

# Bearing solutions

## To improve the performance of your systems

Maximizing the full potential of your systems is our top priority. By incorporating hydrodynamic bearings, we create new opportunities for our customers across various industries. We provide comprehensive support for our customers and their systems across a wide range of applications:

- Blowers
- Heat pumps
- Jet engines
- Turbocharger
- Test rigs
- Roller drives
- Compressors
- Gearboxes
- Pumps
- Engines
- Generators
- Turbines
- Turbofans



# Our bearing offer



Maximum performance of your system thanks to flexibility in design.



Lightweight solutions for next-generation applications.



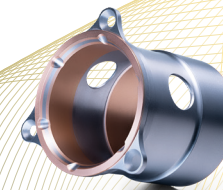
Expert support and optimization at every project stage through close partnership with Miba.



Reliable supply chains and localized service through global footprint.

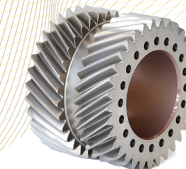
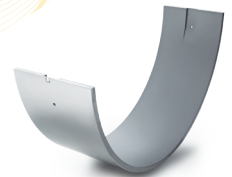
# Hydrodynamic Bearing Solutions

**For engines, turbofans, gearboxes and other aerospace applications**



Flexibility in design

High load capacity



Lightweight solutions

## Miba Bearing Group

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# Hydrodynamic bearing technology

## Added value for our customers

Our hydrodynamic bearings are optimized for high speed, high load and dynamic applications. They float on an oil or lubricant film thanks to an active oil supply provided by an existing infrastructure or independently. This design ensures:

- Proven lead-free material (optional)
- Up to 15 % lower maintenance costs due to longer TBO time
- Up to 15 % lower fuel consumption
- Higher rotation speeds
- Higher load capacity
- Up to 20% less weight and assembly space
- Up to 20% less noise emissions
- Higher shock-load absorbance
- Easy installation and reduced service costs

The use of Miba's hydrodynamic bearings opens up new opportunities for you, enables your future solutions and increases the performance of your systems.

We can actively support you in the realization of your system – starting from the first concept along the whole product lifecycle.



### CONCEPT

#### Feasibility study

- Hydrodynamics
- Technical specifications
- Bearing loading
- Target costs



### DESIGN

#### Bearing design

- Assembly situation
- Hydrodynamic calculations
  - Lifetime estimation
  - Oil flow optimisation
- Model testing
- Bearing type recommendation



### PRODUCTION

#### Bearing supply

- Plain bearings and bushings
- Journal bearings
- Thrust washers
- Own pre-material, incl. PVD-material



### VALIDATION

#### In-house bearing validation

- Metallurgical analysis
- Prototype supply
- Assembly test
- Multiple test benches
- X-ray, ultrasonic, dye penetrant



### SERVICE

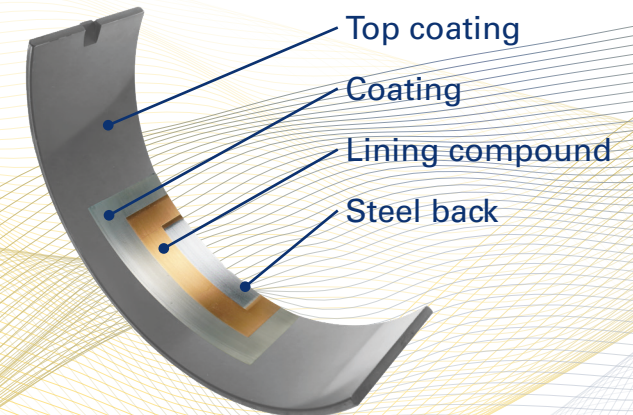
#### Service

- Remaining bearing life program
- Improvement support on demand
- Bearing judgment team

# Flexibility in material and design

## Design and material options possible

The steel backing is responsible for the strength of the bearing system. The tribological requirements are ideally implemented thanks to the layered structure consisting of lining compound (bearing metal) and coatings.



**Miba offers different lining compounds:**  
Aluminium, Bronze, lead-free

**Miba offers different coatings:**  
Electroplating, PVD coating, Synthec® Coatings

Depending on the application, the bearing will be designed to the individual requirements.



The lining compound can also be applied directly to the product for lighter weight solutions. For example, on the inner diameter of gear wheels.