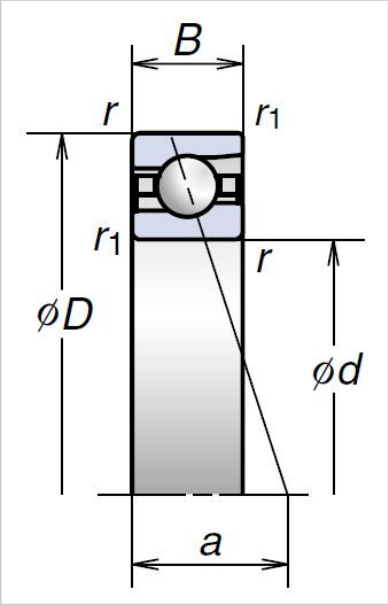
Ultra High-Speed Angular Contact Ball Bearings

BNR Series Ultra High-Speed Angular Contact Ball Bearings-



Bearing NO.	45BNR19H
Boundary Dimensions (mm)	
d	45
D	68
B	12
r (min.)	0.6
r1 (min.)	0.3
Basic Load Ratings (kN)	
Cr (Dynamic)	12.1
C0r (Static)	8.7
Permissible Axial Load (1) (kN)	8.1
Effective Load Center (mm) a	15.2
Sealed Design	
Limiting Speeds (2) (min–1)	
Grease	31900
Oil	49600
Mass (kg)	0.111

BNR BER Ultra High-Speed Angular Contact Ball Bearings are a high-performance series developed for high-speed operation, low temperature rising, and ultra-precision processing. This series has separate 19, 10, and sealed 29, 20 series, with contact angles of 18° (BNR) and 25° (BER), ball materials of steel balls (S), ultra-long life bearing rolling elements (E), and ceramic balls (H, X), and cages of outer ring guided phenolic resin cages (T), outer ring guided PPS resin cages (TSR), and rolling element guided polyamide resin cages (TYN). This series achieves high-performance characteristics of high rigidity and low heat generation through optimized design.

BNR BER Ultra High-Speed Angular Contact Ball Bearingsare optimized high speed bearings. This series can meet the high-speed

performance of the bearings, enhance the running accuracy, improve the system stiffness, reduce the heat generation, reduce the noise and vibration, which are the challenges faced by the bearing industry. In applications such as high-speed machining centers, milling machines, internal grinders and woodworking machines, it has high reliability and excellent operating results. Bearings with BNR/BER design are conducive to bearing radial loads and axial loads in one direction.

The larger number of spherical rolling elements in the bearings is also conducive to bearing heavier loads. The cage guided by the outer ring of the bearing is made of fiber-reinforced phenolic resin, which is to better provide lubrication for the contact area of the spherical rolling element raceway. The optimized guiding clearance between the cage and the outer ring significantly improves the performance at high speeds. The optimized chamfer shape at the inner and outer rings has improved the installation accuracy, depending on the bearing series and size. This not only simplifies the installation process, but also reduces the risk of damage to related components. The open fit of BNR/BER ultra-high-speed angular contact ball bearings gives the bearings high speed performance.

Machine tool applications such as high-speed milling machines, machining centers and grinders have high requirements for positioning accuracy and need to generate very little heat. BNR/BER ultra-high-speed angular contact ball bearings can meet the above requirements and have high rigidity at high speeds, making them a high-quality solution for such applications.

Our company has professional sales and technical engineers who are responsible for providing users with technical consultation, technical services and product technical training on precision bearing data and installation and use. Perfect pre-sales, in-sales and after-sales services constitute a guarantee system for high-quality services, providing users with reliable quality bearing products and creating excellent user experience and rich benefits for every customer.

If you have any questions about products and services, please contact the company's service department directly.