

Robinair 15310

Robinair (15310) VacuMaster Single Stage Vacuum Pump Instruction Manual

1. INTRODUCTION

This manual provides essential information for the safe and efficient operation and maintenance of your Robinair (15310) VacuMaster Single Stage Vacuum Pump. This high-performance rotary vane vacuum pump is designed for air conditioning and refrigeration service, offering 3 CFM free air displacement and a factory rating to 75 microns. Proper understanding and adherence to these instructions will ensure optimal performance and longevity of the unit.

2. SAFETY INFORMATION

WARNING: Proposition 65 Warning: This product can expose you to chemicals which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

- Always wear appropriate personal protective equipment, including safety glasses and gloves, when operating the vacuum pump.
- Ensure the pump is connected to a grounded electrical outlet with the correct voltage (110V/60Hz).
- Do not operate the pump in wet conditions or expose it to rain.
- Never use the pump to evacuate flammable gases or liquids.
- Allow the pump to cool before handling after extended operation.
- Keep children and unauthorized personnel away from the operating unit.

3. PRODUCT FEATURES

The Robinair (15310) VacuMaster Single Stage Vacuum Pump incorporates several design elements for efficient and reliable performance:

- **Single Stage Rotary Vane Design:** Optimized for effective air conditioning and refrigeration service.
- **3 CFM Free Air Displacement:** Provides efficient vacuum pulling capability.
- **Factory Rated to 75 Microns:** Ensures deep vacuum for thorough system evacuation.
- **1/4 HP, 110V/60Hz Thermally Protected Motor:** Durable motor with built-in protection against overheating.

- **Inlet Fitting:** Engineered for maximum airflow and designed to prevent oil backflow into the system.
- **Finned Aluminum Surfaces:** Facilitate faster heat dissipation, contributing to cooler pump operation and extended service life.
- **Versatile Inlet Fittings:** Includes 1/4 inch flare and 1/2 inch ACME inlet fittings for broad compatibility.
- **Easy-to-Read Sight Glass:** Allows for quick and convenient monitoring of oil level and condition.
- **Easy Access Oil Fill Port:** Simplifies the oil filling process.
- **Angled Oil Drain Valve:** Positioned at the bottom of the oil reservoir and angled for faster, more complete draining.
- **Non-Skid Feet:** Provide stability during operation.



Figure 1: Robinair (15310) VacuMaster Single Stage Vacuum Pump. This image shows the overall design of the pump, highlighting its compact form factor, handle, and various ports.

4. SETUP

Before initial use, or after transporting the pump, ensure proper setup:

1. **Check Oil Level:** The pump is shipped with oil. Verify the oil level using the sight glass. The oil level should be between the 'MIN' and 'MAX' marks. If needed, add vacuum pump oil through the easy access oil fill port until the correct level is reached.

2. **Power Connection:** Connect the pump to a standard 110V/60Hz grounded electrical outlet.
3. **Hose Connections:** Identify the appropriate inlet fitting (1/4 inch flare or 1/2 inch ACME) for your application. Connect your vacuum hoses securely to the pump's inlet. Ensure all connections are tight to prevent leaks, which can significantly impact vacuum performance.
4. **Initial Run:** For the first use, or after an oil change, allow the pump to run for 10-30 seconds with the inlet open to circulate the oil. Then, close the inlet and proceed with evacuation.

Visual Guide: Robinair (15310) VacuMaster Single Stage Vacuum Pump Overview

Your browser does not support the video tag.

This video provides a visual overview of the Robinair (15310) VacuMaster Single Stage Vacuum Pump, demonstrating its features and general appearance. It can assist in identifying components during setup.

5. OPERATING INSTRUCTIONS

Follow these steps for effective system evacuation:

1. **Connect to System:** After ensuring the pump is properly set up and oiled, connect the vacuum hoses from the pump to the system requiring evacuation. Ensure all connections are leak-tight.
2. **Start Pump:** Turn on the vacuum pump. The pump will begin to draw a vacuum.
3. **Monitor Vacuum:** Use a vacuum gauge to monitor the system's vacuum level. The Robinair 15310 is factory rated to 75 microns. Continue evacuation until the desired vacuum level is achieved and maintained.
4. **Isolate System:** Once the desired vacuum is reached, close the system's valves to isolate it from the vacuum pump.
5. **Turn Off Pump:** Switch off the vacuum pump.
6. **Disconnect Hoses:** Carefully disconnect the vacuum hoses from the system and the pump.

Note: During operation, it is normal for the pump to become warm, produce some noise, and occasionally emit a slight oil mist from the exhaust port, especially during initial startup or if the oil reservoir is overfilled. These are typical characteristics of vacuum pump operation.

Related Video: Robinair (15800) VacuMaster Economy Vacuum Pump Overview

Your browser does not support the video tag.

This video demonstrates the features and operation of a similar Robinair VacuMaster Economy Vacuum Pump (Model 15800), which shares many operational principles with the 15310 model. It can provide additional visual context for general vacuum pump usage.

6. MAINTENANCE

Regular maintenance is crucial for the performance and lifespan of your vacuum pump:

- **Oil Changes:** Vacuum pump oil should be changed regularly. The frequency depends on usage and the condition of the system being evacuated. Change oil when it appears milky or cloudy, or if vacuum performance degrades. The angled oil drain valve facilitates faster and more complete draining. Always use high-quality vacuum pump oil.
- **Cleaning:** Keep the pump's finned aluminum surfaces clean to ensure efficient heat dissipation. Dust and debris can hinder cooling.
- **Storage:** When not in use, ensure the pump's inlet and exhaust ports are capped to prevent moisture and contaminants from entering the pump. Store in a dry, clean environment.

7. TROUBLESHOOTING

If you encounter issues with your Robinair (15310) VacuMaster Single Stage Vacuum Pump, consider the following:

- **Pump Not Pulling Rated Vacuum:** This is often due to leaks in the system or connections. Thoroughly check all hoses, fittings, and system components for tightness. A faulty vacuum gauge can also give inaccurate readings.
- **Excessive Oil Mist/Smoke:** This can occur if the oil reservoir is overfilled. Ensure the oil level is within the 'MIN' and 'MAX' marks on the sight glass. It can also be normal during initial startup as the oil heats up.
- **Unusual Noises:** Minor noises are normal during operation. However, if you hear loud or unusual knocking sounds, it may indicate an internal issue. Check oil level and condition.
- **Overheating:** Ensure the pump's cooling fins are clean and unobstructed. Operating the pump in a well-ventilated area is important. The motor has thermal protection and will shut off if it overheats.

For persistent issues, consult a qualified technician or contact Robinair customer support.

8. SPECIFICATIONS

Feature	Specification
Brand	Robinair
Model Number	15310
Pump Type	Single Stage Rotary Vane
Free Air Displacement	3 CFM
Factory Rating	75 Microns
Oil Reservoir Capacity	8.5 Ounce
Motor	1/4 HP, Thermally Protected
Voltage	110V/60Hz
Inlet Fittings	1/4 inch Flare, 1/2 inch ACME
Item Weight	18 pounds
Product Dimensions	13.2 x 4.8 x 10 inches

9. WARRANTY AND SUPPORT

Robinair offers a 'no hassle guarantee' for its products. If you experience a problem with your vacuum pump within one year of purchase, contact your distributor for a replacement. For further technical assistance or warranty claims, please refer to the official Robinair website or contact their customer support directly.

ASK A QUESTION ABOUT THIS MANUAL

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question

and use this page's manual context to help answer it.

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Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

Submit question

Answered questions about this manual

Is it okay to wrap a small rag around the exhaust black plastic screw cap above the oil level glass window on a Robinair VacuMaster 15310 vacuum pump to reduce noise?

It is not recommended to wrap a rag around the exhaust cap of your Robinair VacuMaster 15310. While it may quiet the noise, doing so can lead to several safety and performance issues:Pressure Buildup:...

[Read full answer](#)

If my Robinair VacuMaster vacuum pump does not start when the oil is low, will it work again once I refill the oil?

Yes, refilling the oil is the first and most important step to getting your Robinair VacuMaster pump running again. Vacuum pumps require oil not only for lubrication but also to create the seal necessary...

[Read full answer](#)