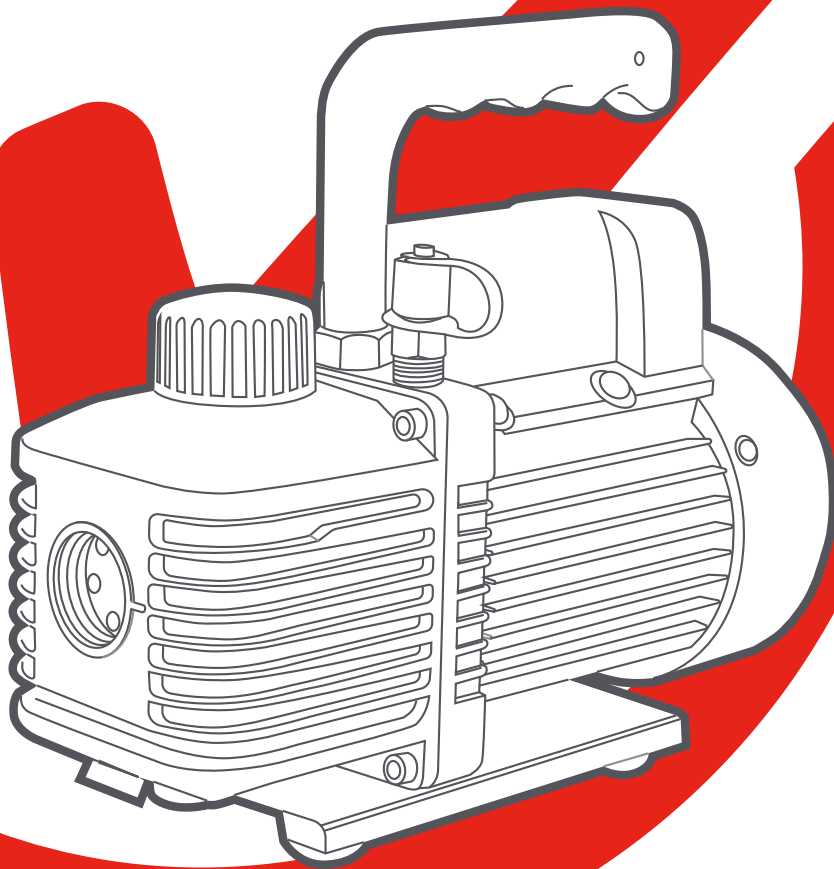


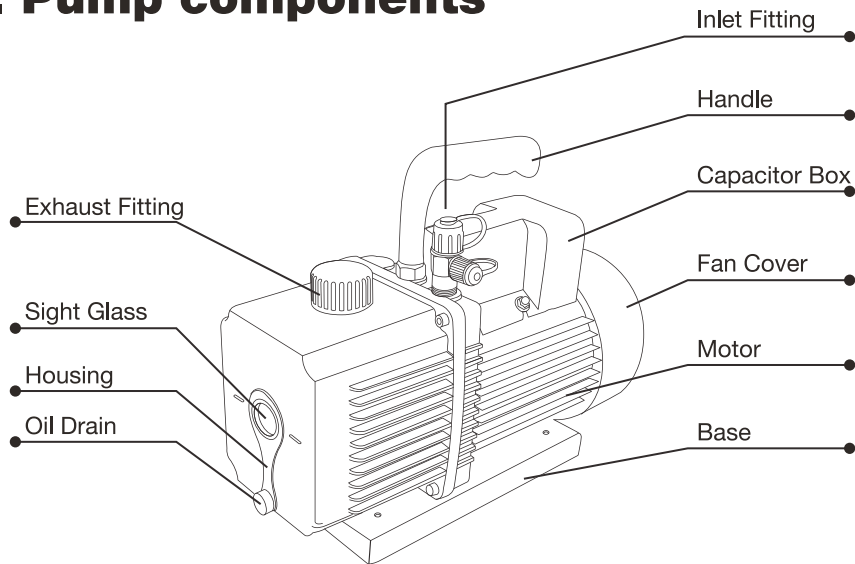
VACUUM PUMP

OPERATING MANUAL



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I. Pump components



II. Operating Manual

1. Before Operating

All motors are designed for operating voltages plus or minus 10% of the normal rating. Single voltage motors are supplied fully connected and ready to operate.

- (a) Check the voltage and frequency at the outlet and ensure it matches the specifications on the pump motor metal plate. Ensure that the ON-OFF switch is in the OFF position before connecting the pump to a power source. Remove and discard the exhaust plug from the exhaust fitting.
- (b) Fill the oil reservoir with oil before activating the pump. Remove the oil fill cap and add vacuum pump oil until it shows at the bottom of the sight glass. Refer to technical data in manual for the correct oil capacity of the pump.
- (c) Replace the oil fill cap and remove the cap from the inlet fitting. Turn the motor switch to ON position. Replace the cap on the inlet fitting the pump should run smoothly. This may takes 2 to 30 seconds depends on the ambient temperature. After the pump has been operating for one minute, check the sight glass for proper oil level, which should be aligned with the oil level line. Refill oil if necessary.

Note: The oil level should be aligned with the indicating line on the sight glass when the pump is running. Insufficient oil filled will result in poor vacuum performance. Excessive of oil can result in overflowing of oil from the exhaust fitting.

2. Shut Off Pump After Use

To prolong pump lifespan and smooth start-up, follow these procedures to shut off pump:

- a. Turn off the manifold valve between the pump and the system.
- b. Remove the hose from the pump inlet.
- c. Cover the inlet port openings to prevent any contamination or foreign particles from entering the port.

III. Operating Manual

1. Vacuum Pump Oil

The condition and type of oil used in any high performance vacuum pump are extremely important in determining the ultimate attainable vacuum. It is recommended to use the High Performance Vacuum Pump Oil, which is specifically blended to maintain maximum viscosity at normal running temperatures and to improve cold weather start up.

2. Oil Change Procedure

- a. Ensure the pump is warmed up.
- b. Remove the oil drain cap. Drain off contaminated oil into a container and dispose it properly. Oil can be removed from the pump by opening the oil drain and partially blocking the exhaust with a cloth while the pump is running. Do not operate the pump for more than 20 seconds using this method.
- c. When the drainage of oil is completed, tilt the pump forward to remove the residual oil.
- d. Place back the oil drain cap. Remove the oil fill cap and fill the oil reservoir with new vacuum pump oil until the oil level is seen at the bottom of the sight glass.
- e. Ensure that the inlet ports are covered before turning on the pump. Allow it to run for one minute to check the oil level. If the oil level is below the level line, refill oil slowly (with the pump running) until the oil reaches the oil level line. Replace the oil fill cap,

ensure the inlet is covered and the oil drain cap is closed tightly.

- f. • If the oil is contaminated with sludge that forms during operation, you should need to remove the oil reservoir cover and wipe it.
- The alternative method to deal with heavily contaminated oil is to drain the oil from the pump reservoir. Leave the pump to run until it is warmed up. While the pump is still running, remove the oil drain cap and restrict the exhaust slightly. This will back-pressure the oil reservoir and purge the oil with contaminants. Turn off the pump when oil stop flowing.
- Repeat this procedure as required until the contaminants is removed completely.
- Replace the Oil Drain cap and refill the oil reservoir to the proper oil level with clean vacuum pump oil.

IV. Troubleshooting Guide

The following guide will help you to recover the functionality should any malfunction occurs:

1. Failure To Start

Check the operating voltage. The pumps are designed to start at $\pm 10\%$ operating voltage (loaded) at 5°C (41°F). However, if exceeded the maximum voltage, switch malfunction may occur.

2. Oil Leakage

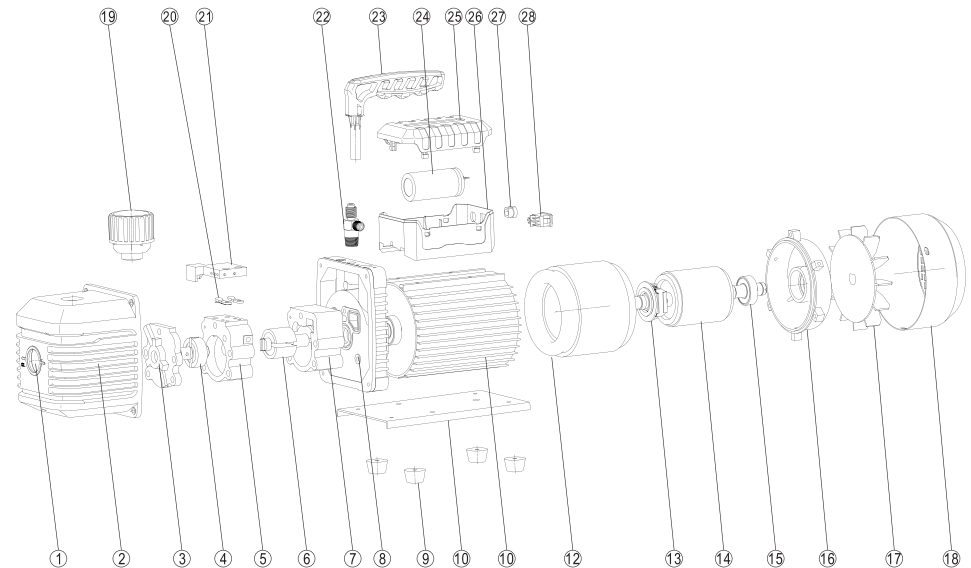
- Make sure the oil does not spill from the vacuum pump.
- If leakage exists, the housing gasket or the shaft seal may need to be replaced. If leakage exists in the area of the oil drain plug, you may need to reseal the plug using a commercial pipe thread sealer.

3. Failure To Attain A Good Vacuum

- Ensure the vacuum gauge and all connections are in good condition and leak-free. You can inspect for leaks by monitoring the vacuum with a thermistor gauge while applying vacuum pump oil at connections or suspected leak points. The vacuum will improve briefly while the oil is sealing the leak.
- Ensure the pump oil is clean. A badly contaminated pump may require several oil flushes.

- Ensure the oil is at the proper level. For optimum pump operation, the oil must be even with the oil level line on the sight glass when the pump is running. Do not overfill as operating temperatures will cause the oil to expand, which will appear at a higher level than when the pump is not running. To check the oil level, start the pump with the inlet covered. Check the oil level in the sight glass. Add oil if necessary.

V. Technical Drawing



01	Sight glass	11	Motor hull	21	Anti-Fog Covering
02	Housing	12	Motor stator	22	Inlet fitting
03	Pump back cover	13	Centrifugal switch	23	Handle
04	Pump back rotor	14	Motor rotor	24	Capacitor
05	Pump back stator	15	Bearing	25	Capacitor box cover
06	Pump front rotor	16	Motor cover	26	Capacitor box holder
07	Pump front stator	17	Fan	27	Socket
08	Trestle	18	Fan Cover	28	Power switch
09	Ruber foot	19	Exhaust fitting		
10	Base	20	Valve plate		

2. Technical Parameter

Dual voltage vacuum pump

Model	1LVP-1.5	
Frequency	50Hz	60Hz
Flow Rate	1.8 CFM	2.0 CFM
	51 l/min	57 l/min
Ultimate Vacuum	2Pa 15 microns	
Stage	1	
Power	1/4 Hp	
Inlet Port	1/4" SAE	
Oil Capacity	240 ml / 8.11 oz	
Dimensions	240x90x200 mm / 9.44x3.54x7.87 in	
Weight	4.3 kg / 9.47 lb	

Model	1LVP-5MP	
Frequency	50Hz	60Hz
Flow Rate	4.5 CFM	5.0 CFM
	128 l/min	142 l/min
Ultimate Vacuum	2Pa 15 microns	
Stage	1	
Power	1/3 Hp	
Inlet Port	1/4" & 3/8" SAE	
Oil Capacity	320 ml / 10.82 oz	
Dimensions	280x115x230 mm / 11.02x4.52x9.05 in	
Weight	7.5 kg / 16.53 lb	

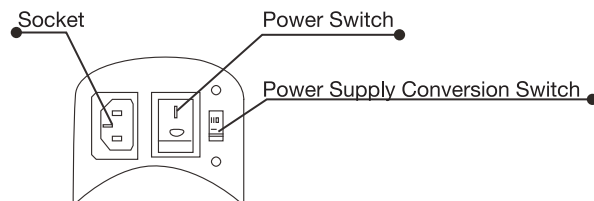
Model	2LVP-2.5MP	
Frequency	50Hz	60Hz
Flow Rate	2.5 CFM	3.0 CFM
	71 l/min	85 l/min
Ultimate Vacuum	2x10 ⁻¹ Pa 15 microns	
Stage	2	
Power	1/3 Hp	
Inlet Port	1/4" & 3/8" SAE	
Oil Capacity	300 ml / 10.14 oz	
Dimensions	280x115x230 mm / 11.02x4.52x9.05 in	
Weight	7.8 kg / 17.19 lb	

Model	2LVP-8MP	
Frequency	50Hz	60Hz
Flow Rate	7 CFM	8 CFM
	198 l/min	227 l/min
Ultimate Vacuum	2x10 ⁻¹ Pa 15 microns	
Stage	2	
Power	3/4 Hp	
Inlet Port	1/4" & 3/8" SAE	
Oil Capacity	450 ml / 15.21 oz	
Dimensions	340x132x245 mm / 13.38x5.19x9.64 in	
Weight	7.8 kg / 17.19 lb	

VII. Dual Voltge & Dual Frequency

1. Outlook Structure

Review the drawing below for dual voltage & dual frequency series.



Note:

1. This product operates in ambient temperature: 5°C to 40°C (41°F to 104°F)
2. Power Supply of the products are 110-127V / 50/60Hz / 1Ph
220-240V / 50/60Hz / 1Ph

3. This product is equipped with Thermal Protection function:

If the ambient temperature is too hot or the voltage is too high, the product may stop functioning. It is recommended not to switch off the powersupply immediately.

If the product will re-start up automatically after 3 minutes, it is recommended to cool the product by lowering the ambient temperature or power supply voltage to prolong the lifespan of the vacuum pump.



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