

ROTARY VANE VACUUM PUMP MANUAL

VP-Z Series



Appearance And Structure



Technical data

Item	Model	single stage rotay-vane vacuum pump	
		VP-1Z	VP-1ZBP
Voltage		220V~50Hz, 110V~60Hz	DC18V-5.0AH
Ultimate vacuum(pa)		2	
Input power(w)		150	
Flow rate		2cfm 1L/s (3.6m ³ /h)	
Oil capacity(ml)		250	
Size(mm)		260 × 100 × 182	335 × 100 × 182
Net weight(kg)		3.26	3.8
Inlet port		7/16"-20UNF	

Item	Model	Dual stages rotay-vane vacuum pump	
		2VP-1Z	2VP-1ZBP
Voltage		220V~50Hz, 110V~60Hz	DC18V-5.0AH
Ultimate vacuum(pa)		2×10^{-1}	
Input power(w)		180	
Flow rate		2cfm 1L/s (3.6m ³ /h)	
Oil capacity(ml)		200	
Size(mm)		260 × 100 × 182	335 × 100 × 182
Net weight(kg)		3.47	4.1
Inlet port		7/16"-20UNF	

Scope of application

VP-Z serials rotary-vane vacuum pump is the basic equipment for extracting gas from sealed container.

Suit for refrigeration maintenance (refrigerants include CFC, HCFC and HFC, such as R12/R22/R134a, etc), printing machinery, vacuum packaging, gas analysis, thermoplastic molding and other industries of extraction operations, can also be used as a kind of high vacuum equipment pre-pump.

The characteristic

1. Smaller size and lighter weight

Using DC motor design, under the premise of ensuring the same pumping rate, make the structure compact, smaller size and lighter weight, more convenient to carry and use.

2. High limit vacuum and high

The design of the dual-stage rotor improves the ultimate vacuum and extraction rate, reduces the exhaust time of the pump, and ensures the removal of refrigerant and moisture in the system.

3. The long-acting filter inlet filter can effectively prevent foreign bodies from entering the pump chamber, and the catcher can effectively separate the oil mist from the exhaust gas.

4. Comfortable and firm handle

The handle with light and unique shape is easy to access and reliable to use during operation.

5. Good material selection

The good material choice of aluminum oil tank bracket and motor housing makes the pump lighter, and the metal base plate makes the product more reliable.

Safety warning

- ▲ Warning! In order to avoid personal injury, please read carefully and follow the instructions in the operation manual.
- ▲ Wear goggles when working with refrigerant.
- ▲ Do not contact refrigerant directly to prevent personal injury caused by refrigerant.
- ▲ Z series vacuum pump is strictly prohibited to extract flammable, explosive and toxic gases, and it is strictly prohibited to work in the environment with flammable gases(such as R32, R600a, 1234yf, etc.).
- ▲ In order to ensure the safety of the product, please select the manufacturer's original accessories and charger (only with lithium battery vacuum pump).
- ▲ Do not disassemble, open or cut battery pack, keep away from heat source or direct sunlight (only with lithium battery vacuum pump).
- ▲ Keep the battery clean and dry. Do not continue to use in case of damage or discharge (only with lithium battery vacuum pump).
- ▲ Do not extract corrosive or chemical reaction gas with pump oil.
- ▲ Do not use in the rain, the product body is easy to cause electric shock due to water inflow.
- ▲ When the battery is discharged, please turn off the power switch immediately after it is put into the protection state. It is forbidden to start frequently, which is easy to damage the battery and shorten the battery life.

Charging process

1. Remove the battery from the vacuum pump and insert it into the charger.
2. Ensure that the power supply voltage used is connected with the input voltage of the charger.
3. If the charging indicator is red, it means charging; if the indicator is green, it means fully charged.
4. During the charging process, it is normal that the battery shell is slightly hot.
5. If the vacuum pump is not used for a long time, please remove the battery.
6. Before using the vacuum pump, please fully charge the battery to avoid affecting the working use.
7. Please charge the battery at the ambient temperature of 10-45 C.
8. After long-term use, please let the motor cool down and recharge.

The above requirements only apply to vacuum pumps with hammer batteries.

Preparation before using the pump

1. Check whether the power supply used is consistent with the power supply voltage and frequency marked on the product nameplate.
2. Please make sure that the switch of the pump is in the off state before connecting the power supply.
3. When refueling, keep the oil level between the lower limit and the upper limit. If the oil level is too low, the performance of the pump will be reduced, and if the oil level is too high, the oil mist will be ejected.

Pump operation guide

1. When using the vacuum pump, remove the air inlet cap and connect the container to be pumped. The pipe should be short.
2. Check whether the extracted container and the pipeline are sealed and reliable without any penetration.
3. Remove the exhaust cap on the catcher, turn on the power switch, and the pump starts to operate.
4. After the pump is used, close the valve between the pump and the pumped container.
5. Turn off the power switch on the pump and unplug the power plug.
6. Remove the connecting pipe.
7. Finally, close the air inlet cap and exhaust cap to prevent dirt or floating particles from entering the pump cavity.

1. The selection of pump oil type and state is an important factor to determine whether the pump can reach the limit vacuum. In order to maintain the best performance of the pump, we suggest that you use a vacuum pump oil with low viscosity, which is conducive to the cold start of the pump.

Note: when the pump oil is emulsified and polluted, please change the vacuum pump oil in time.

2. Oil change procedure

- ① To ensure that the pump is in a hot state, the pump needs to run for about 1 minute before changing the oil.
- ② Open the air inlet at the same time as the pump is running, so that the oil in the pump cavity is forced to flow out. Close the switch to stop the pump and then open the drain plug to discharge the waste oil and dispose of it properly
- ③ When the oil stops flowing, tilt the pump body to completely drain the remaining waste oil.
- ④ Tighten the drain plug.
- ⑤ Open the trap and add new pump oil.
- ⑥ Cover the air intake cap, check the oil level after starting the pump for one minute. If the oil level is below the lower limit of the oil level, slowly add oil to the normal oil level, and then screw on the trap.

Warranty scope

Due to the quality of the product itself, it is guaranteed within 1 year from the date of shipment. The warranty coverage is as follows.

1. A product confirmed by a qualified inspection agency as having manufacturing defects.
2. Products that have not been repaired and dismantled without permission;
3. Use the product that is operated in the "Instruction Manual" in the correct way. Therefore, the warranty service should be performed during the warranty period.

Disclaimer: The manufacturer does not bear any extra costs beyond product failure, including: loss of working time, loss of refrigerant, contaminated refrigerant and unauthorised transportation and labor costs.

Common troubleshooting

Failure phenomenon	CAUSE OF ISSUE	ELIMINATION METHOD
Low vacuum	1.Loose air cap on the spare port side of the air inlet	Tighten the air intake cap
	2.Damaged rubber ring in the air inlet cap on the spare port side of the air inlet	Replace rubber ring
	3.Insufficient fuel	Fill to the centerline of the oil mark
	4.Pump oil emulsified and unclean	Replace the oil
	5.Pump oil inlet blocked or insufficient oil supply	Clean the oil inlet and clean the filter
	6.Leakage of pumped pipeline container	Inspection of connected pipeline containers to prevent leakage
	7. Model is not suitable	Check the size of the container being pumped, recalculate and select the appropriate model
	8.The pump is used for too long, and the clearance is increased due to worn parts	Check and repair, or replacement of new pump
Oil leak	1.Damaged oil seal	Replace the oil seal
	2.Loose or damaged fuel tank connections	Check and repair, or replacement of new pump
Fuel injection	1.Too much oil	Drain to the oil level
	2.Import pressure is too high for a long time	Choose the right pump to increase pumping speed
Difficult to start	1.Oil temperature is too low	The air inlet is open to the atmosphere, repeatedly start the motor or heat the pump oil
	2.Defective motor or power supply	Check and repair
	3.Foreign objects fall into the pump	Check and clear
	4.Voltage of the power supply is too slow	Check the voltage of supply

Note: If the above methods do not solve your problem, please contact your nearest dealer or send your pump to a professional repair center, and we will do our best to serve you.

