

Self-aligning Ball Bearings

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The outer ring raceway of self-aligning ball bearings forms a spherical surface whose center is common to the bearing center. The inner ring of the bearing has two raceways.

The steel balls, cage, and inner ring can rotate freely at a certain angle, as it is stated that the bearings have self-aligning features. Accordingly, misalignment of the bearing shaft due to the machining and installation of the shaft and housing will be automatically adjusted. The allowable misalignment angle of the bearing is about 0.07 radian (4°) in the case of ordinary loads (equivalent to $0.09 C$). However, this angle is also limited by the structure around the bearing which may cause contact with the bearing under misalignment.

It is easy to dismount the bearing if an adapter is used. These adapters are widely used for transmission or driving equipment, etc. However, since the axial loading capacity is limited, the bearings are not suitable for applications with heavy axial loads.

Pressed cages used in these bearings.

