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› VXB 5202-2RS Bearing Angular Contact Sealed 15x35x15.9 Ball Bearings User Manual

VXB 5202-2RS

VXB 5202-2RS Bearing Angular Contact Sealed 15x35x15.9 Ball Bearings User Manual

INTRODUCTION

This manual provides essential information for the proper handling, installation, operation, and maintenance of the VXB 5202-2RS double-row angular contact ball bearing. Adhering to these instructions will help ensure optimal performance and extend the service life of the bearing. Please read this manual thoroughly before installation and use.

PRODUCT OVERVIEW

The VXB 5202-2RS is a double-row angular contact ball bearing designed for applications requiring support for radial, thrust, and combined loads. Its sealed design protects internal components from contaminants, while the 20-degree contact angle enhances thrust load capacity. This bearing features a pressed steel cage and normal clearance, making it suitable for various industrial and commercial uses.



Figure 1: Front view of the VXB 5202-2RS double-row angular contact ball bearing, showing the sealed design and inner race.



Figure 2: Angled view of the VXB 5202-2RS bearing, highlighting its compact design and outer ring.



Figure 3: Side view of the VXB 5202-2RS bearing, showing the sealed side with the model number inscription.

Key Features:

- **Double-Row Angular Contact:** Supports radial, thrust (both directions), and combined loads efficiently.
- **Sealed (2RS):** Equipped with two rubber seals to prevent contaminant ingress and retain lubricant.
- **20-Degree Contact Angle:** Provides enhanced capacity for thrust loads compared to standard bearings.
- **Pressed Steel Cage:** Ensures proper spacing of rolling elements, reducing friction and noise.
- **Normal Clearance:** Suitable for applications without significant thermal expansion, allowing for self-realignment.
- **Material:** Constructed from low-alloy, through-hardened carbon chromium steel for durability.

SPECIFICATIONS

Characteristic	Value
Bearing Type	Double-Row Angular Contact Ball Bearing
Model Number	5202-2RS
Inner Diameter (ID)	15 mm
Outer Diameter (OD)	35 mm

Characteristic	Value
Width	15.9 mm
Closures	2 Rubber Seals (2RS)
Contact Angle	20 degrees
Cage Material	Pressed Steel
Bearing Material	Low-alloy, through-hardened carbon chromium steel
Clearance	Normal Axial Internal Clearance
Item Weight	2.24 ounces (approx. 63.5 grams)

SETUP AND INSTALLATION

Proper installation is crucial for the longevity and performance of the bearing. Incorrect installation can lead to premature failure.

General Guidelines:

1. **Cleanliness:** Ensure the mounting area, shaft, and housing are thoroughly clean and free from dirt, dust, metal chips, or other contaminants.
2. **Inspection:** Inspect the shaft and housing for any burrs, nicks, or damage that could affect bearing fit or alignment.
3. **Mounting Method:**
 - **Press Fit:** For interference fits, use a hydraulic press or a suitable mounting tool to apply even pressure to the bearing ring being fitted. Never strike the outer ring when pressing onto a shaft, or the inner ring when pressing into a housing.
 - **Heating:** For larger bearings or tight fits, the inner ring can be heated (e.g., using an induction heater) to expand it, allowing for easier mounting onto the shaft. Do not exceed 120°C (248°F) to avoid damaging seals or lubricant.
4. **Alignment:** Ensure the bearing is correctly aligned with the shaft and housing bore to prevent uneven load distribution and premature wear.
5. **Lubrication:** The 5202-2RS bearing is pre-lubricated and sealed. No initial lubrication is required. Avoid washing out the factory grease.
6. **Sealing:** Ensure the seals are not damaged during installation.

Consult specific equipment manuals for detailed installation procedures relevant to your application.

OPERATING PRINCIPLES

Angular contact ball bearings are designed to accommodate both radial and axial loads. The VXB 5202-2RS, being a double-row type, can handle axial loads in both directions. The 20-degree contact angle allows for efficient transmission of thrust forces through the balls to the raceways.

- **Load Capacity:** This bearing is suitable for applications with combined radial and axial loads. The double-row design provides rigidity and stability.
- **Speed:** Operate within recommended speed limits for angular contact ball bearings to prevent excessive heat generation and premature wear. Refer to engineering handbooks for specific speed

ratings based on lubrication and operating conditions.

- **Temperature:** The operating temperature range is limited by the lubricant and seal material. Avoid prolonged operation at temperatures exceeding the manufacturer's recommendations for the grease and seals.

MAINTENANCE

The VXB 5202-2RS bearing is sealed and pre-lubricated, designed for a maintenance-free service life under normal operating conditions. However, periodic inspection of the surrounding environment and bearing condition is recommended.

Inspection Points:

- **Noise and Vibration:** Listen for unusual noises (grinding, squealing) or feel for excessive vibration, which can indicate bearing damage or wear.
- **Temperature:** Monitor bearing housing temperature. Excessive heat can be a sign of insufficient lubrication, overload, or damage.
- **Seal Integrity:** Visually inspect the rubber seals for cracks, tears, or signs of lubricant leakage. Damaged seals compromise the bearing's protection against contaminants.
- **Contamination:** Check for signs of external contamination around the bearing area.

If any issues are detected, consider replacing the bearing to prevent further damage to the machinery.

TROUBLESHOOTING

This section outlines common issues and potential causes related to bearing performance.

Symptom	Possible Cause	Action
Excessive Noise (Grinding/Squealing)	Contamination, improper installation, insufficient lubrication (unlikely for sealed bearing unless seals are compromised), bearing damage.	Inspect seals, check for contamination, verify installation, replace bearing if damaged.
High Operating Temperature	Overload, excessive speed, misalignment, insufficient internal clearance, damaged seals leading to lubricant loss.	Reduce load/speed, check alignment, inspect seals, replace bearing.
Excessive Vibration	Improper installation, misalignment, bearing damage (e.g., raceway damage, ball damage), imbalance in rotating components.	Verify installation and alignment, inspect bearing for damage, balance rotating parts.
Premature Bearing Failure	Any of the above, severe contamination, corrosion, fatigue due to excessive load or improper fit.	Identify root cause through failure analysis, correct operating conditions, ensure proper installation and maintenance practices.

WARRANTY AND SUPPORT

For specific warranty terms and conditions related to your VXB 5202-2RS bearing, please refer to the purchase documentation or contact the seller directly. VXB aims to provide reliable products, and any support inquiries should be directed to their official customer service channels or the authorized distributor from whom the product was purchased.

For further technical assistance or product information, please visit the [VXB website](#) or consult a qualified industrial bearing specialist.