



## Split spherical roller bearings

Costs savings through rapid bearing replacement at difficult to access bearing locations

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# Rapid bearing replacement · Cost savings · Application examples

## Rapid bearing replacement at difficult to access locations

Split spherical roller bearings are principally used where the replacement of unsplit spherical roller bearings would require costly additional work, involving the removal of gears or couplings, the dismantling of drives or the dismantling of shaft power trains. The use of split spherical roller bearings reduces the downtime of machinery and plant.

## Application examples

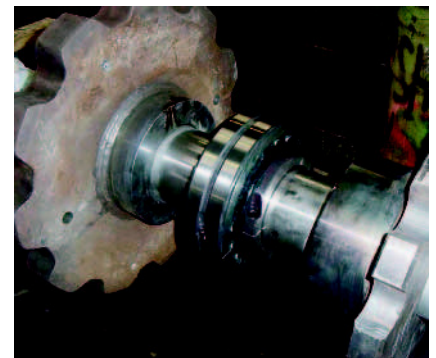
Split spherical roller bearings are essentially used on shafts supported at several points and locations that are difficult to access. Typical areas of application include conveying equipment, materials processing plant, ventilation plant, rolling mills, ships and paper machinery.

Application examples in mining and materials processing:

- Bucket wheel excavators and reclaimers
- Winches and sheaves
- Worm conveyors
- Bucket conveyors and belt conveyors
- Mixing and stirring plant
- Mills and crushers
- Sintering plant, drum type kilns
- Fans and ventilators
- Dust extraction plant
- Drive and transmission shafts



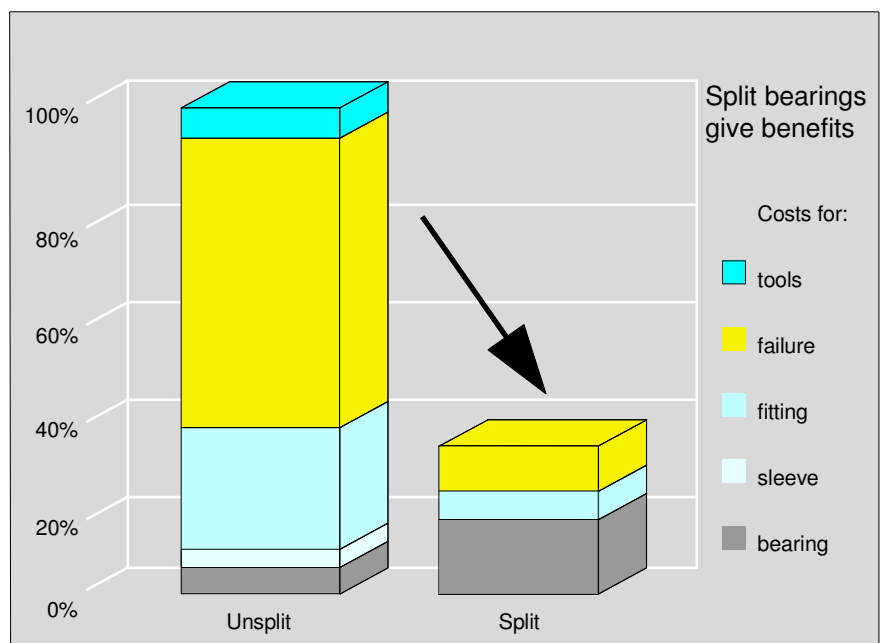
Bearing arrangements in comminution and processing plant



Drive bearing arrangements in conveying and transport equipment

## Cost savings

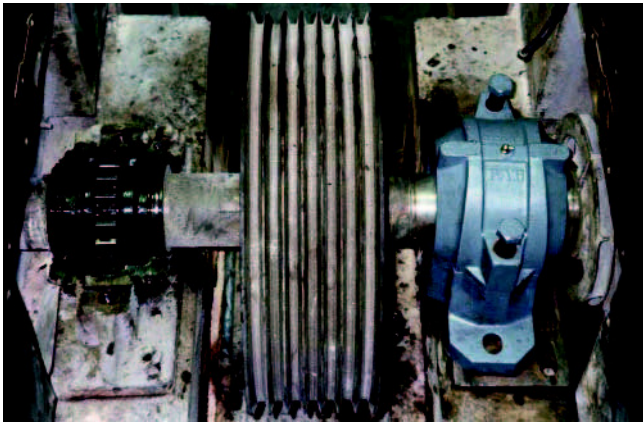
Due in particular to the reduced downtime, the fitting of split spherical roller bearings gives a significant reduction in fitting costs, as shown in the diagram. In new designs too, split spherical roller bearings can give cost savings in many cases since the plant can be simplified and the assembly work required is reduced.



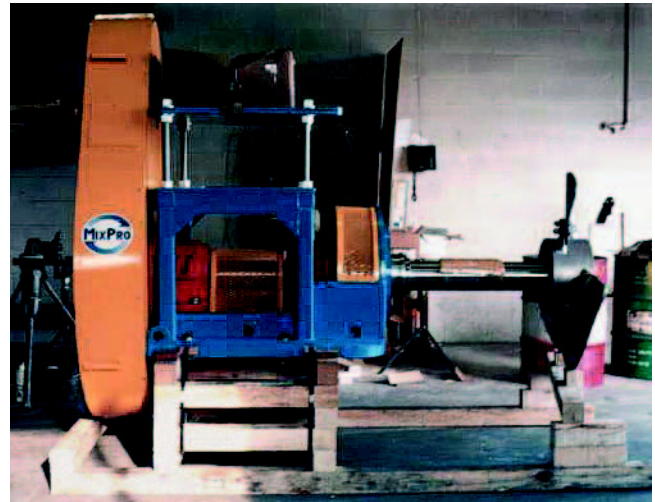
## Application examples

Application examples in the pulp and paper industry:

- Fans and ventilators
- Mixing and stirring plant
- Dryer rolls
- Drive and transmission shafts
- Conveying equipment
- Comminution machinery



Drive bearing arrangements in conveying and transport equipment



Shaft bearing arrangements in mixing and stirring plant



Bearing arrangements in fans and ventilators



Fitting of a large split spherical roller bearing

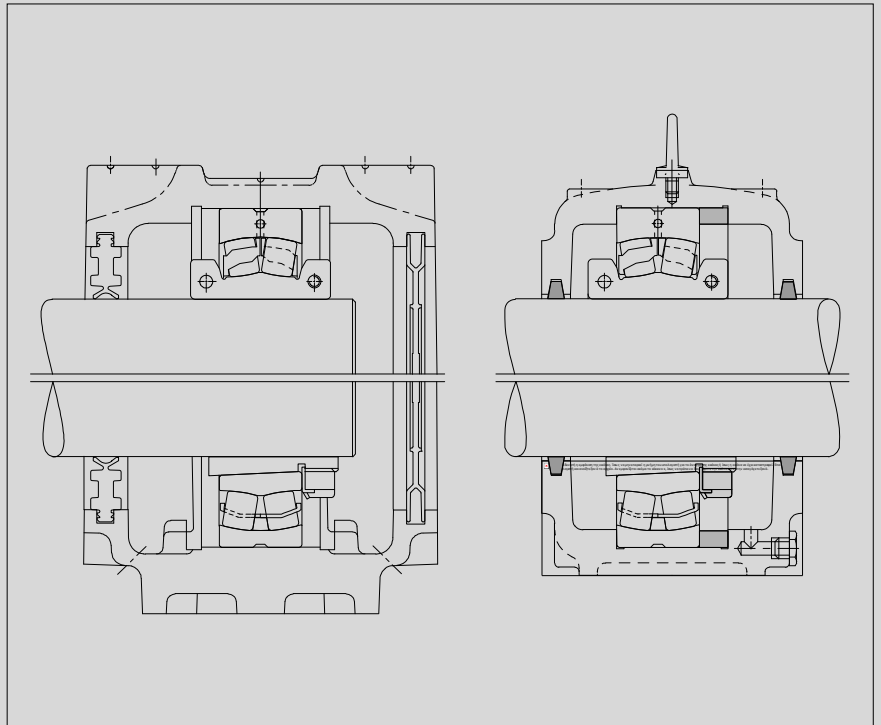
## Replacement for bearings with adapter sleeve · Fitting in split plummer block housings

### Replacement for bearings with adapter sleeve

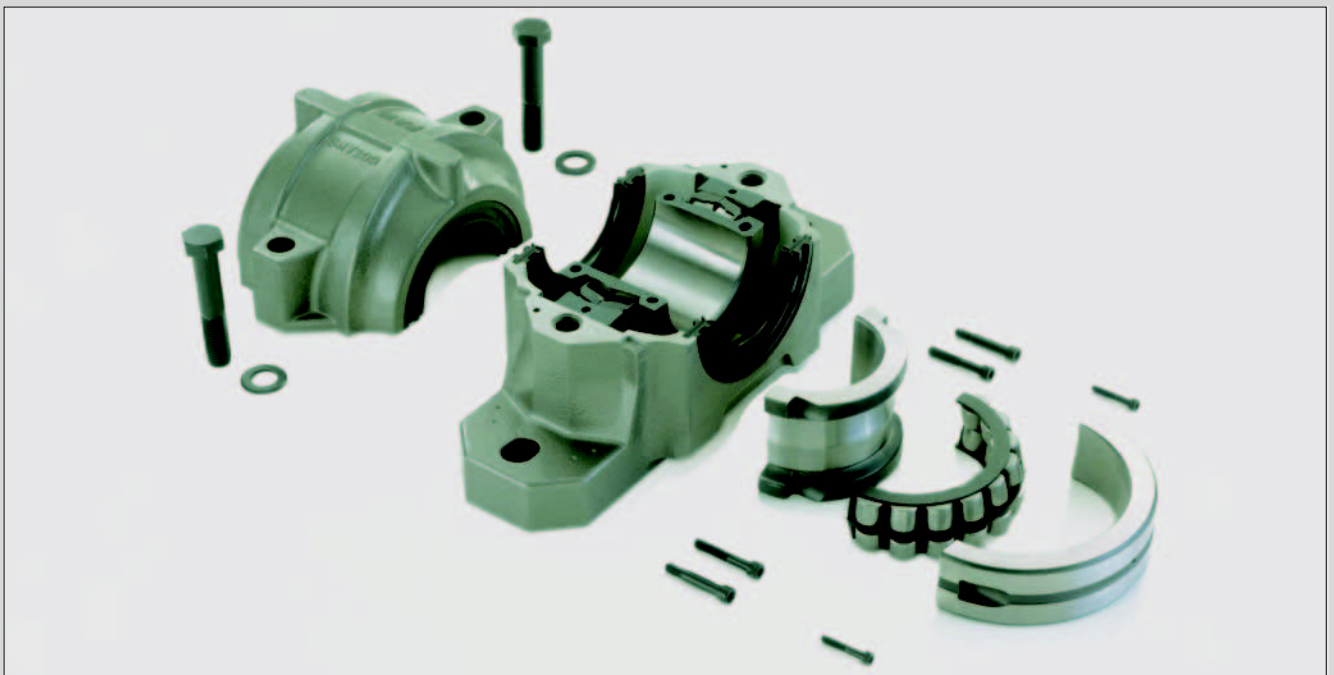
Split spherical roller bearings can generally be fitted instead of unsplit spherical roller bearings with adapter sleeves. The precondition for replacement is that the outside diameter, outer ring width and diameter of the shaft seat are identical, see Product range, page 5.

### Fitting in split plummer block housings

Split spherical roller bearings can be fitted in our split plummer block housings without additional machining of the housings. This also applies to housings from other manufacturers if the internal dimensions are identical.



1: Easy bearing replacement since the mounting space of split spherical roller bearings (top) is identical to that of unsplit spherical roller bearings with adapter sleeves (bottom).



2: Simple inspection, rapid and simple fitting – the split spherical roller bearing to be fitted in an SNV housing

# Product range · Bearing design

## Product range

Our comprehensive range contains split spherical roller bearings for metric shaft diameters from 55 mm to 630 mm and inch shaft diameters from 2  $\frac{D}{b_1}$  inch to 16 inch.

In most cases, the outside diameter, outer ring width and diameter of the shaft seat are identical to those of standard spherical roller bearings of series 222, 230, 231, 239, 240 and 241 with appropriate adapter sleeves.

The bearing tables show which standard bearing with a sleeve can be replaced by the relevant split bearing.

## Bearing design

Split spherical roller bearings have a cylindrical bore. The inner ring, outer ring and cage with the roller set are split in half. The split bearing rings are held together by screws.

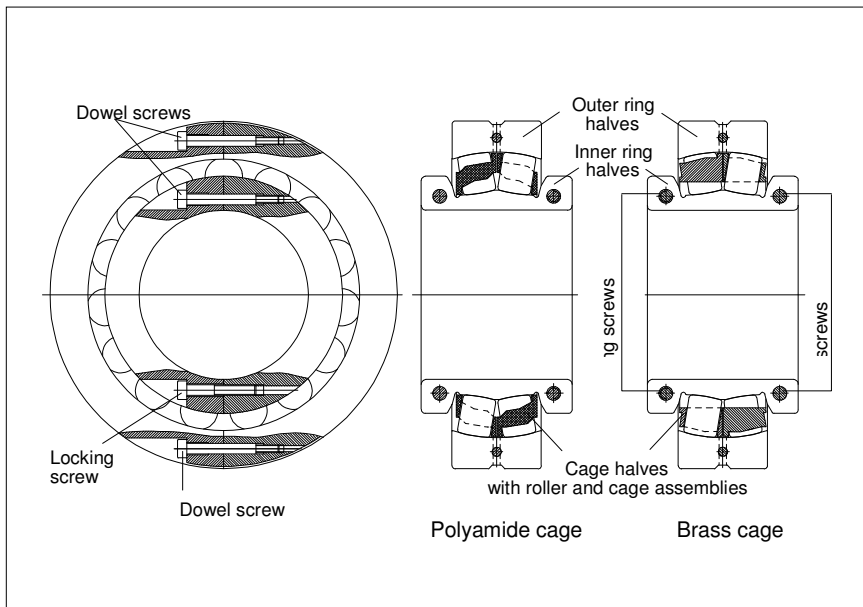
The internal design of most split spherical roller bearings was carried over from our proven spherical roller bearing E1, Figure 3. The only difference is that some larger bearings have a rigid central rib on the inner ring.

The bearings have a split solid cage made from glass fibre reinforced polyamide or brass (for high temperature suitability, see Catalogue HR 1, Rolling Bearings).

Split spherical roller bearings have the normal tolerances of unsplit radial bearings and the normal internal clearance of unsplit spherical roller bearings with a cylindrical bore (DIN 620). In most split spherical roller bearings, the locking rings are integrated in the inner rings, Figure 4.



4: Split spherical roller bearing with split solid cage made from glass fibre reinforced polyamide or brass, with integral locking rings



3: The internal design of the bearings with integral locking rings matches that of the proven E1 design.

If there are large differences in temperature between the shaft and inner ring halves, which can occur for example in dryer rolls for paper machinery, bearings with separate locking rings are more suitable, Figure 5.



5: Split spherical roller bearing for special applications with separate, split locking rings