

Angular Contact Bearings

Angular contact bearings have one ring shoulder partially or totally removed. This allows a larger ball complement than found in comparable deep groove bearings, hence a greater load capacity. Speed capability is generally higher along with greater rigidity and accuracy. Angular contact bearings are assembled to a contact angle by varying the radial clearance. The smaller angle delivers better radial capacity and rigidity, the larger angle is better for axial rigidity. Separable and nonseparable types are readily available.

Selecting angular contact ball bearings:

In order to select angular contact ball bearings a few application details have to be known.

- a) Minimum and maximum shaft speed
- b) Intended method of lubrication, i.e. oil drip mechanism, oil mist, grease only etc
- c) Maximum Axial and radial loads
- d) Life requirements
- e) Shaft dimensions and shaft material
- f) Housing dimensions and housing material
- g) Contamination possibilities
- h) Ambient temperature and local working temperature
- i) Maximum shaft deflection / movement

From this information the following can be ascertained.

- 1) ring sizes and materials and precision
- 2) cage type
- 3) ball material
- 4) contact angle
- 5) set up, i.e. back to back, face to face, triplex set up etc.
- 6) complimentary lubricant requirement.

7) preload method (if any) i.e. match ground, spacers, sprung washers etc

Selecting an angular contact bearing for an application can be relatively straight forward. Replacing an angular contact ball bearing with an alternate brand is sometimes more difficult. Switching brands is possible and may well be inevitable at some stage in a machine's life due to original bearing supply problems. Over the years we have specialised in offering alternative angular contact solutions. We only use reputable brands such as RHP Precision, Fafnir, SNFA, SNR, NTN, Barden, FAG, INA, IRB etc. Most of these brands have a high degree of product overlap and it should be possible to find alternate brand matches which are suitable for your application.

Care has to be taken with contact angles, cage materials, ball compliment, precision etc and each customer case is individually assessed.