

Gear Couplings

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Characteristics of product families and types

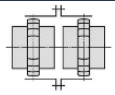
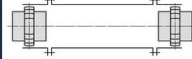
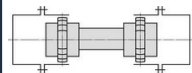
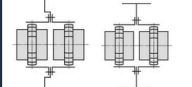
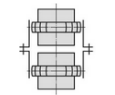
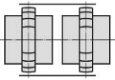
Gear Couplings

Product Family Characteristics

Characteristics \ Product Family	SB	SBk	LBk	HBk
Angular misalignment capacity (per coupling half)	1,5°	0,75°	0,75°	0,75°
Lubrication	Grease or Oil	Grease	Grease	Grease
Cover design	Bolted-on cover	Bolted-on cover	Integrated cover	Bolted-on cover
Large volume, leak-proof grease-reservoir	●	○	○	○
Large hub bores	○	●	●	●
Compact and light weight design	○	○	●	●

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Gear Couplings Design Alternatives

	Design	Product Family	SB	SBk	LBk	HBk	
	Basic design		SB	SBk	LBk		
	Basic design with retaining ring		SBR	SBRk	LBRkn		
	Spacer design		SBL	SBLk	LBLk		
	Spacer design with retaining ring		SRL	SRLk	LRLkn		
	Intermediate shaft design		SBG	SBGk	LBGk		
	Intermediate shaft design with retaining ring		SRG	SRGk			
	Design with brake disk for shoe brake		SBD	SBkD	LBkD		
	Design with brake disk for disk brake		SBT	SBkT	LBkT		
	Vertical design		VSB		VLBk		
	Design with one-piece coupling sleeve						HBk
	Electrical insulated design		SBi	SBki	LBki		
All series can further be optimized acc. to customer requirements: higher misalignments, torques, speed, ATEX Certificates, etc. Please contact our experts for further information.							

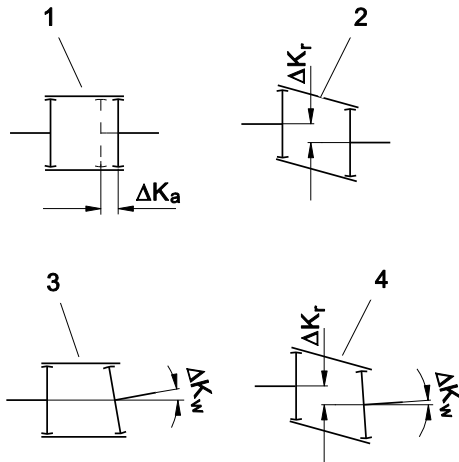
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**Details about characteristics
and designs**

Gear Couplings

Details about characteristics and designs



- 1 Axial misalignment
- 2 Radial misalignment
- 3 Angular misalignment
- 4 radial- and angular misalignment

Misalignment

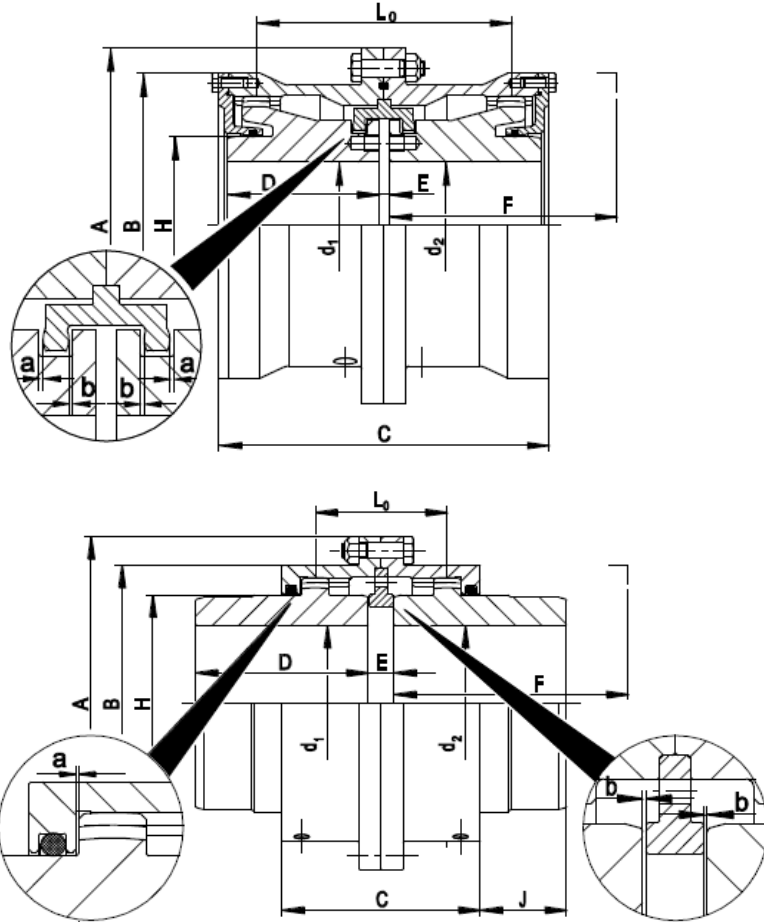
One of the main tasks of a coupling is to compensate errors in machine alignment. In the workshop, it is not impossible to align the machines so precisely that the shafts will run in alignment in all operating conditions. With rigid couplings, alignment errors will place additional, and sometimes major loads onto the machine bearing. Shaft misalignments result from misalignment errors and additional misalignments that may occur during operation. These include thermal expansion, shaft bending or by setting the foundations. Shaft misalignments are differentiated between axial, radial and angular misalignment. Flexible couplings can cater for all types of misalignment. In operation, a combination of all types of misalignment will occur usually.

The shafts of the machines should not be aligned too precisely to each other, since the coupling teeth require a certain offset to build up a lubricating film over the entire tooth. Information on the minimum misalignments of the individual couplings can be found in the respective operating instructions.

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Details about characteristics and designs



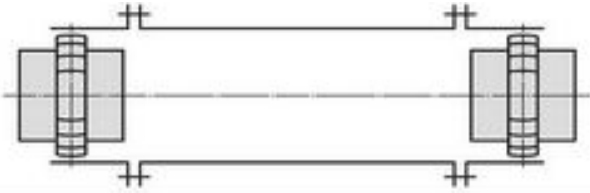
Retaining Ring (Axial- Limitation)

The electric motors of larger drive trains usually have no fixed bearings. In this case, the driven machine or the gearbox takes over the axial guidance of the motor shaft. The purpose of the guide is to prevent the motor shaft from colliding with the axial collars of the floating bearings and possibly damaging them when the motor is started or stopped. During operation, the motor shaft is guided by the magnetic field of the motor in its magnetic center. In order for the driven machine or gear unit to take over the axial guidance, the coupling has to be limited in its axial movement. In gear couplings, backlash limitation is achieved by installing a retaining ring. This ring guides the outer part of the coupling to the two hubs.

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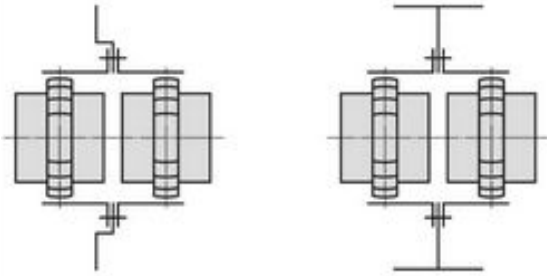
Spacer Design

In some system concepts it is necessary to increase the distance between the shaft ends of the driving and driven machine. Couplings with spacers are used to bridge this distance. Spacers are designed as tubes with connecting flanges. These spacers are mounted in between the clutch housings on the input and output side by means of fitting bolts. Couplings with spacer design offer the advantage that the required distance can only be achieved with one additional component (spacer) and additional set of fitting bolts and nuts. This variant of increasing the distance can also be retrofitted to existing systems. Due to the tube design of the intermediate piece, the weight remains relatively low. Intermediate piece designs, allow disassembly of the coupling without dismantling the shafts or moving the machines normally.

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Design with brake disk for shoe brake or disk brake

Many drive concepts provide the possibility of an emergency stop.

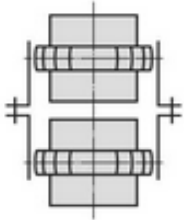
This can be realized by an integrated brake in the coupling. Both disc- or drum- brakes can be realized. RENK couplings are available with both designs, straight brake disc and cranked version.

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Vertical design

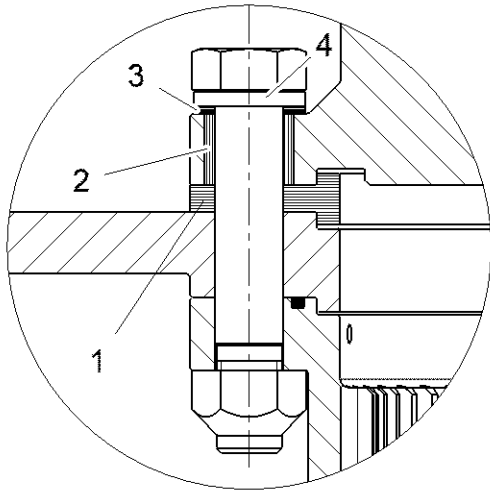


For use in vertical applications such as ring rolling mills, thruster drives, or pump applications, the couplings used must be equipped with additional retaining plates to prevent the housings from touching the hub below. In this way it is ensured that the misalignment capability is maintained. RENK couplings are equipped with retaining plates and pressure plates for this purpose. The retaining plates are connected to the coupling housings and will keep them in position.

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Details about characteristics and designs



Electrical insulated design

In order to avoid current passage between the machines, the coupling are available in an electrical insulated design. Thus both machines are electrically separated. RENK uses high-strength insulating made of composite material, which is installed between the coupling housings as well as on the fitting bolts. The electrical insulation has no effect on the torque transmission capacity of the coupling. RENK couplings can also be retrofitted with electrical insulation oftenly.

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Further information

Further information



RENK homepage and product catalogues

You find further information about our coupling products on our [homepage](#).

The download sector contains the product catalogue “RENK coupling solutions” with further information about our product range and industry sector specific solutions

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**Need further support?
Contact RENK directly**

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Contact Details

It is our pleasure to support you.

If you have further questions with regard to the selection of couplings or the handling of the coupling configurator,

please contact our expert **Mr. Marcel Krottenthaler**:

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Mail: Marcel.Krottenthaler@renk.com

We look forward to your feedback!

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