

# High performance spherical roller bearing

[Spherical roller bearings](#) have high load carrying capacity and can withstand high running speeds. The raceways are spherical and have automatic self-aligning function, which can compensate for bearing eccentricity caused by installation of different degrees of heart and shaft deflection. These advantages make spherical roller bearings ideal for heavy-duty, impact and eccentric applications and are one of the most widely used bearings on the market today. [Industrial Bearings Inc](#) has more than 20 years of experience in the design and manufacture of spherical roller bearings. Spherical roller bearings are widely used in gearboxes, metallurgy, mining, cement aggregates, paper making, thermal power generation, oil and gas, fluid machinery and other industries, and have been widely recognized by customers. In recent years, Timken has upgraded the design of spherical roller bearings in combination with materials, design capabilities and manufacturing processes, and introduced a new generation of E-Series spherical roller bearings.

## **Design features and performance of E series spherical roller bearings:**

### **1) cage design features**

The cage is an important part of the bearing. During the operation of the bearing, the cage mainly serves to separate the rolling elements, prevent direct contact between the rolling elements, reduce friction and heat generation, improve lubrication and correctly guide the rolling elements in the non-load bearing area of the bearing. In order to prevent the rolling elements from slipping and skewing. In addition, during the installation and disassembly of the bearing, the cage acts to prevent the rolling elements from falling off the ferrule. Therefore, the material and design of the bearing cage are critical to the reliability and overall performance of the bearing. E-Series spherical roller bearings are available in two versions of cage design, one is an EJ stamped steel cage, which is often used for smaller spherical roller bearings, and the other is EM or EMB machined brass. The cage is mostly used for medium and large spherical roller bearings.

### **2) Other improvements and effects**

In addition to the design improvements and innovations of the cage, the E-Series spherical roller bearings are also optimized for the internal geometry: the fit of the raceway and the rolling contact surfaces is optimized, and the raceway and rolling elements are optimized. The surface roughness and surface texture of the raceway surface and the rolling elements are improved in the manufacturing process.