

# Rod ends, maintenance free

## Notes on storage, construction, mounting, transport, operation, control, and maintenance

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### 1 Storage

ASKUBAL rod ends and spherical plain bearings are provided with a corrosion protection agent and can be stored in the original packaging at temperatures between 10°C and 40°C and a relative humidity of less than 60% for several years. During storage, care must be taken to ensure that the cartons are not exposed to direct sunlight, otherwise the storage temperatures may be exceeded.

### 2 Construction

Determine forces and direction of force (axial/radial) during standstill and operation, take max. tilt angle into account.

Determine special forces and direction of force (axial/radial) during overload, blocking and transport of the machine.

Determine ambient conditions (temperature, dust, vibrations.....).

Determine bearing clearance, shaft tolerance (consider operating temperature)

Select safety factors depending on the worst case of damage.

Calculate strength and static load rating for the rod end.

Carry out a service life calculation and determine the maximum speed.

For all calculations, consider the direction of force (radial/axial) and ensure that the permissible axial/radial ratio is not exceeded and that the forces are not too high in absolute terms.

#### Attention:

**Warning: These bearings have a sliding film with PTFE sliding layer. This sliding layer is inert and completely non-toxic. At temperatures above 320°C it decomposes and is extremely toxic even in small quantities, even after cooling. The bearings should therefore not be heated above 150°C.**

### 3 Mounting

#### 3.1 Before mounting

Shaft or bolt must be free of burrs.

All parts must be clean and dust-free.

Do not touch bare metal surfaces with bare hands, risk of corrosion.

#### 3.2 Mounting

Press in / press out shaft or bolt only with even pressure on the inner ring. Screw the rod end with the thread and secure it against loosening according to the design. Follow the instructions of the machine designer for the tightening torque.

#### Attention:

- **Never direct installation forces via sliding surface (e.g., do not press on the housing when pressing the bolt into the bore).**
- **Never install or remove by hammering or knocking.**
- **When pressing in the bolt, make sure that it cannot become misaligned.**
- **Never install or remove by hammering or knocking.**
- **When pushing in the bolt, make sure that it cannot get bent.**

#### 3.3 Testing after mounting

Check the mobility of the inner ring. If necessary, check the definition of the bearing clearance.

Check the mounting position of the rod end in relation to the shaft to prevent the bearing from tilting too much.

### 4 Operation

**The temperature of the unit must be between -10°C and 80°C during operation.**

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### 4.1 Control

The following points should be checked:

Noise and vibration of the bearing during operation.

Increase in bearing air, excessive wear,  
damage to the inner or outer ring

### 4.2 Lubrication

The spherical plain bearings have a sliding film that is characterized by low friction and makes lubrication unnecessary. Therefore, maintenance-free operation is possible.

**For further questions, we recommend our knowledgebase at [www.askubal.de](http://www.askubal.de)**