

Press Release

Schaeffler at WindEnergy Hamburg 2022 (Hall B5, Booth 333)

Split asymmetric spherical roller bearings enable replacement of rotor bearings directly in the nacelle

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- Cost of replacing rotor bearings can be reduced by a good 50 percent
- Replacement bearings incorporate proven design optimizations of recent years
- Runtimes of existing wind turbines can be extended economically

Spherical roller bearings are used as rotor supports in a significant share of the wind turbines installed around the world. If these bearings fail prematurely, it usually does not make economic sense to replace them due to the high costs involved. Rotor bearings can currently only be replaced if the entire rotor star and large parts of the drivetrain are removed. This can lead to a scenario in which wind turbines are shut down even though they are still functional. Schaeffler has developed an innovative solution for this very case based on split asymmetric spherical roller bearings. With it, the cost of replacing the bearings can be reduced by a good 50 percent.

Removal of the defective bearings and installation of the new split bearings can be done right in the nacelle. The new spherical roller bearings feature optimizations that have been established in the field in several stages over the past few years, such as the asymmetrical contact angles. With this design, the gearbox-side row of rollers that takes up the wind loads is at a steeper angle. This leads to lower internal bearing forces and a higher axial stiffness. With this robust repair solution, Schaeffler offers the wind industry a way of continuing to operate existing wind turbines economically for many more years.

German Renewables Award 2022 for split spherical roller bearings from Schaeffler

With the German Renewables Award, the Renewable Energy Hamburg Cluster acknowledges outstanding innovations and personal commitment to renewable energies. The independent jury gave out the award for the eleventh time on August 24, 2022. Schaeffler received an award in the "Product Innovation of the Year" category for its split asymmetric spherical roller bearing.

Schaeffler Group – We pioneer motion The Schaeffler Group has been driving forward groundbreaking inventions and developments in the field of motion technology for over 75 years. With innovative technologies, products, and services for electric mobility, CO₂-efficient drives, chassis solutions, Industry 4.0, digitalization, and renewable energies, the company is a reliable partner for making motion more efficient, intelligent, and sustainable – over the entire life cycle. The Motion Technology Company manufactures high-precision components and systems for drive train and chassis applications as well as rolling and plain bearing solutions for a large number of industrial applications. The Schaeffler Group generated sales of EUR 16.3 billion in 2023. With around 83,400 employees, Schaeffler is one of the world's largest family-owned companies and one of Germany's most innovative companies.

The split asymmetric spherical roller bearings from Schaeffler can be mounted in the nacelle. As a result, repair costs can be reduced by a good 50 percent and the wind turbine can be operated economically for a longer time.- Photo: Schaeffler

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Split asymmetric spherical roller bearing on the rotor shaft - Photo: Schaeffler

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Split asymmetric spherical roller bearing with labyrinth seals on both sides - Photo:Schaeffler

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