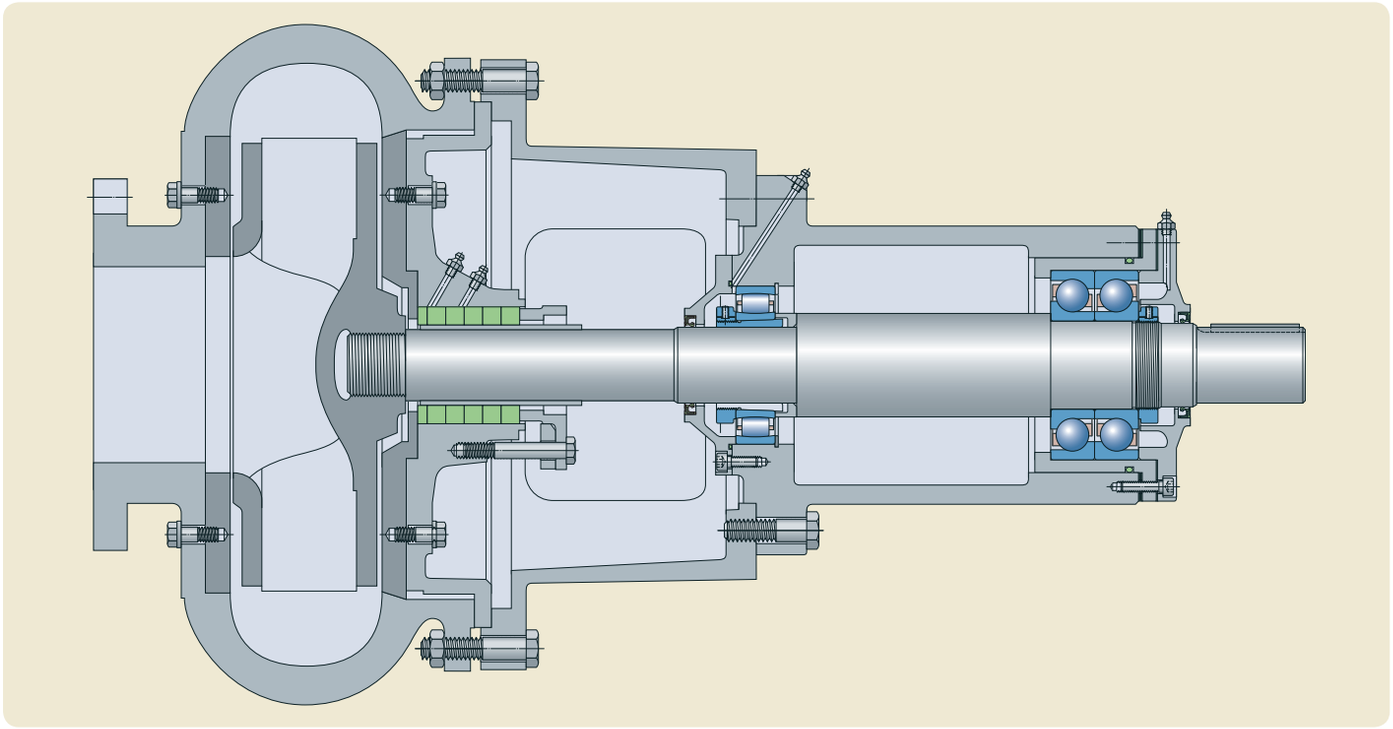
Technical data sheet

Increase the service life of light-duty slurry pumps with unique solutions from SKF

When a slurry pump is subjected to severe cavitation and abrasives, the resulting wear and damage to the impeller cause an imbalanced condition. Though it is virtually impossible to eliminate the imbalance, it is possible to substantially reduce the damage that it causes.

To reduce the damaging effects of impeller imbalance, SKF has developed a unique bearing system designed specifically for light-duty slurry pumps. Using SKF Explorer angular contact ball bearings with a CARB toroidal roller bearing, your pump will run cooler, smoother and longer even under difficult operating conditions. To compliment the bearing arrangement, SKF has a full range of radial oil seals.



1 SKF angular contact ball bearings for the locating position

SKF Explorer single row angular contact ball bearings are well suited for light-duty slurry pumps. Key benefits include:

- 40° contact angle to accommodate heavier axial loads than competitive designs
- Optimized internal geometry maximizes the effects of the lubricant,.and virtually eliminates edge loading, enabling heavie axial loads.
- Universal matching reduces skidding and makes custom matching obsolete.
- Three classes of axial clearance or preload, built into the bearing for better positioning accuracy of the shaft.
- Heat stabilized to maintain the appropriate pre-load while the pump is in operation.

2 SKF pump bearing – a cost effective upgrade

The SKF pump bearing is a “plug and play” upgrade for ANSI pumps. No need to redesign the housing or shaft. This bearing is dimensionally interchangeable with standard double row angular contact ball bearings. Key benefits include:

- 40° contact angle to accommodate heavier axial loads than competitive designs
- Internal geometry maximized to accommodate inadequate lubrication conditions
- CB controlled axial clearance to promote load sharing and prevent skidding
- Available with a range of seals or shields for additional protection against contaminants

3 The CARB toroidal roller bearing for the non-locating position

Because the bearing arrangement in a typical slurry pump has to accommodate thermal expansion of the shaft, pump designers traditionally use a cylindrical roller bearing on the wet end of the shaft. However, a cylindrical roller bearing does not accommodate the misalignment that results from vibrations or shaft deflections that typically occur at the first signs of impeller imbalance. As a result, SKF recommends using a CARB bearing on the wet end of a shaft. Key benefits include:

- Accommodates thermal expansion of the shaft within the bearing, to virtually eliminate the problems caused by induced axial loads
- Tolerates shaft misalignment enabling the system to avoid excessive stresses
- Tight fit on the inner and outer rings to prevent fretting corrosion and limit shaft vibrations

4 Lubricant selection

Defining the boundary between grease and oil lubrication and then selecting the appropriate lubricant is an important step toward improving slurry pump service life.

To help identify the right lubricant, SKF has the tools and experience to help you develop a “Lubrication specification” that meets the needs of a specific enduser application.

Publication 6353 EN

Printed in Sweden.

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