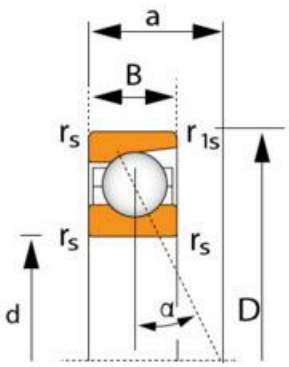
7208 AC



71800 High-speed angular contact ball bearings (ISO18)

71800 C = 15° Contact Angle
71800 AC = 25° Contact Angle

Technical sheet of 7208 AC

What are the Benefits of choosing 7208 AC bearings?

- **High simultaneous load-bearing capacity:** Capable of simultaneously withstanding combined radial and axial loads and operating at high speeds.
- **High speed limit:** Optimized contact angle and cage design suitable for ultra-high-speed operation (e.g., machine tool spindles).
- **Rigidity and precision:** Provides extremely high rotational accuracy and system rigidity, ensuring precision in machining or operation.
- **Preload adjustment:** Precise preload adjustment is possible through paired installation (back-to-back/face-to-face), eliminating backlash and improving system stability.
- **Versatile design:** Offers different contact angles (e.g., 15°, 25°) to accommodate different speeds and load requirements.

Type :		Angular contact ball bearings, super-precision
Model :		7208 AC
Main demensions :	40 mm × 80 mm × 18 mm	Bore Dia × Outside Dia × Width Dia
M kg:	0.4	Mass
HS Code :	8482103000	Bearing customs code
d mm:	40	inner ring diameter
D mm:	80	Outer ring diameter
B(T) mm:	18	Overall Width
Cr kN:	32.5	Radial dynamic load rating
C0r kN:	29.5	Radial static load rating

Grease r/min:	15000	Reference speed
Oil r/min:	24000	Limiting speed

Detailed parameters and installation dimensions:

rs(min): 1.10 mm, r1s(min): 0.60 mm

What are the applications of the 7208 AC bearing?

- **Machine tool manufacturing (spindles, grinding heads):** Achieve extremely high speeds and machining accuracy, improving surface quality and production efficiency.
- **Aerospace (accessory gearboxes, gyroscopes):** Maintain high reliability and long lifespan during high-speed operation, adapting to harsh environments.
- **Precision instruments (measuring equipment, optical instruments):** Provide extremely low vibration and smooth operation, ensuring measurement accuracy.
- **High-speed motors (electric spindles, permanent magnet motors):** Support ultra-high speed operation, reducing temperature rise and power consumption.
- **Semiconductor equipment (wafer dicing machines, lithography machines):** Ensure micron-level positioning accuracy and long-term stability, improving yield.
- **Medical devices (CT scanners, surgical robots):** Achieve quiet and smooth rotation, meeting medical safety standards.
- **Robotics (joint reducers):** Improve joint response speed and repeatability, enhancing dynamic performance.

How should choose the right model for a Angular contact ball bearings, super-precision?

Direction Selection

High-speed priority: Select small contact angles (15°/18°), such as SKF's E/B/A design or NSK's ROBUST series.
Heavy-duty/high-rigidity priority: Select large contact angles (25° and above), such as SKF's D design or NSK's TAC-F series.

Parameter Selection

Size series: Ultra-light 718, Extra-light 719, Light and narrow 70, Heavy-duty 72.
Internal design: Correspond to the high-speed or heavy-duty optimization code of each brand.
Material: Ceramic balls (hybrid ceramic bearings) can significantly improve high-speed performance.

Accuracy and Combination Selection

Accuracy: Machine tool spindles generally select ISO P4 grade (ABEC 7 grade) or higher.
Matching: DB (back-to-back) has good rigidity; DF (face-to-face) has good thermal conductivity; DT (tandem) can withstand unidirectional heavy loads.
Preload: Select light, medium, or heavy-duty according to the load; universal matching models are more convenient.

What is the mounting procedure for 7208 AC bearings?

Cleaning and Inspection: Clean the bearing in a dust-free environment. After a rough wash to remove contaminants, perform a fine wash until the bearing feels smooth and responsive to the touch. Simultaneously check the accuracy of the mating surfaces of the shaft and bearing housing.

Measurement and Fitting: Precisely measure the bearing's inner and outer diameters. Mark the corresponding positions on the shaft and housing bores for alignment during assembly to compensate for any deviations.

Installation and Positioning: Apply pressure evenly using a specialized tool, focusing only on the interference fit rings. If heat fitting is used, tighten the inner ring during cooling to prevent clearance from affecting the preload.

Preload Adjustment: When installing in pairs, ensure the parallelism of the inner and outer spacers is ≤1μm. Adjust the preload force to the specified value by grinding the spacers.

Lubrication Inspection: Add the specified amount of grease or oil mist lubricant. After installation, manually rotate the bearing to check its flexibility and operating noise.

Special Note for mounting 7208 AC bearings?

Clean Environment: Operation must be performed in a dust-free cleanroom with humidity ≤65% to prevent dust and impurities from affecting accuracy.

No Striking: Direct striking of the bearings is strictly prohibited. Special tools must be used, and force must be applied evenly.

Matching Marks: Bearings used in pairs are not interchangeable. Installation must strictly follow the factory matching marks.

Rust-Proof Storage: Long-term storage requires regular rust-proofing treatment. Maintain ventilation and avoid corrosive gases.

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