The difference between deep groove ball bearings and angular contact ball bearings

Deep groove ball bearings:

The representative rolling bearing is widely used to withstand radial load and bidirectional axial load. It is suitable for high-speed rotation and low noise and low vibration. Pre-filled with sealed bearing with steel dust cover or rubber sealing ring The grease, the bearing with the snap ring or flange on the outer ring, is easy to position axially and is easy to install in the outer casing. The size of the maximum load bearing is the same as that of the standard bearing, but the inner

and outer rings are filled in another groove. The number of balls loaded has increased the rated load.

Angular contact ball bearings:

There is a contact angle between the ferrule and the ball. The standard contact angle is 15/25 and 40 degrees. The larger the contact angle, the greater the axial load capacity. The smaller the contact angle, the better the high-speed rotation. The single-row bearing can withstand Radial load and one-way axial load, DB combination, DF combination and double row angular contact ball bearings can withstand radial load and biaxial axial load. DT combination is suitable for one-way axial load and rated load of single bearing. In the case of insufficient, the ball diameter is small and the number of balls is large, and it is mostly used for the machine tool spindle. In general, angular contact ball bearings are suitable for high speed, high precision rotating applications.

Deep groove ball bearings and angular contact ball bearings with the same inner and outer diameter and the same width have the same inner ring size and structure, while the outer ring size and structure are different:

1. Deep groove ball bearing outer ring channel double shoulders on both sides, and angular contact ball bearings are generally single shoulder;
2. The curvature of the outer ring of the deep groove ball bearing is different from that of the angular contact ball, and the latter is often larger than the former;
3. The groove position of the outer ring of the deep groove ball bearing is different from that of the angular contact ball bearing, and the specific value is considered when designing the angular contact ball bearing, which is related to the degree of the contact angle;

In terms of use:

1. For different purposes, deep groove ball bearings are suitable for bearing radial force, small axial force, axial radial combined load and moment load, while angular contact ball bearings can withstand a single radial load, larger shaft The direction of the load (which varies with the contact angle) and the double pairing (which varies with the pairing method) can withstand bidirectional axial loads and moment loads.
2. The limit rotation speed is different, the limit rotation speed of the angular contact ball bearing of the same size is higher than that of the deep groove ball bearing