

cps[®]

PRO-SET[®]

VACUUM PUMP



MODELS

VP2S, VP3S, VP6S SINGLE STAGE

VP2D, VP3D, VP6D TWO STAGE

VP8D, VP10D, VP12D TWO STAGE

ENGLISH..... 1-8

FRAÇAIS..... 9-16

DEUTSCH..... 17-24

ESPAÑOL..... 25-32

**TO BE OPERATED BY
QUALIFIED PERSONNEL ONLY!**

OPERATION MANUAL

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INTRODUCTION

Thank you for purchasing the CPS® PRO-SET® VP Single or Dual Stage series vacuum pump. The VP series vacuum pumps have been specifically designed for air-conditioning and refrigeration service work. The VP series utilizes an electrical motor and oil filled rotary vacuum pump cartridge.

The following are additional features:

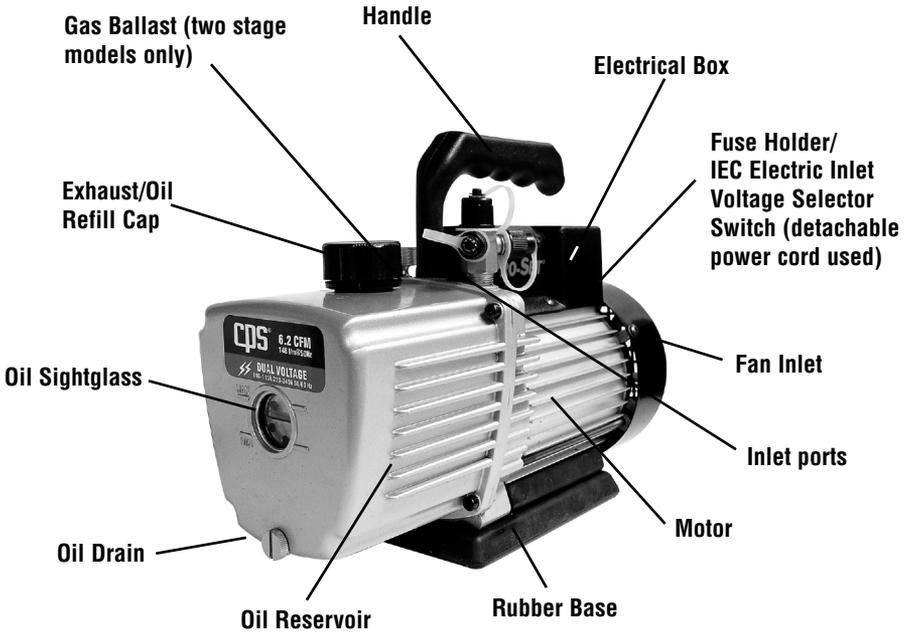
- 2 Stage operation – provides a higher evacuation level and faster evacuation times.
- Two stage models equipped with gas ballast valve.
- Multi-voltage operation – the vacuum pump can be quickly converted to 115 or 230-volt operation.
- Sure grip handle – ergonomically designed for portability.
- Solid rubber base for improved shock resistance.
- Air cooled motors for operating under high temperature conditions
- Ultimate vacuum ratings of 15 microns (2 stage) and 100 microns (1 stage)
- Multiple intake connections for user preference.
- Oil Drain port – for easy vacuum pump oil maintenance.
- Vacuum Pump Oil Level sight glass – visual check for oil level & oil purity.

To help you get a good start, please continue to carefully read the balance of this manual. This manual contains important information on the proper procedures for operating this equipment. Please pay close attention to the safety information, Warnings, and Cautions provided throughout this manual. Always remember “Safety First”.

UNIT CONSIST OF:

- Pro-Set® model vacuum pump
- Power Cord Set (115 volt)
- 500 ml vacuum pump oil
- Operation Manual

VACUUM PUMP PARTS



INITIAL PREPARATION

1. The VP series is equipped with a dual voltage motor. Make sure the voltage selector switch is set for the desired voltage operation.
2. The vacuum pump is shipped without oil in the reservoir. Remove the exhaust/oil fill cap and add oil until it is seen in the middle of the oil sight glass. Re-secure cap.
3. Remove the 1/4" inlet service port cap, turn on the vacuum pump. After 15 seconds, replace 1/4 cap back on inlet port.
4. Re-check vacuum pump oil level. Add or remove oil if necessary.

To achieve good final vacuum levels, the oil level should be visually seen through sight glass.

CAUTION: DO NOT RUN THIS EQUIPMENT WITH LOW OR NO OIL. RUNNING THIS EQUIPMENT WITH NO LUBRICATION WILL CAUSE PREMATURE FAILURE.

VACUUM PUMP IS NOW READY FOR USE.

GENERAL SAFETY INSTRUCTIONS

ONLY QUALIFIED SERVICE PERSONNEL SHOULD OPERATE THIS UNIT. SOME COUNTRIES MAY REQUIRE THE USER TO BE LICENSED. PLEASE CHECK WITH YOUR LOCAL GOVERNMENT AGENCY.

DANGER - Avoid breathing refrigerant vapors and lubricant vapor or mist. Breathing high concentration levels may cause heart arrhythmia, loss of consciousness, or even cause suffocation.

DANGER - ELECTRICAL SHOCK HAZARD - Always disconnect power source when servicing this equipment.

WARNING - Do not operate the vacuum pump on systems under pressure. Damage to the pump may occur.

CAUTION - All hoses may contain liquid refrigerant under pressure. Contact with refrigerant may cause frostbite or other related injuries. Wear proper personal protective equipment such as safety goggles and gloves. When disconnecting any hose, please use extreme caution.

CAUTION - Avoid breathing refrigerant vapors and/lubricant mist. Exposure may irritate eyes, nose, throat and skin. Please read the manufacturers Material Safety Data Sheet for further safety information on refrigerants and lubricants.

CAUTION - To reduce the risk of fire, avoid the use of extension cords thinner than NO. 14 awg. (1,5mm²) to prevent the overheating of this cord please keep length to a minimum.

CAUTION - Do not use this equipment in the vicinity of spilled or open containers of gasoline or other flammable substances. Make certain that all safety devices are functioning properly before operating the equipment.

CAUTION: THIS EQUIPMENT IS INTENDED FOR USE OF FINAL EVACUATION OF A REFRIGERANT SYSTEM. THE EVACUATION OF MATERIALS ABOVE 5 PSIG MAY CONTAMINATE OR DAMAGE THE VACUUM PUMP.

CAUTION: DO NOT RUN THIS EQUIPMENT WITH LOW OR NO OIL. RUNNING THIS EQUIPMENT WITH NO LUBRICATION WILL CAUSE PREMATURE FAILURE.



SPECIFICATIONS

MODEL.#	VP2S	VP3S	VP6S	VP2D	VP3D	VP6D	VP8D	VP10D	VP12D
STAGES	1		2						
MOTOR SIZE (HP) RPM @ 50/60Hz	1/5 1440/1720	1/4 1440/1720	1/3 1440/1720	1/4 1440/1720	1/3 1440/1720	1/2 2880/3440	2/3 2880/3440	2/3 2880/3440	3/4 2880/3440
DIMENSIONS (inches)	13" x 5.3" x 10"		13.7" x 5.6" x 10.4"		13.7" x 5.6" x 10.4"		15" x 6.2" x 11.2"		
WEIGHT	18.11 lb/8.2 kg	19.44 lb/8.8 kg	24.75 lb/11.2 kg	21.66 lb/9.8 kg	25.42 lb/11.5 kg	25.42 lb/11.5 kg	32.95 lb/14.5 kg	34.26 lb/15.5 kg	36.47 lb/16.5 kg
OPERATING TEMPERATURE RANGE	0°C (32°F) to 52°C (125°F)								
POWER SOURCE	Dual Operation (switchable) 110-120/220-240 VAC 50/60Hz								
ULTIMATE VACUUM	100 MICRON				15 MICRON				
OIL CAPACITY	13.5 oz/400 ml	13 oz/380 ml	17 oz/500 ml	12 oz/350 ml	15 oz/450 ml	15 oz/450 ml	13.5 oz/400 ml	14 oz/425 ml	15 oz/450 ml
CONSTRUCTION	Heavy gauge aluminum chassis with solid rubber base and rubber lined steel handle								
OVERLOAD PROTECTION	Motor Thermally and Fuse protected								
CONTROL SYSTEM	On-Off Switch								
FREE AIR DISPLACEMENT	1.92 CFM@60Hz 45 l/m@50Hz	3.15 CFM@60Hz 75 l/m@50Hz	5.85 CFM@60Hz 138 l/m@50Hz	1.92 CFM@60Hz 45 l/m@50Hz	3.16 CFM@60Hz 75 l/m@50Hz	6.25 CFM@60Hz 148 l/m@50Hz	7.9 CFM@60Hz 186 l/m@50Hz	10.0 CFM@60Hz 236 l/m@50Hz	11.8 CFM@60Hz 278 l/m@50Hz
INTAKE FITTINGS	1/4", 3/8" SAE & 1/2" ACME								
GAS BALLAST	No				Yes				

VACUUM PUMP OPERATION

WARNING: Do not operate on systems under pressure. Damage to the pump may occur.

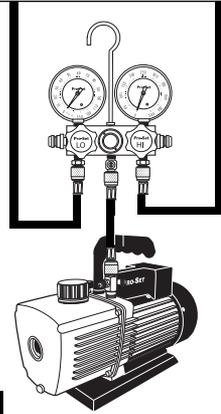
1. Check the correct power supply outlet to be used.
2. The VP series is equipped with a dual voltage motor. Make sure the voltage selector switch is set for the desired voltage operation.

Caution: The motor will overheat and trip the thermal protector if the voltage selector and the power supply voltage do not match.

3. Connect the correct power cord from vacuum pump IEC inlet to power supply outlet.
4. Check oil level in vacuum pump
5. Connect vacuum pump as shown in Diagram.
6. Open manifold valves.
7. Turn vacuum pump power switch "ON".
8. Run vacuum pump until final vacuum level is met.
9. Once the final vacuum level is reached, close manifold valves, turn power switch "OFF".

VACUUM OPERATION COMPLETE

**A/C EQUIPMENT
BEING SERVICED**
LOW SIDE SERVICE PORT HIGH SIDE SERVICE PORT



ROUTINE MAINTENANCE

It is recommended to change the vacuum pump oil after 50 hours of usage. The purity of the oil will determine the final vacuum level achieved. Always use the CPS recommended vacuum pump oil (VPOQ/VPOP/VPOG). The oil provided with the pump has been specially blended to maintain maximum viscosity at normal running temperatures as well as cold weather starts.

OIL CHANGE PROCEDURES:

1. Be sure the pump oil is warmed up. If not warm, turn vacuum pump "ON" for 10 minutes.
2. Make sure vacuum pump is not plugged in.
3. Remove the oil drain cap and drain the contaminated oil into a suitable container. Tilt the vacuum pump toward the oil drain port.
4. Once all the oil has been drained, re-secure the oil drain cap back onto the oil drain port.
5. Remove the exhaust/oil fill cap and add oil until it is seen in the middle of the oil sight glass. Re-secure exhaust/oil fill cap.

TROUBLE SHOOTING CHART

CONDITION	POSSIBLE PROBLEM	SOLUTION
UNUSUALLY NOISY	<ol style="list-style-type: none"> 1. Bad Bearings 2. Loose Motor Bolts 3. Coupling Drive 4. Dirty, low, or improper oil 5. Air leaks in connections 	<ol style="list-style-type: none"> 1. Replace motor 2. Tighten Bolts 3. Adjust or replace coupling 4. Replace oil 5. Fix leaks
HIGH TEMPERATURE	<ol style="list-style-type: none"> 1. Low or improper voltage 2. Worn bearings 3. Low oil level 	<ol style="list-style-type: none"> 1. Check power source voltage 2. Replace motor 3. Add or replace
POOR VACUUM	<ol style="list-style-type: none"> 1. System leaks 2. Low oil level 3. Dirty oil 4. Air leaks at connection 5. Air leak through seal 6. Worn rotary mechanism 	<ol style="list-style-type: none"> 1. Fix leaks 2. Add or replace oil 3. Flush and replace oil 4. Fix leaks 5. Replace shaft seal 6. Replace cartridge
OIL LEAKS	<ol style="list-style-type: none"> 1. Oil leaks through exhaust 2. Oil leaks through shaft seal 3. Oil leaks through reservoir 4. System vented pressure through pump 5. Pump tipped over 	<ol style="list-style-type: none"> 1. Oil level too high 2. Replace shaft seal 3. Tighten bolts or replace gasket 4. Check oil level 5. Check oil level
PUMP DOES NOT START	<ol style="list-style-type: none"> 1. No power to motor 2. Damaged motor 3. Thermal cutout 	<ol style="list-style-type: none"> 1. Check fuses in IEC panel. 2. Replace motor. 3. Wait for thermal switch to reset. Check for cause of thermal.
THERMAL CUTOUT	<ol style="list-style-type: none"> 1. Low or incorrect voltage 2. Cold weather 3. Dirty Oil 	<ol style="list-style-type: none"> 1. Check voltage, move voltage selector switch to correct setting 2. Start and run vacuum pump with the intake fitting open for 1 minute to warm up oil. 3. Flush and replace oil.

WARRANTY & REPAIR POLICY

CPS® Products, INC. guarantees that all products are free of manufacturing and material defects to the original owner for one year from the date of purchase. If the equipment should fail during the guarantee period it will be repaired or replaced (at our option) at no charge. This guarantee does not apply to equipment that have been altered, misused, or returned solely in need of field service maintenance. All products being returned for warranty repair must be accompanied by an original bill of sale and customer contact information. All repaired equipment will carry an independent 90 day warranty. This repair policy does not include equipment that is determined to be beyond economical repair.



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