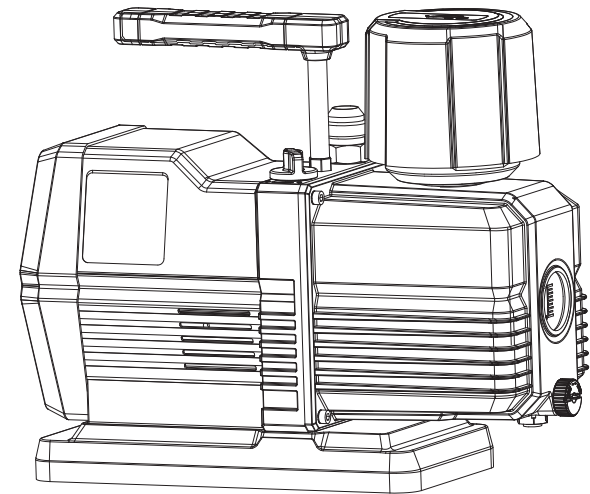




VACUUM PUMP OWNER'S MANUAL



HarvestRight.com



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PUMP COMPONENTS

In order to understand the components of the vacuum pump, see the image below



TECHNICAL INFORMATION

Model	OP-VLU11060-PREM	OP-VLU22050-PREM
Voltage	110V / 60Hz	220V / 50Hz
Oil Capacity	25 oz	
Dimensions	14"x5.3"x11.8"	
Weight	31 lbs	
Inlet Port	1 ¹ / ₁₆ JIC FLARE	

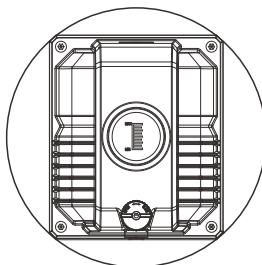
IMPORTANT:

GAS BALLAST MUST ALWAYS BE OPEN IN ORDER FOR PUMP TO WORK PROPERLY.
PUMP MUST ALWAYS BE KEPT LEVEL. DO NOT TILT WHILE CARRYING OR DRAINING OIL.

PREPARATION PRIOR TO USING VACUUM PUMP

1. Verify the power supply being used. Match it to the voltage on the nameplate.
2. Ensure that the pump switch is "OFF" before connecting to the power source.
3. Check for proper oil level. Add or remove oil, if necessary.
4. Remove the oil fill cap, fill oil to the level between the two oil sight glass lines as shown below (MIN & MAX).

Note: Add oil slowly to prevent any spillage.



Switch pump power to "ON". After running for approx. one minute, check the oil level. If the oil level is too low, switch the pump "OFF", remove oil fill cap, and add required amount of oil. Replace the oil fill cap.

Note: While the pump is operating, the oil level should be between the two oil position lines (MIN & MAX). If the oil level is too low, it will reduce the performance of the pump and could cause damage to the pump. If the oil is too high, it could cause the oil to discharge through the pump demister.

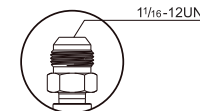
SAFETY GUIDELINES

Note: To avoid injury, please read, and carefully follow, the instructions in this owner's manual.

1. **Warning!** When the pump is on, the enclosure surfaces will be hot. Do not touch the oil box or the motor case. Allow adequate ventilation space for heat dissipation.
2. Keep pump dry and away from water, mud, and dirt at all times.
3. Ensure that the vacuum pump door and drain valve are closed when pump is on.
4. Ambient temperature range for pump use is 30-104°F (-1°C ~40°C).
Optimal range is 40°-75°F (4°C ~24°C).
5. The power outlet must be grounded.

USER GUIDE

1. When using the vacuum pump, remove the inlet protective cap and connect the pump to the freeze dryer.
2. Inspect the hose inlet connection, as well as all connecting hoses, for proper seal. If there is a leak, it won't draw the required deep vacuum.



3. Always run the pump with the gas ballast open.

Note:

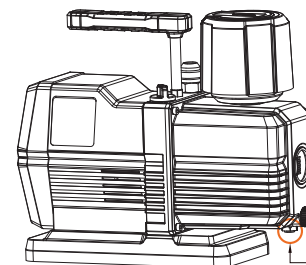
1. Please pay attention to any changes in the oil level during pump operation. If the oil level falls below the center line, immediately add more vacuum pump oil to avoid damaging the pump.
2. Vacuum pump and oil must be above 30°F.

MAINTENANCE

1. Vacuum pump oil has three major functions: pump lubricant, pump cooling, and pump sealant. During the evacuation process, the pump oil will absorb moisture being pulled from the system, causing it to be less effective as a lubricant and pump vane seal, extending evacuation time and possibly allowing the pump to overheat. In order to maintain the optimum operation of the pump, we recommend that you use HARVEST RIGHT vacuum pump oil. This oil is made using a unique process and can maintain proper viscosity during normal operation and temperatures, and it's also helpful for cold starts. Should the HARVEST RIGHT oil not be available, reputable brands of special-purpose vacuum pump oil may be used. Do not use Dairyland oil.

Note: Should the pump oil become cloudy, dirty, or full of moisture, promptly change oil. This will greatly speed up evacuation.

1. To ensure that the pump and oil are warm, run pump for approximately one minute prior to changing oil. Do not run longer than this, as it may be possible to damage the pump.
2. After turning off pump, open the oil drain plug, and drain used oil into an appropriate vessel and filter or dispose of properly.
3. As oil stops draining, tip the pump to drain any remaining oil in the bottom of the pump. Do not over-tilt the pump. It will fill the demister with oil.
4. Close oil drain valve.
5. Pour in new oil until the oil is at the proper level in the sight glass.



Oil drains out from here

INSTRUCTIONS FOR OIL CHANGE

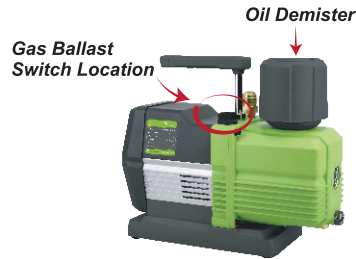


Image 1: Premier Oil Pump showing gas ballast switch location and oil demister



Image 2: Gas ballast shown in "open" position

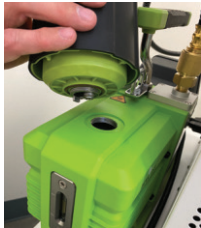


Image 3: Demister removed, showing oil opening



Image 4: Sight glass showing oil level

- 1 The pump comes with enough oil to fill it once. However, after that, you should purchase Harvest Right Oil, Robinair Premium High Vacuum Pump Oil, or JB Industries Black Gold Vacuum Pump Oil. You should not use Dairyland Oil, as it does not work with this pump.
- 2 When you use this pump, please be sure that the gas ballast switch is open* (See Image 2). It is really important that you operate the Premier Oil Pump with the gas ballast valve open. **If the pump is used incorrectly, with the gas ballast closed, you will ruin it.**
* If you do not open the gas ballast the oil is only good for 4 to 5 batches, then it needs to be replaced.
- 3 If the oil remains clear, you can change it every 20-30 batches. If the oil gets cloudy, or looks dirty, change it immediately.
To fill or add oil to the Premier Oil Pump, unscrew the oil demister (See Image 1) and use a funnel to pour the oil into the opening (See Image 3). Fill to the appropriate level shown on the sight glass (see image 4, halfway between MIN and MAX). When finished, replace the oil demister.
- 4 When draining the oil out of this pump, **do not tilt the pump** as that will cause oil to fill the oil demister. **Pump must always be kept level. Do not tilt while carrying or draining oil.**

FILTERING YOUR OIL: Refer to Instructions that came with your Harvest Right Oil Filter. To order replacement cartridges or a new filter set, please contact Harvest Right at 1-800-865-5584 or visit www.harvestright.com.

- 5 If the oil demister becomes saturated with oil, when the pump is running, it may cause an oil mist cloud to fill the room.

There are four causes of the oil demister becoming saturated with oil:

- The pump is tipped
- The oil is overfilled
- There is heavy air flow for an extended period of time (drain valve left open, door open, etc.)
- The pump has been running for an extended period of time and is turned off then back on. Because pumps run very warm, the oil also gets warm. When pump oil is warm it gets thin. If you turn on a pump on that is already warm, the thin oil can cause misting or the filter to saturate.

If the oil demister becomes saturated with oil, it will be necessary to clean the filter. Visit the following link to view a tutorial on cleaning the filter: <http://bit.ly/PPdemister>

REQUIRED FOR WARRANTY COVERAGE

Product warranty is provided for product quality problems for 12 months from date of sale. For warranty to be valid, the following conditions must be met:

1. Product issues due to manufacturing defects confirmed by qualified agents.
2. Products that have been used in accordance with the User Manual. All maintenance services shall be performed during the warranty period.

Other than repairing the defective product, the manufacturer will not be liable for any other costs, such as time spent fixing the issue, as well as unauthorized transportation and labor costs.

SAFE USE OF FREEZE DRYERS AND PUMPS

1. Harvest Right oil-sealed vacuum pumps and oil-free pumps are only to be used with foods and organic materials that are not harmful when swallowed or when vapors coming from those materials are also not harmful when inhaled.
 - a. Harvest Right expressly warns users of its freeze dryers and vacuum pumps to not use them for any purposes other than freeze drying food or other healthy, non toxic materials. Harvest Right accepts no responsibility for such acts whether intentional or not.
 - b. If someone uses the pump for freeze drying anything with harmful chemicals in it, the freeze dryer and vacuum pump warranties are breached and no longer valid. Harvest Right accepts no liability for these acts and it is understood by both the customer and Harvest Right the customer knowingly performs these acts at the risk of their own health and wellbeing; and that the customer accepts responsibility for all such acts.
2. Harvest Right freeze dryers, in conjunction with their vacuum pumps, must be used in well ventilated rooms. When using an oil pump, vaporization of oil is not expected at ambient temperatures. The oil is not expected to cause inhalation-related disorders under anticipated conditions of use.
3. Harvest Right freeze dryers and vacuum pumps must be operated correctly as described in Harvest Right's instruction documents and user manuals. When in use, drain valves must be closed, doors latched securely (with no obstructions between the doors and the door gaskets), hoses connecting pumps to freeze dryer must be connected properly. The users of the freeze dryers have the responsibility of ensuring that there are no leaks in the system whatsoever.
4. All Harvest Right instructions for operating the freeze dryer are to be explicitly followed by the user/customer. Harvest Right accepts no responsibility for acts that breach its instructions.
 - a. If there are leaks in the system, the freeze dryer(s) will report that there is a vacuum error. Users of Harvest Right freeze dryers understand that they should respond quickly and responsibly to these messages.
5. When draining oil from vacuum pumps that use oil, the user must not tilt the vacuum pump so far forward that oil pours into and/or fills the oil demister/filter. Doing this can cause some oil to be in the demister that could then cause oil vapor to come out of the filter while operating. It should be noted that the oil demister used on Harvest Right's Premier Oil Pump has a drain in it that allows oil to drain back into the vacuum pump. However, if the white filter inside the oil demister becomes saturated with oil, it is important to wash and clean it with warm soapy water and then allow it to dry before using it again.
6. Freeze dryers should be allowed to run automatically. Those customers who take shortcuts and skip standard cycles such as "Freezing," "Vacuum Freeze," "Drying," and "Final Dry" do so at the peril of damaging their food and freeze dryer equipment. Harvest Right accepts no responsibility for intentional or unintentional acts performed by customers that circumvent Harvest Right's automatic "freeze dry" process(s).
7. Do not stand in puddles of water when using the freeze dryer.
8. Do not allow water to get on electric plugs and receptacles.
9. Do not touch exposed wires or any other components inside the freeze dryer while the unit is plugged into an electrical outlet.
10. Do not sleep in a room or other location where a freeze dryer and vacuum pump are being used.

SAFE USE OF FREEZE DRYERS AND PUMPS

11. On the back of the freeze dryer there is an electrical outlet for the vacuum pump to connect to. Do not plug anything else into that outlet.
12. Do not run the freeze dryer with the side panels removed. This may be an electrical hazard.
13. Do not add Teflon tape or other materials to hose connections.
14. Do not overfill oil vacuum pumps with oil and be sure to follow oil changing guidelines explicitly.
15. Keep the interior of the vacuum chamber and the shelves clean. Wash with warm soapy water. Do not place the shelf unit in a dishwasher. Wash it and rinse it by hand.
16. It is important to regularly pour a safe cleaning agent down the drain line to keep it clean and prevent mold and bacteria from growing inside it.
17. Make sure the drain hose is out of the water bucket before opening the drain valve and venting the vacuum chamber.
18. Make sure that food to be packaged is completely dry.
19. Food with animal fat may go rancid. Always freeze dry completely. Make sure a good oxygen absorber is in the package and that the Mylar bag is well sealed. Once opened, this food should be refrigerated or used immediately.
20. Harvest Right is not responsible for your use of the freeze dryer. Harvest Right is not responsible for food that has gone "bad" for any reason including lack of dryness, improper food storage techniques and materials.

NOTES

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