Rolling element bearing meaning



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Roller bearings -- also known as rolling-element bearings -- are similar to ball bearings in that they are designed to carry a load while minimizing friction.

These versatile bearings can contain single or multiple rows of rolling elements; multiple rows can significantly improve radial load capacity. Also, the use of different roller shapes can further reduce friction and support both radial and axial loads.

While roller bearings can handle higher loads than conventional ball bearings, their applications are generally limited to low-speed operations. Many types of roller bearings are self-aligning, and are easily able to overcome misalignment and mounting issues -- cutting down on maintenance, repair, and labor needs.

Roller bearings come in a wide range of shapes and sizes, and can be customized for specialized situations. Also, the use of flanges, cages, and multiple bearing rows can allow for higher performance to meet specific application needs.

There are thousands of different types of roller bearings available to meet specific application requirements. Emerson Bearing offers a broad selection of roller bearings, including the following popular types:

These bearings feature rollers that are longer than their diameter, and can tolerate higher loads than ball bearings. Our cylindrical roller bearings can carry heavy radial loads and are able to be used in high-speed applications.

These can carry heavy loads even when dealing with misalignment and shaft deflection. They can be designed to have cylindrical or tapered bores for mounting with or without a sleeve adapter. Available with various internal clearances and retainer options, spherical roller bearings can handle axial loading in either direction as well as heavy shock loads. These bearings are available in bore dimensions ranging from 20 mm to 900 mm.

This type of bearing is thinner than conventional roller bearings and can be designed with or without an inner ring. Needle roller bearings are ideal for dealing with radial space constraints in heavy-load, high-speed applications. Drawn cup styles allow for high load capacities and large grease reservoirs while still offering a slim cross-section design. These bearings are offered with inch or metric seals.

These bearings can support radial and thrust loads. They can only handle unidirectional axial loads, so a second laterally reversed bearing is required for counterstay. Taper roller bearings are available in inch and metric sizes.

As an industry leader in the distribution of top-quality ball and roller bearings, Emerson Bearing is proud to be

SOLAR PRO.

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a trusted partner for leading brands such as BOWER, FAG, FERSA, INA, IKO, NACHI, NSK, NTN, RBC, TORRINGTON, and ZNL.

The accurate diagnosis of a bearing failure is imperative to prevent repeated failures and their additional expenses. This comprehensive guide to bearing failures outlines the many ways bearings can and do fail.

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