

Your development partner

for a hidden component
with complex technology

The Miba Bearing Group offers flexible and customized engine, wind turbine drivetrain and turbomachinery bearing solutions. Thanks to our comprehensive application engineering and material know-how, we can offer tailor-made and cost-efficient solutions for applications, where other bearing technologies reach their limits.

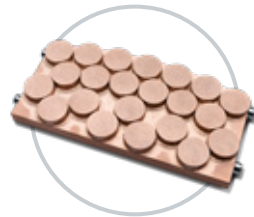
Over decades, we have acquired in-depth knowledge of the tribology of plain bearings and mounted drive components. Our strengths lie in our independence when it comes to raw materials, in highly developed, reliable production processes and in efficient quality management - with the aim of realizing all functional requirements as cost-effectively as possible.

Our Research & Development team provides technical support for design and validation. We can perform testing and simulations in-house on state-of-the-art test rigs and offer various digital services.

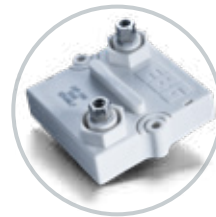


We offer a wide product portfolio of wind power applications

Every second wind turbine uses brakes with **MIBA FRICTION MATERIALS**. 90% of wind turbine manufacturers rely on **POWER RESISTORS** of the Miba company EBG Resistors. **COOLING TECHNOLOGY** from the Miba company DAU ensures that the power electronics in the switch boxes of wind turbines are kept at the right temperature. Miba **AUTOMATION SYSTEMS** is the specialist for weld seam preparation for offshore wind towers. **BEARING SOLUTIONS** for sophisticated gears in drives and as focus of development in rotor main bearings of wind power plants.



Friction Materials



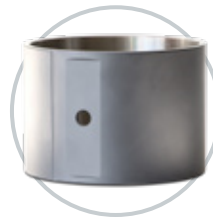
Power Resistors



Cooling Technology



Automation Systems



Bearing Solutions

Miba Bearing Group
Dr.-Mitterbauer-Str. 3
4663 Laakirchen
Austria
T +43 7613 2541-0
M bearinggroup@miba.com

www.miba.com

Innovation in Motion 

Hydrodynamic Plain Bearing Solutions

for Wind Gearbox Applications



Bearings as a key element in wind turbine gearboxes

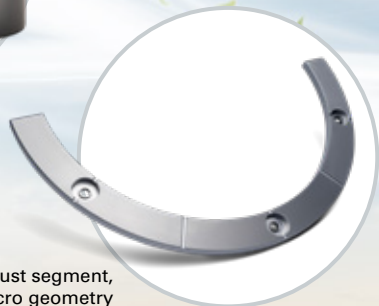
Hydrodynamic plain bearings are considered as technical enabler for wind turbine main gear boxes to meet future demands concerning power density increase, reliability and cost.

The reduction of levelized costs of electricity is becoming increasingly important. Our proven solution for this is hydrodynamic plain bearings, optimized for increasing torque density and limited installation space. Mixed lubrication capability is the key to a high performance product.

For radial bushings, we offer an inverse rolled solution with steel backing, combined with aluminum-based lining material and a Synthec® top layer that provides the necessary mechanical and tribological properties. This development has been tested many times, proven in field tests and is in series use.

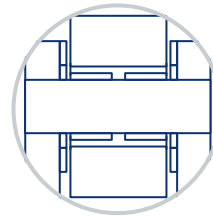


OD running surface, formed bushing; steel backed – AISn

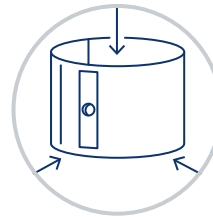


Thrust segment, flat without micro geometry

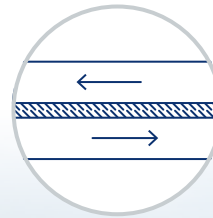
Advanced technology solution for highest load



Designed for planetary gear bushing support. **BUSHINGS TO BE FIXED TO PLANETARY PINS.**



COMPACT DESIGN enables high torque density gearbox designs with increased number of planets supporting reduced rim wheel thickness of gears.



HIGH MIXED FRICTION CAPABILITIES taking special conditions like single blade installation, idling without grid connection, grid loss events into account.

Benefit from our over 10 years of experience

Since 2008 we have been working on bearing solutions for wind turbine main gearboxes, which are already in series production. Miba works closely together with well-known OEMs and gearbox manufacturers all over the world. In 2010, we filed our first patents and are continuously investing in R&D, employees and production capacity. Through a comprehensive design verification and deep-in-detail design process, we develop customer- and application-specific plain bearing solutions. To meet future requirements, we are already working on a direct coated pin solution.



Hydrodynamic Plain Bearing Solutions

for Wind Gearbox Applications

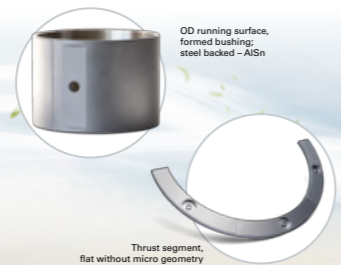


Bearings as a key element in wind turbine gearboxes

Hydrodynamic plain bearings are considered as technical enabler for wind turbine main gear boxes to meet future demands concerning power density increase, reliability and cost.

The reduction of levelized costs of electricity is becoming increasingly important. Our proven solution for this is hydrodynamic plain bearings, optimized for increasing torque density and limited installation space. Mixed lubrication capability is the key to a high performance product.

For radial bushings, we offer an inverse rolled solution with steel backing, combined with aluminum-based lining material and a SyntheC® top layer that provides the necessary mechanical and tribological properties. This development has been tested many times, proven in field tests and is in series use.



Your development partner

for a hidden component with complex technology

The Miba Bearing Group offers flexible and customized engine, wind turbine drivetrain and turbomachinery bearing solutions. Thanks to our comprehensive application engineering and material know-how, we can offer tailor-made and cost-efficient solutions for applications, where other bearing technologies reach their limits.

Over decades, we have acquired in-depth knowledge of the tribology of plain bearings and mounted drive components. Our strengths lie in our independence when it comes to raw materials, in highly developed, reliable production processes and in efficient quality management - with the aim of realizing all functional requirements as cost-effectively as possible.

Our Research & Development team provides technical support for design and validation. We can perform testing and simulations in-house on state-of-the-art test rigs and offer various digital services.

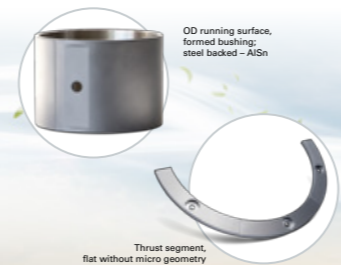


Bearings as a key element in wind turbine gearboxes

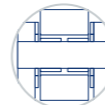
Hydrodynamic plain bearings are considered as technical enabler for wind turbine main gear boxes to meet future demands concerning power density increase, reliability and cost.

The reduction of levelized costs of electricity is becoming increasingly important. Our proven solution for this is hydrodynamic plain bearings, optimized for increasing torque density and limited installation space. Mixed lubrication capability is the key to a high performance product.

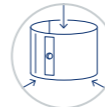
For radial bushings, we offer an inverse rolled solution with steel backing, combined with aluminum-based lining material and a SyntheC® top layer that provides the necessary mechanical and tribological properties. This development has been tested many times, proven in field tests and is in series use.



Advanced technology solution for highest load



Designed for planetary gear bushing support. **BUSHINGS TO BE FIXED TO PLANETARY PINS.**



COMPACT DESIGN enables high torque density gearbox designs with increased number of planets supporting reduced rim wheel thickness of gears.



HIGH MIXED FRICTION CAPABILITIES taking special conditions like single blade installation, idling without grid connection, grid loss events into account.

Benefit from our over 10 years of experience

Since 2008 we have been working on bearing solutions for wind turbine main gearboxes, which are already in series production. Miba works closely together with well-known OEMs and gearbox manufacturers all over the world. In 2010, we filed our first patents and are continuously investing in R&D, employees and production capacity. Through a comprehensive design verification and deep-in-detail design process, we develop customer- and application-specific plain bearing solutions. To meet future requirements, we are already working on a direct coated pin solution.



We offer a wide product portfolio of wind power applications

Every second wind turbine uses brakes with **MIBA FRICTION MATERIALS**. 90% of wind turbine manufactures rely on **POWER RESISTORS** of the Miba company EBG Resistors. **COOLING TECHNOLOGY** from the Miba company DAU ensures that the power electronics in the switch boxes of wind turbines are kept at the right temperature. Miba **AUTOMATION SYSTEMS** is the specialist for weld seam preparation for offshore wind towers. **BEARING SOLUTIONS** for sophisticated gears in drives and as focus of development in rotor main bearings of wind power plants.

