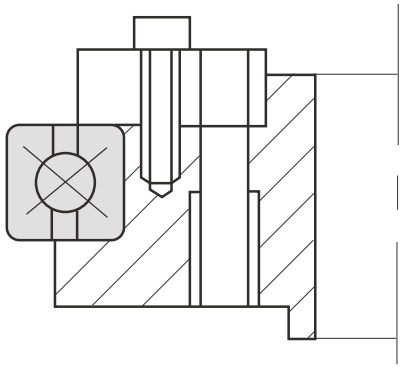
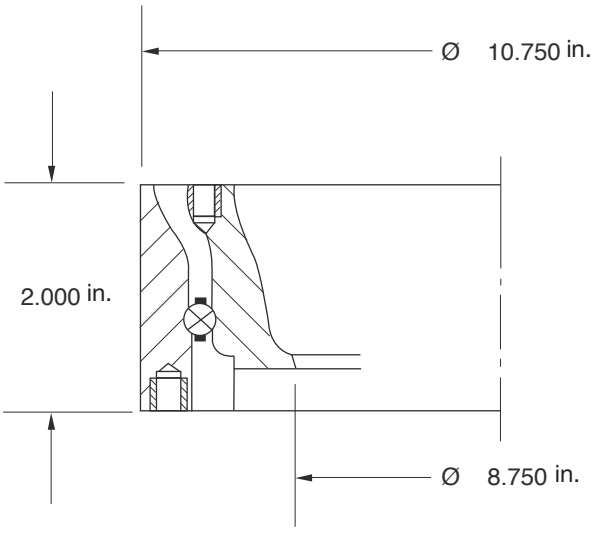
CUSTOM BEARINGS

In addition to the standard RBC Thin Section Ball Bearings, RBC will also manufacture specially designed bearings for specific applications. RBC Sales Engineers and Customer Service Representatives are available for consultation.



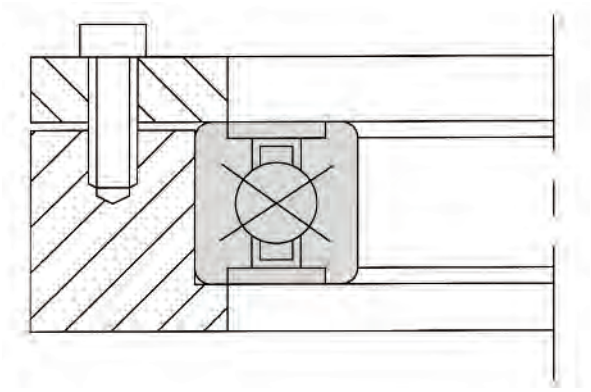
Continuous Rotating Machine Tool Table

Using a 4-point contact RBC Thin Section Ball Bearing provides stiffness for accurate positioning as well as carrying multiple loads. RBC supplied this assembly as shown.



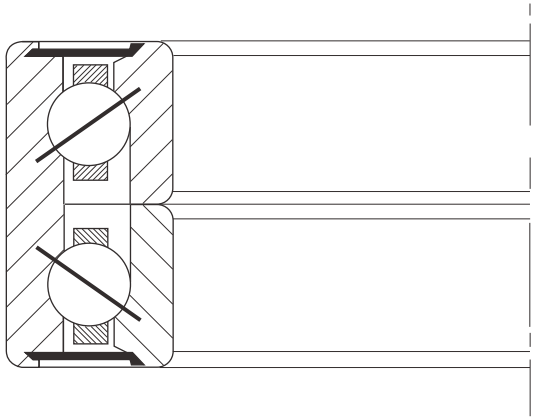
Aerial Camera Assembly

For use in an aerial camera assembly, an extra-light, low torque bearing was required. By redesigning a standard RBC Thin Section Ball Bearing 4-point contact design, the overall assembly weight was lowered from 7 lbs. to 3.8 lbs. In addition to weight reduction, this design, also reduced the running torque below 1 in.-lbs. with the starting torque below 2 in.-lbs.



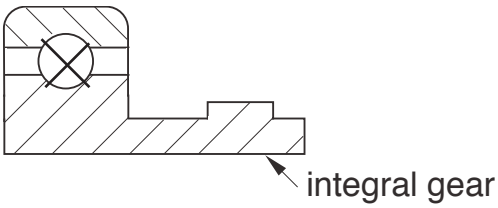
Machine Tool Indexing Table

Running at slow speeds with combined load carrying capabilities and minimal space determined the use of this 4-point RBC Thin Section Ball Bearing. RBC supplied this assembly as shown.



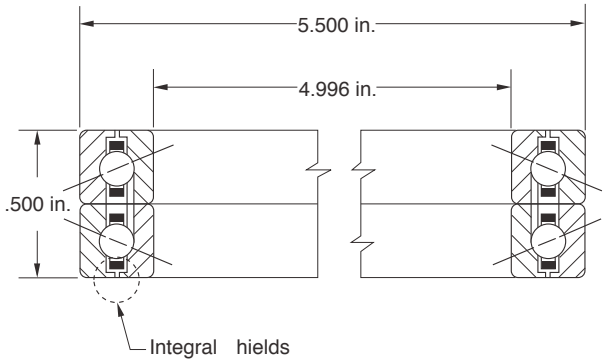
Airborne Radar System

A duplex pair of angular contact RBC Thin Section Ball Bearings was designed for an airborne radar system. This bearing application required combined load carrying capabilities, low temperature compatibility, and relatively low torque. Different from a standard Thin Section, this duplex bearing was designed with one outer ring and two inner rings with a slight preload. This design provided low torque and multiple loading capabilities.



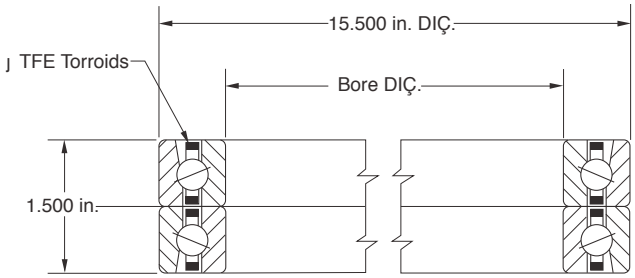
Radar Antenna Drive

An RBC Thin Section Ball Bearing designed with a gear integrated with the inner ring, achieved both a significant weight reduction and improved accuracy as well as simplicity of assembly. This bearing is used in a radar antenna drive which has limited space available for its support bearing. Coil springs were used as spacers between balls to lower bearing torque and further reduce weight.



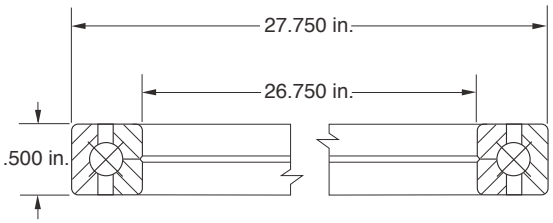
Instrument Gimbal Assembly

A preloaded duplex pair of angular contact RBC Thin Section Ball Bearings were designed to meet the low torque and corrosion resistant requirements in a combined load application. Designed for an instrument gimbal assembly in a missile, the duplex pair of bearings are subjected to combined radial, axial and moment loads. These special RBC Thin Section Ball Bearings have a light preload and were manufactured with integral shields as part of the rings.



Vacuum Operation

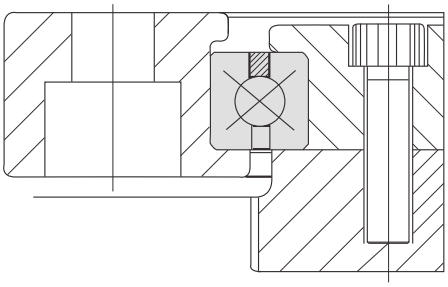
Bearing requirements included minimal radial runout, low torque, corrosion resistance, combined load capabilities and vacuum operation capabilities. Special designed duplex stainless steel angular contact RBC Thin Section Ball Bearings, provided the capabilities required.



Aircraft Gun Turret

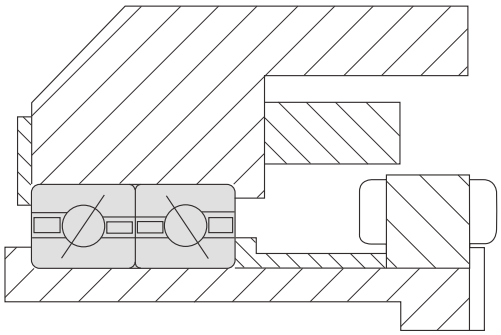
A bearing was required which would take radial, axial, and moment loading, to support an aircraft gun turret. It was desirable to have the bearing match the coefficient of expansion of the aluminum with a split inner ring and special balls to absorb shock and vibration loading.

This bearing performed at 25% of the torque of the steel bearings previously used.



Semiconductor Automated Test Equipment

Semiconductor automated test equipment required an RBC Thin Section Ball Bearing to accurately position a table. In this application the bearing oscillates to ±10°, this bearing was designed as a 4-point contact bearing.



Airborne Turret Azimuth

A low torque, high stiffness, multiple load capacity, corrosion resistant bearing was required for an airborne turret azimuth drive assembly. For this application a duplexed pair of angular contact RBC Thin Section Ball Bearings was designed with toroid separators and stainless steel rings. This design maintained low torque, but still allowed multiple load carrying capabilities.