

COOPER BEARINGS: RELIABILITY AND ACCESSIBILITY RIGHT ACROSS THE SUGAR INDUSTRY

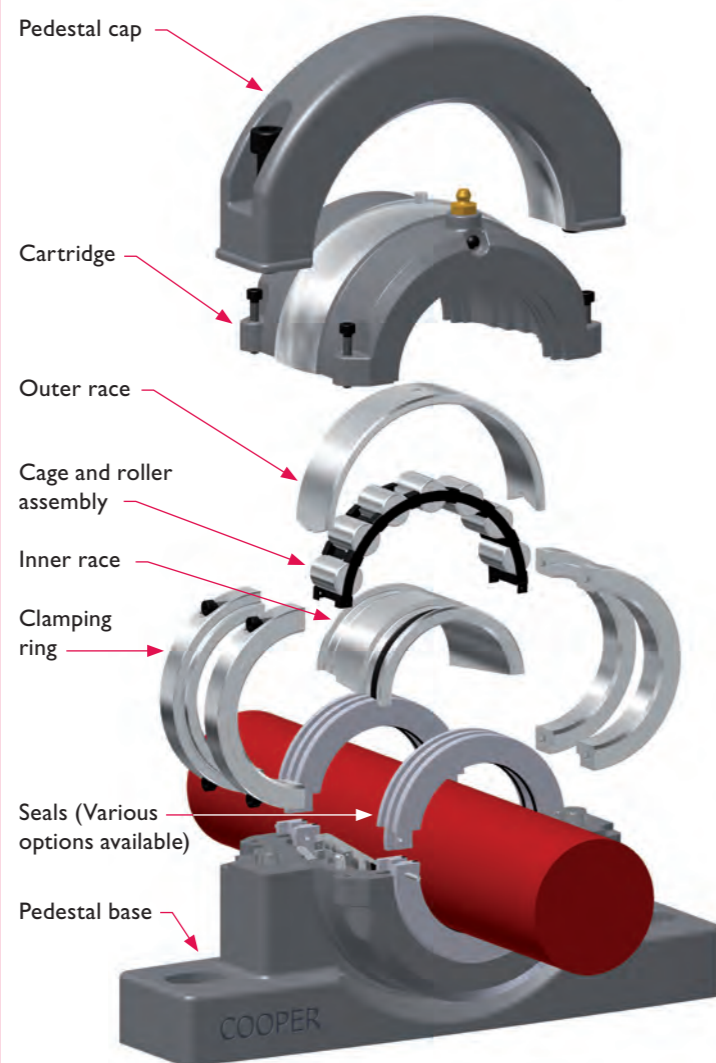
Whether beet- or cane-sourced, sugar has traditionally demanded uninterrupted processing in the months following harvesting. In many cases, international multiple sourcing means that the pressure for continuous performance nowadays can occur at any time of the year.

Cooper split roller bearings have for many years been a risk-reduction factor in sugar production and refining. This stems from their long life and reliability, even under wet, dirty, hot and abrasive conditions, and the marked reductions in inspection and maintenance costs that they deliver.

With its considerable investment in R&D, Cooper ensures that its products stay ahead of developments in sugar industry equipment and practices. One result has been that the company has built up an international presence mirroring the nature of the industry, with authorised supply chain partners in over thirty countries.

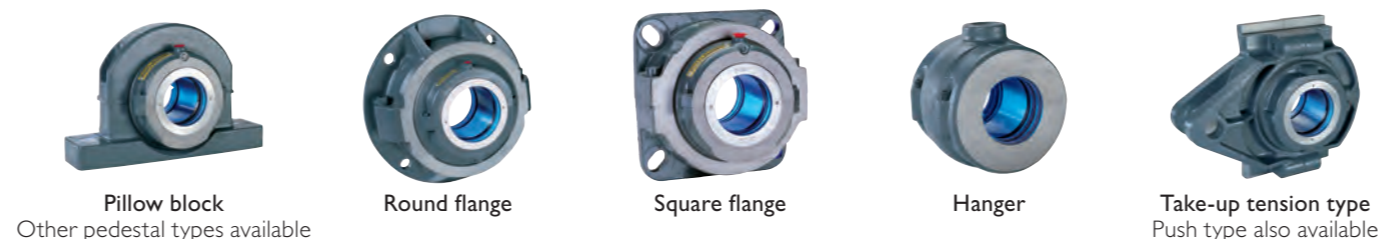
Easy-to-fit, easy to disassemble: the logic that underpins the cost benefits

Cooper roller bearings are completely split to the shaft, yet designed and engineered to be extremely fast and easy to assemble into robust, reliable units that give exceptional service under the harshest conditions.



A wide range of mounting options

Available in a range of materials such as iron, nodular iron or steel, the variety of Cooper mountings reflects the wide spectrum of tasks which split roller bearings can perform. There is a full range of SN-, SAF- and SD-compatible pedestals.



The perfect sealing solution for your application

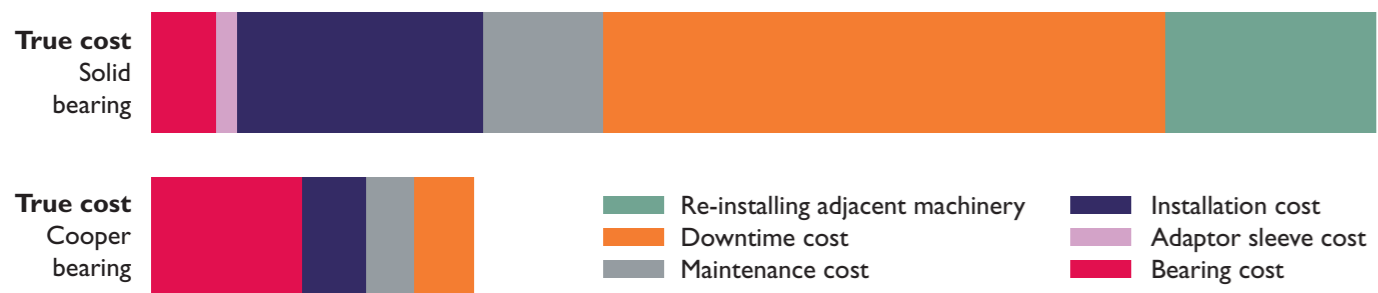
Superior sealing has been key to the success of Cooper bearings in ensuring continuous, problem-free operation over many years. We have a wide range of designs to meet the widely varying demands of the different locations and working environments in the sugar industry. Here are a few examples.

<p>Felt (F)</p> <p>Standard in UK and Europe for most Cooper bearings in general industrial applications. As a direct replacement, high temperature packing (HTP) seals are available, including silicon-free versions.</p>	<p>Synthetic rubber single lip (SRS)</p> <p>Suitable for wet but not submerged conditions. Can be used for improved lubricant retention by mounting lip innermost.</p>
<p>Aluminium triple labyrinth (ATL)</p> <p>Machined aluminium-bodied triple labyrinth seal for high speed and general applications. Supplied as standard in USA and Canada. Triple labyrinth seals with Viton rubber cord inserts (TLHT) are available for high speed and high temperature applications.</p>	<p>Single lip with spring-loaded retaining plate (SRS RP)</p> <p>Suitable for severe splash or completely submerged conditions. The standard version is suitable for up to 2m of fluid, the high pressure version for up to 30m.</p>

What you can expect to save for each Cooper bearing installed

The diagram shows the areas in which Cooper bearings can save you money. A simple calculation will often show through-life savings of hundreds of thousands of pounds per bearing.

Please note that these considerations leave out the fast and easy inspection made possible by Cooper split roller bearings, which helps eliminate sudden failure and all its associated costs.



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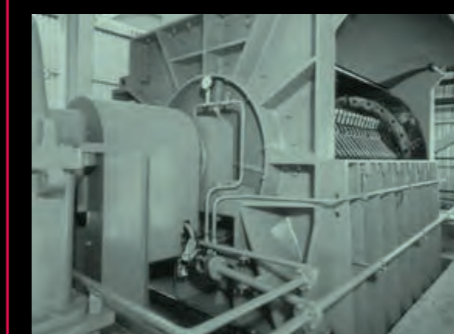
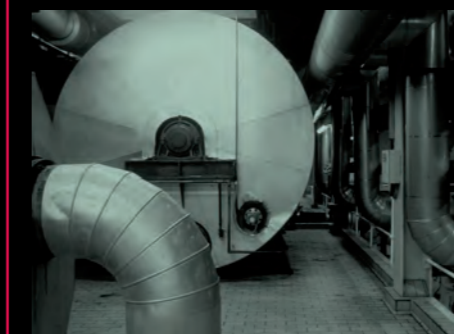
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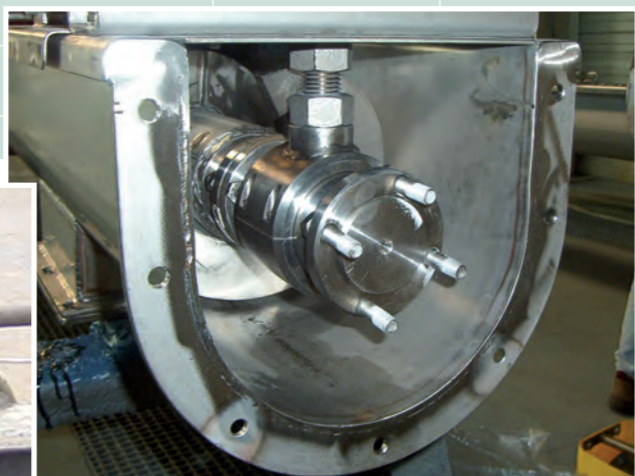
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Cane or beet, non-stop operation is simpler with Cooper bearings

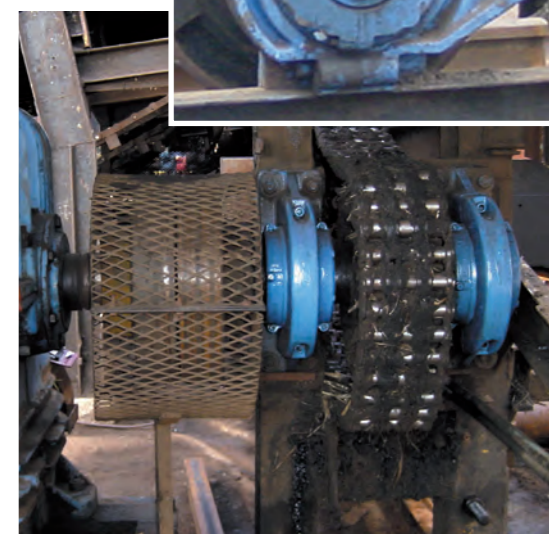
Cooper split roller bearings support the sugar industry in a wide range of applications, including those shown in the table.

General	Preparation	Extraction	Purification	Crystallisation	Refining
Conveyors (including screw, scroll and belt conveyors and Grasshoppers)	Washers	Cane knives & shredders	Drum processor trunnions	Crystallisers	Granulators
Fans and blowers	Reciprocating Screens	Beet slicers	Lime kilns	Rotary mixers	Conditioners
Carriers and feeders	Stone Trap Separators	Shredders		Strike receivers	
Elevators and cranes		Mill drives			
Gearboxes		Beet sugar diffuser drives			
Motors & generators		Beet sugar diffuser under-rollers			
Mixers & agitators					



Conveyors

Whether you process cane or beet, conveyor reliability is crucial from raw materials entry through extraction processes to refining and packing. Cooper products are at work throughout the plant from drive bearings on heavy duty raw material conveyors, to hanger bearings on screw conveyors. Despite many 'trapped' situations, they are practically instantly accessible for checking and maintenance.



Washers

Washers have to maintain throughput of beet at considerable speeds in wet conditions and in the presence of grit and stones. With Cooper bearings, smooth ongoing operation is assured.



Cane knives and shredders

Thrashing cane with knives and hammers demands particularly robust equipment. Cooper bearings are a favourite choice in these applications across the world.



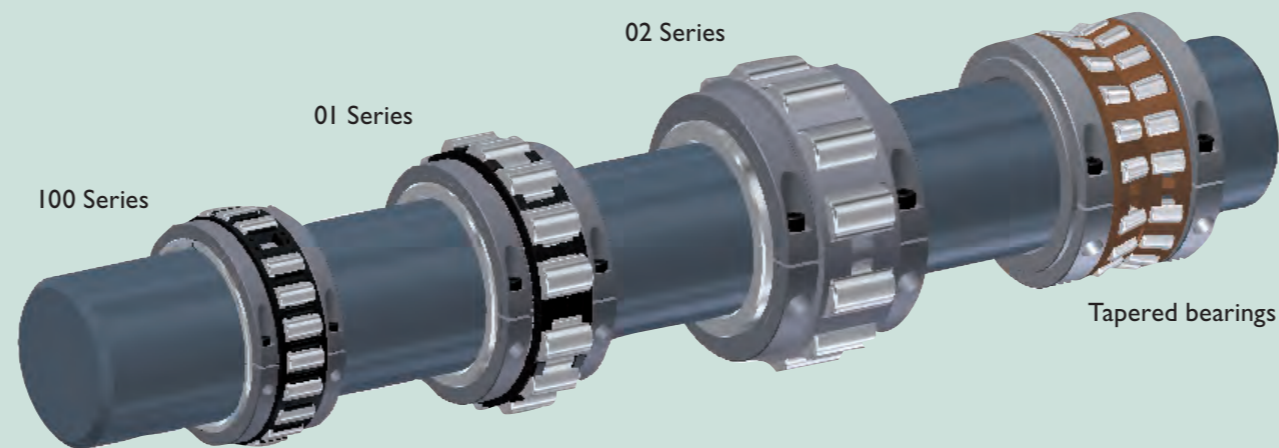
Fans & Blowers

Whether regulating temperature, removing dust or ensuring ventilation, hard-working fans and blowers are used extensively in both cane and beet sugar processing, many of them benefiting from reliable, easy-to-inspect-and-maintain Cooper bearings.

Cooper bearings used in the sugar industry

Cooper split roller bearings include the 100 Series of high-speed compact bearings, the medium duty 01 Series and heavy duty 02 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. Please contact your nearest Cooper Customer Service Centre (address on back) if you would like to use our custom services.



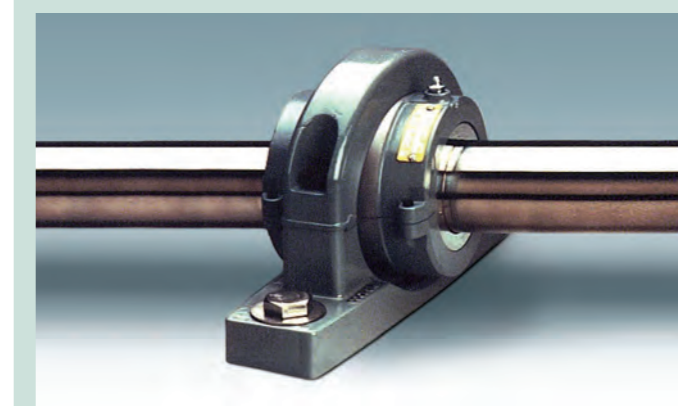
The basis of phenomenal through-life cost savings: Cooper roller bearings are split to the shaft

- 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
- No cooling system is needed, thanks to low friction

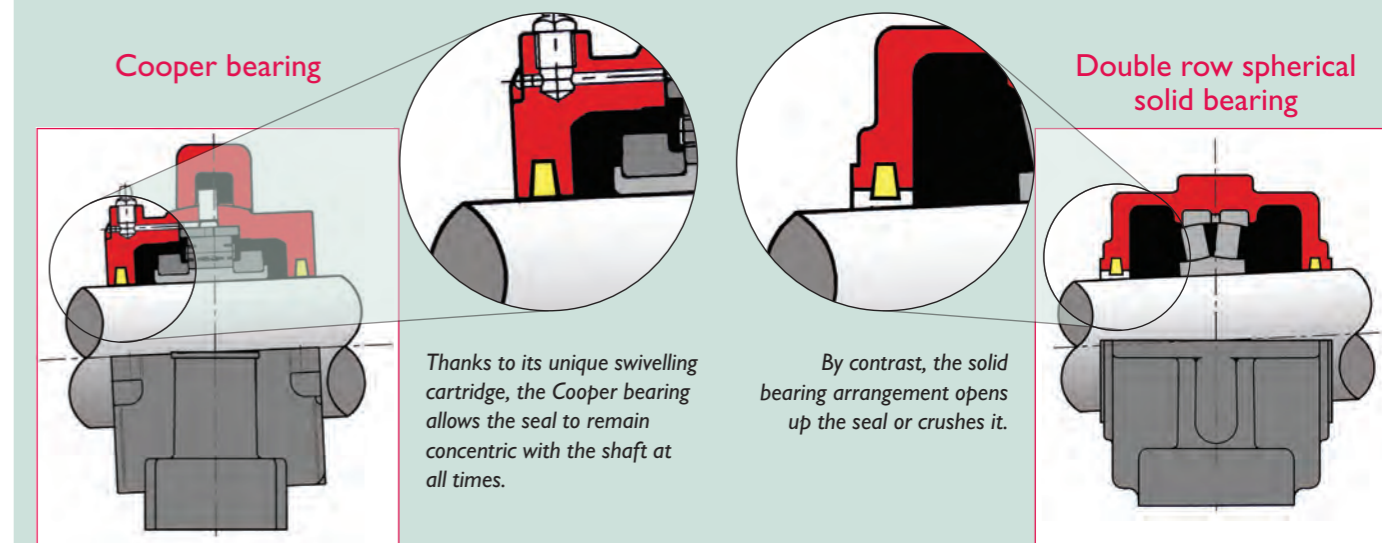
- A better long-term solution: the Cooper inner race protects the shaft and eliminates journal wear



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 materials ingress, even in very dusty environments
- No running-in period needed
- Little lubricant leakage, making lubrication simpler and keeping work surfaces cleaner



Cooper bearing

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

Double row spherical solid bearing

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