Bearing Solutions for Industrial Electrical Applications
Deep Groove Ball Bearings for the Industrial Electrical Industry

PEER Bearing has expanded the size range manufacturing capability of single row deep groove ball bearings for the global industrial electrical market. The product portfolio now includes larger bore deep groove ball bearings with bore size up to 200mm, intended for use in higher HP electrical applications. This new offering complements PEER’s existing fractional and low HP bearing solutions offer. All bearings are manufactured at PEER's ISO/TS16949 and ISO 14001 certified facilities which allows us to support OEM design and development globally. Rely on PEER’s expanded range of electric motor bearing solutions to meet your most demanding performance expectations and keep your electrical applications running quiet.

**PRODUCT FEATURES AND BENEFITS**

- **Optimized raceway geometry and surface finish**
  - Reduces vibration and bearing noise for quiet & efficient operation.
  - Promotes lubrication effect so bearing runs cooler and extends service life.

- **High precision grade 10 balls**
  - Reduces vibration and bearing noise for quiet operation.

- **High precision accuracy and manufacturing consistency**
  - Eliminates vibration and bearing noise for quiet & efficient electrical operation.

- **High quality through hardened bearing steel**
  - Improves bearing fatigue life and extends service life.

- **Multiple seal options**
  - Provides supplemental protection against environmental contamination (dust, sand, moisture) extending service life.
  - Promotes grease retention in the bearing cavity for longer service life.

- **Premium polyurea thickened grease**
  - Mobil PolyrexEM™
  - Smooth running for quiet operation.
  - Excellent high & low temperature capability extends service life.
  - Superior water washout maintains lubricity when exposed to moisture.

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**Smooth and quiet PEER Bearings**
- Improve machine operating efficiency
- Minimize power loss & reduce energy costs

**Longer PEER Bearing service life**
- Increases machinery uptime and productivity
- Lowers machine maintenance costs

**Globally interchangeable PEER designs**
- Allow drop in replacement for OEM and rebuilders
- Eliminates machine re-design cost
**Deep Groove Ball Bearing Product Capabilities**

**Bore Size:** 3mm to 200mm  
**Outer Diameter:** up to 300mm  
**Closures:** Open 
Non-contact metallic shields 
Non-contact seals 
Contact seals  
**Ring Material:** S2100 chrome steel 
440C stainless steel  
**Seal Material:** Nitrile (Buna-N) 
Polyacrylic (Hycar®) 
Fluoroelastomer (Viton®)  
**Retainer:** Riveted steel, Crimped steel, 
Crowned steel, Crowned nylon  
**Precision Class:** ABEC1, ABEC3, ABEC5  
**Radial Internal Clearance:** C2, C0, C3, C4, CX  
**Lubrication:** Quiet, Low or high temperature, 
Food grade, Low or high viscosity  
**Heat Stabilization:** S0, S1, S2, S3

<table>
<thead>
<tr>
<th>DGBB Series</th>
<th>Unit</th>
<th>Peer Manufacturing Range Capability</th>
<th>Open</th>
<th>Shielded</th>
<th>Sealed</th>
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</table>

**Peer Bearing Part Number Nomenclature**

**Material**  
Blank: Chrome steel  
SS: Stainless steel

**Series**  
600 - 60200  
6800 - 63000  
6900 - 64000  
6000 - 66000  
6000 - 66000

**Closure (Size Dependent)**  
Blank: Open  
ZZ, ZZP, ZZD: Two, non-contact shields  
2RLAD: Two, Nitrile, non-contact seals  
2RLBD: Two, Nitrile, light contact seals (Lower torque)  
2RS, 2RSP, 2RLD: Two, Nitrile, contact seals (Standard torque)  
2RSPF, 2RLYD: Two, Nitrile, contact seals (Higher torque)  
2HRS, 2HRSP, 2HRLD: Two, Polyacrylate, contact seals (Standard torque)  
2VRS, 2VRSP, 2VRLD: Two, Fluoroelastomer, contact seals (Standard torque)

**Precision Class**  
Blank: ABEC1  
A3: ABEC3  
A5: ABEC5

**Modified Dimension**  
4: ¼” bore  
6: ½” bore  
8: 1½” bore  
10: ¾” bore  
12: 1⅛” bore  
14: 1¼” bore  
16: 1½” bore

**Radial Internal Clearance**  
C2: Smaller than normal  
Blank: C0 normal  
C3: Larger than normal  
C4: Larger than C3  
CX: Non-standard radial clearance

**Rings Heat Stabilization**  
Blank: Heat stabilized to operate at 120C  
S0: Heat stabilized to operate at 150C  
S1: Heat stabilized to operate at 200C  
S2: Heat stabilized to operate at 250C  
S3: Heat stabilized to operate at 300C

**Snap Ring / Groove**  
N: Snap ring groove  
NR: Snap ring groove and ring

**Retainer**  
Blank: Two pcs crimped steel (small sizes)  
Blank: Two pcs riveted steel  
TN: One pc crowned nylon
High-Precision Measurement of Ball Bearing Vibrations and Noise are Key

In electrical applications, low noise and vibration are primary considerations in bearing design. To achieve low noise and vibration, PEER controls precision, accuracy and finish of rolling surfaces. PEER’s designation for bearings that meet these strict requirements is Electric Motor Quality (EMQ).

PEER EMQ bearings are 100% noise tested on state-of-the-art anderon meter equipment (fig. 1) to meet electrical OEM requirements. Used to detect vibrations from bearing imperfections, the anderon meter displays vibration levels over three frequency ranges as well as amplified audibly.

Figure 2 represents anderon meter data comparing PEER against 2 major manufacturers using 6316 size ball bearings. The data shows PEER with lower vibration levels over all 3 frequency bands. Low vibration values are desirable for smooth bearing operation, low noise and long service life in industrial electrical applications.

![Figure 1: Anderon meter testing equipment.](image)

![Figure 2: 6316 noise test data results (Anderon meter testing comparing PEER Bearing versus 2 major manufacturers).](image)
**Bearing Closures**
To meet varying operating and environmental conditions, PEER offers a wide range of bearing closure options. Non-contact shields and non-contact seals are used in torque sensitive applications. Contact seals are used to protect from light external contaminants and promote bearing grease retention. For extreme conditions such as higher temp or caustic environments, alternative seal materials such as Polyacrylate (Hycar®) or Fluoroelastomer (Viton®) are available.

**Bearing Seals (Heavy Contamination)**
Properly designed bearing seals offer performance advantages when used in contaminated electrical applications. PEER offers alternative seal solutions engineered to provide superior contamination exclusion from dust, dirt and water. Typical applications include mid to high horsepower motors.

**Ceramic Balls**
Ceramic balls offer performance advantages when used in electric motor applications with electric current. Typical applications include variable speed electric motors with high conductivity and generators.

**Lubrication (Greases)**
Specifying the appropriate grease can be the difference between bearing success or damage. PEER stocks our bearings with electric motor quality grease (Mobil PolyrexEM) or we can select based on the application requirements.

<table>
<thead>
<tr>
<th>PEER CODE</th>
<th>GREASE</th>
<th>APPLICATION USE</th>
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<tbody>
<tr>
<td>L151</td>
<td>Mobil PolyrexEM</td>
<td>PEER standard</td>
</tr>
<tr>
<td>L06</td>
<td>Mobil Beacon 325</td>
<td>Lower temperature</td>
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<tr>
<td>L21</td>
<td>Kyodo Yushi Multemp SRL</td>
<td>Miniature, higher speed</td>
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<tr>
<td>L67</td>
<td>Chevron FM ALC EP2</td>
<td>Food grade (FDA approved)</td>
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<tr>
<td>L157</td>
<td>Kyodo Yushi Multemp SB-M</td>
<td>Miniature, higher temperature</td>
</tr>
</tbody>
</table>

Contact PEER Application Engineering to select a bearing solution to meet your performance requirements.
Full line of agricultural, radial, mounted unit ball bearings and tapered roller bearings

Valued bearing solutions for lawn & garden, agricultural, industrial transmission, material handling, fluid, electrical, HVAC, off-highway and on-highway applications

Global application engineering support

TS-16949 certified manufacturing facilities

Dedicated Research and Development center

Testing capabilities include: fatigue life, noise/vibration, mud slurry and salt spray testing

Flexible manufacturing to allow for low to high volume production

Customer service excellence

To place an order call...

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