

SPECIAL APPLICATIONS

Introduction

Barden innovations in special bearings range from nearly standard bearings with slightly modified dimensions, to intricate assemblies which integrate the bearing function into a complete mechanism. Our engineers work closely with customers to develop unique bearing designs with specialised features to meet application requirements and solve functional problems.

In many cases the overall cost of a piece of equipment can be reduced by incorporating special or customised bearings particularly when mating components are integrated into the bearing such as mounting flanges, gear teeth, spring carriers and integral O-ring grooves. The performance and installation benefits to be gained from using bearings specifically designed for individual applications are as follows:

- Improved assembly reliability
- Enhanced rigidity or stability of the system
- Better location control through proper bearing orientation
- Reduction in handling operations and contamination
- Improved alignment of the rotating assembly
- Weight reduction
- Improved resistance to temperature extremes
- Reduction in tolerance stack-up

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High Speed Dental Handpiece Bearings



The severe demands of mixed friction conditions found in dental handpieces make Barden bearings the ideal choice.

For over 25 years the Barden Corporation has been developing and producing precision bearings for the ultra high speed dental handpiece application for both the OEM and replacement markets.

Arguably one of the most arduous applications for precision bearings, handpiece turbines operate at speeds up to 500,000 rpm and are subjected to repeated sterilisation cycles.

All Barden dental bearings have super honed finished raceways with strict controls of roundness, harmonic amplitudes and lobing patterns. All assembly, test and packing operations are carried out in clean room conditions.

Barden dental bearings are available in both deep groove and angular contact configurations. They can be supplied with or without shields for lubricant retention and contamination exclusion and some types are available with flanged or stepped outer ring OD's for O-ring location. A range of cage materials are available for sterilisation resistance including Torlon and Phenolic.

For certain markets all types can be supplied with Silicon Nitride ceramic balls with the advantage of lower centrifugal ball loads at the high rotational speed of the turbine. These lower loads produce less stress between the balls and the cage with the result that the cages will generally withstand a greater number of sterilisation cycles than bearings with steel balls. As a result, operational life and reliability are increased.

All Barden dental bearings are supplied ready to use with a controlled quantity of grease lubrication that was specially developed for this application.

As with all Barden products full technical support is provided for this product line from a team of specialist engineers with a laboratory having run test fixtures with vibration and speed monitoring, sterilisation equipment and full resources to complete bearing examinations of all types.

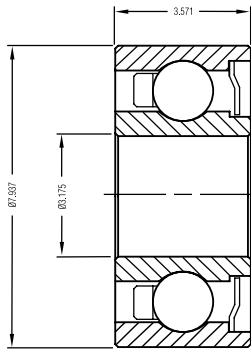


All Barden precision bearings are assembled under stringent clean room conditions.

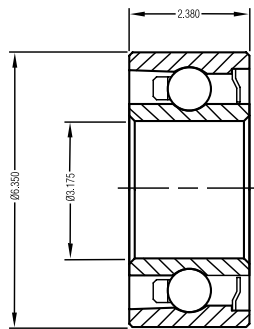
A selection of the basic types available are shown on the following page.

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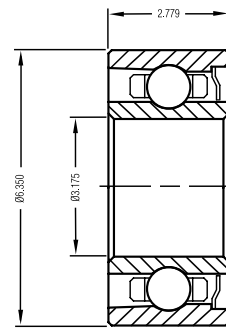
High Speed Dental Handpiece Bearings



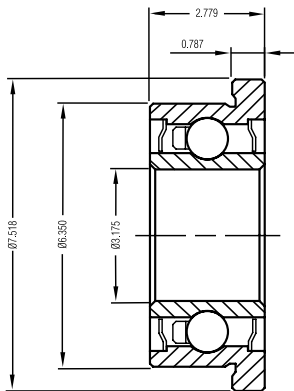
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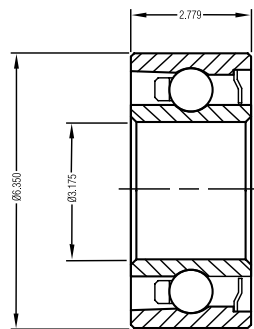
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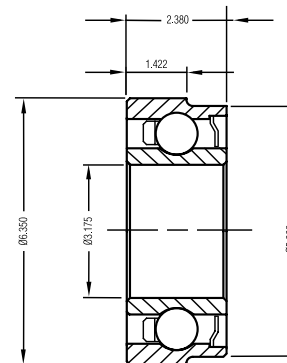
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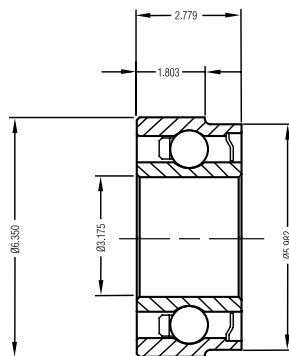
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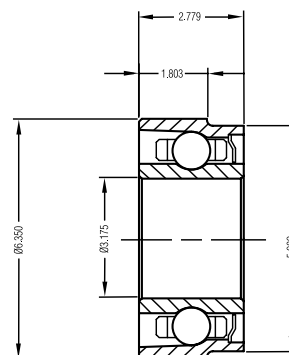
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SR144STAY39



SR144STAY85



SR144HSY161

All dimensions in millimeters.