SKF Cooper Marine solutions

Split roller bearings

Decades of expertise in the marine segment

Since inventing the split cylindrical roller bearing in 1907, SKF Cooper products have gained worldwide recognition as the ideal alternative to solid roller element and split hydrodynamic or sleeve bearings for a range of marine applications.

Indeed, for many designers, manufacturers and fleet maintenance staff, the SKF Cooper split bearing is the best choice for a range of applications including Z-drive and water jet propulsion, marine generators and thrusters as well as numerous on-deck applications such as winches and conveyors.

The thousands of SKF Cooper bearing units in service across the world on tugs, fast ferries, super yachts and offshore support vessels, amongst others, are testimony to both their quality and long service life.

Unlike hydrodynamic or sleeve bearings, the SKF Cooper product needs only simple grease lubrication, hence eliminating the need for ancillary oil-circulation or cooling systems. This affords significant advantages in terms of cleanliness, simplicity and power consumption, not to mention eliminating the risk of damage to the shaft in the event of loss of lubricant between the shaft and the sleeve bearing.

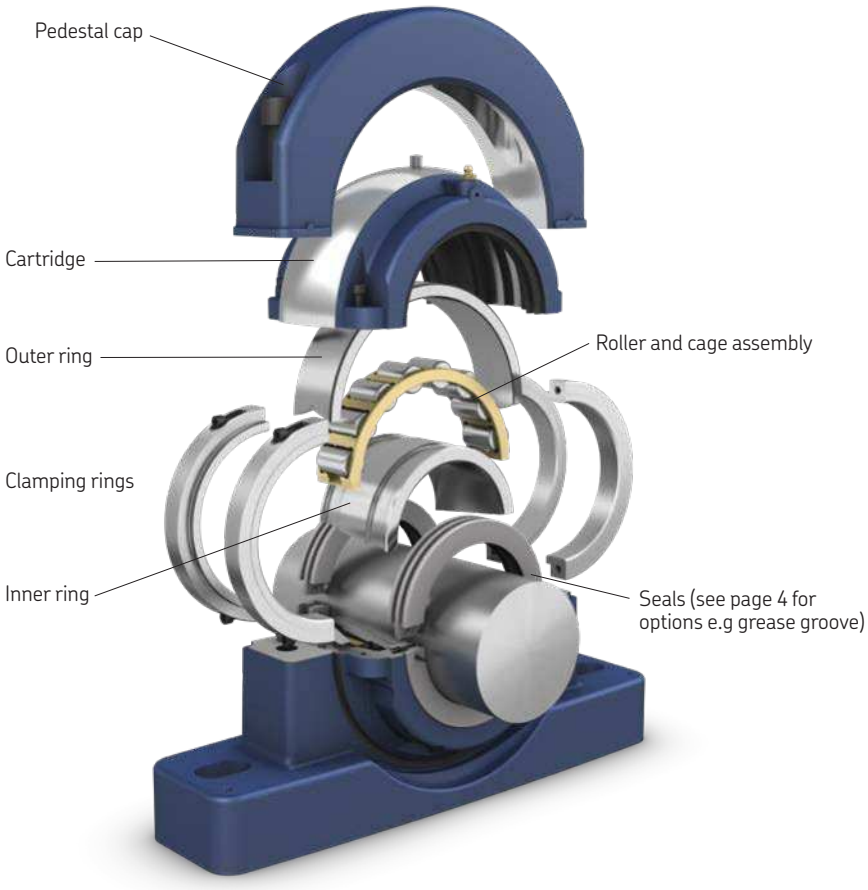
Direct, specialised engineering support is available from our UK office. Together with the local support from SKF offices and authorized distributors.

The quality of SKF Cooper products is underlined by the fact it is Lloyds Type Approved up to 600 mm shaft size, also certification from all other marine inspectorate who regularly work with SKF Cooper including DNV, RINA, ABS, CSS etc can be provided at inspectors cost..

Simple to install, inspect or remove

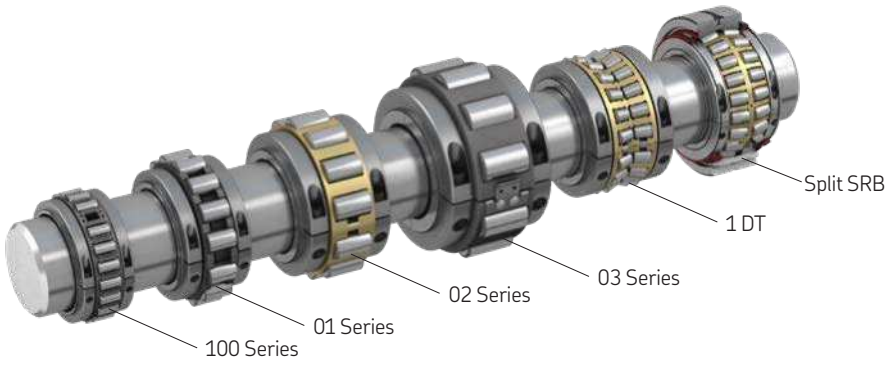
Split to the shaft bearings disassemble into smaller components easing the tasks of lifting and handling and making assembly or change-out simple in even the most cramped positions. Clearances are pre-set so no on-board adjustment is needed and no specialist fitting tools are required.
Our long experience in the requirements of the marine segment means that the standard product can incorporate a range of customized features to suit individual requirements and specifications. Examples of these marine specifications can be seen below.

- Spherical cartridge lubrication allows extra movement to handle flexing of the vessel hull
- Flat, solid underside of the pedestal base affords the perfect surface for chocking compounds
- Jacking screws enable simple alignment of bearings along the shaft
- Inspection holes for in-place measurement of shaft axial position
- Tapped holes for temperature and vibration sensors



Bearing series

The current offering is the broadest on the market and caters to a wide range of loading conditions.



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Unique to SKF Cooper, these medium angle split taper roller bearings are an ideal solution for transient axial loading caused by temperature gradients, hull movement or reactions in couplings. The two rows of opposed rollers can handle axial loading from either direction in addition to radial loading.

100 Series

Compact and light, the 100 Series packs a high capacity into a small envelope and is specifically designed for applications where the radial loading can be too low for other bearing types.

02 Series

A rugged bearing for more demanding applications, the 02 Series is frequently found in the "locating" bearing positions and on heavier shafting.

01 Series

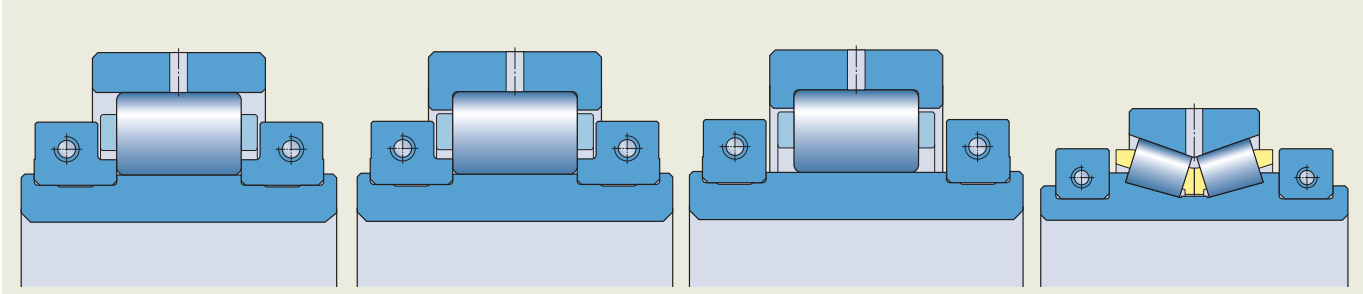
The most popular of all the bearing series, these robust units can handle the majority of load and speed conditions encountered with propulsion shafts.

03 Series

Designed to handle extreme loading conditions present on vessels such as icebreakers, the 03 Series is the heavyweight of the SKF Cooper range of cylindrical roller bearings

Split SRB

They are designed to accommodate heavy radial loads, combined with or without axial loads in both directions. The bearings are suited for both locating as well as non-locating bearing positions of shafts. Their split design makes them beneficial for inaccessible applications where mounting, dismounting and maintenance is a challenge



Expansion (EX)

The inner race is clamped to the shaft, and moves axially with it when expansion or contraction occurs. The Cooper expansion bearing offers virtually no resistance to axial movement as the rollers spiral through the outer race.

Fixed (GR)

Provides axial location to the rotating elements of machinery. Can sustain axial and radial loads.

Exilog

Used where the axial movement is greater than is possible with the EX type due to the use of long shafts or high temperature variation. Axial expansion takes place between the lengthened inner race and the rollers, maintaining the load central to the cartridge to help preserve bearing alignment

Split taper

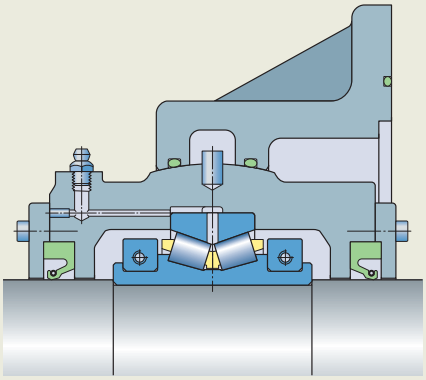
Intended for the fixed bearing position where there is both radial axial loading and the GR type is unsuitable. Two rows of opposed rollers to take axial loading in either direction.

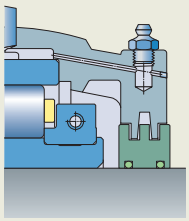
Two bolt plummer block unit

Square flange unit

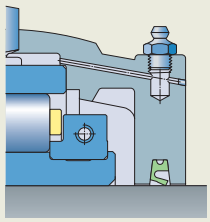
Round flange unit

Large bore plummer block unit

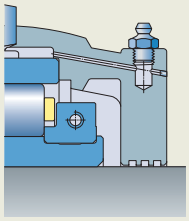




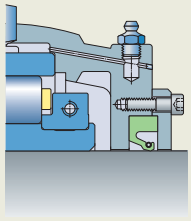
Aluminum triple labyrinth (ATL)



Synthetic rubber single lip (SRS)



Grease groove (LAB)



Spring-loaded Single lip with retaining plate (SRSRP)

Housing types

SKF Cooper is the only manufacturer of split bearings to have its own integrated foundry, ensuring attention to quality of both the bearing and its housing. Housings are produced and machined in a variety of configurations and in a variety of materials, e.g.; grey cast iron grade 250, nodular iron, steel, aluminium and stainless steel.

Bulkhead sealing

SKF Cooper can offer sealing options so that the housed bearing also functions as a bulk-head seal. This combined unit is generally cheaper than separate bearings and seals. The close proximity of the bearing and seals ensures that problems associated with poor shaft-seal alignment, when the bulkhead seal is separated from the bearing, are avoided.

Sealing types

SKF Cooper offers a wide range of sealing options to suit different requirements and operating environments. Due to the external alignment via the seal-carrying cartridge, the seals on Cooper bearings always work perpendicular to the shaft affording optimum protection.

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