

Pitch Bearing Unit (PBU)



Manufacturers of wind turbines face numerous challenges: intense competitive pressure demands ongoing cost reductions and supply chain optimization. Additionally, the trend toward larger wind turbines and their components, such as rotor hubs and blades, results in increased system deformations that can substantially affect the service life and performance of the pitch bearings.

Furthermore, the logistical requirements and transportation costs in the onshore sector are rising significantly due to the size of these components. We have identified these issues and developed a solution: **The Pitch Bearing Unit.**

Technical information

- ➞ Extender bearing unit that is screwed between the hub and the blade
- ➞ Integration of pitch drive, pitch bearings and stiffness elements into the PBU
- ➞ Structural design of the PBU tailored to OEM-specific turbine designs

Advantages

- Cost savings through better transportation options and a less complex hub design
- Reduction of hub size and complexity
- Plug-and-play function - simplifies the development and design of wind turbines
- Improved stiffness for blade bearings
- Ready-to-run: Less assembly work at the OEM in the factory, less assembly work on the construction site
- Enables standardization and modularization of the hub across platforms and/or OEMs

Customer benefits



Standardization



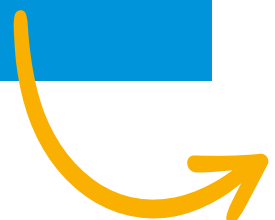
Upgrade



Transport



Modularization



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Customer benefits and use cases



Standardization

- Same hub for different blades
- Same hub for different pitch systems (electr. / hydr.)
- Same hub for different turbine platforms
- Simplified hub design



Upgrade

- Superior stiffness for blade bearing applications (3RRB)
- Targeted increase of blade root diameter without change in hub design



Logistic

- One component: ready-to-run and quality-approved shipped to on site location
- Reduction in hub size and thus in hub transport efforts



Modularization

- Less complex assembly process at OEM side
- Less efforts regarding component handling, assembly and installation on site

