

## Why SKF?

# SKF Explorer single row cylindrical roller bearings



Single row cylindrical roller bearings are used in applications where there are heavy radial loads combined with high speeds. SKF Explorer single row cylindrical roller bearings offer design features that result in a bearing that is lighter and more cost-effective, while offering outstanding performance and up to three times longer service life.

The internal geometry of SKF Explorer single row cylindrical roller bearings, like all EC design bearings, has been optimized to distribute loads in a way that significantly reduces the risk of edge stresses. This provides increased operational reliability. The roller end/flange contact has also been improved to reduce friction, and thus heat generated by the bearing, and maximizes the effectiveness of the lubricant. The cross section, e.g. the diameter and length of the rollers, and the wall thickness of the rings and retaining flanges, have been designed to provide maximum bearing service life.

### Product features

- Advanced logarithmic contact profile
- Optimized roller end/flange geometry
- Excellent surface topography (finish)
- Ultra clean steel
- Variety of cage designs
- Balanced heat treatment

### User benefits

- Higher radial load carrying capacity
- Reduced edge stresses
- Up to 3 times longer service life
- Extended maintenance intervals
- Reduced noise and vibration levels
- Less heat generated by the bearing
- Improved wear-resistance
- Reduced lubricant consumption
- Reduced energy consumption through reduced friction

### Common applications

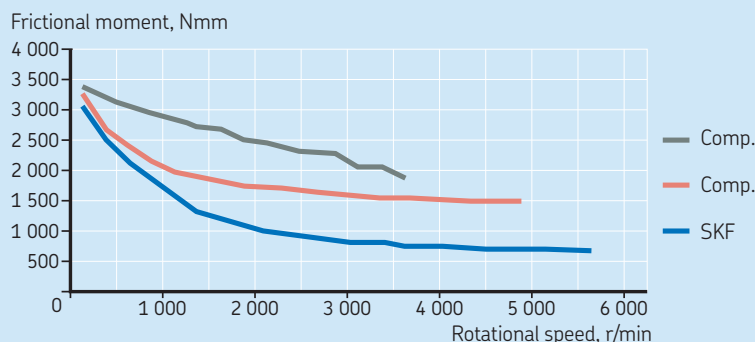
- Industrial gearboxes
- Pumps and compressors
- Rail vehicles
- Automotive gearboxes
- Wind turbines
- Rolling mills
- Electric motors
- Vibratory motors
- Vibration generators for road rollers
- Industrial fans and blowers
- Material handling equipment
- Textile machinery

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## Reduced friction

When compared with competitive designs, SKF Explorer single row cylindrical roller bearings, like all EC design bearings, significantly reduce friction at both low and high rotational speeds. This results in reduced heat generated by the bearing, reduced lubricant consumption and reduced energy consumption.

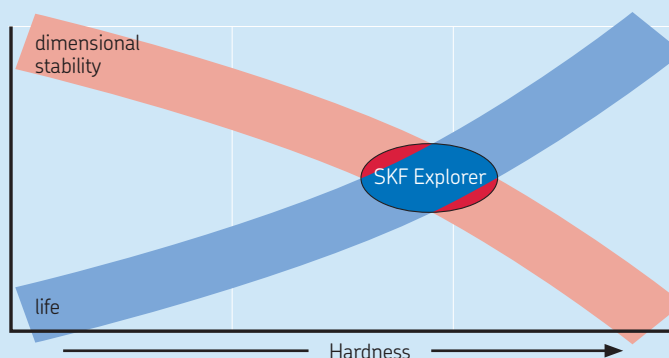
Tests show that when compared with competitive designs, SKF Explorer cylindrical roller bearings reduce friction, which also reduces heat, lubricant consumption and ultimately energy consumption



## Hardness and dimensional stability

Manufactured with ultra clean steel and a unique heat treatment process, SKF Explorer cylindrical roller bearings offer maximum hardness for optimum wear resistance and longer service life, with high dimensional stability (up to +150 °C). Additional benefits include an increased safety factor and increased uptime.

The cleanliness of the steel combined with the unique SKF Explorer heat treatment process provides maximum hardness for optimum wear resistance and longer service life, with high dimensional stability (up to 150 °C)



## Optimized load distribution

The optimized design of the roller/raceway contact in SKF Explorer cylindrical roller bearings, like all EC design bearings, enables the bearing to distribute the load more evenly, over a wider area than competitive designs, under both high and light load conditions

The diagrams are arranged in two rows. The top row is labeled 'light load' and the bottom row is labeled 'heavy load with misalignment'. Each row contains two pairs of diagrams. The first pair in each row shows a 'traditional profile' and an 'optimized profile'. In the 'light load' row, the traditional profile shows a narrow, concentrated load zone, while the optimized profile shows a wider, more uniform load distribution. In the 'heavy load with misalignment' row, the traditional profile shows a very narrow, highly concentrated load zone with significant stress concentration, while the optimized profile shows a much wider and more even load distribution across the roller-raceway contact.

The optimized design of the rollers enables an SKF cylindrical roller bearing to distribute the load more evenly and over a wider area than competitive designs, even under light load.

Especially under misalignment, the optimized design of an SKF cylindrical roller bearing distributes the load more evenly than competitive designs.



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