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## WTW 6004

# WTW 6004 Single Row Ball Bearing User Manual

Model: 6004 | Brand: WTW

## INTRODUCTION

This manual provides essential information for the proper handling, installation, operation, and maintenance of your WTW 6004 Single Row Ball Bearing. Adhering to these guidelines will help ensure optimal performance and longevity of the product. This bearing is designed for applications requiring efficient rotational motion with minimal friction.



Figure 1: The WTW 6004 Single Row Ball Bearing as supplied in its factory packaging. The box is blue with "BALL BEARINGS" printed on top and features an image of the bearing itself, along with a "PREMIUM PLUS" seal.

## SETUP AND INSTALLATION

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Proper installation is crucial for the performance and lifespan of the ball bearing. While specific application requirements vary, the following general steps should be observed:

1. **Inspection:** Before installation, carefully inspect the bearing for any signs of damage during transit. Ensure it is clean and free from contaminants.
2. **Preparation:** Clean the shaft and housing bore thoroughly. Remove any burrs, rust, or old lubricant. Ensure mating surfaces are smooth and within specified tolerances.
3. **Lubrication:** Apply a thin, even layer of compatible lubricant (e.g., grease) to the bearing surfaces and the shaft/housing bore as recommended for your specific application. Refer to the 'Maintenance' section for more details on compatible lubricants.
4. **Mounting:** Use appropriate tools for mounting. Never strike the outer or inner ring directly with a hammer. Apply force evenly to the ring being fitted (e.g., inner ring for shaft fit, outer ring for housing fit). Consider using a bearing heater for thermal expansion if a tight fit is required.
5. **Alignment:** Ensure the bearing is correctly aligned with the shaft and housing to prevent premature wear and excessive loads.
6. **Sealing:** If external seals are used, ensure they are installed correctly to protect the bearing from contaminants.

*Note: For detailed installation procedures specific to your machinery, consult the equipment manufacturer's manual or a qualified technician.*

## OPERATING PRINCIPLES

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The WTW 6004 is a single row deep-groove ball bearing, designed to accommodate radial and axial loads in both directions. Its primary function is to reduce rotational friction and support radial and axial loads. The balls roll in the raceways, allowing for smooth and efficient motion.

- **Load Capacity:** Operate the bearing within its specified load limits to prevent damage and ensure longevity. Exceeding these limits can lead to premature failure.
- **Speed Limits:** Adhere to the maximum rotational speed specified for the bearing. High speeds without proper lubrication or cooling can cause overheating.
- **Temperature:** Maintain the operating temperature within the recommended range. Extreme temperatures can affect lubricant performance and bearing material properties.

## MAINTENANCE

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Regular maintenance is essential for extending the life and ensuring the reliable operation of your ball bearing.

- **Lubrication:**

The WTW 6004 bearing is designed to be used with grease as a compatible lubricant. Proper lubrication prevents metal-to-metal contact, reduces friction, dissipates heat, and protects against corrosion. The frequency and amount of lubrication depend on operating conditions (speed, load, temperature, environment). Consult your equipment's maintenance schedule or a bearing specialist for specific recommendations.

*Always use a high-quality, compatible grease. Mixing different types of grease can lead to lubricant degradation.*

- **Cleaning:** Keep the area around the bearing clean to prevent contaminants from entering. If the bearing needs cleaning, use appropriate solvents and ensure it is thoroughly dried and re-lubricated immediately afterward.
- **Inspection:** Periodically inspect the bearing for signs of wear, corrosion, or damage. Listen for unusual noises (grinding, squealing) during operation, which can indicate a problem. Check for excessive heat buildup.

- **Storage:** Store bearings in a clean, dry, and temperature-controlled environment to prevent rust and contamination before installation. Keep them in their original packaging until ready for use.

## TROUBLESHOOTING

This section outlines common issues that may arise with ball bearings and potential causes. This is a general guide; specific diagnosis may require professional assessment.

Symptom	Possible Cause	Action
Excessive Noise (Grinding, Squealing)	<ul style="list-style-type: none"> <li>• Insufficient or incorrect lubrication</li> <li>• Contamination (dirt, debris)</li> <li>• Improper installation (misalignment, excessive preload)</li> <li>• Bearing damage (pitting, spalling)</li> </ul>	<ul style="list-style-type: none"> <li>• Check lubrication; re-lubricate or replace if necessary.</li> <li>• Inspect for contamination; clean or replace bearing.</li> <li>• Re-evaluate installation; correct alignment/preload.</li> <li>• Replace damaged bearing.</li> </ul>
Overheating	<ul style="list-style-type: none"> <li>• Over-lubrication or under-lubrication</li> <li>• Excessive load or speed</li> <li>• Misalignment</li> <li>• Tight fits (shaft/housing)</li> <li>• Seal friction</li> </ul>	<ul style="list-style-type: none"> <li>• Adjust lubrication amount.</li> <li>• Reduce load/speed if possible; verify bearing suitability.</li> <li>• Correct alignment.</li> <li>• Check fit tolerances.</li> <li>• Inspect seals.</li> </ul>
Vibration	<ul style="list-style-type: none"> <li>• Bearing wear or damage</li> <li>• Imbalance in rotating components</li> <li>• Misalignment</li> <li>• Loose fits</li> </ul>	<ul style="list-style-type: none"> <li>• Replace worn bearing.</li> <li>• Balance rotating parts.</li> <li>• Correct alignment.</li> <li>• Check fit tolerances.</li> </ul>

## SPECIFICATIONS

The following are key specifications for the WTW 6004 Single Row Ball Bearing:

- **Model Number:** 6004
- **Bearing Type:** Ball Bearing (Deep-Groove Ball Bearing, Radial Ball Bearing)
- **Row Type:** Single Row
- **Compatible Lubricant:** Grease
- **Manufacturer:** WTW
- **ASIN:** B00DBOW35C
- **First Available:** May 29, 2018

*Note: For detailed dimensional specifications (e.g., bore diameter, outer diameter, width), please refer to the manufacturer's technical data sheets or industry standards for the 6004 bearing size.*

## WARRANTY AND SUPPORT

For information regarding the warranty terms and conditions for your WTW 6004 Single Row Ball Bearing, please refer to the documentation provided at the time of purchase or contact the seller directly. Warranty coverage typically addresses

manufacturing defects.

For technical support, specific application advice, or to inquire about replacement parts, it is recommended to contact the manufacturer, WTW, or the authorized distributor from whom the product was purchased. Always provide the model number (6004) and ASIN (B00DBOW35C) when seeking support.

You can often find contact information on the manufacturer's official website or through the retailer's support channels.

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## Related Documents - 6004

