04.2026

RINGFEDER POWER TRANSMISSION GMBH

Installation and Operating Manual
RLDM BAB series

RINGFEDER®

Steel Disc Couplings

RINGFEDER POWER TRANSMISSION GMBH
Werner-Heisenberg-Str.18
Tel: +49(0) 6078 9385-0
D-64823 Groß-Umstadt
www.ringfeder.com

Contents

1 Legal Information 4

2 Liability of RINGFEDER POWER TRANSMISSION GMBH 4

3 Safety Instructions 5

3.1 Legend 5

3.2 General Safety Instructions 6

3.3 EC Machinery Directive 2006/42/EC 6

4 Transportation, Delivery, and Storage 7

4.1 Transportation 7

4.2 Scope of Delivery 7

4.3 Delivery Condition 7

4.4 Storage 7

5 Technical Description 8

5.1 Intended use of the coupling 8

5.2 Layout 9

5.3 Hub types 10

5.4 Transmission unit 10

5.5 Transport lock items 11

5.6 DBSE measurement 11

6 Technical Data 12

7 Assembly 13

7.1 Before Installation 13

7.2 Finished Bore Instruction 14

7.3 Assembling Process 15

7.4 Tightening torque for screws 17

8 Disassembly / Replacement 18

8.1 Preparation for Handling and Lifting 18

8.2 Removal of the Transmission Unit 18

9 Alignment 19

9.1 Shaft alignment 19

9.2 Angular displacement....19
9.3 Axial displacement....20
9.4 Radial displacement....21
9.5 Relationship between axial, radial and angular misalignment....21
10 Start-up and Operation....22
11 Inspection and Periodic Maintenance....23
12 Malfunctions and their possible causes....24
13 Disposal....25

List of Tables

Table 1: Legend for Warning Symbols 5
Table 2: RLDM BAB components 9
Table 3: RLDM BAB technical data 12
Table 4: Set screw tightening torque 17
Table 5: Coupling bolt and Attachment bolt tightening torque 17
Table 6: Permissible angular misalignment 19
Table 7: Permissible axial misalignment 20
Table 8: Permissible radial misalignment 21
Table 9: Malfunctions and their possible causes 24

List of Figures

Figure 1: RLDM BAB components 9
Figure 2: RLDS BAB hub types 10
Figure 3: Transmission unit 10
Figure 4: Transport lock items 11
Figure 5: DBSE measurement 11
Figure 6: Pilot bore machining 14
Figure 7: Determining the angular offset 19
Figure 8: Measuring the distance dimension DBSE (mounted state) 20
Figure 9: Determining the radial offset 21

1 Legal Information

This installation and operation manual contains instructions that must be followed to ensure your personal safety and to prevent injury or damage to property.

Only qualified personnel are permitted to use the product or system to which this documentation applies. Please read and observe all related documents, especially the safety instructions and warnings.

2 Liability of RINGFEDER POWER TRANSMISSION GMBH

All contents of this document, including texts, graphics, and figures, are protected by copyright. Unless otherwise stated, the copyright is held by **RINGFEDER POWER TRANSMISSION GMBH** (hereinafter referred to as RPT). This document may not be copied, reproduced, shortened, or expanded, either in whole or in part, without prior consent from the manufacturer.

RPT reserves the right to modify these instructions as part of ongoing development and considering new findings.

- RINGFEDER® couplings must be used in accordance with the intended functionality described in the technical paper and this installation and operation manual.
- Third-party products or external components may only be used with prior approval from RPT.
- Proper transport, storage, positioning, assembly, installation, commissioning, operation, and maintenance are essential prerequisites for the fault-free and safe functioning of the products.
- The permissible environmental conditions must be observed.
- The design and dimensioning of the shaft-hub-connections are the responsibility of the user.
- For future development of the product, we reserve the right to make technical modifications.

3 Safety Instructions

This installation and operation manual describes the coupling and provides guidance on its use from assembly to disposal. Retain this manual for future reference. Read the instructions carefully before using the coupling and follow all guidelines provided. Always observe the safety instructions.

3.1 Legend

Table 1 displays all symbols used in this manual.

Table 1: Legend for Warning Symbols

Warning Notice	Symbol	Warning Message
General Mandatory Sign		Instructions marked with this symbol must be followed with particular care to ensure the correct operation of the coupling and consequently of the machine or system.
Warning of Personal Injury		This symbol indicates warnings that, if ignored, may result in serious or fatal injuries.
Warning of Product Damage		This symbol indicates warnings that, if ignored, may result in damage to the coupling or the system.
Warning of Suspended Load		This symbol warns of the risk of injury from falling loads being transported, e.g., by crane.
Warning of Crushing Hazard		This symbol indicates work steps where there is an increased risk of crushing injuries.
Warning for Hot Surface		This symbol warns of hot surfaces that may cause burns, avoid contact to prevent injury.
Torque Specification Notice		Refer to the table for the tightening torques before installation.
Heating or Cooling Required		This symbol indicates that a heating or cooling process is required for assembly and/or disassembly.

Cleaning		This symbol indicates that the surface and/or object must be cleaned of all contaminants that could hinder assembly and/or operation.
Inject Lubricant		This symbol indicates that the application of lubricant is required for proper operation and/or assembly of the coupling.
Recycling / Disposal		Any item to be recycled or disposed of must be handled in an environmentally friendly manner.

3.2 General Safety Instructions

Safe and trouble-free operation of the coupling is only ensured through familiarity with this manual. Failure to follow the instructions may result in damage to the product, property, and/or personal injury. RPT assumes no liability for damages or operational disruptions resulting from non-compliance with the manual.

During assembly, operation, and maintenance of the coupling, it must be ensured that the entire drive train is secured against unintentional activation. Rotating parts can cause serious injuries. Therefore, be sure to read and follow the instructions below:

- All work on and with the equipment must be carried out in accordance with safety regulations.
- In accordance with accident prevention regulations, all freely rotating parts must be protected against unintentional contact and falling objects by fixed protective devices.
- In case of a special coupling, the coupling design takes precedence.
- Unauthorized modifications to the coupling are not admissible. We decline any warranty due to consequent damage.
- Only use original spare parts from RPT.
- Visibly damaged parts must not be installed or put into operation.
- Note that improperly tightened screws can lead to serious personal injury and property damage.

3.3 EC Machinery Directive 2006/42/EC

The equipment supplied by RPT is a component and not a machine or incomplete machine within the meaning of the EC Machinery Directive 2006/42/EC. Accordingly, RPT is not required to issue a separate installation declaration.

4 Transportation, Delivery, and Storage

4.1 Transportation

Always use suitable transport equipment and lifting devices during transport to avoid injuries caused by falling components or crushing, as well as any kind of damage.

4.2 Scope of Delivery

Upon delivery, check for the presence of all items listed in the enclosed shipping documents. Any damaged or missing parts must be reported to the supplier immediately in writing.

4.3 Delivery Condition

The coupling is delivered pre-assembled, and the surfaces are lightly oiled to protect against corrosion.

4.4 Storage

Store the product in its original packaging. Under ideal conditions, the storage duration is unlimited.

- The coupling must not be exposed to aggressive media, extreme temperatures, or moisture.
- The coupling must not be stored together with acids, alkalis, or other corrosive chemicals.
- The storage location should be dry and dust-free. Humidity should not exceed 65%, and condensation must be avoided.
- The disc packs are made of stainless spring steel. They must not be exposed to any aggressive products, extreme temperatures or humidity.
- Do not store the disc packs along with acids, alkaline solutions or other caustic chemicals.

5 Technical Description

The RLDM series is a torsionally rigid steel disc coupling designed to transmit torque without backlash through flexible steel discs, which compensates for angular, radial and axial shaft misalignments within defined ranges.

The coupling is suitable for operation in either direction of rotation when installed in the horizontal position. For applications in the vertical position, a special design is required, consult RPT for more details.

The spacer can be radially mounted and dismounted without having to move the connected machines.

The RLDM BAB series complies with API 610/670 standards

5.1 Intended use of the coupling

The intended use of the coupling is to connect in- and output of a power transmission drive with each other, in most cases these are two shafts. For stationary applications additional equipment like brake drums, torque limiters, etc. can be added to the coupling and will not change the intended use.

- The coupling may only be used in accordance with the technical data sheet.
- In the case of special couplings, the coupling design takes precedence.
- The coupling shall only be used and operated within the frame of the conditions as defined in the performance or delivery contract.
- Any change in the operation conditions or service parameters requires the verification of the coupling design.
- Unauthorized modifications to the coupling are not admissible. We decline any warranty due to consequent damage.
- For future development of the product, we reserve the right to make technical modifications.

5.2 Layout

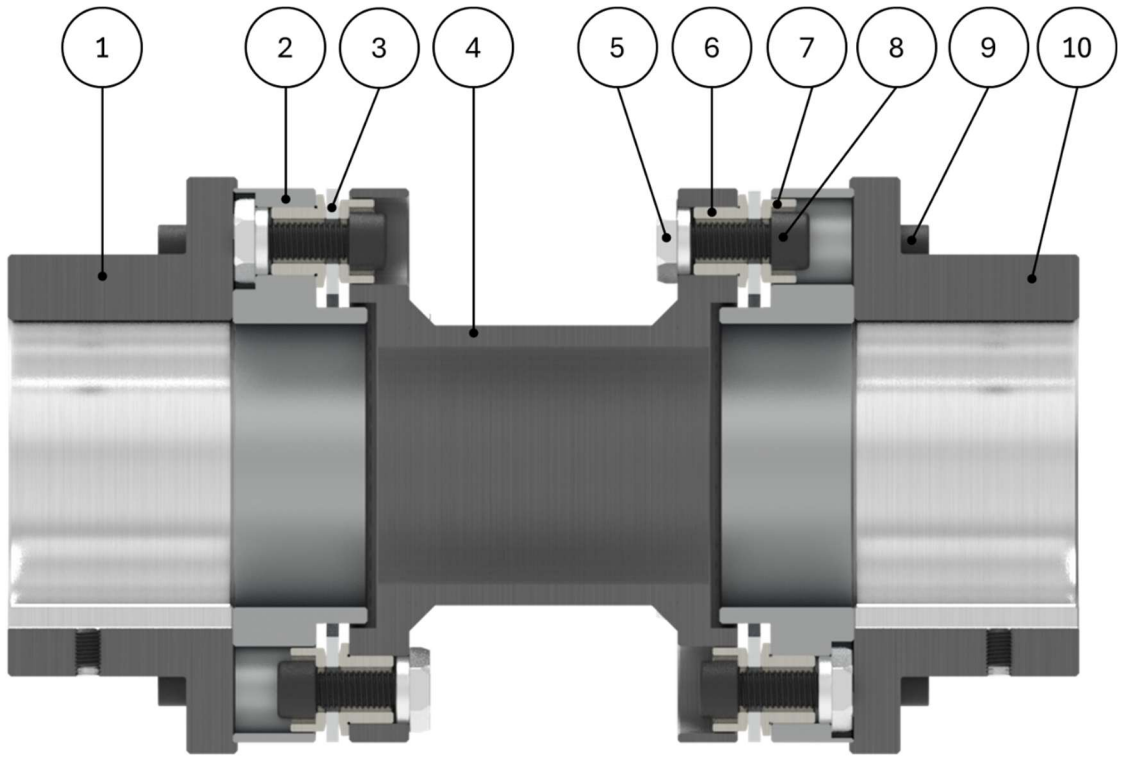


Figure 1: RLDM BAB components

Table 2: RLDM BAB components

Number	Component	Qty.
1	Hub type I	1
2	Adapter	2
3	Blade disc pack	2
4	Spacer	1
5	Locknut	12
6	Overload Collar	12
7	Overload Washer	12
8	Coupling bolt	12
9	Attachment bolt	12
10	Hub type I	1

5.3 Hub types

The RLDM BAB, compliant with API 610/670 standards, offers two hub types. Type I, which is the standard hub, while the hub type II accommodates larger bore diameters.

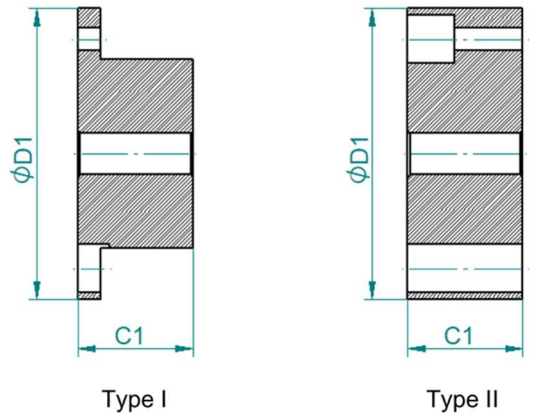


Figure 2: RLDS BAB hub types

For Type II hubs, larger Attachment bolts (Pos. 9) are supplied as part of the assembly kit.

5.4 Transmission unit

The RLDM BAB transmission unit is delivered from the factory ready for use, meaning no adjustments are required.

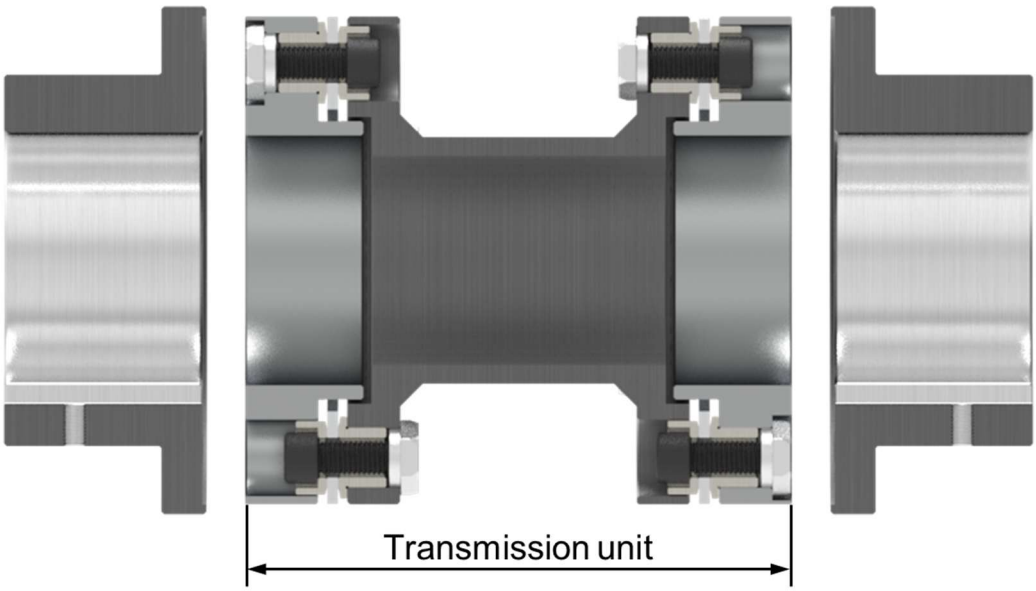


Figure 3: Transmission unit

5.5 Transport lock items

To prevent any damage during transportation and prior to installation, items Pos. 11 and 12 are supplied. Further details regarding these items will be provided during the coupling assembly and disassembly procedures.

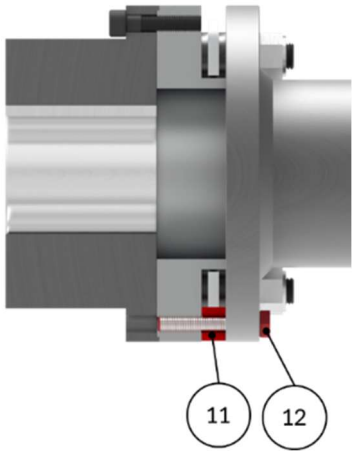


Figure 4: Transport lock items

Number	Component	Qty.
11	Transport spacer	6
12	Transport bolt	6

5.6 DBSE measurement

The DBSE shall be measured with reference to the inner faces of the hubs.

The following measurement references shall not be used for determining the DBSE:

- The overall length of the transmission unit.
- The shoulder face of the hub.

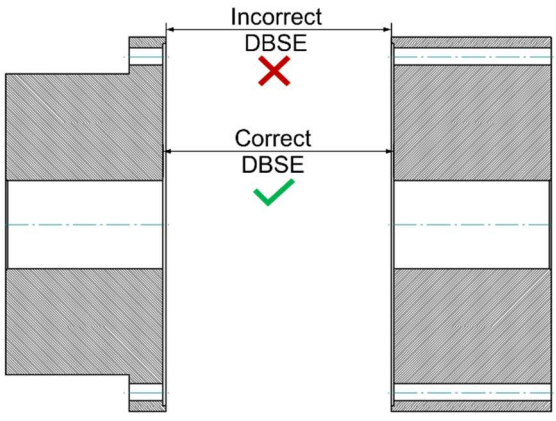


Figure 5: DBSE measurement

6 Technical Data

The summarized technical data and properties are provided below. For complete and updated data, please refer to the technical document “RINGFEDER® RLDM Steel Disc Couplings” this document is available for standard couplings at www.ringfeder.com.

- If an individual, order-specific customer drawing has been created for the RLDS coupling, the information contained there shall take precedence.
- Observe maximum speed and operating temperature. If operating conditions change (e.g., power, speed, start-up frequency, temperature, etc.), the coupling selection must be checked.

Table 3: RLDM BAB technical data

Size	T_{KN} [Nm]	T_{Kmax} [Nm]	n_{max} [1/min]	Max. bore diameter [mm]		H3 [mm]
				Hub type I	Hub type II	
13	124	310	25500	36	51	7.7
33	315	790	20000	46	70	8.5
75	716	1790	16500	65	90	8.9
135	1289	3220	14400	80	102	10.2
230	2196	5490	12000	90	121	10.2
350	3342	8360	10500	115	-	13.7
500	4775	11940	9500	127	-	14.5
740	7066	17670	8000	140	-	15.2
930	8881	22200	7000	155	-	16
1400	13369	33400	6000	172	-	17.5

7 Assembly

7.1 Before Installation

Check the coupling assembly for visible damage. If you find any damage, please contact RPT immediately.

Use suitable transport equipment and lifting devices for installation to prevent injuries caused by falling components or crashes, as well as any type of damage.
Ensure that the system is disconnected from the power supply and other possible energy sources before starting work!

The hub can be heated evenly between 80 °C and 120 °C to facilitate mounting on the shaft.
If this option is chosen, remember to use the correct equipment to avoid any damage due to burns.

Remove all protective coatings/lubricants from the individual components

To protect yourself from burns caused by hot components, always wear gloves when working!

For larger couplings, use suitable assembly aids and lifting equipment such as cranes.

The colors shown in the illustrations of this assembling process are only graphical representations. They are intended to improve the visualization of each step and do not reflect the final colors of the product.

7.2 Finished Bore Instruction

The finished bores of the hubs must be machined by the customer using the flange outside diameter as a reference.

Machining of the finished bore must strictly comply with the specified tolerance limits, such as H7 or JS9.

Keyway is to be slotted between two adjacent holes of hub as shown in fig. It is recommended that the distance ‘d’ should be half of the length through bore ‘LTB’.

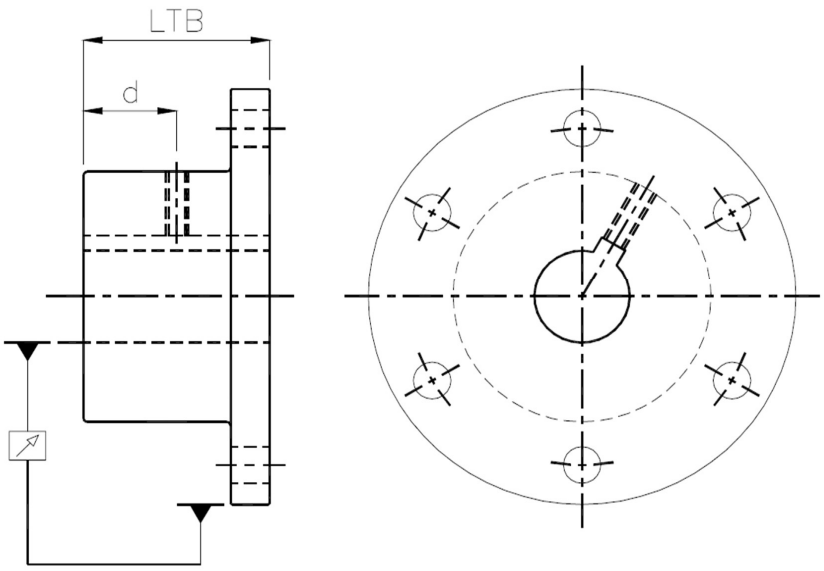


Figure 6: Pilot bore machining

7.3 Assembling Process

Step 1

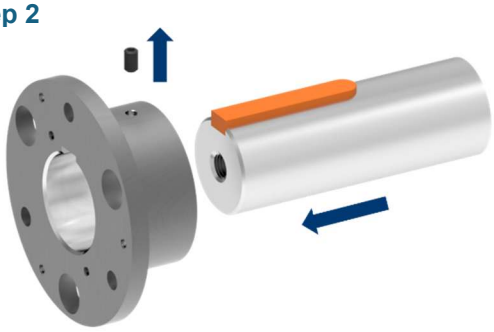
Carefully disassemble the hubs from the transmissible unit.

Do not disassemble the transmission unit.

Remove all protective coatings and lubricants from the hubs using appropriate cleaning agents.

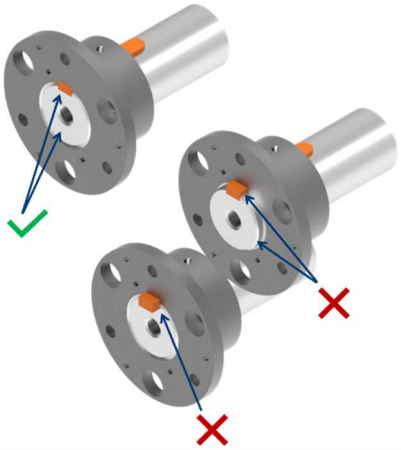
Ensure all surfaces are clean, dry, and free from contaminants before proceeding with assembly.

Step 2



Before mounting the hub, the Set screw must be turned out far enough so that there is no risk of collision with the key when the hub is pulled on.

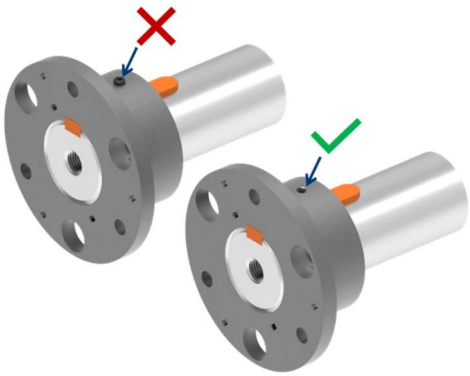
Step 3



Pull the coupling hubs onto the shaft ends in the designated position.

Mount the hub so that the shaft end is flush with the inner bore opening (See Figure 5 for more details).

Step 4



Install the specified key and Set screw so that they do not protrude beyond the shaft end and hub back.

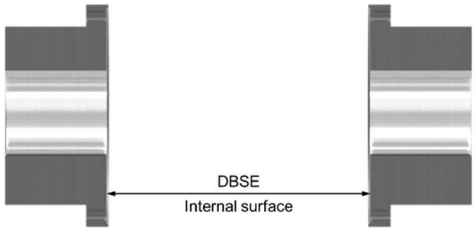
Install the Set screw with a tightening torque according to Table 4.

Step 5

The transport bolts (identified by the red color in the illustration) shall be slightly tightened in order to compress the transmission unit a little.

This step shall be carried out in order to facilitate proper assembly between the hubs.

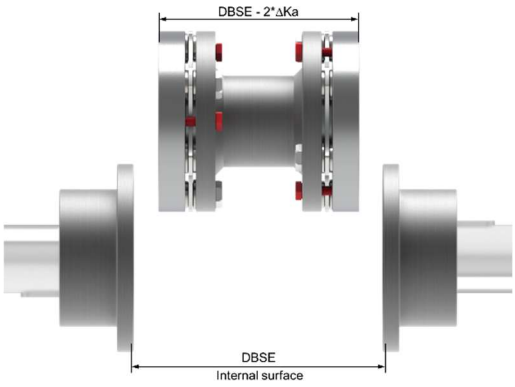
Step 7



The shaft ends with the pre-assembled hubs shall be pushed together until the installation dimension DBSE is reached.

At this point, the procedure described in Chapter 9 should be followed to ensure the hubs are positioned correctly.

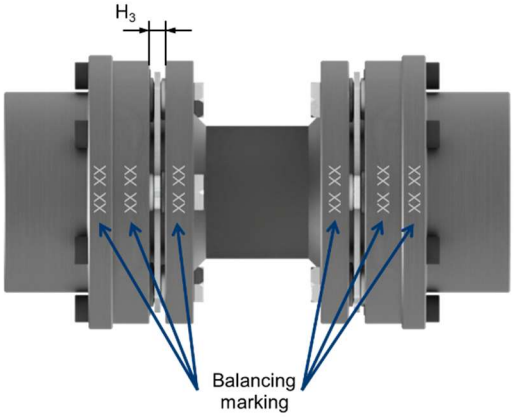
Step 8



The transmissible unit shall be shorter than DBSE. The required installation clearance Max. ΔK_a shall be taken from Table 7. The intermediate unit shall be positioned between the hubs.

The attachment bolts shall be tightened by hand only in order to temporarily secure the intermediate unit in position.

Step 9



For final assembly, the balance marks must be aligned, and the transport bolts must be removed.

All the attachment bolts can be installed, and the tightening procedure shall commence in accordance with Table 5.

Special attention shall be paid to dimension H3. The dimension shall not be less than the value specified in Table 3. The permissible variation shall not exceed one half of the allowable axial misalignment.

The tightening torque shall not be applied to the bolts in a single step.

The total specified tightening torque (Table 5) shall be applied in three (3) successive steps, with one third (1/3) of the final torque applied in each step. This procedure is mandatory in order to prevent improper load distribution and to avoid overloading of the components.

7.4 Tightening torque for screws

Table 4: Set screw tightening torque

Screw size	M5	M6	M8	M10	M12	M16
T_A [Nm]	8	15	20	25	35	75

Table 5: Coupling bolt and Attachment bolt tightening torque

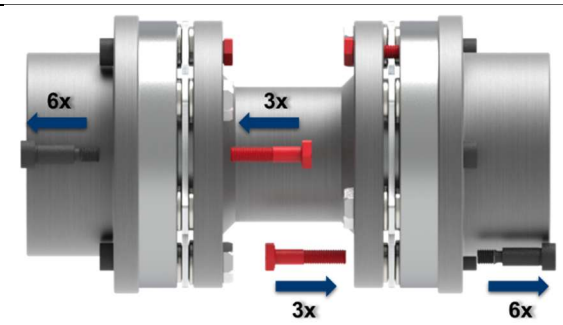
Coupling size	Coupling bolt		Attachment bolt	
	Bolt size	Tightening torque [Nm]	Bolt size	Tightening torque [Nm]
13	M6	11	M6	13
33	M8	23	M8	25
75	M10	47	M8	25
135	M12	75	M8	25
230	M14	130	M10	50
350	M16	150	M8	25
500	M18	205	M10	50
740	M20	285	M10	50
930	M22	380	M12	86
1400	M24	490	M12	86

8 Disassembly / Replacement

Use suitable transport equipment and lifting devices for disassembly to prevent injuries caused by falling components or crashes, as well as any type of damage.

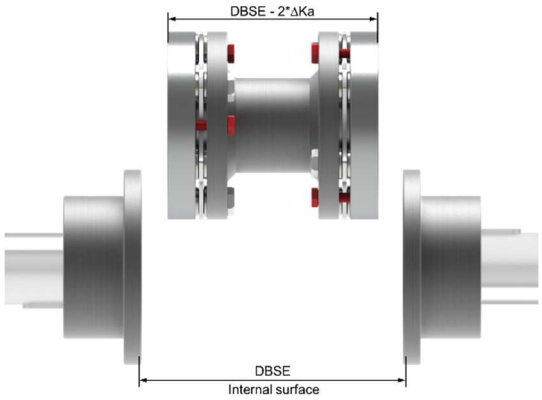
Ensure that the system is disconnected from the power supply and other possible energy sources before starting work!

8.1 Preparation for Handling and Lifting



- Remove six attachment bolts in order to install the six transport bolts (red components).
- Now the transmission unit shall be secured for safely being handled using a lifting device.

8.2 Removal of the Transmission Unit



- With the transmission unit securely supported, remove the remaining attachment bolts.
- Slightly compress the transmission unit by tightening the transport bolts.
- As a result, the distance between the end faces of the transmission unit shall be reduced to a value smaller than the DBSE, allowing the transmission unit to be removed axially.
- The shaft together with the hub may then be withdrawn, and the hub shall be removed.

9 Alignment

9.1 Shaft alignment

In order to achieve the optimum service life of the coupling, shafts must be aligned, and the initial misalignment should not be more than 25 % of the maximum misalignment.

The alignment procedure may be carried out prior to installation of the transmission unit.

9.2 Angular displacement

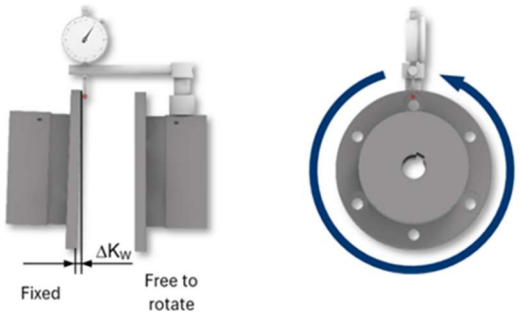


Figure 7: Determining the angular offset

Measure one complete revolution (360°) on the outer diameter at the end face. Determine the largest deviation Kw1 and the smallest deviation Kw2 (see Figure 7). Calculate the angular displacement ΔKw = Kw1 - Kw2.

When aligning, observe the maximum permissible angular displacement ΔKw according to the Table 6.

Table 6: Permissible angular misalignment

Coupling size	Initial ΔK_w		Max. ΔK_w	
13	0.125°	0.19 mm	0.5°	0.75 mm
33	0.125°	0.23 mm	0.5°	0.92 mm
75	0.125°	0.28 mm	0.5°	1.13 mm
135	0.125°	0.33 mm	0.5°	1.33 mm
230	0.125°	0.39 mm	0.5°	1.56 mm
350	0.125°	0.43 mm	0.5°	1.72 mm
500	0.125°	0.48 mm	0.5°	1.94 mm
740	0.125°	0.54 mm	0.5°	2.16 mm
930	0.125°	0.59 mm	0.5°	2.37 mm
1400	0.125°	0.65 mm	0.5°	2.59 mm

9.3 Axial displacement

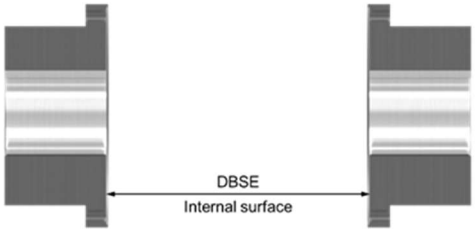


Figure 8: Measuring the distance dimension DBSE (mounted state)

For normal applications the shaft end should be flushed with inner face of the hub.

In some special cases the shaft ends may protrude beyond the inner face of the hub or may remain inside.

The distance between two faces of hub is to be maintained as specified. The variation in this distance should not exceed the permissible Max. (ΔK_a) given in Table 7.

Table 7: Permissible axial misalignment

Coupling size	Initial ΔK_a [mm]	Max. ΔK_a [mm]
13	±0.25	±1.00
33	±0.31	±1.25
75	±0.38	±1.50
135	±0.50	±2.00
230	±0.63	±2.50
350	±0.69	±2.75
500	±0.81	±3.25
740	±0.94	±3.75
930	±1.06	±4.25
1400	±1.25	±5.00

If larger axial deviations are expected during operation, e.g. due to thermal expansion or similar, the coupling can be installed with axial preload against the expected expansion. For this purpose, consultation with RPT is required if this has not been taken into account when designing the coupling.

During operation, the coupling should run stress-free with installation dimension "DBSE"

9.4 Radial displacement

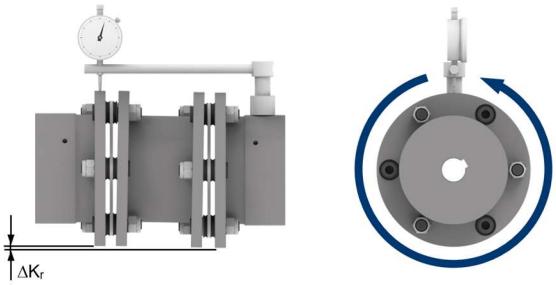


Figure 9: Determining the radial offset

Measure one complete revolution (360°) and determine the largest deviation Kr1 and the smallest deviation Kr2 (Figure 9). Calculate the radial displacement ΔKr = 0.5 x (Kr1 - Kr2) and take note of the measured values.

When aligning, observe the maximum permissible radial displacement as a function of the "DBSE" dimension.

ΔKr_{max} = DBSE/1000 [mm].

To check, you should also carry out this measurement in the second half of the coupling. If there are deviations, the alignment must be corrected accordingly.

Table 8: Permissible radial misalignment

Coupling size	Initial ΔK_r [mm]	Max. ΔK_r [mm]
13	0.25	1.00
33	0.31	1.25
75	0.38	1.50
135	0.50	2.00
230	0.63	2.50
350	0.69	2.75
500	0.81	3.25
740	0.94	3.75
930	1.06	4.25
1400	1.25	5.00

9.5 Relationship between axial, radial and angular misalignment

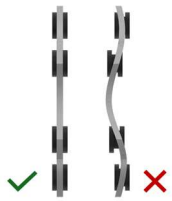
The specified maximum of axial, radial and angular misalignment must not occur simultaneously. The following relationship applies to dynamic running conditions must be considered.

$$\frac{\Delta Ka}{\Delta Ka_{max}} + \frac{\Delta Kw}{\Delta Kw_{max}} + \frac{\Delta Kr}{\Delta Kr_{max}} \leq 1$$

10 Start-up and Operation

Before proceeding, verify that the disc pack is parallel to the faces of both the hub and the spacer.

The disc pack must not operate at an angle relative to these faces, as misalignment can significantly reduce its service life and compromise system performance.



- Verify all tightening torques for the coupling and the foundation screw of the connected machine.
- Ensure that all protective enclosures (e.g., coupling guards, contact protection) are properly installed and secured.
- Be aware that overload conditions during startup cannot be ruled out. In the event of coupling failure due to overload, metal fragments may be ejected, posing a risk of personal injury and/or equipment damage.
- The coupling must operate quietly and without vibration. Any irregular behavior should be treated as a fault requiring immediate corrective action.
- If any abnormalities are observed during operation, shut down the drive system immediately and investigate the root cause.
- If the fault cannot be identified or resolved using available resources, it is recommended to contact RPT technical support for assistance.

11 Inspection and Periodic Maintenance

The RLDM coupling can be monitored both during operation and in idle conditions.

Perform a visual inspection every 3 months during idle periods or during scheduled maintenance.

After the first 2,000 operating hours, or within 3 months after initial startup (whichever comes first), visually inspect the disc packs for signs of damage such as cracks, dents, or deformation.

If no damage is detected, subsequent inspections may be carried out at intervals of 4,000 operating hours, or at least once per year, provided that operating conditions remain unchanged.

If damage is observed during the first inspection, refer to Chapter 12 to identify potential causes.

- Inspection intervals must be adapted to the actual operating conditions. Under special or severe conditions, more frequent inspections may be necessary.

During operation, monitor vibration and noise levels on both sides of the equipment. These should remain within specified limits to ensure safe and efficient performance.

During routine inspections or maintenance, check the following:

- Coupling alignment.
- Condition of the disc packs.
- Secure fit of all fastening elements in the disc packs.
- Removal of dust and debris from coupling components and disc packs.

12 Malfunctions and their possible causes

Table 9: Malfunctions and their possible causes

No.	FAILURE MODE	PROBABLE CAUSES	CORRECTIVE ACTIONS
1	Running noises Vibrations	Alignment fault	- Check disc packs for damage such as cracks, dents or similar damage, and replace them, if necessary. - Realign coupling.
1	Running noises Vibrations	Unbalance	- Check disc packs for damage, such as cracks, dents or similar damage, and replace them, if necessary - Verify balance state of plant components and correct it, if necessary
1	Running noises Vibrations	Loose screw connections	- Check coupling parts for damage, replace parts, if necessary. - Verify alignment of coupling. - Tighten nuts with the specified tightening torque.
1	Running noises Vibrations	Damaged disc packs	- Check coupling components for damage and replace parts, if necessary - Check alignment. - Verify coupling design. - Replace disc packs. - Verify balance state of plant components and correct it, if necessary
2	Cracking of disc packs	Excessive misalignments	- Remove cause for alignment fault. - Replace the disc pack. - Re-align coupling.

No.	FAILURE MODE	PROBABLE CAUSES	CORRECTIVE ACTIONS
3	Fatigue of disc packs	Torsional vibration	- Conduct a torsional vibration analysis
4	Elongation of the disc pack holes	Loose coupling bolts	- Change the disc pack on both sides. - Tighten the bolts to required tightening torque.
5	Deformation of the disc pack	Torque Overload, axial load	- Check sizing and Service Factor of Coupling. - Review operational history for any abnormalities. - Replace the disc pack.
6	Coupling bolt distortions	Torque Overload, axial load	- Check sizing and Service Factor of Coupling. - Review operational history for any abnormalities. - Replace all bolts.

13 Disposal

When disposing of coupling parts, observe the locally applicable legal regulations.

RINGFEDER POWER TRANSMISSION GMBH
Werner-Heisenberg-Straße 18, 64823 Groß-Umstadt, Germany · Phone: +49 6078 9385 0 · E-Mail: sales.international@ringfeder.com

M.A.T. MALMEDIE ANTRIEBSTECHNIK GMBH
Dycker Feld 28, 42653 Solingen, Germany · Phone: +49 212 25811 0 · E-Mail: sales@malmedie.com

RINGFEDER POWER TRANSMISSION SP. Z O. O.
Aleja Rodziny Gürtlerów 81, 41-700 Ruda Śląska, Poland · Phone: +48 32 301 53 00 · E-Mail: sales.poland@ringfeder.com

RINGFEDER POWER TRANSMISSION USA CORP.
291 Boston Turnpike, Bolton, CT 06043, USA · Toll Free: +1 888 746 4333 · Phone: +1 860 643 1531 · E-Mail: sales.usa@ringfeder.com

HENFEL INDÚSTRIA METALÚRGICA LTDA.
Av. Maj. Hilário Tavares Pinheiro 3447, Pq. Ind. Carlos Tonanni, CEP 14871-300, Jaboticabal, SP, Brazil · Phone: +55 16 3209 3422
E-Mail: vendas@henfel.com.br

RINGFEDER POWER TRANSMISSION AUSTRALIA PTY. LTD.
Unit 9/56 Smith Road, Springvale, VIC 3171, Australia · Phone: +61 3 9558 6922 · E-Mail: sales.australia@ringfeder.com

KUNSHAN RINGFEDER POWER TRANSMISSION CO. LTD.
No. 406 Jiande Road, Zhangpu 215321, Kunshan, Jiangsu Province, China · Phone: +86 512 5745 3960 · E-Mail: sales.china@ringfeder.com

RINGFEDER POWER TRANSMISSION INDIA PVT. LTD.
Gat. No. 144/145 Alandi Markal Road, Village Dhanore, Tal Khed, Alandi, Pune, 412105, India · Phone +91 2135 698200
E-Mail: sales.india@ringfeder.com

Partner for Performance

www.ringfeder.com

RINGFEDER
POWER TRANSMISSION