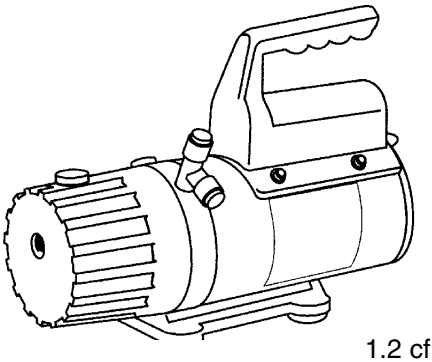
SPX ROBINAIR

Operating Manual

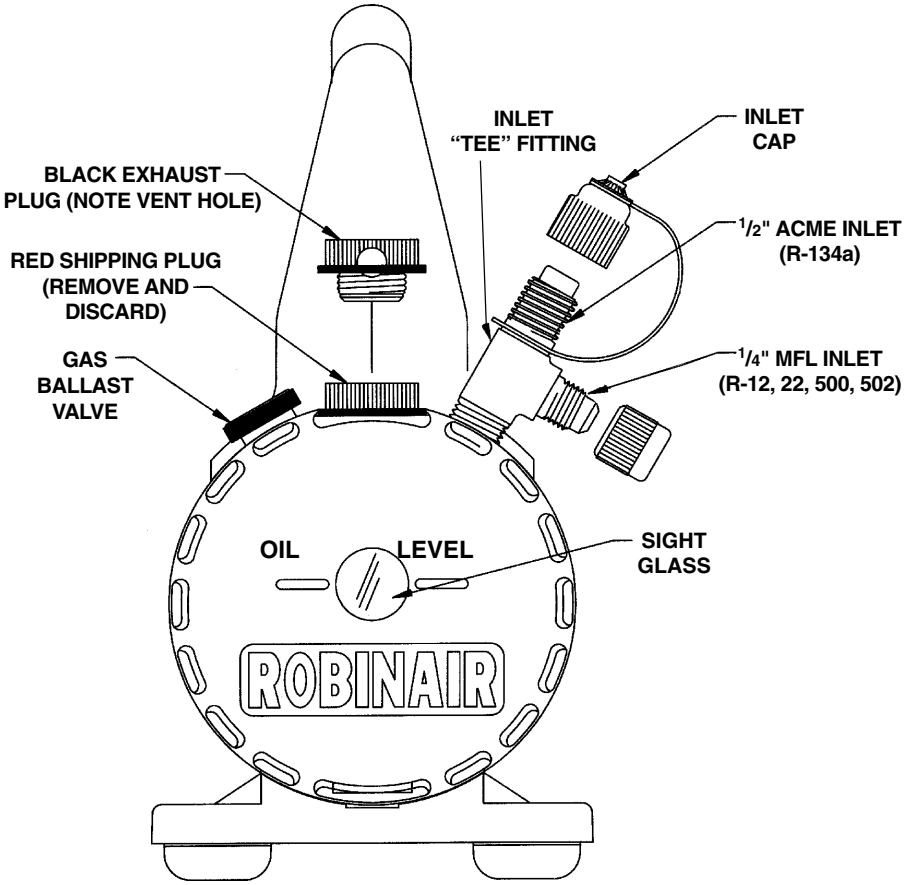


1.2 cfm
(at 60 Hz)

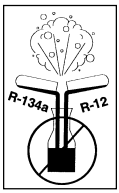
Models 15234/15226/15296
Two-Stage Vacuum Pump

For use with refrigerants
R-12, R-22, R-500, R-502, or R-134a

PARTS IDENTIFICATION



⚠ WARNING! ⚠



Use separate manifolds and hoses for R-134a systems. Cross-contamination with other refrigerant types will cause severe damage to the A/C systems and to service tools and equipment. Do not mix refrigerant types through a system or in the same container!

For use on A/C systems using CFCs, HCFCs, and HFCs in conjunction with mineral oil, ester oil, alkylbenzene oil, and PAG oil as lubricants. Not for use with ammonia or lithium bromide systems. Not for use with flammable refrigerants.

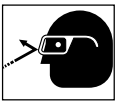
INTRODUCTION

Your vacuum pump has been factory tested and meets Robinair's stringent quality standards. This high performance pump will provide you with years of trouble-free service if you follow these instructions for operating and maintaining the pump.

The pump's offset rotary vane design provides high efficiency operation. The motor is properly sized to ensure 32°F (0°C) starting at 90 percent of the rated voltage. And the inlet "tee" fitting lets you use one pump for R-12, R-22, R-500, R-502, and R-134a systems.

Be careful when removing the pump and contents from the shipping carton. If there is any apparent shipping damage to the pump, the shipping company should be notified immediately and the container saved for inspection.

OPERATING INSTRUCTIONS



WARNING! Wear safety goggles when working with refrigerants. Contact with refrigerant can cause eye injury.

1. Remove and discard the red shipping plug at the top of the finned reservoir.
2. Fill the pump reservoir to the "OIL LEVEL" line on the sight glass on the front of the pump. Use the oil packaged with the vacuum pump or fresh Robinair Premium High Vacuum Pump Oil, available at your supplier.
3. Install the black plastic operating exhaust plug. Note that the operating plug is notched to allow exhaust flow.

CAUTION! Do not attempt to operate the pump with the exhaust port plugged. To do so could result in permanent damage to the pump or could cause the plug to be blown from the pump reservoir.

4. Note the electric motor voltage rating, and connect to the proper power source.

CAUTION! Avoid the use of extension cords. An extension cord may overheat and cause fire. If you must use an extension cord, use the shortest possible cord with a minimum size of 14 AWG.

You are now ready to remove the inlet cap for the appropriate inlet (1/4" for R-12, R-22, R-500, and R-502; 1/2" Acme for R-134a) to connect the pump to the air conditioning system. Follow the system manufacturer's directions for evacuation.

USING THE GAS BALLAST (Vented Exhaust)

All Robinair high vacuum pumps feature a gas ballast for more thorough evacuation and longer pump life. As vapors from an A/C or refrigerant system containing more than the average amount of moisture pass through a vacuum pump, they condense into liquid, and combine with the vacuum pump oil.

When these vapors mix with the oil, it becomes contaminated, raises the vapor pressure of the vacuum pump oil, and reduces the pump's ability to reach its ultimate attainable vacuum. Opening the ballast valve purges a small amount of atmospheric air through the exhaust chamber. This extra volume of air mixes with the vapors from the A/C or refrigerant system, prevents them from being condensed, and helps them to be exhausted from the pump in vapor form.

After the pump has started, the gas ballast valve (see diagram on page 2) should be opened until the system has reached approximately 1000 microns. At this time, close the valve to allow the pump to pull its ultimate vacuum level. The gas ballast valve may be opened or closed at any time during pump operation. The valve is fully open at two turns, counterclockwise.

SHUTTING DOWN THE PUMP

Follow these procedures when shutting down your pump to ensure long life and easy starting:

1. Shut off all gauges to the A/C system.
2. Close any valve beteween the pump and the A/C system.
3. Turn off the pump. Open the inlet port to the atmosphere immediately at shutdown.
4. Cap the inlet port immediately to prevent any contamination or loose particles from entering the port.

For maximum performance, Robinair recommends charging vacuum pump oil after each use. Use only a high quality oil. Robinair recommends its Premium High Vacuum Pump Oil, which has been specially blended to maintain optimum viscosity at high and low operating temperatures.

CHANGING THE OIL

1. Verify the pump is warmed up and the inlet is opened to atmosphere.
2. Disconnect the pump from the A/C electrical power source.
3. Remove the black operating exhaust plug from the top of the pump reservoir.
4. Hold the pump upside down, tilting it forward and backward to drain all the oil from the reservoir into a suitable container.

Note: *If the drained oil is badly contaminated, the pump may need to be flushed. If flushing is necessary, run the pump (***CAUTION: To prevent damage to the pump, do not run the pump more than 30 seconds without any oil.***) and slowly pour clean oil through the pump inlet (being careful not to slug, or bog down, the pump). Drain the oil, and repeat this procedure as necessary before going to Step 5.*

5. Refill the pump reservoir to the "OIL LEVEL" line on the sight glass with fresh Robinair High Premium Vacuum Pump Oil.
6. Replace the black operating exhaust plug.

CLEANING THE PUMP

Clean the pump with soap and water only. Do not use commercial cleaners that contain degreasing agents that can damage polycarbonates. The pump handle and base are made of Lexan*, one of the toughest polycarbonate plastics available. However, it is sensitive to degreasing agents.

**Lexan is a registered trademark of General Electric*

TROUBLESHOOTING TIPS

Before returning any Robinair vacuum pump, in or out of warranty, review the following troubleshooting guide:

Failure To Pull Good Vacuum

1. Verify the gauge and connections are leak-free and in good condition. You can confirm this by monitoring vacuum with a thermistor vacuum gauge while applying vacuum pump oil at connections or suspected leak points. The vacuum will improve briefly while the oil seals the leak, then revert to the previous level.

Note: *Checking pump vacuum through a charging hose is not recommended. Refrigerant and other contaminants contained in the hose may adversely affect the vacuum reading.*

2. Verify the pump oil is clean. A badly contaminated pump may require several oil flushes (see "Changing the Oil") before you are able to reach the rated vacuum level.
3. Verify the oil is at the proper level. For proper vacuum operation, the oil must be level with the sight glass oil line. Overfilling will not affect vacuum operation, but may result in oil blowing from the exhaust during free air operation.
4. Verify the gas ballast valve is fully closed.

FAILURE TO START

1. Check the line voltage. Your vacuum pump is designed to start at minus ten percent of rated voltage and at 32° F (0° C). However, at or near these extremes, there may be some hesitation in starting.
2. If the pump is accidentally shut down in a vacuum condition, the pump may hesitate when restarted. This is because the vacuum pump oil has been drawn into the pump module. The pump will run normally after clearing the oil from the module.

Oil Leakage

1. Verify the oil is not a residual accumulation due to spillage, overfilling, or similar causes.
2. If the pump is actually leaking oil, you may have to replace the O-ring in the end shell or return the pump to the factory for servicing.

WARRANTY

Robinair high vacuum pumps are warranted against defects in material or workmanship for a period of one year of normal use from date of purchase. If within one year from date of purchase, the vacuum pump should prove faulty due to manufacturer error, return it to the distributor from whom you originally purchased the vacuum pump. You must provide the distributor with proof of purchase and the warranty claim check tag which is supplied with each vacuum pump.

Upon determining that a valid warranty claim exists, the Robinair distributor is authorized to exchange the faulty vacuum pump for a new vacuum pump of the same model at no additional charge. If a vacuum pump is returned for a warranty claim and the claim is determined to be invalid, a minimum service charge plus the cost of repair parts and return freight will be charged. Final determination of valid warranty claims will be made by Robinair, Owatonna, MN.

The warranty shall not apply to any product or part which has been subject to misuse, negligence, or accident. The Seller shall not be responsible for any special or consequential damages, and the Warranty as set forth is in lieu of all other warranties either expressed or implied.

However, the Seller makes no warranty of merchantability in respect to any of the goods offered in the manual and any applicable manufacturer's shop or service manuals referred to therein, including any subsequent service bulletins.

OUT OF WARRANTY

Any Robinair high vacuum pump which is beyond the one-year warranty period and fails to operate correctly should be returned to the distributor with a full written explanation of the problem, or you may return it yourself to one of the authorized Robinair Service Centers for repair. Go to Robinair.com or call 1-800-822-5561 for instructions on returning a pump.

Prior to returning an out-of-warranty pump, review all maintenance procedures to avoid an unnecessary return. Note that contaminated oil or an incorrect oil level will adversely affect pump performance. These conditions should be checked before requesting service. Replacement parts are available if you desire to repair your own pump. However, this should be considered only in out-of-warranty situations.

SPECIFICATIONS

MODEL	15234	15226	15296
Number of Stages	2	2	2
Free air Displacement	1.2 cfm*	1.2 cfm*	1.0 cfm
Factory Micron Rating	50	50	50
Oil Capacity	5 oz. 148 ml	5 oz. 148 ml	5 oz. 148 ml
Weight	10 lbs. 4.54 kg	10 lbs. 4.54 kg	10 lbs. 4.54 kg
Width	$4\frac{1}{2}$" 11.4 cm	$4\frac{1}{2}$" 11.4 cm	$4\frac{1}{2}$" 11.4 cm
Length	$9\frac{13}{16}$" 25 cm	$9\frac{13}{16}$" 25 cm	$9\frac{13}{16}$" 25 cm
Height	$8\frac{1}{2}$" 21.6 cm	$8\frac{1}{2}$" 21.6 cm	$8\frac{1}{2}$" 21.6 cm
Intake Fittings	$\frac{1}{2}$" Acme $\frac{1}{4}$" MFL	$\frac{1}{2}$" Acme $\frac{1}{4}$" MFL	$\frac{1}{2}$" Acme $\frac{1}{4}$" MFL
Motor Size	$\frac{1}{8}$ hp Capacitor Start	$\frac{1}{8}$ hp Capacitor Start	$\frac{1}{8}$ hp Capacitor Start
Voltage	110-115V 50/60 Hz	220V 50/60 Hz	250V 50 Hz
Operating Temperature	185° F 85° C	185° F 85° C	185° F 85° C

*1.2 cfm at 60 Hz
1 cfm at 50 Hz

Because of ongoing product improvements, we reserve the right to change design, materials, and specifications without notice.

REPLACEMENT PARTS LIST

PART NO.	DESCRIPTION
15195	Inlet Tee (1/4" MFL and 1/2" Acme)
41184	Handle (includes switch)
48104	Gas Ballast Valve
13191	Exhaust Plug
15135	Shell and Sight Glass Assembly (no drain)
41186	Base and Foot Assembly

NOTICE: AIRBORNE NOISE EMISSIONS

This equipment has been tested for airborne noise emission per the Council Directive for Machinery (89/392/EEC) Section 1.7.4 Instructions — Essential Health and Safety Requirements. Sound levels do not exceed 88 dB(A) actual value.

Call our toll-free Technical Support Line

1-800-822-5561

in the continental U.S. or Canada or visit our web site

www.robinair.com

In all other locations, contact your local distributor. To help us serve you better, please be prepared to provide the model number, serial number, and date of purchase.

To validate your warranty, you must complete the warranty card attached to your unit and return it within ten days from date of purchase.

SPX ROBINAIR

Manufactured under one or more of the following patents: U.S.: 4,523,897; 4,631,006. Other Patents Pending.

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