

## Timken tapered cross roller bearing

[Timken tapered cross roller bearing](#) is an innovative integrated bearing solution for optimizing the design of NC vertical lathe worktable. It can provide a higher level of rotation accuracy and support rigidity, and save more design space and component materials. The worktable of NC vertical lathe needs to load the workpiece and drive the workpiece to run together. Its bearing capacity and rotary precision undoubtedly affect the processing effect of the workpiece, and the supporting bearing under the worktable is the key to achieve all this.

At present, the more mature layout of rotary table bearings are mainly divided into two categories: axial bearing plus radial bearing combination and hydrodynamic bearing system. However, the limitations of precision and rotational speed of these two layout forms make it difficult to meet the increasingly stringent processing requirements. In order to avoid the accuracy loss caused by the misalignment of the worktable or the increase of the machine volume and maintenance cost caused by the complex structure, the integrated bearing layout scheme is favored for its exquisite structure and high precision. Timken conical cross rolling roller bearings are such an optimized design of integrated bearing products. Timken tapered cross roller bearings have two rows of raceways and rollers, which are at right angles to each other. The cross-section height of the bearings is similar to that of single-row bearings, but the overall effective span is greatly improved, so the anti-overturning torque capability of the bearings is more prominent. At the same time, the compact bearing structure can shorten the length of the shaft, thereby reducing the impact of thermal expansion, effectively saving processing costs for customers. The material of conical cross roller bearings is very high purity bearing steel. In the design aspect, the tapered roller can realize pure rolling, reduce friction loss, and help to improve speed, accuracy and operation stability.

Timken conical cross roller bearings are precision bearings with the highest operating accuracy at present. The outer diameter range of the British series is 279.4-1828.8 mm, the outer diameter range of the metric series is 400-495 mm, and the British series with the outer diameter of 2 000-2 800 mm can also be customized. specific

Technical parameters can be consulted by [Boyal Industrial Pte Ltd.](#) application engineer. Timken tapered cross roller bearings are renowned worldwide for their excellent product quality, precision control above industry standards, and advanced technology and services. It is one of the most important parts of the vertical turntable, so the design of its adjacent structure and the installation of bearings will also affect its final use effect. [Boyal Industrial Pte Ltd.](#) can provide a full range of services from bearing selection, analysis and calculation, bearing supply to after-sales installation guidance, dedicated to helping customers optimize the design of worktable, improve rotary accuracy, save space and cost, and ultimately maximize value.