

# **Global Aerospace Products Manufacturing**

Bearings, Fasteners, Machined Parts, Advanced Solutions





# **Bringing Excellence Together**



MinebeaMitsumi Aerospace is committed to delivering the right products and solutions, no matter where in the world you are. Whether you need a high quality standard product, a customized assembly, or a truly innovative solution, we can help you take your project from idea to successful launch.

Our international team of sales and product specialists serves as your expert connection to the highly developed engineering, manufacturing, and new product development capabilities of our worldwide network of aerospace manufacturers. Before you begin your next project, contact MinebeaMitsumi Aerospace, the global brand that's bringing excellence together.





## NORTH AMERICA

- 1 Peterborough, NH: MinebeaMitsumi Aerospace Main Office NHBB Corporate Headquarters NHBB HiTech Division
- 2 Laconia, NH: NHBB Astro Division NHBB New Product Development Center (NPDC)
- 3 Chatsworth, CA: NHBB Precision Division myonic USA (sales div.)
- 4 Churubusco, IN: C&A Tool Engineering, Inc.

#### EUROPE

- 5 Lincoln, UK: NMB-Minebea UK Ltd.
- **6** Leutkirch, Germany: myonic GmbH
- **7** Roznov, Czech Republic: myonic s.r.o.
- 8 Herzogenrath, Germany: CEROBEAR GmbH
- 9 Paris, France: Mach Aero Bretigny SAS

#### ASIA

- **10** Karuizawa, Japan: Rod End Division
- **11** Fujisawa, Japan: Fastener Division
- **12** Tokyo, Japan: Minebea Precision
- **13** Lop Buri, Thailand: Rodend Bearing Division
- 14 Bangalore, India: Mach Aero Components Pvt. Ltd.



# **Industry Knowledge and Expertise**

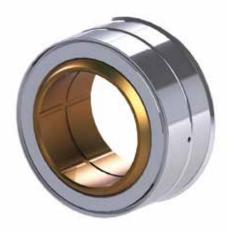
We design and manufacture solutions for critical applications on everything from small business jets to wide body commercial airliners, from light turbine helicopters to heavy lift rotorcraft, and from space launch vehicles to satellites. Listed below are some of the many applications where our products are found. Contact sales to learn more.



Cylindrical Roller Bearing Flexure cage outer ring High speed vibration control



Rolling Element Rod End Bearing Heavy load capacity Precise low friction motion



Large Trunnion Bearing Wear resistant ball material High load capacity

### AIRFRAME FLIGHT CONTROL AND FUSELAGE

Ailerons Elevators Flaps and Slats High Lift Assemblies Instruments Rudders Spoilers Stabilizers

#### AUXILIARY MECHANICAL SYSTEMS

Air Mgt. Systems APU's De-Ice Valves Hydraulic Pumps Nacelle Blowers RAM Air Turbines Starter Generators Thrust Reversers

### ENGINES GEARBOXES AND TRANSMISSIONS

Engine Mounts Gearboxes Hot Air Valves Main Shafts Pylon Mounts Spigot Assemblies Tower Shafts Variable Stator Vanes

### LANDING GEAR-MAIN AND NOSE

Braces Downlocks Pintles Retraction Actuators Shock Struts Steering Actuators Trunnions





Self-Lubricating Rod End INVINSYS<sup>®</sup> patented liner system Extremely long life



Hybrid Tapered Roller Bearing Duplex design with ceramic rollers High reliability



Custom Machined Part Light weight alloy Corrosion resistant coating

#### ROTORCRAFT AND VTOL

Blade Retention Damper Actuators Pitch Control Rotor Heads Scissor Drives Swash Plates

### SPACECRAFT AND SATELLITES

Cargo Capsules Crew Transport Vehicles Launch Vehicles Orbital Satellites Planetary Probes

## **CAD Images**

The products shown are just a few of the many customized, high-value aerospace solutions available through MinebeaMitsumi Aerospace.





Angular Contact Ball Bearing High temperature alloy Silicon nitride balls



**Custom Pin Fastener** High strength and toughness Corrosion resistance

**ROD END DIVISION** Karuizawa, Japan

Rod end and spherical bearings, ball bore sizes up to 5.0 in. (127mm) ID, bushings, ball bearing rod ends, roller bearings, machined parts, next-up assemblies

ISO 9001/JIS Q 9100 ISO 14001/JIS Q 14001 Nadcap: AC7101, AC7102, AC7108, AC7114, AC7117

#### **FASTENER DIVISION** Fujisawa, Japan

High strength titanium bolts, fasteners, metal sleeve bearings, machined parts up to 15.7 in. (400mm) OD for turning and 33.4 in. (850mm) for machining

ISO 9001/JIS Q 9100

ISO 14001/JIS Q 14001

Boeing D1-4426

Nadcap: AC7102,

AC7108, AC7114

RODEND BEARING DIV. Lop Buri, Thailand

Rod end and spherical bearings, machined parts, next-up assemblies

ISO 9001/JIS Q 9100 ISO 14001/JIS Q 14001 Nadcap: AC7101, AC7102, AC7108,

AC7114

ISO 9001/JIS Q 9100

MINEBEA PRECISION

Tokyo, Japan

Precision machined

components for air-

frames, aero engines,

satellites, electronically

controlled equipment,



**NMB-MINEBEA UK** 

Lincoln, UK

Large specialized

bushings featuring

titanium alloys and

(180mm) ID

special coatings, ball

bore sizes up to 7.09 in.

spherical bearings and

Blisk Aero Engine Component High temperature alloy Tightly toleranced machining

MACH AERO Paris, France Bangalore, India

Spherical bearings, rod ends and bushings up to 11.8 in. (300mm) OD, machined parts up to 13.8 in. (350mm), next-up assemblies, hydraulic components, custom solutions, maintenance

ISO 9001/AS9100/ JIS Q 9100/EN9100 FR.145.471 (maintenance) FR.21G.0201 Nadcap: AC7114

and oil hydraulic equipment

# **New Product Development**

Your products of tomorrow will require the adoption of new technologies as well as dramatic improvements in existing components. As a group, we are dedicated to creating solutions across our entire product offering that deliver transformative performance improvements. Key focus areas include:



Stator Segment Additive manufacturing process Prototyping and production

- Bearing wear sensor systems
- Self-lubricating liner technology
- Hybrid bearings and ceramic components
- New manufacturing methods and technologies including additive manufacturing
- New materials

For more information, contact the nearest sales office (see back page).

#### NHBB ASTRO DIV. Laconia, NH USA

Rod ends, spherical bearings and bushings up to 22 in. OD, custom solutions with complex features, next-up assemblies

#### NHBB HITECH DIV. Peterborough, NH USA

Ball and cylindrical roller bearings up to 12 in. (305mm) OD, complex bearing assemblies NHBB PRECISION DIV. Chatsworth, CA USA

Precision ball bearings up to 3 in. (76mm) OD, complex bearing assemblies, airframe control ball bearings MYONIC Leutkirch, Germany Roznov, Czech Rep.

High precision miniature ball bearings, duplex and super duplex ball bearings, thrust bearings, precision mechanical subassemblies **CEROBEAR** Herzogenrath, Germany

Hybrid and all-ceramic ball and roller bearings up to 20 in. (508mm) OD, highly customized solutions **C&A** Churubusco, IN USA

Custom complex highprecision machining, additive manufacturing, contract manufacturing, tooling and project engineering

ISO 9001/AS9100 Boeing D6-82479 ISO 14001 Nadcap: AC7102, AC7108, AC7114, AC7118 ISO 9001/AS9100 Boeing D6-82479 ISO 14001 Nadcap: AC7102, AC7108, AC7114 ISO 9001/AS9100 Boeing D6-82479 ISO 14001 Nadcap: AC7102, AC7108 DIN ISO 9001 DIN ISO 14001 DIN ISO 9001/EN9100 DIN ISO 14001 BS OHSAS 18001 ISO 9001/AS9100 ISO/TS 16949 ISO 13485 Nadcap: AC7116



KOREA

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