



Simpler, safer bearings for wind energy test rigs

The Problem

A prestigious European motor and generator OEM was selected to provide a motor for inshore testing of wind turbines. The test rig design required bearings of two different diameters and had to be capable of handling intermittent high-thrust loads. The choice of bearings was therefore crucial.

Sleeve (hydrodynamic) bearings impose restrictive shaft tolerance requirements, demand considerable power input on start-up, need a dedicated oil supply and are prone to shaft-damaging failure. Solid anti-friction bearings of the size needed would present handling challenges during test rig adjustments in restricted spaces.

The Solution

Having looked closely at the different options, the OEM commissioned two made-to-order split anti-friction bearings from Cooper Bearings in the UK.

- A 1100mm bore expansion-type bearing with cylindrical rolling elements
- A 780mm bore bearing with tapered rolling elements, designed to handle thrust

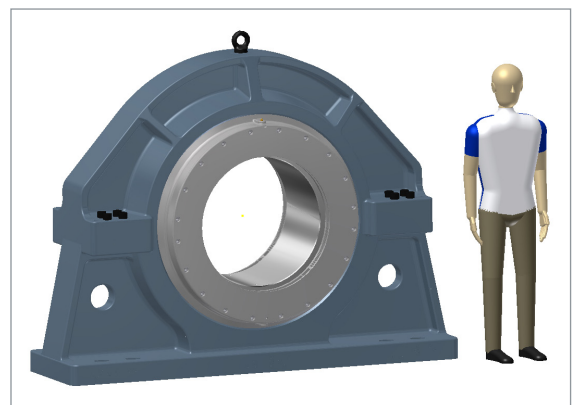
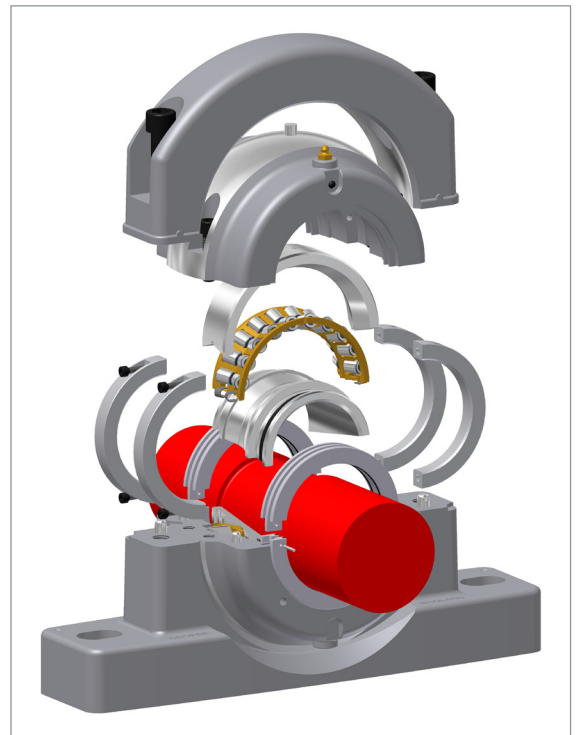
The Advantages

By comparison with 'sleeves', the Cooper split bearings offer:

- Power savings on start up, with much lower initial torque
- Risk reduction: failure is less likely and cannot damage the shaft
- Reduced complexity, since no separate lubrication system is needed
- Cleaner operation because of the absence of oil lubrication
- Less stringent requirements for shaft diameter tolerance

By comparison with solid double-row spherical bearings the Cooper split bearings are

- simpler to install, remove and inspect, with handling weights at least 50% lower and therefore safer



Bespoke bearings, housings and seals backed by world-leading expertise

Cooper's factory is one of the few worldwide capable of delivering made-to-order (MTO) bearings of this size on time and with all manufacturing taking place under direct control.

For more information, contact us via our website www.cooperbearings.com

Innovation is our strongest tradition

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SPLIT ROLLER BEARINGS