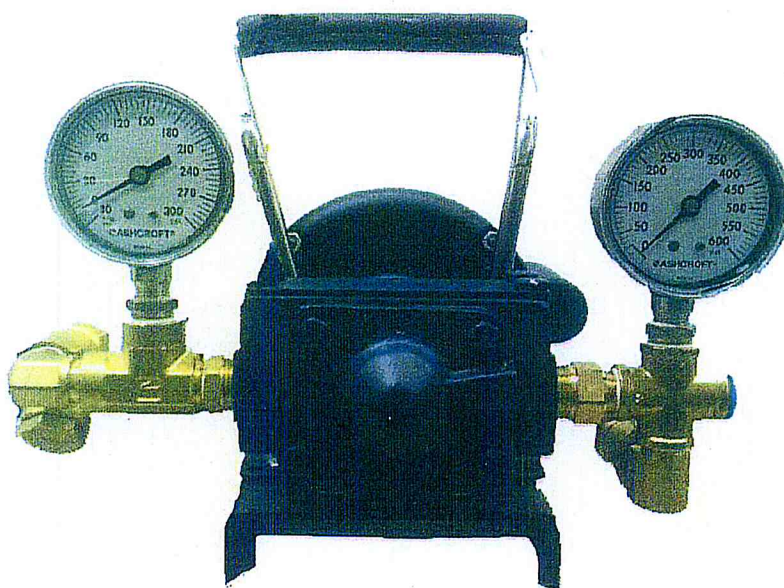


# Operating, Maintenance, and Instruction Manual



MODEL LP22



**NATIONAL REFRIGERATION PRODUCTS**

985 Wheeler Way • Langhorne, PA 19047

Phone: 215-638-8909 • Fax: 215-638-9270

Email: [info@nrproducts.com](mailto:info@nrproducts.com)

[www.nrproducts.com](http://www.nrproducts.com)

# MODEL LP22

## IMPORTANT PRODUCT INFORMATION

**THE NUMBER ONE REASON FOR PUMP FAILURE IN THIS MODEL PUMP IS ALLOWING THE PUMP TO RUN DRY WHICH OVERHEATS AND DESTROYS THE MECHANICAL SEAL. IT IS IMPERATIVE THAT A LIQUID SIGHT GLASS BE USED IN YOUR HOOKUP ASSEMBLY AND THAT YOU STAY WITH THE PUMP TO ENSURE IT DOES NOT RUN DRY. REMEMBER EVEN IF THERE IS LIQUID PRESENT IN THE DISABLED UNIT YOUR'RE PUMPING FROM, YOU MAY STILL ENCOUNTER A VAPOR POCKET THAT WILL DAMAGE YOUR PUMP. THIS TYPE OF DAMAGE IS NOT COVERED UNER WARRANTY.**

## INTRODUCTION

This pump has been designed and manufactured for ease of installation and servicing. The LP22 is a gear pump rated at 300 PSI working pressure. The LP22 is designed to recover 100 pounds or more of liquid refrigerant. The pump is not designed to pump refrigerant from small cylinders.

## GENERAL INSTALLATION

### LOCATION

Pumps of all types are sensitive to restrictions in the inlet lines. Our pumps are capable of withstanding these restrictions better than most. For best performance, locate the pump as close to the fluid source as possible and minimize the number of elbows and valves. A pipe guide should be used to determine the proper size inlet pipe for the flow rate and viscosity of the fluid. The pipe must be at least 3/8" or 1/2" I.D. (inside diameter).

Pumps of this type will work in any position. In the event of a seal leak, avoid mounting the pump vertically with the pump up. Fluid may enter the motor causing equipment damage and the possibility of electrical shock.

This pump is self-priming to a degree. As the pump wears, the self-priming ability decreases, so the best possible location for the pump is to be below the refrigerant level of the unit to be pumped.

### INLET PIPING

All piping must be a least 3/8" or 1/2" I.D. (inside diameter). Pump performance depends heavily, on all inlet pipe threads being sealed. Use pipe thread sealant. Inlet hoses must not collapse under 28 inches Hg of vacuum pressure at the anticipated temperature. Keep elbows and valves to a minimum. They are restrictive and can cause constriction and/or cavitation. This may damage the pump.

### INLET REQUIREMENTS

An inlet filter (50 microns or smaller), or a 304 filter drier **MUST BE USED**. Abrasive particles will damage the bearings, gears, and seals. A shut-off valve is recommended to facilitate on-line maintenance.

## DISCHARGE PIPING

Piping must be rated to exceed the maximum discharge pressure of the pump and must be at least 3/8" or 1/2" I.D. (inside diameter). Piping size should be large enough as not to create excessive restrictions, since this will make the pump work harder than necessary. All threads should be sealed with a pipe sealant to prevent leakage.

## ELECTRICAL CHARACTERISTICS

The LP22 pump is driven by an electric motor rated at ½ HP, 115 volts, 1 phase and 60 Hz.

## IMPORTANT SAFETY LIST

To prevent serious injuries, please observe the following basic safety precautions when installing, operating or servicing your liquid refrigerant pump manufactured by National Refrigeration Products.

- Do not run the pump until you have read the installation and instruction manual.
- Protect your eyes. Wear safety goggles at all times.
- Do not wear watches, rings, jewelry, neck-ties, or loose fitting clothes. They may get caught in moving parts. Keep hair away from moving parts.
- Loose objects can become flying projectiles. Remove all loose items, such as wrenches, rags, Allen wrenches, etc., from the pump before starting.
- Protect your eyes, skin and clothing. Be prepared for leaks when starting. Fluid being pumped may spray out.
- Check connections, valves and electrical connections before starting the unit.
- Do not overfill the drums.
- Do not mix different refrigerants in a recovery cylinder. Mixtures can not be separated.

## TROUBLE SHOOTING

If the pump shuts down after a period of use, disconnect the pump from all connections, including electrical and refrigerant lines. Open the unit and remove the gears for cleaning. Wax or particulate may be caught in the internal pump gears. The gears should be wiped clean with a clean rag. The internal casing of the pump should also be cleaned. After cleaning, re-assemble the pump and check for leaks before reconnecting the refrigerant lines.

## WARRANTY

NRP Equipment is warranted to be free of manufacturing defects. NRP will repair, give credit for repair, or replace ( at NRP's option ) any NRP unit or accessory found to have manufacturing defects. Any warranty claim must be submitted in writing within 1 year of purchase with copy of invoice. In no event shall NRP be liable for the cost of labor charges, lost profits, injury to good will or any other special or consequential damages for defective goods, late delivery, or non-delivery. There are no warranties which extend beyond the description on the face hereof, and NRP makes not warranty of merchantability or fitness for specific purpose. Warranty does not cover damage caused by improper operation or abuse. Freight claims are to be filed with the common carrier in question.