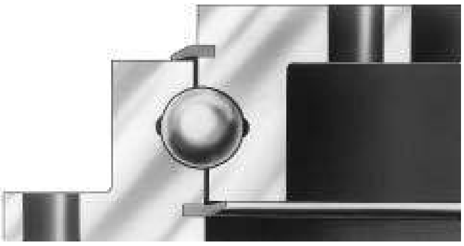
Bearing design types.

Rothe Erde
Slewing
Bearings

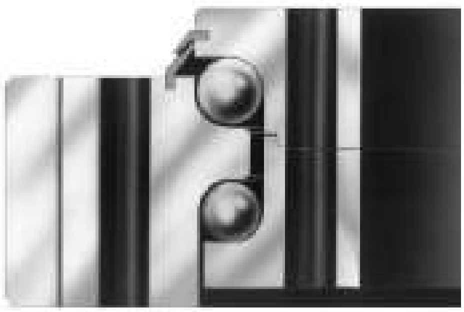
Standard series KD 210

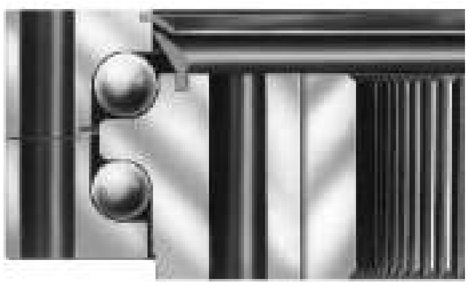
Single-row ball bearing slewing rings Profile bearings



Standard series KD 320

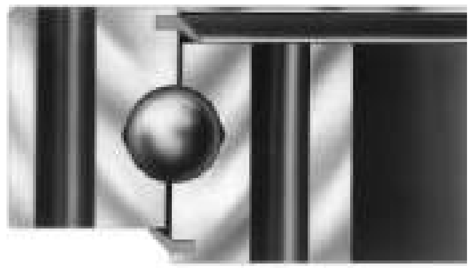
Double-row ball bearing slewing rings Double-axial ball bearings

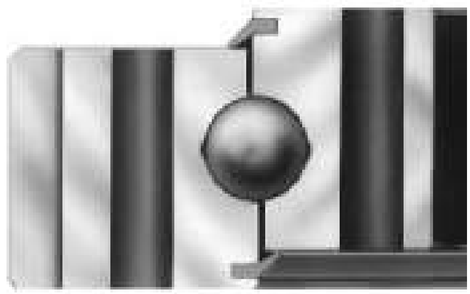


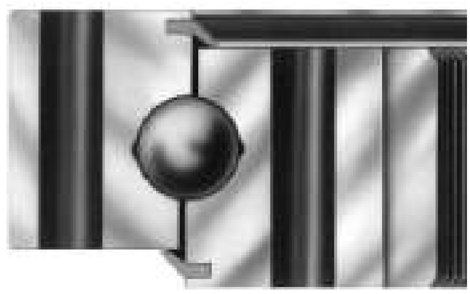


Standard series KD 600

Single-row ball bearing slewing rings Four-point contact bearings







KD 210 standard bearing types 21 and 110 KD 320 standard bearings are available
KD 600 standard bearings are available
are available

- without gear
- with external gear
- with internal gear

- without gear
- with external gear
- with internal gear

- without gear
- with external gear
- with internal gear

- drawing position = mounting position

Type 13 is supplied
- without gear

Applications:
e.g. vehicle construction,
general mechanical engineering.

Applications:
e.g. mechanical handling, mining and materials handling.

For bearings with similar dimensions as type 21, but with higher load capacities: see standard series KD 600, Pages 90 and 91.

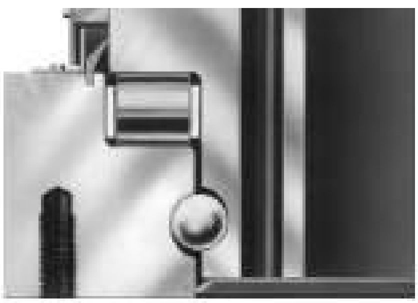
Applications:
e.g. hoisting and mechanical handling, general mechanical engineering.

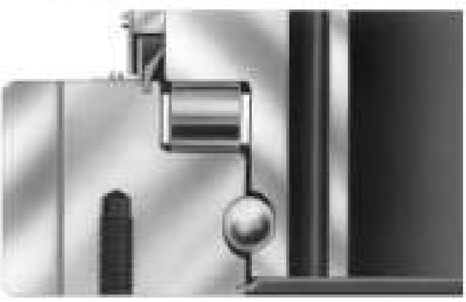
®

Bearing design types.

Standard series RD 700

Double-row slewing rings
slewing rings
Roller/ball combination bearings

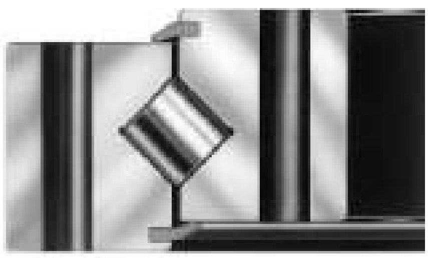


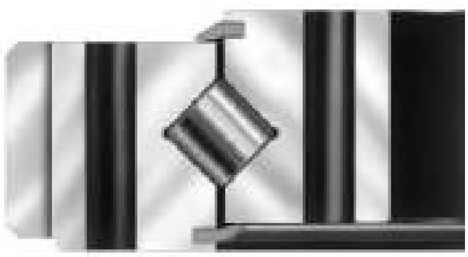


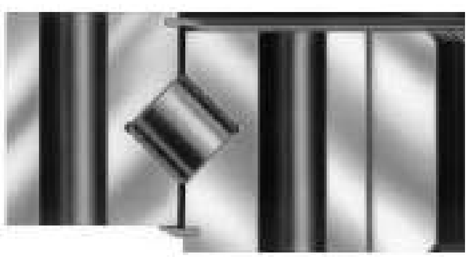
Standard series RD 800

Single-row roller bearing

Cross-roller bearings

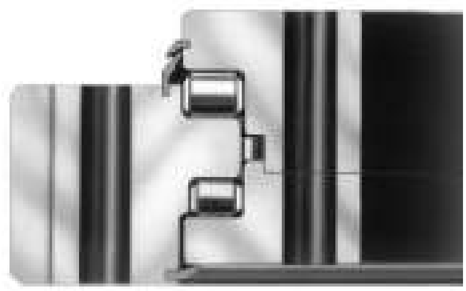


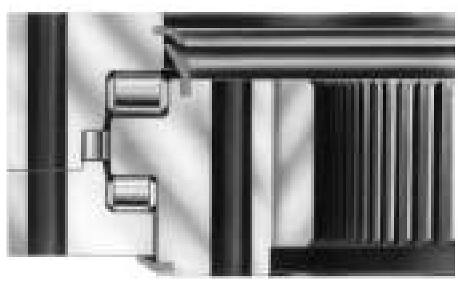




Standard series RD 900

Three-row roller
bearing slewing rings
Axial-roller bearings





RD 700 standard bearings are available RD 800 standard bearings are available RD 900 standard bearings are available

- without gear •without gear •without gear
- with external gear •with external gear •with external gear
- with internal gear •with internal gear •with internal gear
- drawing position = mounting position •drawing position = mounting position

Applications: Applications: Applications:
e.g. mining and materials handling. e.g. hoisting and mechanical handling, general e.g. hoisting, mechanical handling, mining mechanical engineering. and materials-handling, offshore technology, general mechanical engineering.

Rothe Erde large-diameter antifriction bearings are ready for installation, transmitting axial and radial forces simultaneously as well as the resulting tilting moments.

Fig. 1:
Large antifriction bearings are generally installed supported on the lower companion structure.

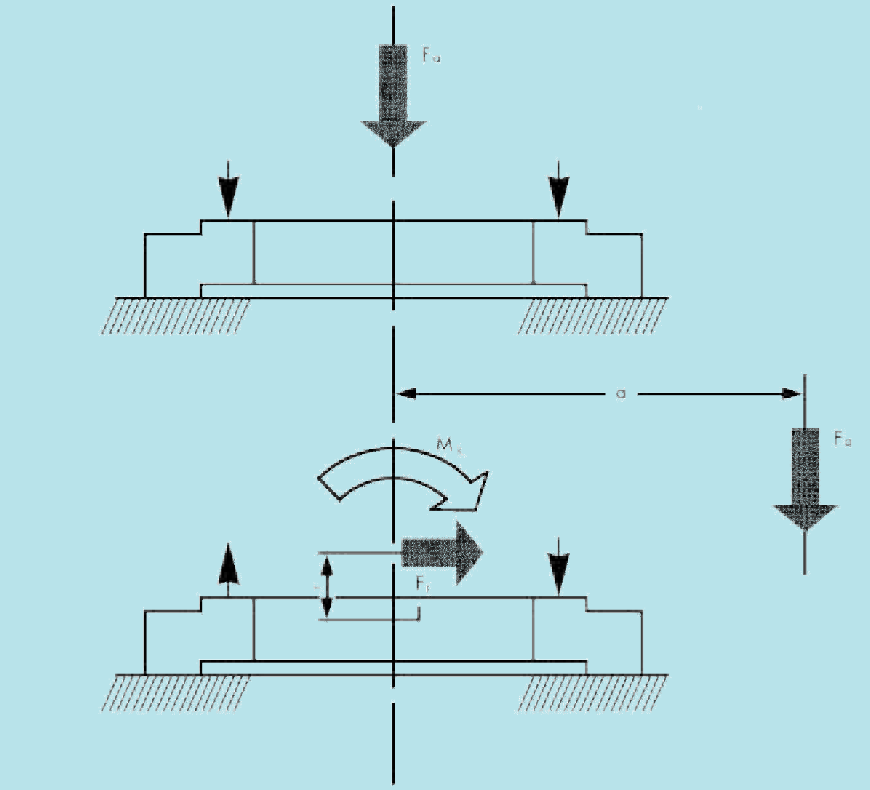


Fig. 1

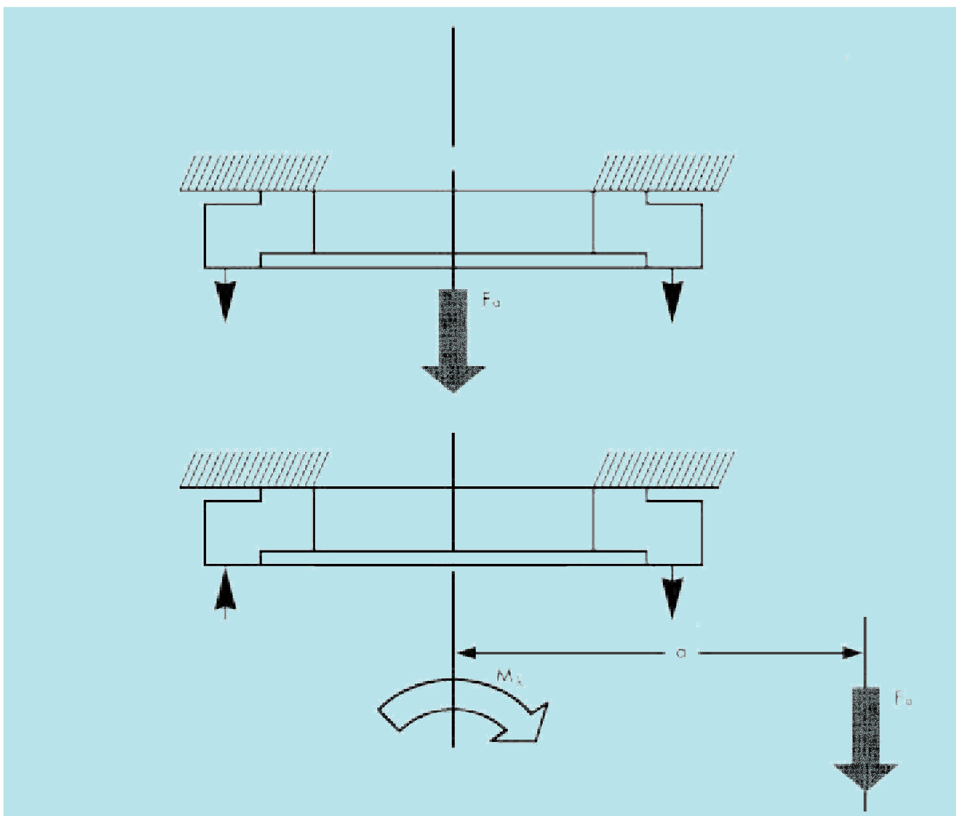


Fig. 2:
Suspended installations require an increased number of fastening bolts. The bolt curves shown in the diagrams do not apply in such a case. Calculation to be carried out by RE.

Fig. 2

The maximum load must be determined using the formulae listed opposite.

1 Lifting load at maximum radius

The loads thus determined must be multiplied by the load factors (see Table 1, Page 11) before the bearing can be selected.

The following factors will apply to the examples given:

Cargo duty: Load factor $f_{stat.} = 1.25$

Grab duty: Load factor $f_{stat.} = 1.45$

1.1) Max. working load including wind:

Axial load $F_a = Q_1 + A + O + G$

Res. moment $M_k = Q_1 \cdot l_{max} + A \cdot a_{max} + W \cdot r - O \cdot o - G \cdot g$

1.2) Load incl. 25% test load without wind:

Axiallast $F_a = 1,25 \cdot Q_1 + A + O + G$

Res. Moment $M_k = 1,25 \cdot Q_1 \cdot l_{max} + A \cdot a_{max} - O \cdot o - G \cdot g$

2 Lifting load at minimum radius

2.1) Max. working load including wind:

Axial load $F_a = Q_2 + A + O + G$

Res. moment $M_k = Q_2 \cdot I_{min} + A \cdot a_{min} + W \cdot r - O \cdot o - G \cdot g$

2.2) Load incl. 25% test load without wind:

Axial load $F_a = 1,25 \cdot Q_2 + A + O + G$

Res. moment $M_k = 1,25 \cdot Q_2 - I_{min} + A \cdot a_{min} - O \cdot o - G \cdot g$