Other Products

Ultra-high speed spindle grease is specifically designed for the precision and high-speed bearings typically used in machine tools.

Engineered surfaces improve wear and fatigue resistance for bearings and other components.

Condition monitoring products and services enable you to stay on top of machine performance and quickly detect potential problems.
Solutions that drive performance

When it comes to improving machine tool performance, Timken leads the industry with an unmatched offering of friction management solutions. Our ball, tapered and needle roller bearings and related products and services set the standard in high-speed spindles, ball screws, rotary tables and other demanding applications.

Backed by global Timken innovation and a long machine tool heritage, we focus on enhancing customer performance and productivity through our product technology and application experience. With renowned Timken quality and a commitment to precision that exceeds industry standards, we continue to develop bearings that support the drive for higher speeds, maximum resolution, accuracy and repeatability.

Unmatched Product Breadth

Timken offers a broad range of rolling bearings and related products and services to meet worldwide machine tool needs. Our portfolio includes specialized tapered roller and ball bearings, produced to the precision classes that deliver the operating characteristics necessary for the highest performance. Timken® bearings meet or exceed application needs for rotational accuracy, consistency and rigidity. Our total friction management approach also includes lubrication, condition monitors and other products "around the bearing.”

Timken® tapered roller bearings available in precision classes include the single-row TS and TSF types, as well as the variable-preload Hydra-Rib™ bearing, the high-speed, oil-injected TSMA/TSMR bearings and the compact TXR crossed roller bearing.

Timken® machine tool ball bearings are manufactured to ABEC 7 (ISO P4) and ABEC 9 (ISO P2) precision classes. They are available in 15-degree and 25-degree contact angles, as well as custom configurations. With a variety of internal geometries (WI, W0, WN and K), Timken has a design to meet specific application requirements with either steel or ceramic balls. The HX and sealed HXVV bearings deliver high-speed benefits with unique ball complements and raceway geometries.

Timken® Fafnir® ball screw support bearings with steep contact angles, available in housed units, provide high levels of axial stiffness for the demands of servo-controlled machinery. Sealed double-row flanged (or cartridge) units simplify installation.

Productive Services

Timken offers industry-leading service to customers around the globe. This includes custom bearing modifications and the repair and maintenance of spindle systems. We go beyond the bearing to help you get the best machine performance.

Our experienced engineers help OEM manufacturers optimize designs and provide analytical assistance for the development of new machines. We supply technical and testing support so bearings yield optimum performance for specific operating environments. Machine tool users trust Timken to have the right answers and support to meet production challenges and maximize the performance and life of our full product range.

Quick change program can perform cost-effective modifications and minor rework procedures to your machine tool bearings to extend operational and application flexibility.

Spindle repair services help optimize performance and reduce costs through a range of reconditioning specialties that can return your used spindle to like-new condition.

Continuing Innovation

Timken’s leadership in metallurgical and power transmission technologies, together with our machine tool expertise, continues to create advanced solutions. Our innovations range from the unique Hydra-Rib bearing with adjustable preload to the first hybrid ceramic tapered roller bearing and the latest high-speed, sealed spindle ball bearing designs. As the only bearing manufacturer to produce its own steels, we have unparalleled capabilities to develop specialized alloys for wear resistance and extended service life. With Timken’s strong industry commitment, you can rely on us to keep applying our global resources to solve future performance challenges.

Precision that Goes Beyond the Standards

The performance of a super precision ball bearing is not completely defined by the ABEC/ISO classes. There are many performance-affecting design parameters left up to the bearing manufacturer.

- Raceway curvature and uniformity
- The balls’ conformity to sphericity
- Race and ball surface finish
- Weariness of contact areas
- Pretight offset tolerance
- Smoothness
- Calibration of envelope dimensions
- Matching of bearings within a set
- Cage design and material
- Lubricant
- Radial play
- Contact angle and precision of ball element

These parameters have a direct impact on the service life and performance of a bearing. Despite the lack of a comprehensive industry standard, all Timken MR, MM, and MMX super precision ball bearings comply with strict controls over these non-specified parameters to provide premium performance.