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Locking Assemblies





Locking Assemblies





Locking Assemblies stainless steel

EN 06.2025

Product Paper & Tech Paper



100 YEARS EMPOWERING TOMORROW SINCE 1922



Machine Building



Aviation & Aerospace



Process Technology

Welcome

Your System Partner for Drive and Damping Technology

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 of our environment and society.



Movement



Energy



Extraction

RINGFEDER POWER TRANSMISSION is the international market leader in niche markets for drive and damping technology. We develop, manufacture and supply superior Shaft-Hub Connections, Damping Components, Couplings, Brake Systems and Bearing Housings for highest functionality and durability requirements in a wide range of technology sectors worldwide. Not only do we always provide our ambitious customers with competent advice based on over 100 years of experience and expertise, but also realize need-based, application-oriented solutions together with them that guarantee safe, failure-free and economic machine and plant operation – with our aspiration to be **Partner for Performance**.

Our customer promise for your specific use case:

- Excellent know-how for maximum performance and reliability
- Best cost-benefit ratio
- Short reaction times and high product availability



Quality & Expertise

One century of competence and experience

As pioneer and market leader for premium systems and components of drive and damping technology, we stand for outstanding professional competence, superior product and service quality as well as excellent customer focus. For your advantage, we consistently combine highest quality standards, continuous optimization and profound consulting – no matter how, where and when forces must be transmitted or damped.

Reliability & Trust

From the requirement to the optimum result

Whether customized special design or proven standard type, highly specific individual or holistic system solution: As a competent, professional and service-oriented partner, we support and accompany you from the initial clarification of your requirements to the successful completion of your purpose – and, of course, also beyond.



Your Projects, Our Drive

Anytime & Anywhere

Locally on-site for you worldwide

Thanks to national and international development, manufacturing and sales locations as well as a worldwide service and partner network, we are at your side around the globe directly and locally with qualified technical support and fast product availability – around the clock, seven days a week, of course also and particularly in urgent maintenance and repair cases.

Digital & Online

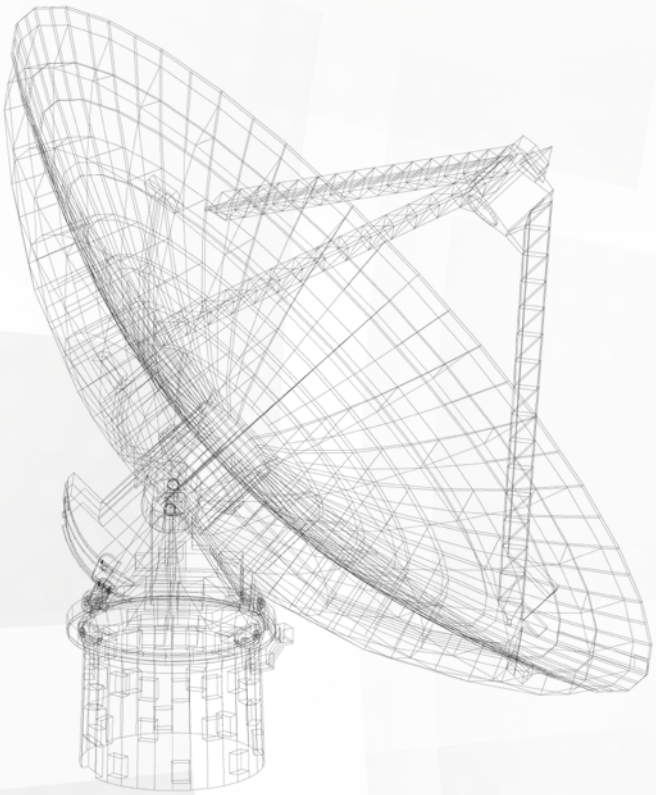
Always find the right information instantly

Discover the latest company and product information, download CAD models, brochures and data sheets, use our calculation and selection program for shaft-hub connections, arrange a video consultation appointment with one of our specialists and much more – quickly, easily, with no obligation and at any time. Convince yourself on our website at www.ringfeder.com.

RINGFEDER®
Locking Assemblies

Introduction

Keyless shaft-hub locking devices have been the cornerstone of the RINGFEDER®. For over 90 years, our product offering of internal clamping and external clamping locking devices and global support has been unparalleled in the industry.



Locking Assemblies self-centering

Self-centring RINGFEDER® Locking Assemblies enable extremely precise concentricity in the clamped components. The maximum concentricity error for the clamping sets that are machined in a clamping process is an extremely low 0.04 mm. These clamping sets are used primarily in gear wheel mountings in rotary pumps and in machine tools that require the highest level of precision.

Locking Assemblies without axial displacement

RINGFEDER® Locking Assemblies without axial displacement of the hub during assembly are used when this kind of displacement would affect the function of the connection negatively. This kind of clamp set is used primarily in the area of machine tools, helical gear wheels, rotary table drives, pumps and brake disc mountings.

Locking Assemblies with low surface pressures

RINGFEDER® Locking Assemblies with low surface pressures minimise the tension in the components jointed by the set. They are used mainly in the case of extremely thin-walled hubs and for hubs with low yield strength or made of grey cast iron or aluminium. Aluminium timing belt pulleys and thin-walled levers are typical areas of use.

Characteristics

- **Inexpensive manufacture** – the large tolerances that are possible and the simple turning process guarantee inexpensive manufacture.
- **Simple installation** – only a few screws need to be tightened, alignment to precise angles between the hub and shaft is possible in any position, no fitting work is required.
- **Simple dismantling** – RINGFEDER® Locking Assemblies are fitted with threaded extraction holes, so that no additional auxiliary equipment is necessary, series RfN 7012 is self-releasing.
- **Large constant reverse-torsion fatigue strength** – shaft and hub are ungrooved, so that there is no weakening of these components. Shaft and hub can be designed to be considerably smaller (light, cost and space-saving design possible).
- **No danger of deflection** – RINGFEDER® Locking Assemblies are absolutely backlash-free.
- **Effect similar to overload protection** – after the set frictional connection force has been exceeded the Locking Assemblies simply slide. Valuable machine parts are protected. The Locking Assemblies are subject to the same laws as any other connection with force transmission by friction - not suitable as sliding clutch.
- **Completely maintenance-free** – no follow-up costs.



RINGFEDER® Locking Assemblies

RINGFEDER®	Transmissible torques T [Nm]	Shaft diameter d [mm]	self-centering	without axial displacement	with low surface pressure
RfN 7003	355 – 512 635	19 – 400	●		
RfN 7004	530 – 63 903	19 – 180	●		
RfN 7005	649 – 1 760 000	25 – 600	●		
RfN 7006	270 – 375 945	19 – 400	●	●	
RfN 7007	320 – 48 800	19 – 200	●	●	
RfN 7012	306 – 2 352 018	19 – 1000		●	
RfN 7012.2	12074 – 1 631 741	130 – 800		●	
RfN 7013.0	285 – 28 500	19 – 150	●		
RfN 7013.1	285 – 28 500	19 – 150	●	●	
RfN 7014	4 130 – 245 000	60 – 300	●	●	
RfN 7015.0	14244 – 2 427 520	100 – 800	●	●	
RfN 7015.1	6 575 – 903 696	100 – 800	●	●	●
RfN 7061	6 – 1 900	6 – 50	●		●
RfN 7110	30 – 23 700	8 – 130	●	●	●
RfN 7515	4 299 – 1 300 152	60 – 640	●		



RINGFEDER® Locking Assemblies stainless steel

RINGFEDER®	Transmissible torques T [Nm]	Shaft diameter d [mm]	self-centering	without axial displacement	with low surface pressure
RfN 7012 stainless steel	252 – 24 046	19 – 150		●	
RfN 7013.1 stainless steel	199 – 19 950	19 – 150	●	●	
RfN 7061 stainless steel	3 – 1472	6 – 50	●		●
RfN 7110 stainless steel	16 – 1 883	8 – 50	●	●	●

Locking Assembly selection on www.ringfeder.com

Our website offers you a selection tool that will help you to determine which locking assembly is suitable for you.

Following selection criteria are available:

- **transmissible torque at given T_A or shaft diameter**

Additional filter criteria:

- **axial displacement** (with or without)
- **self-centering** (yes or no)



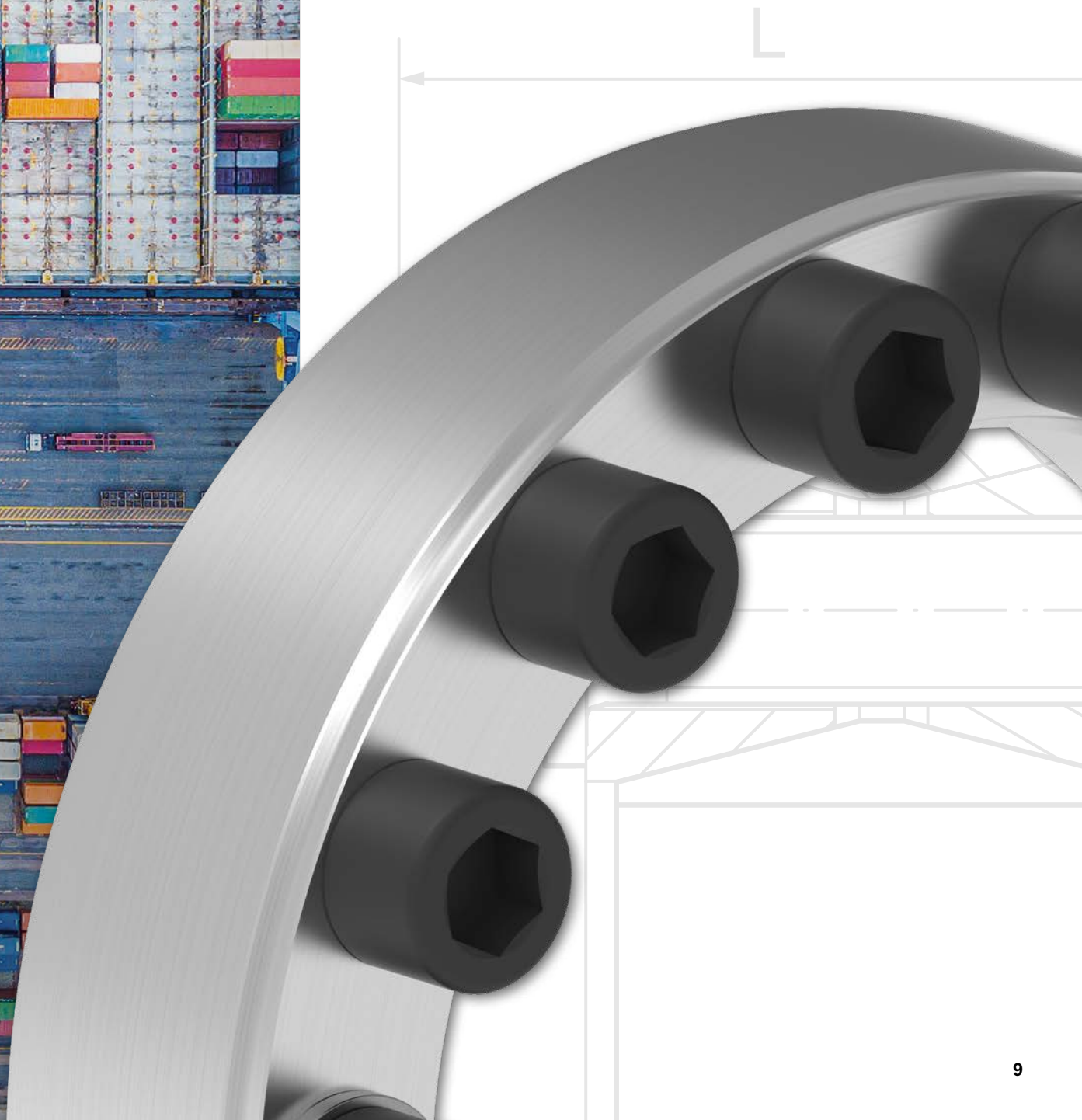
Disclaimer of liability
All technical details and notes are non-binding and cannot be used as a basis for legal claims. The user is obligated to determine whether the represented products meet his requirements. We reserve the right carry out modifications at any time in the interests of technical progress.





Locking Assemblies
RINGFEDER®

RINGFEDER® locking assemblies are characterised by the absolute freedom of movement and high fatigue properties of the components. The fast, simple assembly is achieved through the use of few screws. The angle of alignment between the shaft and the hub is thus exact in every position. No adjustment work is necessary. Simple dismantling is carried out using extraction threads – no additional aids are necessary. The RfN 7012.2 series is even self-releasing.





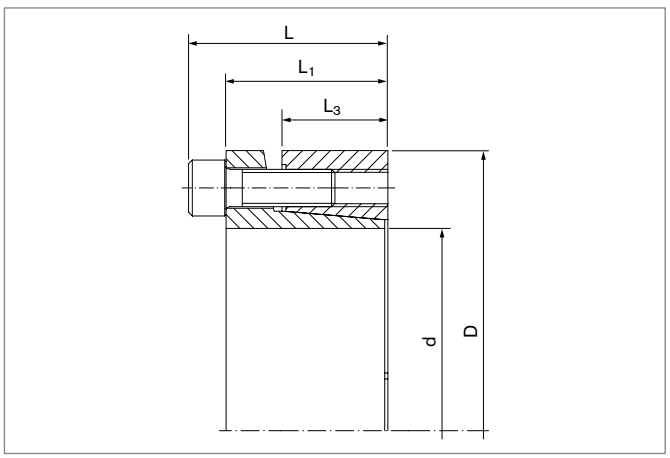
RfN 7003

self-centering
without axial displacement
with low surface pressure

Further information on
RINGFEDER® RfN 7003
on **www.ringfeder.com**

Two piece design with slit and single taper and without flange

Self-centering, 2-piece Locking Assemblies, which can be used - due to the slit - also at larger tolerances. The hub slightly positions during mounting towards the screw head. For disassembly only few release screws are required. Through the stiffer geometry of the flange, the deformation of the flange is significantly lower than with standard products.



Characteristics

- **Excellent concentricity and very easy to dismantle** – these self-centering Locking Assemblies provide particularly good concentricity between the clamped parts. During mounting, minor axial displacement occurs towards of the screw head. The flange is reinforced at the critical point. This prevents a bending and lifting of the inner ring during installation and therefore a good dismantling is ensured.
- **High rotation speed** – the Locking Assemblies remain true-to-form during assembly and so they are suitable in applications with higher rotational speeds.
- **High radial loads** – the material strength of the Locking Assemblies makes them especially suitable for applications with high radial loads.



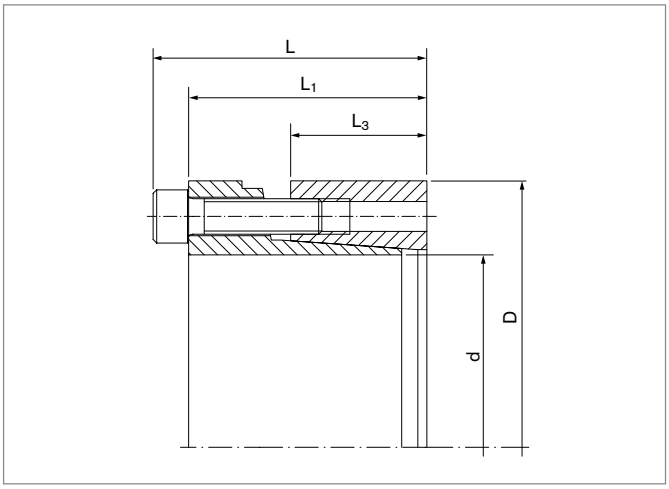
RfN 7004

Further information on
RINGFEDER® RfN 7004
on **www.ringfeder.com**

self-centering
without axial displacement
with low surface pressure

Extended version of the RfN 7003

Is the extended design of series RfN 7003. Here, due to the low pressure the hub can be designed very cost-effective (small outer diameter).



Characteristics

- **Excellent concentricity and very easy to dismantle** – these self-centering Locking Assemblies provide particularly good concentricity between the clamped parts. During mounting, minor axial displacement towards of the screw head. The flange is reinforced at the critical point. This prevents a bending and lifting of the inner ring during installation and therefore a good dismantling is ensured.
- **High rotation speed** – the Locking Assemblies remain true-to-form during assembly and so they are suitable in applications with higher rotational speeds.
- **High radial loads** – the material strength of the Locking Assemblies makes them especially suitable for applications with high radial loads.



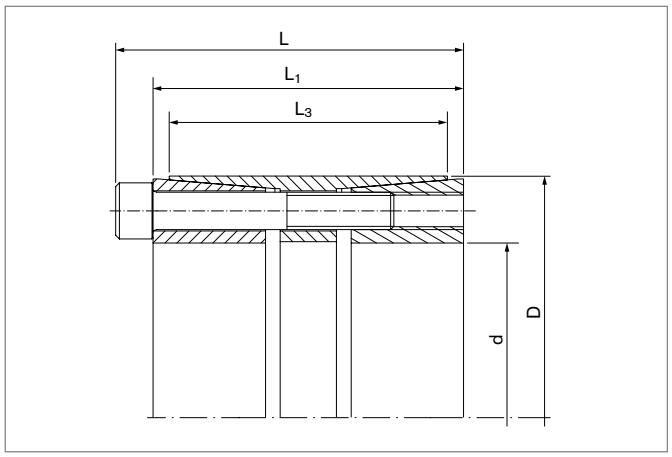
RfN 7005

self-centering
without axial displacement
with low surface pressure

Further information on
RINGFEDER® RfN 7005
on **www.ringfeder.com**

Three piece self-centering design for heavy duty torques

3-piece, self-centering, slitted Locking Assemblies for highest torques. During assembly a minor axial displacement of the hub occurs. The front and rear thrust rings are separately released through release threads.



Characteristics

- **Excellent concentricity** – because of the long, flat cone
- **Special features** – low axial displacement and highest torque transfer



RfN 7006

self-centering

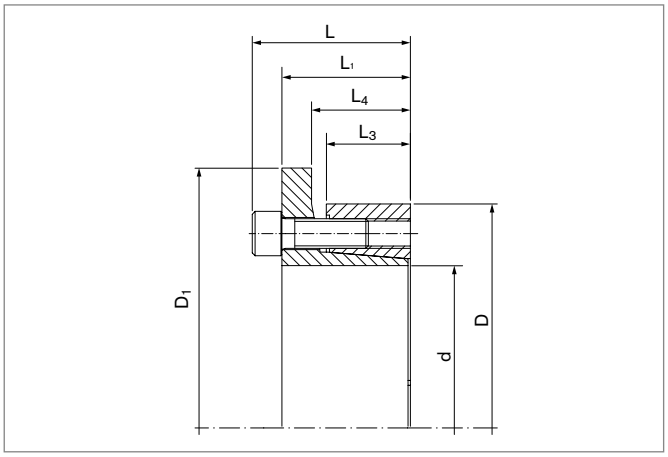
without axial displacement

with low surface pressure

Further information on
RINGFEDER® RfN 7006
on **www.ringfeder.com**

Two piece design with single taper

Has all positive features of series RfN 7003. However, through the bigger flange diameter an axial displacement of the hub during mounting is averted. Is also applied with belt pulleys.



Characteristics

- **Excellent concentricity and very easy to dismantle** – these self-centering Locking Assemblies provide particularly good concentricity between the clamped parts. During mounting, minor axial displacement towards of the screw head. The flange is reinforced at the critical point. This prevents a bending and lifting of the inner ring during installation and therefore a good dismantling is ensured.
- **High rotation speed** – the Locking Assemblies remain true-to-form during assembly and so they are suitable in applications with higher rotational speeds.
- **High radial loads** – the material strength of the Locking Assemblies makes them especially suitable for applications with high radial loads.
- **Axial hub positioning** – the increased outer diameter of the flange prevents the axial movement of the hub during assembly and improves the run-out ability of the Locking Assembly.



RfN 7007

self-centering

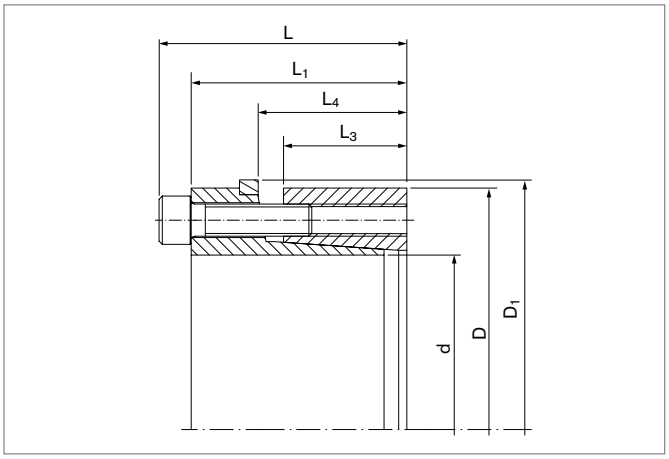
without axial displacement

with low surface pressure

Further information on
RINGFEDER® RfN 7007
on **www.ringfeder.com**

Two piece design similar to RfN 7004

Is a modification of RfN 7004 with all its positive features, but here - same as RfN 7006 - the axial displacement during mounting is averted.



Characteristics

- **Excellent concentricity and very easy to dismantle** – these self-centering Locking Assemblies provide particularly good concentricity between the clamped parts. The flange is reinforced at the critical point. This prevents a bending and lifting of the inner ring during installation and therefore a good dismantling is ensured.
- **Higher rotation speed** – the Locking Assemblies remain true-to-form during assembly and so they are suitable in applications with higher rotational speeds.
- **High radial loads** – the material strength of the Locking Assemblies makes them especially suitable for applications with high radial loads.
- **Axial hub positioning** – in addition to this, the hub is fixed axially during the assembly by the inserted ring, and a high level of axial run-out accuracy is also achieved.
- **Low surface pressure** – also suitable for thin-walled hubs with a small extension length and for exactly positioned impellers.



RfN 7012

self-centering

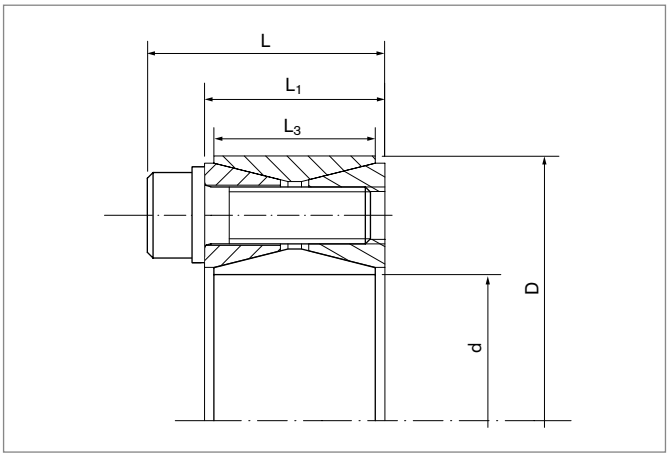
without axial displacement

with low surface pressure

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

Large transmittable forces and moments

Slimmest design, especially suitable for applications where space is limited. The Locking Assembly RfN 7012 compensates small tolerance deviations and compensates small mounting errors.



Characteristics

- **Large transmittable forces and moments** – several Locking Assemblies RfN 7012 can be placed one behind the other. The transmissible torque and axial forces are added - please take in this respect consulting with our technical experts.
- **Bending moment and radial loads** – combined loads can be transmitted. (Please contact our technical department for assistance).
- **Easy installation** – RfN 7012 Locking Assemblies can bridge large clearances without the loss of transmission values.
- **Low risk to contamination** – during the tightening process the functional surfaces of the device and connection are pressed together generating a surface pressure that does not allow the ingress of contamination.
- **Free from wear** – the Locking Assembly RfN 7012 works without moving parts on shaft and hub, through this, abrasive wear and backlash are avoided. Thus, RfN 7012 can be repeatedly clamped and released.



self-centering

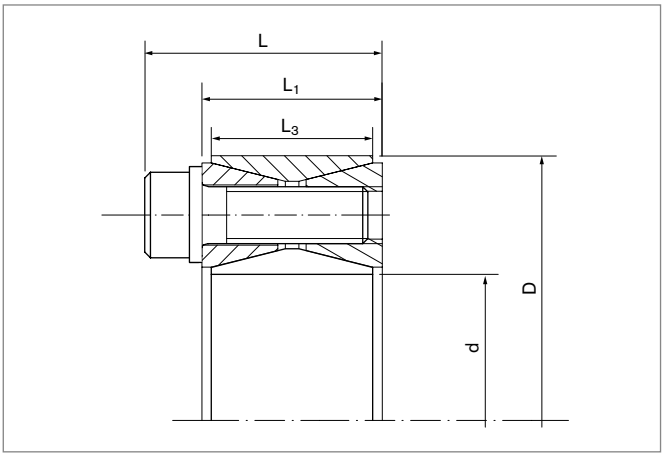
without axial displacement

with low surface pressure

Further information on
RINGFEDER® RfN 7012.2
on **www.ringfeder.com**

Large transmittable forces and moments

Dimensions as for RfN 7012, narrowest structure, particularly suited to applications in narrow spaces. The non self-centring locking assembly RfN 7012.2 offsets small tolerance fluctuations and compensates for slight assembly errors.



Characteristics

- **Large transmittable forces and moments** – several Locking Assemblies RfN 7012.2 can be placed one behind the other. The transmissible torque and axial forces are added - please take in this respect consulting with our technical experts.
- **Bending moment and radial loads** – combined loads can be transmitted. (Please contact our technical department for assistance).
- **Easy installation** – RfN 7012.2 Locking Assemblies can bridge large clearances without the loss of transmission values.
- **Low risk to contamination** – during the tightening process the functional surfaces of the device and connection are pressed together generating a surface pressure that does not allow the ingress of contamination.
- **Free from wear** – the Locking Assembly RfN 7012.2 works without moving parts on shaft and hub, through this, abrasive wear and backlash are avoided. Thus, RfN 7012.2 can be repeatedly clamped and released.



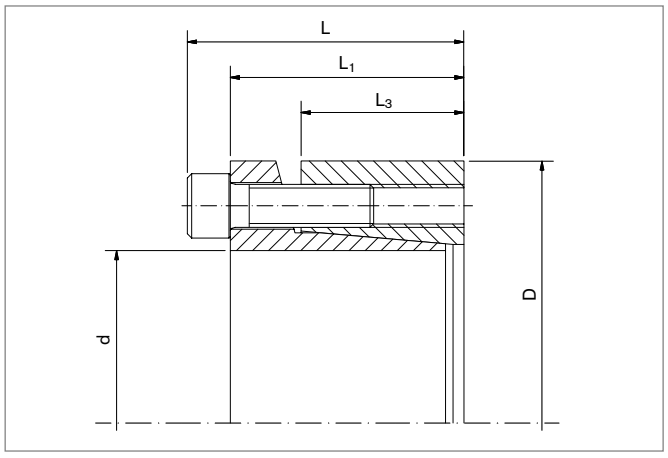
RfN 7013.0

self-centering
without axial displacement
with low surface pressure

Further information on
RINGFEDER® RfN 7013.0
on **www.ringfeder.com**

Excellent concentricity and very easy to dismantle

The locking assemblies RfN 7013.0 achieve particularly good concentricity between the clamped parts. The reinforced flange prevents the inner ring from bending and lifting during the assembly. This ensures an easy dismantling. Particularly suitable for higher speeds and radial loads.



Characteristics

- **Excellent concentricity and very easy to dismantle** – these self-centering Locking Assemblies provide particularly good concentricity between the clamped parts. During mounting, minor axial displacement occurs towards of the screw head. The flange is reinforced at the critical point. This prevents a bending and lifting of the inner ring during installation and therefore a good dismantling is ensured. On the smaller sizes only the cone is slotted on the inner ring and the flange remains unslotted. This prevents crooked pulling during the assembly. From an internal diameter of 55 mm both rings are completely unslotted.
- **High rotation speed** – the Locking Assemblies remain true-to-form during assembly and so they are suitable in applications with higher rotational speeds.
- **High radial loads** – the material strength of the Locking Assemblies makes them especially suitable for applications with high radial loads.



RfN 7013.1

self-centering

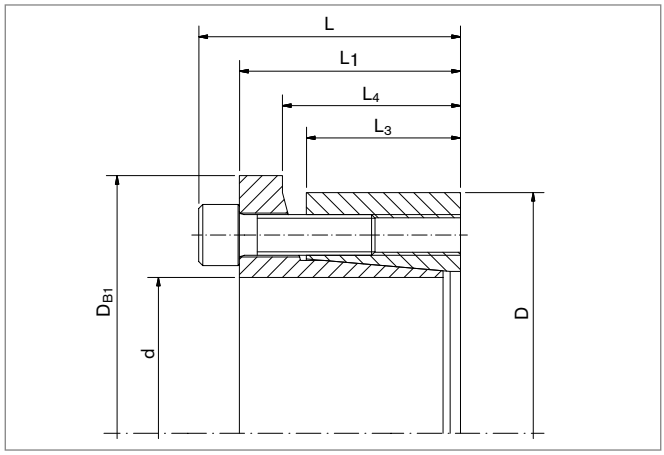
without axial displacement

with low surface pressure

Further information on
RINGFEDER® RfN 7013.1
on **www.ringfeder.com**

Axial hub fixing, excellent concentricity and very easy to dismantle

The locking assembly RfN 7013.1 has the same positive characteristics as RfN 7013.0, but differs in its lifted flange. This fixes the hub axially during assembly and also achieves a high level of axial run-out accuracy. A large number of screws guarantees almost the same high transferable torque as for the locking assemblies RfN 7013.0.



Characteristics

- **Excellent concentricity and very easy to dismantle** – these self-centering Locking Assemblies provide particularly good concentricity between the clamped parts. The flange is reinforced at the critical point. This prevents a bending and lifting of the inner ring during installation and therefore a good dismantling is ensured. On the smaller sizes only the cone is slotted on the inner ring and the flange remains unslotted. This prevents crooked pulling during the assembly. From an internal diameter of 55 mm both rings are completely unslotted.
- **High rotation speed** – the Locking Assemblies remain true-to-form during assembly and so they are suitable in applications with higher rotational speeds.
- **High radial loads** – the material strength of the Locking Assemblies makes them especially suitable for applications with high radial loads.
- **Axial hub positioning** – the increased outer diameter of the flange prevents the axial movement of the hub during assembly and improves the run-out ability of the Locking Assembly.



RfN 7014

Further information on
RINGFEDER® RfN 7014
on **www.ringfeder.com**

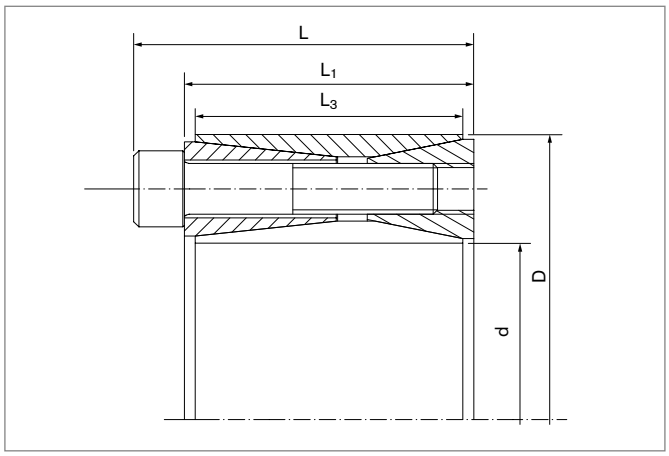
self-centering

without axial displacement

with low surface pressure

Large transmittable peripheral forces

The long, flat cones allow the highest torques and/or axial forces to be transferred with a locking assembly RfN 7014. The multiple part structure means that the locking assembly, shaft and hub remain in the same position to one another during assembly and no axial shift takes place. The shaft and hub are only pressurised, guaranteeing additional safety compared to 3-part types.



Characteristics

- **Large transmittable peripheral forces** – due to the long, flat cones it is possible to transmit maximum torques and axial forces with one self-centering Locking Assembly RfN 7014.
- **Maximum reliability** – due to the flat cones and the relatively wide construction (large guide lengths) the Locking Assemblies RfN 7014 centre themselves. During installation the Locking Assembly, shaft and hub remain in position to one another. The shaft and hub are loaded by pressure, providing additional safety compared to 3-part versions.
- **Note** – The shaft or hub must be dropped in order to guarantee simple dismantling.



RfN 7015.0

self-centering

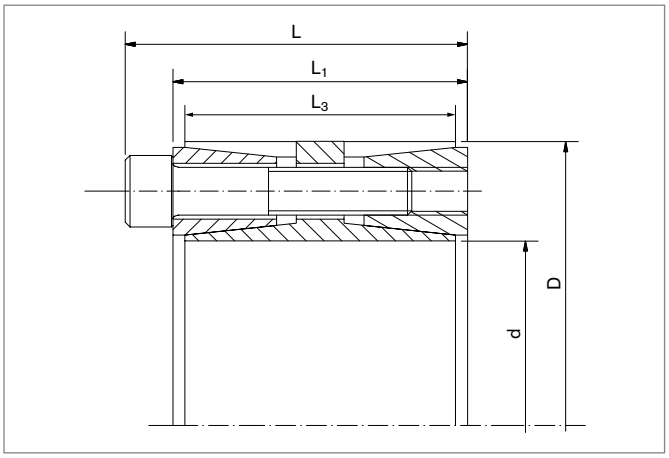
without axial displacement

with low surface pressure

Further information on
RINGFEDER® RfN 7015.0
on **www.ringfeder.com**

Transfer of greatest bending moments possible, greatest torque and/or axial forces, excellent concentricity possible

Self-centering precision Locking Assembly for the transmission of maximum torques and axial forces with special demands on the concentricity of the parts of the clamped, as well as for applications subjected to bending moments.



Characteristics

- **Large transmittable peripheral forces** – due to the long, flat cones it is possible to transmit maximum torques and axial forces with **one** Locking Assembly RfN 7015.0. During installation the Locking Assembly, shaft and hub remain in position to one another. Compared to 3-part versions, thus an additional safety is provided. Shaft and hub are only compression-loaded. If necessary, two locking assemblies RfN 7015.0 can be positioned behind one another. The transferred torque and axial forces are added – please consult with our technical experts in this regard.
- **Bending moment and radial loads** – combined loads can be transmitted. Please contact our technical department for assistance.
- **Excellent centering ability** – because of the centring ridge and relatively wide structure.



RfN 7015.1

self-centering

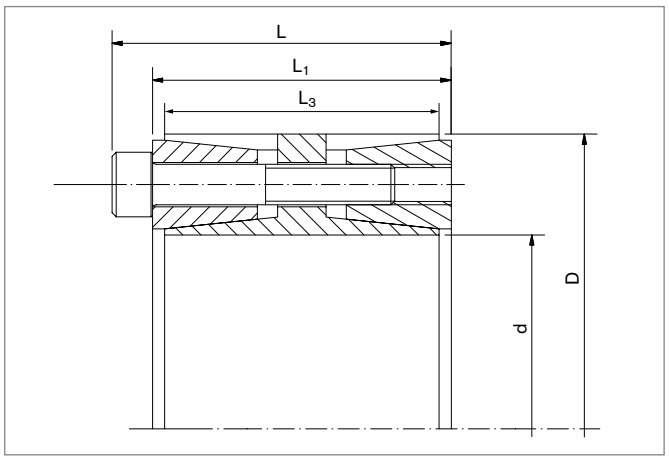
without axial displacement

with low surface pressure

Further information on
RINGFEDER® RfN 7015.1
on **www.ringfeder.com**

Reduced surface pressures

Locking Assembly for transmission of torques, axial forces and high bending moments at reduced contact pressures, with special requirements to the true running of the clamped pieces.



Characteristics

- **Large transmittable peripheral forces** – due to the long, flat cones it is possible to transmit maximum torques and axial forces with one Locking Assembly RfN 7015.0. During installation the Locking Assembly, shaft and hub remain in position to one another. Compared to 3-part versions, thus an additional safety is provided. Shaft and hub are only compression-loaded. If necessary, two locking assemblies RfN 7015.1 can be positioned behind one another. The transferred torque and axial forces are added – please consult with our technical experts in this regard.
- **Bending moment and radial loads** – combined loads can be transmitted. Please contact our technical department for assistance.
- **Excellent centering ability** – because of the centring ridge and relatively wide structure.



RfN 7061

self-centering

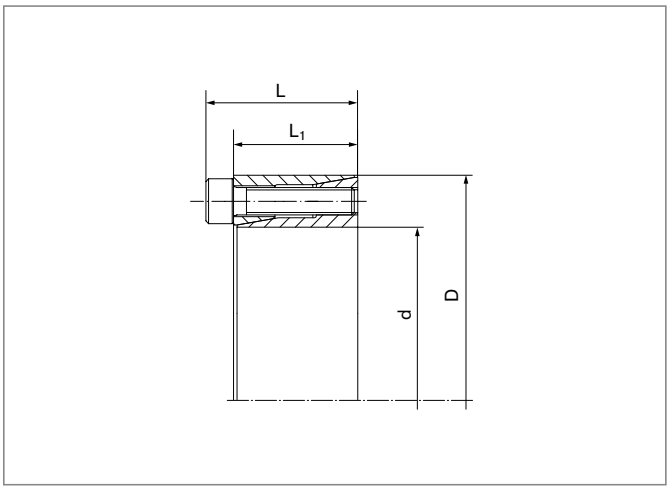
without axial displacement

with low surface pressure

Further information on
RINGFEDER® RfN 7061
on **www.ringfeder.com**

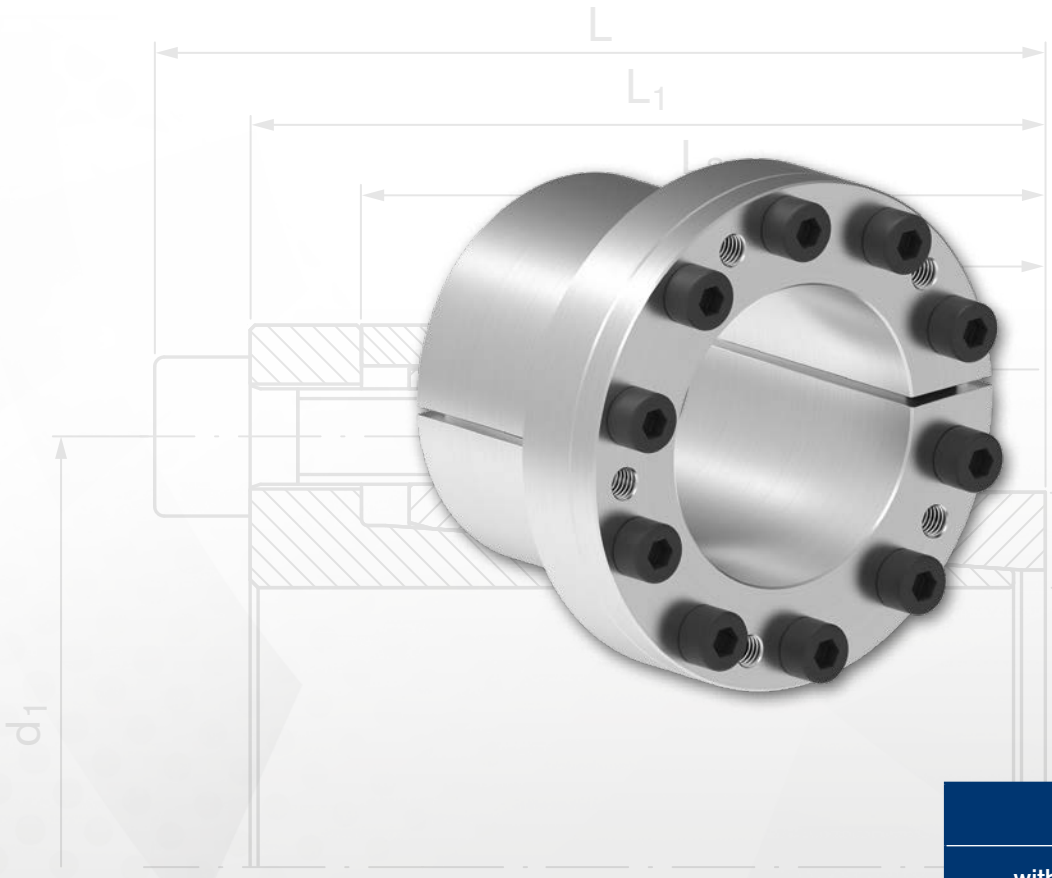
Two piece, self-centering design

Self-centering, cost-efficient 2-piece Locking Assemblies for medium torques. During mounting, minor axial displacement of the hub occurs. Due to the small number of screws, cost savings during mounting are ensured. For disassembly only few release screws are required. Also availabe for very small shaft diameters.



Characteristics

- **Special features** – also suitable for thin-walled hubs with a low extension limit because of the low surface pressure.
- **Availability** – also available for very small shaft diameters.
- **Very good concentricity** – because of the rings formed as a double cone.



RfN 7110

Further information on
RINGFEDER® RfN 7110
on **www.ringfeder.com**

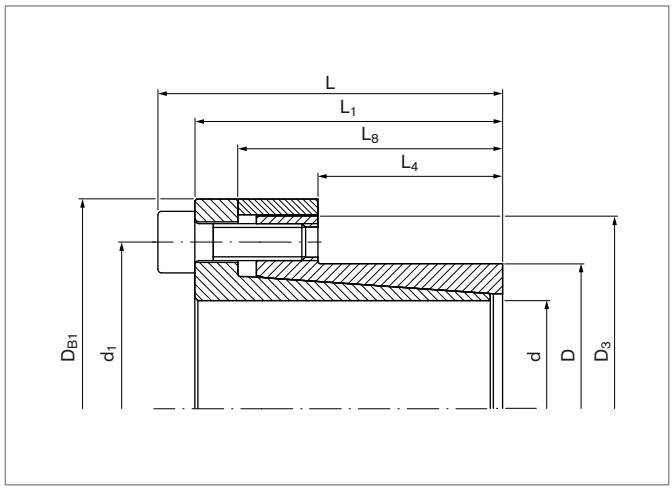
self-centering

without axial displacement

with low surface pressure

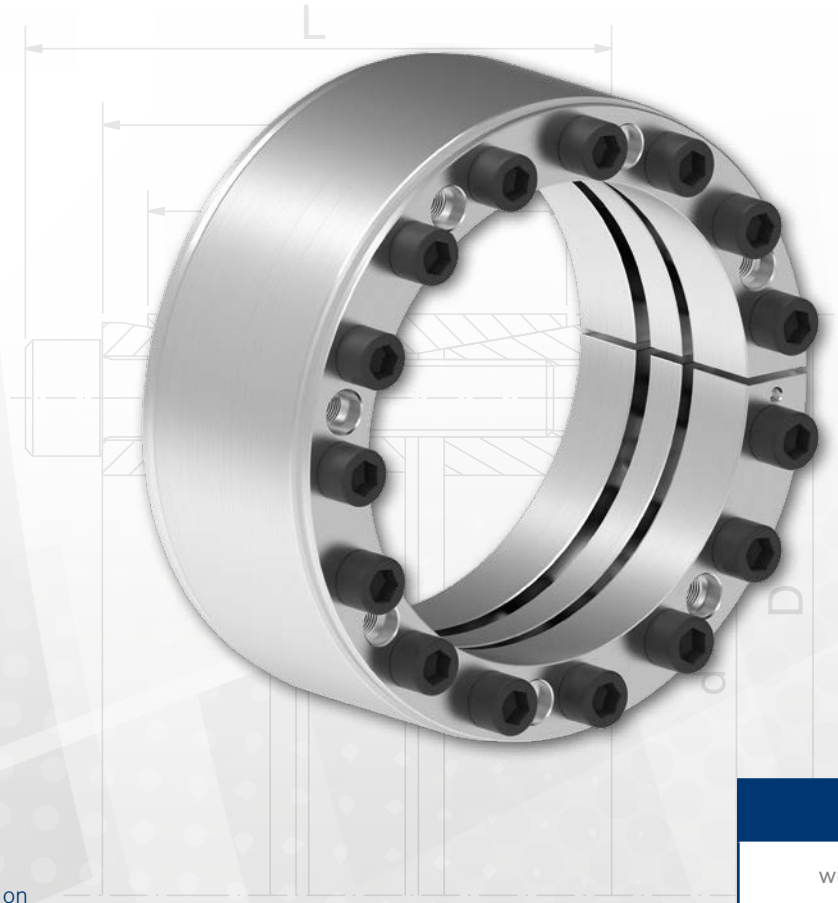
Specially small dimensioned self-centering Locking Assembly without axial displacement

Specially small dimensioned self-centering Locking Assembly without axial displacement. As the locking screws are located out of the actual clamping area and the pressures are relatively low, the hub can be designed economically small.



Characteristics

- **Low surface pressure** – also suitable for thin-walled hubs with a low extension limit.
- **Availability** – also available for very small shaft diameters.
- **Compact** – particularly suited for applications in narrow spaces because of the low structural height.



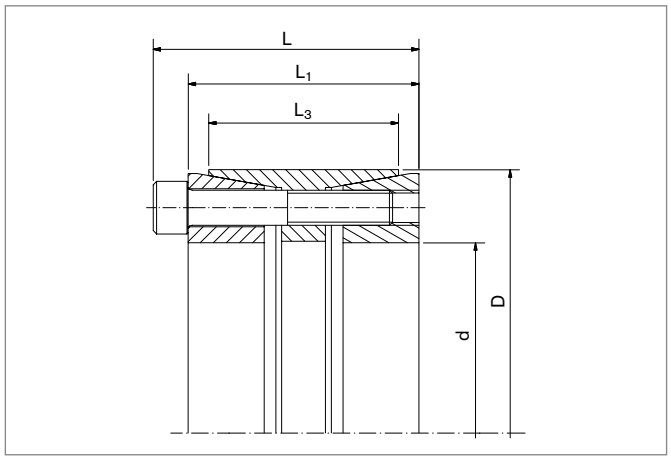
RfN 7515

self-centering
without axial displacement
with low surface pressure

Further information on
RINGFEDER® RfN 7515
on **www.ringfeder.com**

Three piece Locking Assembly

The self-centering precision Locking Assembly for transmission of torques, axial forces and special optimised for the transmission of bending moments, with special requirements to the true running of the clamped pieces.



Characteristics

- **Special features** – Through the long and flat cones one Locking Assembly RfN 7515 can transmit torques and axial forces and bending loads. During mounting occurs a slight axial movement from Locking Assembly and hub.
- **Bending moment and radial loads** – combined loads can be transmitted. Please contact our technical department for assistance.
- **Excellent centering ability** – with a relatively wide design.





Locking Assemblies stainless steel **RINGFEDER®**

Stainless steel products of RINGFEDER® have to be used if machinery, components and systems must be cleaned intensely and high resistance is necessary. High-strength, stainless special screws are used for this purpose.





RfN 7012

self-centering

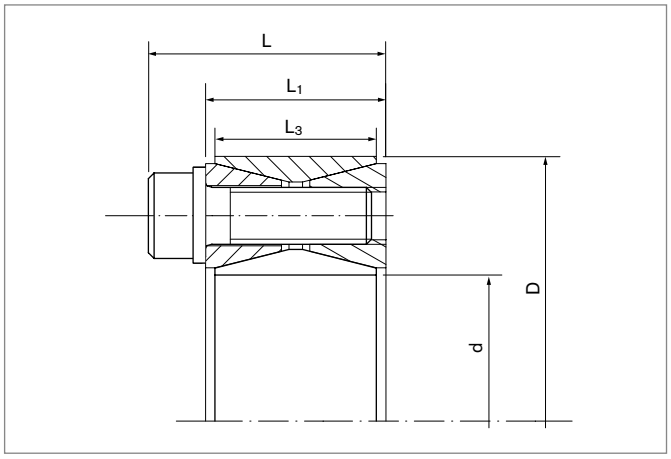
without axial displacement

with low surface pressure

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

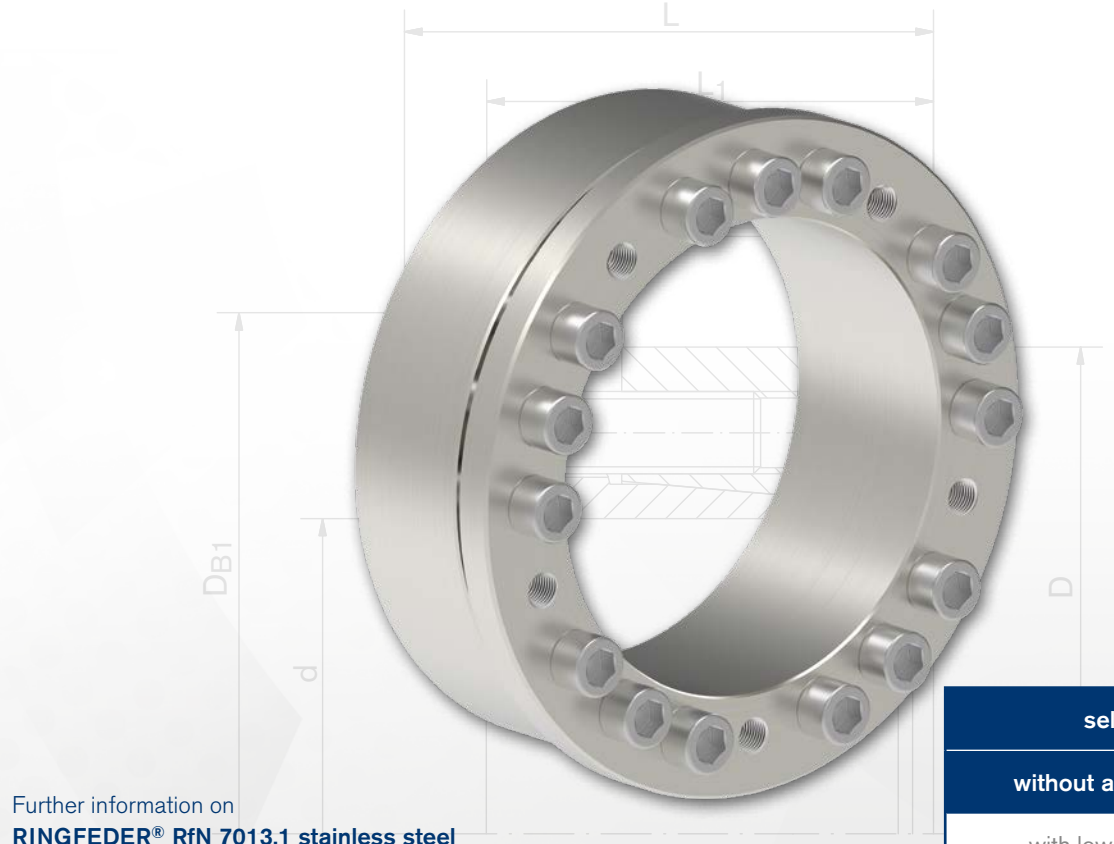
Large transmittable forces and moments

Slimmest design, especially suitable for applications where space is limited. The Locking Assembly RfN 7012 stainless steel compensates small tolerance deviations and compensates small mounting errors.



Characteristics

- **Large transmittable forces and moments** – several Locking Assemblies RfN 7012 stainless can be placed one behind the other. The transmissible torque and axial forces are added - please take in this respect consulting with our technical experts.
- **Easy installation** – in comparison to cross-press fits temperature treatments and fitting are eliminated. Locking Assemblies RfN 7012 stainless steel can cover a big fitting clearance.
- **Low risk to contamination** – during tightening process the functional surfaces of the device and connection are pressed together generating a surface pressure that does not allow the ingress of contamination.
- **Free from wear** – the locking screw torque can be changed giving a corresponding change in transmission values. RfN 7012 stainless Locking Assemblies can be tightened and released repeatedly.



RfN 7013.1

self-centering

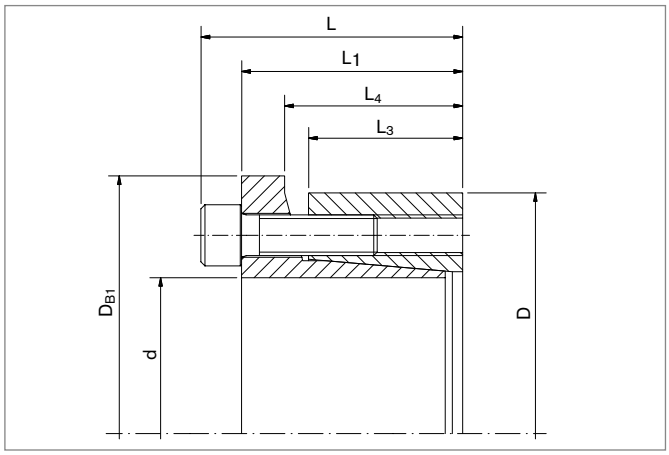
without axial displacement

with low surface pressure

Further information on
RINGFEDER® RfN 7013.1 stainless steel
on **www.ringfeder.com**

Axial hub fixing, excellent concentricity and very easy to dismantle

The locking assembly RfN 7013.1 has the same positive features as 7013.0, but differs in its lifted flange. This fixes the hub axially during assembly and also achieves a high level of axial run-out accuracy. A large number of screws guarantees almost the same high transferrable torque as for the locking assemblies RfN 7013.0.



Characteristics

- **Excellent concentricity and very easy to dismantle** – these self-centering Locking Assemblies provide particularly good concentricity between the clamped parts. The flange is reinforced at the critical point, preventing bending or lifting of the inner ring during assembly and thereby ensuring easy dismantling.
- **High rotation speed** – the dimensional accuracy allows their use in applications with higher rotational speeds.
- **High radial loads** – the material strength makes them especially suitable for applications with high radial loads.
- **Axial hub positioning** – the increased outer diameter of the flange prevents the axial movement of the hub during assembly and improves the run-out ability of the locking assembly.



RfN 7061

self-centering

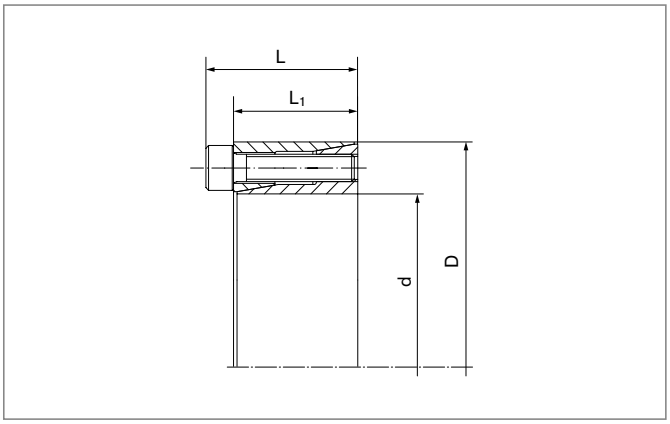
without axial displacement

with low surface pressure

Further information on
RINGFEDER® RfN 7061 stainless steel
on **www.ringfeder.com**

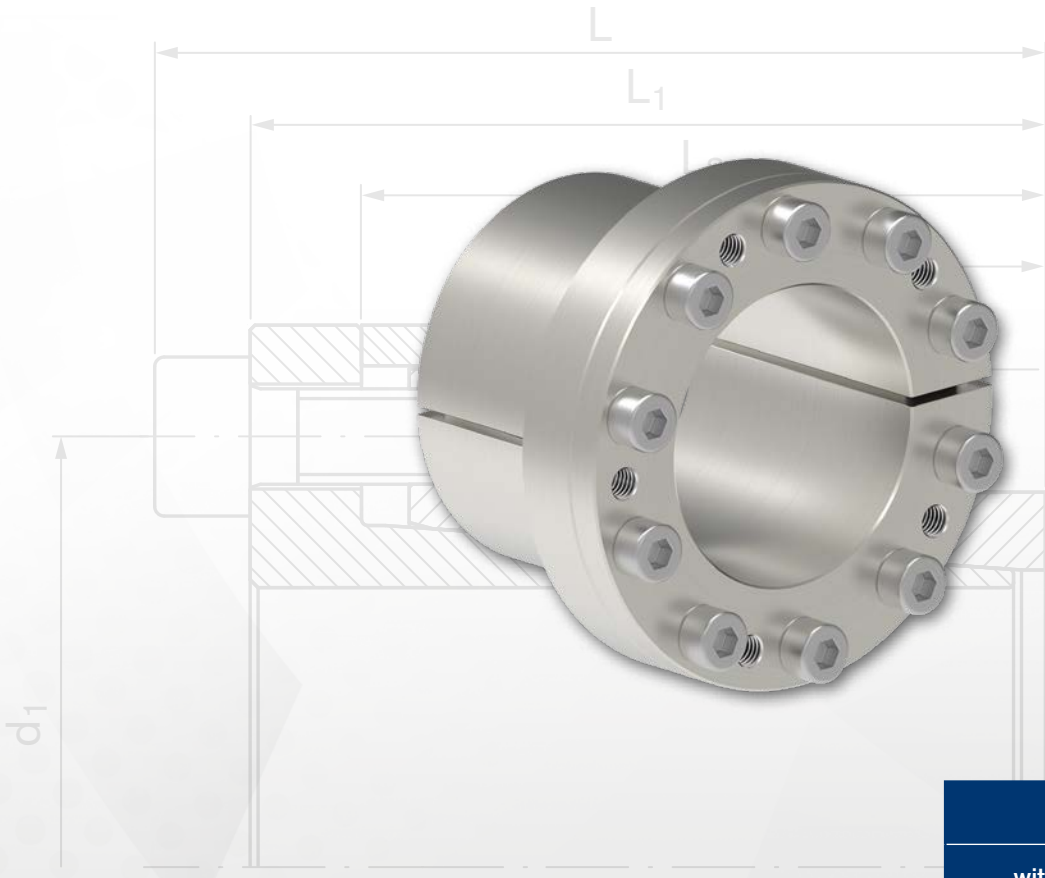
Self-centering two piece Locking Assemblies for medium torques

Self-centering 2-piece Locking Assemblies for medium torques. During mounting, minor axial displacement of the hub occurs in opposite direction of the screw head. Due to the small number of screws, cost savings during mounting are ensured. For disassembly only few release screws are required.



Characteristics

- **Special features** – also suitable for thin-walled hubs with a low extension limit because of the low surface pressure.
- **Availability** – also available for very small shaft diameters.
- **Very good concentricity** – because of the rings formed as a double cone.



RfN 7110

self-centering

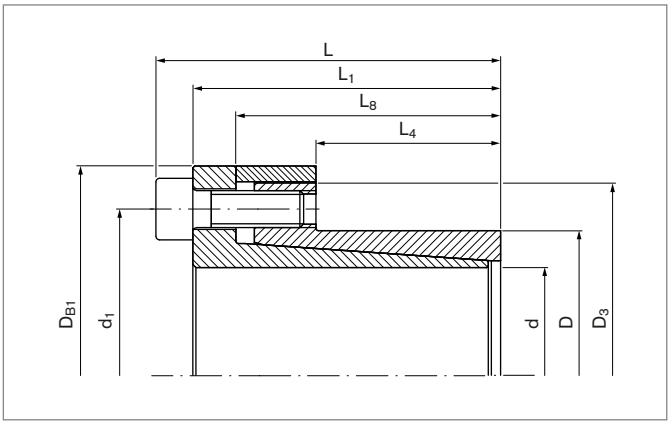
without axial displacement

with low surface pressure

Further information on
RINGFEDER® RfN 7110 stainless steel
on **www.ringfeder.com**

Specially small dimensioned self-centering Locking Assembly without axial displacement

Specially small dimensioned self-centering Locking Assembly without axial displacement. As the locking screws are located out of the actual clamping area and the pressures are relatively low, the hub can be designed economically small.



Characteristics

- **Low surface pressure** – also suitable for thin-walled hubs with a low extension limit.
- **Availability** – also available for very small shaft diameters.
- **Compact** – particularly suited for applications in narrow spaces because of the low structural height.

Calculation

Equations for thick-walled cylinders give good service in the estimation of the tangential (tension) stresses occurring in the hub and hollow shaft. Exact determination of the true stresses and deformations (expanding, contraction) is very difficult in view of the wide scatter of the coefficients of friction and because of the differing hub and hollow shaft configurations. Constructions in which Locking Assemblies are intended to be arranged under or above bearings should therefore be avoided as far as possible, or be more closely investigated (e. g. test clamping).

Hub calculation

1) $p_N \approx p_W \cdot \frac{d}{D}$

2) $a_N = \frac{D_N}{D}$

3) $\sigma_{tiN} = \frac{p_N (a_N^2 + 1)}{a_N^2 - 1}$; $L_N = L_3$

4) $\sigma_{taN} = \frac{2 \cdot p_N}{a_N^2 - 1}$; $L_N = L_3$

5) $\sigma_{tiN} = \frac{C_3 \cdot p_N \cdot (a_N^2 + 1)}{a_N^2 - 1}$; $L_N > 2L_3$

6) $\sigma_{taN} = \frac{C_3 \cdot p_N \cdot 2}{a_N^2 - 1}$; $L_N > 2L_3$

7) $D_N \geqq D \cdot \sqrt{\frac{R_{p0,2N} + C_3 \cdot p_N}{R_{p0,2N} - C_3 \cdot p_N}}$ a)

8) $D_N \geqq D \cdot \sqrt{\frac{R_{p0,2N} + C_3 \cdot p_N}{R_{p0,2N} - C_3 \cdot p_N}} + 2D_G$ b)

9) $\Delta D_N \approx \frac{D_N \cdot \sigma_{taN}}{E_N}$ c)

10) $p_{N\,zul.} \approx \frac{R_{p0,2N}}{C_3} \cdot \frac{D_N^2 - D^2}{D_N^2 + D^2}$ a)

Shaft calculation

1) $a_W = \frac{d}{d_B}$

2) $\sigma_{tiW} \approx 2 \cdot p_W \cdot C_3 \cdot \frac{a_W^2}{a_W^2 - 1}$

3) $\sigma_{taW} \approx p_W \cdot C_3 \cdot \frac{a_W^2 + 1}{a_W^2 - 1}$

4) $d_B \leqq d \cdot \sqrt{\frac{R_{p0,2W} - 2 \cdot p_W \cdot C_3}{R_{p0,2W}}}$ a)

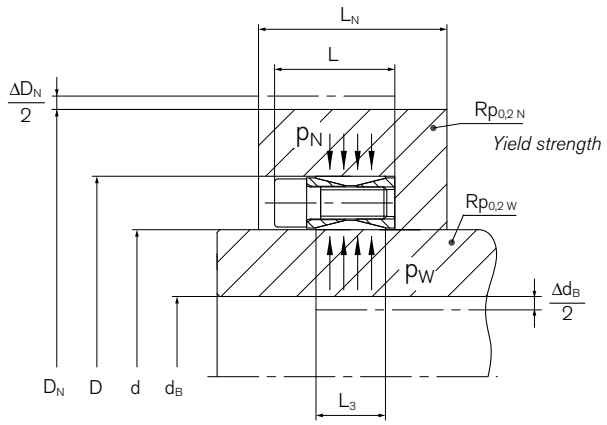
5) $d_B \leqq d \cdot \sqrt{\frac{R_{p0,2W} - 2 \cdot p_W \cdot C_3}{R_{p0,2W}}} - 2D_G$ b)

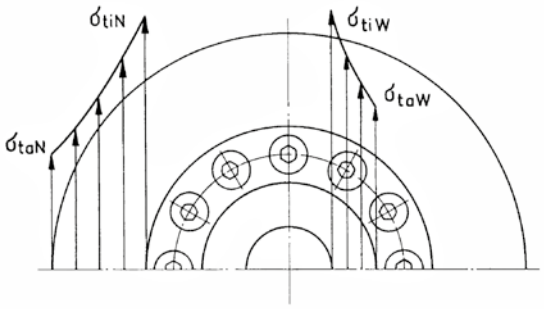
6) $\Delta d_B \approx \frac{d_B \cdot \sigma_{tiW}}{E_W}$

7) $\Delta d \approx \frac{p_W \cdot d \cdot (m - 1)}{E_W \cdot m}$ c)

8) $R_{p0,2W} > p_W$ c)

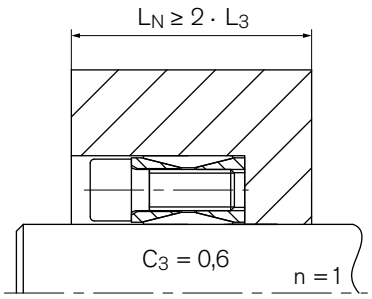
9) $p_{zul.} \approx \frac{R_{p0,2W} \left[1 - \left(\frac{d_B}{d} \right)^2 \right]}{C_3 \cdot 2}$ a)



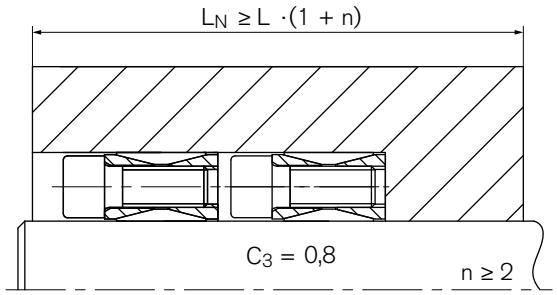


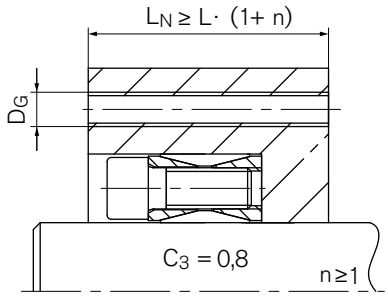
Sectional views

C_3 = 0,6

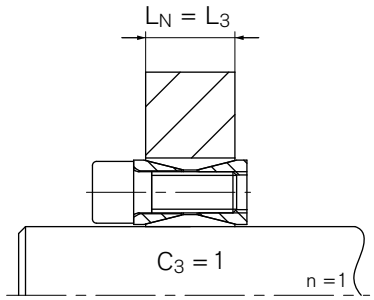


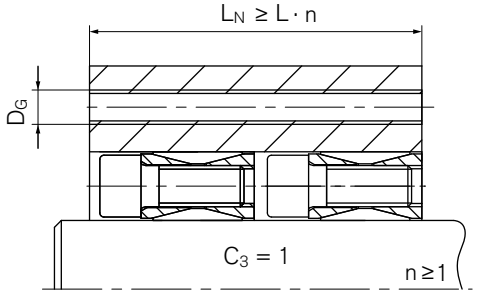
C_3 = 0,8





C_3 = 1





Explanation

a) Cross section of the hub above the Locking Assembly, unweakened
- C_3 = 0,6 for one Locking Assembly and $L_N \geq 2 \cdot L_3$
- C_3 = 0,8 for two ore more Locking Assemblies and $L_N \geq L \cdot (1 + n)$; n = number of Locking Assemblies
- C_3 = 1 for one or more Locking Assemblies and $L_N = L_3$ resp. $L_N = L \cdot n$

b) If bores or threads (D_G) in the hub
- C_3 = 0,8 if $L_N \geq 2 \cdot L_3$ resp. $L_N \geq L \cdot (1 + n)$
- C_3 = 1 if $L_N = L_3$ resp. $L_N = L \cdot n$

c) Approximated value. A higher scatter range is possible, as the value depends on the actual coefficient of friction and the shape of the hub.

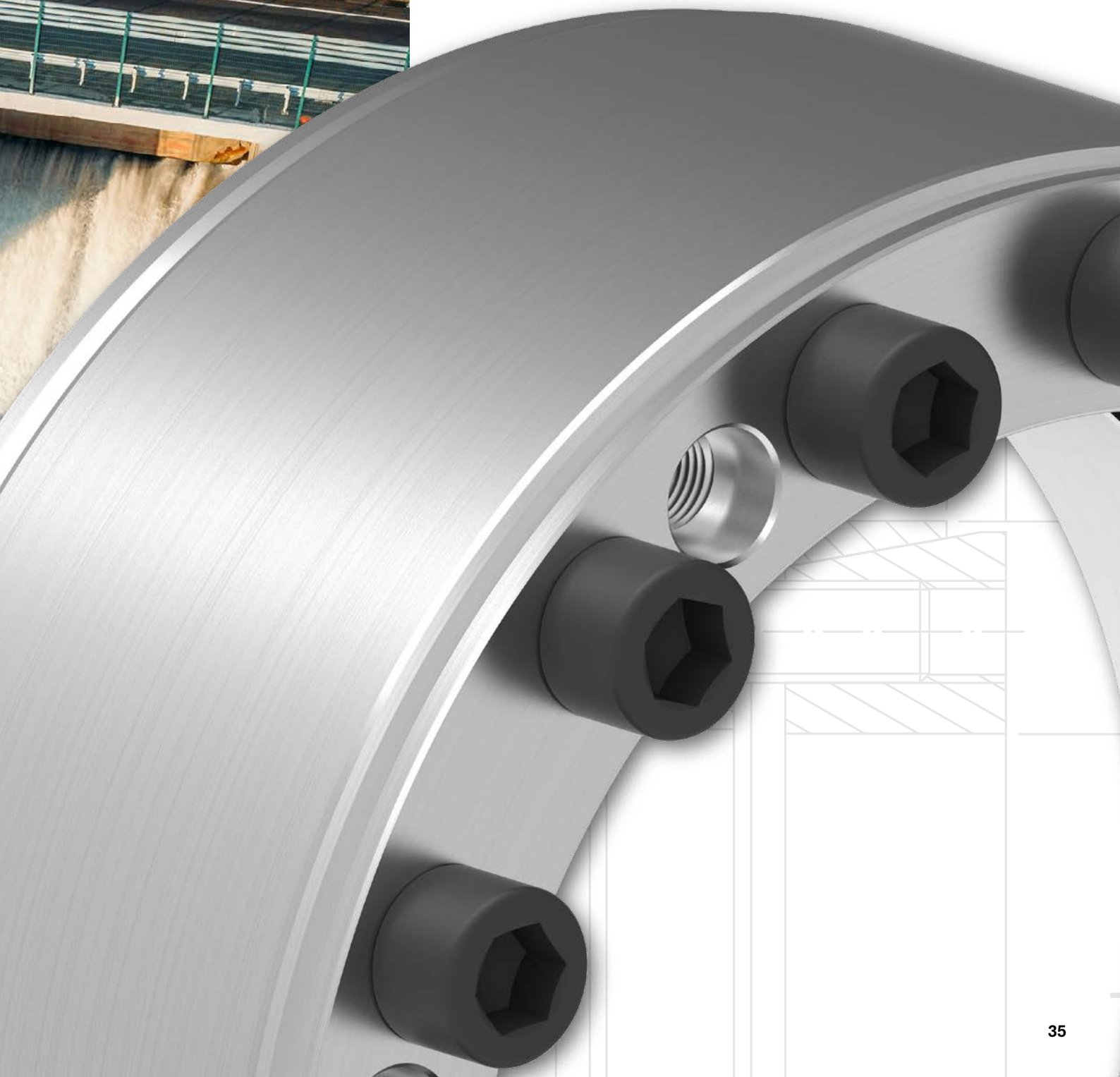




EN Tech Paper 06.2025

Locking Assemblies & Locking Assemblies stainless steel **RINGFEDER®**





Locking Assemblies

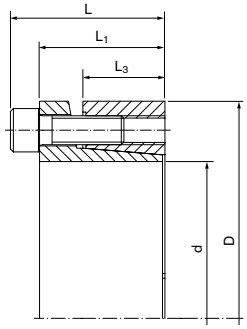
RINGFEDER® RfN 7003

Two piece design with slit and single taper and without flange



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

Dimensions



Locking Assembly dimensions						Transmissible torques or axial forces		Surface pressure		Locking screws		
								Shaft	Hub			
d	x	D	L	L_1	L_3	T	F_{ax}	p_W	p_N	n_{Sc}	D_G	T_A
mm			mm			Nm	kN	N/mm²				Nm
19	x	47	34	28	17	355	31	280	120	5	M6	14
20	x	47	34	28	17	360	33	280	120	5	M6	14
22	x	47	34	28	17	400	33	260	125	5	M6	14
24	x	50	34	28	17	440	36	245	120	6	M6	14
25	x	50	34	28	17	560	36	280	140	6	M6	14
28	x	55	34	28	17	625	36	250	130	6	M6	14
30	x	55	34	28	17	650	36	235	130	6	M6	14
32	x	60	34	28	17	950	50	290	150	8	M6	14
35	x	60	34	28	17	1050	50	290	150	8	M6	14
38	x	65	34	28	17	1140	50	250	145	8	M6	14
40	x	65	34	28	17	1200	50	230	145	8	M6	14
42	x	75	41	33	20	2030	70	305	170	7	M8	35
45	x	75	41	33	20	2180	70	285	170	7	M8	35
48	x	80	41	33	20	2330	80	270	160	7	M8	35
50	x	80	41	33	20	2430	85	260	160	7	M8	35
55	x	85	41	33	20	3050	100	270	175	8	M8	35
60	x	90	41	33	20	3350	100	245	165	8	M8	35
65	x	95	41	33	20	4080	110	255	175	9	M8	35
70	x	110	50	40	24	6280	160	280	180	8	M10	70
75	x	115	50	40	24	6680	160	260	170	8	M10	70
80	x	120	50	40	24	7130	160	250	170	8	M10	70
85	x	125	50	40	24	8750	180	260	180	9	M10	70
90	x	130	50	40	24	9080	180	250	170	9	M10	70
95	x	135	50	40	24	10580	200	260	180	10	M10	70
100	x	145	56	44	26	13380	240	270	190	8	M12	125
110	x	155	56	44	26	14580	240	240	180	8	M12	125

To continue see next page

Locking Assemblies RINGFEDER® RfN 7003

Locking Assembly dimensions						Transmissible torques or axial forces		Surface pressure		Locking screws		
								Shaft	Hub			
d	x	D	L	L_1	L_3	T	F_{ax}	p_W	p_N	n_{Sc}	D_G	T_A
mm			mm			Nm	kN	N/mm²				Nm
120	x	165	56	44	26	17880	250	250	180	9	M12	125
130	x	180	64	52	34	25950	350	240	170	12	M12	125
140	x	190	68	54	34	26950	350	210	150	9	M14	190
150	x	200	68	54	34	32950	400	230	170	10	M14	190
160	x	210	68	54	34	37950	450	230	170	11	M14	190
170	x	225	78	64	44	44950	500	180	130	12	M14	190
180	x	235	78	64	44	46950	500	170	130	12	M14	190
190	x	250	78	64	44	64059	607	141	146	15	M14	190
200	x	260	78	64	44	67430	607	134	141	15	M14	190
220	x	285	88	72	50	82211	710	130	132	12	M16	290
240	x	305	88	72	50	112106	848	149	154	15	M16	290
260	x	325	88	72	50	145737	1017	165	174	16	M16	290
280	x	355	102	84	60	168715	1094	139	143	16	M18	400
300	x	375	102	84	60	203362	1230	146	152	18	M18	400
320	x	405	121	101	74	287020	1627	150	151	18	M20	580
340	x	425	121	101	74	355785	1899	165	168	21	M20	580
360	x	455	137	115	86	395461	1994	142	142	18	M22	780
380	x	475	137	115	86	487003	2326	157	158	21	M22	780
400	x	495	137	115	86	512635	2326	150	152	21	M22	780

More sizes on request

Explanation

- **d** = Inner diameter
- **D** = Outer diameter
- **L** = Overall length
- **L_1** = Overall length (without screws)
- **L_3** = Width of ring
- **T** = Transmissible torque at given T_A
- **F_{ax}** = Transmissible axial force
- **p_W** = Surface pressure on shaft at given T_A
- **p_N** = Surface pressure on hub at given T_A
- **n_{Sc}** = Quantity of screws
- **D_G** = Thread
- **T_A** = Tightening torque of the clamping screws

Ordering example

Locking assembly	d	D
RfN 7003	24	50

Technical Information

- Surface finishes: Shaft and hub bores $R_a \leq 1{,}6$ µm
- Tolerances: Shaft: h8 · Hub: H8

Further information on
RINGFEDER® RfN 7003
on **www.ringfeder.com**

Disclaimer of liability
All technical details and notes 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 carry out modifications at any time in the interests of technical progress.

RINGFEDER POWER TRANSMISSION

Locking Assemblies

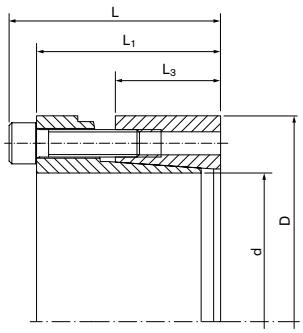
RINGFEDER® RfN 7004

Extended version of the RfN 7003



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

Dimensions



Locking Assembly dimensions						Transmissible torques or axial forces		Surface pressure		Locking screws		
								Shaft	Hub			
d	x	D	L	L_1	L_3	T	F_{ax}	p_W	p_N	n_{Sc}	D_G	T_A
mm			mm			Nm	kN	N/mm²				Nm
19	x	47	45	39	26	530	56	298	120	6	M6	17
20	x	47	45	39	26	550	56	283	120	6	M6	17
22	x	47	45	39	26	610	56	257	120	6	M6	17
24	x	50	45	39	26	660	56	236	115	6	M6	17
25	x	50	45	39	26	690	56	227	115	6	M6	17
28	x	55	45	39	26	770	56	202	105	6	M6	17
30	x	55	45	39	26	830	56	190	105	6	M6	17
32	x	60	45	39	26	1180	74	235	125	8	M6	17
35	x	60	45	39	26	1295	74	216	126	8	M6	17
38	x	65	45	39	26	1400	74	200	116	8	M6	17
40	x	65	45	39	26	1480	74	190	116	8	M6	17
42	x	75	55	47	30	2120	101	212	120	6	M8	41
45	x	75	55	47	30	2270	101	198	120	6	M8	41
48	x	80	55	47	30	3230	135	250	150	8	M8	41
50	x	80	55	47	30	3365	135	240	150	8	M8	41
55	x	85	55	47	30	3700	135	216	140	8	M8	41
60	x	90	55	47	30	4035	135	200	135	8	M8	41
65	x	95	55	47	30	4370	135	183	125	8	M8	41
70	x	110	72	62	40	7615	218	206	131	8	M10	83
75	x	115	72	62	40	8160	218	192	126	8	M10	83
80	x	120	72	62	40	8700	218	180	120	8	M10	83
85	x	125	72	62	40	11560	272	212	145	10	M10	83
90	x	130	72	62	40	12240	272	200	140	10	M10	83
95	x	135	72	62	40	12920	272	190	135	10	M10	83
100	x	145	89	77	46	16270	325	190	130	8	M12	145
110	x	155	89	77	46	17900	325	171	121	8	M12	145

To continue see next page

Locking Assemblies RINGFEDER® RfN 7004

Locking Assembly dimensions						Transmissible torques or axial forces		Surface pressure		Locking screws		
								Shaft	Hub			
d	x	D	L	L_1	L_3	T	F_{ax}	p_W	p_N	n_{Sc}	D_G	T_A
mm			mm			Nm	kN	N/mm²				Nm
120	x	165	89	77	46	24410	405	196	142	10	M12	145
130	x	180	89	77	46	31735	488	220	160	12	M12	145
140	x	190	98	84	51	35502	507	188	139	10	M14	210
150	x	200	98	84	51	45645	609	211	158	12	M14	210
160	x	210	98	84	51	48688	609	198	151	12	M14	210
170	x	225	98	84	51	60353	710	217	164	14	M14	210
180	x	235	98	84	51	63903	710	205	157	14	M14	210

More sizes on request

Explanation

- **d** = Inner diameter
- **D** = Outer diameter
- **L** = Overall length
- **L_1** = Overall length (without screws)
- **L_3** = Width of ring
- **T** = Transmissible torque at given T_A
- **F_{ax}** = Transmissible axial force
- **p_W** = Surface pressure on shaft at given T_A
- **p_N** = Surface pressure on hub at given T_A
- **n_{Sc}** = Quantity of screws
- **D_G** = Thread
- **T_A** = Tightening torque of the clamping screws

Ordering example

Locking assembly	d	D
RfN 7004	55	85

Technical Information

- Surface finishes: Shaft and hub bores $R_a \leq 1{,}6$ µm
- Tolerances: Shaft: h8 · Hub: H8

Further information on
RINGFEDER® RfN 7004
on **www.ringfeder.com**

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RINGFEDER POWER TRANSMISSION

Locking Assemblies

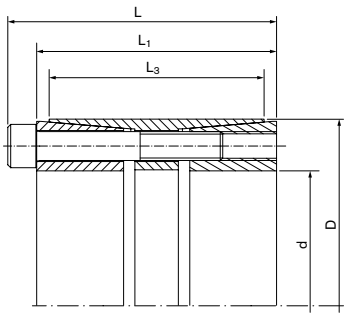
RINGFEDER® RfN 7005

Three piece self-centering design for heavy duty torques



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

Dimensions



Locking Assembly dimensions						Transmissible torques or axial forces		Surface pressure		Locking screws			
								Shaft	Hub				
d	x	D	L	L_1	L_3	T	F_{ax}	p_W	p_N	n_{Sc}	D_G	T_A	Gw
mm			mm			Nm	kN	N/mm²				Nm	kg
25	x	55	46	40	32	649	64	155	80	6	M6	17	0,5
28	x	55	46	40	32	875	64	250	95	6	M6	17	0,5
30	x	55	46	40	32	950	64	235	95	6	M6	17	0,5
35	x	60	60	54	44	1300	74	165	75	7	M6	17	0,7
38	x	65	61	55	45	1600	84	165	95	8	M6	17	1,1
40	x	65	61	55	45	1680	84	155	95	8	M6	17	1,1
42	x	75	62	54	44	2800	135	250	110	7	M8	41	1,2
45	x	75	62	54	44	3050	135	235	110	7	M8	41	1,1
48	x	80	74	66	56	3700	155	195	90	8	M8	41	1,5
50	x	80	74	66	56	3950	155	185	90	8	M8	41	1,4
55	x	85	74	66	56	4900	174	190	100	9	M8	41	1,5
60	x	90	74	66	56	5900	193	195	100	10	M8	41	1,6
65	x	95	74	66	56	6450	193	180	95	10	M8	41	1,7
70	x	110	90	80	70	10950	313	210	110	10	M10	83	3,1
75	x	115	90	80	70	11700	313	200	105	10	M10	83	3,3
80	x	120	90	80	70	13750	344	205	110	11	M10	83	3,5
85	x	125	90	80	70	16000	375	210	115	12	M10	83	3,6
90	x	130	90	80	70	16900	375	200	110	12	M10	83	3,8
95	x	135	90	80	70	17820	375	185	105	12	M10	83	4
100	x	145	114	102	90	25725	514	195	105	11	M12	145	6,1
110	x	155	114	102	90	30850	561	195	110	12	M12	145	6,6
120	x	165	114	102	90	39275	655	210	115	14	M12	145	7,1
130	x	180	130	116	104	50300	774	190	110	12	M14	230	10

To continue see next page

Locking Assemblies RINGFEDER® RfN 7005

Locking Assembly dimensions						Transmissible torques or axial forces		Surface pressure		Locking screws			
								Shaft	Hub				
d	x	D	L	L_1	L_3	T	F_{ax}	p_W	p_N	n_{Sc}	D_G	T_A	Gw
mm			mm			Nm	kN	N/mm²				Nm	kg
140	x	190	130	116	104	63200	903	205	120	14	M14	230	10,6
150	x	200	130	116	104	72550	967	205	125	15	M14	230	11,2
160	x	210	130	116	104	82550	1032	205	125	16	M14	230	11,9
170	x	225	165	149	134	103800	1221	170	110	14	M16	360	17,6
180	x	235	165	149	134	117800	1308	175	110	15	M16	360	18,5
190	x	250	165	149	134	132600	1395	180	110	16	M16	360	21,4
200	x	260	165	149	134	140000	1400	170	110	16	M16	360	22,4
220	x	285	166	150	134	173000	1570	170	110	18	M16	360	26,6
240	x	305	162	146	134	218000	1820	185	120	20	M16	360	28,7
260	x	325	162	146	134	250000	1920	180	120	21	M16	360	31,2
280	x	355	197	177	165	360000	2550	185	120	18	M20	690	46,8
300	x	375	197	177	165	428000	2850	190	125	20	M20	690	49,7
320	x	405	197	177	165	480000	3000	190	120	21	M20	690	60,5
340	x	425	197	177	165	534000	3140	185	120	22	M20	690	63,9
360	x	455	224	202	190	670000	3730	175	115	21	M22	930	86,8
380	x	475	224	202	190	742000	3900	175	115	22	M22	930	91
400	x	495	224	202	190	852000	4260	180	120	24	M22	930	97
420	x	515	224	202	190	894000	4260	175	115	24	M22	930	100
440	x	535	224	202	190	937000	4260	165	110	24	M22	930	105
460	x	555	224	202	190	980000	4260	160	110	24	M22	930	109
480	x	575	224	202	190	1200000	5000	175	120	28	M22	930	114
500	x	595	224	202	190	1240000	5000	170	120	28	M22	930	119
520	x	615	224	202	190	1390000	5330	175	120	30	M22	930	122,5
540	x	635	224	202	190	1440000	5330	170	120	30	M22	930	128
560	x	655	224	202	190	1590000	5680	170	120	32	M22	930	131
580	x	675	224	202	190	1705000	5680	170	120	32	M22	930	138
600	x	695	224	202	190	1760000	5860	170	120	33	M22	930	139

More sizes on request

To continue see next page

Locking Assemblies RINGFEDER® RfN 7005

Explanation

d	= Inner diameter	**T**	= Transmissible torque at given T_A	**D_G**	= Thread
D	= Outer diameter	**F_{ax}**	= Transmissible axial force	**T_A**	= Tightening torque of the clamping screws
L	= Overall length	**p_W**	= Surface pressure on shaft at given T_A	**Gw**	= Weight
L_1	= Overall length (without screws)	**p_N**	= Surface pressure on hub at given T_A		
L_3	= Width of ring	**n_{Sc}**	= Quantity of screws		

Ordering example

Locking assembly	d	D
RfN 7005	35	60

Technical Information

- Surface finishes: Shaft and hub bores $R_a \leq 1{,}6$ µm
- Tolerances: Shaft: h8 · Hub: H8

Further information on
RINGFEDER® RfN 7005
on **www.ringfeder.com**

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Locking Assemblies

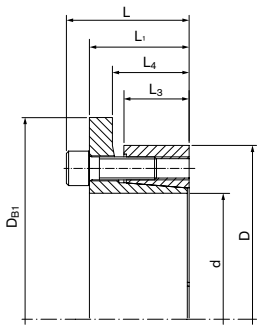
RINGFEDER® RfN 7006

Two piece design with single taper



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

Dimensions



Locking Assembly dimensions								Transmissible torques or axial forces		Surface pressure		Locking screws			
										Shaft	Hub				
d	x	D	D_{B1}	L	L_1	L_3	L_4	T	F_{ax}	p_W	p_N	n_{Sc}	D_G	T_A	Gw
mm			mm					Nm	kN	N/mm²				Nm	kg
19	x	47	56	34	28	17	23	270	28	234	94	5	M6 x 20	17	0,3
20	x	47	56	34	28	17	23	284	28	222	94	5	M6 x 20	17	0,3
22	x	47	56	34	28	17	23	313	28	202	94	5	M6 x 20	17	0,3
24	x	50	59	34	28	17	23	410	34	222	106	6	M6 x 20	17	0,3
25	x	50	59	34	28	17	23	427	34	213	106	6	M6 x 20	17	0,3
28	x	55	64	34	28	17	23	478	34	190	97	6	M6 x 20	17	0,4
30	x	55	64	34	28	17	23	512	34	177	97	6	M6 x 20	17	0,3
32	x	60	69	34	28	17	23	728	46	222	118	8	M6 x 20	17	0,3
35	x	60	69	34	28	17	23	796	46	203	118	8	M6 x 20	17	0,4
38	x	65	74	34	28	17	23	865	46	187	109	8	M6 x 20	17	0,5
40	x	65	74	34	28	17	23	910	46	177	109	8	M6 x 20	17	0,4
42	x	75	84	41	33	20	26	1520	72	229	128	7	M8 x 25	41	0,7
45	x	75	84	41	33	20	26	1629	72	213	128	7	M8 x 25	41	0,7
50	x	80	89	41	33	20	26	1810	72	192	120	7	M8 x 25	41	0,8
55	x	85	94	41	33	20	26	2275	83	200	129	8	M8 x 25	41	0,9
60	x	90	99	41	33	20	26	2482	83	183	122	8	M8 x 25	41	0,9
65	x	95	104	41	33	20	26	3025	93	190	130	9	M8 x 25	41	0,9
70	x	110	119	50	40	24	32	4735	135	214	135	8	M10 x 30	83	1,6
75	x	115	124	50	40	24	32	5018	134	197	129	8	M10 x 30	83	1,7
80	x	120	129	50	40	24	32	5352	134	185	123	8	M10 x 30	83	1,9
85	x	125	134	50	40	24	32	5979	141	183	124	9	M10 x 30	83	2,0
90	x	130	139	50	40	24	32	6774	151	185	128	9	M10 x 30	83	2,0
95	x	135	144	50	40	24	32	7945	167	195	137	10	M10 x 30	83	2,3
100	x	145	154	56	44	26	34	10005	200	204	141	8	M12 x 35	145	2,8
110	x	155	164	56	44	26	34	11006	200	186	132	8	M12 x 35	145	3,1
120	x	165	174	56	44	26	34	13507	225	191	139	9	M12 x 35	145	3,2

To continue see next page

Locking Assemblies RINGFEDER® RfN 7006

Locking Assembly dimensions								Transmissible torques or axial forces		Surface pressure		Locking screws			
										Shaft	Hub				
d	x	D	D_{B1}	L	L_1	L_3	L_4	T	F_{ax}	p_W	p_N	n_{Sc}	D_G	T_A	Gw
mm			mm					Nm	kN	N/mm²				Nm	kg
130	x	180	189	64	52	34	42	19511	300	180	130	12	M12 x 35	145	4,6
140	x	190	199	68	54	34	42	21515	307	171	126	9	M14 x 40	230	5,0
150	x	200	209	68	54	34	42	25613	342	178	133	10	M14 x 40	230	5,2
160	x	210	219	68	54	34	42	30052	376	183	140	11	M14 x 40	230	5,6
170	x	225	234	78	64	44	52	34833	410	145	110	12	M14 x 40	230	6,5
180	x	235	244	78	64	44	52	36882	410	137	105	12	M14 x 40	230	8,5
190	x	250	259	78	64	44	52	48664	512	163	124	15	M14 x 40	230	9,0
200	x	260	269	78	64	44	52	51225	512	154	119	15	M14 x 40	230	9,6
220	x	285	295	91	75	50	59	61581	560	135	104	12	M16 x 50	355	14,0
240	x	305	315	91	75	50	59	83975	700	155	122	15	M16 x 50	355	15,1
260	x	325	335	91	75	50	59	97037	746	152	122	16	M16 x 50	355	16,2
280	x	355	365	105	87	60	69	124441	889	140	111	16	M18 x 50	485	25,6
300	x	375	384	102	84	60	66	149908	999	147	118	18	M18 x 50	485	25,5
320	x	405	414	121	101	74	81	208733	1305	146	115	18	M20 x 50	690	37,9
340	x	425	434	121	101	74	81	258742	1522	160	128	21	M20 x 50	690	38,3
360	x	455	464	138	115	86	93	290014	1611	138	109	18	M22 x 60	930	53,3
380	x	475	484	138	115	86	93	357147	1880	153	122	21	M22 x 60	930	57,6
400	x	495	504	138	115	86	93	375945	1880	145	117	21	M22 x 60	930	60,3

More sizes on request

Explanation

- **d** = Inner diameter
- **D** = Outer diameter
- **D_{B1}** = Collar outer diameter
- **L** = Overall length
- **L_1** = Overall length (without screws)
- **L_3** = Width of ring
- **L_4** = Installation length up to collar
- **T** = Transmissible torque at given T_A
- **F_{ax}** = Transmissible axial force
- **p_W** = Surface pressure on shaft at given T_A
- **p_N** = Surface pressure on hub at given T_A
- **n_{Sc}** = Quantity of screws
- **D_G** = Thread
- **T_A** = Tightening torque of the clamping screws
- **Gw** = Weight

Ordering example

Locking assembly	d	D
RfN 7006	55	85

Technical Information

- Surface finishes: Shaft and hub bores $R_a \leq 1{,}6$ µm
- Tolerances: Shaft: h8 · Hub: H8

Further information on
RINGFEDER® RfN 7006
on **www.ringfeder.com**

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RINGFEDER POWER TRANSMISSION

Locking Assemblies

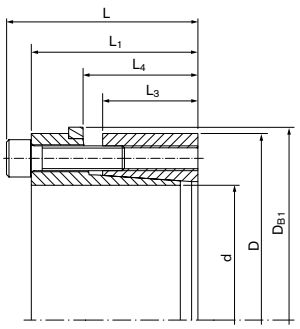
RINGFEDER® RfN 7007

Two piece design similar to RfN 7004



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

Dimensions



Locking Assembly dimensions								Transmissible torques or axial forces		Surface pressure		Locking screws		
										Shaft	Hub			
d	x	D	D_{B1}	L	L_1	L_3	L_4	T	F_{ax}	p_W	p_N	n_{Sc}	D_G	T_A
mm			mm					Nm	kN	N/mm²				Nm
19	x	47	53	45	39	26	31	320	33	180	70	6	M6	17
20	x	47	53	45	39	26	31	330	33	170	70	6	M6	17
22	x	47	53	45	39	26	31	370	33	155	70	6	M6	17
24	x	50	56	45	39	26	31	400	33	140	70	6	M6	17
25	x	50	56	45	39	26	31	420	33	135	70	6	M6	17
28	x	55	61	45	39	26	31	470	33	120	60	6	M6	17
30	x	55	61	45	39	26	31	500	33	115	60	6	M6	17
32	x	60	66	45	39	26	31	710	44	140	75	8	M6	17
35	x	60	66	45	39	26	31	780	44	130	75	8	M6	17
38	x	65	71	45	39	26	31	850	44	120	70	8	M6	17
40	x	65	71	45	39	26	31	890	44	110	70	8	M6	17
42	x	75	81	55	47	30	36	1270	61	130	70	6	M8	41
45	x	75	81	55	47	30	36	1360	61	120	70	6	M8	41
48	x	80	86	55	47	30	36	1940	81	150	90	8	M8	41
50	x	80	86	55	47	30	36	2020	81	145	90	8	M8	41
55	x	85	91	55	47	30	36	2220	81	130	85	8	M8	41
60	x	90	96	55	47	30	36	2430	81	120	80	8	M8	41
65	x	95	101	55	47	30	36	2630	81	110	75	8	M8	41
70	x	110	116	72	62	40	46	4580	131	125	80	8	M10	83
75	x	115	121	72	62	40	46	4900	131	115	75	8	M10	83
80	x	120	126	72	62	40	46	5230	131	110	70	8	M10	83
85	x	125	131	72	62	40	46	6950	163	125	85	10	M10	83
90	x	130	136	72	62	40	46	7350	163	120	85	10	M10	83
95	x	135	141	72	62	40	46	7760	163	115	80	10	M10	83
100	x	145	151	89	77	46	52	9780	196	115	80	8	M12	83
110	x	155	161	89	77	46	52	10750	196	100	75	8	M12	145

To continue see next page

Locking Assemblies RINGFEDER® RfN 7007

Locking Assembly dimensions								Transmissible torques or axial forces		Surface pressure		Locking screws		
										Shaft	Hub			
d	x	D	D_{B1}	L	L_1	L_3	L_4	T	F_{ax}	p_W	p_N	n_{Sc}	D_G	T_A
mm			mm					Nm	kN	N/mm²				Nm
120	x	165	171	89	77	46	52	14660	244	115	85	10	M12	145
130	x	180	186	89	77	46	52	19060	293	130	95	12	M12	145
140	x	190	196	98	84	51	59	23600	337	125	90	10	M14	230
150	x	200	206	98	84	51	59	30340	405	140	105	12	M14	230
160	x	210	216	98	84	51	59	32360	405	130	100	12	M14	230
170	x	225	231	98	84	51	59	40120	472	145	110	14	M14	230
180	x	235	241	98	84	51	59	42480	472	135	105	14	M14	230
190	x	250	259	98	84	51	59	46400	488	136	104	15	M14	230
200	x	260	259	98	84	51	59	48800	488	130	100	15	M14	230

More sizes on request

Explanation

d = Inner diameter
D = Outer diameter
D_{B1} = Collar outer diameter
L = Overall length
L_1 = Overall length (without screws)
L_3 = Width of ring
L_4 = Installation length up to collar
T = Transmissible torque at given T_A
F_{ax} = Transmissible axial force
p_W = Surface pressure on shaft at given T_A
p_N = Surface pressure on hub at given T_A
n_{Sc} = Quantity of screws
D_G = Thread
T_A = Tightening torque of the clamping screws

Ordering example

Locking assembly	d	D
RfN 7007	**110**	**155**

Technical Information

- Surface finishes: Shaft and hub bores $R_a \leq 1{,}6$ µm
- Tolerances: Shaft: h8 · Hub: H8

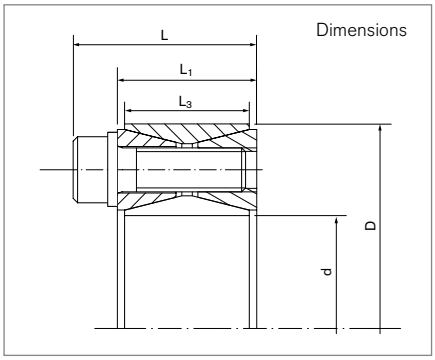
Further information on
RINGFEDER® RfN 7007
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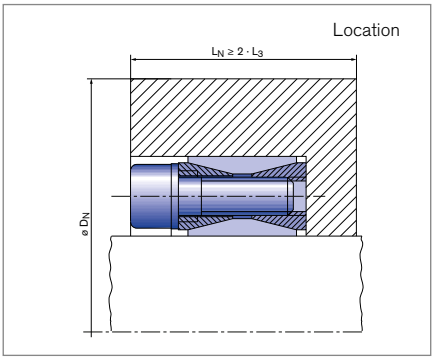
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Locking Assemblies
RINGFEDER® RfN 7012
Large transmittable forces and moments



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





Locking Assembly dimensions						Transmissible torques or axial forces		Surface pressure		Locking screws				$D_{N\,min}$ at $R_{p0,2}$			
								Shaft	Hub					200	300	400	
d	x	D	L	L_1	L_3	T	F_{ax}	p_W	p_N	n_{Sc}	D_G	T_A	Gw	[N/mm²]			T_{max}
mm			mm			Nm	kN	N/mm²				Nm	kg	mm			Nm
19	x	47	27,5	20	17	306	32	265	107	8	M6 x 18	17	0,24	67	59	56	356
20	x	47	27,5	20	17	321	32	251	107	8	M6 x 18	17	0,24	67	59	56	374
22	x	47	27,5	20	17	351	32	227	106	8	M6 x 18	17	0,23	66	59	56	412
24	x	50	27,5	20	17	429	36	232	112	9	M6 x 18	17	0,26	72	64	60	506
25	x	50	27,5	20	17	446	36	223	111	9	M6 x 18	17	0,25	72	64	60	526
28	x	55	27,5	20	17	496	35	197	100	9	M6 x 18	17	0,3	76	68	65	590
30	x	55	27,5	20	17	529	35	183	100	9	M6 x 18	17	0,29	76	68	65	632
32	x	60	27,5	20	17	749	47	228	122	12	M6 x 18	17	0,34	89	78	73	899
35	x	60	27,5	20	17	815	47	208	121	12	M6 x 18	17	0,32	89	78	73	983
38	x	65	27,5	20	17	1101	58	238	139	15	M6 x 18	17	0,36	102	87	81	1334
40	x	65	27,5	20	17	1154	58	225	139	15	M6 x 18	17	0,34	102	87	81	1404
42	x	75	33,5	24	20	1768	84	266	149	12	M8 x 22	41	0,6	122	103	95	2158
45	x	75	33,5	24	20	1886	84	247	148	12	M8 x 22	41	0,57	122	103	95	2312
48	x	80	33,5	24	20	2004	83	231	138	12	M8 x 22	41	0,62	125	107	100	2466
50	x	80	33,5	24	20	2082	83	221	138	12	M8 x 22	41	0,6	125	107	100	2568
55	x	85	33,5	24	20	2656	97	233	151	14	M8 x 22	41	0,63	140	117	108	3296
60	x	90	33,5	24	20	2881	96	212	142	14	M8 x 22	41	0,69	143	122	113	3596
65	x	95	33,5	24	20	3550	109	223	153	16	M8 x 22	41	0,73	156	131	121	4452
70	x	110	39,5	28	24	5432	155	245	156	14	M10 x 25	83	1,26	184	153	141	6844
75	x	115	39,5	28	24	5795	155	228	149	14	M10 x 25	83	1,33	187	157	145	7333
80	x	120	39,5	28	24	6156	154	213	142	14	M10 x 25	83	1,4	190	162	150	7822
85	x	125	39,5	28	24	7447	175	228	155	16	M10 x 25	83	1,49	208	173	159	9498
90	x	130	39,5	28	24	7857	175	214	148	16	M10 x 25	83	1,53	211	177	164	10057
95	x	135	39,5	28	24	9298	196	228	160	18	M10 x 25	83	1,62	229	189	173	11942
100	x	145	47	33	26	11126	223	227	157	14	M12 x 30	145	2,01	243	202	185	14335
110	x	155	47	33	26	12166	221	205	146	14	M12 x 30	145	2,15	249	210	195	15768

To continue see next page

Locking Assemblies RINGFEDER® RfN 7012

Locking Assembly dimensions						Transmissible torques or axial forces		Surface pressure		Locking screws				$D_{N\,min}$ at $Rp_{0,2}$			
								Shaft	Hub					200	300	400	
d	x	D	L	L_1	L_3	T	F_{ax}	p_W	p_N	n_{Sc}	D_G	T_A	Gw	[N/mm²]			T_{max}
mm			mm			Nm	kN	N/mm²				Nm	kg	mm			Nm
120	x	165	47	33	26	15085	251	214	155	16	M12 x 30	145	2,35	274	228	210	19659
130	x	180	52	38	34	20326	313	188	136	20	M12 x 35	145	3,51	279	239	222	26621
140	x	190	52	38	34	23967	342	191	141	22	M12 x 35	145	3,85	299	255	237	31536
150	x	200	52	38	34	27893	372	193	145	24	M12 x 35	145	4,07	320	271	250	36860
160	x	210	52	38	34	32102	401	196	149	26	M12 x 35	145	4,3	341	287	265	42594
170	x	225	60	44	38	39326	463	190	144	22	M14 x 40	230	5,78	358	304	281	52377
180	x	235	60	44	38	45262	503	195	149	24	M14 x 40	230	6,05	385	325	300	60499
190	x	250	68	52	46	55552	585	177	135	28	M14 x 45	230	8,25	385	331	308	74504
200	x	260	68	52	46	62452	625	175	135	30	M14 x 45	230	8,65	406	347	322	84027
220	x	285	74	56	50	79874	726	175	135	26	M16 x 50	355	11,22	439	377	351	108110
240	x	305	74	56	50	99995	833	184	145	30	M16 x 50	355	12,2	487	412	381	136082
260	x	325	74	56	50	122159	940	192	153	34	M16 x 50	355	13,2	535	447	412	167078
280	x	355	86,5	66	60	148773	1063	168	132	32	M18 x 60	485	19,2	541	466	435	204423
300	x	375	86,5	66	60	178553	1190	175	140	36	M18 x 60	485	20,5	588	501	465	246403
320	x	405	100,5	78	72	246382	1540	177	140	36	M20 x 70	690	29,6	635	541	502	341382
340	x	425	100,5	78	72	260791	1534	166	133	36	M20 x 70	690	31,1	649	559	521	362719
360	x	455	116	90	84	336729	1871	164	130	36	M22 x 80	930	42,2	688	595	555	470012
380	x	475	116	90	84	371687	1858	147	119	36	M22 x 80	930	44	703	613	574	522235
400	x	495	116	90	84	371687	1858	147	119	36	M22 x 80	930	46	720	632	594	522235
420	x	515	116	90	84	432315	2059	155	126	40	M22 x 80	930	50	768	667	625	609275
440	x	545	130	102	96	531403	2415	152	122	40	M24 x 90	1200	64,6	801	700	657	751102
460	x	565	130	102	96	554016	2409	145	118	40	M24 x 90	1200	67,4	819	720	677	785243
480	x	585	130	102	96	605396	2522	145	119	42	M24 x 90	1200	71	702	747	702	860354
500	x	605	130	102	96	658967	2636	146	120	44	M24 x 90	1200	72,6	883	774	727	938878
520	x	630	130	102	96	699186	2689	143	118	45	M24 x 90	1200	80	913	802	754	998625
540	x	650	130	102	96	724367	2683	137	114	45	M24 x 90	1200	82	929	821	774	1037033
560	x	670	130	102	96	799456	3855	141	118	48	M24 x 90	1200	85	971	853	802	1147138
580	x	690	130	102	96	860618	2968	141	119	50	M24 x 90	1200	88	1003	880	827	1237612
600	x	710	130	102	96	888410	2961	136	115	50	M24 x 90	1200	91	1018	898	846	1280288
620	x	730	130	102	96	952790	3074	137	117	52	M24 x 90	1200	93	1051	926	871	1375883
640	x	750	130	102	96	1019329	3185	138	117	54	M24 x 90	1200	96	1083	953	897	1474892
660	x	770	130	102	96	1088021	3297	138	118	56	M24 x 90	1200	99	1116	980	922	1577315
680	x	790	130	102	96	1118902	3291	134	115	56	M24 x 90	1200	102	1133	999	941	1625113
700	x	810	130	102	96	1231849	3520	139	120	60	M24 x 90	1200	104	1182	1036	973	1792404
720	x	830	130	102	96	1264816	3513	135	117	60	M24 x 90	1200	107	1199	1054	992	1843615
740	x	850	130	102	96	1340983	3624	135	118	62	M24 x 90	1200	110	2132	1082	1017	1957987
760	x	870	130	102	96	1419285	3735	136	119	64	M24 x 90	1200	113	1265	1110	1043	2075774
780	x	890	130	102	96	1476995	3787	134	118	65	M24 x 90	1200	116	1289	1133	1065	2163687
800	x	910	130	102	96	1535740	3839	133	117	66	M24 x 90	1200	118	1314	1156	1088	2253307
820	x	930	130	102	96	1619333	3950	133	117	68	M24 x 90	1200	121	1343	1181	1111	2379629
840	x	950	130	102	96	1705048	4060	134	118	70	M24 x 90	1200	124	1376	1209	1137	2509365
860	x	970	130	102	96	1792882	4169	134	119	72	M24 x 90	1200	127	1410	1237	1163	2642515
880	x	990	130	102	96	1882830	4279	134	119	74	M24 x 90	1200	129	1439	1263	1187	2779079
900	x	1010	130	102	96	1948904	4331	133	118	75	M24 x 90	1200	132	1463	1286	1209	2880649

To continue see next page

Locking Assemblies RINGFEDER® RfN 7012

Locking Assembly dimensions					Transmissible torques or axial forces		Surface pressure		Locking screws				$D_{N\,min}$ at $Rp_{0,2}$			
							Shaft	Hub					200	300	400	
d x D	L	L_1	L_3	T	F_{ax}	p_W	p_N	n_{Sc}	D_G	T_A	Gw	[N/mm²]			T_{max}
mm		mm		Nm	kN	N/mm²				Nm	kg	mm			Nm
920 x 1030	130	102	96	2016005	4383	132	118	76	M24 x 90	1200	135	1492	1311	1233	2983925
940 x 1050	130	102	96	2111197	4492	132	118	78	M24 x 90	1200	138	1521	1337	1257	3129024
960 x 1070	130	102	96	2208493	4601	132	119	80	M24 x 90	1200	140	1555	1365	1283	3277538
980 x 1090	130	102	96	2279745	4653	131	118	81	M24 x 90	1200	143	1579	1387	1305	3387643
1000 x 1110	130	102	96	2352018	4704	130	117	82	M24 x 90	1200	146	1603	1410	1326	3499454

More sizes on request

Explanation

d = Inner diameter
D = Outer diameter
L = Overall length
L_1 = Overall length (without screws)
L_3 = Width of ring
T = Transmissible torque at given T_A
F_{ax} = Transmissible axial force
p_W = Surface pressure on shaft at given T_A
p_N = Surface pressure on hub at given T_A
n_{Sc} = Quantity of screws
D_G = Thread
T_A = Tightening torque of the clamping screws
Gw = Weight
D_N min = Min. hub outer diam. depending of the given hub yield point Rp0,2
T_{max} = Max. transmissible torque

Technical Information

- The Locking Assemblies are supplied slightly oiled and ready-to-use. The values for T, F_{ax}, p_W and p_N apply to Locking Assemblies in delivery condition.
- Surface finishes: For shaft and hub bore $R_a \leq 3{,}2$ µm
- Tolerances: Shaft: k9-h9 · Hub: N9-H9
  Max. permissible: Shaft: k11-h11; Hub: N11-H11
- To avoid excessive deformations of the relatively thickwalled thrust rings, the Locking Assembly should be located as symmetrically as possible between shaft and hub bore. If the shaft is smaller than nominal d, the bore should exceed nominal D to the same extent and vice versa. The concentricity quality is determined by the direct centering between shaft and hub.
- If several Locking Assemblies are to be installed the transmission values of the table can be added when the Locking Assemblies are located within a distance of $4 \cdot L$.
- The Locking Assemblies are equipped with 12.9 grade screws. A reduction of the screw tightening torque is possible. Please contact our specialists for assistance.
- To facilitate removal, the front thrust rings have auxiliary threads.
- The outside diameter of the hub is calculated with factor C3 = 0.6. (see chapter „Calculation“ in Product Paper & Tech Paper „RINGFEDER® Locking Assemblies“).

Ordering example

Locking assembly	d	D
RfN 7012	200	260

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

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All technical details and notes 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 carry out modifications at any time in the interests of technical progress.

RINGFEDER POWER TRANSMISSION

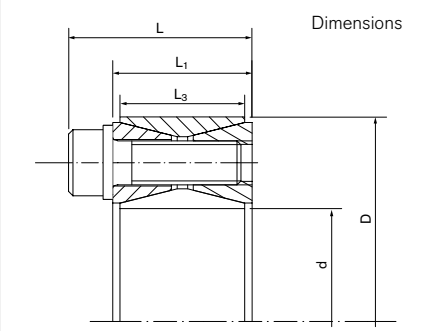
Locking Assemblies

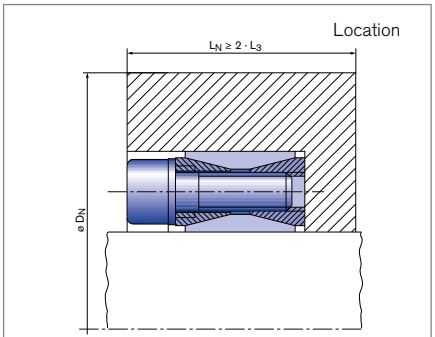
RINGFEDER® RfN 7012.2

Large transmittable forces and moments



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





Locking Assembly dimensions						Transmissible torques or axial forces		Surface pressure		Locking screws				$D_{N\,min}$ at $R_{p0,2}$			
								Shaft	Hub					200	300	400	
d	x	D	L	L_1	L_3	T	F_{ax}	p_W	p_N	n_{Sc}	D_G	T_A	Gw	[N/mm²]			T_{max}
mm			mm			Nm	kN	N/mm²				Nm	kg	mm			Nm
130	x	180	52	38	34	22568	347	208	150	19	M12 x 35	145	3,51	294	247	227	29558
140	x	190	52	38	34	29285	418	233	172	23	M12 x 35	145	3,85	337	273	248	38533
150	x	200	52	38	34	31242	417	217	162	23	M12 x 35	145	4,07	342	281	257	41286
160	x	210	52	38	34	36077	451	220	168	25	M12 x 35	145	4,3	366	299	272	47868
170	x	225	60	44	38	43873	516	212	160	21	M14 x 40	230	5,78	381	315	288	58433
180	x	235	60	44	38	50697	563	218	167	23	M14 x 40	230	6,05	409	334	305	67763
190	x	250	68	52	46	62608	659	200	152	27	M14 x 45	230	8,25	410	343	316	83967
200	x	260	68	52	46	68125	681	196	151	28	M14 x 45	230	8,65	425	356	328	91660
220	x	285	74	56	50	89763	816	197	152	25	M16 x 50	355	11,22	467	391	360	121495
240	x	305	74	56	50	101288	844	187	147	26	M16 x 50	355	12,2	490	414	383	137841
260	x	325	74	56	50	125978	969	198	158	30	M16 x 50	355	13,2	545	452	415	172302
280	x	355	86,5	66	60	157579	1126	178	140	29	M18 x 60	485	19,2	557	475	440	216523
300	x	375	86,5	66	60	173905	1159	171	137	30	M18 x 60	485	20,5	581	497	463	239989
320	x	405	100,5	78	72	239969	1500	173	136	30	M20 x 70	690	29,6	627	537	499	332496
340	x	425	100,5	78	72	262469	1544	167	134	31	M20 x 70	690	31,1	651	560	522	365053
360	x	455	116	90	84	349828	1943	170	135	32	M22 x 80	930	42,2	700	601	560	488295
380	x	475	116	90	84	379517	1997	166	133	33	M22 x 80	930	44	725	625	582	531530
400	x	495	116	90	84	410280	2051	162	131	34	M22 x 80	930	46	751	648	605	576460
420	x	515	116	90	84	467378	2226	167	136	37	M22 x 80	930	50	797	682	635	658690
440	x	545	130	102	96	574502	2611	164	132	37	M24 x 90	1200	64,6	769	716	668	812021
460	x	565	130	102	96	615138	2675	161	131	38	M24 x 90	1200	67,4	856	740	690	871875
480	x	585	130	102	96	657024	2738	158	129	39	M24 x 90	1200	71	882	763	713	933724
500	x	605	130	102	96	717664	2871	159	131	41	M24 x 90	1200	72,6	918	792	739	1022508
520	x	630	130	102	96	762703	2933	156	129	42	M24 x 90	1200	80	948	821	767	1089345
540	x	650	130	102	96	808986	2996	153	127	43	M24 x 90	1200	82	973	844	790	1158177
560	x	670	130	102	96	875976	3128	154	129	45	M24 x 90	1200	85	1009	873	816	1256937

To continue see next page

Locking Assemblies RINGFEDER® RfN 7012.2

Locking Assembly dimensions						Transmissible torques or axial forces		Surface pressure		Locking screws				$D_{N\,min}$ at $Rp_{0,2}$			
								Shaft	Hub					200	300	400	
d	x	D	L	L_1	L_3	T	F_{ax}	p_W	p_N	n_{Sc}	D_G	T_A	Gw	[N/mm²]			T_{max}
mm			mm			Nm	kN	N/mm²				Nm	kg	mm			Nm
580	x	690	130	102	96	945507	3260	155	131	47	M24 x 90	1200	88	1045	902	842	1359686
600	x	710	130	102	96	996807	3323	153	129	48	M24 x 90	1200	91	1070	926	865	1436499
620	x	730	130	102	96	1049341	3385	151	128	49	M24 x 90	1200	93	1096	950	888	1515307
640	x	750	130	102	96	1147229	3585	155	132	52	M24 x 90	1200	96	1142	984	918	1659954
660	x	770	130	102	96	1226223	3716	156	133	54	M24 x 90	1200	99	1177	1013	944	1777667
680	x	790	130	102	96	1261026	3709	151	130	54	M24 x 90	1200	102	1192	1031	963	1831536
700	x	810	130	102	96	1295765	3702	146	126	54	M24 x 90	1200	104	1208	1050	982	1885405
720	x	830	130	102	96	1330443	3696	142	123	54	M24 x 90	1200	107	1224	1068	1001	1939274
740	x	850	130	102	96	1415618	3826	143	124	56	M24 x 90	1200	110	1259	1097	1028	2066962
760	x	870	130	102	96	1503294	3956	144	126	58	M24 x 90	1200	113	1294	1126	1054	2198641
780	x	890	130	102	96	1566909	4018	142	125	59	M24 x 90	1200	116	1320	1149	1077	2295406
800	x	910	130	102	96	1631741	4079	141	124	60	M24 x 90	1200	118	1345	1173	1099	2394165

More sizes on request

To continue see next page

Locking Assemblies RINGFEDER® RfN 7012.2

Explanation

d	= Inner diameter	**F_{ax}**	= Transmissible axial force	**Gw**	= Weight
D	= Outer diameter	**p_W**	= Surface pressure on shaft at given T_A	**D_N min**	= Min. hub outer diam. depending of the given hub yield point Rp0,2
L	= Overall length	**p_N**	= Surface pressure on hub at given T_A	**T_{max}**	= Max. transmissible torque
L_1	= Overall length (without screws)	**n_{Sc}**	= Quantity of screws		
L_3	= Width of ring	**D_G**	= Thread		
T	= Transmissible torque at given T_A	**T_A**	= Tightening torque of the clamping screws		

Technical Information

- The Locking Assemblies are supplied slightly oiled and ready-to-use. The values for T, F_{ax}, p_W and p_N apply to Locking Assemblies in delivery condition.
- Surface finishes: For shaft and hub bore $R_a \leq 3{,}2$ µm
- Tolerances: Shaft: k9-h9 · Hub: N9-H9
  Max. permissible: Shaft: k11-h11; Hub: N11-H11
- To avoid excessive deformations of the relatively thickwalled thrust rings, the Locking Assembly should be located as symmetrically as possible between shaft and hub bore. If the shaft is smaller than nominal d, the bore should exceed nominal D to the same extent and vice versa. The concentricity quality is determined by the direct centering between shaft and hub.
- If several Locking Assemblies are to be installed the transmission values of the table can be added when the Locking Assemblies are located within a distance of 4 · L .
- A reduction of the screw tightening torque is possible. Please contact our specialists for assistance.
- To facilitate removal, the front thrust rings have auxiliary threads.
- The outside diameter of the hub is calculated with factor C3 = 0.6. (see chapter „Calculation“ in Product Paper & Tech Paper „RINGFEDER® Locking Assemblies“).

Ordering example

Locking assembly	d	D
RfN 7012.2	200	260

Further information on
RINGFEDER® RfN 7012.2
on **www.ringfeder.com**

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Locking Assemblies

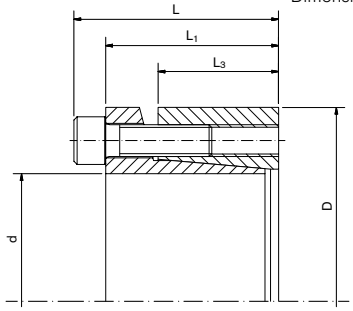
RINGFEDER® RfN 7013.0

Excellent concentricity and very easy to dismantle

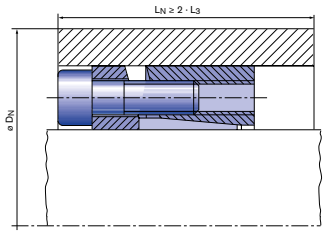


self-centering | without axial displacement | with low surface pressure

Dimensions



Location



Locking Assembly dimensions						Transmissible torques or axial forces		Surface pressure		Locking screws				$D_{N\,min}$ at $R_{p0,2}$			
								Shaft	Hub					200	300	400	
d	x	D	L	L_1	L_3	T	F_{ax}	p_W	p_N	n_{Sc}	D_G	T_A	Gw	[N/mm²]			T_{max}
mm			mm			Nm	kN	N/mm²				Nm	kg	mm			Nm
19	x	47	37	31	21,7	285	30	300	90	4	M6 x 20	17	0,29	70	61	57	320
20	x	47	37	31	21,7	300	30	290	90	4	M6 x 20	17	0,29	70	61	57	340
22	x	47	37	31	21,7	330	30	260	90	4	M6 x 20	17	0,27	70	61	57	370
24	x	50	37	31	21,7	420	40	300	110	5	M6 x 20	17	0,31	80	68	63	480
25	x	50	37	31	21,7	440	40	290	110	5	M6 x 20	17	0,3	80	68	63	500
28	x	55	37	31	21,7	490	40	260	100	5	M6 x 20	17	0,36	83	72	68	560
30	x	55	37	31	21,7	530	40	240	100	5	M6 x 20	17	0,34	83	72	68	600
32	x	60	37	31	21,7	740	50	270	110	6	M6 x 20	17	0,41	95	81	75	850
35	x	60	37	31	21,7	810	50	250	110	6	M6 x 20	17	0,38	95	81	75	930
38	x	65	37	31	21,7	890	50	230	100	6	M6 x 20	17	0,44	99	86	80	1020
40	x	65	37	31	21,7	940	50	220	100	6	M6 x 20	17	0,41	99	86	80	1080
42	x	75	46	38	25,3	1730	80	300	130	6	M8 x 25	41	0,76	137	110	100	1980
45	x	75	46	38	25,3	1860	80	290	130	6	M8 x 25	41	0,7	137	110	100	2130
48	x	80	46	38	25,3	1980	80	270	130	6	M8 x 25	41	0,8	140	114	105	2270
50	x	80	46	38	25,3	2070	80	260	130	6	M8 x 25	41	0,76	140	114	105	2380
55	x	85	46	38	25,3	2540	90	270	140	7	M8 x 25	41	0,82	159	126	114	2920
60	x	90	46	38	25,3	2770	90	250	130	7	M8 x 25	41	0,88	161	130	118	3180
65	x	95	46	38	25,3	3580	110	260	140	8	M8 x 25	41	0,94	181	142	128	4110
70	x	110	60	50	33,4	5100	140	240	130	7	M10 x 35	83	2,1	195	158	144	5860
75	x	115	60	50	33,4	5460	140	230	120	7	M10 x 35	83	2,2	194	161	148	6270
80	x	120	60	50	33,4	5850	140	210	110	7	M10 x 35	83	2,3	195	164	152	6720
85	x	125	60	50	33,4	7450	180	230	130	8	M10 x 35	83	2,4	222	180	164	8560
90	x	130	60	50	33,4	7900	180	220	120	8	M10 x 35	83	2,6	225	184	168	9080
95	x	135	60	50	33,4	9900	210	260	150	10	M10 x 35	83	2,7	269	207	185	11380
100	x	145	68	58	40,8	11000	220	190	110	10	M10 x 35	83	3,7	238	199	184	12650
110	x	155	68	58	40,8	12100	220	180	110	10	M10 x 35	83	4	246	209	194	13910

To continue see next page

Locking Assemblies RINGFEDER® RfN 7013.0

Locking Assembly dimensions						Transmissible torques or axial forces		Surface pressure		Locking screws			Gw	$D_{N\,min}$ at $Rp_{0,2}$			T_{max}
								Shaft	Hub					200	300	400	
d	x	D	L	L_1	L_3	T	F_{ax}	p_W	p_N	n_{Sc}	D_G	T_A		[N/mm²]			
mm			mm			Nm	kN	N/mm²				Nm	kg	mm			Nm
120	x	165	68	58	40,8	15700	260	190	120	12	M10 x 35	83	4,3	279	231	212	18050
130	x	180	77	65	45,4	20700	320	190	120	10	M12 x 40	145	5,9	305	252	231	23800
140	x	190	77	65	45,4	22500	320	180	110	10	M12 x 40	145	6,3	312	261	241	25870
150	x	200	77	65	45,4	28500	380	200	130	12	M12 x 40	145	6,7	357	288	262	32770

More sizes on request

Explanation

- **d** = Inner diameter
- **D** = Outer diameter
- **L** = Overall length
- **L_1** = Overall length (without screws)
- **L_3** = Width of ring
- **T** = Transmissible torque at given T_A
- **F_{ax}** = Transmissible axial force
- **p_W** = Surface pressure on shaft at given T_A
- **p_N** = Surface pressure on hub at given T_A
- **n_{Sc}** = Quantity of screws
- **D_G** = Thread
- **T_A** = Tightening torque of the clamping screws
- **Gw** = Weight
- **$D_{N\,min}$** = Min. hub outer diam. depending of the given hub yield point Rp0,2
- **T_{max}** = Max. transmissible torque

Ordering example

Locking assembly	d	D
RfN 7013.0	150	200

Further information on
RINGFEDER® RfN 7013.0
on **www.ringfeder.com**

Technical Information

- The Locking Assemblies are supplied slightly oiled and readyto-use. The values for T, F_{ax}, p_W and p_N apply to Locking Assemblies installed in the delivery condition.
- Surface finishes: Shaft and hub bores $R_a \leq 1{,}6$ µm
- Tolerances: Shaft: h8 · Hub: H8
- A change of the T_A-values given in the above table is inadmissible
- The outside diameter of the hub is calculated with factor C3 = 0.6. (see chapter „Calculation“ in Product Paper & Tech Paper „RINGFEDER® Locking Assemblies“).

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RINGFEDER POWER TRANSMISSION

Locking Assemblies

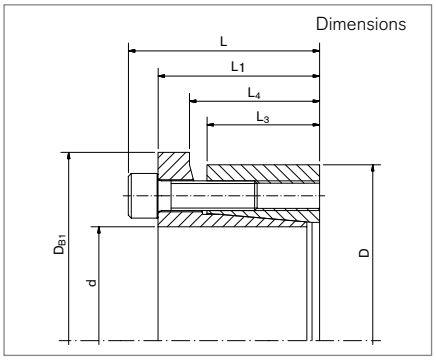
RINGFEDER® RfN 7013.1

Axial hub fixing, excellent concentricity and very easy to dismantle

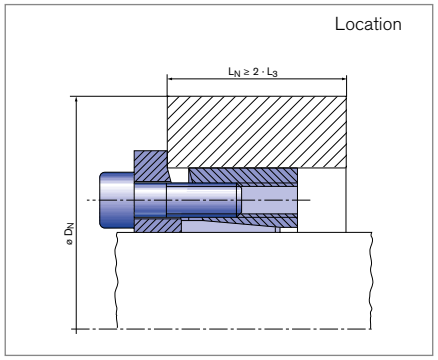


self-centering | **without axial displacement** | with low surface pressure

Dimensions



Location



Locking Assembly dimensions								Transmissible torques or axial forces		Surface pressure		Locking screws				$D_{N\,min}$ at $Rp_{0,2}$			
										Shaft	Hub					200	300	400	
d	x	D	D_{B1}	L	L_1	L_3	L_4	T	F_{ax}	p_W	p_N	n_{Sc}	D_G	T_A	Gw	[N/mm²]			T_{max}
mm			mm					Nm	kN	N/mm²				Nm	kg	mm			Nm
19	x	47	53	37	31	21,7	25,7	285	30	300	90	6	M6 x 20	17	0,29	70	61	57	310
20	x	47	53	37	31	21,7	25,7	300	30	290	90	6	M6 x 20	17	0,29	70	61	57	330
22	x	47	53	37	31	21,7	25,7	330	30	260	90	6	M6 x 20	17	0,27	70	61	57	360
24	x	50	56	37	31	21,7	25,7	420	40	300	110	7	M6 x 20	17	0,31	80	68	63	460
25	x	50	56	37	31	21,7	25,7	440	40	290	110	7	M6 x 20	17	0,3	80	68	63	480
28	x	55	62	37	31	21,7	25,7	490	40	260	100	7	M6 x 20	17	0,36	83	72	68	530
30	x	55	62	37	31	21,7	25,7	530	40	240	100	7	M6 x 20	17	0,34	83	72	68	580
32	x	60	68	37	31	21,7	25,7	740	50	270	110	9	M6 x 20	17	0,41	95	81	75	810
35	x	60	68	37	31	21,7	25,7	810	50	250	110	9	M6 x 20	17	0,38	95	81	75	890
38	x	65	73	37	31	21,7	25,7	890	50	230	100	10	M6 x 20	17	0,44	99	86	80	970
40	x	65	73	37	31	21,7	25,7	940	50	220	100	10	M6 x 20	17	0,41	99	86	80	1030
42	x	75	83	46	38	25,3	30,3	1730	80	300	130	9	M8 x 25	41	0,76	137	110	100	1900
45	x	75	83	46	38	25,3	30,3	1860	80	280	130	9	M8 x 25	41	0,7	137	110	100	2040
48	x	80	88	46	38	25,3	30,3	1980	80	270	130	9	M8 x 25	41	0,8	140	114	105	2170
50	x	80	88	46	38	25,3	30,3	2070	80	260	130	9	M8 x 25	41	0,76	140	114	105	2270
55	x	85	95	46	38	25,3	30,3	2540	90	270	140	10	M8 x 25	41	0,82	159	126	114	2790
60	x	90	100	46	38	25,3	30,3	2770	90	250	130	10	M8 x 25	41	0,88	161	130	118	3040
65	x	95	105	46	38	25,3	30,3	3580	110	260	140	12	M8 x 25	41	0,94	181	142	128	3930
70	x	110	120	60	50	33,4	40,4	5100	140	240	130	10	M10 x 35	83	2,1	195	158	144	5610
75	x	115	125	60	50	33,4	40,4	5460	140	230	120	10	M10 x 35	83	2,2	194	161	148	6000
80	x	120	130	60	50	33,4	40,4	5850	140	210	110	10	M10 x 35	83	2,3	195	164	152	6430
85	x	125	135	60	50	33,4	40,4	7450	180	230	130	12	M10 x 35	83	2,4	222	180	164	8190
90	x	130	140	60	50	33,4	40,4	7900	180	220	120	12	M10 x 35	83	2,6	225	184	168	8690
95	x	135	145	60	50	33,4	40,4	9900	210	260	150	15	M10 x 35	83	2,7	269	207	185	10890

To continue see next page

Locking Assemblies RINGFEDER® RfN 7013.1

Locking Assembly dimensions								Transmissible torques or axial forces		Surface pressure		Locking screws				$D_{N\,min}$ at $Rp_{0,2}$			
										Shaft	Hub					200	300	400	
d	x	D	D_{B1}	L	L_1	L_3	L_4	T	F_{ax}	p_W	p_N	n_{Sc}	D_G	T_A	Gw	[N/mm²]			T_{max}
mm			mm					Nm	kN	N/mm²				Nm	kg	mm			Nm
100	x	145	155	68	58	40,8	47,8	11000	220	190	110	15	M10 x 35	83	3,7	238	199	184	12100
110	x	155	165	68	58	40,8	47,8	12100	220	180	110	15	M10 x 35	83	4	246	209	194	13310
120	x	165	175	68	58	40,8	47,8	15700	260	190	120	18	M10 x 35	83	4,3	279	231	212	17270
130	x	180	190	77	65	45,4	52,4	20700	320	190	120	15	M12 x 40	145	5,9	305	252	231	22770
140	x	190	200	77	65	45,4	52,4	22500	320	180	110	15	M12 x 40	145	6,3	312	261	241	24750
150	x	200	210	77	65	45,4	52,4	28500	380	200	130	18	M12 x 40	145	6,7	357	288	262	31350

More sizes on request

Explanation

- **d** = Inner diameter
- **D** = Outer diameter
- **D_{B1}** = Collar outer diameter
- **L** = Overall length
- **L_1** = Overall length (without screws)
- **L_3** = Width of ring
- **L_4** = Installation length up to collar
- **T** = Transmissible torque at given T_A
- **F_{ax}** = Transmissible axial force
- **p_W** = Surface pressure on shaft at given T_A
- **p_N** = Surface pressure on hub at given T_A
- **n_{Sc}** = Quantity of screws
- **D_G** = Thread
- **T_A** = Tightening torque of the clamping screws
- **Gw** = Weight
- **D_N min** = Min. hub outer diam. depending of the given hub yield point Rp0,2
- **T_{max}** = Max. transmissible torque

Ordering example

Locking assembly	d	D
RfN 7013.1	150	200

Further information on
RINGFEDER® RfN 7013.1
on **www.ringfeder.com**

Technical Information

- The Locking Assemblies are supplied slightly oiled and readyto-use. The values for T, F_{ax}, p_W and p_N apply to Locking Assemblies installed in the delivery condition.
- Surface finishes: Shaft and hub bores $R_a \leq 1{,}6$ µm
- Tolerances: Shaft: h8 · Hub: H8
- Arrangement only possible from 2 sides. If several Locking Assemblies are used to increase the transmission values the clamping systematization has to be considered.
- A change of the T_A-values given in the above table is not admissible.
- The outside diameter of the hub is calculated with factor C3 = 0.6. (see chapter „Calculation“ in Product Paper & Tech Paper „RINGFEDER® Locking Assemblies“).

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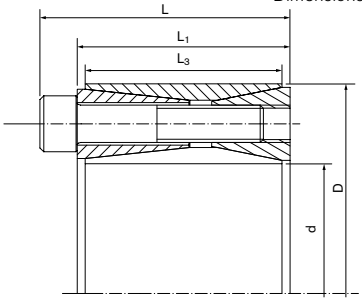
RINGFEDER POWER TRANSMISSION

Locking Assemblies
RINGFEDER® RfN 7014
Large transmittable peripheral forces

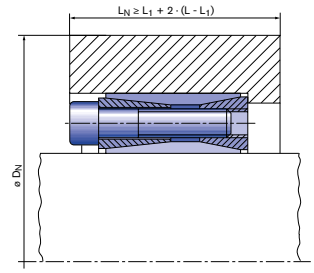


self-centering | **without axial displacement** | with low surface pressure

Dimensions



Location



Locking Assembly dimensions						Transmissible torques or axial forces		Surface pressure		Locking screws				$D_{N\,min}$ at $R_{p0,2}$			
								Shaft	Hub					200	300	400	
d	x	D	L	L_1	L_3	T	F_{ax}	p_W	p_N	n_{Sc}	D_G	T_A	Gw	[N/mm²]			T_{max}
mm			mm			Nm	kN	N/mm²				Nm	kg	mm			Nm
60	x	100	60	50	44	4130	138	208	125	8	M10 x 45	84	1,8	209	157	139	5120
70	x	120	74	62	56	6850	196	200	117	8	M12 x 55	145	3,3	197	165	154	8068
80	x	130	74	62	56	11650	291	263	162	12	M12 x 55	145	3,7	---	215	189	13813
90	x	140	74	62	56	13000	289	234	150	12	M12 x 55	145	4	310	220	196	15505
100	x	160	94	80	74	19700	394	213	133	12	M14 x 70	230	7,2	312	239	217	23620
110	x	170	94	80	74	26600	484	242	157	14	M14 x 70	230	7,7	---	284	248	32045
120	x	180	94	80	74	28900	482	222	148	15	M14 x 70	230	8,3	416	287	255	34968
130	x	190	94	80	74	31200	480	205	140	15	M14 x 70	230	8,8	399	292	263	37903
140	x	200	94	80	74	40200	574	227	159	17	M14 x 70	230	9,3	---	337	294	49017
150	x	210	94	80	74	42900	572	212	151	18	M14 x 70	230	10	510	340	301	52489
160	x	230	110	94	88	64000	800	227	158	17	M16 x 80	355	14,9	---	390	339	78558
170	x	240	110	94	88	67800	798	214	152	18	M16 x 80	355	15,7	---	394	347	83477
180	x	250	110	94	88	83000	922	235	169	20	M16 x 80	355	16,4	---	453	384	102483
190	x	260	110	94	88	88000	926	223	163	21	M16 x 80	355	17,2	---	454	390	108947
200	x	270	110	94	88	105000	1050	242	179	23	M16 x 80	355	18,8	---	524	431	130330
220	x	300	134	116	110	123000	1118	189	139	21	M18 x 100	485	27,7	662	470	420	153404
240	x	320	134	116	110	153000	1275	198	148	24	M18 x 100	485	29,8	---	527	463	191651
260	x	340	134	116	110	186000	1431	205	157	26	M18 x 100	485	32	---	586	506	233920
280	x	370	156	136	130	230000	1643	192	145	24	M20 x 120	690	46	---	606	533	290328
300	x	390	156	136	130	245000	1633	179	138	24	M20 x 120	690	49	874	614	548	310335

More sizes on request

To continue see next page

Locking Assemblies RINGFEDER® RfN 7014

Explanation

d	= Inner diameter	**F_{ax}**	= Transmissible axial force	**T_A**	= Tightening torque of the clamping screws
D	= Outer diameter	**p_W**	= Surface pressure on shaft at given T_A	**Gw**	= Weight
L	= Overall length	**p_N**	= Surface pressure on hub at given T_A	**D_N min**	= Min. hub outer diam. depending of the given hub yield point Rp0,2
L_1	= Overall length (without screws)	**n_{Sc}**	= Quantity of screws	**T_{max}**	= Max. transmissible torque
L_3	= Width of ring	**D_G**	= Thread		
T	= Transmissible torque at given T_A				

Technical Information

- The values for T, F_{ax}, p_W and p_N apply to Locking Assemblies installed in oiled condition.
- Surface finishes: Shaft and hub bores $R_a \leq 3{,}2$ µm
- Tolerances: Shaft: k9-h9 · Hub: N9-H9
- Max. two Locking Assemblies at most can be installed in series. In this case the transmission values of the above table are doubled.
- A reduction of the contact pressures and the transmission values by reducing the tightening torque of the screws is possible. Please contact our specialists for assistance.
- For the removal of the Locking Assembly a step in the hub or shaft is required (as shown in the installation situation).

Ordering example

Locking assembly	d	D
RfN 7014	150	210

Further information on
RINGFEDER® RfN 7014
on **www.ringfeder.com**

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Locking Assemblies

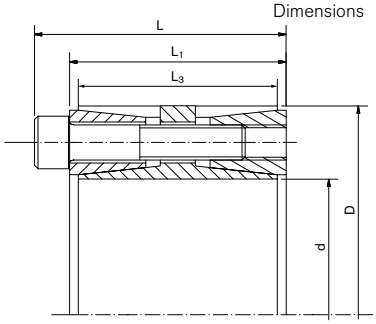
RINGFEDER® RfN 7015.0

Transfer of greatest bending moments possible, greatest torque and/or axial forces, excellent concentricity possible

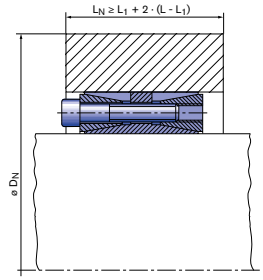


self-centering | **without axial displacement** | with low surface pressure

Dimensions



Location



Locking Assembly dimensions						Transmissible torques or axial forces		Surface pressure		Locking screws				$D_{N\,min}$ at $R_{p0,2}$			
								Shaft	Hub					200	300	400	
d	x	D	L	L_1	L_3	T	F_{ax}	p_W	p_N	n_{Sc}	D_G	T_A	Gw	[N/mm²]			T_{max}
mm			mm			Nm	kN	N/mm²				Nm	kg	mm			Nm
100	x	145	77	65	60	14244	285	198	136	10	M12 x 55	145	4,1	287	218	198	16757
110	x	155	77	65	60	15668	285	180	127	10	M12 x 55	145	4,4	283	225	206	18433
120	x	165	77	65	60	20511	342	198	144	12	M12 x 55	145	4,8	354	256	230	24130
130	x	180	86	74	68	27775	427	197	142	15	M12 x 60	145	6,5	390	280	251	32676
140	x	190	86	74	68	35894	513	220	162	18	M12 x 60	145	7	---	327	283	42228
150	x	200	86	74	68	38458	513	205	154	18	M12 x 60	145	7,4	---	329	289	45244
160	x	210	86	74	68	47858	598	224	171	21	M12 x 60	145	7,8	---	380	322	56304
170	x	225	95	81	75	59620	701	222	168	18	M14 x 65	230	10	---	399	341	70141
180	x	235	95	81	75	63127	701	210	161	18	M14 x 65	230	10,6	---	400	347	74267
190	x	250	108	94	88	74038	779	186	141	20	M14 x 75	230	14,3	562	394	352	87104
200	x	260	108	94	88	93522	935	211	163	24	M14 x 75	230	15	---	461	394	110026
220	x	285	120	104	98	105616	960	189	146	18	M16 x 90	355	19,8	693	462	408	124254
240	x	305	120	104	98	153624	1280	231	182	24	M16 x 90	355	21,4	---	621	499	180734
260	x	325	120	104	98	173360	1334	222	178	25	M16 x 90	355	23	---	641	523	203953
280	x	355	144	126	120	216499	1546	200	158	24	M18 x 110	485	35,2	---	626	536	254705
300	x	375	144	126	120	241629	1611	195	156	25	M18 x 110	485	37,4	---	652	561	284269
320	x	405	162	142	135	333337	2083	199	157	25	M20 x 120	690	51,3	---	711	609	392161
340	x	425	162	142	135	354170	2083	187	150	25	M20 x 120	690	54,1	---	714	623	416671
360	x	455	187	165	158	463312	2574	186	147	25	M22 x 130	930	75,4	---	761	665	545073
380	x	475	187	165	158	489052	2574	176	141	25	M22 x 130	930	79	1149	768	679	575355
400	x	495	187	165	158	514791	2574	167	135	25	M22 x 130	930	82,8	1100	777	694	605637
420	x	515	187	165	158	648637	3089	191	156	30	M22 x 130	930	86,5	---	907	777	763102
440	x	545	204	180	172	799628	3635	192	155	30	M24 x 150	1200	110	---	954	819	940738
460	x	565	204	180	172	835974	3635	184	150	30	M24 x 150	1200	114	---	957	832	983499

To continue see next page

Locking Assemblies RINGFEDER® RfN 7015.0

Locking Assembly dimensions						Transmissible torques or axial forces		Surface pressure		Locking screws			Gw	$D_{N\,min}$ at $R_{p0,2}$			T_{max}
								Shaft	Hub					200	300	400	
d	x	D	L	L_1	L_3	T	F_{ax}	p_W	p_N	n_{Sc}	D_G	T_A		[N/mm²]			
mm			mm			Nm	kN	N/mm²				Nm	kg	mm			Nm
480	x	585	204	180	172	930476	3877	188	154	32	M24 x 150	1200	119	---	1018	876	1094677
500	x	605	204	180	172	969246	3877	181	149	32	M24 x 150	1200	123	---	1022	889	1140289
520	x	630	227	200	190	1127063	4335	173	143	30	M27 x 160	1600	148	1547	1023	903	1325956
540	x	650	227	200	190	1170411	4335	167	139	30	M27 x 160	1600	154	1490	1031	918	1376955
560	x	670	227	200	190	1213760	4335	161	135	30	M27 x 160	1600	160	1451	1041	933	1427951
580	x	690	227	200	190	1257109	4335	155	131	30	M27 x 160	1600	165	1424	1053	949	1478951
600	x	710	227	200	190	1387154	4624	160	135	32	M27 x 160	1600	170	1555	1108	992	1631946
620	x	730	227	200	190	1433393	4624	155	132	32	M27 x 160	1600	177	1526	1119	1008	1686345
640	x	750	227	200	190	1618347	5057	164	140	35	M27 x 160	1600	182	1759	1199	1064	1903937
660	x	770	227	200	190	1668920	5057	159	137	35	M27 x 160	1600	187	1713	1209	1080	1963435
680	x	790	227	200	190	1768622	5202	159	137	36	M27 x 160	1600	193	1766	1242	1109	2080732
700	x	810	227	200	190	1820640	5202	155	134	36	M27 x 160	1600	198	1732	1253	1125	2141930
720	x	830	227	200	190	2080732	5780	167	145	40	M27 x 160	1600	204	---	1359	1196	2447919
740	x	850	227	200	190	2138530	5780	162	141	40	M27 x 160	1600	209	2030	1367	1211	2515917
760	x	870	227	200	190	2196328	5780	158	138	40	M27 x 160	1600	215	1979	1376	1226	2583915
780	x	890	227	200	190	2254126	5780	154	135	40	M27 x 160	1600	220	1940	1386	1242	2651913
800	x	910	227	200	190	2427520	6069	158	139	42	M27 x 160	1600	225	2086	1443	1285	2855906

More sizes on request

Explanation

- **d** = Inner diameter
- **D** = Outer diameter
- **L** = Overall length
- **L_1** = Overall length (without screws)
- **L_3** = Width of ring
- **T** = Transmissible torque at given T_A
- **F_{ax}** = Transmissible axial force
- **p_W** = Surface pressure on shaft at given T_A
- **p_N** = Surface pressure on hub at given T_A
- **n_{Sc}** = Quantity of screws
- **D_G** = Thread
- **T_A** = Tightening torque of the clamping screws
- **Gw** = Weight
- **$D_{N\,min}$** = Min. hub outer diam. depending of the given hub yield point Rp0,2
- **T_{max}** = Max. transmissible torque

Ordering example

Locking assembly	d	D
RfN 7015.0	150	200

Further information on
RINGFEDER® RfN 7015.0
on **www.ringfeder.com**

Technical Information

- The values for T, F_{ax}, p_W and p_N apply to Locking Assemblies installed in oiled condition.
- Surface finishes: Shaft and hub bores $R_a \leq 3{,}2$ µm
- Tolerances: Shaft: h8 · Hub: H8
- Max. two Locking Assemblies can be used in series, the transmissible torques and axial forces are added.
- A reduction of the contact pressures and the transmission values by reducing the tightening torque of the screws is possible. Please contact our specialists for assistance.

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RINGFEDER POWER TRANSMISSION

Locking Assemblies

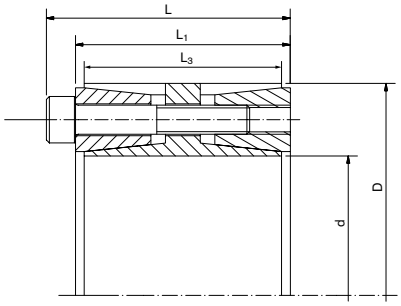
RINGFEDER® RfN 7015.1

Reduced surface pressures

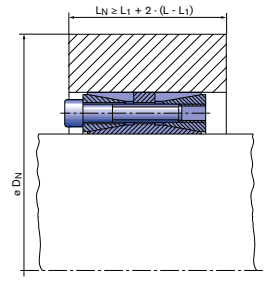


self-centering | **without axial displacement** | **with low surface pressure**

Dimensions



Location



Locking Assembly dimensions						Transmissible torques or axial forces		Surface pressure		Locking screws			Gw	$D_{N\,min}$ at $R_{p0,2}$			T_{max}
								Shaft	Hub					200	300	400	
d	x	D	L	L_1	L_3	T	F_{ax}	p_W	p_N	n_{Sc}	D_G	T_A		[N/mm²]			
mm			mm			Nm	kN	N/mm²				Nm	kg	mm			Nm
100	x	145	75	65	60	6575	132	91	63	9	M10 x 55	83	4,1	184	171	166	7736
110	x	155	75	65	60	8037	146	92	65	10	M10 x 55	83	4,4	199	184	178	9455
120	x	165	75	65	60	10521	175	101	74	12	M10 x 55	83	4,8	220	201	193	12377
130	x	180	84	74	68	14247	219	101	73	15	M10 x 60	83	6,5	240	219	211	16761
140	x	190	84	74	68	15343	219	94	69	15	M10 x 60	83	7	248	229	221	18050
150	x	200	84	74	68	17534	234	94	70	16	M10 x 60	83	7,4	263	242	233	20629
160	x	210	84	74	68	21041	263	99	75	18	M10 x 60	83	7,8	282	257	247	24754
170	x	225	93	81	75	27352	322	105	80	15	M12 x 65	145	10	309	279	267	32179
180	x	235	93	81	75	30892	343	106	81	16	M12 x 65	145	10,6	325	293	280	36344
190	x	250	106	94	88	36684	386	96	73	18	M12 x 75	145	14,3	355	306	294	43158
200	x	260	106	94	88	42906	429	101	78	20	M12 x 75	145	15	358	323	309	50477
220	x	285	116	104	98	49556	451	89	69	21	M12 x 80	145	19,8	376	345	332	58301
240	x	305	116	104	98	61784	515	93	73	24	M12 x 80	145	21,4	412	375	359	72688
260	x	325	116	104	98	75300	579	97	77	27	M12 x 80	145	23	449	405	387	88588
280	x	355	140	126	120	115034	822	106	84	28	M14 x 100	230	35,2	512	454	431	135334
300	x	375	140	126	120	123250	822	99	80	28	M14 x 100	230	37,4	527	472	450	145001
320	x	405	158	142	135	179962	1125	110	87	28	M16 x 110	355	51,3	593	522	495	211720
340	x	425	158	142	135	191209	1125	103	83	28	M16 x 110	355	54,1	607	540	514	224952
360	x	455	183	165	158	209622	1165	84	67	24	M18 x 140	485	75,4	598	550	529	246615
380	x	475	183	165	158	248927	1310	90	72	27	M18 x 140	485	79	642	584	559	292855
400	x	495	183	165	158	310552	1553	101	82	32	M18 x 140	485	82,8	706	629	598	365355
420	x	515	183	165	158	326079	1553	96	78	32	M18 x 140	485	86,5	721	647	617	383623
440	x	545	200	180	172	372775	1694	91	74	27	M20 x 140	690	110	742	673	644	438558
460	x	565	200	180	172	389719	1694	87	71	27	M20 x 140	690	114	759	691	663	458493
480	x	585	200	180	172	451848	1883	93	76	30	M20 x 140	690	119	807	728	696	531586
500	x	605	200	180	172	470675	1883	89	74	30	M20 x 140	690	123	824	747	715	553735

To continue see next page

Locking Assemblies RINGFEDER® RfN 7015.1

Locking Assembly dimensions						Transmissible torques or axial forces		Surface pressure		Locking screws				$D_{N\,min}$ at $R_{p0,2}$			
								Shaft	Hub					200	300	400	
d	x	D	L	L_1	L_3	T	F_{ax}	p_W	p_N	n_{Sc}	D_G	T_A	Gw	[N/mm²]			T_{max}
mm			mm			Nm	kN	N/mm²				Nm	kg	mm			Nm
520	x	630	220	200	190	522135	2008	80	66	32	M20 x 150	690	148	827	760	732	614277
540	x	650	220	200	190	542218	2008	77	64	32	M20 x 150	690	154	845	779	751	637903
560	x	670	220	200	190	632587	2259	84	70	36	M20 x 150	690	160	897	818	785	744220
580	x	690	220	200	190	655180	2259	81	68	36	M20 x 150	690	165	914	837	805	770800
600	x	710	220	200	190	677772	2259	78	66	36	M20 x 150	690	170	932	856	824	797379
620	x	730	220	200	190	700364	2259	76	64	36	M20 x 150	690	175	949	875	844	823958
640	x	750	220	200	190	722957	2259	73	63	36	M20 x 150	690	180	967	894	863	850537
660	x	770	220	200	190	745549	2259	71	61	36	M20 x 150	690	194	985	914	882	877117
680	x	790	220	200	190	768142	2259	69	59	36	M20 x 150	690	199	1003	933	902	903696
700	x	810	220	200	190	790734	2259	67	58	36	M20 x 150	690	205	1021	952	922	930275
720	x	830	220	200	190	813326	2259	65	57	36	M20 x 150	690	210	1039	971	941	956855
740	x	850	220	200	190	835919	2259	64	55	36	M20 x 150	690	216	1058	991	961	983434
760	x	870	220	200	190	858511	2259	62	54	36	M20 x 150	690	221	1076	1010	980	1010013
780	x	890	220	200	190	881104	2259	60	53	36	M20 x 150	690	227	1095	1029	1000	1036593
800	x	910	220	200	190	903696	2259	59	52	36	M20 x 150	690	232	1114	1049	1020	1063172

More sizes on request

Explanation

- **d** = Inner diameter
- **D** = Outer diameter
- **L** = Overall length
- **L_1** = Overall length (without screws)
- **L_3** = Width of ring
- **T** = Transmissible torque at given T_A
- **F_{ax}** = Transmissible axial force
- **p_W** = Surface pressure on shaft at given T_A
- **p_N** = Surface pressure on hub at given T_A
- **n_{Sc}** = Quantity of screws
- **D_G** = Thread
- **T_A** = Tightening torque of the clamping screws
- **Gw** = Weight
- **D_N min** = Min. hub outer diam. depending of the given hub yield point Rp0,2
- **T_{max}** = Max. transmissible torque

Ordering example

Locking assembly	d	D
RfN 7015.1	150	200

Further information on
RINGFEDER® RfN 7015.1
on **www.ringfeder.com**

Technical Information

- The values for T, F_{ax}, p_W and p_N apply to Locking Assemblies installed in oiled condition.
- Surface finishes: Shaft and hub bores $R_a \leq 3{,}2$ µm
- Tolerances: Shaft: h8 · Hub: H8
- Max. two Locking Assemblies can be used in series, the transmissible torques and axial forces are added.
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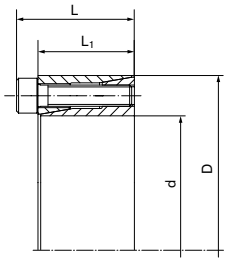
RINGFEDER POWER TRANSMISSION

Locking Assemblies
RINGFEDER® RfN 7061
Two piece, self-centering design

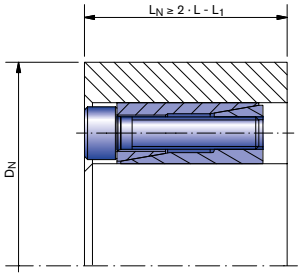


self-centering | without axial displacement | **with low surface pressure**

Dimensions



Location



Locking Assembly dimensions					Transmissible torques or axial forces		Surface pressure		Locking screws		
							Shaft	Hub			
d	x	D	L	L_1	T	F_{ax}	p_W	p_N	n_{Sc}	D_G	T_A
mm			mm		Nm	kN	N/mm²				Nm
6	x	16	13,5	11	6	2	150	55	3	M2,5	1,2
6,35	x	16	13,5	11	6	2	140	55	3	M2,5	1,2
7	x	17	13,5	11	8	2	125	55	3	M2,5	1,2
8	x	18	13,5	11	10	2,5	110	50	3	M2,5	1,2
9	x	20	15,5	13	15	3	120	55	4	M2,5	1,2
9,53	x	20	15,5	13	15	3	110	55	4	M2,5	1,2
10	x	20	15,5	13	15	3	110	55	4	M2,5	1,2
11	x	22	15,5	13	18	3	100	50	4	M2,5	1,2
12	x	22	15,5	13	20	3	90	50	4	M2,5	1,2
14	x	26	20	17	35	5	105	55	4	M3	2,1
15	x	28	20	17	40	5	100	50	4	M3	2,1
16	x	32	21	17	70	8	130	65	4	M4	4,9
17	x	35	25	21	75	8	120	60	4	M4	4,9
18	x	35	25	21	80	8	115	60	4	M4	4,9
19	x	35	25	21	85	8	110	60	4	M4	4,9
20	x	38	26	21	150	15	140	75	4	M5	9,7
22	x	40	26	21	160	14	130	70	4	M5	9.7
24	x	47	32	26	250	20	140	75	4	M6	17
25	x	47	32	26	260	20	135	75	4	M6	17
25,4	x	47	32	26	265	20	130	75	4	M6	17
28	x	50	32	26	440	30	185	100	6	M6	17
30	x	55	32	26	470	30	175	95	6	M6	17
32	x	55	32	26	500	30	165	95	6	M6	17
35	x	60	37	31	730	40	165	95	8	M6	17
38	x	65	37	31	800	40	155	90	8	M6	17
40	x	65	37	31	840	40	145	90	8	M6	17

To continue see next page

Locking Assemblies RINGFEDER® RfN 7061

Locking Assembly dimensions					Transmissible torques or axial forces		Surface pressure		Locking screws		
							Shaft	Hub			
d	x	D	L	L_1	T	F_{ax}	p_W	p_N	n_{Sc}	D_G	T_A
mm			mm		Nm	kN	N/mm²				Nm
42	x	75	44	36	1200	55	165	90	6	M8	41
45	x	75	44	36	1300	55	155	90	6	M8	41
48	x	80	44	36	1850	75	195	115	8	M8	41
50	x	80	44	36	1900	75	185	115	8	M8	41

More sizes on request

Explanation

d = Inner diameter
D = Outer diameter
L = Overall length
L_1 = Overall length (without screws)
T = Transmissible torque at given T_A
F_{ax} = Transmissible axial force
p_W = Surface pressure on shaft at given T_A
p_N = Surface pressure on hub at given T_A
n_{Sc} = Quantity of screws
D_G = Thread
T_A = Tightening torque of the clamping screws

Ordering example

Locking assembly	d	D
RfN 7061	**6**	**16**

Technical Information

- Surface finishes: Shaft and hub bores $R_a \leq 1{,}6$ µm
- Tolerances: Shaft: h8 · Hub: H8

Further information on
RINGFEDER® RfN 7061
on **www.ringfeder.com**

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RINGFEDER POWER TRANSMISSION

Locking Assemblies

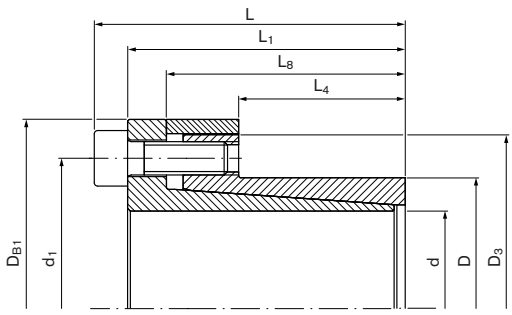
RINGFEDER® RfN 7110

Specially small dimensioned self-centering Locking Assembly without axial displacement



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

Dimensions



Locking Assembly dimensions								Transmissible torques or axial forces		Surface pressure		Locking screws			
										Shaft	Hub				
d x D	D_{B1}	D_3	d_1	L	L_1	L_4	L_8	T	F_{ax}	p_W	p_N	n_{Sc}	D_G	T_A	Gw
mm				mm				Nm	kN	N/mm²				Nm	kg
8 x 15	27	24	19	28	24	12	21	30	7	230	120	4	M4	4	0,06
9 x 16	28	25	20	31	27	14	23	34	7	170	100	4	M4	4	0,07
10 x 16	28	25	20	31	27	14	23	37	7	160	100	4	M4	4	0,06
11 x 18	32	28,5	23	31	27	14	23	51	10	180	110	4	M4	5	0,07
12 x 18	32	28,5	23	31	27	14	23	56	10	155	110	4	M4	5	0,07
13 x 23	38	33,5	28	31	27	14	23	61	10	150	85	4	M4	5	0,12
14 x 23	38	33,5	28	31	27	14	23	65	10	140	85	4	M4	5	0,12
15 x 24	44	39	31	42	36	16	29	110	17	180	115	3	M6	17	0,21
16 x 24	44	39	31	42	36	16	29	120	17	170	115	3	M6	17	0,2
17 x 26	47	41,5	33	44	38	18	31	165	22	190	135	4	M6	17	0,22
18 x 26	47	41,5	33	44	38	18	31	180	22	180	135	4	M6	17	0,24
19 x 27	48	42,5	34	44	38	18	31	190	22	170	125	4	M6	17	0,25
20 x 28	49	43,5	35	44	38	18	31	200	22	150	115	4	M6	17	0,25
22 x 32	53	47,5	39,5	51	45	25	38	230	22	115	80	4	M6	17	0,34
24 x 34	55	49,5	41,5	51	45	25	38	255	21	105	75	4	M6	17	0,36
25 x 34	55	49,5	41,5	51	45	25	38	255	21	100	75	4	M6	17	0,35
28 x 39	60	54,5	46	51	45	25	38	370	31	110	80	5	M6	17	0,43
30 x 41	62	56,5	48	51	45	25	38	475	31	125	90	6	M6	17	0,43
32 x 43	64	58,5	50,5	56	50	30	43	505	31	95	75	6	M6	17	0,46
35 x 47	68	62,5	54	56	50	30	43	740	42	120	90	8	M6	17	0,52
38 x 50	71	65,5	57	56	50	30	43	800	42	110	85	8	M6	17	0,61
40 x 53	74	68,5	60	58	52	32	45	950	53	110	85	9	M6	17	0,67
42 x 55	77	70,5	62	58	52	32	45	995	78	105	80	9	M6	17	0,74
45 x 59	85	78,5	68,5	72	64	40	56	1750	78	130	100	8	M8	41	1,12

To continue see next page

Locking Assemblies RINGFEDER® RfN 7110

Locking Assembly dimensions									Transmissible torques or axial forces		Surface pressure		Locking screws			
											Shaft	Hub				
d x D	D_{B1}	D_3	d_1	L	L_1	L_4	L_8	T	F_{ax}	p_W	p_N	n_{Sc}	D_G	T_A	Gw
mm				mm				Nm	kN	N/mm²				Nm	kg
48 x 62	87	81,5	71,5	72	64	40	56	1870	78	120	95	8	M8	41	1,14
50 x 65	91	84,5	74,5	82	74	50	66	2430	97	115	90	10	M8	41	1,3
55 x 71	98	90,5	80	82	74	50	66	2670	97	105	80	10	M8	41	1,99
60 x 77	104	96,5	86	82	74	50	66	2920	97	95	75	10	M8	41	2,22
65 x 84	110	103,5	93	82	74	50	66	3160	97	90	70	10	M8	41	2,6
70 x 90	119	113	101	101	91	60	80	4330	123	85	70	8	M10	83	3,76
75 x 95	126	118,5	106	101	91	60	80	5310	142	90	75	9	M10	83	4,08
80 x 100	131	123,5	111	106	96	65	85	7580	190	110	85	12	M10	83	4,41
85 x 106	137	129,5	117	106	96	65	85	7990	190	100	80	12	M10	83	4,83
90 x 112	143	135,5	123	106	96	65	85	9960	222	110	90	14	M10	83	5,26
95 x 120	153	142,5	131	106	96	65	85	10500	222	105	85	14	M10	83	6,26
100 x 125	162	152,5	138	114	102	65	89	13600	273	125	100	12	M12	145	7,66
110 x 140	177	166,5	153	119	107	70	94	15000	273	105	80	12	M12	145	9,89
120 x 155	195	184,5	168	139	127	90	114	21800	364	100	75	16	M12	145	13,64
130 x 165	205	194,5	178	139	127	90	114	23700	364	90	70	16	M12	145	14,58

More sizes on request

Explanation

d = Inner diameter
D = Outer diameter
d_1 = Pitch circle diameter
D_{B1}/D_3 = Collar outer diameter
L = Overall length
L_1 = Overall length (without screws)
L_4 = installation length up to collar
L_8 = Length L_4 + length spacer bushing
T = Transmissible torque at given T_A
F_{ax} = Transmissible axial force
p_W = Surface pressure on shaft at given T_A
p_N = Surface pressure on hub at given T_A
n_{Sc} = Quantity of screws
D_G = Thread
T_A = Tightening torque of the clamping screws
Gw = Weight

Ordering example

Locking Assembly	d	D
RfN 7110	70	90

Technical Information

- Surface finishes: Shaft and hub bores $R_a \leq 1{,}6$ µm
- Tolerances: Shaft: h8 · Hub: H8

Further information on
RINGFEDER® RfN 7110
on **www.ringfeder.com**

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RINGFEDER POWER TRANSMISSION

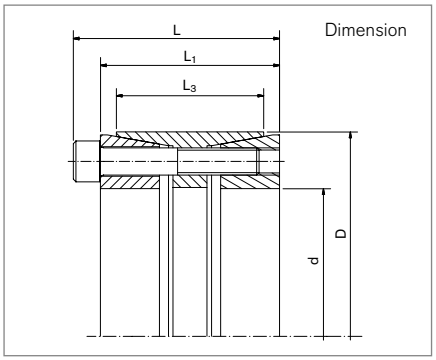
Locking Assemblies

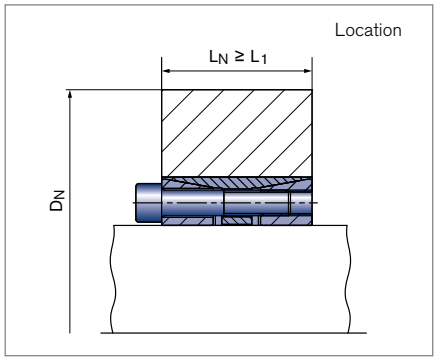
RINGFEDER® RfN 7515

Three piece Locking Assembly



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





Locking Assembly dimensions						Transmissible torques or axial forces		Surface pressure		Locking screws				$D_{N\,min}$ at $R_{p0,2}$		
								Shaft	Hub					200	300	400
d	x	D	L	L_1	L_3	T	F_{ax}	p_W	p_N	n_{Sc}	D_G	T_A	Gw	[N/mm²]		
mm			mm			Nm	kN	N/mm²				Nm	kg	mm		
60	x	95	58	50	42	4299	143	186	118	9	M8 x 40	41	1,5	138	122	115
70	x	110	70	60	50	7280	208	197	125	8	M10 x 50	83	2,7	164	143	134
80	x	120	70	60	50	10399	260	216	144	10	M10 x 50	83	2,7	191	162	150
90	x	130	70	60	50	12869	286	211	146	11	M10 x 50	83	2,9	209	177	163
100	x	145	82	70	60	18881	378	209	144	10	M12 x 60	145	4,3	231	196	182
110	x	155	82	70	60	20769	378	190	135	10	M12 x 60	145	4,7	239	205	191
120	x	165	82	70	60	24923	415	191	139	11	M12 x 60	145	5,0	258	221	205
130	x	180	91	79	65	34364	529	207	150	14	M12 x 70	145	6,6	293	246	227
140	x	190	91	79	65	39651	566	206	152	15	M12 x 70	145	7,0	312	261	241
150	x	200	91	79	65	42483	566	193	144	15	M12 x 70	145	7,1	319	270	250
160	x	210	91	79	65	48336	604	193	147	16	M12 x 70	145	7,9	338	285	264
170	x	225	106	92	78	65790	774	195	147	15	M14 x 80	230	11,1	362	306	283
180	x	235	106	92	78	69660	774	184	141	15	M14 x 80	230	11,6	370	315	292
190	x	250	116	102	88	78432	826	165	125	16	M14 x 80	230	14,8	372	324	303
200	x	260	116	102	88	92880	929	176	135	18	M14 x 80	230	15,4	401	344	320
220	x	285	126	110	96	116459	1059	173	133	15	M16 x 90	355	19,7	436	375	350
240	x	305	124	108	96	169394	1412	211	166	20	M16 x 90	355	21,2	528	432	394
260	x	325	127	111	96	183510	1412	176	141	20	M16 x 90	355	22,9	510	435	404
280	x	355	131	111	96	230199	1644	205	162	15	M20 x 90	690	28,9	604	497	456
300	x	375	131	111	96	263085	1754	204	163	16	M20 x 90	690	30,6	642	527	482
320	x	405	156	136	124	350780	2192	189	150	20	M20 x 110	690	46,3	658	552	510
340	x	425	156	136	124	372704	2192	178	143	20	M20 x 110	690	48,9	672	571	529
360	x	455	177	155	140	487557	2709	174	137	20	M22 x 130	930	67,5	706	604	562
380	x	475	177	155	140	514644	2709	164	132	20	M22 x 130	930	69,5	722	623	581
400	x	495	177	155	140	595903	2980	172	139	22	M22 x 130	930	72,7	772	659	612
420	x	515	177	155	140	682580	3250	179	146	24	M22 x 130	930	75,9	824	696	644

To continue see next page

Locking Assemblies RINGFEDER® RfN 7515

Locking Assembly dimensions						Transmissible torques or axial forces		Surface pressure		Locking screws				$D_{N\,min}$ at $Rp_{0,2}$		
								Shaft	Hub					200	300	400
d	x	D	L	L_1	L_3	T	F_{ax}	p_W	p_N	n_{Sc}	D_G	T_A	Gw	[N/mm²]		
mm			mm			Nm	kN	N/mm²				Nm	kg	mm		
440	x	535	177	155	140	715084	3250	170	140	24	M22 x 130	930	79,2	839	715	663
460	x	555	177	155	140	747588	3250	163	135	24	M22 x 130	930	83,0	854	733	683
480	x	575	177	155	140	812595	3386	163	136	25	M22 x 130	930	86,0	887	761	708
500	x	595	177	155	140	846453	3386	156	131	25	M22 x 130	930	90,0	903	779	727
520	x	615	177	155	140	985949	3792	168	142	28	M22 x 130	930	93,0	971	825	765
540	x	635	177	155	140	1023870	3792	162	138	28	M22 x 130	930	96,0	986	844	784
560	x	655	177	155	140	1137633	4063	167	143	30	M22 x 130	930	98,7	1037	880	816
580	x	675	177	155	140	1178263	4063	162	139	30	M22 x 130	930	102,0	1053	899	835
600	x	695	177	155	140	1218893	4063	156	135	30	M22 x 130	930	108,0	1068	917	854
620	x	715	177	155	140	1259522	4063	151	131	30	M22 x 130	930	112,0	1084	936	874
640	x	735	177	155	140	1300152	4063	146	128	30	M22 x 130	930	112,0	1101	955	893

More sizes on request

Explanation

d = Inner diameter
D = Outer diameter
L = Overall length
L_1 = Overall length (without screws)
L_3 = Width of ring
T = Transmissible torque at given T_A
F_{ax} = Transmissible axial force
p_W = Surface pressure on shaft at given T_A
p_N = Surface pressure on hub at given T_A
n_{Sc} = Quantity of screws
D_G = Thread
T_A = Tightening torque of the clamping screws
Gw = Weight
D_N min = Min. hub outer diameter depending of the given hub yield point Rp0,2

Ordering example

Locking Assembly	d	D
RfN 7515	150	200

Further information on
RINGFEDER® RfN 7515
on **www.ringfeder.com**

Technical Information

- The values for T, F_{ax}, p_W and p_N apply to Locking Assemblies installed in oiled condition.
- Surface finishes: Shaft bore $R_a \leq 1{,}6$ µm · Hub bore $R_a \leq 3{,}2$ µm
- Tolerances: Shaft: h8 · Hub: H8
- The outside diameter of the hub is calculated with factor C3 = 0.6. (see chapter „Calculation“ in Product Paper & Tech Paper „RINGFEDER® Locking Assemblies“).
- A reduction of the contact pressures and the transmission values by reducing the tightening torque of the screws is possible. Please contact our specialists for assistance.

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RINGFEDER POWER TRANSMISSION

Locking Assemblies

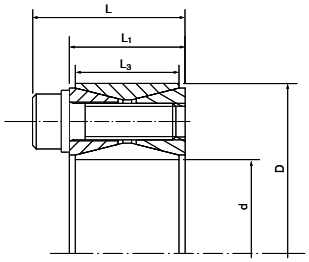
RINGFEDER® RfN 7012 stainless steel

Large transmittable forces and moments

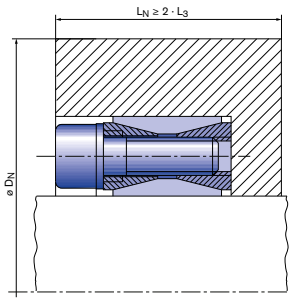


self-centering | **without axial displacement** | with low surface pressure

Dimensions



Location



Locking Assembly dimensions						Transmissible torques or axial forces		Surface pressure		Locking screws				$D_{N\,min}$ at $R_{p0,2}$			
								Shaft	Hub					200	300	400	
d	x	D	L	L_1	L_3	T	F_{ax}	p_W	p_N	n_{Sc}	D_G	T_A	Gw	[N/mm²]			T_{max}
mm			mm			Nm	kN	N/mm²				Nm	kg	mm			Nm
19	x	47	27,5	20	17	252	27	218	88	8	M6 x 18	14	0,24	63	57	55	269
20	x	47	27,5	20	17	265	26	206	88	8	M6 x 18	14	0,24	63	57	55	320
22	x	47	27,5	20	17	289	26	187	88	8	M6 x 18	14	0,23	63	57	55	350
24	x	50	27,5	20	17	353	29	191	92	9	M6 x 18	14	0,26	67	61	58	428
25	x	50	27,5	20	17	367	29	183	92	9	M6 x 18	14	0,25	67	58	61	445
28	x	55	27,5	20	17	408	29	162	83	9	M6 x 18	14	0,3	72	66	63	495
30	x	55	27,5	20	17	435	29	151	83	9	M6 x 18	14	0,29	72	66	63	528
32	x	60	27,5	20	17	617	39	188	100	12	M6 x 18	14	0,34	83	75	71	748
35	x	60	27,5	20	17	671	38	171	100	12	M6 x 18	14	0,32	83	75	71	815
38	x	65	27,5	20	17	906	48	196	114	15	M6 x 18	14	0,36	94	83	78	1100
40	x	65	27,5	20	17	950	48	185	114	15	M6 x 18	14	0,34	94	83	78	1153
42	x	75	33,5	24	20	1509	72	227	127	12	M8 x 22	35	0,6	113	98	92	1767
45	x	75	33,5	24	20	1610	72	211	127	12	M8 x 22	35	0,57	113	98	92	1885
48	x	80	33,5	24	20	1710	71	197	118	12	M8 x 22	35	0,62	117	103	97	2003
50	x	80	33,5	24	20	1777	71	189	118	12	M8 x 22	35	0,6	117	103	97	2081
55	x	85	33,5	24	20	2267	82	199	129	14	M8 x 22	35	0,63	129	112	104	2655
60	x	90	33,5	24	20	2460	82	181	121	14	M8 x 22	35	0,69	133	116	109	2880
65	x	95	33,5	24	20	3030	93	190	130	16	M8 x 22	35	0,73	144	125	117	3550
70	x	110	39,5	28	24	4581	131	207	132	14	M10 x 25	70	1,26	168	145	135	5431
75	x	115	39,5	28	24	4887	130	192	125	14	M10 x 25	70	1,33	172	150	140	5795
80	x	120	39,5	28	24	5192	130	179	120	14	M10 x 25	70	1,4	176	154	145	6155
85	x	125	39,5	28	24	6281	148	192	131	16	M10 x 25	70	1,49	190	164	153	7446
90	x	130	39,5	28	24	6627	147	181	125	16	M10 x 25	70	1,53	194	169	158	7856
95	x	135	39,5	28	24	7843	165	192	135	18	M10 x 25	70	1,62	209	179	167	7856
100	x	145	47	33	26	9591	192	196	135	14	M12 x 30	125	2,01	224	192	179	11125
110	x	155	47	33	26	10488	191	177	126	14	M12 x 30	125	2,15	231	201	189	12165

To continue see next page

Locking Assemblies RINGFEDER® RfN 7012 stainless steel

Locking Assembly dimensions						Transmissible torques or axial forces		Surface pressure		Locking screws				$D_{N\,min}$ at $Rp_{0,2}$			
								Shaft	Hub					200	300	400	
d	x	D	L	L_1	L_3	T	F_{ax}	p_W	p_N	n_{Sc}	D_G	T_A	Gw	[N/mm²]			T_{max}
mm			mm			Nm	kN	N/mm²				Nm	kg	mm			Nm
120	x	165	47	33	26	13004	217	184	134	16	M12 x 30	125	2,35	254	218	203	20325
130	x	180	52	38	34	17522	270	162	117	20	M12 x 35	125	3,51	261	229	216	20325
140	x	190	52	38	34	20661	295	164	121	22	M12 x 35	125	3,85	279	244	229	23966
150	x	200	52	38	34	24046	321	167	125	24	M12 x 35	125	4,07	298	259	243	27892

More sizes on request

Explanation

d = Inner diameter
D = Outer diameter
L = Overall length
L_1 = Overall length (without screws)
L_3 = Width of ring
T = Transmissible torque at given T_A
F_{ax} = Transmissible axial force
p_W = Surface pressure on shaft at given T_A
p_N = Surface pressure on hub at given T_A
n_{Sc} = Quantity of screws
D_G = Thread
T_A = Tightening torque of the clamping screws
Gw = Weight
D_N min = Min. hub outer diameter depending of the given hub yield point Rp0,2
T_{max} = Max. transmissible torque

Technical Information

- The Locking Assemblies are supplied slightly oiled and ready-to-use. The values for T, F_{ax}, p_W and p_N apply to Locking Assemblies in delivery condition.
- Surface finishes: For shaft and hub bore $R_a \leq 3{,}2$ µm
- Tolerances: Shaft: k9-h9 · Hub: N9-H9
  Max. permissible: Shaft: k11-h11; Hub: N11-H11
- To avoid excessive deformations of the relatively thickwalled thrust rings, the Locking Assembly should be located as symmetrically as possible between shaft and hub bore. If the shaft is smaller than nominal d, the bore should exceed nominal D to the same extent and vice versa. The concentricity quality is determined by the direct centering between shaft and hub.
- If several Locking Assemblies are to be installed the transmission values of the table can be added when the Locking Assemblies are located within a distance of 4 · L .
- The Locking Assemblies are generally equipped with screws of quality A4 BUMAX 109. A reduction of the screw tightening torque is possible. Please contact our specialists for assistance.
- To facilitate removal, the front thrust rings have auxiliary threads.
- The outside diameter of the hub is calculated with factor C3 = 0.6. (see chapter „Calculation“ in Product Paper & Tech Paper „RINGFEDER® Locking Assemblies“).

Ordering example

Locking Assembly	d	D	Further details
RfN 7012 stainless steel	**200**	**260**	**SST (=stainless steel)**

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

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Locking Assemblies

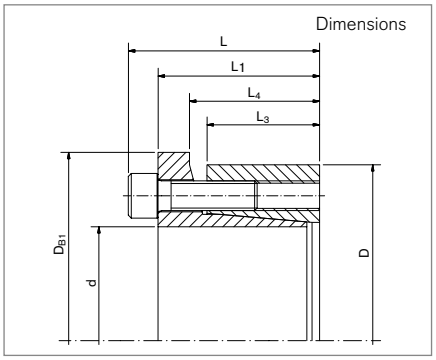
RINGFEDER® RfN 7013.1 stainless steel

Axial hub fixing, excellent concentricity and very easy to dismantle

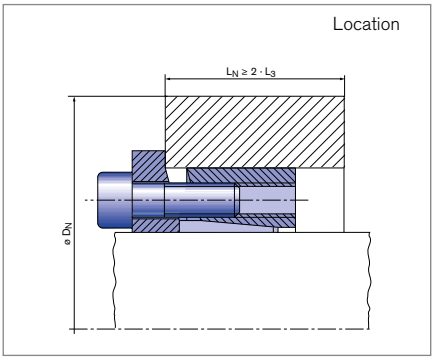


self-centering | **without axial displacement** | with low surface pressure

Dimensions



Location



Locking Assembly dimensions								Transmissible torques or axial forces		Surface pressure		Locking screws				
										Shaft	Hub					
d	x	D	D_{B1}	L	L_1	L_3	L_4	T	F_{ax}	p_W	p_N	n_{Sc}	D_G	T_A	Gw	T_{max}
mm			mm					Nm	kN	N/mm²				Nm	kg	Nm
19	x	47	53	37	31	21,7	25,7	199	21	232	69	6	M6 x 20	14	0,29	248
20	x	47	53	37	31	21,7	25,7	210	21	224	69	6	M6 x 20	14	0,29	262
22	x	47	53	37	31	21,7	25,7	231	21	201	69	6	M6 x 20	14	0,27	288
24	x	50	56	37	31	21,7	25,7	294	28	201	69	7	M6 x 20	14	0,31	367
25	x	50	56	37	31	21,7	25,7	308	28	224	85	7	M6 x 20	14	0,3	385
28	x	55	62	37	31	21,7	25,7	343	28	201	77	7	M6 x 20	14	0,36	428
30	x	55	62	37	31	21,7	25,7	371	28	186	77	7	M6 x 20	14	0,34	463
32	x	60	68	37	31	21,7	25,7	518	35	209	85	9	M6 x 20	14	0,41	647
35	x	60	68	37	31	21,7	25,7	567	35	193	85	9	M6 x 20	14	0,38	708
38	x	65	73	37	31	21,7	25,7	623	35	178	77	10	M6 x 20	14	0,44	778
40	x	65	73	37	31	21,7	25,7	685	35	170	77	10	M6 x 20	14	0,41	822
42	x	75	83	46	38	25,3	30,3	1211	56	232	100	9	M8 x 25	34	0,76	1513
45	x	75	83	46	38	25,3	30,3	1302	56	217	100	9	M8 x 25	34	0,7	1627
48	x	80	88	46	38	25,3	30,3	1386	56	209	100	9	M8 x 25	34	0,8	1732
50	x	80	88	46	38	25,3	30,3	1449	56	201	100	9	M8 x 25	34	0,76	1811
55	x	85	95	46	38	25,3	30,3	1778	63	209	108	10	M8 x 25	34	0,82	2222
60	x	90	100	46	38	25,3	30,3	1939	63	193	100	10	M8 x 25	34	0,88	2423
65	x	95	105	46	38	25,3	30,3	2506	77	201	108	12	M8 x 25	34	0,94	3132
70	x	110	120	60	50	33,4	40,4	3570	98	186	100	10	M10 x 35	66	2,1	4462
75	x	115	125	60	50	33,4	40,4	3822	98	178	93	10	M10 x 35	66	2,2	4777
80	x	120	130	60	50	33,4	40,4	4095	98	162	85	10	M10 x 35	66	2,3	5118
85	x	125	135	60	50	33,4	40,4	5215	126	178	100	12	M10 x 35	66	2,4	6518
90	x	130	140	60	50	33,4	40,4	5530	126	170	93	12	M10 x 35	66	2,6	6912
95	x	135	145	60	50	33,4	40,4	6930	147	201	116	15	M10 x 35	66	2,7	8662

To continue see next page

Locking Assemblies RINGFEDER® RfN 7013.1 stainless steel

Locking Assembly dimensions								Transmissible torques or axial forces		Surface pressure		Locking screws				
										Shaft	Hub					
d	x	D	D_{B1}	L	L_1	L_3	L_4	T	F_{ax}	p_W	p_N	n_{Sc}	D_G	T_A	Gw	T_{max}
mm			mm					Nm	kN	N/mm²				Nm	kg	Nm
100	x	145	155	68	58	40,8	47,8	7700	154	147	85	15	M10 x 35	66	3,7	9625
110	x	155	165	68	58	40,8	47,8	8470	154	139	85	15	M10 x 35	66	4	10587
120	x	165	175	68	58	40,8	47,8	10990	182	147	93	18	M10 x 35	66	4,3	13737
130	x	180	190	77	65	45,4	52,4	14490	224	147	93	15	M12 x 40	115	5,9	18112
140	x	190	200	77	65	45,4	52,4	15750	224	139	85	15	M12 x 40	115	6,3	19687
150	x	200	210	77	65	45,4	52,4	19950	266	155	100	18	M12 x 40	115	6,7	24937

More sizes on request

Explanation

- **d** = Inner diameter
- **D** = Outer diameter
- **D_{B1}** = Collar outer diameter
- **L** = Overall length
- **L_1** = Overall length (without screws)
- **L_3** = Width of ring
- **L_4** = Installation length up to collar
- **T** = Transmissible torque at given T_A
- **F_{ax}** = Transmissible axial force
- **p_W** = Surface pressure on shaft at given T_A
- **p_N** = Surface pressure on hub at given T_A
- **n_{Sc}** = Quantity of screws
- **D_G** = Thread
- **T_A** = Tightening torque of the clamping screws
- **Gw** = Weight
- **T_{max}** = Max. transmissible torque

Ordering example

Locking assembly	d	D	Further details
RfN 7013.1 stainless steel	**35**	**60**	**SST (=stainless steel)**

Further information on
RINGFEDER® RfN 7013.1 stainless steel
on **www.ringfeder.com**

Technical Information

- The Locking Assemblies are supplied slightly oiled and readyto-use. The values for T, F_{ax}, p_W and p_N apply to Locking Assemblies installed in the delivery condition.
- Surface finishes: Shaft and hub bores $R_a \leq 1{,}6$ µm
- Tolerances: Shaft: h8 · Hub: H8
- Arrangement only possible from 2 sides. If several Locking Assemblies are used to increase the transmission values the clamping systematization has to be considered.
- A change of the T_A-values given in the above table is not admissible.

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RINGFEDER POWER TRANSMISSION

Locking Assemblies

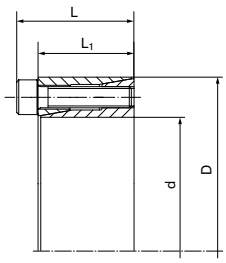
RINGFEDER® RfN 7061 stainless steel

Two piece, self-centering design

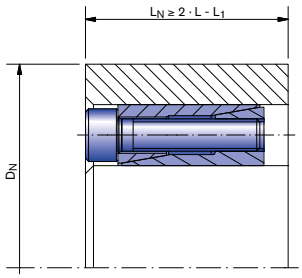


self-centering | without axial displacement | **with low surface pressure**

Dimensions



Location



Locking Assembly dimensions					Transmissible torques or axial forces		Surface pressure		Locking screws			
							Shaft	Hub				
d	x	D	L	L_1	T	F_{ax}	p_W	p_N	n_{Sc}	D_G	T_A	Gw
mm			mm		Nm	kN	N/mm²				Nm	kg
6	x	16	13,5	11	3	0,9	49	19	3	M2,5	0,5	0,012
6,35	x	16	13,5	11	3	0,9	49	19	3	M2,5	0,5	0,012
7	x	17	13,5	11	3	0,9	42	17	3	M2,5	0,5	0,013
8	x	18	13,5	11	4	0,9	37	17	3	M2,5	0,5	0,015
9	x	20	15,5	13	6	1,2	37	17	4	M2,5	0,5	0,02
9,53	x	20	15,5	13	6	1,2	37	17	4	M2,5	0,5	0,019
10	x	20	15,5	13	6	1,2	33	17	4	M2,5	0,5	0,019
11	x	22	15,5	13	7	1,2	30	15	4	M2,5	0,5	0,024
12	x	22	15,5	13	7	1,2	26	15	4	M2,5	0,5	0,022
14	x	26	20	17	19	2,5	57	30	4	M3	1,3	0,039
15	x	28	20	17	22	2,5	55	27	4	M3	1,3	0,044
16	x	32	21	17	38	4	71	35	4	M4	2,9	0,066
17	x	35	25	21	41	4	66	33	4	M4	2,9	0,092
18	x	35	25	21	44	4	63	33	4	M4	2,9	0,087
19	x	35	25	21	46	4	60	33	4	M4	2,9	0,084
20	x	38	26	21	82	8	77	41	4	M5	5,7	0,1
22	x	40	26	21	88	7	71	38	4	M5	5,7	0,11
24	x	47	32	26	193	15	108	41	4	M6	14	0,2
25	x	47	32	26	201	15	104	41	4	M6	14	0,19
25,4	x	47	32	26	205	15	100	41	4	M6	14	0,19
28	x	50	32	26	341	23	143	55	6	M6	14	0,2
30	x	55	32	26	364	23	135	52	6	M6	14	0,27
32	x	55	32	26	387	23	127	52	6	M6	14	0,25
35	x	60	37	31	565	23	127	52	8	M6	14	0,36
38	x	65	37	31	620	31	120	49	8	M6	14	0,43
40	x	65	37	31	651	31	112	49	8	M6	14	0,4

To continue see next page

Locking Assemblies RINGFEDER® RfN 7061 stainless steel

Locking Assembly dimensions					Transmissible torques or axial forces		Surface pressure		Locking screws			
							Shaft	Hub				
d	x	D	L	L_1	T	F_{ax}	p_W	p_N	n_{Sc}	D_G	T_A	Gw
mm			mm		Nm	kN	N/mm²				Nm	kg
42	x	75	44	36	930	42	127	49	6	M8	34	0,75
45	x	75	44	36	1007	42	120	49	6	M8	34	0,7
48	x	80	44	36	1433	58	151	63	8	M8	34	0,8
50	x	80	44	36	1472	58	143	63	8	M8	34	0,76

More sizes on request

Explanation

d = Inner diameter
D = Outer diameter
L = Overall length
L_1 = Overall length (without screws)
T = Transmissible torque at given T_A
F_{ax} = Transmissible axial force
p_W = Surface pressure on shaft at given T_A
p_N = Surface pressure on hub at given T_A
n_{Sc} = Quantity of screws
D_G = Thread
T_A = Tightening torque of the clamping screws
Gw = Thread

Ordering example

Locking assembly	d	D	Further details
RfN 7061 stainless steel	**25**	**47**	**SST (=stainless steel)**

Technical Information

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

Further information on
RINGFEDER® RfN 7061 stainless steel
on **www.ringfeder.com**

Disclaimer of liability
All technical details and notes 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 carry out modifications at any time in the interests of technical progress.

RINGFEDER POWER TRANSMISSION

Locking Assemblies

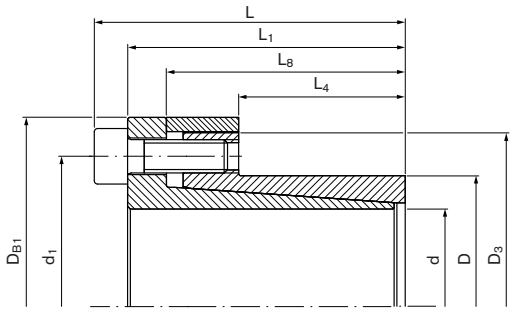
RINGFEDER® RfN 7110 stainless steel

Specially small dimensioned self-centering Locking Assembly without axial displacement



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

Dimensions



Locking Assembly dimensions										Transmissible torques or axial forces		Surface pressure		Locking screws			
												Shaft	Hub				
d	x	D	D_{B1}	D_3	d_1	L	L_1	L_4	L_8	T	F_{ax}	p_W	p_N	n_{Sc}	D_G	T_A	Gw
mm			mm							Nm	kN	N/mm²				Nm	kg
8	x	15	27	24	19	28	24	12	21	16	3,8	126	66	4	M4	2,9	0,06
9	x	16	28	25	20	31	27	14	23	18	3,8	93	55	4	M4	2,9	0,07
10	x	16	28	25	20	31	27	14	23	20	3,8	88	55	4	M4	2,9	0,06
11	x	18	32	28,5	23	31	27	14	23	28	5,5	99	60	4	M4	2,9	0,07
12	x	18	32	28,5	23	31	27	14	23	30	5,5	85	60	4	M4	2,9	0,07
13	x	23	38	33,5	28	31	27	14	23	33	5,5	82	46	4	M4	2,9	0,12
14	x	23	38	33,5	28	31	27	14	23	35	5,5	77	46	4	M4	2,9	0,12
15	x	24	44	39	31	42	36	16	29	85	13	99	63	3	M6	14	0,21
16	x	24	44	39	31	42	36	16	29	93	13	93	63	3	M6	14	0,2
17	x	26	45	41,5	33	44	38	18	31	127	17	104	74	4	M6	14	0,22
18	x	26	47	41,5	33	44	38	18	31	139	17	99	74	4	M6	14	0,24
19	x	27	48	42,5	34	44	38	18	31	147	17	93	68	4	M6	14	0,25
20	x	28	49	43,5	35	44	38	18	31	155	17	82	63	4	M6	14	0,25
22	x	32	53	47,5	39,5	51	45	25	38	178	16	63	44	4	M6	14	0,34
24	x	34	55	49,5	41,5	51	45	25	38	197	16	57	41	4	M6	14	0,36
25	x	34	55	49,5	41,5	51	45	25	38	197	16	55	41	4	M6	14	0,35
28	x	39	60	54,5	46	51	45	25	38	286	24	60	44	5	M6	14	0,43
30	x	41	62	56,5	48	51	45	25	38	368	24	68	49	6	M6	14	0,43
32	x	43	64	58,5	50,5	56	50	30	43	391	24	52	41	6	M6	14	0,46
35	x	47	68	62,5	54	56	50	30	43	573	32	66	49	8	M6	14	0,52
38	x	50	71	65,5	57	56	50	30	43	620	32	60	46	8	M6	14	0,61
40	x	53	74	68,5	60	58	52	32	45	736	41	60	46	9	M6	14	0,67
42	x	55	77	70,5	62	58	52	32	45	771	60	57	44	9	M6	14	0,74
45	x	59	85	78,5	68,5	72	64	40	56	1356	60	71	55	8	M8	34	1,12

To continue see next page

Locking Assemblies RINGFEDER® RfN 7110 stainless steel

Locking Assembly dimensions										Transmissible torques or axial forces		Surface pressure		Locking screws			
												Shaft	Hub				
d	x	D	D_{B1}	D_3	d_1	L	L_1	L_4	L_8	T	F_{ax}	p_W	p_N	n_{Sc}	D_G	T_A	Gw
mm			mm							Nm	kN	N/mm²				Nm	kg
48	x	62	87	81,5	71,5	72	64	40	56	1449	60	66	52	8	M8	34	1,14
50	x	65	91	84,5	74,5	82	74	50	66	1883	75	63	49	10	M8	34	1,3

More sizes on request

Explanation

d = Inner diameter
D = Outer diameter
D_{B1}/D_3 = Collar outer diameter
L = Overall length
L_1 = Overall length (without screws)
L_4 = installation length up to collar
L_8 = Length L_4 + length spacer bushing
T = Transmissible torque at given T_A
F_{ax} = Transmissible axial force
p_W = Surface pressure on shaft at given T_A
p_N = Surface pressure on hub at given T_A
n_{Sc} = Quantity of screws
D_G = Thread
T_A = Tightening torque of the clamping screws
Gw = Weight

Ordering example

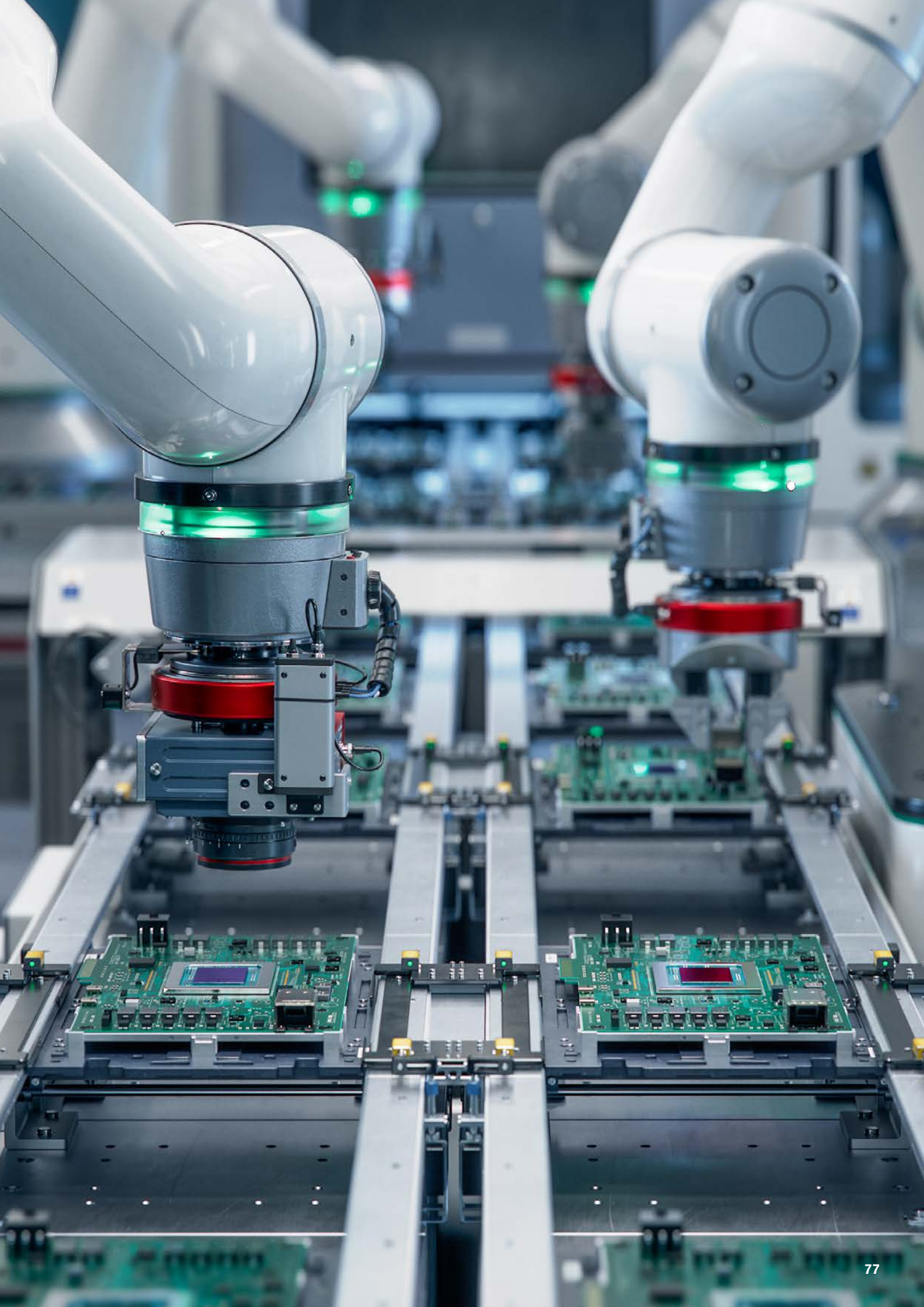
Locking Assembliy	d	D	Further details
RfN 7110 stainless steel	**25**	**34**	**SST (=stainless steel)**

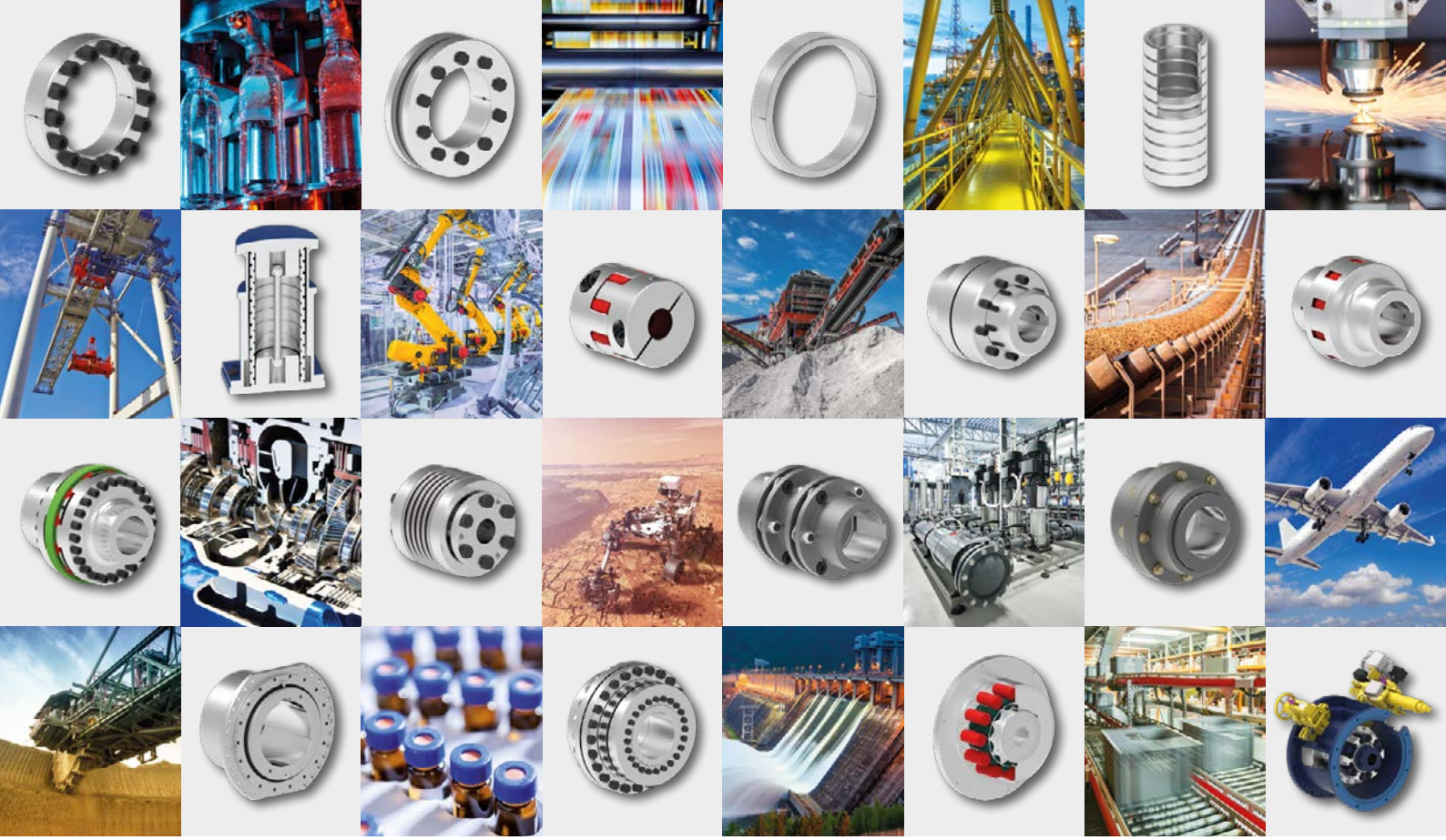
Technical Information

- Surface finishes: Shaft bores $R_a \leq 3{,}2$ µm · Hub bores $R_a \leq 1{,}6$ µm
- Tolerances: Shaft: h8 · Hub: H8

Further information on
RINGFEDER® RfN 7110 stainless steel
on **www.ringfeder.com**

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