NSK 608VV

NSK 608VV Deep Groove Ball Bearing User Manual

Model: 608VV | Brand: NSK

1. Product Overview

The NSK 608VV is a deep groove ball bearing designed for high-speed applications and capable of supporting both radial and axial loads. It features a single-row deep-groove geometry and metric dimensions. The bearing is equipped with double non-contact seals to protect internal components from contaminants and retain lubricant. Its pressed steel cage ensures even spacing of the balls, contributing to reduced friction, vibrations, and noise. This bearing is suitable for applications requiring high running accuracy and stiffness.

Image of the NSK 608VV Deep Groove Ball Bearing, showing its sealed design and metallic construction.

2. Specifications

Feature	Detail
Model Number	608VV
Bearing Type	Deep Groove Ball Bearing
Row Type	Single Row
Seals	Double Sealed, Non-Contact
Cage Material	Pressed Steel
Clearance	Normal Radial Internal Clearance
Bore Diameter	8mm
Outer Diameter (OD)	22mm

Width	7mm
Maximum Rotational Speed	34000 rpm
Static Load Capacity	1370 N
Dynamic Load Capacity	3300 N
Material	Alloy Steel

3. Installation

Proper installation is crucial for the optimal performance and longevity of the bearing. Follow these general guidelines:

1. **Preparation:** Ensure the housing and shaft surfaces are clean, free from burrs, and within specified tolerances.
2. **Handling:** Handle bearings with clean hands or gloves to prevent contamination. Do not remove the bearing from its packaging until immediately before installation.
3. **Mounting:**
    - For press fits, apply force evenly to the ring being fitted (inner ring for shaft, outer ring for housing).
    - Use appropriate mounting tools or a hydraulic press. **Never strike the bearing directly with a hammer**, as this can damage the raceways or rolling elements.
    - Heating the bearing (e.g., with an induction heater) or cooling the shaft can facilitate installation for interference fits. Ensure temperature limits are not exceeded.
4. **Alignment:** Verify proper alignment after installation to prevent premature wear and excessive loads.
5. **Lubrication:** This bearing comes pre-lubricated with non-contact seals. Additional lubrication during installation is generally not required unless specified for a particular application.

4. Operating Principles

Deep groove ball bearings are versatile rolling-element bearings that utilize balls as rolling elements between an inner and an outer ring. The deep raceway grooves allow them to accommodate radial loads and, to a lesser extent, axial loads in both directions. The non-contact seals on the 608VV model provide a barrier against dust and moisture while minimizing friction, making them suitable for applications where low friction and protection from contaminants are important. The internal clearance is designed for general applications that do not involve significant thermal expansion or require extreme precision beyond normal standards.

5. Maintenance

The NSK 608VV bearing is designed for minimal maintenance due to its sealed construction. However, periodic inspection and proper handling are recommended:

- **Inspection:** Regularly check for signs of wear, damage, or unusual noise/vibration during operation.
- **Cleaning:** Keep the external environment around the bearing clean to prevent contaminants from entering, especially if seals are compromised. Do not use high-pressure washers directly on the bearing.
- **Lubrication:** As a sealed bearing, the 608VV is factory-lubricated for its service life under normal operating conditions. Re-lubrication is generally not required or recommended, as it may compromise the

seals. If the application demands re-lubrication, consult NSK technical documentation or a qualified engineer.

- **Storage:** Store bearings in their original packaging in a dry, clean, and temperature-controlled environment to prevent corrosion and contamination.

6. Applications

The NSK 608VV deep groove ball bearing is suitable for a wide range of industrial and general-purpose applications, including but not limited to:

- Electric motors
- Clutches
- Drives and gearboxes
- Compressors and pumps
- Turbines
- Printing and textile machinery
- Skateboards and rollerblades (common 608 size)
- Various power transmission equipment

7. Troubleshooting

If you encounter issues with your bearing, consider the following common problems and potential causes:

Problem	Possible Cause	Action
Excessive Noise/Vibration	Contamination, improper installation, misalignment, insufficient lubrication (unlikely for sealed), bearing damage.	Inspect for contamination, verify installation, check alignment, replace if damaged.
Overheating	Excessive load, improper fit (too tight), misalignment, high speed, seal friction.	Reduce load, check fits, correct alignment, ensure operating within speed limits.
Premature Wear	Contamination, improper lubrication, excessive load, misalignment, vibration.	Ensure clean environment, verify operating conditions, check for proper installation.
Bearing Seizure	Severe overheating, complete loss of lubrication, extreme overload.	Immediately stop operation, identify and rectify root cause, replace bearing.

For persistent or severe issues, consult a qualified technician or NSK technical support.

8. Safety Information

- Always wear appropriate personal protective equipment (PPE), such as safety glasses and gloves, when handling bearings.
- Avoid direct skin contact with lubricants if you have sensitivities.
- Do not attempt to disassemble sealed bearings, as this can damage the seals and internal components.

- Ensure machinery is powered off and locked out before performing any installation or maintenance on bearings.
- Dispose of old bearings and lubricants according to local environmental regulations.

9. Warranty and Support

For specific warranty terms, technical support, or service inquiries regarding your NSK 608VV Deep Groove Ball Bearing, please refer to the official NSK website or contact an authorized NSK distributor. Warranty coverage typically depends on proper installation, application, and maintenance practices.