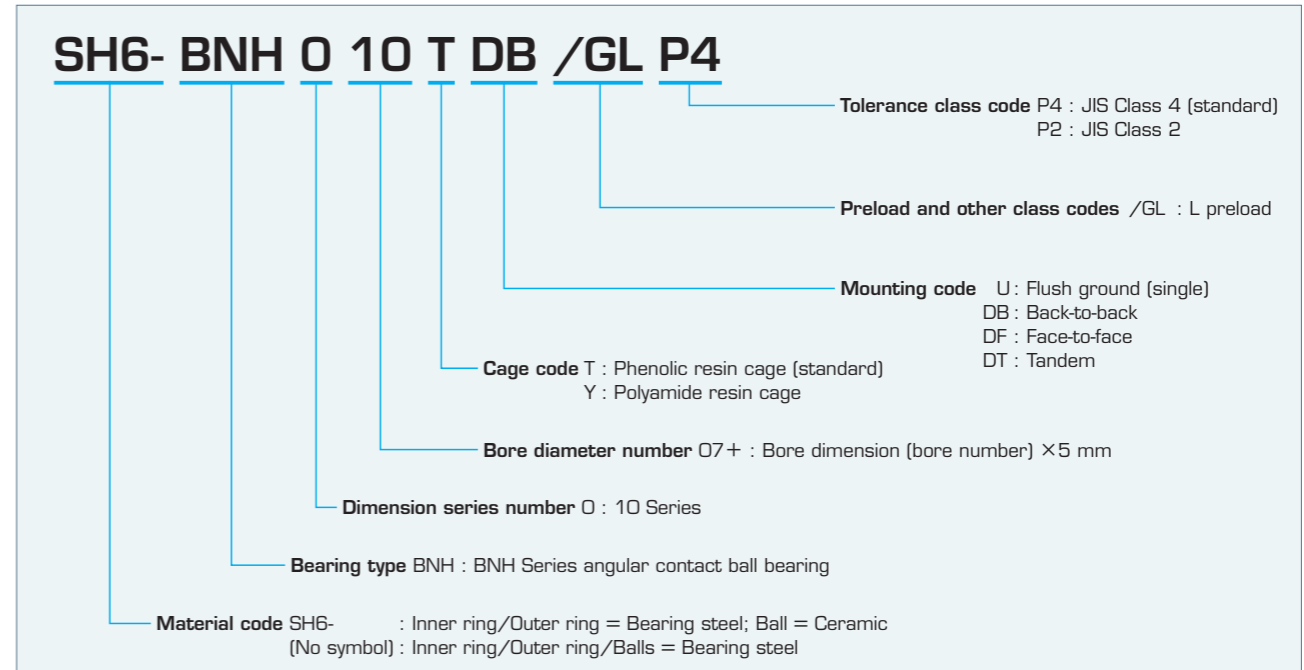


High-speed Angular Contact Ball Bearings

BNH Series

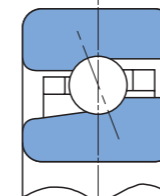


Nomenclature of Bearing Numbers

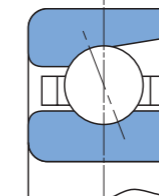


Features

- Smaller machine steel balls, higher speeds, and lower temperatures than previous angular contact ball bearings. Mainly used for the main spindle of high-speed machining centers.
- Ceramic ball type also available.



BNH000



7000C

Contact Angle

15° contact angle provided as standard.

Cage

Outer ring guided phenolic resin cage provided as standard. Ball guide polyamide resin cage also available.

Dimensional Accuracy, Rotational Accuracy

JIS Class 4 compliance as standard. See page 10 for details.

Preload

L preload as standard. See page 22 for information about preloads.

Ceramic Ball Types

- Bearings with ceramic balls that are less dense than bearing steel balls also are available for lower centrifugal force when balls rotate at high speeds.
- The characteristics of ceramic and bearing steel are shown in the table below.
- The bearing numbers of bearings that use ceramic balls start with "SH6-".
- Preload and axial rigidity is approximately 1.2 times that of bearing steel type bearings.

Comparison of Ceramic and Bearing Steel Characteristics

Features	Unit	Ceramic (Si ₃ N ₄)	Bearing steels (SUJ2)
Heat resistance	°C	800	180
Density	g/cc	3.2	7.8
Linear expansion coefficient	1/°C	3.2 × 10 ⁻⁶	12.5 × 10 ⁻⁶
Hardness	Hv	1,400~1,700	700~800
Longitudinal elastic coefficient	GPa	314	206
Poisson's ratio	-	0.26	0.30
Corrosion resistance	-	Good	No good
Magnetism	-	Non-magnetic substance	Strongly magnetic substance
Conductivity	-	Insulator	Conductor
Crystal chemical bonding	-	Covalent	Metallic