# Assembly

## Assembly instructions

After assembly, there must be slip between the inner bush and outer bush of the spherical bearing. To achieve this, the inner bush should be firmly fixed to the shaft, and the outer bush fixed to the housing in which it is fitted.

**1)** Fitting the spherical bearing in its housing

To ensure correct operation, it is important to comply with adjustments when fitting. It is advisable to tighten spherical bearings in their housing in accordance with the values in the following table:

| Size | Self-lubricated spherical bearings | Metal/Metal spherical bearings |
|---|---|---|
| **2 to 4** | 0.000 to 0.010mm | 0.005 to 0.015mm |
| **5 to 8** | 0.005 to 0.015mm | 0.010 to 0.020mm |
| **10 to 16** | 0.005 to 0.020mm | 0.010 to 0.025mm |
| **18 to 30** | 0.005 to 0.025mm | 0.010 to 0.030mm |

Parts should be assembled using a press. Tooling used should ensure perfect alignment of the axis of the spherical bearing and the axis housing when assembling. There should be a 10 to 20°chamfer on the housing so as to facilitate seating.

Caution:
The fixture of the spherical bearing in its housing is not under any circumstances a mechanical stop keeping the spherical bearing from movement due to an axial loading.
To prevent the cage from slipping, bearing surfaces or stop segments should be provided or it must be crimped.

**2)** Fitting the shaft in the bush

For self-lubricated spherical bearings, it is essential that the shaft is dry-fitted. An m6 adjustment will be used for the standard and stainless steel series with steel/steel friction contact, and a k6 adjustment for all other lines.

Incorrect assembly can adversely affect the life of the spherical bearing. A very high proportion of failures directly related to incorrect assembly.
Here are some examples of common mistakes:

- Adjustment too tight between the spherical bearing and the housing.
- Unsuitable tools used for assembly
- Excess force applied when assembling.

## Materials

The materials of the different constituents of Unibal standard spherical bearings, shown on the following pages, are given as an indication.
We reserve the right to change them for other materials with similar properties that do not alter the mechanical characteristics of spherical bearings.