

Custom Bearings Unique to Your Application

NES provides custom engineered solutions with shorter lead times and small to large product runs for a variety of bearing types. Bearing manufacturing capabilities include deep groove, angular contact, thrust and self-aligning ball bearings, cylindrical, thrust, and needle roller bearings. Having the manufacturing capability and engineering support to produce a wide range of bearings and components in sizes from 20-350mm OD provides NES with an array of options to support the custom bearing user.

Nitinol 60 Non-Corrosive, Super Elastic Bearing Material

Nitinol 60 is a unique material with the highest corrosion resistance of any rolling element bearing material available today. Nitinol 60 also possesses super-elastic properties providing significantly higher resistance to true brinelling, making it of particular value to the space community due to launch and load conditions. The unique qualities of this material come with unique manufacturing challenges. Conventional manufacturing techniques employ magnetism for holding a bearing during machining. As Nitinol 60 is completely nonmagnetic, NES has developed proprietary work-holding techniques for use with CNC grinding equipment. The nonmagnetic characteristics of Nitinol 60 offer another unique product solution for NES application engineers and their customers.



Contact Us



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CUSTOM BEARING Manufacturing

✓ ISO9001
CERTIFIED QMS

✓ AS9100
CERTIFIED QMS

✓ NADCAP
CHEMICAL PROCESSING

NES Bearing Company, Inc.
Napoleon Engineering Services

NES Bearing Company, Inc. (877) 870-3200

SHORT LEAD TIMES,
SMALL/LARGE PRODUCTION RUNS
MADE IN THE USA

HIGH TEMPERATURE, CORROSION
RESISTANT, HIGH FATIGUE LIFE, and
DIMENSIONALLY UNIQUE BEARINGS

ISO9001 CERTIFIED QMS
AS9100 CERTIFIED QMS
NADCAP CERTIFIED

Complete Bearing Manufacturing

NES's design engineering and manufacturing capabilities provide customers with custom designed bearings without long lead times. Our knowledge and expertise allow us to analyze your application conditions and develop an advanced product that will meet or exceed your needs. NES's unique manufacturing concepts and attention to application demand issues have resulted in solutions for bearing applications from satellite actuation systems, turbomachinery, power transmission, and aircraft engines to cryogenic pumps and drilling rigs.

Bearing Types & Materials

NES manufactures deep groove ball bearings, angular contact ball bearings, double row angular contact ball bearings, thrust ball bearings, needle roller bearings, cylindrical roller bearings and thrust roller bearings to custom print requirements. NES uses a wide range of bearing materials to achieve success in your application. Typical ring materials include 440C, Cronidur® 30, XD15NW, BG42, 52100, M50, M50 NiL, Pyrowear® 675, and superelastic NiTiNOL 60. Rolling element materials vary from 52100, 440C, Silicon Nitride (ceramic), M50, Cronidur® 30 and XD15NW. Precision machined cages are manufactured from bronze, steel, silverplated bronze or steel, Nylon 6/6, PEEK, Vespel®, Torlon®, Teflon® coated glass fabrics, and Phenolic.

Bearing Modification

NES can also maximize existing resources to reduce custom bearing cost and lead-time by also utilizing high quality off-the-shelf bearing products as a starting point for modification. When off-the-shelf bearing products do not meet application requirements, NES will modify the product through design and remanufacturing of specific components or characteristics to enhance the capabilities of the bearing.

Precision modifications include creating ceramic hybrids, specialty cages, duplexing of ACBB & DGBB, precision spacers for tapered roller bearings, radial clearance changes, anti-rotation holes, grooves, slots, non-standard bore sizes, tapered bore 1:12, oil holes and grooves, special width requirements, special lubrication requirements, seal/shield additions, wear resistant coatings, and dry-film lubricants.

NES Bearing Solutions

NES Bearing Solutions stands for more than just custom bearings with unique characteristics or features that work in tough applications, it represent our philosophy of retracing the roots of our original bearing manufacturers in the US who placed a tremendous value on service. Where **service** means picking up the phone in two rings, listening to the customer, making what the application demands through proven engineering and manufacturing solutions, incorporating unique materials, processes and configurations into the design, and having regular communication with the customer about manufacturing status.

NES
BEARING
Solutions

- ✓ Short Lead Times
- ✓ Small & Large Orders
- ✓ Unique Materials
- ✓ Application Engineering
- ✓ Full Product Traceability
- ✓ Made in the USA

✓ ISO9001
CERTIFIED QMS

✓ AS9100
CERTIFIED QMS

✓ NADCAP
CHEMICAL PROCESSING



Magnetic Back-up Bearings

Being virtually lubrication and contamination free, magnetic bearings have become viable options for natural gas pipelines, petroleum refining, machine tool operation, and electric power generation. However, for magnetic bearings to be successful a reliable backup or auxiliary bearing must be in place to guard against power or control system failure. It is essential that the magnetic backup bearing performs to the highest standards possible to prevent application failure. NES provides magnetic backup bearings with high speed and load capability using the finest quality materials adding reliability and decreasing down time in the application.



Turbomachinery & Power Transmission Bearing Manufacturing

Bearing manufacturing for turbomachinery and power transmission requires the use of superior quality raw materials and manufacturing processes; the incorporation of extensive design and project review processes; and support for required material and process traceability. To meet these needs, NES offers complete design, development and manufacturing of custom high-precision ball and roller bearings. The manufacturing process includes close collaboration with an OEM's in-house engineering team, with full project management support from initial concept through final delivery of NES's US manufactured bearings. Typical bearings utilize Cronidur® 30, XD15NW, 52100, M50, and M50 NiL high-life materials and coatings. Applications include gas turbines, chemical pumps, AMB systems, steam turbines, valves, downhole drilling, high speed motors, gear boxes, and power generation.