

Marine Propulsion Bearings

The Cooper Bearings Group is a full service provider of sales and technical engineering support to our customers around the world. No other split roller bearing manufacturer matches the Cooper breadth of knowledge and experience. To ensure Cooper continues to lead our industry, we have implemented a new product and business development process. Part of this process involves considerable customer consultation and research to ensure customer needs are met. The result of the business development process is the new Z-Line product.

Product Features

- **Jacking Screws**
Makes for perfect installation alignment.
- **Solid Base**
Eliminates underside recesses and the need for an additional jacking plate.
- **Spherical Lubrication Feature (SLUB)**
Maintains shaft alignment during hull flexing.
- **Temperature and Vibration Probe Drilling**
Allows for the fitting of monitoring equipment.



Cost Reducing Z-Line Bearings

Cooper has introduced the new Z-Line BCZ (bearing, cartridge and Z-Line pedestal) and BCF (bearing, cartridge and flange). Both are designed to provide substantial vessel operating cost reduction making more money for ship builders and operators. The Z-Line range is dimensionally interchangeable with the Cooper standard product line.

Increase Uptime and Cut Downtime

The Cooper split roller bearing solves difficult alignment problems, minimizes downtime and reduces maintenance hours giving you a competitive advantage over your competitors.

In addition, when replacement is necessary, Cooper users save valuable time that would otherwise be lost by the time consuming replacement of non-split bearings or sleeve bearings.

Workboats to High Speed Ferries

Our marine propulsion system experience ranges from workboats and ice breakers to high speed ferries and naval vessels, with either conventional propulsion shafting or waterjet drives.

Cooper split roller bearings are designed to operate reliably and cost-effectively and provide continuous operation, even in very wet and humid conditions.

Military Specifications

When used in naval vessels, our bearings are designed to withstand extreme shock loads. The Cooper bearing meets or exceeds the most demanding requirements of military naval specifications. Cooper bearings are in constant use by navies around the world.

Inspection and Replacement

Reducing downtime to a minimum in trapped locations is possible with totally split to the shaft roller bearings. Equally, bearing replacement time is reduced as major components remain in place during planned maintenance periods. There is no need to re-align the bearings or propulsion system.

Constant Alignment Feature

Hull flexing can cause premature bearing failure. The unique Cooper Spherical Lubrication feature (SLUB) allows the cartridge to move within the housing and maintain shaft and bearing alignment during hull flexing.

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COOPER BEARINGS ARE ACCEPTED BY:
American Bureau of Shipping, Det Norske Veritas,
Germanischer Lloyd, RINA and Lloyds



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The cartridge and mounting units are designed to allow the shaft to be up to $\pm 2.5\mu$ out of alignment with respect to the mounting base on initial assembly. This alignment feature is intended for static or very slowly changing operating conditions.

Superior Sealing

Cooper seals are constantly concentric with the shaft regardless of seal type. All Cooper seals are designed to retain lubrication and keep out harmful particles and corrosive salt water.

Technical Services

With nearly one hundred years experience in split roller bearings design and application, Cooper is recognized world wide as the leading authoritative advisor on application and sealing solutions for the marine propulsion industry.

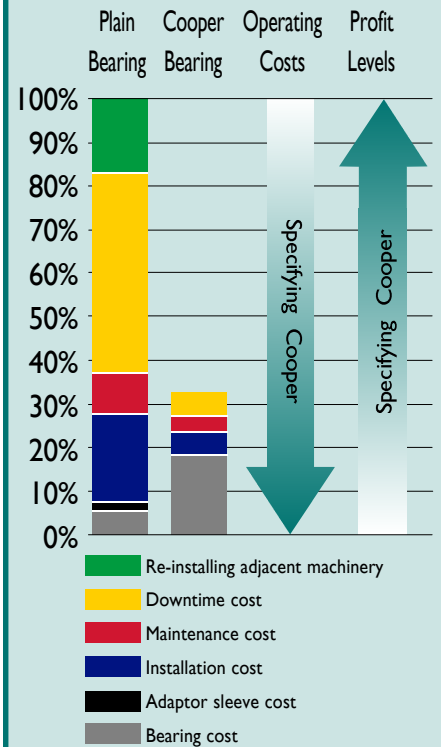
How to Order

Call a Cooper Service Center shown on the rear of this literature, or to locate your nearest authorized Cooper distributor visit Cooperbearings.com or (in the US) visit PTplace.com to place an order.



The Cooper bearing is easy to fit into confined spaces on board vessels of all sizes with easy access for propulsion shafting maintenance and inspection, gives more uptime and lower maintenance, inspection and replacement costs.

Demonstrable Cost Savings



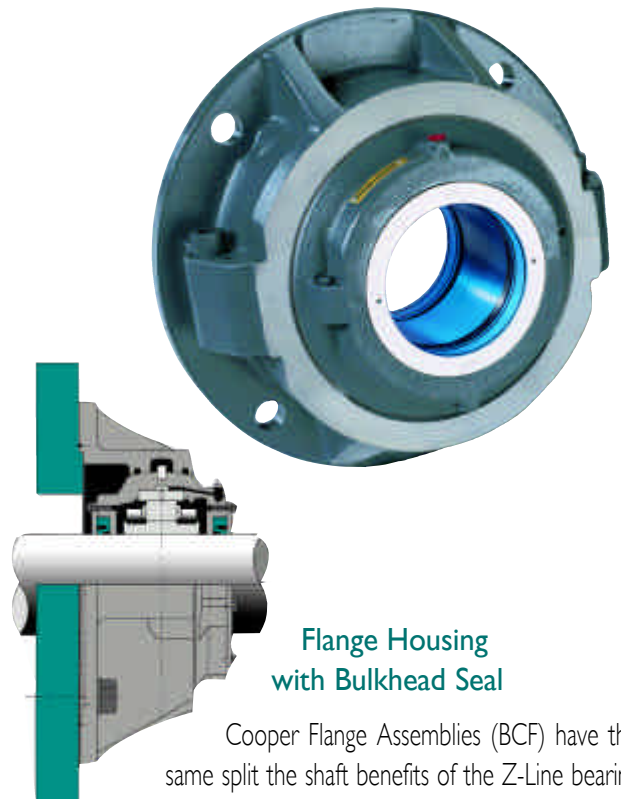
A HIGH RETURN ON INVESTMENT

Cooper offers a considerable year on year return on investment. To establish your ROI in the first year as a percentage, divide the savings made by the cost of the bearing.

See our Value Proposition for details.

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Pedestals, Flanges and Bulkhead Seals



**Flange Housing
with Bulkhead Seal**

Cooper Flange Assemblies (BCF) have the same split the shaft benefits of the Z-Line bearing cartridge and pedestal (BCZ).

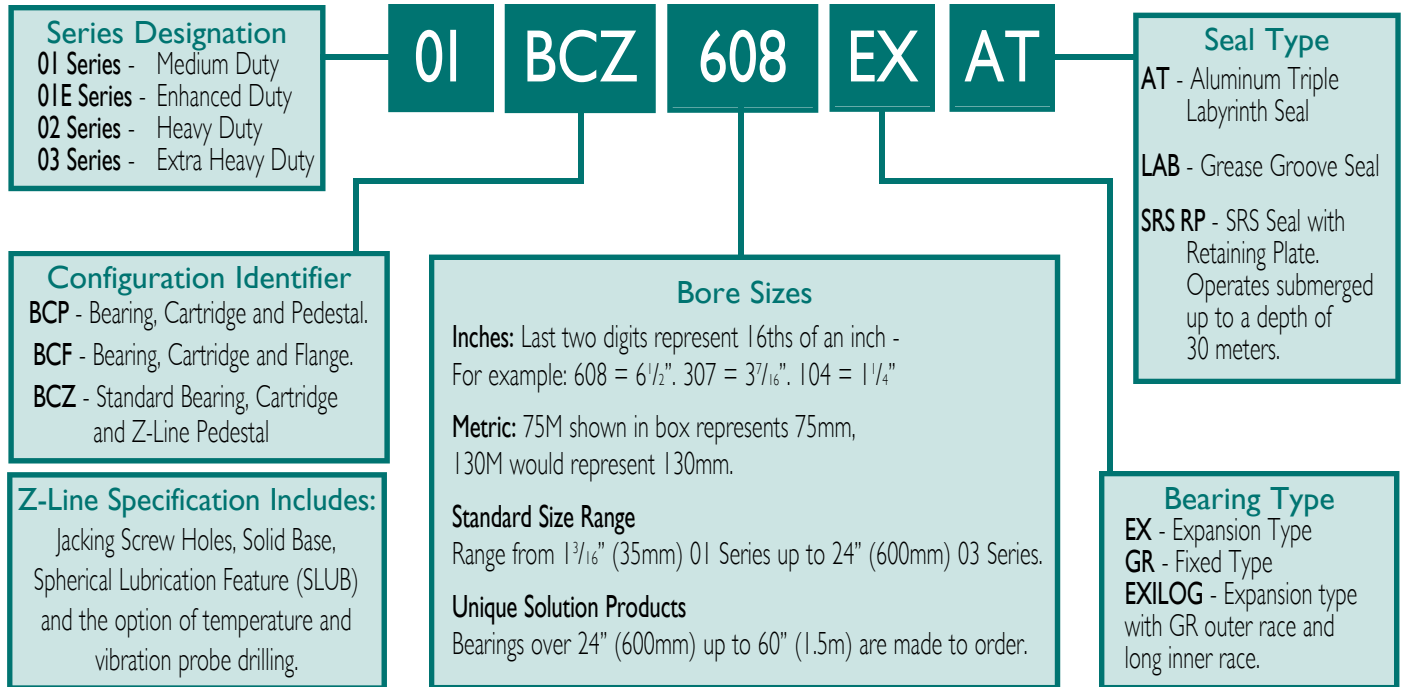
Bulkhead sealing is achieved by an 'O' ring in the rear face of the flange housing. This sealing is proven effective where bulkheads are not loadbearing and Cooper flange assemblies have been specified as bulkhead seals.

In this situation, the shaft is supported by a bearing cartridge and pedestal (BCZ) either side of the bulkhead with the shaft passing through a Flange Assembly (BCF) mounted to the bulkhead.

Spherical sealing (SSE) applied to the flange prevents leakage between the cartridge and flange and subsequently, through the bulkhead.

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Cooper Nomenclature - How to Order



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