Trane COM06438

Trane COM06438 Compressor Instruction Manual

Model: COM06438, CSHA-150K-0

1. Introduction

This manual provides essential instructions for the safe and efficient installation, operation, and maintenance of the Trane COM06438 Compressor. This unit is a 15-ton compressor designed for HVAC systems, operating on 400/50/3 or 460/60/3 electrical power, utilizing braze sweat connections and mineral oil (OIL00045).
Proper adherence to these instructions is crucial for optimal performance and longevity of the compressor. Ensure all personnel involved in handling, installing, or servicing this equipment are qualified and understand the procedures outlined herein.

Image 1.1: Trane COM06438 Compressor unit. This image shows the general appearance of the compressor, highlighting its robust industrial design.

2. Safety Information

WARNING: Failure to follow these safety instructions could result in serious injury, death, or property damage.

- Only qualified and authorized personnel should install, operate, or service this equipment.
- Always disconnect power before performing any maintenance or service.
- Wear appropriate personal protective equipment (PPE), including safety glasses, gloves, and protective clothing.
- Handle refrigerants with extreme care. Refer to local regulations and safety data sheets (SDS).
- Ensure proper ventilation when working with refrigerants and oils.
- This compressor operates at high voltages. Exercise extreme caution to avoid electrical shock.
- The compressor contains pressurized components. Do not attempt to repair or modify pressurized parts.

Image 2.1: Trane OEM Component Stamp. This stamp signifies that the compressor is an original equipment manufacturer (OEM) component from Trane, ensuring quality and compatibility.

3. Setup and Installation

3.1. Pre-Installation Checks

- Verify that the compressor model (COM06438) matches the system requirements.
- Inspect the compressor for any shipping damage. Report any damage immediately.
- Ensure the installation site provides adequate space for maintenance and proper airflow.
- Confirm that the electrical supply (400/50/3 or 460/60/3) matches the compressor's requirements.

3.2. Mounting

Mount the compressor on a level, stable surface capable of supporting its 400-pound weight. Use appropriate vibration isolation mounts to minimize noise and stress on the system. Refer to the system's specific mounting instructions for optimal placement.

3.3. Electrical Connections

All electrical wiring must be performed by a licensed electrician in accordance with national and local electrical codes. Ensure the power supply is disconnected before making any connections.

- Connect the three-phase power supply to the compressor's terminal block.
- Verify correct phase rotation. Incorrect rotation can damage the compressor.
- Install appropriate overcurrent protection devices as required by local codes.
- Ensure proper grounding of the compressor.

3.4. Refrigerant Line Connections (Braze Sweat)

Connect the suction and discharge lines using proper brazing techniques. Ensure the lines are clean and free of contaminants before brazing. Use a nitrogen purge during brazing to prevent oxidation inside the tubing.

- Clean all connection points thoroughly.
- Apply a thin, even layer of flux if required by the brazing material.
- Braze connections carefully, avoiding overheating the compressor body.
- After brazing, allow connections to cool naturally.

3.5. Oil Charging (Mineral Oil OIL00045)

This compressor uses mineral oil (OIL00045). Ensure the correct type and amount of oil are present in the compressor before startup. Refer to the system manufacturer's specifications for the exact oil charge. If adding oil, use a clean, dedicated oil pump to prevent contamination.

Image 3.1: Trane Compressor connection points. This image illustrates the typical layout of refrigerant and electrical connection

points on the compressor.

4. Operating Instructions

4.1. Initial Startup

1. Ensure all installation steps are complete and verified.
2. Evacuate the refrigerant system to a deep vacuum (typically 500 microns or less) to remove non-condensable gases and moisture.
3. Charge the system with the correct type and amount of refrigerant according to the system manufacturer's specifications.
4. Restore electrical power to the unit.
5. Initiate the system startup sequence. Monitor the compressor for unusual noises, vibrations, or abnormal operating pressures/temperatures.
6. Verify correct phase rotation by observing the compressor's initial operation. If rotation is incorrect, immediately shut down and correct the wiring.

4.2. Normal Operation

During normal operation, the compressor should run smoothly with consistent suction and discharge pressures. The system controls will cycle the compressor as needed to maintain desired conditions.

4.3. Monitoring

Regularly monitor system pressures, temperatures, and compressor current draw. Any significant deviation from normal operating parameters may indicate a problem requiring investigation.

5. Maintenance

Regular maintenance is essential for the long-term reliability and efficiency of the Trane COM06438 Compressor. Always disconnect power before performing any maintenance.

5.1. Routine Checks (Quarterly/Annually)

- Inspect electrical connections for tightness and signs of overheating.
- Check for refrigerant leaks using an electronic leak detector.
- Examine the compressor for unusual vibrations or noises.
- Clean the exterior of the compressor to prevent dust and debris buildup.

5.2. Oil Level Inspection and Replacement

Check the oil level periodically through the sight glass (if equipped). If the oil level is low, add only mineral oil (OIL00045) of the correct viscosity. Oil replacement frequency depends on operating conditions and system type; consult the overall system manual for specific recommendations.

5.3. Filter Replacement

If the system includes a suction line filter-drier, inspect and replace it as recommended by the system manufacturer. A clogged filter can restrict refrigerant flow and negatively impact compressor performance.

6. Troubleshooting

This section provides guidance for common issues. For complex problems, contact a qualified HVAC technician.

Problem	Possible Cause	Solution
Compressor does not start	No power, tripped breaker, faulty control circuit, incorrect wiring.	Check power supply, reset breaker, inspect control wiring, verify electrical connections.
Compressor runs but no cooling	Low refrigerant charge, clogged filter-drier, faulty expansion valve, internal compressor issue.	Check refrigerant charge, inspect filter-drier, consult technician for valve or internal issues.
Unusual noise or vibration	Loose mounting, internal mechanical failure, incorrect phase rotation.	Check mounting bolts, verify phase rotation, contact technician for internal issues.
High discharge pressure	Overcharge of refrigerant, dirty condenser coil, non-condensable gases, restricted airflow.	Verify refrigerant charge, clean condenser, evacuate and recharge system, ensure proper airflow.

7. Specifications

Feature	Detail
Model Number	COM06438 (CSHA-150K-0)
Cooling Capacity	15 TON
Electrical Supply	400V/50Hz/3 Phase, 460V/60Hz/3 Phase
Connection Type	Braze Sweat
Oil Type	Mineral Oil (OIL00045)
Product Dimensions	48 x 48 x 48 inches
Item Weight	400 pounds
Manufacturer	Trane / Service First

8. Warranty and Support

This Trane compressor is covered by a manufacturer's warranty. For specific warranty terms and conditions, please refer to the documentation provided with your purchase or contact your authorized Trane dealer. Warranty claims typically require proof of purchase and professional installation.
For technical support, service, or parts inquiries, please contact your local Trane distributor or a certified HVAC technician. Provide the model number (COM06438) and serial number of your unit when seeking assistance.
Contact Information:

- Authorized Trane Dealer
- Trane Official Website (for general inquiries and locating dealers)