

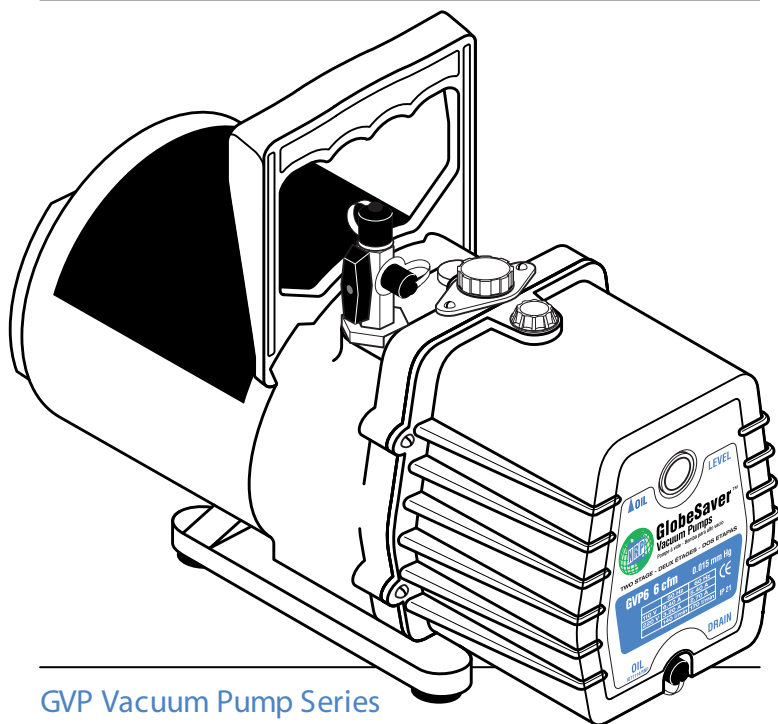


GlobeSaver™ Vacuum Pumps

Operating Manual

Manuel d'utilisation

Manual de Operaciones



GVP Vacuum Pump Series
Pompes à vide modèles GVP
Bomba para Vacío Serie GVP

National Refrigeration Products
985 Wheeler Way - Langhorne, PA 19047

1. FEATURES - DESIGN - HOW IT WORKS

NRP thanks you for the purchase of your new two stage vacuum pump, the GVP, which has been specifically designed for air conditioning and refrigeration service. This new design together with the latest technology allows you to get a high quality vacuum and fast thorough evacuation.

This pump consists of the following features:

Isolation valve: allows the pump to be isolated from the system in which vacuum is being produced, so possible leaks can be detected.

Double intake connections: the isolation valve has a tee connection with a 1/4"FLARE and 3/8"FLARE ports so any type of manifold can be connected. The port which is not in use has a cap with an o'ring to prevent leakage.

Sure-grip handle: ergonomic design handle to allow a sure grip during carrying.

Gas ballast: it allows a small quantity of air to be introduced into the pump preventing condensation of moisture vapor and helping maintain the purity of the pumps oil. Also the use of the gas ballast improves the pump's operating efficiency.

High vacuum rating: the two-stage design provides a higher and more complete evacuation assuring the moisture is removed, meanwhile the high flow reduces the vacuum time.

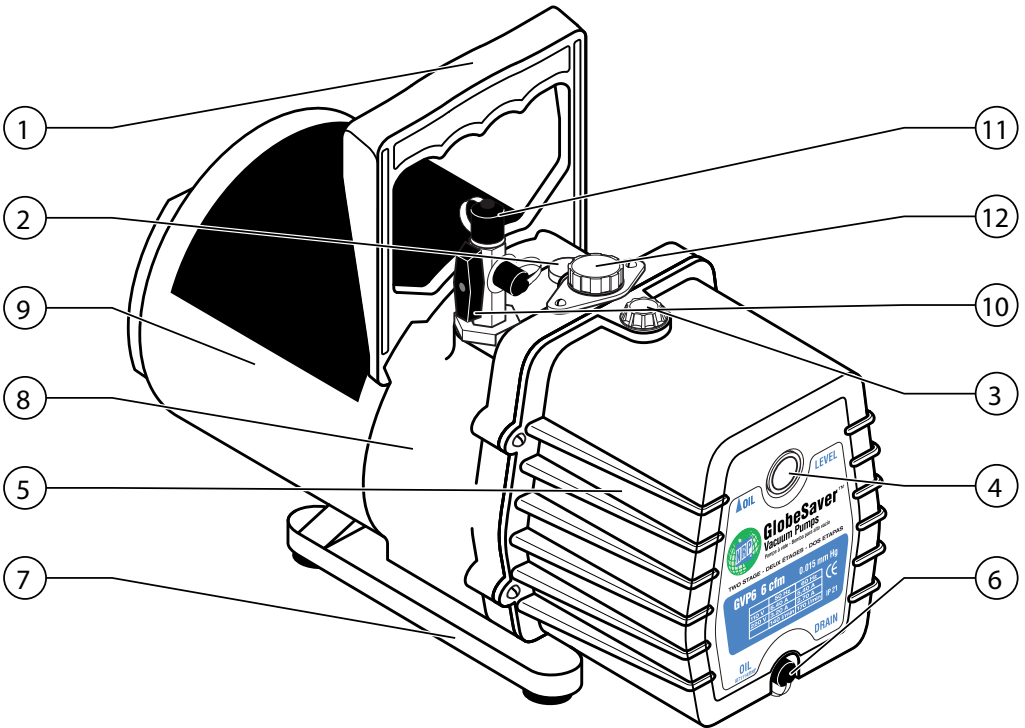


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2. PUMP COMPONENTS



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- | | | | |
|----|------------------------------|-----|---|
| 1. | Ergonomic handle | 8. | Motor flange |
| 2. | Gas ballast valve | 9. | Electric motor with thermal overload protector |
| 3. | Oil fill port | 10. | Isolation valve with 1/4" FLARE and 3/8" FLARE ports. |
| 4. | Oil level sight window | 11. | Protecting caps with o'ring |
| 5. | Aluminum housing (reservoir) | 12. | Exhaust |
| 6. | Oil drain cap | | |
| 7. | Molded base | | |
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3. START-UP PROCEDURES - CHECK LIST

In all cases motors are designed for operating voltages plus or minus 10 % of the normal rating (See motor nameplate specifications)

1. Check to be certain that the voltage that is going to be used matches the specification in the decal at the end of the cable. Check the ON-OFF switch to be sure it is in the OFF position (0) before you plug the pump to the outlet. Check to be certain the gas ballast valve is closed.

2. The pump is shipped without oil in the reservoir, which is delivered separately. Before starting the pump it must be filled with oil. Remove the oil fill cap and add oil until it is visible in the middle of the sight glass, and replace the oil fill cap. After opening the isolation valve and removing one of the connection caps proceed to switch ON (I) the pump. As soon as the noise changes, close the isolation valve and let the pump run for one minute. Once the pump is switched OFF (0) check the sight glass for proper oil level, if necessary add oil.

A high oil level is not recommended, the oil can be carried out together with the air that is being evacuated from the system, producing an oil fog at the exhaust. On the other hand, a low oil level will produce poor vacuum.

WARNING:

Before connecting your pump to the system, be sure to eliminate the remaining gas inside the pump in an acceptable way. Do not begin the evacuation of a system which is still under pressure, it may cause damage to the pump.

4. USE OF THE GAS BALLAST

When vacuum is being performed in the system, there is always moisture inside as vapor which tends to condense into liquid and combine with the vacuum pump oil. This reduces the pump's ability to reach the ultimate deep vacuum level for which it was designed.

The gas ballast purges a small quantity of atmospheric air through the exhaust chamber to prevent vapor condensation inside the pump.

To operate the gas-ballast, while the pump is producing vacuum, unscrew it 1 turn, to let the air in for 1 minute, then close it again to let the pump reach the final vacuum level.

5. PUMP SHUT DOWN

1. Close the manifold valve between the pump and the system.
2. Close the isolation valve and dismantle the connection between the system and the pump.
3. Turn the power switch to OFF (0), then open the isolation valve to break the vacuum inside the pump.
4. Immediately cap the inlet port to prevent any contamination or particles from entering the port.

6. MAINTENANCE

It is recommended to change the vacuum pump oil after you have finished the evacuation of a system. The oil used in the vacuum pump has a great importance for the final vacuum level that can be reached. Always use oils specially recommended for this application (low vapor pressure). The oil provided with the pump has been specially blended to maintain maximum viscosity at normal running temperatures and to improve cold weather starts.

OIL CHANGE PROCEDURE

1. Be sure the pump is warm (Let the pump run for a few minutes)
2. Remove the oil drain cap and drain contaminated oil into a suitable container
3. If it is necessary, tilt the pump forward to drain residual oil.
4. Replace the oil drain cap, and remove the oil fill cap at the top.
5. Fill the reservoir with new vacuum oil until the oil is visible at the bottom of the sight glass.
6. With the isolation valve closed, allow the pump to run for one minute, then check oil level. If it is low, refill up to the middle of the oil sight glass.
7. Replace the oil fill cap making sure the drain cap is tight

NOTE: If the oil is badly contaminated you should first drain the oil from the reservoir, and then remove the oil reservoir, clean properly and replace.

7. SPECIFICATIONS

	GVP 4	GVP 6
Motor Size	1/2 HP	1/2 HP
Frequency range	50 / 60 Hz	50 / 60 Hz
RPM	1440 @ 50 Hz – 1730 @ 60 Hz	1440 @ 50 Hz - 1730 @ 60 Hz
Voltage range	110 / 220 V Internal start capacitor Thermal overload protector	110 / 220 V Internal start capacitor Thermal overload protector
Free air displacement	4 CFM Nominal	6 CFM Nominal
Stages	2	2
Factory micron rating	15 µm Hg	15 µm Hg
Intake connections	1/4" FLARE & 3/8" FLARE	1/4" FLARE & 3/8" FLARE
Weight	30 lbs	32 lbs
Width	5.71 in	5.71 in
Height	10.43 in	10.43 in
Length	16.93 in	16.93 in
Approximate oil capacity	33 ounces	33 ounces

8. WARRANTY

The GVP vacuum pump has a warranty of parts and labor for one year from the date of purchase.

This warranty does not cover problems that may occur by improper use of the unit, and is no longer valid if the pump is tentatively repaired without authorization.

NRP will replace or repair without charge any part that according with our examination was originally defective.

Warranty become valid sending the pump to our factory. See your distributor for details.

Before returning an out of warranty pump, review all maintenance procedures to avoid an unnecessary return.

9. TROUBLESHOOTING GUIDE

CONDITION	POSSIBLE PROBLEM	SOLUTION
UNUSUALLY NOISY	Bad bearings Loose motor bolts Coupling drive Dirty, low, improper oil Air leaks in connections	Replace Tighten bolts Adjust /replace coupling Replace oil Check / adjust
HIGH TEMPERATURE	Low voltage Worn bearings Low oil level	Check voltage Replace / repair Add / replace
POOR VACUUM	Systems leaks Low oil level Dirty oil Worn pump Air leaks at connections Air leak through seal	Repair leaks Add / replace Flush / replace Replace module Check / repair Replace
OIL LEAKS	Oil leaks through exhaust Oil leaks through seal Oil leaks through reservoir System vented pressure through pump Pump tipped over	Oil level too high Replace seal Tighten bolts replace gasket Check oil level / add Check oil level /add
PUMP DOES NOT START	No voltage supplied Damaged motor Thermal cut-out	Check wiring Repair / replace Self restore, wait and verify cause
THERMAL CUT-OUT	Low / incorrect voltage Cold weather Dirty oil	Check voltage Open intake fitting and gas ballast for 1 minute to warm up while starting Replace

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