

Cooper: keeping the wheels turning throughout the power industry

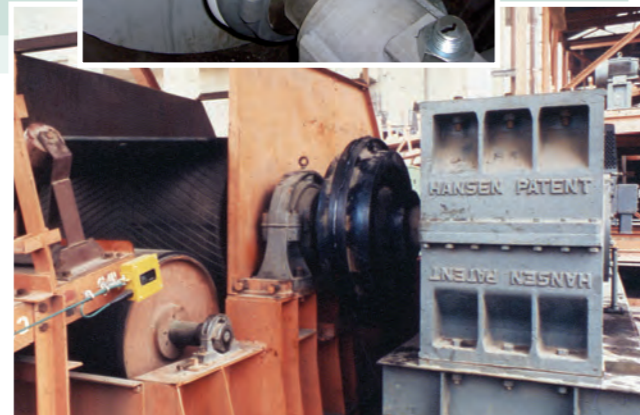
Cooper split roller bearings support the power generation industry in a wide range of applications, including those shown in the table:

Bearings in the power industry
Conveyors (belt & screw)
Fans and blowers, including scrubber fans
Crushers, breakers, pulverisers and mills
Heat exchangers
Generators and motors (including high rise pedestal mill motors)
Water screens
Pumps and pump drives
Carriers and feeders
Stacker reclaimers
Washers
Winders
Flywheel/brake sets



Conveyors

The roles of conveyors include the transport of fuels (ranging from coal to organic wastes) and raw materials such as limestone for scrubbing. They remove waste products from both nuclear and conventional processes. You will find Cooper bearings assuring the smooth running of belt feeder, screw and other conveyors in power plants all over the world, in the harshest conditions and especially in 'trapped' locations where no other type of bearing can easily be installed or inspected.



Fans and blowers

Fans play an important role in regulating temperature, removing dust, maintaining ventilation and scrubbing flue gases, often in harsh or corrosive conditions. Bearing locations are often trapped, with the result that split-to-the-shaft Cooper products offer distinct advantages in terms of accessibility.

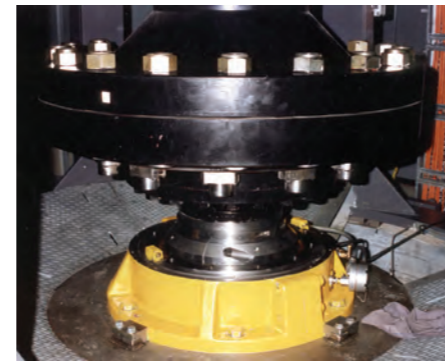


Crushers, breakers, pulverisers & mills

Equipment that grinds and smashes solid fuels and raw materials needs to be particularly robust, and that includes the bearings involved. Cooper products, with their high quality engineering and superior sealing systems offer long bearing life while their ready access for inspection practically eliminates any risk of sudden failure.

Generators and motors (including high rise pedestal mill motors)

With their vital role in keeping the power flowing, generators and motors constitute a point where the power industry is perhaps at its most vulnerable to bearing failure. They also feature many trapped locations where Cooper split-to-the-shaft bearings can make a huge difference, both in ease and speed of inspection and in downtime needed for bearing maintenance and replacement.



Pumps and pump drives

Hardworking bearings support vital pumping activities, feeding boilers, circulating cooling fluids and extracting condensates. Cooper bearings find application on a wide range of pump shafts, many in hard-to-access situations.



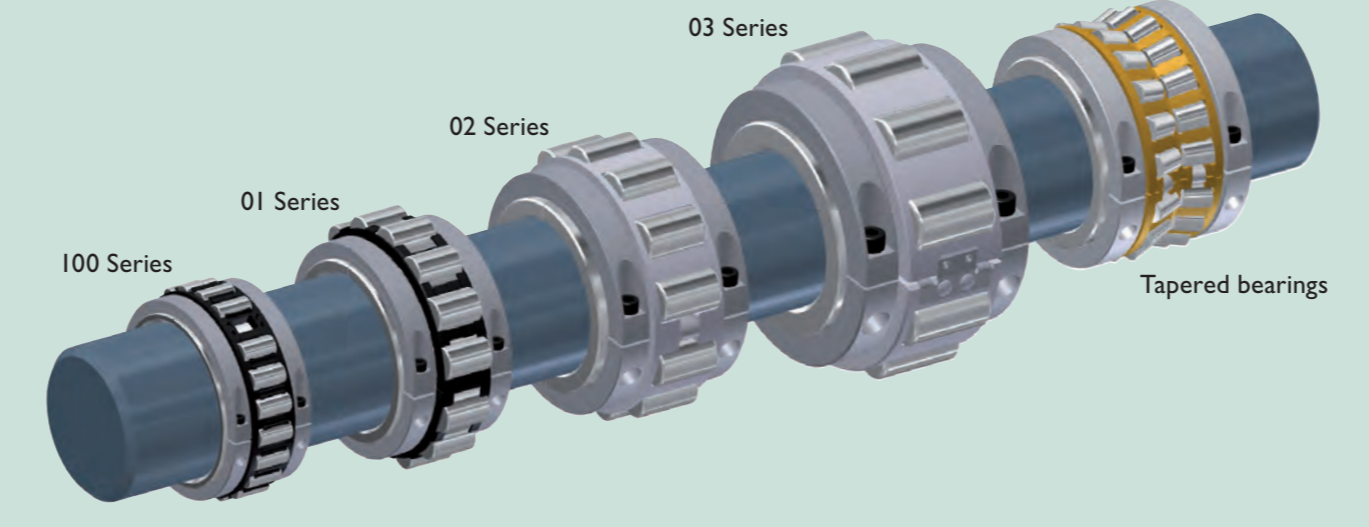
Water screens

Massive rotating water screens are needed to filter water which will be used for cooling. Any impurities which could block the narrow cooling tubes must be removed. The bearing shown can carry up to 70 tonnes and operates completely submerged for much of the time.

Cooper bearings used in power generation

Cooper split roller bearings include the 100 Series of high-speed compact bearings, the medium duty 01 Series, heavy duty 02 Series and extra heavy duty 03 Series. In addition there is a rapidly developing range of double-row split tapered bearings. We also offer a heavy duty bearing in an SD-compatible heavy duty pedestal.

In addition, Cooper makes special bearings to its own and customer specifications (see page at right).



Cooper bearings are also widespread in renewable energy applications, such as water turbines. Please visit our website to find out more.

The basis of phenomenal through-life cost savings: Cooper roller bearings are split to the shaft

- Bearing installation is fast and easy no matter how 'trapped' the location
- No shaft realignment is required
- Inspection is simple and fast, aiding planned maintenance and reducing both downtime and "unexpected" failure
- Smaller range of operations needed, leading to task and toolbox simplification
- Handling weights are reduced (smaller, lighter pieces). Lifting gear is not required for most Cooper sizes. No lifting of nearby equipment is required

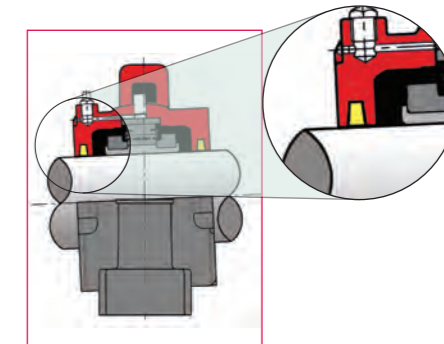
- A better long-term solution: the Cooper inner race protects the shaft and eliminates journal wear
- No cooling system is needed, thanks to low friction



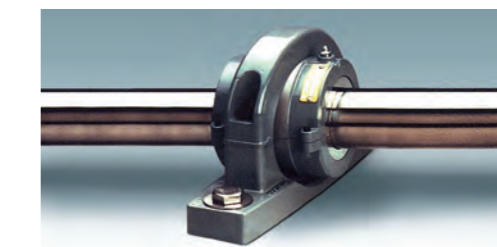
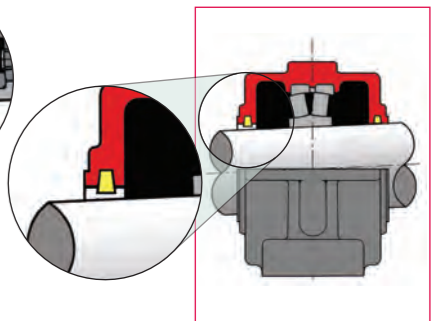
The secret of long bearing life: a seal that stays aligned with the shaft, even when the shaft is misaligned

- Full seal integrity even if the shaft moves $\pm 2.5^\circ$
- Reduction of foreign material ingress, even in very dusty environments
- No running-in period needed
- Little lubricant leakage, making lubrication simpler and keeping work surfaces cleaner

Cooper bearing



Double row spherical solid bearing



Thanks to its unique swivelling cartridge, the Cooper bearing allows the seal to remain concentric with the shaft at all times.

By contrast, the solid bearing arrangement opens up the seal or crushes it.

Made to order bearings for the power industry

In addition to a large range held in stock, Cooper designs and makes bearings to order. We frequently manufacture split or solid thrust and radial roller bearings up to 1.5m shaft diameter and have the skills and equipment to produce many other special products as well as to modify existing bearings and casings of our own or other manufacture.

For example, shown at left is a combined radial and thrust bearing specially designed to take the axial load of a forty five tonne pump, capable of pumping five thousand litres per second.

If you would like to use our custom services, please get in touch with your nearest Cooper Customer Service Centre (please see list on back page of this brochure).

