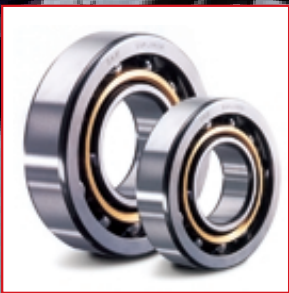


SKF



SKF Explorer
angular contact ball bearings



SKF Explorer angular contact ball bearings

- your key to a longer service life

High rotating speeds, combined radial and axial loads, a high degree of stiffness and running accuracy - these are the application requirements where angular contact ball bearings excel.

The great variety of applications and operating conditions calls for unique bearing solutions made possible by a wide range of angular contact ball bearings.

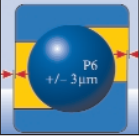
Standard features

- Improved materials
- Optimised internal geometry
- Higher precision
- Higher ball quality
- Improved cages
- Single bearings, which can be paired universally
- New shields for double row bearings


Application benefits

- Up to three times longer life
- High load-carrying capacity and high speeds
- High degree of stiffness
- High degree of running accuracy
- Low heat generation
- Quiet running
- Technical support


Bearings for universal matching

Universal matching	Product benefits	Your benefits
<ul style="list-style-type: none"> • CA, CB, CC, GA, GB, GC, CB and GA are standard clearance and preloaded. 	<ul style="list-style-type: none"> • Two or more bearings can always be matched together • Equal load sharing • Fix predetermined clearance or preload 	<ul style="list-style-type: none"> • Easier and safer handling and mounting • Reduced inventory • Extended service life


Material development

Steel quality	Product benefits	Your benefits
	<ul style="list-style-type: none"> • Extremely clean and homogenous steel • Reduced oxygen level content • Improved steel quality 	<ul style="list-style-type: none"> • Explorer bearings made of steel with an absolute minimum of inclusions • Increased bearing performance life • Reduced possibility of fatigue failure

New heat treatment

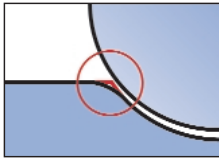
New heat treatment	Product benefits	Your benefits
<p>SO standard</p> 	<ul style="list-style-type: none"> • Maximum operating temperature of +150°C • Minimum dimensional changes • Constant predetermined clearance or preload also after 10,000 hours at 110°C 	<ul style="list-style-type: none"> • Increased safety factor at unchanged design • Longer service intervals • Increased machine uptime • Increased power density • Extended service life

New crown cage

New crown cage	Product benefits	Your benefits
	<ul style="list-style-type: none"> • Better ball guidance • Improved lubrication film formation • Lower friction 	<ul style="list-style-type: none"> • Higher speed rating • Reduced vibration and noise • Higher safety factor • Lower heat generation • Extended service life

Improved raceway/shoulder contact

Ground transition raceway/shoulder



Product benefits

- Higher thrust load capability
- Lower contact stresses
- Reduced edge stresses

Your benefits

- Increased power density, higher load rating and increased thrust load capability
- Higher safety factor
- Extended service life

Upgraded balls

Upgraded balls

Balls of a least one ISO grade better



Product benefits

- Improved running accuracy

Your benefits

- Higher speed rating
- Reduced vibration and noise
- Extended service life

Improved polyamide cage

Improved polyamide cage



Product benefits

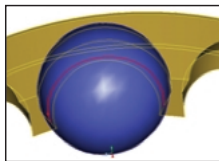
- Better ball guidance
- Lower friction
- Lower mass/lower inertia
- Stronger design
- Optimised number of balls

Your benefits

- Lower heat generation
- Higher speed rating and acceleration
- Higher safety factor
- Extended service life

Improved machined brass cage

Improved machined brass cage



Product benefits

- Improved cage/ball contact
- Lower imbalance forces
- Better surface roughness, especially cage pockets
- Cleaner cage surface
- Smoother running

Your benefits

- Reduced vibration and noise
- Lower heat generation
- Extended service life

Improved running and dimensional accuracy

Improved accuracy

Improved running accuracy

- **SRACBB** - Defined as ISO P5
- **DRACBB** - Defined as ISO P6

Improved dimensional accuracy

- **SR - and DRACBB** - Defined as ISO P6

Product benefits

- Better precision class
- Narrower tolerances
- Reduction of the runout by about 30%

Your benefits

- Reduced vibration
- Lower heat generation
- Longer service intervals
- Higher speed capability
- Extended service life

New shield

New shield



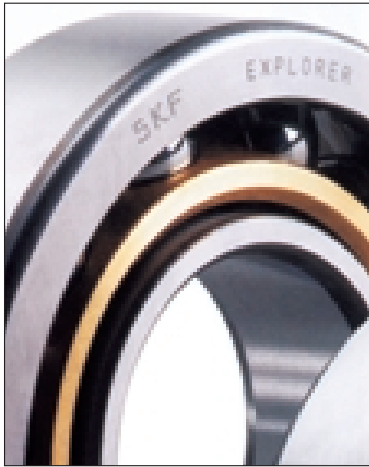
Product benefits

- Improved shielding function, less dirt ingress
- Improved grease retention
- Better performance on vertical shaft applications
- Improved anchorage

Your benefits

- Less maintenance
- Lower heat generation
- Higher safety factor
- Reduced noise
- Extended service life

Benefits, performance and endurance



Over the years, manufacturing and materials research, together with process improvements have enabled machine components to get smaller without decreasing power output. At each milestone in the development, engineers were given a choice: either downsize the application or increase power output.

Explorer bearings represent the next significant improvement in performance. But this is not just a short hop to the next level. This is a quantum leap in bearing performance.

The higher load carrying capacity of Explorer angular contact ball

bearings opens up a new world of possibilities.

If you size down with an Explorer bearing not only will you be able to reduce noise, vibration and warranty costs, but you'll also be able to build value into each component by increasing speed, improving service life, reducing heat and power consumption, together with controlling maintenance costs.

Power up or size down - the option you choose will depend on whether you're developing a new design or making improvements within existing parameters.

Increase service life of existing designs

Don't need to increase power output? Use an Explorer bearing of equal size to:

- Increase the reliability
- Reduce vibration
- Reduce heat generation
- Increase service intervals
- Increase machine uptime

Maintain power output of new designs

Use a smaller Explorer bearing to:

- Reduce overall dimensions to save on material cost and weight
- Reduce heat generation
- Increase speeds

Increase power output of existing designs

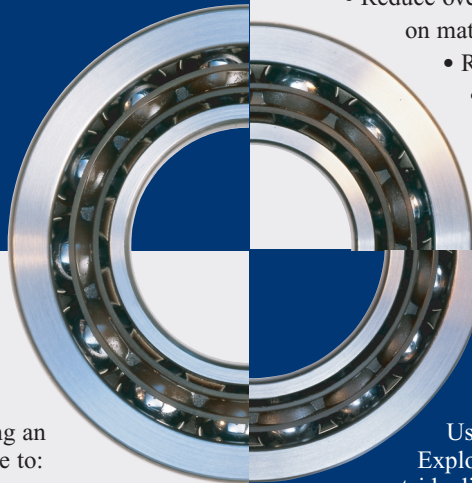
Avoid costly redesign by using an Explorer bearing of equal size to:

- Increase power density (output)
- Increase speeds
- Increase loads

Increase power density of new designs

Use a lower cross section Explorer bearing with the same outside diameter to:

- Increase shaft size
- Achieve a stiffer design
- Operate at the same or higher speeds



Typical applications for Explorer bearings

Lower friction, quieter running and, above all, improved reliability in complex applications with combined loads make SKF angular contact ball bearings indispensable in many areas.

Long service life and reliable performance have earned SKF angular contact ball bearings an excellent reputation in a variety of industries ranging from gearboxes to turbines.

Nevertheless, the most common applications for angular contact ball bearings are pumps and compressors. These applications are not just the most common, they are also the most demanding. For example, the bearings used in both pumps and compressors must be able to accommodate combined axial and radial

loads, high speeds, poor lubrication and contaminated conditions.

If you're replacing a conventional bearing with an Explorer bearing, the Explorer will run quieter and longer - much longer than the bearing you just replaced.

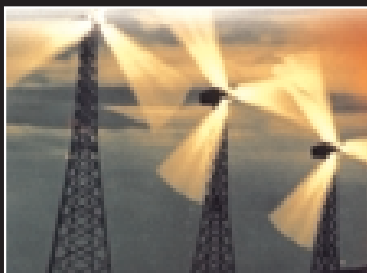
If you buy new machinery that has been sized-down with an Explorer bearing, you'll see the benefits immediately. Your new machine will run quieter, and cooler, with less vibration. It will consume less power, require less maintenance, and run for longer.

So, the next time you're replacing a bearing, or specifying the bearings for a new piece of equipment, ask for SKF Explorer angular contact ball bearings.



Compressors

Replacing traditional bearings with Explorer bearings will further support the demand for accuracy and increased power output in a compressor.



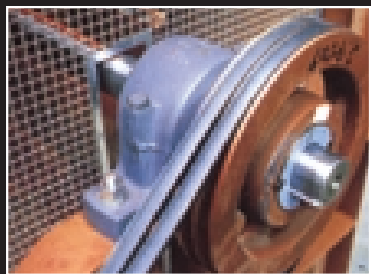
Windmills

Explorer bearings can be used to upgrade power output, or size-down the design of gearboxes in windmill applications.



Turbines

Increase the safety factor in turbine applications with Explorer bearings.



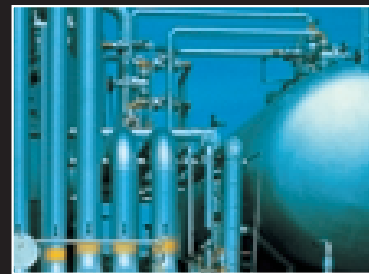
Fans

When traditional bearings are replaced with Explorer bearings, fan applications run quieter and achieve a longer service life.



Gearboxes

Existing gearbox designs can be upgraded with Explorer bearings, providing a 15 to 25% higher power rating.



Pumps

Replacing traditional bearings in water and hydraulic pumps with Explorer bearings reduces maintenance costs and extends service intervals.



SKF (U.K.) Limited

Sundon Park Road, Luton
Bedfordshire LU3 3BL
Tel: 01582 490049
Fax: 01582 848091
E-mail: marketing.uk@skf.com
www.skf.co.uk



INVESTOR IN PEOPLE



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Related products, systems and solutions



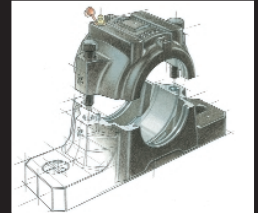
Asset Efficiency Optimisation

AEO recognises the importance of treating machinery and equipment as plant assets. SKF takes a system approach to optimising these customer assets.



Total Shaft Solutions

Decades of troubleshooting experience in virtually every industrial sector, enables SKF to provide solutions that improve machine performance and productivity.



Technical consultancy

SKF provides sophisticated calculation, design and product development services to industry.



Electrically insulated bearings

INSOCOAT bearings have a ceramic coating applied either to the outer or inner ring of the bearing. This insulates the bearing in electric drives from stray currents.



Mechanical tools

A range of specialist tools designed to help reduce bearing failures, thereby increasing plant performance and profitability.



Lubricants

SKF greases have been specially developed for rolling bearings. The range includes fifteen environmentally friendly greases and covers practically all application requirements.



Condition monitoring

SKF incorporates condition monitoring technologies into its overall service and product solutions according to industry needs.



NoWear bearings

Consists of steel rings, with the rolling elements and, if necessary, the raceways coated with a diamond-like carbon. Typically used in applications with special operating conditions.



Hybrid bearings

These bearings combine steel rings with ceramic balls. Typically used in applications where there is inadequate lubrication, excessive amounts of contamination or stray electric currents.