



Thin Section Bearings

For high performance applications where space and weight are at a premium, thin section bearings allow for smooth rotation, reduced friction and high positional accuracy in a much smaller design envelope than conventional ball bearings.

Available in a wide range of sizes, materials and configurations, precision thin section bearings from HQW I BUK increase design flexibility, enabling more efficient equipment design and consequently reductions in overall system costs. This bearing type also offers:

- Flexible installation
- Excellent running accuracy
- High load carrying capacity
- Low profile design
- Reliable operation
- Quiet running



HQW Precision GmbH
The Barden Corporation (UK) Ltd

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Design Features

Ring Materials: Standard materials include chrome steel (100Cr6) and stainless steel (X65Cr13). High nitrogen steel X30CrMoN15-1 offers high corrosion resistance and is especially suited to extreme environment applications.

Lubrication: Thin section bearings are available with oil or grease lubrication. They can also be supplied dry where required. Lubricant is typically selected according to operating conditions and customer specification. More than 300 different lubricant and coating options are available.



Ball Quality: Grade 5 or better balls are typically used to allow for a smoother rolling performance. For demanding applications and high wear resistance ceramic (silicon nitride) balls can be specified.

Cages: Typically thin section bearings are supplied with cages manufactured from pressed steel, machined bronze or fabric reinforced phenolic material. High performance plastics such as PEEK or Polyamide-imide (such as Torlon®) can be used. Designs with full ball complements are also available on request.

Optional closures: Available to prevent ingress of contamination and lubrication loss. Light contact seals (LLH), non-contact seals (LLB), full contact seals (LLU), double shields (ZZ) or special seals are available.

Example Applications

- Aerospace & Defence
- Robotics & Instrumentation
- Medical systems and devices
- Optical scanning equipment
- Food processing equipment
- Textile machinery

Size Range & Variants

Thin section bearings are available in different series, therefore bearings with a larger cross-section and high load bearing capacity can be selected without an increase to the shaft diameter.

Various series are available, with sizes ranging from 2mm bore diameter to 180mm OD, in both deep groove and angular contact configurations. Matched sets are also available where required, please talk to our engineering department for more information.

Precision & Quality

Customers can be assured of exceptional quality and precision. Precision tolerances meet ISO P5 (ABEC5) standards as standard, while tolerances of ISO P4 (ABEC7) can be met as required. With world-leading systems and processes in place, our facilities are fully certified to ISO9001. Assembly, testing and packaging takes place in Class 7 cleanrooms and bearings are 100% tested. Our goal is to exceed quality expectations with all our products.

Specialist Requirements

Customised bearings are available to meet application specific demands. Custom design features such as flanges, housing integrations and non-standard materials and components are possible. Different configurations are available to suit low torque or high load carrying demands.

Specialist engineering services are available and our expert engineers work closely with customers to optimise designs that will improve bearing performance or useful life, lower whole life costs and improve efficiency. Please contact us for more information.

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