0.551	1699361	42	M36	1770	590x980	36	M 27	922	7981
	19.094	19.094								1799966				590x980	36			
	19.685	19.685								1799966				590x980	36			
	>19.685	>19.685								1799966				620x1020	38			
	20.472	20.472								1799966				620x1020	38			
	21.260	21.260								1799966				620x1020	38			
										1799966				620x1020	38			

Surface finishes

For shaft: $R_a \leq 3,2 \mu m$

Tolerances

For shaft see table below

Explanations to tables: Page 80

Ordering example: RfN 5571

Series	Size	Version	d _{w1}	d _{w2}	Further details
RfN 5571	500	A	19.094	20.472	-



Series	Size	Version	d _{w1}	Further details
RfN 5571	500	B	19.094	HF

HM = Centering outside

HF = Centering inside



Table clearance

d _w		ISO	Max. Clearance S
above inch	up to inch		inch
0.236	0.394	H6/j6	0.0005
0.394	0.709		0.0006
0.709	1.181	H6/h6	0.0007
1.181	1.969	H6/g6	0.0013
1.969	3.150	H7/g6	0.0019
3.150	4.724		0.0027
4.724	7.087		0.0031
7.087	9.843		0.0035
9.843	12.402		0.0040
12.402	15.748		0.0044
15.748	19.685		0.0048
19.685	24.803		0.0054
24.803	31.496		0.0061



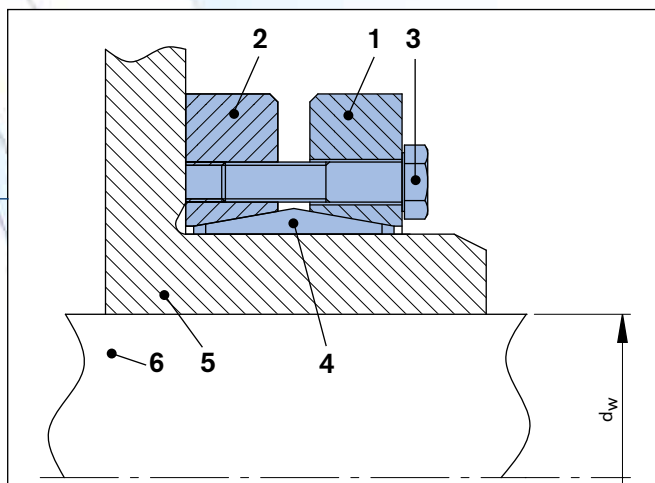
All technical details and information are non-binding and cannot be used as a basis for legal claims. The user is obligated to determine whether the represented products meet his requirements. We reserve the right at all times to carry out modifications in the interests of technical progress. Upon the issue of this catalogue all previous brochures and questionnaires on the products displayed are no longer valid.

Clearances considered for the calculation of the function values

Part description

3-part design

- 1 Front thrust ring
- 2 Rear thrust ring
- 3 Locking screw
- 4 Inner ring
- 5 Hub
- 6 Shaft



RINGFEDER® Shrink Discs RfN 4051/4061/4071/4073/4091/4061 stainless steel

Detailed installation and removal instructions can be found on our homepage www.ringfeder.com.

Installation and removal instructions

Shrink Discs RfN 4051, 4061, 4071, 4073, 4091,
4061 stainless steel

Installation

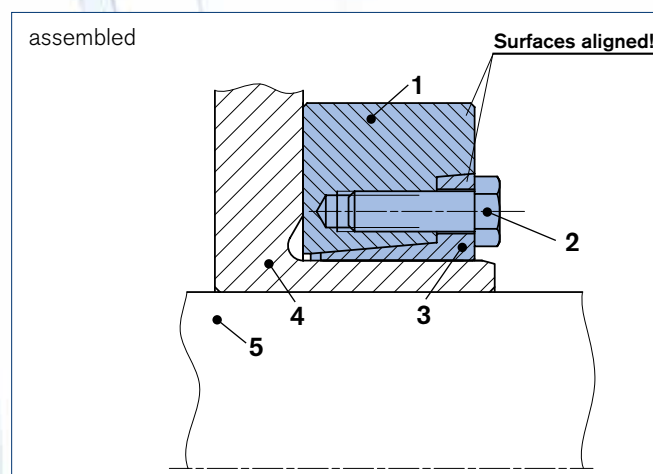
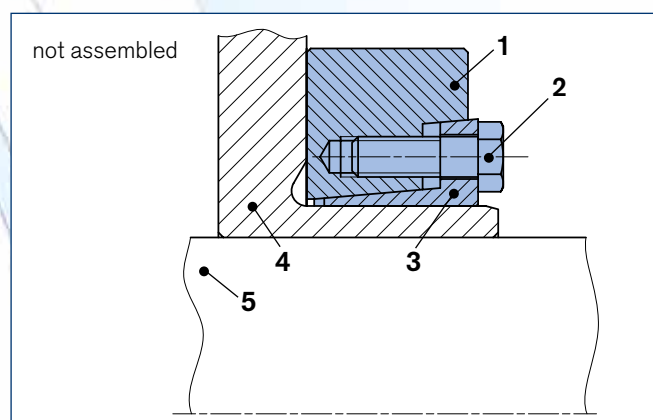
1. Clean the area on the hub where the shrink disc will be seated and oil to ease assembly, if necessary.
2. Removing spacers which may be present between the tensioning discs for transport purposes.
3. Sliding the shrink disc onto the hub.
Attention: Do not start tensioning before the shaft is in the bore of the hub, this may cause permanent deformation.
4. Slide the hub onto the shaft and position as required. Use a thin oil to lightly lubricate the hub bore and shaft to facilitate assembly.
Attention: Do not use lubricants containing MOS2.
5. Tighten by uniformly tensioning the screws in circular sequence, increasing the applied torque stepwise after each sequence. Tension the bolts in sequence (not cross-wise), using a torque wrench. Before starting to tension, make sure that the tensioning discs are aligned plane-parallel.
6. Re-check tightening torque by applying it to all screws all the way around. If all screws have reached the max. tightening torque T_A , the assembly is completed.

Removal

1. Loosen the tensioning bolts evenly and in sequence, again in several circular sequences, to avoid jamming of the discs on the inner ring. Never completely remove the tensioning bolts from their threaded holes, this creates a risk of accidents.
2. Sliding the shrink disc and its attachment part from the shaft. First remove possible traces of rust from the shaft.
3. Sliding the shrink disc from the hub.

Part description

2-part design



RINGFEDER® Shrink Discs RfN 4161/4181

- 1 Outer ring
- 2 Locking screw
- 3 Inner ring
- 4 Hub
- 5 Shaft

Detailed installation and removal instructions can be found on our homepage www.ringfeder.com.

Installation and removal instructions

Shrink Discs RfN 4161, 4181

Installation

1. Clean the area on the hub where the shrink disc will be seated and oil to ease assembly, if necessary.
2. Sliding the shrink disc onto the hub.
Attention: Do not start tensioning before the shaft is in the bore of the hub; this may cause permanent deformation.
3. Slide the hub onto the shaft and position as required. Use a thin oil to lightly lubricate the hub bore and shaft to facilitate assembly.
Attention: Do not use lubricants containing MOS_2 .
4. Tighten by uniformly tensioning the bolts in circular sequence, increasing the applied torque stepwise after each sequence. Tension the bolts in sequence (not cross-wise). Make sure that the faces of the inner and outer rings are aligned plane-parallel.



- Assembly, using a torque wrench:
Check torquing of the bolts in sequence of their positions. Assembly is only complete once all the bolts have been torqued as specified.



- Assembly, without a torque wrench:
Assembly is complete once the faces of the inner and outer rings are aligned flush.

Removal

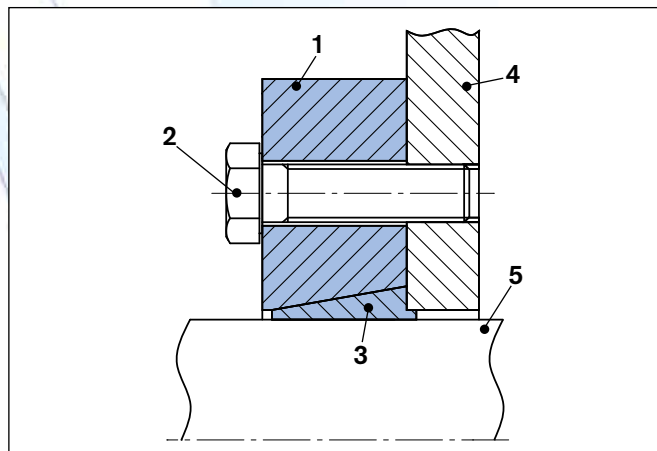
1. Loosen the tensioning bolts evenly and in sequence, again in several circular sequences, to avoid jamming of the discs on the inner ring. Never completely remove the tensioning bolts from their threaded holes, this creates a risk of accidents.
2. Disassembling the shaft, i.e. removing the hub from the shaft. First remove possible traces of rust on the shaft and the hub.
3. Sliding the shrink disc from the hub.

Part description

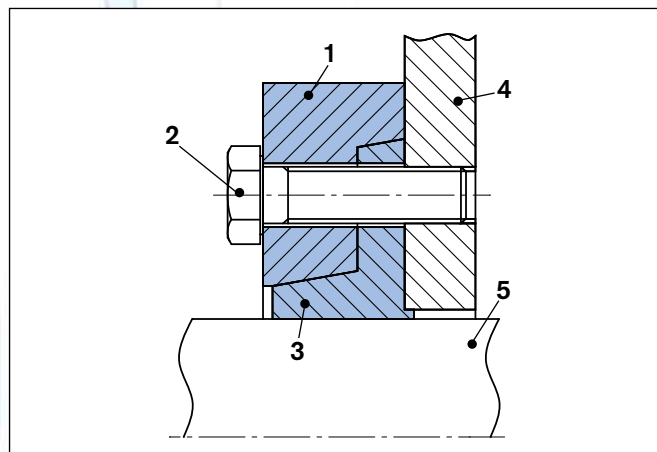
- 1 Outer ring
- 2 Locking screw
- 3 Inner ring
- 4 Attachment part
- 5 Shaft

Part 2, 4, 5 provided by the customer

2-part design with attachment part



RINGFEDER® Shrink Discs RfN 4012



RINGFEDER® Shrink Discs RfN 4022/4023

Detailed installation and removal instructions can be found on our homepage www.ringfeder.com.

Installation and removal instructions

Shrink Discs RfN 4012, 4022, 4023

Installation

1. Clean and degrease position of the shrink disc on the shaft and contact surface of the attachment part.
2. Fasten the attachment part to the shrink disc.
ATTENTION: Tighten the bolts lightly.
3. Sliding the shrink disc onto the shaft.
4. Tighten by uniformly tensioning the bolts in circular sequence, increasing the applied torque stepwise after each sequence. Tension the bolts in sequence (not cross-wise), using a torque wrench.
5. Re-check tightening torque by applying it to all screws all the way around. If all screws have reached the max. tightening torque T_A , the assembly is completed.

Removal

1. Loosen the tensioning bolts evenly and in sequence, again in several circular sequences, to avoid jamming of the discs on the inner ring. Never completely remove the tensioning bolts from their threaded holes, this creates a risk of accidents.
2. Sliding the shrink disc and its attachment part from the shaft. First remove possible traces of rust from the shaft.
3. Releasing the attachment part from the shrink disc.

ISO Tolerances

Shafts

Nominal diameter of shaft		d11		e8		e7		f8		f7		g6		h11		h9		h8		h7	
mm		μm		μm		μm		μm		μm		μm		μm		μm		μm		μm	
above	to	upper	lower	upper	lower	upper	lower	upper	lower	upper	lower	upper	lower	upper	lower	upper	lower	upper	lower	upper	lower
3	6	- 30	- 105	- 20	- 38	- 20	- 32	- 10	- 28	- 10	- 22	- 4	- 12	0	- 75	0	- 30	0	- 18	0	- 12
6	10	- 40	- 130	- 25	- 47	- 25	- 40	- 13	- 35	- 13	- 28	- 5	- 14	0	- 90	0	- 36	0	- 22	0	- 15
10	18	- 50	- 160	- 32	- 59	- 32	- 50	- 16	- 43	- 16	- 34	- 6	- 17	0	- 110	0	- 43	0	- 27	0	- 18
18	30	- 65	- 195	- 40	- 73	- 40	- 61	- 20	- 53	- 20	- 42	- 7	- 20	0	- 130	0	- 52	0	- 33	0	- 21
30	50	- 80	- 240	- 50	- 89	- 50	- 75	- 25	- 64	- 25	- 50	- 9	- 25	0	- 160	0	- 62	0	- 39	0	- 25
50	80	- 100	- 290	- 60	- 106	- 60	- 90	- 30	- 76	- 30	- 60	- 10	- 29	0	- 190	0	- 74	0	- 46	0	- 30
80	120	- 120	- 340	- 72	- 126	- 72	- 107	- 36	- 90	- 36	- 71	- 12	- 34	0	- 220	0	- 87	0	- 54	0	- 35
120	180	- 145	- 395	- 85	- 148	- 85	- 125	- 43	- 106	- 43	- 83	- 14	- 39	0	- 250	0	- 100	0	- 63	0	- 40
180	250	- 170	- 460	- 100	- 172	- 100	- 146	- 50	- 122	- 50	- 96	- 15	- 44	0	- 290	0	- 115	0	- 72	0	- 46
250	315	- 190	- 510	- 110	- 191	- 110	- 162	- 56	- 137	- 56	- 108	- 17	- 49	0	- 320	0	- 130	0	- 81	0	- 52
315	400	- 210	- 570	- 125	- 214	- 125	- 182	- 62	- 151	- 62	- 119	- 18	- 54	0	- 360	0	- 140	0	- 89	0	- 57
400	500	- 230	- 630	- 135	- 232	- 135	- 198	- 68	- 165	- 68	- 131	- 20	- 60	0	- 440	0	- 155	0	- 97	0	- 63
500	630	- 260	- 700	- 145	- 255	- 145	- 215	- 76	- 186	- 76	- 146	- 22	- 66	0	- 440	0	- 175	0	- 110	0	- 70
630	800	- 290	- 790	- 160	- 285	- 160	- 240	- 80	- 205	- 80	- 160	- 24	- 74	0	- 500	0	- 200	0	- 125	0	- 80

Nominal diameter of shaft		h6		h5		j6		k6		k5		m6		m5		n6		p6	
mm		μm		μm		μm		μm		μm		μm		μm		μm		μm	
above	to	upper	lower	upper	lower	upper	lower	upper	lower	upper	lower	upper	lower	upper	lower	upper	lower	upper	lower
3	6	0	- 8	0	- 5	+ 7	- 1	-	-	-	-	+ 12	+ 4	+ 9	+ 4	+ 16	+ 8	+ 20	+ 12
6	10	0	- 9	0	- 6	+ 7	- 2	+ 10	+ 1	+ 7	+ 1	+ 15	+ 6	+ 12	+ 6	+ 19	+ 10	+ 24	+ 15
10	18	0	- 11	0	- 8	+ 8	- 3	+ 12	+ 1	+ 9	+ 1	+ 18	+ 7	+ 15	+ 7	+ 23	+ 12	+ 29	+ 18
18	30	0	- 13	0	- 9	+ 9	- 4	+ 15	+ 2	+ 11	+ 2	+ 21	+ 8	+ 17	+ 8	+ 28	+ 15	+ 35	+ 26
30	50	0	- 16	0	- 11	+ 11	- 5	- 18	+ 2	+ 13	+ 2	+ 25	+ 9	+ 20	+ 9	+ 33	+ 17	+ 42	+ 26
50	80	0	- 19	0	- 13	+ 12	- 7	+ 21	+ 2	+ 15	+ 2	+ 30	+ 11	+ 24	+ 11	+ 39	+ 20	+ 51	+ 32
80	120	0	- 22	0	- 15	+ 13	- 9	+ 25	+ 3	+ 18	+ 3	+ 35	+ 13	+ 28	+ 13	+ 45	+ 23	+ 59	+ 37
120	180	0	- 25	0	- 18	+ 14	- 11	+ 28	+ 3	+ 21	+ 3	+ 40	+ 15	+ 33	+ 15	+ 52	+ 27	+ 68	+ 43
180	250	0	- 29	0	- 20	+ 16	- 13	+ 33	+ 4	+ 24	+ 4	+ 46	+ 17	+ 37	+ 17	+ 60	+ 31	+ 79	+ 50
250	315	0	- 32	0	- 23	+ 16	- 16	+ 36	+ 4	+ 27	+ 4	+ 53	+ 20	+ 43	+ 20	+ 66	+ 34	+ 88	+ 56
315	400	0	- 36	0	- 25	+ 18	- 18	+ 40	+ 4	+ 29	+ 4	+ 57	+ 21	+ 46	+ 21	+ 73	+ 37	+ 98	+ 62
400	500	0	- 40	0	- 27	+ 20	- 20	+ 45	+ 5	+ 32	+ 5	+ 63	+ 23	+ 50	+ 23	+ 80	+ 40	+ 108	+ 68
500	630	0	- 44	0	- 28	-	-	+ 44	0	-	-	+ 70	+ 26	-	-	+ 88	+ 44	+ 122	+ 78
630	800	0	- 50	0	- 32	-	-	+ 50	0	-	-	+ 80	+ 30	-	-	+ 100	+ 50	+ 138	+ 88

Bores

Nominal diameter of bore		D11		E8		E7		F8		F7		G7		H11		H9		H8		H7	
mm		µm		µm		µm		µm		µm		µm		µm		µm		µm		µm	
above	to	upper	lower	upper	lower	upper	lower	upper	lower	upper	lower	upper	lower	upper	lower	upper	lower	upper	lower	upper	lower
3	6	+ 105	+ 30	+ 38	+ 20	+ 32	+ 20	+ 28	+ 10	+ 22	+ 10	+ 16	+ 4	+ 75	0	+ 30	0	+ 18	0	+ 12	0
6	10	+ 130	+ 40	+ 47	+ 25	+ 40	+ 25	+ 35	+ 10	+ 28	+ 13	+ 20	+ 5	+ 90	0	+ 36	0	+ 22	0	+ 15	0
10	18	+ 160	+ 50	+ 59	+ 32	+ 50	+ 32	+ 43	+ 12	+ 34	+ 16	+ 24	+ 6	+ 110	0	+ 43	0	+ 27	0	+ 18	0
18	30	+ 195	+ 65	+ 73	+ 40	+ 61	+ 40	+ 53	+ 15	+ 41	+ 20	+ 28	+ 7	+ 130	0	+ 52	0	+ 33	0	+ 21	0
30	50	+ 240	+ 80	+ 89	+ 50	+ 75	+ 50	+ 64	+ 18	+ 50	+ 25	+ 34	+ 9	+ 160	0	+ 62	0	+ 39	0	+ 25	0
50	80	+ 290	+ 100	+ 106	+ 60	+ 90	+ 60	+ 76	+ 21	+ 60	+ 30	+ 40	+ 10	+ 190	0	+ 74	0	+ 46	0	+ 30	0
80	120	+ 340	+ 120	+ 126	+ 72	+ 107	+ 72	+ 90	+ 25	+ 71	+ 36	+ 47	+ 12	+ 220	0	+ 87	0	+ 54	0	+ 35	0
120	180	+ 395	+ 145	+ 148	+ 85	+ 125	+ 85	+ 106	+ 28	+ 83	+ 43	+ 54	+ 14	+ 250	0	+ 100	0	+ 63	0	+ 40	0
180	250	+ 460	+ 170	+ 172	+ 100	+ 146	+ 100	+ 122	+ 33	+ 96	+ 50	+ 61	+ 15	+ 290	0	+ 115	0	+ 72	0	+ 46	0
250	315	+ 510	+ 190	+ 191	+ 110	+ 162	+ 110	+ 137	+ 36	+ 108	+ 56	+ 69	+ 17	+ 320	0	+ 130	0	+ 81	0	+ 52	0
315	400	+ 570	+ 210	+ 214	+ 125	+ 182	+ 125	+ 151	+ 40	+ 119	+ 62	+ 75	+ 18	+ 360	0	+ 140	0	+ 89	0	+ 57	0
400	500	+ 630	+ 230	+ 232	+ 135	+ 198	+ 135	+ 165	+ 45	+ 131	+ 68	+ 83	+ 20	+ 400	0	+ 155	0	+ 97	0	+ 63	0
500	630	+ 700	+ 260	+ 255	+ 145	+ 215	+ 145	+ 186	+ 76	+ 146	+ 76	+ 92	+ 22	+ 440	0	+ 175	0	+ 110	0	+ 70	0
630	800	+ 790	+ 290	+ 285	+ 160	+ 240	+ 160	+ 205	+ 80	+ 160	+ 80	+ 104	+ 24	+ 500	0	+ 200	0	+ 125	0	+ 80	0

Nominal diameter of bore		H6		J7		J6		K7		K6		M7		M6		N7		N6		P7	
mm		µm		µm		µm		µm		µm		µm		µm		µm		µm		µm	
above	to	upper	lower	upper	lower	upper	lower	upper	lower	upper	lower	upper	lower	upper	lower	upper	lower	upper	lower	upper	lower
3	6	+ 8	0	+ 5	- 7	+ 4	- 4	-	-	-	-	0	- 12	- 1	- 9	- 4	- 16	- 5	- 13	- 8	- 20
6	10	+ 9	0	+ 8	+ 7	+ 5	- 4	+ 5	- 10	+ 2	- 7	0	- 15	- 3	- 12	- 4	- 19	- 7	- 16	- 9	- 24
10	18	+ 11	0	+ 10	- 8	+ 6	- 5	+ 6	- 12	+ 2	- 9	0	- 18	- 4	- 15	- 5	- 23	- 9	- 20	- 11	- 29
18	30	+ 13	0	+ 12	- 9	+ 8	- 5	+ 6	- 15	+ 2	- 11	0	- 21	- 4	- 17	- 7	- 28	- 11	- 24	- 14	- 35
30	50	+ 16	0	+ 14	- 11	+ 10	- 6	+ 7	- 18	+ 3	- 13	0	- 25	- 4	- 20	- 8	- 33	- 12	- 28	- 17	- 42
50	80	+ 19	0	+ 18	- 12	+ 13	- 6	+ 9	- 21	+ 4	- 15	0	- 30	- 5	- 24	- 9	- 39	- 14	- 33	- 21	- 51
80	120	+ 22	0	+ 22	- 13	+ 16	- 6	+ 10	- 25	+ 4	- 18	0	- 35	- 6	- 28	- 10	- 45	- 16	- 38	- 24	- 59
120	180	+ 25	0	+ 26	- 14	+ 18	- 7	+ 12	- 28	+ 4	- 21	0	- 40	- 8	- 33	- 12	- 52	- 20	- 45	- 28	- 68
180	250	+ 29	0	+ 30	- 16	+ 22	- 7	+ 13	- 33	+ 5	- 24	0	- 46	- 8	- 37	- 14	- 60	- 22	- 51	- 33	- 79
250	315	+ 32	0	+ 36	- 16	+ 25	- 7	+ 16	- 36	+ 5	- 27	0	- 52	- 9	- 41	- 14	- 66	- 25	- 57	- 36	- 88
315	400	+ 36	0	+ 39	- 18	+ 29	- 7	+ 17	- 40	+ 7	- 29	0	- 57	- 10	- 46	- 16	- 73	- 26	- 62	- 41	- 98
400	500	+ 40	0	+ 43	- 20	+ 33	- 7	+ 18	- 45	+ 8	- 32	0	- 63	- 10	- 50	- 17	- 80	- 27	- 67	- 45	- 108
500	630	+ 44	0	-	-	-	-	0	- 70	0	- 44	- 26	- 96	- 26	- 70	- 44	- 114	- 44	- 88	- 78	- 148
630	800	+ 50	0	-	-	-	-	0	- 80	0	- 50	- 30	- 110	- 30	- 80	- 50	- 130	- 50	- 100	- 88	- 168

Fax Inquiry

To get a design proposal for RINGFEDER® Shaft-hub-connection

RINGFEDER POWER TRANSMISSION USA CORPORATION, Westwood/USA

FAX: +1 201 664 6053

Addresser

Company			
Attn.		Dept.	
Address			
Phone		Fax	
E-Mail			

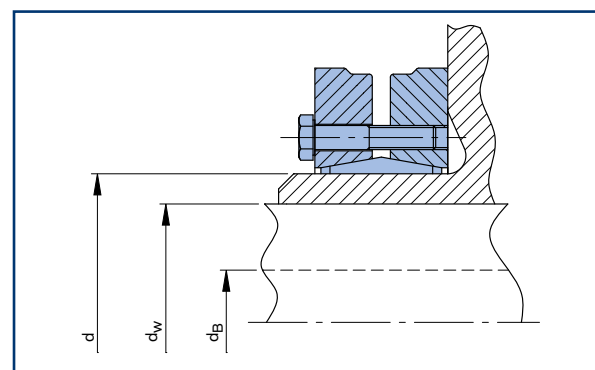
We ask for a consulting discussion. Please call us back under

To make it easy for our technical staff and to avoid errors or mistakes your inquiry should include the following information:

Information for technical service

Expected maximum loads

Max. torque
Max. bending moment
Max. axial load
Max. radial load



T max. = lb-ft
 M_b max. = lb-ft
 F_{ax} max. = lbs
 F_r max. = lbs

Dimensions, materials:

Shaft diameter
In case of hollow shaft, internal diameter
Shaft revolution speed
Inner diameter shrink disc
Hub width
Hub material/yield strength
Shaft material/yield strength
Temperature of the connection

d_w = inches
 d_B = inches
 n = rpm
 d = inches
 L_N = inches
 $R_{p0,2N}$ = psi
 $R_{p0,2W}$ = psi
Temp. = degree F

Additional information:

Please send a drawing or sketch together with your inquiry!

RINGFEDER POWER TRANSMISSION USA CORPORATION · 165 Carver Avenue · P.O. Box 691 Westwood · NJ 07675 · USA

Toll Free: +1 888 746-4333 · Phone: +1 201 666 3320 Fax: +1 201 664 6053

E-mail: sales.usa@ringfeder.com

Fax Inquiry

To get a design proposal for RINGFEDER® Flange Couplings

RINGFEDER POWER TRANSMISSION USA CORPORATION, Westwood/USA

FAX: +1 201 664 6053

Addresser

Company			
Attn.		Dept.	
Address			
Phone		Fax	
E-Mail			

We ask for a consulting discussion. Please call us back under

Version A

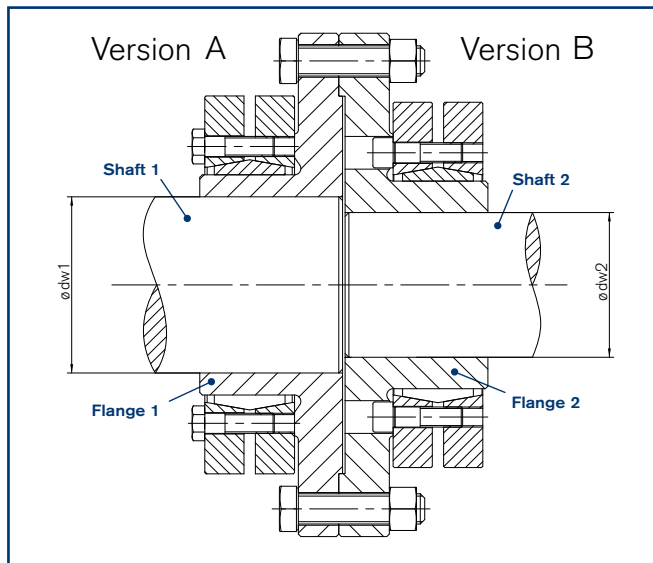
Shaft diameter d_{w1} = inches
Shaft diameter d_{w2} = inches

Version B

Shaft diameter d_{w1} = inches
Shaft diameter d_{w2} = inches

Yield point

Material =
 $R_{p0,2W}$ = N/mm²



Expected maximum loads

Max. torque	$T_{max.}$	=	ft-lbs	Max. axial load	$F_{ax max.}$	=	lbs
Max. bending moment	$M_{bmax.}$	=	ft-lbs	Max. radial load	$F_r max.$	=	lbs

Additional information:

Please send a drawing or sketch together with your inquiry!

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Toll Free: +1 888 746-4333 · Phone: +1 201 666 3320 Fax: +1 201 664 6053

E-mail: sales.usa@ringfeder.com



Locking Devices



Locking Assemblies



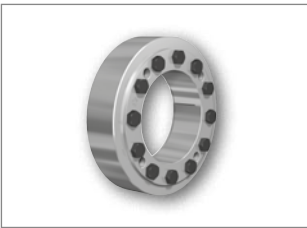
Locking Assemblies for bending moments



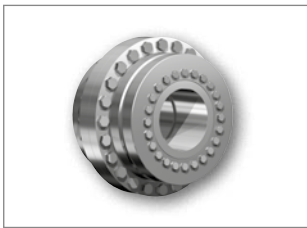
Locking Assemblies – Stainless steel



Locking Elements



Shrink Discs



Flange Couplings

Damping Technology



Friction Springs



DEFORM plus®



DEFORM plus® R



Couplings



Torsionally Flexible Couplings



Torsionally Flexible Couplings



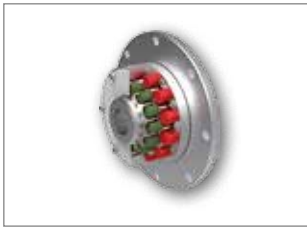
Torsionally Flexible Couplings



Torsionally Rigid Gear Couplings



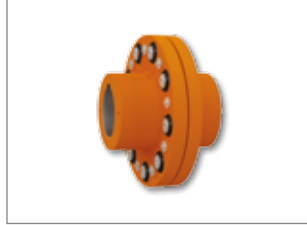
Torsionally Rigid Barrel Coupling



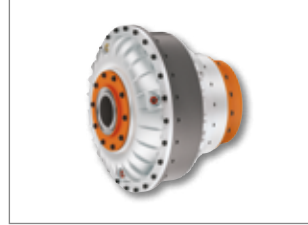
Couplings with variable Stiffness



Couplings



Flexible Couplings Henflex

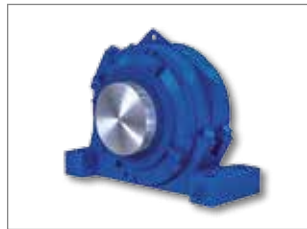


Hydrodynamic Couplings Henfluid



Hydrodynamic Couplings with variable speed

Bearing Housings



Bearing Housings

Remark:

HENFEL products are only available in South America and selected markets.



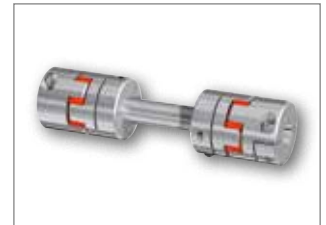
Couplings



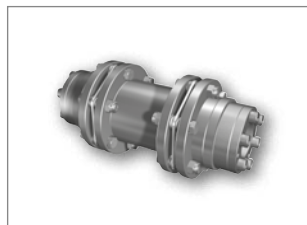
Metal Bellows Couplings



Servo-Insert Couplings



Line Shafts



Torsionally Rigid Disc Couplings



RINGFEDER POWER TRANSMISSION GMBH

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E-mail: sales.international@ringfeder.com

RINGFEDER POWER TRANSMISSION TSCHAN GMBH

Zweibrücker Straße 104, D-66538 Neunkirchen, Germany · Phone: +49 (0) 6821 866-0 · Fax: +49 (0) 6821 866-4111
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E-mail: sales.usa@ringfeder.com

HENFEL INDÚSTRIA METALÚRGICA LTDA.

Av. Major Hilário Tavares Pinheiro, 3447 · CEP 14871 300 · Jaboticabal - SP - Brazil · Phone: +55 (16) 3209-3422
Fax: +55 (16) 3202-3563 · E-mail: vendas@henfel.com.br

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KUNSHAN RINGFEDER POWER TRANSMISSION COMPANY LIMITED

No. 10 Dexin Road, Zhangpu Town 215321, Kunshan, China
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Partner for Performance
www.ringfeder.com

 **RINGFEDER**
POWER TRANSMISSION