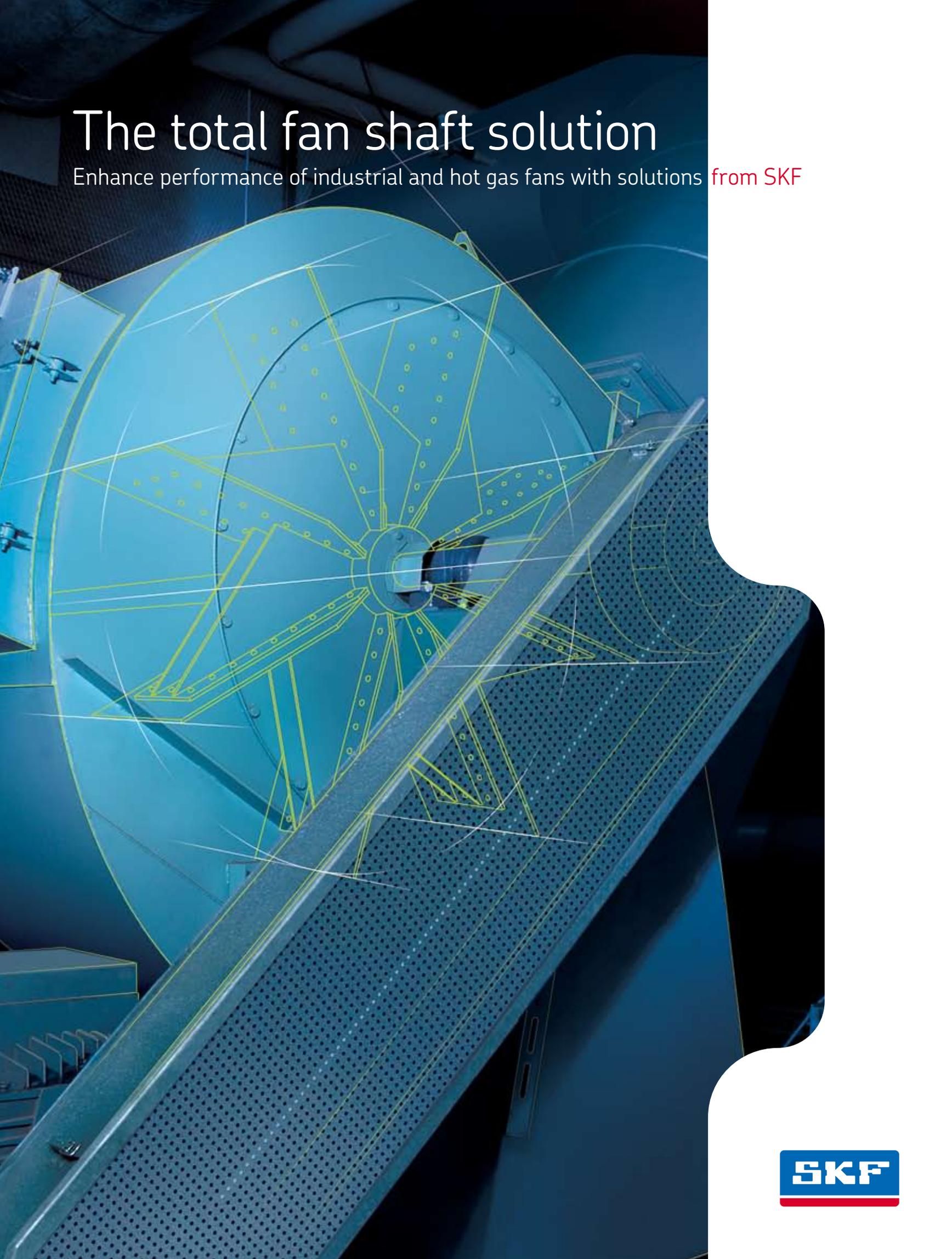


The total fan shaft solution

Enhance performance of industrial and hot gas fans with solutions from SKF



Upgrade the speed



and throughput of your current fan design without upgrading the lubrication method

Heat: the limiting factor

Improving performance and increasing throughput of an industrial process or hot gas fan is a design objective often limited by heat. The higher the fan speed, the more heat is generated – which often requires moving from grease lubrication to more expensive oil bath methods, or even costlier circulating oil methods.

It doesn't have to be that way – the SKF® total shaft solution will enable you to upgrade your fan's performance without having to upgrade to a more costly lubrication method.

SKF removes the limits

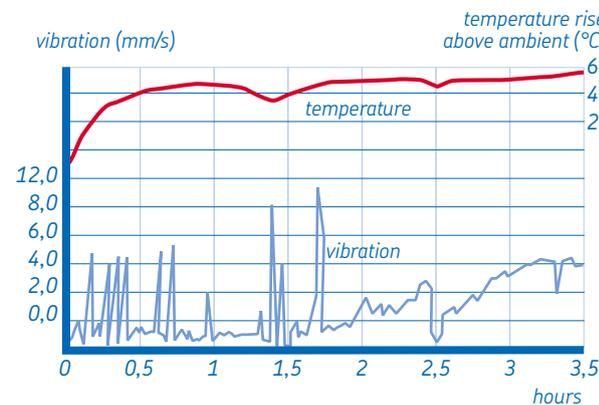
The SKF total shaft solution for industrial and hot gas fans addresses every aspect of the heat issue – for both grease-lubricated and oil-lubricated fans – opening the door to higher speeds, greater throughput, reduced energy consumption, enhanced reliability and longer relubrication intervals. Through the combination of a unique bearing and seal arrangement, an innovative housing design and lubricant delivery systems, the SKF total shaft solution has identified and virtually eliminated the factors that limit design engineers from achieving the highest possible fan performance within each lubrication method.

Decrease heat and increase speed with the total shaft solution

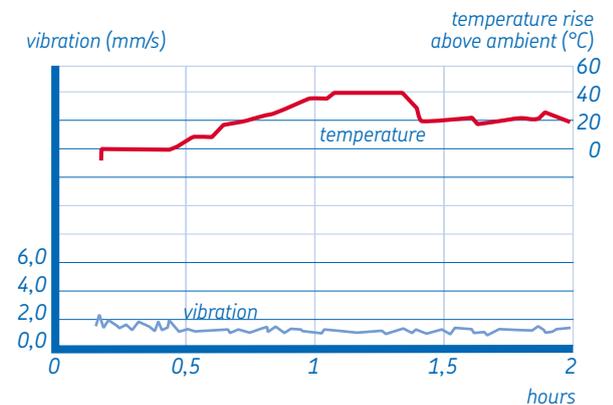
By their very nature, industrial process and hot gas fans operate in high temperature environments. But ambient temperatures are just the beginning of heat-related problems. The real roadblock to fan speed and performance is excess heat generated by the bearings. This excess heat is a result of speed, loads, misalignment and vibrations.

Using yesterday's solutions, it's virtually impossible to reduce heat generated by the bearings without costly modifications. Which is why SKF developed the total shaft solution. The total shaft solution goes to the heart of the heat issue and fixes it; it is not a band-aid designed to mask the problem.

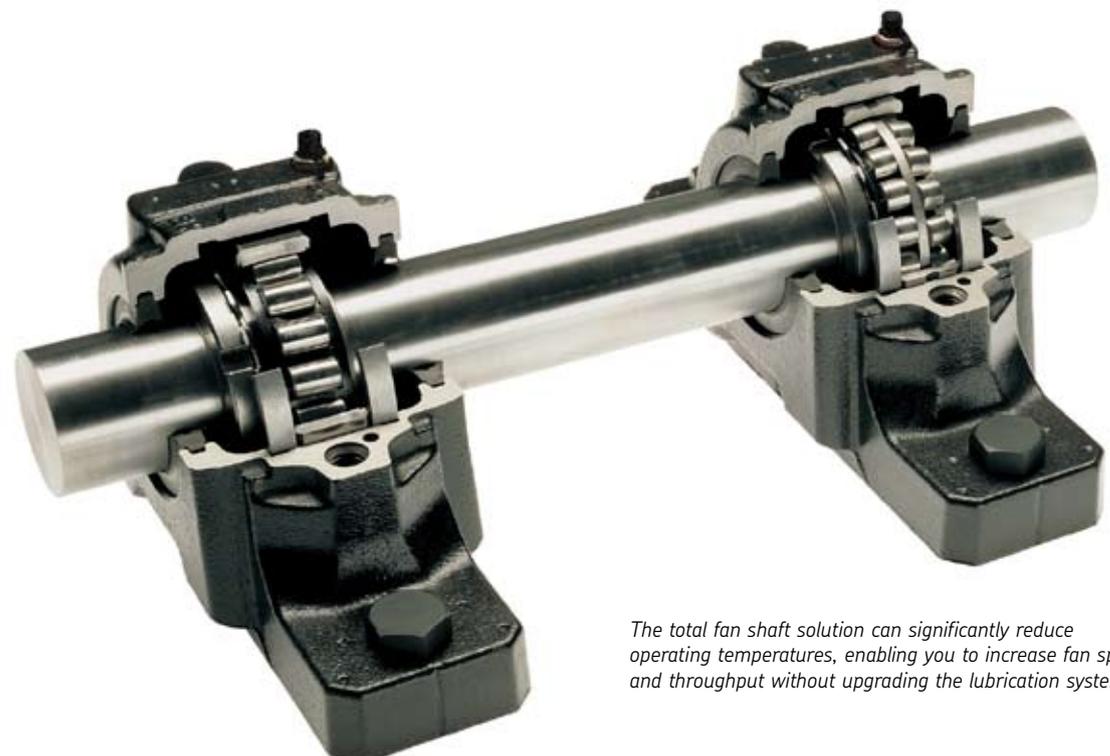
With the total shaft solution, each component works with the others to minimize vibrations and dissipate heat. The result: significantly lower operating temperatures and increased service life of the bearings and lubricant.



Fan with a 22244 CC/C3W33 spherical roller bearing at both positions



The same fan with a C 2244/C3 toroidal roller bearing at the non-locating position



The total fan shaft solution can significantly reduce operating temperatures, enabling you to increase fan speed and throughput without upgrading the lubrication system.

The modern self-aligning solution

Many of the issues fan manufacturers are faced with today are a direct result of yesterday's technology. Ten years ago there was only one way to accommodate axial expansion of the shaft: allow the non-locating bearing to slide in the housing. That became the industry standard because there was no alternative. Today, however, there is a much better alternative – the SKF self-aligning solution.

The CARB® roller toroidal bearing is at the heart of the SKF self-aligning solution for industrial process and hot gas fans. This innovative bearing arrangement combines a self-aligning CARB toroidal roller bearing in the non-locating bearing position, with an SKF spherical roller bearing in the locating position. When compared to the typical self-aligning bearing system, the SKF self-aligning solution provides the following benefits:

- Eliminates the problem of induced axial loads created by thermal expansion of the shaft.
- Reduces friction and vibration levels.
- Decreases heat generated by the bearings.
- Reduces power consumption for maximum pressure and air flow.
- Enables higher speeds due to lower bearing temperatures.

SKF can provide a fully automated lubricant delivery system for either grease or oil lubricated applications.

Innovative housing designs for modern bearing arrangements

SKF has a wide range of housings suitable for self-aligning solutions. These housings, which can be used for the locating and non-locating bearing positions, maximize bearing service life by combining stiffness with highly-accurate machined surfaces. They also incorporate a number of user-friendly features that simplify field installation and maintenance.

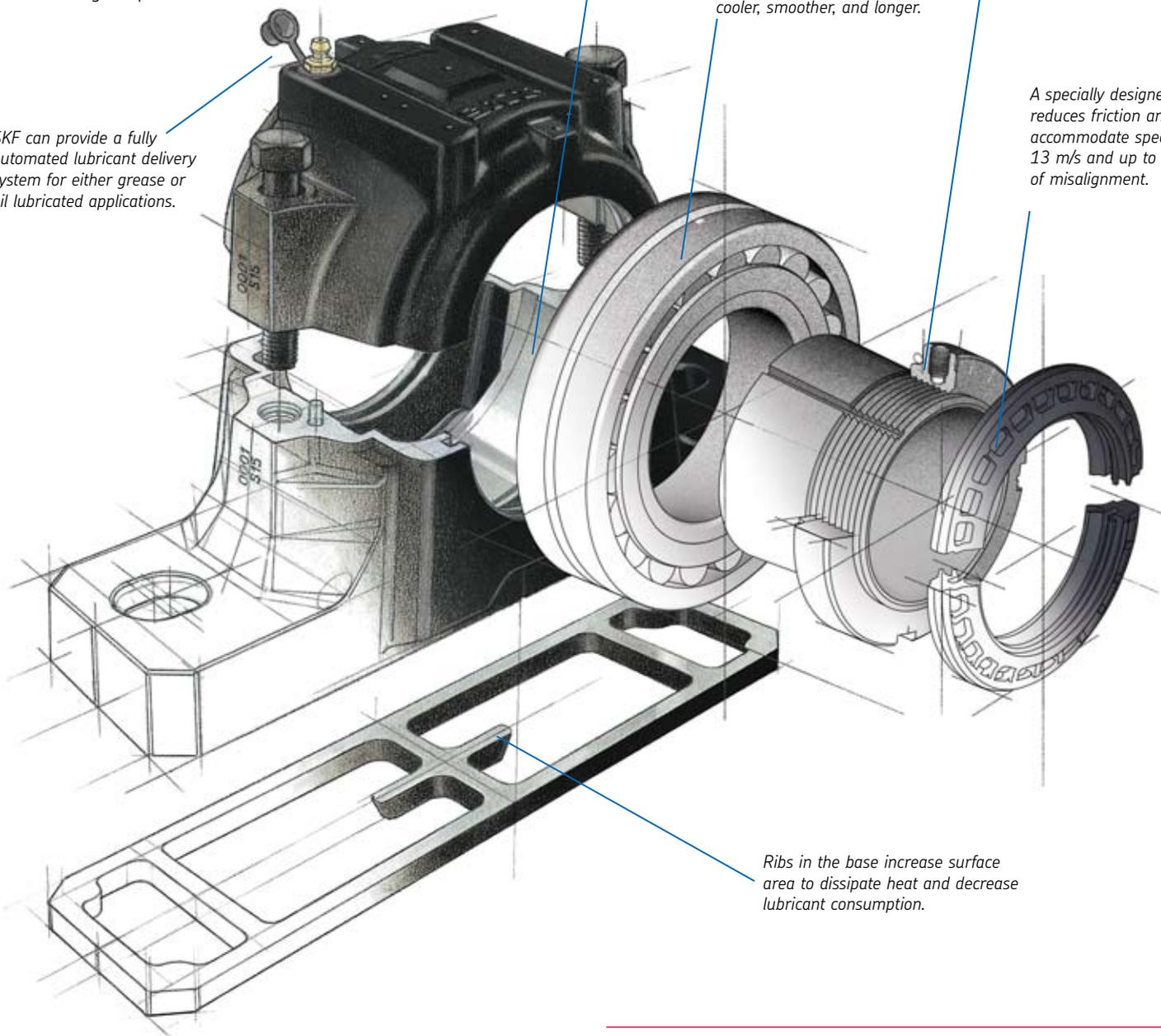
To meet fan requirements for reduced vibrations, heat and noise levels, bore tolerances provide an interference fit.

Accurately machined side faces maintain proper alignment of the bearing, sleeve and shaft to reduce vibrations and heat.

SKF Explorer class bearings provide a high degree of running accuracy to run cooler, smoother, and longer.

A specially designed split seal reduces friction and heat to accommodate speeds up to 13 m/s and up to 1° of misalignment.

Ribs in the base increase surface area to dissipate heat and decrease lubricant consumption.



Explore the possibilities

Improve your product's performance with SKF engineering and application knowledge, design and testing expertise, and a wide range of solutions.

Your customers are continually raising their expectations of product performance and reliability – demanding equipment that consumes less energy, runs quieter, faster and longer, and requires less maintenance. Frequently, this also means lighter, more compact designs.

To meet these growing challenges and stay competitive, you need a trusted source of knowledge and application experience to provide you with solutions that work.

And for long-term results, you need a working partner that offers one source of responsibility from the design stage right through to delivery. That source is SKF.

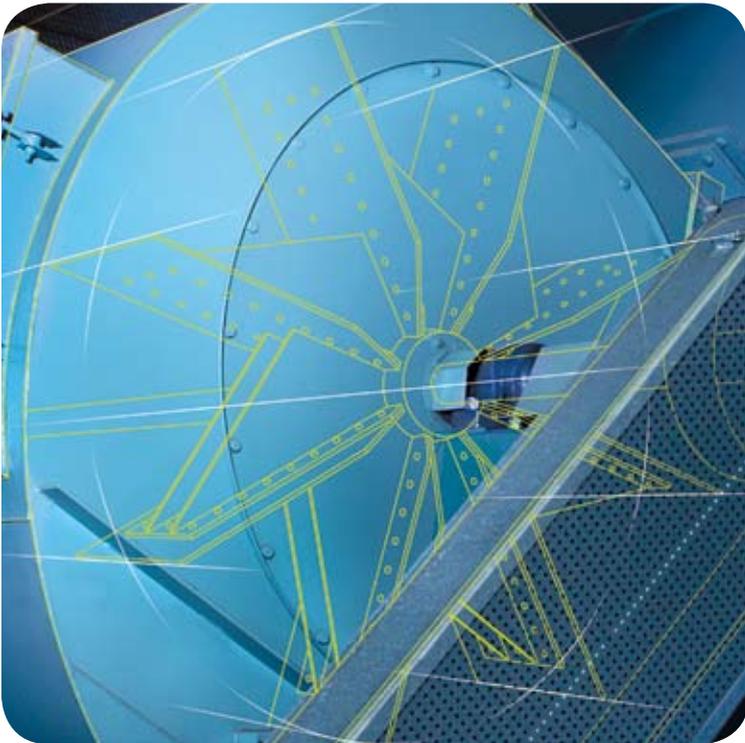
Knowledgeable solutions

From a position as the world's leading bearing manufacturer, SKF has evolved to being a provider of cost-effective and knowledgeable solutions. You can take advantage of SKF knowledge through our proprietary services and software to shorten the time required to develop and test your product.

SKF knowledge-engineering services, for example, include life calculation analysis, dynamic systems modelling, and 3-dimensional virtual test rigs to simulate and troubleshoot system vibration. SKF product solutions go beyond bearings, housings and seals, to include complete lubrication systems, industry-leading condition monitoring systems, advanced linear and rotary actuation systems, and unique solutions in mechatronics – combining mechanical and electronic elements in a single design.

Install with confidence

When you install SKF products, it tells your customers that your resources include the best in state-of-the-art technology, and that your products contain some of the very best components available on the market.



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