

Extra Thin Section Bearings

In applications where performance and accuracy are vital but space is at a premium, the extra thin section range of precision ball bearings from Barden can make even the toughest design envelope viable.

Available in sizes up to 125mm outer diameter, extra thin section bearings allow smooth rotation, reduced friction running and high positional accuracy. Their reduced size and weight enable savings in overall system costs, through an increased flexibility in product and system design.

Bearing Characteristics:

- Flexible installation
- Excellent running accuracy
- High load carrying capacity
- Suitable for high speeds
- Lightweight and space saving
- Reliable operation
- Quiet running

Precision & Quality

The range is manufactured with quality and performance in mind. Precision tolerances of ABEC7 are standard.

Our super precision manufacturing facilities employ world-class processes, and are certified to ISO9001 standards as well as aerospace standards AS9100 and AS9120. Assembly, testing and packaging is conducted in Class 7 cleanrooms for contamination free supply.



Design Features



Ring Materials: Stainless steel (440C) as standard, other steels including chrome steel (SAE52100) and SV30 high nitrogen steel (X30CrMoN15-1) are also available. SV30 offers particularly high corrosion resistance and is highly suitable for use in extreme and challenging environments.

Balls: Typically stainless steel balls are specified. Hybrid bearing variants (steel rings, ceramic balls) can be supplied as required and are especially suited to demanding applications where high wear rates are expected. Ceramic (silicon nitride) balls offer higher speeds, longer life and smoother rolling performance than standard balls.

Cages: Various cage types are available for extra thin section bearings, with stainless steel ribbon cages supplied as standard. High performance materials such as PEEK or Polyamide-imide (such as Torlon®) can also be used. Other options, including toroids and full ball complements, can be specified depending on the application.

Lubricants: Extra thin section bearings can be produced with oil or grease lubrication and can also be supplied dry on request. Specialist lubricants can be selected according to the operating conditions, e.g. highly contaminated environments or high temperature applications. We offer over 300 lubricant and coating options.

Closures: Seals and shields can be specified to protect against contamination ingress and resultant damage. This range can be supplied with single shields (S) or double shields (SS). Extra thin section bearings can also be supplied fully open.

Example Applications

- Aerospace, including torque tube airframe applications and actuation systems
- Satellite & space robotic arms
- Medical & optical scanning devices
- Medical systems & robotics
- Industrial robotics & automation

Design & Engineering

All standard configurations are available, including deep groove, four-point contact and angular contact designs. Designs can be customised to allow for customer specific requirements, such as integrated housings and non-standard components.

Our engineers work closely with customers to optimise designs and improve performance and efficiency of operation. Please contact us for more information.

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