



**Making Your Job More Enjoyable**  
**High Reliable Vacuum Pump**  
**V-i2120**



**VALUE** • Quality Assurance



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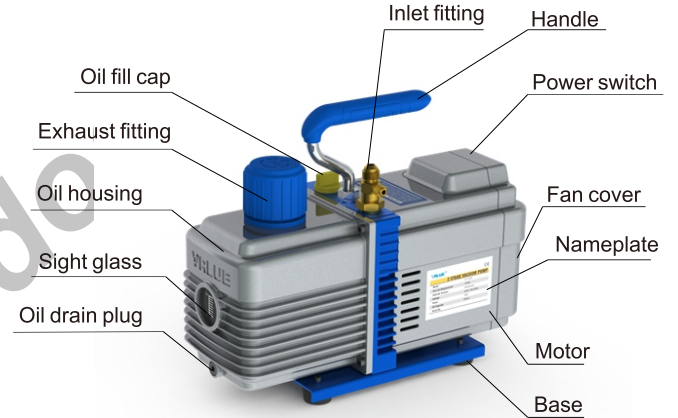
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## INTRODUCTION AND TECHNICAL INFORMATION

In order to make it easier to understand the components of the vacuum pump, please see the picture below.



Model	V-2120	
Voltage	100-127V~/50-60Hz	220-240V~/50-60Hz
Free Air Displacement	12 CFM	
Ultimate Vacuum	15 micron	
Power	1 HP	
Oil capacity	500 ml	
Dimension	345×135×280 mm	
Weight	11.5 Kg	
Intake Ports	7/16"-20&5/8"-18UNF	

### Application Field

VALUE vacuum pumps are widely used in the refrigeration service including CFC, HCFC, and HFC refrigerants (such as R12/R22/R23/R32/R134A/1234yf and so on), Printing Industry vacuum packaging, Gas Analysis, Thermo Forming industry and so on. It can also be applied as the pre-pump of various types of high vacuum equipment.

### Features

1. Integrated cylinder structure ensures high ultimate vacuum.
2. Forced oil cycling system makes high reliability of the pump.
3. Convenient to manage the oil with big oil sight design.
4. Non-sparking design, suit for R32/1234yf.
5. Lighter, smaller and more convenient.

### Safety precaution

To prevent personal injury, please read the operating manual carefully.

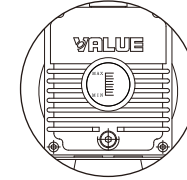
- Please wear goggles when working with refrigerants.
- Do not touch refrigerants without protection.
- Please confirm all associated devices are grounded correctly before connect the power to avoid electrical shock.
- Do not touch the pump housing or motor during operation.
- When pumping R32/1234yf, please use explosion-proof socket.

### Before operating

1. Check the voltage and frequency matching the specifications on the pump motor nameplate.
2. Ensure that the ON-OFF switch is in the OFF position before connecting the pump to a power source.
3. Oil filling
  - ① Remove the Oil Fill Cap and add oil until oil level showed in the middle between the Min and Max mark. Please refer to technical data in manual for the correct oil capacity.

**Attention: Filling speed can't be so fast in case of oil spillage.**

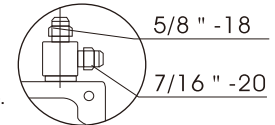
### Operating Guide



- ② Turn the motor switch to ON position. This may takes 2 to 30 seconds depend on the ambient temperature. After the pump operates for approximately one minute, check the sight glass for proper oil level, which should always be visible in the middle between Max and Min mark. Refill oil if necessary. Place back the cap on the inlet fitting when the pump runs smoothly.
 

**Attention: The oil level should always be visible in the middle between Max and Min mark 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.**

1. Firstly remove the protection cap (please refer the right figure) and then connect the container via hose.
2. Check the tightness of the inlet connector.
3. Turn off the valve between pump and container.
4. Turn off the power.
5. Remove the hose.
6. Screw the protection cap to avoid the granule into the pump.



### Safety precaution

1. The time of pumping air which does not connect the tank should be less than 3 minutes.
2. The pump should be operated at ambient temperature between 5-40°C.
3. All motors are designed for operating voltages plus or minus 10% of the normal rating. Power socket must be grounded.
4. Before connect to A/C-R system, please pump the refrigerants with reliable way from the system.

**Maintenance**

**1. The choice of 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 VALUE High Performance Vacuum Pump Oil ( 200A ), which is specifically blended to maintain maximum viscosity at normal running temperatures and to improve cold weather start up.

**Attention: please change the pump oil timely when oil was contaminated or emulsified.**

**2. Oil Change Procedure**

1. Ensure the pump is warmed up.
2. 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 inlet and partially blocking the exhaust with a cloth while the pump is running.
3. When the drainage of oil completed, tilt the pump forward to remove the residual oil.
4. Place back the Oil Drain Cap.
5. Remove the Oil Fill Cap and fill the oil reservoir with new vacuum pump oil until oil level is seen in the middle between Max and Min mark

**Trouble shooting**

Fault	Possible cause	Remedy
Fail to attain good vacuum	<ol style="list-style-type: none"> <li>1. The spare intake port cap loosen</li> <li>2. O-Ring inside the spare intake port cap damage.</li> <li>3. Insufficient oil</li> <li>4. Pump oil emulsification or dirty</li> <li>5. Oil inlet channel is clogged or insufficient oil</li> <li>6. Pumping system leak</li> <li>7. Not suitable pump</li> <li>8. Pump spare parts are worn out after long use</li> </ol>	<ol style="list-style-type: none"> <li>1. Fasten the intake port cap</li> <li>2. Change the O ring</li> <li>3. Add oil</li> <li>4. change oil</li> <li>5. Clean the oil inlet channel, clean the filter screen</li> <li>6. Check the pumping system, no leakage</li> <li>7. Chose the right pump</li> <li>8. Repair the pump or replace the pump if necessary.</li> </ol>
Oil leakage	<ol style="list-style-type: none"> <li>1. Oil seal damage</li> <li>2. Oil housing assy. connections loosen or damage.</li> </ol>	<ol style="list-style-type: none"> <li>1. Change oil seal</li> <li>2. Fasten the screw and change the O ring in the oil housing assy.</li> </ol>
Oil injection	<ol style="list-style-type: none"> <li>1. Excessive oil in the pump</li> <li>2. Continuous operation under high pressure in the inlet port</li> </ol>	<ol style="list-style-type: none"> <li>1. Drain oil</li> <li>2. Chose the right pump</li> </ol>

Hard to start	<ol style="list-style-type: none"> <li>1. oil temperature is too low</li> <li>2. Malfunction of motor or power supply</li> <li>3. Foreign matters entered into the pump chamber</li> <li>4. The voltage is too low or too high</li> <li>5. Over load protection</li> </ol>	<ol style="list-style-type: none"> <li>1. Start the pump repeatedly and remove the oil filter</li> <li>2. Check and repair</li> <li>3. Check and clean the pump</li> <li>4. Check the operating voltage</li> <li>5. Keep the power switch on, remove the plug and wait 30 seconds, find the reason of over load protection, then re-run the pump.</li> </ol>
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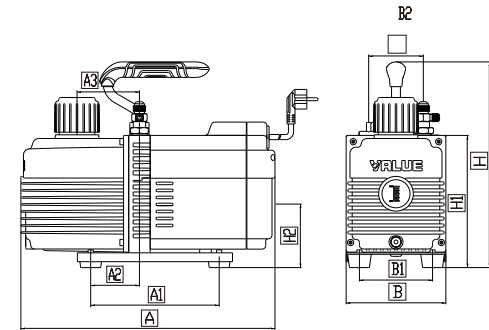
**Remark:** 1. The model non-sparking design, the motor with overcurrent and overload protection, after protecting, repair the fault timely;  
2. If following procedures does not work, contact your nearest VALUE distributor or send your pump to our service centre, we will do our best to help you.

**7. Limited warranty statement**

Warranty period is one year from the purchase date due to the quality of the products itself. The following restrictions apply:

1. The warranty applies to the product in normal usage situation only, as described in the operating manual. All warranty service claims must be made within the specified warranty period. Proof-of-purchase date must be supplied to the manufacturer.
2. Warranty service claims are subject to authorized inspection for product defects.
3. Warranty service applies to the product without un-authorized repairing or dis-assembling.

**Remark: The manufacturer shall not be responsible for any additional costs associated with a product failure, including loss of work time, loss of refrigerant, cross-contamination of refrigerant and unauthorized shipping or labor charges.**



Dimensions										
Mode	A	A1	A2	A3	B	B1	B2	H	H1	H2
V-i2120	345	174	66	84.5	135	99	74	280	179	86