HIGH
PERFORMANCE
VACUUM
PUMP

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COLINK®

VB Series Vacuum Pump

Operating Manual

V1.1 (2201)

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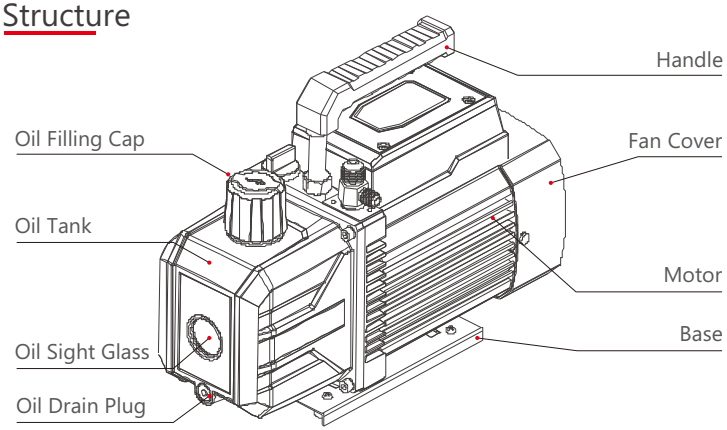
VB Series Vacuum Pump

A Structure and Technical Data

Structure



Technical Data

Model		Single Stage Rotary Vane Vacuum Pump						
		SVB115	VB120	VB130	VB140	VB160	VB180	VB1200
Rated power supply		220V~50Hz/110V~60Hz						
Flow Rate	CFM	1.5/1.8	2/2.4	3/3.6	4/4.8	6/7.2	8/9.6	12/14.4
	L/min	42/50	56/68	85/100	113/135	170/203	226/270	340/407
Ultimate Vacuum (Micron)		150	150	150	150	150	150	150
Motor Power (HP)		1/5	1/4	1/4	1/3	1/2	3/4	1
Intake Fittings		1/4" Flare				1/4" & 3/8" Flare		
Dimensions (mm)		252×104×207	281×123×230	281×123×230	305×123×230	332×129×242	383×138×255	383×138×255
Oil Capacity (ml)		210	280	280	280	450	780	780
N.W.(kg)		4.5	5.3	5.8	7.5	9.3	14	14

Model		Double Stage Rotary Vane Vacuum Pump					
		VB220	VB230	VB240	VB260	VB280	VB2200
Rated power supply		220V~50Hz/110V~60Hz					
Flow Rate	CFM	2/2.4	3/3.6	4/4.8	6/7.2	8/9.6	12/14.4
	L/min	56/68	85/100	113/135	170/203	226/270	340/407
Ultimate Vacuum (Micron)		15	15	15	15	15	15
Motor Power (HP)		1/3	1/2	1/2	3/4	1	1 1/2
Intake Fittings		1/4" Flare	1/4" & 3/8" Flare				
Dimensions (mm)		305×123×230	332×129×242	332×129×242	332×129×242	383×138×255	383×138×255
Oil Capacity (ml)		280	360	410	410	620	620
N.W. (kg)		8	8.3	10	10.7	15.7	15.7

B Applications and Features

Applications

VB Series vacuum pumps are used to create a vacuum by evacuating gas from a sealed vessel. The pumps are applicable for refrigeration maintenance to charge refrigerants of CFC, HCFH and HFC such as R12/R22/R134a (R32 version can be used for R32 and 1234yf) and air extraction in printing machines, food processing, gas analysis, thermoplastic molding, etc.. In some cases they can be used as fore pumps for high vacuum equipment.

Features

1. High ultimate vacuum and high pumping speed
High ultimate vacuum and high pumping speed are achieved by taking integral cylinder construction with high precision.

2. High efficient filtration
High quality filter element is used to reduce oil mist effectively.

3. Comfortable and robust handle
Soft rubber lined handle, comfortable to carry and use.

4. Elegant appearance
Unique and elegant appearance with square-shaped pump casing and fan cover.

C Preparation, Operation and Safety Precautions

Preparation

1. Make sure the power supply matches the voltage and frequency marked on the pump nameplate.
2. Make sure the switch is in the OFF position before connecting electrical power to the pump.
3. Fill oil till the oil level reaches the middle position on oil sight glass. Low oil level will cause pump performance loss while high oil level may result in oil spraying.

Operation

1. Before using the vacuum pump, remove the inlet cap and connect the pump to the sealed vessel (Check and make sure the thread of the pipe fits that of the inlet port). The length of the connecting pipe shall be as short as possible.

2. Check and make sure the air inlet is well sealed without any leakage.
3. Switch on the pump to start operation.
4. Close the valve between the pump and the sealed vessel when the operation is finished.
5. Switch off the pump and remove the power plug.
6. Remove the connecting pipe.

Safety Precautions

WARNING!
To avoid personal injury, please carefully read and follow the instructions of this manual.

- Always wear goggles when handling air-conditioning refrigerant.
- Do not contact the refrigerant directly! Personal injury may occur.
- Hot surface! Do not touch the oil tank or pump casing during pump operation.
- Risk of electrical shock! Make sure all equipment are properly grounded when connecting the power supply.
- The pump is not allowed to operate more than 3 minutes while the inlet is exposed to the atmosphere.
- The ambient temperature for proper operation is 5°C - 40°C.
- The voltage of the pump is 220V±10%/50Hz. The power socket must be grounded.
- The pump body will be damaged to take out the refrigerant when the pump chamber is pressurized. It is recommended to use special equipment to do this work.

D Maintenance, Warranty and Troubleshooting

Maintenance

1. Pump oil selection

It's important to select proper vacuum pump oil to achieve the desired ultimate vacuum. To ensure the best performance of the pump, it is recommended to use vacuum pump oil with low viscosity grade of 32 - 46.

⚠ The pump oil must be replaced immediately while it is emulsified or contaminated.

2. Oil changing procedure

1. Operate the pump for about one minute to warm it up before changing the oil;
2. Open the inlet when the pump is running so that the oil in the pump chamber is forced to flow out. Switch off the pump and remove the drain plug to drain the oil. Keep the drained oil in a suitable vessel and dispose of it properly;
3. Tilt the pump body towards the drain plug to completely empty the pump chamber;
4. Tighten the drain plug;
5. Remove the filling plug and add new pump oil;
6. Tighten the inlet cap, operate the pump for one minute and check the oil level. In case the oil level is below MIN position on oil sight glass, fill oil to a level between MAX and MIN position. Install the oil mist trap.

Warranty

The manufacturer warrants the product to be free from defects in workmanship and materials for a period of one year from the date of shipment from the factory.

The warranty is valid in condition that:

1. the manufacturing defects of the product are confirmed by a qualified inspection agency;
2. the product is not repaired or disassembled by any unqualified person;
3. the product is used properly in accordance with the instructions of this manual.

The free services will be provided within the warranty period. The warranty covers the product only. Any extra charges such as labor cost, refrigerant cost and shipping cost are excluded.

Troubleshooting

Failure	Possible Reason	Remedy
Low vacuum	1. The air inlet cap is loose	Tighten the air inlet cap
	2. The rubber ring inside the air inlet cap is damaged	Replace rubber ring
	3. Oil is insufficient	Fill oil to the middle line on oil sight glass
	4. Oil is emulsified or dirty	Replace the oil
	5. The oil inlet is blocked or the oil supply is insufficient	Clean the oil inlet and the filter
	6. The connecting pipe leaks	Check and fix the pipe
	7. The pump is improper	Check the size of the vessel, recalculate and select a proper model
	8. The service time of the pump is so long that parts are worn	Check and repair, or replace the pump
Oil leak	1. Oil seal is damaged	Replace the seal
	2. Oil tank connections are loose or damaged	Check and repair, or replace the pump
Oil spray	1. Too much oil inside the pump	Drain oil to the middle line on oil sight glass
	2. Pressure at inlet remains high for a long time	Choose a pump with higher pumping speed
Difficult startup	1. Oil temperature is too low	The air inlet is exposed to the atmosphere, repeatedly start the motor or heat the pump oil
	2. Motor or power supply is defective	Check and repair
	3. Foreign objects enter the pump	Check and repair
	4. Voltage is too low	Check the voltage

Note:

1. If the problem is still not fixed, please contact your local dealer or send the pump to a professional repair center to find out a solution.
2. We reserve the right to modify any information including design and technical data in this manual without prior notice.