

# Bearing Noise Generation and Control Methods Reference



[The vibration and noise of the bearing is one of the main indicators for evaluating the overall quality of the bearing.](#) Bearing noise not only directly affects the performance of the host, but excessive noise can also cause noise fatigue to the operator. With the rapid development of the machinery industry, providing low-noise bearings is an important task in the bearing industry.

## 1. cause:

The main sources of noise are as follows. One is caused by the inherent factors such as the structural form of the bearing, the wall thickness of the ferrule, the original clearance, the shape of the cage, and the number of rolling elements. The other is due to various defects caused by the manufacture of bearing parts (such as the ferrule and rolling body corrugation, the inner ring raceway width is inconsistent, the cage bottom height variation is poor, the finished product is not clean, the raceway is bumped, Middle and outer diameter bevel collisions and residual magnetic excess, etc.).

## 2. Responses:

- (1) [Further research on the design plan, and strive to design more reasonable.](#)
- (2) Strengthen the control of the quality of the processed products, especially the control of the width of the small ribs to ensure the consistency of the width of the raceway. From now on, the raceway width of the machined product is a mandatory item, and the control is strictly controlled to ensure that the raceway width meets the requirements of the product drawing.
- (3) Strengthen the control of the quality of the cage, and refuse to accept the cage without the light decoration or the cage with the light decoration but large burr. The cages with high fluctuations in the bottom of the cage were also rejected.
- (4) Strengthen the control of product quality between processes, eliminate raceway bumps, minimize the vibration of rolling surfaces (inner and outer ring raceways and roller surfaces),

and reduce waviness.

(5) Strengthen the process research and improve the processing technology level of the product, especially the control of the wall thickness difference of the inner ring should meet the requirements.

(6) Strengthen the maintenance and maintenance of equipment, ensure the processing capability and quality of key equipment, and ensure the capacity guarantee coefficient of key equipment  $C_{pk} \geq 1.33$ .

(7) Improve the skills of the operators, improve their operational skills in adjusting the machine tools, and make the product processing precision have a qualitative leap.

(8) Equipped with the necessary station equipment to reduce the bumps during transportation, minimize product rework and reduce the number of loading and unloading. Strengthen the management in the process of transshipment, and do it with care and avoid human touch.

(9) Improve the cleanliness of the finished product. Firstly, from the improvement of the cleanliness of the parts, the cleaning agent and the cleaning kerosene should be replaced regularly according to the regulations