

Improve the performance of your machine tools

Milling makers - optimal machining quality even at greater speeds

Operating conditions: high level of abrasive contamination, pass through speed, spindle speed, multi-shift or stop/start operations, usage of coolants and lubes.

Super Precision Bearings -Product Range

High Precision Angular Contact Ball Bearings

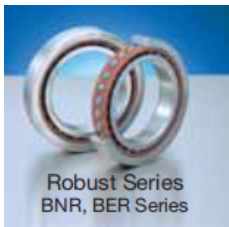


Standard Series

Basic NSK super precision bearings manufactured to conform to ISO standards.

- 70xx, 72xx, 79xx series
- Three types of contact angle: 15° (C), 25° (A5), 30° (A)
- Two types of cage design: Select either phenolic (TR) or polyamide (TYN), depending on application... requirements
- Two types of ball material: Steel and Ceramic (SN24)

Ultra High-Speed Angular Contact Ball Bearings

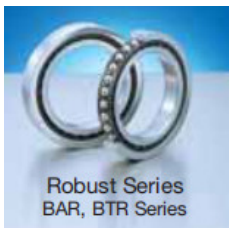


Robust Series
BNR, BER Series

High performance bearings developed for highspeed operation with low temperature rise. Suitable for ultra high precision machining applications, and ultra high-speed applications.

- Two types of contact angle: 18° (BNR), 25° (BER)
- Two types of ball material: Steel (S type) and Ceramic (H and X type)
- Two types of cage design: Select either phenolic (T) or polyamide (TYN), depending on application... requirements
- ROBUST series also can be used for ultra high speed applications of over 3 million dmn.

High-Speed Angular Contact Thrust Ball Bearings



Robust Series
BAR, BTR Series

High rigidity thrust bearings for lathe applications.

- Two types of contact angle: 30° (BAR), 40° (BTR)
- Two types of ball material: Steel (S type) and Ceramic (H type)

Ultra High Precision Angular Contact Ball Bearings

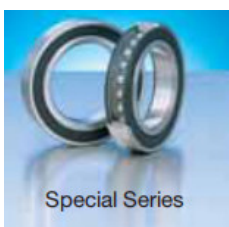


BGR Series

High Performance bearings developed specifically for internal grinding or high-speed motor applications. under spring preload.

- Bore size range: $\varnothing 6-25$ mm, contact angle: 15°
- Two types of ball material: Steel (S type) and Ceramic (H and X type)
- Non separable type
- Universal combinations (DU and SU)

Sealed Angular Contact Ball Bearings



Special Series

Pre greased and sealed to reduce handling problems. Suitable for maintenance of machine tool.. spindles.

- Standard series super precision angular contact ball bearings
- ROBUST series high-speed angular contact ball bearings
- Bore size range: $\varnothing 30-100$ mm in ISO series 10 and 19 (70xx and 79xx)

Ultra High-Speed Single Row Cylindrical Roller Bearings

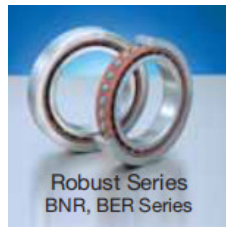


Robust Series
Standard Series

High performance cylindrical bearings designed for ultra high-speed applications, such as machining... centre spindles.

- Two types of cage material: Brass (MR)(1) and PEEK resin (TP)
- Three types of roller material: Steel, SHX and Ceramic
- Ultra high-speed ROBUST RXH design can be used up to 3 million dmn.
- (1) MR cage is used in the standard series

Double Row Cylindrical Roller Bearings



Robust Series
BNR, BER Series

Designed to deliver high rigidity in high-speed applications such as lathe spindles.

- Two types of cage material: Brass (MB), PPS resin (TB)
- Standard specification E44: Outer ring oil holes and groove

Angular Contact Thrust Ball Bearings for Ball Screw Support



Special Series
For Machine Tool Applications

High rigidity thrust bearings designed specifically for ball screw support applications in machine tools.

- Contact angle: 60°
- Can be universally matched to any required rigidity specification or life cycle
- A pre-greased line using special grease is also available
- A new series is available, supplied with contact seals and waterproof grease

Angular Contact Thrust Ball Bearings for Ball Screw Support

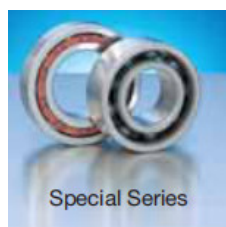


Special Series
For Injection Molding Machines

The high load capacity design delivers five times the life expectancy compared to ball screw support... bearings for machine tool applications of a similar size. The number of rows can also be reduced.

- Easier handling than tapered roller bearings or thrust spherical roller bearings as a result of non... separable configuration
- Optimum ball bearing design results in lower rotational torque
- Can be universally matched to any required rigidity specification or life cycle

High Precision Angular Contact Ball Bearings



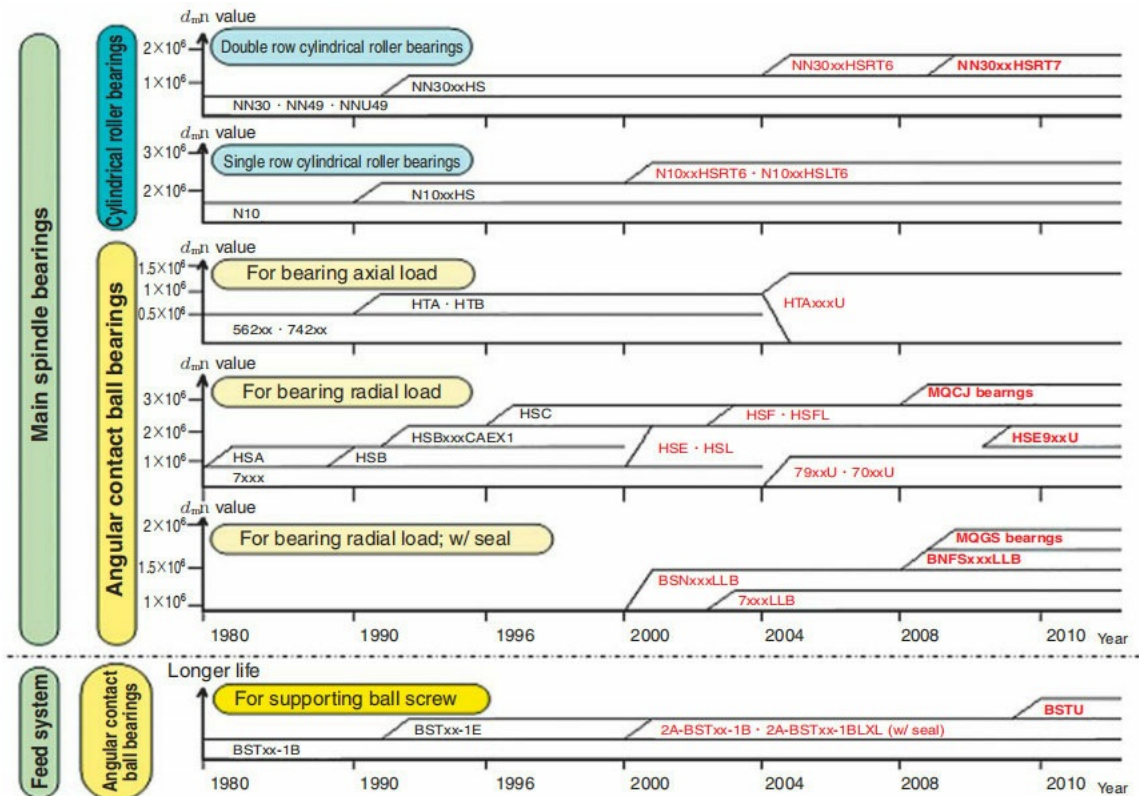
Special Series

Suitable for high-speed and high precision motors.

- Three types of cage: Ball guided polyamide cage (T1X, TYA) and inner ring guided phenolic cage (T)... selection depends on the application
- Suitable for silent or low vibration operation

Applications such as high-speed machining centres and milling devices typically subject bearings to severe operating conditions consisting of abrasive contamination integrated with high feed rates and spindle speeds. In addition, multi-shift or periodic operations can take their toll on the bearings, direct guides and ball screws.

Although we cater for extremely various requirements, our primary objective is to assist you considerably improve the energy effectiveness of your maker tools which will improve efficiency.



Precision bearings for machine tool

Loyal deals services for these applications which have actually been particularly created with your requirements in mind. Loyal's assessment engineers are proficient contact individuals for our clients right from the start. We are continuously broadening our service deal, while considering a great deal of ecological conditions, such as shaft deflections or tilting. Even determining contortion in the bearing environments is possible at any time, both in rotary along with in direct systems. To do this, we compute the bearing load up to the rolling contact with the greatest load. You will get from us the total outcomes for your style paperwork, therefore providing you the security that you require. Our knowledgeable engineers more than happy to deal with you throughout your style phase to assist you choose the very best parts.

Our item portfolio includes direct guides, ball screws and bearings which appropriate for machining different products such as steel, aluminium, titanium and alloys-- in both single-shift and multi-shift operations.



Machine tools Service

As a bearing manufacturer of machine tools, Loyal is able to meet the increasingly sophisticated needs of its clients, and it can assist with both a speedy commencement of operations for machine tools

We have the ideal technical service for your device tool application. Our maker tool bearings are developed to restrict power intake (low torque) and consumables (such as lube). Our research study likewise concentrates on minimizing sound and the contamination originating from air and oil, in order to enhance your workshop environment.

Our engineering knowledge and technological proficiency are based upon Loyal's 4 core innovations: tribology, product engineering, analysis innovation and mechatronics. We ensure you high-technology bearings and skilled support throughout the advancement of your device tool.

This supplies us with an incorporated innovation platform that functions as the base for establishing positive services. That's our promise when you deal with loyal to discover an innovative bearing option for your application.

In machining applications, the hydraulic drives offer optimum accuracy throughout tool motion, while securing gadgets hold workpieces in location. Whether it is hydraulic controls, power systems, obstructs, valves, cylinders, pumps, motors, or filters that you are trying to find, we have the service you require in our varied variety of items.

In addition to our items, we provide an useful, appropriate services-- such as Application Analysis considering your specific specifications such as speeds, spindle size and external loads, permitting Loyal to determine the output specifications such as lube life, spindle tightness and more to assist you accomplish optimal performance, accuracy and maker performance.

Our series of bearings uses you the very best worth for loan. From acquiring to upkeep, we optimise expenses without ever stinting quality. The dependability of our bearings makes sure a decrease in your upkeep expenses.

Cutting - improved energy performance for your maker tools

Turning, milling and grinding are standard cutting innovations in the maker tool market. A vast array of principles and device tool types are required to produce mechanical elements. These particular requirements likewise use to the elements utilized in the maker tools.

Coverage for all machine tool

The Loyal Bearing meets all the needs of your machine tools

Loyal covers almost all rolling bearing applications in device tools with its item range. rilling, milling and grinding need options with remarkable efficiency and extraordinary quality. This is why significant device tool makers position their rely on Loyal's competence and technical experience.

Nut cooling in ball screws for a lower operating temperature level

There are numerous sound arguments for keeping a steady temperature level listed below 40 ° C in ball screws to ensure the utmost accuracy. Temperature level increases due to the quick movement of the nut triggering modifications in running habits. It is an aspect which must not be ignored.

Focus on the range of bearings for machine tools

Spindle bearings , Rotary table bearings , angular contact ball bearings , single and double row cylindrical roller bearings , thrust ball bearings , Precision ball screw , Feed spindle bearings , ball screws , slide rails , Linear guidance systems

Loyal's high-precision items stand out by providing unparalleled completing precision, even in these conditions. They make it possible for ultra-high speeds, dependably and peaceful running producing the optimal machining quality and cost-effective services.