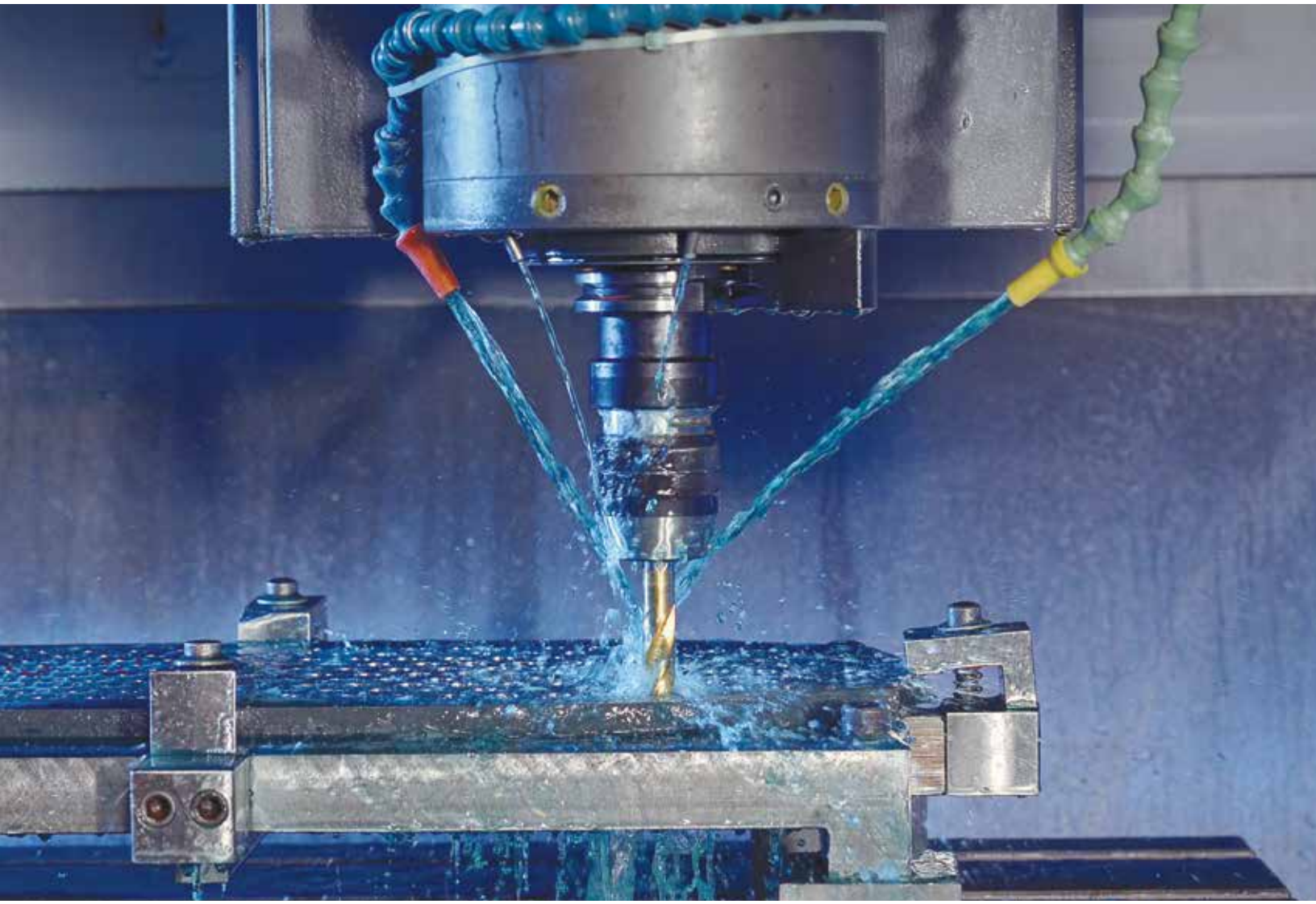
TIMKEN

Super Precision Ball Screw Support Bearings



When you choose Timken® bearings for your ball screw applications, you receive products made from world-class steel specifications and backed by a global leader known for quality, reliability and performance. Quality begins long before our machine tool bearings are manufactured and extends long after they are installed. We design bearings for optimum performance and long life, helping to maximize your initial investment and minimize your replacement costs.

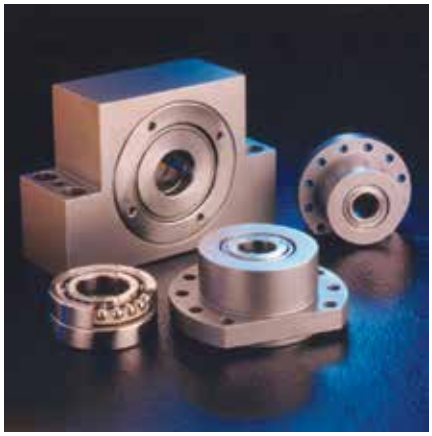




Performance by design increases your productivity

Timken ball screw support bearings are made from steel that is among the cleanest in the world. The lack of impurities and inclusions in our base materials enhances the durability and life of our bearings. This is critical in today's harsh metal-cutting environments where contamination from cutting fluids and debris is common. We use our knowledge of a variety of steel grades to select the best formulas for ball screw applications.

Using clean steel as a foundation, we manufacture ball screw bearings to ABEC 9/ISO P2 axial running tolerances to reduce run-out, which has a positive impact on positioning accuracy. Our bearings feature preload tolerances that are among the tightest in the industry. We achieve consistent preload levels by matching the ring offsets, and in our double-row design, the two-piece inner ring is matched with both the outer ring and cages. These manufacturing and assembly controls result in improved resolution and consistency in the machine duty cycle.



Our line of ball screw bearings is designed to develop low drag torque with control of lateral eccentricity and preload tolerances to enhance positioning consistency. Our attention to detail results in greater accuracy and repeatability, which helps to maintain the highest precision of your finished parts and ultimately improves your company's overall productivity.

To maximize axial rigidity, Timken bearings incorporate 60-degree contact angles and a maximum complement of balls. This design produces lower tool deflections and chatter-free cutting. You can choose steel balls, made from the same clean steel as the inner and outer rings, or ceramic balls for high-speed and rapid-acceleration operating needs. You also can request customized preloads and specific lubricants to accommodate special application requirements.

Our broad line of ball screw support bearings includes single- and double-row designs with a variety of mounting configurations. We offer flanged and non-flanged series for both standard and rotating nut mountings. Housed cartridge and pillow block units facilitate bolting to machine tool surfaces.

Timken bearings offer a variety of benefits:

- *Clean steel for longer service life*
- *Tighter preload tolerances for chatter-free cutting*
- *ABEC 9/ISO P2 axial running tolerances for higher accuracy*
- *Tighter width tolerances for easy fit without regrinding end caps*
- *Pre-lubricated with high-performance grease*
- *Broad availability for increased machine uptime*

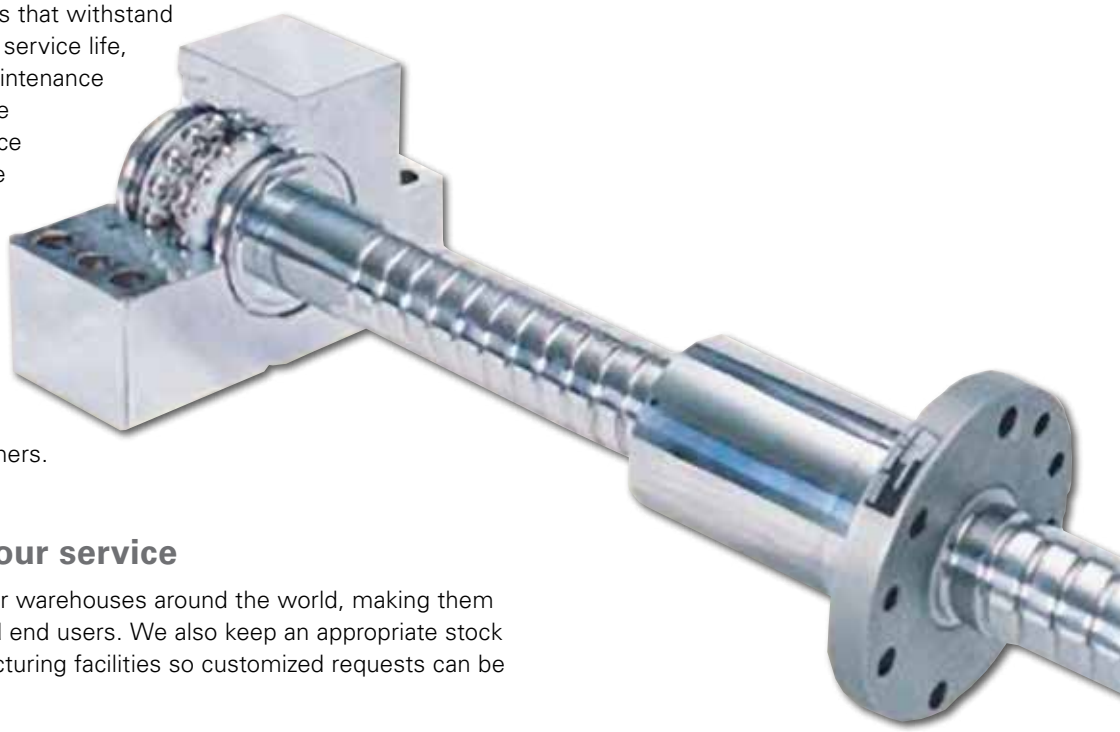


Better products, lower operating costs

While creating technology that can improve performance in your products, Timken also helps your organization reduce its operating costs. Standard ball screw bearings typically require regrinding of end caps to achieve proper fit. With extremely tight width tolerances and the new marking of the individual width set, Timken bearings virtually eliminate the need for regrinding. This reduces assembly costs and machine downtime when servicing ball screws.

Timken bearings are designed to last longer, reducing your maintenance investments by increasing machine uptime. Double-row bearings include a pair of low-torque integral contact seals that withstand contamination and extend bearing service life, allowing you to better manage maintenance schedules. These bearings also are prepackaged with high-performance grease and can be lubricated while in service.

In addition, Timken has integrated lean manufacturing processes into its production operations. Highly efficient processes in our facilities translate into competitive prices and reduced lead times for customers.



Broad availability at your service

Timken bearings are stocked in our warehouses around the world, making them readily available to distributors and end users. We also keep an appropriate stock of nearly finished parts at manufacturing facilities so customized requests can be completed and shipped quickly.

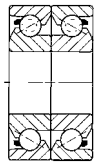
Single Row Ball Screw Support

MM 93 10 WI 2 H DU H

- **MM** — ABEC-7 (ISO P4) With tighter lateral eccentricity
- **93** — Ball Screw Support Series Designation for Inch Number
- **10** — Relative Size of Bore: Larger number, larger bore
- **WI** — Design: Specific Timken
- **2** — Series: High Capacity
- **H** — Preload Level: L Light, M Medium, *H Heavy (*Standard)
- **DU** — Number of Bearings in a Set: DU Duplex (2), TU Triplex (3), QU Quadruplex (4)
- **H** — Preload Level: L Light, M Medium, *H Heavy (*Standard)

MM 25 BS 62 DU H

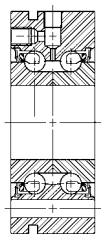
- **MM** — ABEC-7 (ISO P4) With tighter lateral eccentricity
- **25** — Bore Size: In Millimeters
- **BS** — Ball Screw Support Series Designation for Metric Number
- **62** — O.D. Size: In Millimeters
- **DU** — Number of Bearings in a Set: DU Duplex (2), TU Triplex (3), QU Quadruplex (4)
- **H** — Preload Level: L Light, M Medium, *H Heavy (*Standard)

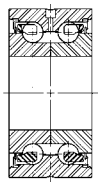


Double Row Ball Screw Support

MM N 5 25 BS 57 PP D M

- **MM** — ABEC-7 (ISO P4) With tighter lateral eccentricity
- **N** — N: Non-Flanged, F: Flanged
- **5** — 5: Double Row
- **25** — Bore Size: In Millimeters
- **BS** — Ball Screw Support Series Designation for Metric Number
- **57** — O.D. Size: In Millimeters
- **PP** — Double Seals
- **D** — Number of Bearings in a Set: D: Duplex (2), Q: Quadruplex (4)
- **M** — Preload Level: L Light, M Medium, H Heavy

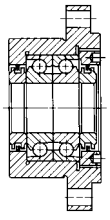


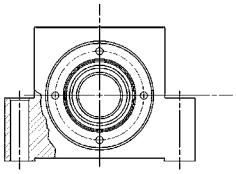


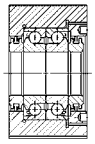
Ball Screw Cartridge

BS BU 35 D 50 H

- **BS** — Ball Screw Support Series Designation for Metric Number
- **BU** — BU: Bolt-on Flanged Unit, PB: Pillow Block
- **35** — Bore Size: In Millimeters
- **D** — Number of Bearings in a Set: D: Duplex (2), Q: Quadruplex (4)
- **50** — For BU Style: Outer Diameter for Housing Insertion; For PB Style: Center Height (both in millimeters)
- **H** — H: Heavy Preload







TIMKEN

The Timken team applies their know-how to improve the reliability and performance of machinery in diverse markets worldwide. The company designs, makes and markets high-performance mechanical components, including bearings, gears, belts, chain and related mechanical power transmission products and services.

Stronger. **Commitment.** Stronger. **Value.** Stronger. **Worldwide.** Stronger. **Together.** | **Stronger.** By Design.

www.timken.com

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