

CERAMIC HYBRID & FULL CERAMIC BEARINGS

EXCLUSIVELY FROM **BOCA BEARINGS**

**FROM CONCEPT
TO PRODUCTION
TO REPLACEMENT**



**BOCA
BEARING**

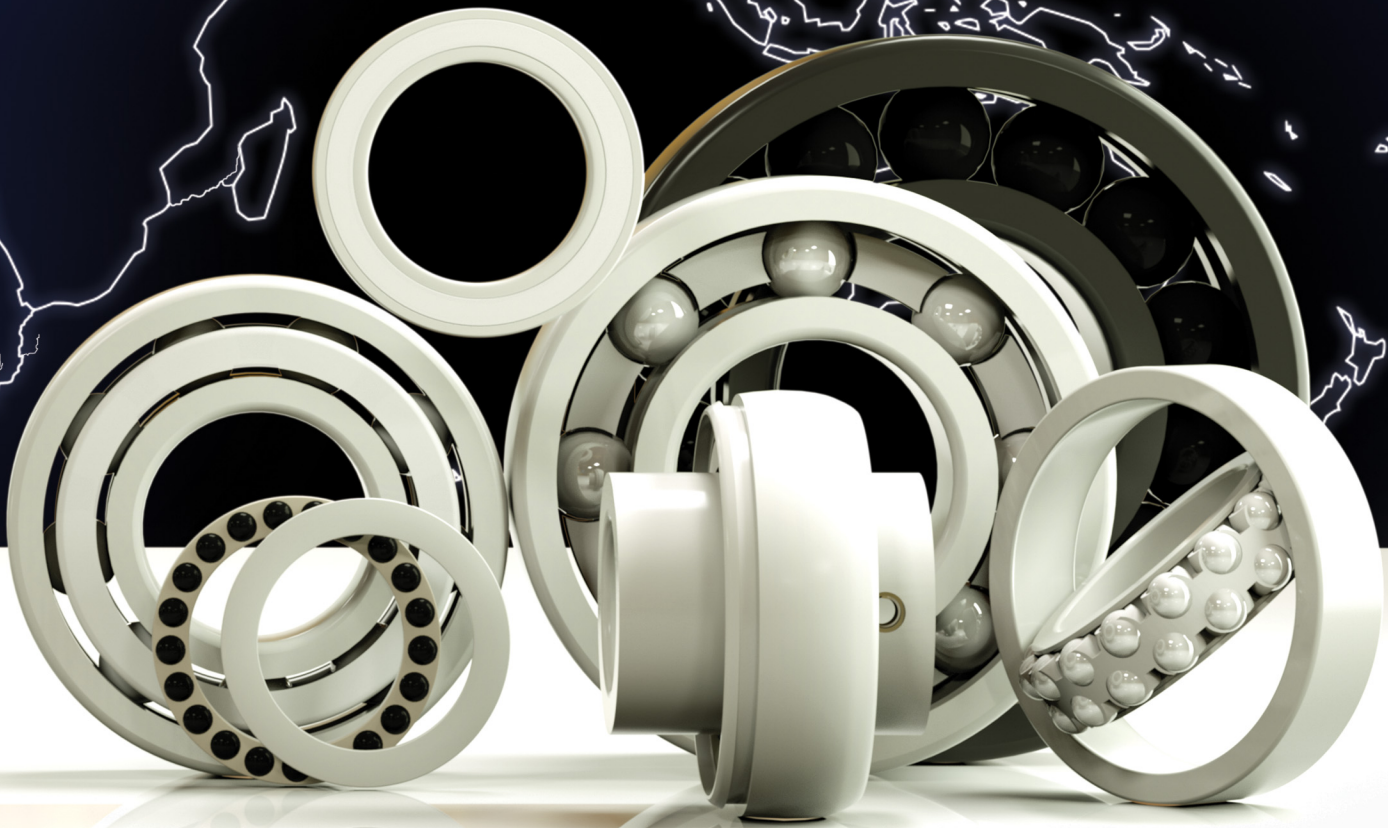
Ceramic Bearings for Industry and Recreation

www.bocabearings.com

FULL CERAMIC

BEARING MATERIAL

- Silicon Nitride (SiN_4)
- Alumina Oxide (Al_2O_3)
- Zirconia Oxide (ZrO_2)
- Silicon Carbide (SiC)



Full Ceramic Bearings have races and balls that are made entirely of ceramic material and are superior to common steel bearings in many ways. Ceramic is the perfect material for any application seeking to achieve higher RPM's, reduce overall weight or for extremely harsh environments where high temperatures and corrosive substances are present.

BENEFITS

- Will not corrode or rust
- 2/3 the weight of steel
- Resistant to resist acids, alkali, blood, salt and water
- Extremely low coefficient of friction and thermal expansion
- Lower friction results in less energy consumed
- Operating Temperature from as low as (-85°C) up to $(+ 900^{\circ}\text{C})$

APPLICATIONS

Full Ceramic bearings are used in specialty applications like chemical baths, vacuum environments, semiconductor manufacturing, food processing industries, radiotherapy, MRI, patient positioning systems and more. Any extreme environment that requires non-corrosive, non-conductive or non-magnetic bearings is ideal for full ceramic bearings.

BALL MATERIAL

- Silicon Nitride (SiN_4)
- Alumina Oxide (Al_2O_3)
- Zirconia Oxide (ZrO_2)
- Silicon Carbide (SiC)

CERAMIC HYBRID



Ceramic Hybrid Bearings have Steel races and Ceramic Balls. Ceramic Balls are suitable for applications where high loads, high speeds and extreme temperatures are factors. Long life and the need for minimal lubrication make this material appropriate for extreme applications. Ceramic is non-porous, non-magnetic, non-corrosive and lighter than steel. In ball form, ceramic balls are also harder than steel and because ceramic balls are non-porous they are virtually frictionless and capable of spinning faster than steel balls.

BENEFITS

- High loads, high speeds and extreme temperatures are factors
- Increased bearing life and decreased down time
- Minimal need for lubrication
- No cold welding between ceramic balls and races
- Multi-purpose use in variety of machines and different production lines
- High efficiency, low weight and small size

APPLICATIONS

Ceramic hybrid bearings are widely used in electric motors, aerospace applications, performance racing vehicles, laboratory equipment, under water applications and more. Any application that requires higher speeds, lower friction and longer life are ideal for ceramic hybrid bearings.

Semiconductors/ Advanced Manufacturing



Ceramic bearings are capable of accommodating the many challenging conditions present during the stages of semiconductor production; from furnace temperatures that can reach close to 2500°F to clean-room 1 air quality.

Water/Fluid Handling



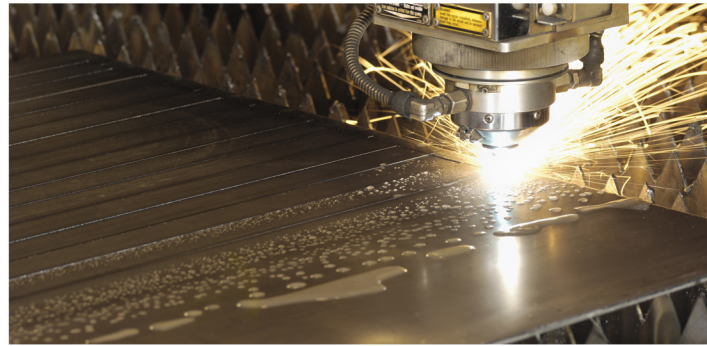
Boca Bearings Company's ceramic bearings require little to no lubrication or other maintenance and is ideally suited for use in waste water treatment machinery. Water processing machinery such as pumps, flow meters, filtration and hydraulic equipment. Since these bearings are virtually maintenance free they will reduce and minimize bearing related down time of plant's equipment.

Clean Room/Ultra High Vacuum



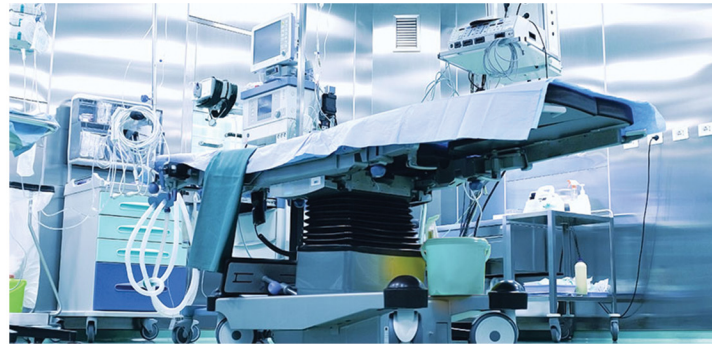
Ultra High Vacuum bearings are suited to operating in environments that are corrosive, clean room quality, high-temperature and non-magnetic. Ceramic balls have a Rockwell hardness 2-3 times that of steel.

Photonics



The Boca Bearing Company provides solutions for the photonics manufacturing industry by offering ceramic bearings that are non-magnetic, non-corrosive, non-conductive, and extremely low friction. Ceramic hybrid and full ceramic bearings are being used in some of today's most demanding manufacturing environments and product designs.

Medical Device



Our special zirconia is stronger than titanium and it is just as compatible as titanium with the body. This special ceramic has lower plaque adhesion than titanium, better soft tissue response and no chance for grey shine through the gums with zirconia.

Food Processing



Ceramic balls are far more efficient than steel balls because the rolling surface is more spherically perfect and therefore reduces friction. Companies that converted to ceramic bearings have seen a decrease of energy consumption and were therefore able to cut cost.

More Of Our Products

LUBRICATION PRODUCTS



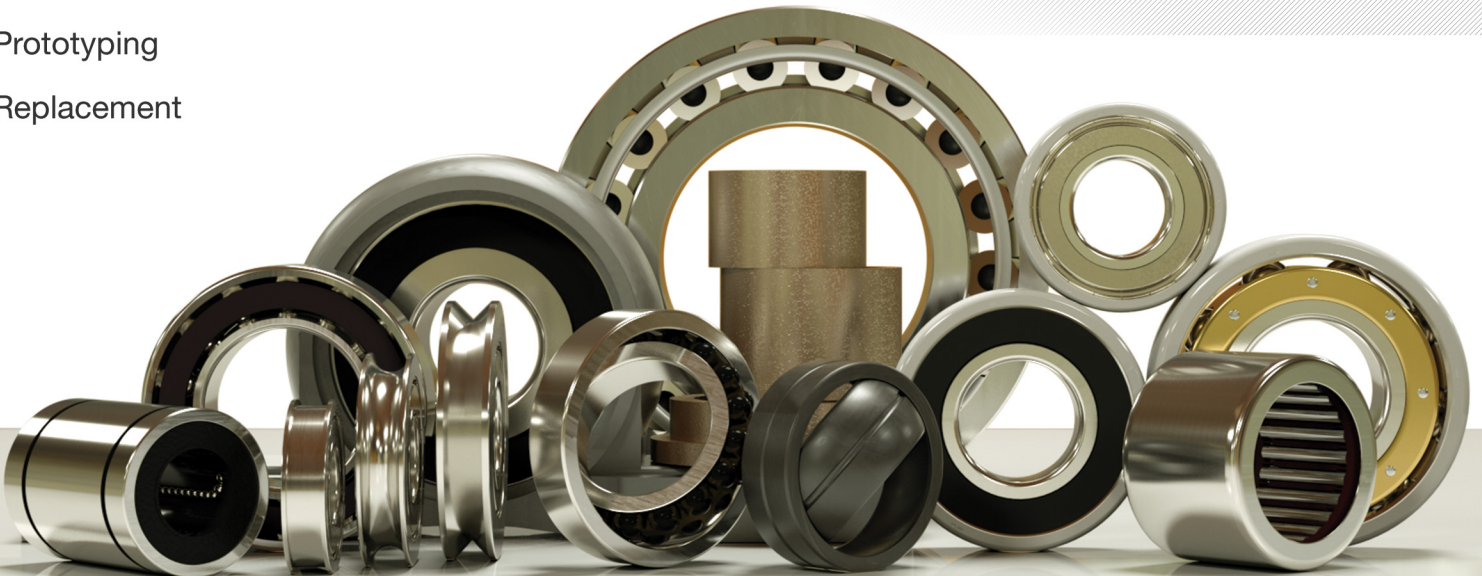
Boca Bearings is an authorized dealer of world class lube and grease products, such as Kyodo Yushi. We also carry Molykote and Krytox lubricants.

Boca Bearings has lubrication products, such as LSL Graphite, approved by FDA and specially designed for food manufacturing and processing industries. Ultra Lightning Lube process is available for all metal parts and eliminates the need for using any grease or oil.

Boca Bearings offers a variety of sizes and styles typically not found with other bearings distributors or wholesaler. The company consistently updates its catalog of available sizes and bearing types appropriate for:

- Concept Development
- Prototyping
- Replacement

SPECIALTY BEARINGS



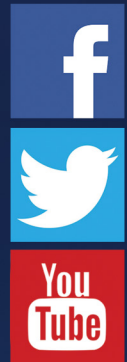
ABOUT

Since 1987, one of our primary goals at the Boca Bearing Company has been to maintain the world's largest inventory of miniature bearings in all the most popular metric and inch sizes. We also have an extensive inventory of special sizes and styles, including ceramic hybrids, full ceramic bearings, one way clutch and three piece thrust bearings. Currently, Boca Bearing Company has over 8000 different sizes and over 10 million items in stock and ready to ship.

In the last 15 years Boca Bearing Company has become an industry leader in the world of ceramic bearing technology. Boca Bearing Company was the first to stock full ranges of miniature full ceramic and ceramic hybrid bearings. Boca Bearing Company has brought their expertise in ceramic bearings to companies around the world, and has pioneered the use of ceramics in various recreation and hobby markets.

Whether your needs call for a few bearings, a few hundred or a few hundred thousand, you can always rely on us for unsurpassed service. The Boca Bearing Company takes pride in having extremely competitive prices, rapid response time, and on-time deliveries. We are always willing to go above and beyond the call of duty to provide radical customer service and keep our customers delighted.

Follow Us!



CONTACT US!

Boca Bearing Company's Commitment :

*To provide the right bearings
for the right applications
delivered at just the right time.*

www.bocabearings.com

info@bocabearings.com

Toll free phone: (800) 332-3256

Toll free fax: (800) 409-9191

Local phone: (561) 998-0004

Local fax: (561) 998-0119



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