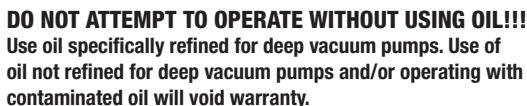


## SPARK FREE



1. Do not evacuate gases that corrode metal or react chemically with pump oil.
2. The temperature of evacuated gas shall not exceed 176°F (80°C) and ambient temperature shall be 41 - 140°F (5 - 60°C).
3. Do not operate without oil.
4. Pump and motor can be extremely hot to the touch in high ambient temperature conditions.
5. Do not block vacuum pump exhaust.



1. Ensure power to the receptacle is turned off before plugging in any equipment.
2. Once securely connected, turn on the power to the receptacle.

To reduce the danger of electric shock, keep the pump indoors and do not expose to rain.

1. Receptacle shall be well grounded, or else electric shock may be caused. Should power cord or plug require repair or replacement, do not use the pump. If you cannot fully understand grounding instructions and have doubt whether correct grounding is made, check with a professional electrician or service man. Do not change the structure of attached adapter connector.
2. When pulling out power plug, make sure to pull the plug rather than the wire.
3. Do not place anything on the power cord. It may damage the wire.
4. Do not use broken plug or socket.
5. Do not pull out power plug with wet hand.
6. Do not pull out, insert power plug or turn on power switch where flammable gases may be present.

**OIL MUST BE ADDED BEFORE OPERATING!** Failure to add oil will damage cartridge and void warranty!

1. Make sure the oil drain valve located below the front casing is closed before attempting to add oil.
2. Remove the exhaust muffler from the top of pump.
3. Slowly add oil until oil level rises to the top of the Oil Level Line. Do not overfill with oil!
4. Replace the exhaust muffler.

1.8 CFM = 12 oz.	3 CFM = 12 oz.	6 CFM = 18 oz.
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## WEAR SAFETY GLASSES

## CHECKING OIL LEVEL

Follow the steps below.

1. Start pump and run with intake port capped for about two minutes. Observe the oil level with the pump running. The oil level in the sight glass should be even with the level line.
2. If the level is low, open the intake port and run pump for 15 seconds, stop pump and observe oil level again. Add a small amount of oil as needed.

## CHANGING OIL

In order to reach the deep vacuum required, your vacuum pump needs clean, moisture-free oil during evacuation. Dirty oil becomes a mixture of corrosive acids and water that effects the pump's ability to pull a deep vacuum. Left sitting in the pump, this sludge will rust and erode internal surfaces shortening the pump's life.

Care should be taken to avoid contact of oil with skin or eyes. OIL MAY BE HOT! Used oil should be properly disposed of in a leak-tight corrosion-resistant container according to local regulations.

1. After every evacuation, while the pump is warm and oil is thin, take a small sample of oil from the drain port.
2. If the oil is contaminated, drain the oil by placing the pump on a level surface and opening the oil drain valve. Catch the waste oil in a container and properly dispose of it.
3. If the pump has been sitting for more than one month, the oil is considered contaminated regardless of appearance and should be changed as outlined above.
4. To add oil, close drain, remove the exhaust muffler and fill to the oil level line with fresh oil.

## INTAKE CONNECTIONS

After use, replace all caps and finger-tighten. Do not use caps with damaged or missing o-rings and always store vacuum pump with capped ports to prevent dirt and moisture contamination.


## PUMP MOTOR

The PUMP and OIL must be above 30°F (1°C). The line voltage must be equal to the rating on the motor nameplate  $\pm 10\%$ . Normal operating temperature is approximately 160°F (71°C), which is HOT to the touch! Line voltage and ambient temperature will affect the normal operating temperature. Your vacuum pump is designed for continuous duty and will run for extended periods without overheating. The motor has an automatic resetting overload protection feature. If the motor will not restart the pump after shut-off, it may have opened the thermal protection. Disconnect the pump from power, wait about 15 minutes for the motor to cool down and then try again.

## LIMITED WARRANTY INFORMATION

The Vacuum Pumps are warranted against defects in material and workmanship for a period of one year. This warranty does not cover failure due to abuse, improper usage, or progressive wear and tear. Warranty becomes valid to the original owner and is effective on the purchase date. WARRANTY SERVICE IS PROVIDED THROUGH THE FACTORY ONLY. Please contact the service department toll free for parts, service concerns, or to obtain a return authorization number for warranty repair.

**For parts or service contact the service department:  
1-888-825-6989**

 **WARNING:** This product can expose you to chemicals including Di (2-ethylhexyl) phthalate, lead and lead compounds, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)