

SKF Seals Knowledge Engineering

Designed to optimize machinery performance





From moulding high quantities to mach

Sealing for power transmission

The performance and service life of a power transmission arrangement is directly related to the sealing solution and its ability to retain lubricant and exclude dirt and moisture. SKF seals provide high sealing ability and long service life as they are the results of long experience that comes from the SKF knowledge.

SKF is the only bearing company with seal making capabilities and in understanding what causes bearings to fail, SKF also knows what is needed to prevent them from failing.

Seal performance and reliability is largely determined by the material of the sealing lip. The development and selection of materials together with the seal design will mean the difference between poor, adequate or exceptional product performance. SKF takes a system approach to bearing and seal design and together with its wide selection of materials can help customers to improve their product performance and provide a competitive edge in the marketplace.

SKF seals are produced in a variety of designs and executions for applications in all industry sectors, with shaft diameters from 6 mm up to 4 700 mm and even larger if required.

Radial shaft seals



Wear sleeves



Axial shaft seals



Cassette seals





Finishing the single piece

Sealing for fluid power

Sealing solutions for fluid power applications (principally cylinders) are designed to retain hydraulic fluids, exclude solid or liquid contaminants and maintain hydraulic pressure ensuring high power density with a minimum of friction and wear. Not only does the sealing solution have to satisfy these demands but also frequently under very unfavourable operating conditions.

To accommodate different application demands, SKF range of materials have specific characteristics and physical properties to ensure the best chemical compatibility to the various hydraulic fluids encountered in service.

A variety of seal types are designed to optimally work together in a hydraulic cylinder, composing well balanced sealing system solutions for both piston and rod.

Piston seals are designed to have the right tightness to maintain the hydraulic pressure whilst still allowing a certain oil film to minimize friction and wear.

Rod seals must seal at both high and low pressure, often in combination with alternating high and low temperatures and in addition to normal wear and ageing, they are directly affected by irregularities on the rod surface.

The wiper seal should be designed not only to fit the rod (dynamic function) but also to seal in the housing groove (static function).

Guide rings and guide strips in different robust materials axially support mobile parts, and are specifically designed by SKF to withstand side loads.

Piston seals



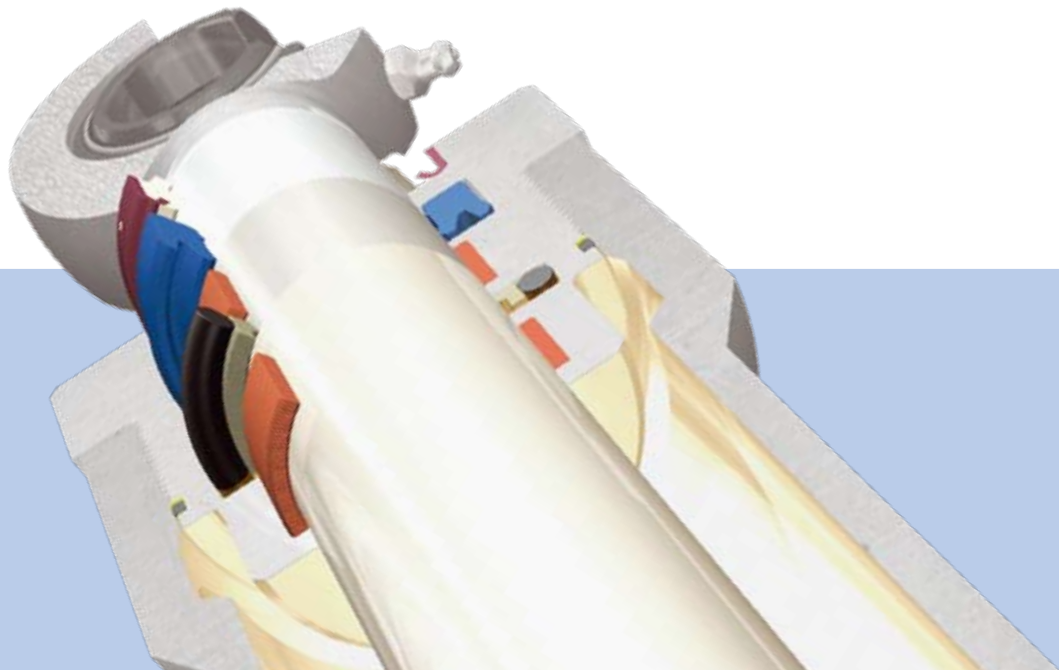
Rod seals



Wiper seals



Guide rings and guide strips





Custom engineered and machined sealing solutions

SKF is offering sealing solutions tailored to customer needs, with partnership from the design phase to serial production.

Due to increasing requirements in the sealing technology, materials are gaining more and more importance, they have to face higher temperatures and pressures, higher sliding speeds and a wider range of lubricating fluids.

The new generation of fluids like synthetic hydrocarbons, ester, biological degradable pressure fluids and pressure fluids with a water basis present even new challenges. Seals can be developed from both thermoplastic and thermosetting resins, including tailor-made polyurethanes and standard and high performance elastomers.

SKF is specialised in advanced engineered plastics products (AEPP). The offer goes from turned, milled and moulded parts to advanced and standard engineered plastic parts.

The SKF unique production model can respond quickly to your supply needs. Together with a standard moulded seals range, when high quantities are required, SKF can provide just-in-time machined seals down to a single piece.

Machined seals are available in more than 175 standard variants but customized solutions can also be produced upon request up to 4 000 mm diameter.





SKF can help

With expertise in bearings, seals, mechatronics, lubrication systems and services, SKF is uniquely positioned to provide effective solutions to the challenges of your operation. While other companies may have competence in one or two of these areas, no other company can draw on all of these competencies to help you improve reliability and productivity.

SKF solutions help you extend service life and improve performance of hard-to-maintain equipment. We can provide expert consultancy and asset management services, proven condition monitoring technologies, maintenance tools, and training to help you to:

- **Increase productivity**
- **Reduce time to market**
- **Improve energy efficiency**
- **Decrease maintenance**
- **Optimize designs**

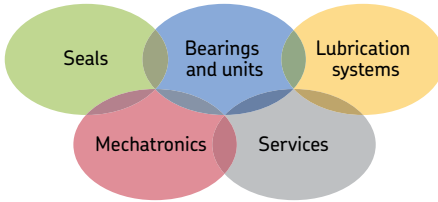
Energy efficiency solutions

There are many ways that SKF can help customers to work in harmony with nature. SKF application-specific solutions are helping to reduce global energy consumption and CO2 emissions.

Our knowledge and creativity is employed in developing energy-efficient products and systems:

- **bearings and sealing solutions**
- **window system actuators that automatically respond to the sun**
- **weightsaving fly-by-wire systems**
- **mechatronic systems**
- **enhanced lubrication systems**





The Power of Knowledge Engineering

Drawing on five areas of competence and application-specific expertise amassed over more than 100 years, SKF brings innovative solutions to OEMs and production facilities in every major industry worldwide. These five competence areas include bearings and units, seals, lubrication systems, mechatronics (combining mechanics and electronics into intelligent systems), and a wide range of services, from 3-D computer modelling to advanced condition monitoring and reliability and asset management systems. A global presence provides SKF customers uniform quality standards and worldwide product availability.

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PUB SE/S9 10173 EN · 2009

Printed in Italy on environmentally friendly paper.

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