

Ball Bearing Speeds and Loads

This comparison uses the speed and load capability of carbon steel ball bearings as the benchmark of 100%

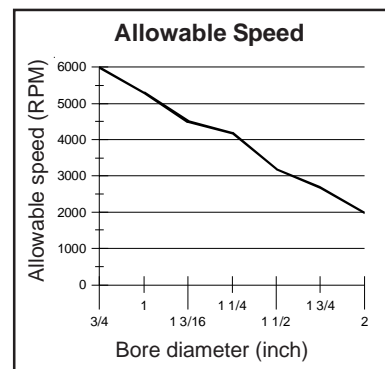
- The overall capability of 400-series stainless ball bearings (most stainless bearings are 400-series) is approximately 50% that of carbon-steel bearings. 400-series stainless ball bearings offer considerably more corrosion resistance than carbon-steel bearings.
- The overall capability of 300-series stainless ball bearings (available in limited shaft sizes) is approximately 25% that of carbon-steel bearings. 300-series stainless offers more corrosion resistance than 400-series stainless bearings.

Maximum speeds and maximum loads for 400-series stainless ball bearings are shown below.

For optimum bearing life, the appropriate balance of speed and load must be considered.

EDT extends to our customers the warranty provided by the ball bearing manufacturer.

Maximum Recommended Design Load for 400-series stainless ball bearings		
Ring Size	Dynamic Lb/ft / kgf	Static Lb/ft / kgf
203	1825 / 830	860 / 390
204	2440 / 1110	1190 / 540
205	2650 / 1210	1420 / 640
206	3725 / 1690	2030 / 920
207	4900 / 2220	2700 / 1260
208	5550 / 2520	3210 / 1460
209	6250 / 2830	3690 / 1690
210	6700 / 3040	4180 / 1900
211	8000 / 3624	4800 / 2180
212	9500 / 4077	5600 / 2540



Where to Use Ball Bearings

In applications where plane bearings are not recommended, ball bearings are the best alternative. These include:

APPLICATIONS WHERE BALL BEARINGS ARE WELL-SUITED

- High tension applications (V-belt drives, flat belt conveyors, urethane belts)
- High speed devices (fans, pumps, table top conveyors)
- Overhung loads (shaft mounted gear reducers)
- Trunnion applications

In other applications where the integrity of grease is compromised, consider using plane bearings. (See sections WHITE/H Poly-Round® and RED/F All-Round®.)

