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Robinair 15500

Robinair (15500) VacuMaster Economy Vacuum Pump - User Manual

Model: 15500 | Brand: Robinair

Introduction

The Robinair (15500) VacuMaster Economy Vacuum Pump is a high-performance, heavy-duty 2-stage rotary vane vacuum pump designed for air conditioning and refrigeration service. With a 5 CFM free air displacement and factory rating to 35 microns, this unit provides the necessary capacity for various tasks. Its robust design ensures efficient and reliable operation for both residential and light commercial applications.



Figure 1: Robinair (15500) VacuMaster Economy Vacuum Pump.

Key Features

- **2-Stage Rotary Vane Design:** Ensures thorough vacuum for efficient air conditioning and refrigeration service.
- **5 CFM Free Air Displacement:** Factory rated to 35 microns for effective evacuation.
- **1/3 HP, 115V/60 Hz Thermally Protected Motor:** Provides reliable power and protection against overheating.
- **Engineered Inlet Fitting:** Designed for maximum airflow while preventing oil backflow.
- **Finned Aluminum Surfaces:** Dissipate heat faster, keeping the pump cooler and extending its lifespan.
- **Multiple Inlet Fittings:** Includes 1/4 inch MFL & 3/8 inch ACME inlet fittings, plus a 3/8 inch FFL x 1/2 inch Acme adapter for versatile connections.
- **Easy-to-Read Sight Glass:** Allows for quick monitoring of oil levels.
- **Easy Access Oil Fill Port:** Simplifies the oil filling process.
- **Angled Oil Drain Valve:** Positioned for faster and more complete oil draining, simplifying maintenance.

- **Lightweight Aluminum Reservoir:** Reduces overall weight for easier transport between job sites.
- **Integrated Check Valve:** Prevents oil from backing up into the system, maintaining vacuum even if power is interrupted.

Setup Instructions

Before operating your Robinair VacuMaster Economy Vacuum Pump, ensure it is properly set up. This includes filling the pump with oil and connecting it to your system.

1. Filling with Oil

The pump requires oil for lubrication, cooling, and sealing. Failure to fill the pump with oil will damage the unit.

1. Ensure the oil drain valve, located at the bottom of the pump, is fully closed.
2. Locate the oil fill port on the top of the pump and remove its plug.
3. Carefully pour the provided Robinair Premium High Vacuum Pump Oil into the fill port.
4. Monitor the oil level through the sight glass on the front of the pump. Fill until the oil reaches the "LEVEL" line. Do not overfill or underfill, as this can affect pump efficiency.
5. If you accidentally overfill, slowly open the drain valve to release excess oil until the correct level is achieved.
6. Once the oil level is correct, replace the fill port plug securely.

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Video 1: Demonstrates the process of filling the vacuum pump with oil and checking the oil level using the sight glass.

2. Connecting to the System

The pump features a multi-port brass intake valve with various fittings for compatibility with different systems.

1. Select the appropriate fitting (1/4 inch MFL, 3/8 inch ACME, or 1/2 inch Acme adapter) for your system's service valves.
2. Connect a large vacuum hose from the pump's intake valve to your micron meter (if using).
3. Connect the micron meter to your gauge manifold.
4. Attach the high and low refrigerant hoses from your gauge manifold to the proper service valves on the air conditioning or refrigeration unit.
5. Ensure all connections are tight to prevent leaks and achieve an effective vacuum.

Operating the Vacuum Pump

Once the pump is properly set up and connected, you can begin the evacuation process.

1. Ensure all valves on your manifold and system are correctly positioned for evacuation.

2. Plug the pump's power cord into a compatible 115V/60Hz electrical outlet.
3. Flip the power switch on the pump to the "ON" position. The pump will begin to operate.
4. Monitor the micron gauge to track the vacuum level. The 2-stage design of the Robinair 15500 allows for quicker and more thorough removal of air and moisture, leading to a deeper ultimate vacuum level.
5. Continue running the pump until the desired vacuum level is achieved, typically below 500 microns for most HVAC/R systems.
6. Once the target vacuum is reached, close the manifold valves to isolate the system from the pump.
7. Turn off the pump by flipping the power switch to the "OFF" position.
8. Disconnect the hoses from the system and pump.

The integrated check valve within the pump ensures that the vacuum is maintained in the system even if the pump is turned off or power is interrupted, preventing oil from backing up into your system.

Maintenance

Regular maintenance is crucial for the longevity and optimal performance of your Robinair VacuMaster Economy Vacuum Pump.

Oil Changes

It is recommended to change the pump oil after every service, or if the oil appears contaminated (cloudy or discolored) as seen through the sight glass.

1. Place a suitable container under the oil drain valve.
2. Slowly open the oil drain valve to allow the old oil to drain completely. If the oil is warm, it will drain quicker.
3. Once drained, close the oil drain valve securely.
4. Refill the pump with fresh Robinair Premium High Vacuum Pump Oil through the fill port, following the instructions in the "Setup Instructions" section.

Checking Oil Quality with a Micron Gauge

A micron gauge can help determine if your pump oil is still good for use.

1. Attach a micron gauge directly to the pump's intake port.
2. Turn on the pump and observe the reading on the micron gauge.
3. If the reading is 50 microns or less, the oil is still good.
4. If the reading is above 50 microns, the oil is likely contaminated and should be changed immediately.

Storage

When not in use, especially during transport or in humid conditions, ensure the exhaust plug is securely in place. This helps to keep the oil in the system and prevents moisture from entering, preserving the oil's quality.

Troubleshooting

While the Robinair (15500) VacuMaster Economy Vacuum Pump is designed for reliable operation, occasional issues may arise. Here are some common troubleshooting tips:

- **Pump Not Starting:**
  - Check if the power cord is securely plugged into a live outlet.
  - Ensure the power switch is in the "ON" position.
  - Verify the motor is not thermally overloaded (allow it to cool down if it has been running for an extended period).
- **Poor Vacuum Performance:**
  - Check the oil level and quality. If the oil is low or contaminated, change it immediately.
  - Inspect all hose connections for leaks. Even small leaks can significantly impact vacuum performance.
  - Ensure the system being evacuated is properly sealed.
  - Verify that the oil drain valve is fully closed.
- **Excessive Noise or Vibration:**
  - Check the oil level. Low oil can cause increased noise.
  - Ensure the pump is placed on a stable, level surface. The non-skid feet should minimize vibration.
- **Oil Spitting from Exhaust:**
  - This can occur if the pump is overfilled with oil. Drain excess oil until the level is correct in the sight glass.

For more complex issues, refer to the official user manual PDF or contact Robinair customer support.

Specifications

Feature	Detail
Brand	Robinair
Model	15500 Vac Pump
Item Model Number	15500
Manufacturer	Robinair
Item Weight	21 pounds
Country of Origin	China
Voltage	115 Volts
Wattage	700 watts
Capacity	5 CFM

Feature	Detail
Motor	1/3 HP
Stages	2-Stage
Oil Capacity	7.5 ounces

Warranty and Support

For detailed warranty information, technical support, or service inquiries, please refer to the official Robinair user manual or visit the Robinair website.

- Official User Manual (PDF): Download PDF
- Robinair Brand Store: Visit Store

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