VUYOMUA

OPERATION INSTRUCTIONS

FVN UNIPOLAR ROTARY VANE VACUUM NEGATIVE PRESSURE SYSTEM

PROVIDE HIGH-QUALITY PRODUCTS AND SERVICES FOR GLOBAL AUTOMATION EQUIPMENT ENTERPRISES

Jiangsu Youcheng Zhixin Electromechanical Equipment Co., Ltd.

CONTENTS

1、Composition of FVN Monopole Rotating Vacuum Negative Pressure System 01

2、Instructions for Operation and Use of Electric Control Cabinet 01-04

1、The operation panel is shown in the following figure 01

2、Operation Panel Description 02

3、The inside of the electric control cabinet is shown in the figure 03

4、Product schematic diagram 03-04

5、Troubleshooting of electrical control box 04

3、Instructions for using rotary vane vacuum pump 05-16

1、Safety instructions 05

2. Diagram of rotary vane vacuum pump 05

3、Application 06

4、Working principle 06

5、Oil circulation 07

6、Cooling 07

7、Secure 08

8、Safety precautions 08

9、Installation and startup 08-10

10、Maintenance and maintenance 10-11

11、Vacuum pump oil selection 11

12、Technical parameter table 12

13、Troubleshooting 12-15

14、Pressure conversion 16

4、Product after-sale warranty card 16-17

COMPOSITION OF FVN MONOPOLE ROTATING VACUUM NEGATIVE PRESSURE SYSTEM

1. Vacuum pump: A single-stage rotary vane vacuum pump is used as the pump body to provide vacuum source.
2. Vacuum gas storage tank: The tank body made of carbon steel is used for the vacuum cavity extracted by the vacuum pump (it can also be used in series with other tanks, and can be selected according to your requirements).
3. Electric control box: Realize the intelligent control of the start, stop and corresponding protection functions of the vacuum pump, and switch the vacuum solenoid valve to discharge liquid at constant pressure.
4. Air filter: Contains precision air filter element to prevent vacuum pump from sucking dust and filtering a little moisture in the air, and to avoid vacuum pump head vacuum cavity sucking dust and excessive moisture, which will affect the service life of vacuum pump.
5. Corresponding pipeline fittings: Used to connect the corresponding interface to realize the connection of the pipeline.
6. Universal wheel: The whole bench adopts universal belt brake system, which can be moved conveniently.
7. General Ball Valve: Used to control the main road on-off.

INSTRUCTIONS FOR OPERATION AND USE OF ELECTRIC CONTROL CABINET

1. The operation panel is as shown in the figure below

2、Operation Panel Description

1.**Power indicator light:** Used to indicate whether the whole system is powered.

2.**Pump Operation Indicator Lamp:** A status indicator used to indicate that the vacuum pump has been powered on.

3.**Pump start button:** Used to manually control the start operation of the pump under the manual.

4.**Pump Stop Button:** Used to manually control the stop operation of the pump under the manual.

5.**Three gears rotate gear:** The three gears are used to switch between manual, automatic and neutral.

Manual: Can only start and stop the vacuum pump manually, can not automatically control the operation status of the vacuum pump.

In neutral: Manual automatic failure at the same time, panel operation is invalid.

Automatic down: In automatic down the vacuum pump is controlled by the intelligent digital display meter, at this time the manual function is invalid.

6.**Intelligent digital display vacuum meter:** Used to read the negative pressure value inside the vacuum tank in real time, realize intelligent pressure maintenance and intelligent control of the start and stop of the vacuum pump under automatic conditions.

7.**Instructions for setting the upper and lower limit values of the pressure of the intelligent digital display meter:**

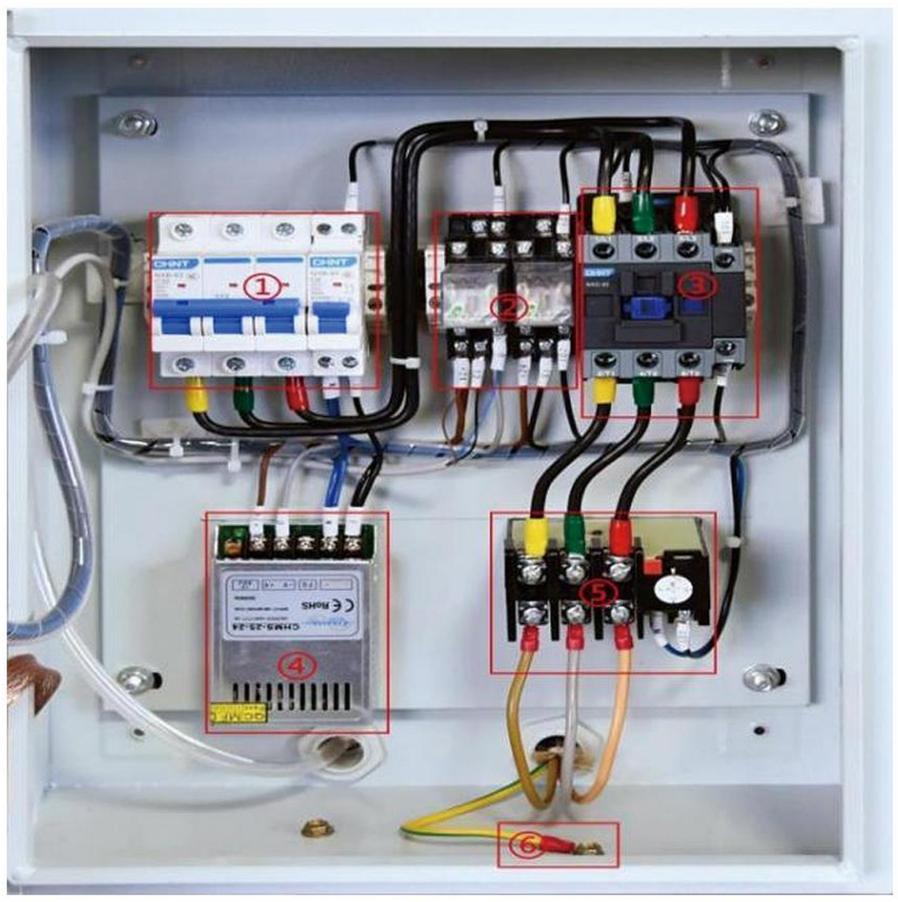
a. Upper limit value setting: press the【SET】 key to enter the setting interface【P1】 pressure upper limit value, adjust ▲ or ▼ adjust the pressure upper limit value setting;

b.Lower limit value setting: press the【SET】 key to enter the setting interface 【P2】lower pressure limit value, adjust ▲ or ▼adjust the lower pressure limit value setting;

c.Note:【P3】, 【P3】 are prohibited from setting, and the factory value remains unchanged; (PS: Note whether the unit of the digital display meter is KPA or MPA. The above adjustment is KPA adjustment. When your digital display meter is MPA, 【P1】represents the lower limit value of pressure, and 【P2】 represents the upper limit value of pressure.)

d. Generally, the default factory setting is that the lower limit value is-75KPA and the upper limit value is-92KPA.

3、The inside of the electric control cabinet is shown in the figure



① **Power circuit breaker:** Control the main power switch of the electronic control box.

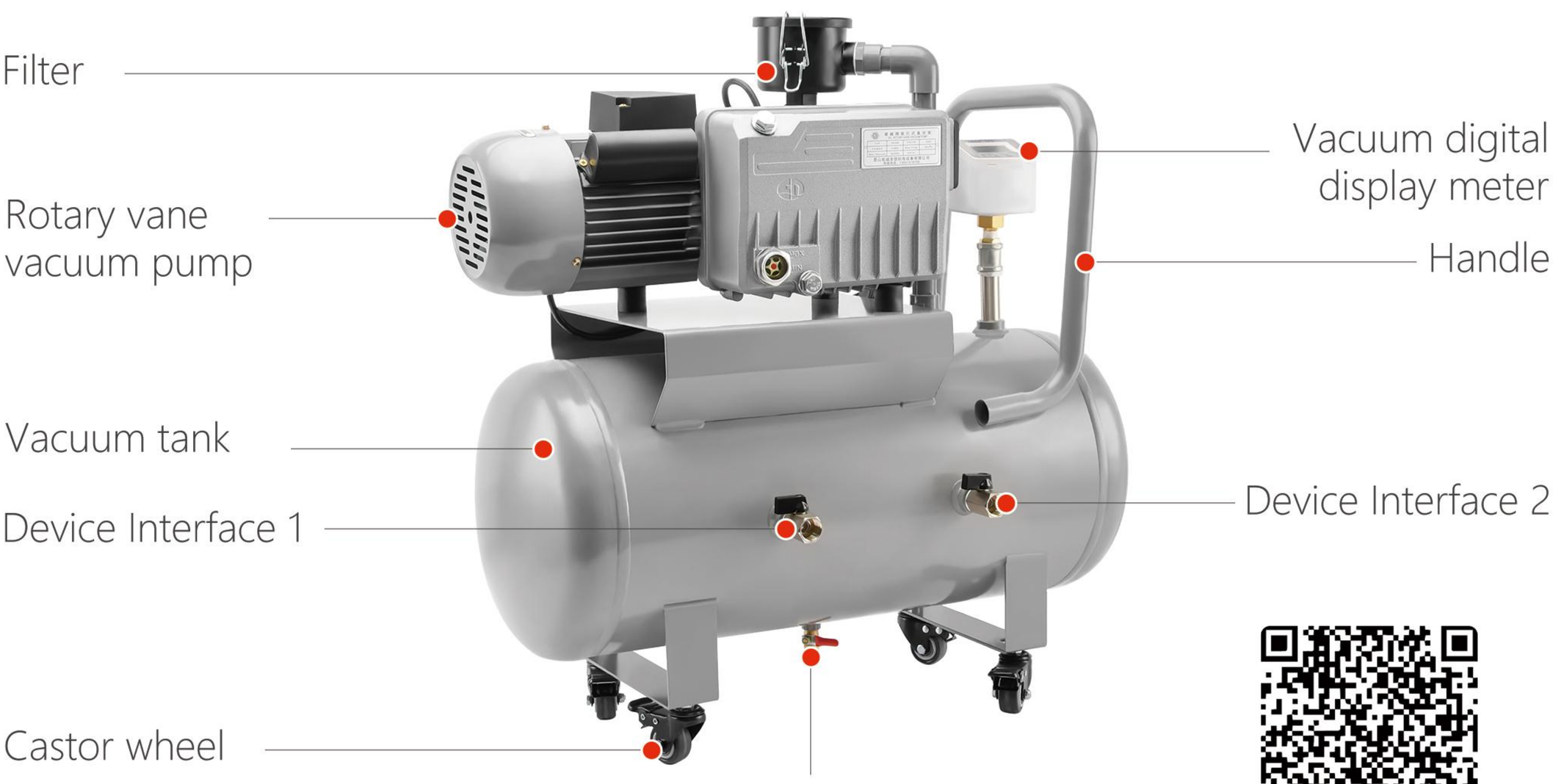
② **Overload protector:** Overload protection for the motor to avoid burning out of the motor.

③ **Power supply incoming wire terminal block:** at the connection point of the external incoming wire (three-phase five-wire system, three hot wires L, one zero wire N, and one ground wire), connect according to the corresponding wiring instructions (L-hot wire, N-zero wire)

④ **Note:** The zero wire and the ground wire should not be confused and connected incorrectly, otherwise it will not be able to power on and run normally.

⑤ **Motor terminal:** The terminal terminal that connects the output terminal to the motor.

4、Product Schematic Diagram



Model：FVN0020

Install Video

Model: FVN0063

Install Video

5、Troubleshooting of Electric Control Box

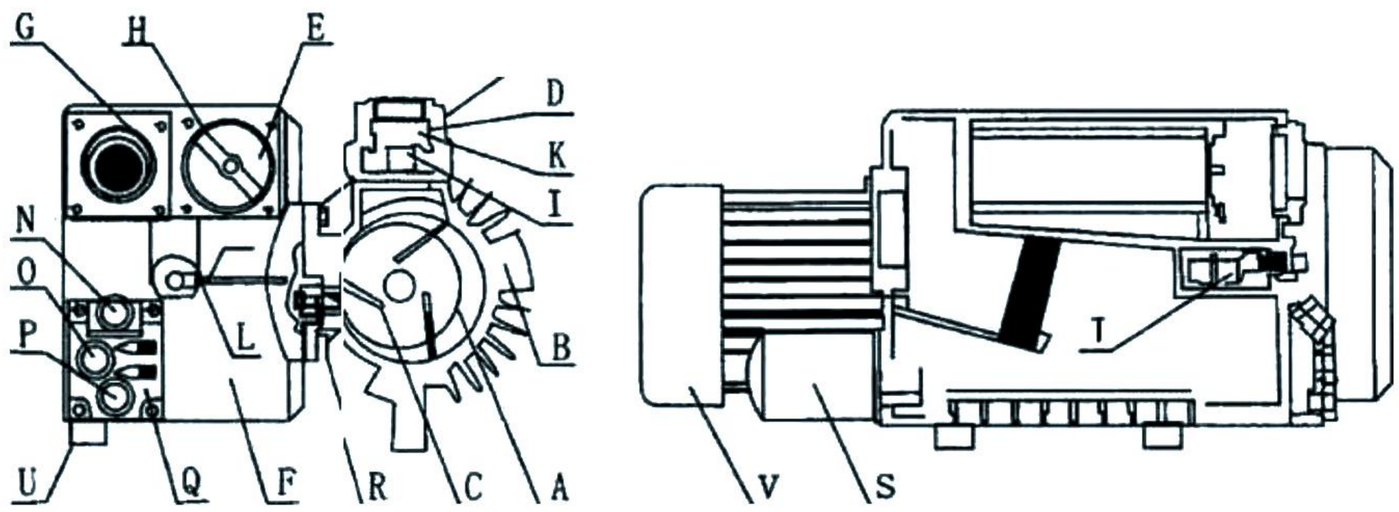
Malfunction	Reason	Exclude
Electric control box power indicator light is not on	The main power line is not connected	Check that the power bus is properly connected
	Failing to turn on the power breaker	Check and open the power circuit breaker
	Failure to connect the power inlet	Check and connect the power supply incoming line
	circuit breaker burn out	Replace the circuit breaker
Press the start button and do not turn	Not in manual	Use the start button in manual mode
	Failure to connect the power cord	Check and connect the power cord properly
	Incorrect zero line of power supply	Check if the incoming neutral wire is correct
The digital display meter does not have digital data	Vacuum Pressure Excessive Report	Pressure relief determination
	Failure to connect the main power supply	Check and connect the power cord properly
	The digital display meter is broken	Replace the digital display meter
	The DC power supply is broken	Replace the DC power supply
The motor works intermittently	The thermal protector is broken	Replace the thermal protector
	The thermal protector is turned down	Adjust the thermal protector
	Bad power cord	Check the power cord
	motor failure	Repair and replace the motor
	Motor voltage abnormal	Check the motor voltage

INSTRUCTIONS FOR USING ROTARY VANE VACUUM PUMP

1、Safety instructions

1. Before operating the vacuum pump, it is essential to read and understand this manual.
2. Before running the vacuum pump, it is necessary to ensure that all joints and accessories of the machine are locked and there is sufficient lubricating oil in the vacuum pump.
3. The power supply provided to the vacuum pump must have sufficient capacity, and safety devices such as air switches, fuses, and overcurrent protectors must be installed. To ensure the reliability of electrical equipment, it is necessary to follow relevant safety regulations, connect a reliable grounding wire, and leave necessary maintenance space around the vacuum pump.
4. This vacuum pump is not suitable for extracting corrosive gases, flammable and explosive gases, mixed gases, and liquids.
5. Do not loosen or disassemble any joints, accessories, or components while the vacuum pump is running. The machine is filled with high-temperature liquids and gases, which can cause serious personal injury accidents.
6. When repairing, maintaining, and servicing a vacuum pump, it is necessary to ensure that the pump is in a power-off state and that the air inside the pump has been emptied.
7. Only safe solutions can be used to clean vacuum pumps and auxiliary equipment.

2、Diagram of rotary vane vacuum pump



A.Rotor **B.**Pump body **C.**Rotary vane **D.**Suction filter screen **E.**Exhaust filter **F.**Oil separator **G.**Exhaust valve body **H.**Topsheet **I.**Suction valve J.Inhalation nozzle **K.**Suction valve body **L.**Snap joint **M.**Return pipe **N.**Oil filler plug **O.**Oil window **P.**Oil drain plug **Q.**Oil injection cover plate **R.**Exhaust valve **S.**Oil filter **T.**float valve **U.**Crash Pad **V.**electrical machinery

3. Application

1、Single stage rotary vane oil sealed vacuum pump is one of the main equipment for low and medium vacuum. It can be used alone or as a front-end pump for vacuum pumps, mechanical booster vacuum pumps, and worm gear molecular vacuum pumps.

2、 Single stage rotary vane vacuum pump adopts advanced foreign technology and uses imported components or materials for vulnerable parts.

3、 Single stage rotary vane vacuum pump is suitable for low and medium vacuum fields, mainly used for extracting air and other dry gases. But it cannot suck gases that are corrosive, toxic, flammable, or explosive, nor can it suck gases containing small particles or dust, and it cannot transport other small objects.

4、 The single-stage rotary vane vacuum pump can work for a long time in indoor environments with ambient temperature of 5-30 ℃ and humidity<80%, and good ventilation.

5、 In addition to the above application scope, its application scope can also be expanded. For example: ① To increase the pumping volume and improve the vacuum degree, it can be combined with a Roots pump to form a unit. ② If extracting humid air or condensable gases, a condenser can be installed in front of the vacuum pump, and a gas damper can be installed on the vacuum pump. ③ If extracting gas with dust particles, a dust filter can be installed before the vacuum pump. ④ If extracting corrosive gases, an anti-corrosion gas filter can be installed before the vacuum pump.

4、Working principle

This vacuum pump works according to the principle of rotary vane. The rotor (A) rotates around the axis of the vacuum pump, and the drive motor (V) is driven by the coupling Vacuum pump shaft. The rotor rotates in the round pump body (B), the center line of the pump body deviates from the axis of the rotor, so the rotor and the pump body form a linearity, and the rotor blade (C) slides along the chute of the rotor, separating the pump body and the rotor into a plurality of working cavities. When the working cavity is connected with the port, the gas is sucked in. With the horizontal rotation, the sucked gas is compressed and excluded into the oil separator (F).A constant pressure difference allows the vacuum lubricating oil to enter the pressure chamber. The lubricating oil and the pumped gas enter the oil separator together, and the oil and gas are separated through the action of gravity and the action of the oil-gas filter screen and the exhaust

filter (E). The lubricating oil falls back to the bottom of the oil separator (F) and enters the oil cycle. The gas without oil is discharged to the atmosphere through the exhaust port. In order to avoid inhaling solid particles, the vacuum pump is equipped with an aspiration filter (D). In order to avoid turning off the power supply, the rotary vane rotates in reverse, and the vacuum pump is equipped with an aspiration valve (G).

Attention: The suction valve cannot be used as a check valve or shut-off valve in the vacuum system. Using a suction valve cannot prevent oil from being sucked into the vacuum system. If the vacuum pump is equipped with a gas damper (optional), a small amount of air enters the vacuum pump chamber through the valve and is compressed together with the process gas, which can prevent the condensation of condensable gas components in the process gas inside the vacuum pump chamber. The gas control valve is equipped with a throttle valve that can be partially or completely closed. In order to improve the working characteristics of the vacuum pump, an exhaust valve (R) is installed at the exhaust port of the vacuum pump body.

5、Oil circulation

Vacuum pumps need oil to seal the gap, lubricate the rotary vane and take away the heat generated by gas compression. The oil supply hole of the vacuum pump is located on the suction side (low pressure area) of the vacuum pump. The oil collector of the vacuum pump is located at the lower part of the oil separator on the exhaust side (high pressure zone) of the vacuum pump. Under the pressure difference between the exhaust side and the suction side, the vacuum pump oil enters the suction side of the vacuum pump from the oil separator through the oil pipe. The oil injected into the vacuum chamber, together with the sucked gas, is discharged into the oil separator in the form of oil mist, and accumulates at the bottom of the oil separator after being separated. The oil separated by the exhaust filter (E) accumulates at the bottom of the oil separator. If the vacuum pump is equipped with a float valve or return pipe, then through the float valve or return pipe, the oil accumulated in the upper part of the oil separator can return to the vacuum pump.

6、Cooling

- Heat dissipation through vacuum pump and oil separator surface.
- Heat dissipation through the fan wheel of the driving motor.
- Through process gas.
- Through the airflow from the fan on the vacuum pump shaft.

7、Secure

This vacuum pump installation manual provides a detailed description of the handling, installation, use, maintenance, troubleshooting, and repair of the vacuum pump. This vacuum pump is used in the industrial field and must be installed by professional personnel. Before using the vacuum pump, please read and understand the user manual. If you have any questions, please feel free to contact our company at any time.

8、Safety precautions

1. This vacuum pump is manufactured according to specialized technology and safety standards. If installed and used improperly, it may cause dangerous situations and injuries.

2. Be careful of oil mist! Be cautious!

3. The exhaust filters not provided by our company, although similar in appearance, do not possess the necessary features and functions. Only by using the exhaust filter provided by our company can safety be ensured. The gas discharged by the vacuum pump contains trace amounts of residual oil, which is harmful to health if inhaled for a long time. Rooms that discharge process gases must have good ventilation conditions.

4. Transportation: Before transporting the vacuum pump, please ensure that the vacuum pump oil has been completely drained. After injecting oil into the vacuum pump, it cannot be transported anymore. Tilting the vacuum pump will cause a large amount of oil to enter the pump chamber, which will immediately damage the rotor and vacuum pump when starting the vacuum pump.

9、Installation and Startup

Attention: Please be sure to follow the necessary conditions for vacuum pump installation, especially the vacuum pump needs to be fully cooled, otherwise it will damage the vacuum pump and adjacent equipment.

9.1、Installation environment

① Please make sure the vacuum pump is installed outside the zone.

② Please ensure that the installation of the vacuum pump meets the following conditions:

Temperature: 5 ~ 30 ℃ Pressure: Atmospheric pressure

③ Make sure the vacuum pump is placed horizontally.

④ Please ensure that the vacuum pump is installed in good ventilation. Please ensure that the vacuum pump is at least 20cm apart from the adjacent objects to ensure that the vacuum pump can be adequately cooled.

⑤ Make sure the vacuum pump surface is not flammable. (Plastic, wood, paper, cardboard, electronics)

⑥ Make sure you do not touch the vacuum pump in operation.

⑦ Please ensure that the vacuum pump is placed easily to see the oil window (O).

⑧ Make sure there is enough room for easy refueling, drain oil to change the exhaust filter.

9.2、Inlet connection

If the pumped gas contains dust or other foreign solid particles, ensure that the vacuum pump is fitted with a filter in the direction of the air flow.

① Please ensure that the vacuum pump intake pipe is sealed, ensure that the connecting pipe does not produce pressure at the vacuum pump connection, and install bellows if necessary.

② Please ensure that the rated diameter of the intake pipe is not less than the intake port diameter.

③ Please ensure that there are no foreign particles in the intake pipe(such as welding slag, etc.).

④ If the volume of the vacuum pump system is large enough to suck back the vacuum pump oil or if several vacuum pumps are used in the same pipe, manual or automatic check valves should be installed on the suction pipe.

⑤ If vacuum pumps remove condensable gases (such as vapor, etc.), shut-off valves, drain branches and drain valves should be installed on the intake line to remove condensate from the line.

9.3、Exhaust port connection

① Please ensure that the exhaust pipe is suitable for the discharge of vacuum pump gas.

② The exhaust pipe should be tilted away from the vacuum pump, or use a gas-liquid separator or a branch pipe with a drain valve to prevent liquid from returning to the vacuum pump.

③ Attention! Exhaust pipes made of insulating materials generate static electricity, which can cause oil mist. Exhaust pipes must be made of conductive materials, or measures must be taken to prevent static electricity.

9.4、Electrical

① Please ensure that the voltage of the power supply is consistent with the nameplate of the motor.

② Make sure the motor is fitted with a motor overloader in accordance with EN60204-1.

③ For removable vacuum pump installation, a movable cable shall be used.

9.5、Install

① Please be sure to comply with the 'installation prerequisites'.

② Place or install the vacuum pump in a suitable location.

③ Electrical connections must be operated by professionals and the motor must be connected correctly. The grounding wire must be connected correctly.

④ Attention! Incorrect rotation direction of the motor will damage the vacuum pump in a short period of time.

⑤ Before starting the vacuum pump, make sure the vacuum pump rotates in the correct direction. Point motor, according to the arrow indicator to determine the direction of rotor rotation.

9.6、Oil injection

① Vacuum pump oil-free operation, will damage the vacuum pump in a short period of time.

② Before starting the vacuum pump, make sure it is filled with oil.

③ Attention! Oil from the air inlet will cause the rotary vane to break and damage the vacuum pump, and the vacuum pump oil can only be injected from the filling hole (N).

④ Attention! When the vacuum pump works, the oil separator is filled with high temperature and high pressure oil mist. If the filling hole is open, there is a danger of being scalded by the hot oil mist.

⑤ Attention! Vacuum pump operation must tighten the fuel plug, only stop the vacuum pump operation, can unscrew the fuel plug.

⑥ Please make sure! The seal ring of the fuel plug must be intact and replaced if necessary.

⑦ Please make sure! The oil level is between the "MIN" and "MAX" marks in the oil window.

⑧ Attention! When the air inlet is not closed or sealed by the rubber pad, it is difficult to start the vacuum pump.

10、Maintenance and maintenance

Attention! The maintenance time of vacuum pump depends on the user's work:

10.1、Daily Maintenance Requirements

① Check the oil level and the color of the oil.

② Attention! Vacuum pump oil is bright and clear. If the oil is cloudy after static precipitation, and there are substances that cannot disappear or the oil is black, the vacuum pump oil must be replaced.

③ Attention! The life of the oil depends on the job. Oil must be changed at intervals of 500-2000

working hours for clean, dry gas extraction and temperatures below 100 °C.

10.2、Weekly Maintenance Requirements

① Check the vacuum pump for oil leaks, and if it does, service the vacuum pump.

10.3、Monthly maintenance items

① Check the exhaust filter resistance, measured by the change in the electric current of the motor, to confirm whether to replace the exhaust filter.

② Check the intake air filter and, if necessary, clean (with compressed air) or replace the intake air filter core.

10.4、Items to be maintained every six months

① Please make sure! Vacuum pump no dust, no dirt, if necessary, please clean the vacuum pump cavity.② Wash, please! Blades, blades, disk finned tubing (with compressed air).

10.5、Annual Maintenance Requirements

① Please replace the intake filter core.

10.6、Precautions for Cleaning Vacuum Pumps

① Blackened and deteriorated oil can block oil pipes and cooling pipes.

② Hazards: Black, deteriorated oil will make the vacuum pump lubricated enough, will cause the vacuum pump temperature is too high, damage the vacuum pump.

③ Method: Mix 2L of cleaning agent according to the ratio of 50% vacuum pump oil, 50% paraffin oil or diesel fuel. After ensuring that the old engine oil in the vacuum pump has been drained, inject cleaning agent, close the air inlet, and let the vacuum pump run for at least 30 minutes to drain the cleaning agent. (Note that using paraffin oil or diesel fuel as cleaning agents may cause a strange odor after starting the pump, which will gradually disappear after running for a period of time)

11、Vacuum pump oil selection

Vacuum pump oil	VM068	VM100	VS100
Base oil	Mineral oil	Mineral oil	Mineral oil
Density(g/cm3)	0.884	0.888	0.96
Temperature°C	0∽12	12∽30	>30
100 'C kinematic viscosity nWs	8.5	11.5	9.5
Flash point。C	235	260	255

VUYOMUA

12、Technical parameter table

Model parameter	FVN -0020	FVN -0025	FVN -0040	FVN-0063 small	FVN-0063 large	FVN -0100	FVN -0140	FVN-0202	FVN-0302
Pumping rate (m3/h)	20	25	40	63	70	100	140	202	302
Vacuum(KPA)	-100	-100	-100	-100	-100	-100	-100	-100	-100
Motor power (kw)	0.9/0.75	0.75	1.5	1.5	2.2	3	3.5	4.5	7.5
Voltage(V)	220/380	220/380	380	380	380	380	380	380	380
Motor speed (Rpm)	2800	2800	1440	1400	1400	1400	1400	1400	1400
Piping interface (pump head)	G1/2	G3/4 G1/2	G1-1/4	G1-1/4	G1-1/4	G1-1/4	G2-1/2	G2-1/2	G2-1/2
Suction caliber (gas tank)	G1	G1/2 G1	G1-1/4	G1-1/4	G1-1/4	G1-1/4	G2-1/2	G2-1/2	G2-1/2
Tank capacity (L)	60	60/40	100	100	180	180	300	300	300
Fuel volume	0.5	0.5	1.5	1.5	2.5	2.5	5	6	8
Overall dimension (cm)L x W x H	99*32*75	99*32*75	133*34*85	133*34*89	152*40*100	152*40*100	170*53*121	170*53*143	170*53*143

13、Troubleshooting

Malfunction	Reason	Exclude
Abnormal noise or excessive load after vacuum pump start-up	Motor running without phase	Tighten or replace cables
	Vacuum pump steering error	Corrected steering
	Out of service for more than a few weeks, months	Closed vacuum pump inlet operation to heat up pump
	High temperature, oil temperature	With synthetic oils, if necessary with slightly less viscous oils; Note: Using oil with low viscosity will cause scratches in the pump body
	The quality of the oil is not good	Use my company's vacuum pump oil
	Blocked exhaust filter, black oil	Clean the vacuum pump and replace the oil filter。Replace the exhaust filter gas
	No oil change	Replace the oil, replace the oil filter
	Foreign substances enter the pump body and damage rotary blades and bearings	Repair vacuum pump (operated by professionals)
Vacuum pump not working properly	Drive motor voltage too low	Provide normal voltage

13、Troubleshooting

Fault	Reason	Exclude
The vacuum pump cannot reach the working pressure, the current of the motor is too large, and the system vacuuming time is too long.	Vacuum system or inlet line leak	Check pipelines and pipelines for leaks and remove them
	Vacuum pump oil contaminated and deteriorated	Vacuum pump oil change
	Exhaust filter clog	Exhaust filter replacement
	Oil filter clog	Oil filter change
	Air inlet filter clogged	Clean the intake filter screen If the intake filter screen is frequently clogged, please install an intake filter at the intake port
	The intake filter is clogged	Clean or replace the intake filter cartridge
	Blockage of intake or exhaust pipes	Remove blockages and unclog pipelines
	The suction valve is completely closed or partially opened due to being stuck by dirt	Clean the intake valve or intake filter screen
	Intake and exhaust pipes too long or too small	Replacing compliant pipes
	Leaking or damaged tubing	Tighten joints to replace tubing or joints
	Seal ring or shaft seal leak	Replacement of seals or shaft seals (operated by a professional)
	Exhaust valve stuck or not installed properly	Reinstall after dismantling (operated by professionals)
	Vane stuck in rotor groove or damaged	Disassemble to allow free sliding of the rotor or replace the rotor (Operated by professionals)
	Incorrect radial clearance between rotor and pump body	Revacuum pump clearance (operated by a professional)
	Vacuum pump internal parts damaged	Repair of vacuum pumps (operated by professionals)
	Intake line or vacuum system leak	Check system and piping for leaks
Vacuum pump not working properly	Motor overload protector too small	Please compare the overload protector setting value with the nameplate data of the motor, better if necessary.
	Fuse blown	Find out what caused the fuse to blow
	If the vacuum pump is equipped with a DC motor, the capacitance of the motor is damaged	Repair of electric motors (operated by a professional)
	Voltage drop due to cable diameter too small or cable length too long	Cable used and length
	Vacuum pump head or motor stuck	Inspection of vacuum pump head or motor and repair of vacuum pump or motor respectively
	Motor burn-out	Replacement of motor (operated by a professional)

13、Troubleshooting

Fault	Reason	Exclude
Vacuum pump blockage	Foreign material entering vacuum pump	Repair of vacuum pumps (operated by professionals) .Check the inlet strainer, replace if damaged, install the inlet strainer
	Corrosion of vacuum pump caused by residual condensate	Repair vacuum pump (operated by professionals) .Check the process flow and use the vacuum pump correctly according to the user manual
	After shutdown, a large amount of oil was sucked into the vacuum pump chamber from the oil separator due to the vacuum effect of the vacuum system.After restarting, due to the lack of oil.Can be compressed and cause damage to the rotor	Repair vacuum pump (operated by professionals)
Vacuum pump blockage	Foreign solid substances enter the vacuum pump, causing damage to the rotor due to the inability of the solid substances to be compressed	Repair vacuum pump (operated by professionals)
	The vacuum pump is equipped with a three-phase motor, and the motor rotates in the wrong direction, causing damage to the rotor	Repair vacuum pump (operated by professionals)
The motor is running, but the vacuum pump cannot operate	The connection between the drive motor and the vacuum pump coupling is damaged	Replace the coupling
There is abnormal noise	Bearing damage	Repair vacuum pump (operated by professionals)
	The coupling is damaged	Replace the coupling
	Damaged rotor	Repair vacuum pump (operated by professionals) .Vacuum pump oil needs regular maintenance and replacement
When the vacuum pump emits smoke or gas, oil sprays out	Incorrect installation of exhaust filter	Reinstall the exhaust filter
	The exhaust filter needs to be replaced	Replace the exhaust filter
Abnormal decrease in oil level	O-ring damaged	Replace the O-ring
	The exhaust filter has cracks	Replace the exhaust filter
	Foreign substances clog the exhaust filter	Replace the exhaust filter
	The oil return pipe is blocked. Oil accumulates on the oil separator and, when it reaches a certain amount, it will be ejected from the clean gas outlet along with the gas	Check if the return pipe is blocked, please wash and clear the return pipe
	Float valve does not work flexibly	Repair the float valve and replace it if necessary

13、Troubleshooting

Fault	Reason	Exclude
Oil blackening	Oil usage time is too long	Clean the vacuum pump Replace the exhaust filter Replace the oil filter Inject new vacuum pump oil
The working temperature of the vacuum pump is too high, and the oil temperature in the oil tank is greater than 100 ° C	The ambient temperature is too high	Comply with the requirements of the ambient temperature for the use of vacuum pumps
	The intake temperature is too high	Comply with the requirements of vacuum pump inlet temperature
	Partial blockage of exhaust filter	Replace the exhaust filter
	Poor ventilation	Only after confirming sufficient ventilation in the environment, can the installation and use be carried out, and the fan blades and the annular oil pipe of the fan blade cover be cleaned
	Oil filter clogged	Replace the oil filter
	Insufficient oil in the fuel tank	Oil injection
	Oil overheating and deterioration	Please wash the vacuum pump Replace the exhaust filter Replace the oil filter Inject new vacuum pump oil
	Abnormal power supply and voltage	Provide normal power supply
Vacuum pump operating temperature is too high, fuel tank oil temperature is more than 100 ° C	Intake and exhaust duct diameter is too small, length is too long	Replacement of pipes required by the table
	Filter or screen clogged inlet or exhaust duct clogged	Cleaning up blockages
Oil thinning and turbid oil foam	The vacuum pump absorbs water, which is severely dampened and mixed with incompatible oil	Clean the vacuum pump Replace the exhaust filter Replace the oil filter Each accounting arm has received new vacuum pump oil Change operation mode

14、Pressure conversion

	bar	mb ar	Pa	atm	Torr	mTorr
lbar	1	10^3	10^5	0.987	$0.75X10^3$	$0.75X10^6$
Imbae	IO」	1	10^2	$0.987X10^{'3}$	0.75	$0.75X10^3$
IPa	IO;	10-2	1	0.987X10s	$0.75X10^{'2}$	0.75X10'
latm=760Torr	1.01	$1.01X10^3$	$1.01X10^5$	1	$0.75X10^3$	$0.75X10^6$
ITorr	1.33X10-3	1.33	$1.33X10^2$	1.32X10-3	1	10^3
ImTorr	1.33X10-6	1.33X10-3	1.33X10-'	1.32X10'6	10。	1
Pa=Pascal	Example:Imbar=10^2Pa					

PRODUCT AFTER-SALES WARRANTY CARD

ONE、 To purchase this product, please fill out this card carefully and read the following warranty terms carefully to ensure that the product receives effective warranty.

1. Users should carefully keep this card when purchasing products and ask the seller to stamp and confirm.
2. This warranty card must be provided at the same time as the warranty.
3. The information filled in this warranty card is true, otherwise it is invalid.
4. The product warranty period is one year. If the product malfunctions during the warranty period due to poor quality of the original components or manufacturing problems, free repair and component replacement will be provided

TWO、 The product is damaged and cannot be used normally due to the following reasons, which are not covered by the warranty.

1. Damage caused by failure to use and install according to the instructions.
2. Any product damage caused by human or accidental factors.
3. Repairs, modifications, or product seal stickers that have not been approved by our company.
4. Aging, scratches, and dents on the surface shell of the product.

THREE、After the warranty period expires, users can still receive repair services provided by our company, but they need to pay the corresponding fees.

User Profile			
Product Name		Product model	
Product Code		Purchase quantity	
Purchase date		Purchase unit	
Customer Name		contact information	

Warranty Record			
Warranty Date	Fault handling methods	Completion date	Customer signature

VUYOMUA

PROFESSIONAL SERVICE R&D INNOVATION

PROVIDE HIGH-QUALITY PRODUCTS AND SERVICES FOR GLOBAL AUTOMATION EQUIPMENT ENTERPRISES

WeChat official account

Douyin official account

Service Hotline: 0512-88820290

Business Phone: 18068066484

After sales hotline: 19951026956

Email: lina@youchengzhixin.com

Website: www.ycchuqiguan.com

Address: No.725 Hongyang Road,Kunshan City,Suzhou CityJiangsu Province

Jiangsu Youcheng Zhixin Electromechanical Equipment Co., Ltd.