

DZ SERIES

VACUUM PACKAGING MACHINE

OPERATION MANUAL

Contents

Foreword/Description/Responsibilities	1	8.Failure Analysis and solutions	
1.Product instruction		1)Machine failure and solution	28
1) Application	2	2)Vacuum pump failure & solution	29
2) Product Features	2	3) Solenoid valve failure & solution	30
3) Work Principle	2	4).Sealing problem and solutions	30
4) Product Model Name	2	9. Equipment storage	
5) Main parameters	3	1)short time storage	30
2.Safety		2)Long time storage	30
Ready to use	9	3) Start machine after storage	31
1) Safety precautions	9		
2) Use of the environment	10		
3.Handling equipment			
1) Equipped with carton packaging	10		
2) Equipped with wooden packaging	10		
4.Installation			
1) Installation condition	11		
2) Installation Environment	12		
3) Filling Oil	12		
4) Electrical connection	13		
5) Connection inflation system	14		
6) Connecting vacuum system	15		
5.Start-up & Debugger			
1) control panel	15		
2) Turn on the power	16		
3) Check the pump motor rotation direction	16		
6.Standard operation and parameter settings			
1) Standard operating procedures	17		
2) Control program cycle description	18		
3) parameter settings	20		
4) Optimal parameters	21		
5) Packaging liquid products	22		
6) Best packaging	22		
7.Machine maintenance			
1) Standard maintenance schedules	23		
2) Vacuum pump maintenance	23		
3) Vacuum pump oil	26		
4) Replace high temp. tape, electric heating wire	26		
5) Replace silicone	27		
6) Replace the seals	28		

Foreword

Thanks for choosing DZ series vacuum packing machine!

This manual contains the following:

- Product instruction
- Safety Precautions
- Handling and storage
- Installation and commissioning
- How to use
- Care and maintenance
- Troubleshooting
- Spare parts

This specification describes the installation and use of the product, including the following details: product handling, storage, installation, startup, operation conditions, maintenance, Troubleshooting and maintenance.

Attention:

- Before using the product, please be sure to carefully read this manual and fully understand
- Ensure that the final use of the product or equipment operating personnel management with this specification
- Keep after reading this manual, and always place readily accessible place for easy reference.
- If you have any questions, please contact the manufacturer or supplier.

Responsibility

- This specification is carefully edited for any problem or misunderstanding among the consequences of the manufacturer does not assume any responsibility.
- Manufacturer is not responsible for any damage or problems not adopted the provisions of parts caused.
- The manufacturer reserves the right to modify parameters or accessories, without prior notice.
- Manufacturer All rights reserved. Without written permission, reproduction of any portion of this specification is prohibited.

Terminology

- High Temperature Tape: PTFE coated fabrics, has the characteristics of high temperature resistance and non-stick, usually called high temp. tape.
- Heating plate: a combination of aluminum (or heating plate), electric flat wire, high temperature tape and other parts made collectively heating plate

1- Product instruction

1). Application:

Vacuum packaging machine has excellent features, easy maintenance, simple operation, wide application and so on. Apply to the composite film or plastic composite film and other flexible packaging materials. It can pack solid, liquid, powder mushy food, food, fruit, aromatic seeds, drugs, chemical products, electronic products, precision instruments products, rare and precious metals and other items. The packaged product can prevent oxidation, mildew, insects, rotting, damp, prolong the storage period.

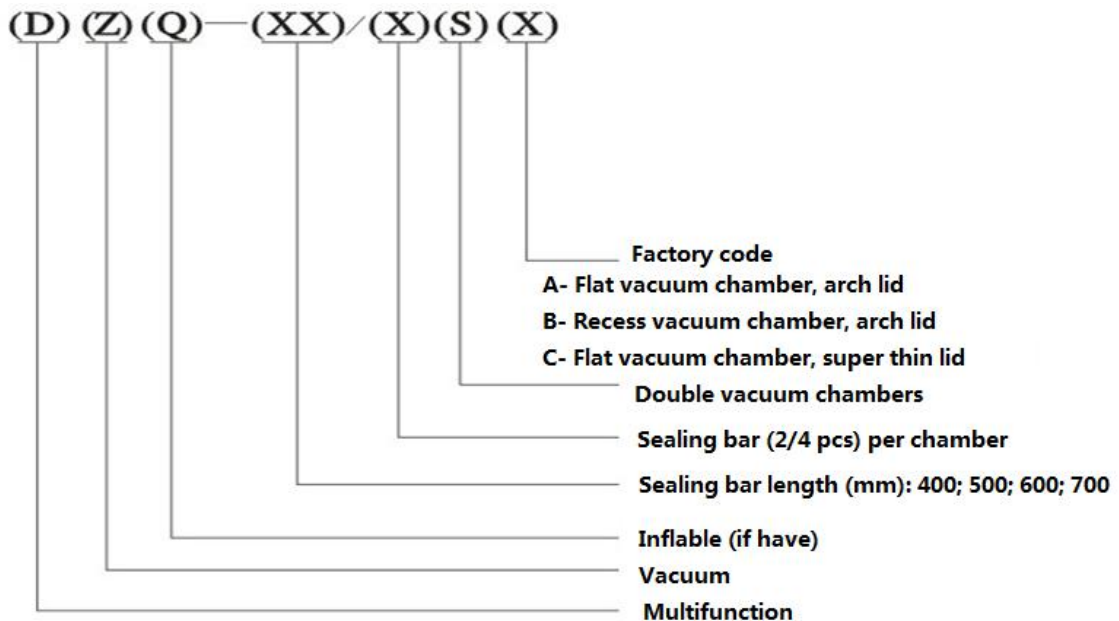
2). Product Features:

- The machine is easy to use. It is fully automatic process control: pressure the vacuum lid, vacuum or after filling evacuation gas (optional), heat sealing, label printing, cooling, vacuum deflated and cover open.
- Sealing temperature can be controlled by the adjustment time, and suit for different materials of bags.
- Emergency stop button is on the control panel, such as find abnormal situation process, press the emergency stop button to interrupt the packaging process.

3).Work Principle:

Put the bag into the vacuum chamber, pressure the vacuum chamber lid, start the machine, run the vacuum pump, a sealed vacuum space is formed. After vacuum is complete, if have the inflatable function, inflating the vacuum chamber firstly. Then use the difference of the vacuum chamber and the outside atmospheric pressure, the balloon drives heated sealing plate against the spring force to drop, pinch sealing bag fitted with electric hot plate flat, coupled with the low voltage and high current electric make heating wire hot, sealing the bag, then cooled, the vacuum packaging process is completed

4). Product Model Name:



5).Main parameters



Model	DZ-260/PD
Voltage	AC 220V/50Hz 110V/60Hz
Motor Power	370W
Sealing Power	200W
Ultimate Vacuum Pressure	1KPa
No. of Sealing Bars for Each Chamber	1pcs
Chamber Dimension(L×W×H)	390X285X50mm
Sealing Length	260mm
Sealing Width	10mm
Vacuum Pump Rate	6.5m ³ /h
Material for Vacuum Chamber	Stainless steel
External Dimension (L×W×H)	500x340x360mm
Net Weight	35kgs

Setting section:

- 1, connect voltage, power indicator light on, cycle display "□" on the panel, which indicates the standby state, then can set parameters.
- 2, Press "set" button, vacuum light on, enter into set parameters of vacuum, press the "+" "-" button. To select the vacuum time (range 0-99 seconds)
- 3, after finished set vacuum time, press the "Set" button and indicator light filled with nitrogen gas into nitrogen filling time setting mode, press "+" "-" button to select the nitrogen filling time (range 0-9.9 seconds), Note: Some models without nitrogen filling function but with a cutout feature, this is the cutout time. Most models are neither functional nor nicked with nitrogen function, this setting does not show, hidden suction set (work) into the seal after the completion of the set (work) status
- 4, after enter into sealing status, heat indicator light, press the "+" "-" to set the heating time (range 0-9.9 seconds) should be set to gradually increase the short to long heating time until get the perfect sealing effect.
- 5, heating time selected, press" set" button to setting, enter into the cooling time setting state, cooling indicator light, press the "+" "-" button to select the cooling time (range 0-99 seconds).
- 6, after the cooling time selected, press" set", then the panel display "ED", means the temperature setting state.
7. Press the temperature selection button and choose the appropriate temperature, the corresponding temperature indicator light (temperature high, medium and low block) press" set " button to setting. Meantime, all the settings have been completed, the power indicator light flashed, that enter the work status, can start work. Note: The parameter settings and machine work can't operate in same time, cannot be setting when the machine work status, if want parameters to be adjusted, press the stop button (emergency stop button), the machine in standby mode, press the setting button, follow above steps to set the required parameters.



Model	DZ-400/2F
Voltage	AC 220V/50Hz 110V/60Hz
Motor Power	1000W
Sealing Power	500W
Ultimate Vacuum Pressure	1KPa
No. of Sealing Bars for Each Chamber	2pcs
Chamber Dimension(L×W×H)	420X435X70mm
Sealing Length	400mm
Sealing Width	10mm
Vacuum Pump Rate	20m ³ /h
Material for Vacuum Chamber	Stainless steel
External Dimension (L×W×H)	540x490x540mm
Net Weight	60kgs
Distance of Two Sealing Bars	340mm



Model	DZ-400/2E
Voltage	AC 220V/50Hz 110V/60Hz
Motor Power	900W
Sealing Power	500W
Ultimate Vacuum Pressure	1KPa
No. of Sealing Bars for Each Chamber	2pcs
Chamber Dimension(L×W×H)	420X435X70mm
Sealing Length	400mm
Sealing Width	10mm
Vacuum Pump Rate	20m ³ /h
Material for Vacuum Chamber	Stainless steel
External Dimension (L×W×H)	540x490x950mm
Net Weight	110kgs
Distance of Two Sealing Bars	340mm



Model	DZ-500/2E
Voltage	AC 220V/50Hz 110V/60Hz
Motor Power	1000W
Sealing Power	750W
Ultimate Vacuum Pressure	1KPa
No. of Sealing Bars for Each Chamber	2pcs
Chamber Dimension(L×W×H)	525X525X70mm
Sealing Length	500mm
Sealing Width	10mm
Vacuum Pump Rate	20m ³ /h
Material for Vacuum Chamber	Stainless steel
External Dimension (L×W×H)	650x575x960mm
Net Weight	125kgs
Distance of Two Sealing Bars	425mm



Model	DZ-400/2E
Voltage	AC 220V/50Hz 110V/60Hz
Motor Power	900W
Sealing Power	500W
Ultimate Vacuum Pressure	1KPa
No. of Sealing Bars for Each Chamber	2pcs
Chamber Dimension(L×W×H)	420X435X70mm
Sealing Length	400mm
Sealing Width	10mm
Vacuum Pump Rate	20m ³ /h
Material for Vacuum Chamber	Stainless steel
External Dimension (L×W×H)	540x490x950mm
Net Weight	110kgs
Distance of Two Sealing Bars	340mm

1, set the vacuum time: Press" SET" shown below;

Parameter setting; ① vacuum time setting ②heating time setting ③cooling time setting

Press" ENVERLOP "(sealing selection) button display as follows:

Vacuum time setting: the current setting is: 40S, press ADD (increase) to increase, press DEC (decrease) to reduce, after modification, press ENVERLOP (sealing selection) button to confirm save.

2, Heating time setting;

Press the SET, press ADD (increase) to add to the display as follows:

Parameter settings: ① vacuum time setting ②heating time setting ③Cooling time setting: Press ENVERLOP (sealing selection) button is show below:

Heating time set, the current setting value; 10s, press ADD (increase) to increase, press DBL (reduction) to reduce, modify the finished press ENVERLOP (hot key) button to save.

3,Cooling time setting: Press SET, press ADD (increase) to add to the display as follows:

Parameter settings: ①vacuum time setting ②heating time setting ③cooling time setting: Press ENVERLOP (sealing selection) button display as follows: cooling time setting, the current setting value: 20s, press ADD (increase) to increase, press the DEL (reduction) to reduce, after completing press ENVERLOP (sealing selection) button to confirm save.

4, System language selection: Press SET , press ADD (increase) to add to the display as follows:

Parameter settings: ①vacuum time setting ②heating time setting ③cooling time setting ④system language selection : Press ENVERLOP (sealing selection) button show below:

① Chinese, ②English. Press ADD (increase) to increase, press the DEL (reduction) to

reduce, modify subsequent ENVERLOP (sealing selection) for save.

5, Rest factory settings: Press SET, press ADD (increase) to add to the display as follows:

Parameter settings: ①vacuum time setting ②heating time setting ③cooling time setting ④system language selection ⑤restore the factory settings, Press ENVERLOP (sealing selection) button show below:

Are you sure to restore the factory settings? if yes, then press ENVERLOP (sealing selection) button. If not, press SET button to exit.

6, about the system: Press SET, press ADD (increase) to add to the display as follows:

Parameter settings: ④ language selection ⑤ Restore factory settings About System: Press ENVERLOP (sealing selection) button confirm the display as follows: firmware version: V3.04, press ENVERLOP (sealing selection) button or SET to exit.



Model	DZ-600/2E
Voltage	AC 220V/50Hz 110V/60Hz
Motor Power	1000W
Sealing Power	1000W
Ultimate Vacuum Pressure	1KPa
No. of Sealing Bars for Each Chamber	2pcs
Chamber Dimension(L×W×H)	630X630X100mm
Sealing Length	600mm
Sealing Width	10mm
Vacuum Pump Rate	20m ³ /h
Material for Vacuum Chamber	Stainless steel
External Dimension (L×W×H)	760x690x980mm
Net Weight	135kgs
Distance of Two Sealing Bars	530mm



Model	DZ-400/2SA
Voltage	AC 220V/50Hz110V/60Hz
Motor Power	1000W
Sealing Power	750W
Ultimate Vacuum Pressure	1KPa
No. of Sealing Bars for Each Chamber	2pcs
Chamber Dimension(L×W×H)	460X460X100mm
Sealing Length	400mm
Sealing Width	10mm
Vacuum Pump Rate	20m ³ /h
Material for Vacuum Chamber	Stainless steel
External Dimension (L×W×H)	1050x560x920mm
Net Weight	180kgs
Distance of Two Sealing Bars	350mm



Model	DZ-400/2SB
Voltage	AC 220V/50Hz 110V/60Hz
Motor Power	1000W
Sealing Power	750W
Ultimate Vacuum Pressure	1KPa
No. of Sealing Bars for Each Chamber	2pcs
Chamber Dimension(L×W×H)	460X460X100mm
Sealing Length	400mm
Sealing Width	10mm
Vacuum Pump Rate	20m ³ /h
Material for Vacuum Chamber	Stainless steel
External Dimension (L×W×H)	1050x560x920mm
Net Weight	180kgs
Distance of Two Sealing Bars	400mm



Model	DZ-500/2SA
Voltage	AC 380V/50Hz 220V/50Hz
Motor Power	2000W
Sealing Power	1200W
Ultimate Vacuum Pressure	1KPa
No. of Sealing Bars for Each Chamber	2pcs
Chamber Dimension(L×W×H)	550X520X100mm
Sealing Length	500mm
Sealing Width	10mm
Vacuum Pump Rate	40m ³ /h
Material for Vacuum Chamber	Stainless steel
External Dimension (L×W×H)	1200x570x920mm
Net Weight	230kgs
Distance of Two Sealing Bars	420mm



Model	DZ-500/2SB
Voltage	AC 380V/50Hz 220V/50Hz
Motor Power	2000W
Sealing Power	1200W
Ultimate Vacuum Pressure	1KPa
No. of Sealing Bars for Each Chamber	2pcs
Chamber Dimension(L×W×H)	540X420X40mm
Sealing Length	500mm
Sealing Width	10mm
Vacuum Pump Rate	40m ³ /h
Material for Vacuum Chamber	Stainless steel
External Dimension (L×W×H)	1250x650x950mm
Net Weight	230kgs
Distance of Two Sealing Bars	440mm



Model	DZ-600/2SA
Voltage	AC 380V/50Hz 220V/50Hz
Motor Power	2000W
Sealing Power	1500W
Ultimate Vacuum Pressure	1KPa
No. of Sealing Bars for Each Chamber	2pcs
Chamber Dimension(L×W×H)	650X520X100mm
Sealing Length	600mm
Sealing Width	10mm
Vacuum Pump Rate	40m ³ /h
Material for Vacuum Chamber	Stainless steel
External Dimension (L×W×H)	1400x580x920mm
Net Weight	285kgs
Distance of Two Sealing Bars	420mm



Model	DZ-600/2SB
Voltage	AC 380V/50Hz 220V/50Hz
Motor Power	2000W
Sealing Power	1500W
Ultimate Vacuum Pressure	1KPa
No. of Sealing Bars for Each Chamber	2pcs
Chamber Dimension(L×W×H)	670X540X40mm
Sealing Length	600mm
Sealing Width	10mm
Vacuum Pump Rate	40m ³ /h
Material for Vacuum Chamber	Stainless steel
External Dimension (L×W×H)	1450x650x980mm
Net Weight	285kgs
Distance of Two Sealing Bars	440mm



Model	DZ-600/4SC
Voltage	AC 380V/50Hz220V/50Hz
Motor Power	3000W
Sealing Power	2300W
Ultimate Vacuum Pressure	1KPa
No. of Sealing Bars for Each Chamber	4pcs
Chamber Dimension(L×W×H)	1450X830X80mm
Sealing Length	600mm
Sealing Width	10mm
Vacuum Pump Rate	100m ³ /h
Material for Vacuum Chamber	Stainless steel
External Dimension (L×W×H)	1450x830x850mm
Net Weight	360kgs
Distance of Two Sealing Bars	280mm



Model	DZ-500/2E L:1040MM
Voltage	AC 220V/50Hz 110V/60Hz
Motor Power	2000W
Sealing Power	750W
Ultimate Vacuum Pressure	1KPa
No. of Sealing Bars for Each Chamber	2pcs
Chamber Dimension(L×W×H)	1000X520X170mm
Sealing Length	500mm
Sealing Width	10mm
Vacuum Pump Rate	40m ³ /h
Material for Vacuum Chamber	Stainless steel
External Dimension (L×W×H)	1040x575x980mm
Net Weight	230kgs
Distance of Two Sealing Bars	900mm

2.Safety

1). Ready to use:

This specification describes in detail the product handling, storage, installation, startup, operation conditions, maintenance, troubleshooting and maintenance and installation of the machine, it is recommended by a trained professional.

Make sure to follow the maintenance instructions

Before using the machine, make sure to read this manual and fully understand.

If you have any questions, please contact the manufacturer or supplier.

2). Safety precautions:

Make sure the machine using the power supply voltage, frequency, avoid errors. No matter three phase four-wire (AC380v/50Hz) or single-phase (AC220v/50Hz) power supply, yellow and green wire to ground protection, cannot be removed.

Avoid power cord compression, pull, roll power cord when it is not used.

Do not use in corrosive, big powder place.

Do not arbitrarily replace parts on the machine.

Please keep the machine clean inside and outside, as well as the removal of the vacuum chamber adhesive material.

When the machine is not in use should be cut off the power.

Please change the vacuum pump oil in time.

Save them for future reference.

The product according to the latest technical and safety standards for manufacturing, if used improperly, may be dangerous or damage, safety precautions Keywords "Danger", "Warning", "Caution" notes.

E.g:



Danger! Ignore the major issues of this security will lead to serious or even fatal injury.



Warning! Ignore the major issues of this security will lead to serious or even fatal injury.



Be careful! This security will ignore the major issues cause personal injury or property damage.

3). Use of the environment:

This product is designed to run at room temperature, the indoor environment. If the harsh environmental conditions (such as ambient atmosphere is corrosive, ambient temperature is above 33°C or below 5°C), please contact the manufacturer or supplier.

This product is in operation, the vacuum pump oil can be separated to the maximum extent, but not complete separation.



Be careful! Harmful to health!

Vacuum residual oil will be present in the air.

Long-term inhalation of gases harmful to health

Use of this product room must have good ventilation.

3. Handling equipment:

1). Equipped with carton packaging

If the machine with the included expansion pad cartons:

- Remove the expansion pad firstly

If the machine with a foam material carton packaging:

- Remove the foam material firstly from the carton.

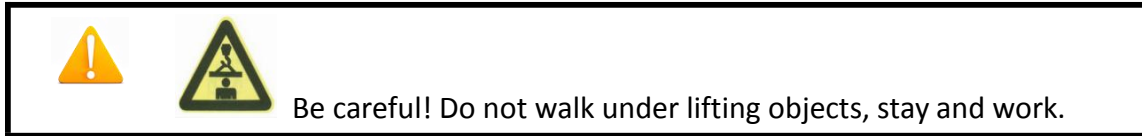
2). Equipped with wooden packaging

If the chassis is bolted to the wooden box:

- Unscrew the fastening bolts and wooden products chassis.

If the lock on a wooden box with fixed chassis:

- Remove the locking band



Note: Please use additional tape or sling system in place lifting machine, pay attention to the position of the center of gravity of the machine.

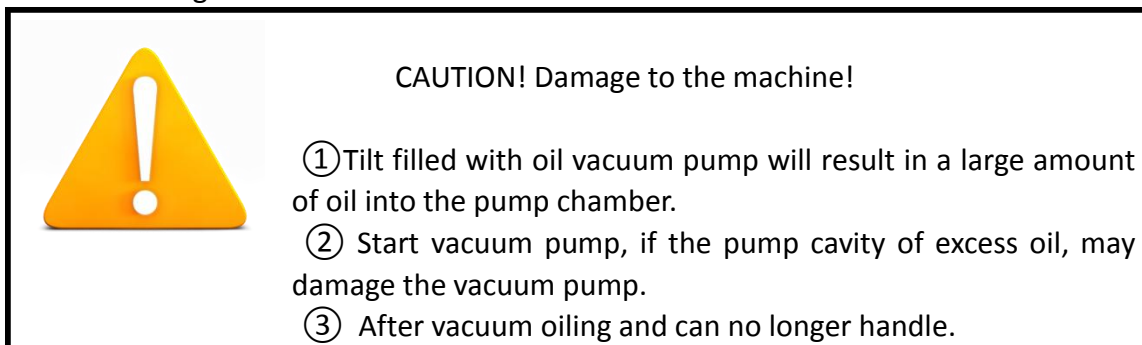
Make sure the sling safe and reliable system that is still in the machine.

It will be held on the hanger hook with safety locks.

Lifting crane.

Note: floor machines are fitted with casters, it can be driven on a flat ground.

Casters such as having a locking mechanism, loosen the caster before moving the machine locking mechanism.



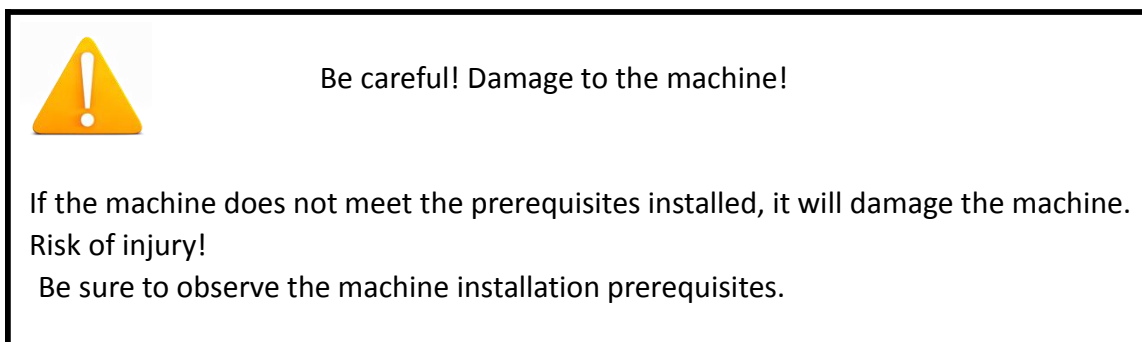
Note: Before transporting the machine, make sure that the vacuum pump oil drained.

4. Installation

Before operation, please read this manual carefully. With this manual book, learn how to install, startup, maintenance and use of the machine. Machine problem because without reference to the specification and cause, the manufacturer will not be liable.

Manufacturers hope customer can use this machine without trouble in a long-term. If you have any questions, please feel free to contact manufacturers and suppliers.

1). Installation condition



Make sure that the installation environment meets the basic regulations.

2). Installation environment

- Surroundings should not have flammable and explosive gas.
- Ambient temperature: 5-30 °C . If you need to operate the machine in any other environment, please contact the manufacturer or supplier.
- Environmental pressure: standard atmospheric pressure.
- Make sure the power environment meets the requirements (see the nameplate on the machine).
- Must keep machine upright when moving or transporting, tilt the machine may damage the vacuum pump.
- Make sure the machine in horizontal position. It is one element of insecurity machine running.
- To ensure cooling, must be sufficient space around the machine can be well ventilated, at least 10cm interval.
- Do not expose the machine to direct heat or steam device (such as a steamer or stove)
- Ensure there is enough space to change the vacuum pump oil replacement of wearing parts.

3). Filling Oil



Be careful! Damage to the machine!

New machine does not contain vacuum pump oil.
Running oil-free vacuum pump in a short time will damage the vacuum pump
Before starting the machine, ensure the pump has been filled with oil.

Note: To prevent vacuum pump oil overflowed into the oil mist filter, vacuum pump must be free of oil transportation.



Be careful! Damage to the machine!

Injection vacuum pump oil from other locations may damage the vacuum pump.
Vacuum pump oil should only filling hole injection.



Be careful! Scald!

When the pump working, the fuel tank filled with high temperature and pressure oil mist. If filling hole open, there is risk of injury from hot oil mist.

Only the vacuum pump stops running, the oil filler plug can be rotated.

The vacuum pump is running, you must tighten the oil filler plug.

Remove the rear cover.

- Use the correct size wrench to remove the oil filler plug.
- Inject the right amount of the right pump for oil, vacuum pump please refer to the "special vacuum pump oil" section.
- Ensure that the oil level between 1/2 to 3/4 of oil level mirror.
- Make sure the filler plug is installed in the ring and intact, be sure to replace if necessary.
- Spin filler plug
- Wait a few minutes
- Check the oil level in the oil level between 1/2 to 3/4 of the mirror, if the oil level is less than 1/2 of the oil level glass, please refueling.
- If the oil level in the oil level between 1/2 to 3/4 of the mirror, install the machine cover.

4). Electrical connection



Danger! Electric shock dangerous!

Make sure that your outlet has a protective ground wire.

Be careful! Power does not match the damage to the machine!

Please check the power parameters of the machine, refer to the machine nameplate.

Observe the accident prevention measures and safe handling guidelines promulgated by the State.

Power Ground

- Check whether the use of the power supply voltage and a predetermined voltage on the rating plate is consistent.
- When the electrical connections to the three-phase power supply, check the direction of rotation of the vacuum pump.
- Ensure that the machine is properly connected to a grounded outlet, in order to avoid fire or electric shock (ground wire is yellow-green wire)
- The cable must be able to move freely, to avoid the squeeze.
- Once the cable is damaged, replace it immediately.
- Machine fails or requires maintenance, please turn off the power.
- If the machine is idle for a period of time, please put away power.

If you are using a single-phase power connector machine

- Plug the power cord with an accurate terminals of the machine (if have)
- Connect the other end of the power socket.

If you are using three-phase power machines

- The power supply is connected to the power supply box accurate.
- Connecting the ground wire.



CAUTION! Damage to the machine!

Pump motor rotation wrong direction, it will damage the vacuum pump in a short time. Before starting machine, make sure that the pump rotation direction is correct.

For three-phase motor pump configuration

- According to the signage, determine the rotation direction of vacuum pump.
- Turn on the power switch, less press the vacuum lid, run the vacuum pump motor (Refer to "Start" section).
- If possible, check the vacuum fan motor and determine the direction of rotation when the fan is downwards.
- If you cannot check the direction of rotation of vacuum pump motor rotation, carefully listen to the operation sound of vacuum pump, vacuum operated in reverse will be issued a "buzzing" noise, and to check vacuum gauge, vacuum pump cannot be operated in reverse vacuum.

If you need to change the direction of rotation of the vacuum pump:

- Exchange three-phase power wire any two wire (three-phase motors)

5).Connection inflation system (for inflatable vacuum packaging machine)



Warning! Danger of explosion!

Do not use flammable or other oxygen-containing components of more than 20% of the gas mixture.

Otherwise there is a risk of explosion.



Be careful! Damage to the machine!

Origin shall not exceed one atmosphere pressure, otherwise it will damage the machine.

- Never use flammable or other mixed gas containing oxygen, otherwise there will be an explosion hazard. Missed this provision will lead to an accident or damage, the manufacturer will not bear any responsibility.
- Air tank must be properly closed. When not adopting inflated function or machine is not used, you must turn off the main switch of tank.
- Pressure valve on the gas cylinder must set the value of not more than atmospheric pressure (0.1Mpa), otherwise it will damage the machine.
- Inflatable tubular threaded joint diameter machine is 8mm. Connector is located on the side or back of the machine.

For cylinders used in case of doubt, please contact the manufacturer or supplier.

Note: If you make too many pneumatic vacuum of 0.06Mpa above, began sealing function, the sealing function may not be completed properly.

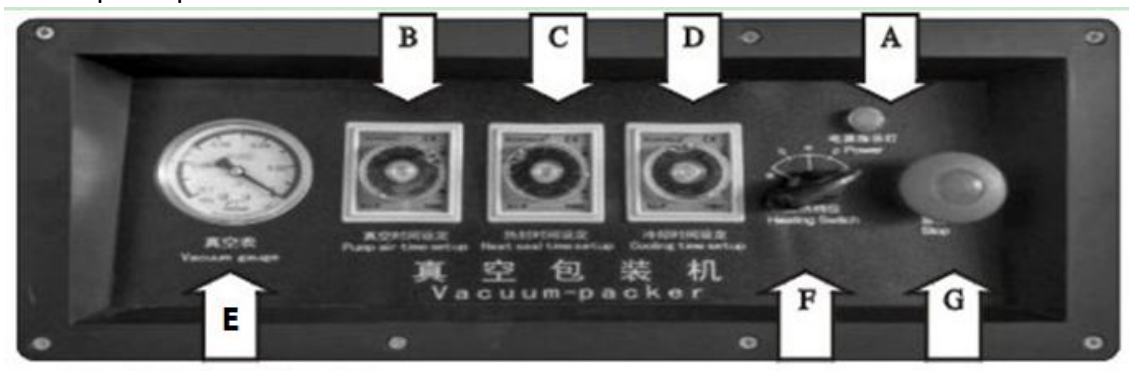
6).Connect the vacuum system (for external vacuum pump set)

- If you buy inside pump vacuum machine, you do not need to proceed with the operation.
- If you purchased an external vacuum pump type machine, connect proper pump before using.

5. Start-up & Debugger

1). Control panel

Button panel presentation



DZ series panel (without gas filled function)

No.	Name	Description
A	Power indicator	shows the power status of the machine, it will be light


		on when machine connect voltage
B	Vacuum time Relays	Used to set the time vacuum, range from 0-60 seconds.
C	Sealing time relays	Setting the sealing time, range of 0-6 seconds.
D	Cooling time relays	Setting the Cooling time, range of 0-6 seconds.
E	Vacuum meter	Show the vacuum chamber vacuum degree
F	Sealing temperature adjust	Adjust sealing temperature.
G	Emergency switch	Press it machine stop work immediately

Computer board panel presentation




No.	Name	Description
A	Display panel	Display program running function status, decreasing the digital display. Display the selected machine parameter settings, a digital display. Standby Display " _ " Deflated display state "□ □" Program run is completed the display "Ed".
B	Emergency Stop	Press it machine stop work immediately, and turn to loose air function, vacuum cover auto jump up
C	Temp. adjust	Press 1time-low temp. Press 2time-medium temp.press3 time-high temp. Press 4time- stop heat.
D	Up adjust	Press the button once to adjust the parameters of the selected function program increased by one unit. Press and hold the button, value will increase at a rate of about 5 values per second.
E	Down adjust	Press once, the parameters of the selected function program is reduced by one unit each. Press and hold the button, value will decrease at a rate of about 5 values per second.
F	Vacuum time adj.	Press enter into vacuum time adjust, up and down buttons

		to adjust the vacuum time in the range of (0-99) seconds.
G	Running indicator	Indicator lights (red) when machine during the operating
H	Sealing time adj.	Press enter into sealing time adjust, up and down buttons to adjust the sealing time in the range of (0-6) seconds.
I	Temperature light	When machine work, indicator light (red) when machine do sealing function. When using the temperature selector button to select a certain temperature, the corresponding temperature indicator light (red)
J	Temp. meter	shows the vacuum chamber pressure.



Be careful! scald!



Machine hot plate sealing surface temperature up to 200°C.
Even after cooling, the surface still has a high temperature.



Harmful to health!

Vacuum residue exhaust gas there.
Long-term inhalation of gases harmful to health.
Use of this product room must have good ventilation.

6. Standard operation & parameter setting

Be careful! Injured!

Please refer to this manual to operate the machine.
Shall not remove necessary protection covers or housing.

- Do not use this machine to pack goods which will be damaged during vacuum or after vacuum.
- If you operate the machine and function in doubt, when instructions not to provide relevant information, please contact the manufacturer or supplier.
- If the machine is not operating properly, or makes strange noises, immediately turn off the power, stop the machine and run it off.
- event of failure, please contact the manufacturer or supplier.

1). standard operating procedures

- Turn the power switch to turn on the machine, or machine power indicator light displays "-."
- it must be used in vacuum-packed bags, before use of packaging materials bags need to be sterilized.
- Put products into bag, select the appropriate product bag, do not choose too large relative to the product bag. Ensure hygienic conditions during operation. Packaging materials, products, and the hand is better in dry conditions.
- Place the bag into the vacuum chamber or plate on(if have) . The bag opening must be put on a hot plate or silicone. If the product is much lower than the heating plate or silicone, insert the pad provided by the machine(if have), so you can make the operation easier and reduces cycle time.
- For inflation system, put the bag opening in the gas fill nuzzle.
- Many bag can be placed on a hot plate or silicone at the same time, just make sure heating plate or silicone longer than the bag. Bags cannot be stacked with each other. If the machine has more heating plates or silicone, these heating plates or silicon strips can be used in same time.
- Set the correct machine parameters. Refer to "Control Panel" section.
- Pressure vacuum chamber lid, the machine will automatically complete all the set procedures, including vacuum, inflatable (if have), sealing and cooling. When gas is released, the vacuum chamber lid opens automatically.
- After the cycle, removing packaged product from the machine.
- You can press the emergency stop button to stop the machine when necessary. After pressing the emergency stop button, the machine will stop all work and gas will be released immediately, vacuum chamber lid opens automatically.
- Like This cycle.

Note: If the machine power outage or other unexpected events occur during operation, then the vacuum chamber lid cannot be automatically opened. The machine will perform gas discharge function immediately after re-energization, the vacuum chamber lid opens automatically.

Note: If the machine is located in high altitude, the atmospheric pressure will decrease, the vacuum gauge indicated value will be reduced accordingly.

2).Control program cycle description


- Mechanical version control panel procedure described
- computer board control panel procedure described

No.	Process	Description
1	Close vacuum chamber lid	<ul style="list-style-type: none"> ● Machine starts running
2	Vacuum process	<ul style="list-style-type: none"> ● Machine running, starting with vacuum function, the air out of the vacuum chamber. ● vacuum time relay "ON" indicator lights. ● vacuum meter pointer began to move slowly to the left. ● When the "UP" vacuum relay indicator lights, vacuum is

		complete.
3	Inflation process (if have)	<ul style="list-style-type: none"> ● Once the vacuum function is completed, the gas filled function starts, to inflate the bag ● inflation time relay "ON" indicator lights. ● vacuum table pointer slowly moves to the right. ● When inflating time relay "UP" indicator lights, inflatable complete
4	Sealing Process	<ul style="list-style-type: none"> ● Once the vacuum function and inflation functions (if have) are completed, the sealing function will start running. ● Sealing time relay "ON" indicator lights. ● vacuum meter pointer remain intact. ● When sealing time relay "UP" light, sealing is completed.
5	Cooling process	<ul style="list-style-type: none"> ● Sealing is finished, the cooling function will start running cooling time relay "ON" indicator lights. ● vacuum meter pointer remain intact. ● When the cooling time of the relay "UP" lights, complete cooling.
6	Deflation process	<ul style="list-style-type: none"> ● Once cooling completed, deflation function starts, the atmosphere into the vacuum chamber reaches atmospheric pressure in line with the outside world, then the vacuum chamber lid will open their own. ● vacuum meter pointer to move sharply to the right.
7	Complete	<ul style="list-style-type: none"> ● vacuum meter pointer back to the right to reach the 0, vacuum chamber lid open automatically. ● all the time relay indication light off. ● product has been packaged.
No.	Process	Description
1	Close vacuum chamber lid	<ul style="list-style-type: none"> ● Machine starts running ● Work indicator light on
2	Vacuum process	<ul style="list-style-type: none"> ● Machine running, starting with vacuum function, the air out of the vacuum chamber. ● (Vacuum function)front indicator lights. ● Display: time reduce from setting time one second by one ● Vacuum meter pointer move to left slowly
3	Inflation process (if have)	<ul style="list-style-type: none"> ● Once the vacuum function is completed, the gas filled function starts, to inflate the bag(if have) ● (Inflation function)front indicator lights. ● Display: the time reduce from setting time (max.9.9 second)by 0.1second ● Vacuum meter pointer start move to right slowly
4	Sealing Process	<ul style="list-style-type: none"> ● Both of vacuum and gas filled function (if have) are finished, the sealing function will start running. ● (Sealing)front indicator lights. ● Display: the time reduce from setting time (max.6

		second)by 0.1second ● Vacuum meter pointer keep stable
5	Cooling process	● Sealing is finished, the cooling function will start running cooling ● (Cooling) front indicator lights. ● Display: the time reduce from setting time (max.6 second)by 0.1second ● Vacuum meter pointer keep stable
6	Deflation process	● Once cooling completed, deflation function starts, the atmosphere into the vacuum chamber reaches atmospheric pressure in line with the outside world, then the vacuum chamber lid will open their own. ● Display: “□□” ● vacuum meter pointer quickly move to right
7	Complete	● vacuum meter pointer back to the right to reach the 0, vacuum chamber lid open automatically. ● Display show “Ed” work process finished ● product has been packaged.

Note: When the sealing process has just begun, vacuum gauge pointer may swing, this is not a malfunction.



Be careful! Damage to the machine!

Unreasonable parameter setting may cause damage or shorten the life of the machine.

3). parameter settings

- Unreasonable parameter setting may cause damage or shorten the life of the machine.
- Unreasonable parameter settings may not complete all the correct procedures or proper seal.
- If you have questions about the operations and functions of the machine have questions, please contact the manufacturer or supplier.

Note: only the machine stops running, can set the parameters.

For the use of computer board machine, if you did not complete the parameter settings but pressure vacuum chamber lid, the machine is not running.

- Relay panel parameter settings:

Time parameter settings:




DZ series (not available inflatable function) panel has three relay time can be adjusted: the vacuum time, sealing time and cooling time. Rotation time relay adjustment knob to the appropriate scale location.

Sealing voltage setting:

Machines have low, medium and high sealing voltage options, for thinner or thicker vacuum bags. When sealing voltage set to "0" position, the machine will not be heated

sealing.



- computer board panel program settings:

No.	Sample	Operate	Display
1	Power on	Show "-" or "Ed"	Show "-" or "Ed"
2		Function is selected, the corresponding function lights (red). It is vacuum time, inflation time (if have), sealing time, cooling time.	Display the selected parameter setting functions.
3		Press once, the parameters of the selected function program to increase per unit of time. Press and hold the button will increase value at a rate of about 5 values per second.	Display the selected parameter setting functions.
4		Press the function selection button one or more times, until all the function lights go out, the machine will save the parameters.	Display "-" or "Ed"

Each function parameter adjustment range:

Function name	Parameter range	Adjustment	Unit
Vacuum	0-99	1	Second
Inflatable	0-9.9	0.1	Second
Sealing	0-6	0.1	Second
Cooling	0-6	0.1	Second

Select temperature setting

No.	Sample	Operate	Display
1	Power on	Show "-" or "Ed"	Show "-" or "Ed"
2		Press one time the display right indicator show high-medium-low temperature	Show "-" or "Ed"
3		When using the temperature selector button to select a certain temperature, the corresponding temperature indicator light (red). If the high, medium and low three lights are off, it will not be sealed.	Show "-" or "Ed"

4).Optimal parameters

Vacuum time should be determined according to the number or size of the vacuum chamber and the volume of the material. usually, the vacuum function can be set at between 20 and 40 seconds. If the degree of vacuum is not lower than 0.06Mpa and then began sealing, the sealing function may not be completed properly.

- special packaging for the product may be appropriate to extend the vacuum time. For example, a relatively high moisture content of the packaging, and other liquids.

- inflatable function (if have) parameters to be set according to the actual situation.
- If the inflatable too much, vacuum lid opens automatically, the program will automatically terminate.
- If Inflatable excessive vacuum reaches higher than 0.06Mpa and begin to seal, the sealing function may not be completed properly.
- sealing function parameters can be set between 1-3 seconds.
- If the bags are exceptionally thick or very thin, the temperature can be adjusted to select high-grade or low-grade.
- Note: If the sealing time parameter is too long, the temperature of the heating plate will be a sharp rise, which will greatly shorten the heating plate and silicone life.
- sealing function parameters have a great impact on the sealing quality, need to slowly adjust from low to high.
- cooling function parameters according to the thickness of the case of the bag disposed between 1-3 seconds.



5). For packaging liquid products

- Machine can be used for packaging liquid products, such as soups, sauces, etc., when the packaging of such products, pay attention to spillage.
- Liquid will arrive boiling point when the temperature is higher or it reaches a low pressure, the high temperature of the liquid product will soon reach boiling point when packed and thus the degree of vacuum may be lower.
- We recommend to cool the liquid products before packing to ensure the best vacuum effect of the product.

6.the best packaging

- use the correct style and good quality vacuum bag.
- pocket to leave enough space at least 30mm.
- flat vacuum bag placed on a hot plate or silicone.
- If the product is lower than the heating plate or silicone lot, put correct number of pads (if have)to the vacuum chamber.

7.Machine maintenance

Warning! Risk of electric shock!

You must be completely disconnected from the mains before machine maintenance.

To prolong the life of the machine, prevent failure and achieve the best packaging effect, the machine's daily maintenance is necessary. If the machine is frequently used (more than 4 hours per day), it is recommended every six months to give a professional maintenance. If not, once a year full maintenance (depending on the location, the environment and on the product).

- Machine must be completely disconnected power before Maintenance, the power plug is removed from the wall-mounted socket.

- If the machine is not operated properly or emit a lot of strange noises, turn off the power immediately and contact the manufacturer or supplier.
- Do not carry out a high-pressure cleaning. High pressure cleaning will severely damage electronic devices and other parts.
- Do not allow water to enter the vacuum pump exhaust nozzle or vent, otherwise would cause irreparable damage to the vacuum pump.
- Non-professionals cannot carry out a large-scale maintenance.
- When moving or transporting, the machine must be in an upright state level. Tilting machine may damage the vacuum pump.
- Summer or daily work continuously for more than 10 hours, a vacuum pump should be taken measures such as air-cooled or water-cooled.
- If you do not follow the instruction manual to maintain machine, the manufacturer assumes no responsibility once machine results in malfunction or damage.

1).standard maintenance of the Periodic Table


Cycle time	Maintain the content
Day	<ul style="list-style-type: none"> ● With a damp cloth to clean the vacuum chamber, vacuum chamber lid and chassis per day, it is possible to remove the foreign matter adhered to the heating plate. The cut material using a high pressure cleaner.
Week	<ul style="list-style-type: none"> ● Check the vacuum pump oil level and oil, such as oil is low or bad, the oil should be refueled or changed. ● Check the heating plate is damaged, once the sealing quality deterioration or linoleum / electric flat yarn no longer stick to the hot plate, please replace the high temp. tape / electric heating wire ● Check the pump cover ring, ring once damaged or stretched, please change.
6 month	<ul style="list-style-type: none"> ● Check the pump filter is saturated, if saturated, replace the filter. ● At least once every six months to change the vacuum pump oil.
Year	<ul style="list-style-type: none"> ● Replace every sealing balloons or cylinders.

2). vacuum pump maintenance (hereinafter are XDZ-020 rotary vane vacuum pump, for example)

- pump routine maintenance to ensure proper operation and extend the service life is very important.
- If the machine is frequently used, it is recommended at least once a year to pump


comprehensive inspection. If you have questions or suggestions, please contact the manufacturer or supplier.

Fuel / oil change



Be careful! polluted environment!

Used oil should be handled in accordance with environmental regulations.

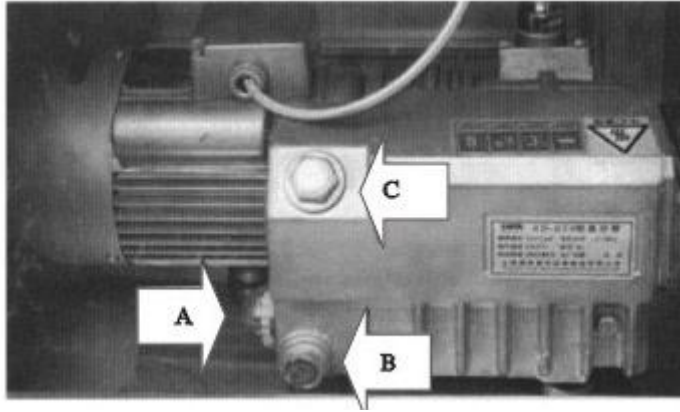


Be careful! scald!

Pump run time, the surface temperature up to 70°C.
Do not touch the operated vacuum pump, if necessary, stop the machine running, allowed to cool and wear heat-protective gloves.

- New machine does not contain vacuum pump oil, if the machine is first used, must refuel.
- Check the vacuum pump oil Color
Vacuum pump oil should be bright, clear, turbid or without bubble. If the oil has not disappeared white substance after precipitation, it shows that oils contain foreign material and it must be replaced.
- Life of vacuum pump oil
Vacuum pump oil service life depends on the work environment, extracting clean, dry gas, generally every 500 operating hours or every six months, the vacuum pump oil should be replaced.
- Check at least once a week the oil level and oil volume. Can be viewed via the oil level glass, the oil level is too low need to refuel.
- replacing vacuum pump oil at the same time, we recommend also to replace the vacuum pump oil mist filter.

Before oil change, please let the pump run a few minutes, the pump and the oil will reach the right temperature, so that the oil can better absorb moisture and impurities and filtered. High temperature allows the pump's moisture to be evaporated and reduce the chances of rust arise.



A: Oil mirror place

B: put oil place

C: filling hole

Take out Oil:

- Open the chassis cover.
- Put the tank or tray in bottom of "B"
- Take the oil drain plug with the proper size wrench.
- Put out oil
- After take out oil, put the drain plug back.
- Used oil should be handled in accordance with environmental regulations.

Note: When you unscrew the oil drain plug, the oil flows out through the drain hole (below must put a oil pan).

After the oil is done and, if possible, the vacuum pump is inclined slightly exhausted all residual oil.

Fill oil:



Be careful! Damage to the machine!


The correct type of oil and oil volume is very important for the vacuum pump. Using the wrong vacuum pump oil or adding too much oil will damage the pump.

- New machine must fill oil.
- when the oil level low or take out old oil need to fill the oil
- Must use the correct size wrench to remove the filler plug.
- Injected about the right amount of the right pump for oil, vacuum pump oil, refer to specific "dedicated vacuum pump oil" section.
- Ensure that the oil level in the oil level between 1/2 to 3/4 of the mirror.
- Make sure the filler plug is installed in the ring and in good condition, be sure to replace if necessary.
- spin good filler plug.
- Wait a few minutes.
- Check the oil level in the oil level between 1/2 to 3/4 of the mirror, if the oil level is

less than 1/2 of the oil level glass, please refueling.

- If the oil level in the oil level between 1/2 to 3/4 of the mirror, install the machine cover.
- Check the oil level every week, if the oil level is less than 1/2 of the oil level glass, please right amount of fuel.

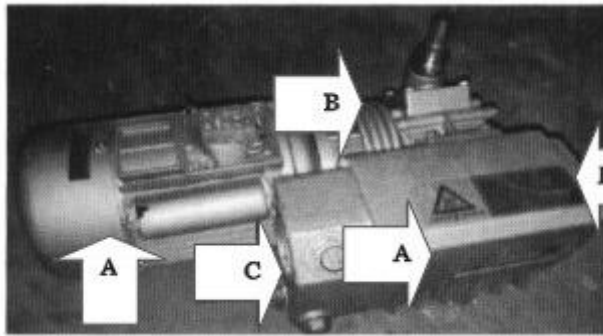
Replace the filter



Be careful! polluted environment

Contaminated filters must be handled separately from other waste in accordance with applicable regulations.

There is one or more filters of vacuum pump for absorbing and filtering oil mist, after a period of time, the filter becomes wet (saturated), need to be replaced. Once the filter is saturated, the machine will not reach maximum vacuum degree.



A: Three-phase motor

B: Pump

C: Oil tank

D: Oil Mist filter

When changing vacuum pump oil suggest to replacement mist filter too

- Oil mist filter normal maintenance cycle is 6-12 months.

Replacing the oil mist filter:

- Open the casing back cover, find a vacuum pump.
- Unscrew the four screws on the filter cover, remove the filter cover and the spring.
- removed the old oil mist filter, replaced with a new oil mist filter.
- Replace the spring and the filter cover.
- The cover back onto the chassis.
- Oil mist filter should be discarded in accordance with environmental regulations.

3). Vacuum pump oil

Operating temperature of the machine for the selection of the type of oil is very important. The following table shows the relationship between temperature, oil volume and oil types.

Here you can select several standard types of oil brands: Shell ICP (Vitrea), Great Wall special vacuum pump oil.


Vacuum pump oil	VM32	VM68	VM100
Viscosity grade ISO-VG	32	68	100
Temperature (°C)	<5	5-20	12-30
The amount of (L)	▪Refer to pumps Instructions		

Note: Using low temperatures vacuum pump oil at a high temperature, will increase

the wear of pump vanes and pump itself, and then affect pump life.

Note: If the machine is not used under normal ambient temperatures, please contact the manufacturer or supplier.

4). Replace the high temp. tape, electric heating wire



Be careful! scald!

Machine heating plate at a surface temperature of heating up to 200 °C.
Even after cooling, the surface may still have a high temperature.

Sealing quality is good or bad to some extent depends on the heating plate and silicone maintenance situation.

The main routine maintenance work: Use a damp cloth on a hot plate and silicone daily cleaning every week and check the heating plate silicone, if the heating plate side is uneven or poor sealing quality, please change the electric flat, cloth or silicone.

Heating plate structure

- heating plate linoleum, electric heating wire average maintenance cycle is at least once every 3 months. (Premise: the machine is routine use of a standard vacuum packaging materials, packaging and standard products.)

Replace cloth or electric heating wire:

- Pull heating plate fixing pins, remove the heating plate assembly.
- folded down linoleum plate.
- Remove the cloth of heating panel.
- If you only need to replace the cloth, wipe the oil on the heating plate, then glue the new linoleum to the heating plate.
- Loosen the locking screw on the block of heating plate.
- Pull out of the heated strip gasket.
- Extraction electric heating wire.
- Epoxy ring ends the same way removed.
- Remove the old electric heating wire following PTFE strips.
- Wipe grease on a hot plate with a clean cloth.
- The new PTFE strips glued on a hot plate.
- Cut a new piece of electric flat, longer than the length of the heating plate plus length of about 15cm.
- The flat wire end through electric heating plate fixed block slot, plug back on the heating strip gasket, and then tighten the locking screw.
- Connect the other end of the flat wire from the electric heating plate fixed block is located on the other side of the groove lira.
- Using forceps tension electric flat, while the plug back on the heating strip gasket and tighten the screws, tighten the screws to ensure that the former electric heating wire
- Tensioning and straightening
- The excess copper flat wire electric block removed.
- Cut a new piece of cloth, flat stick on a new electric heating wire. Ensure cloth

attached to a flat heating plate without wrinkles.

- Replacing the cloth plate,
- The heating plate back into the machine.

5).the replacement of silicone

Must be checked once every week for wear or damage silicone, silicone once becomes uneven, to be replaced immediately silicone.

- Average maintenance cycle for silicone at least once every six months.
- Silicone is stuck in the seat, you can unscrew the four screws directly withdrawn after the pressure of the support plate.
- Release the pressure of the support plate screws and remove the pressure of the support plate.
- The old silicone withdrawn from the silicone base.
- Cut a new silicone, the same length as the old one, and ensure the consistent size of the old silicone.
- The new silicone loaded silicone base, and attach the batten support plate.
- Silicone must be completely flat on the silicone seat. It is very important that the silicone is smooth in place and there is not tension phenomenon.

Description: one side of silicone rubber is textured, but the other side is textured with a fixed hole. Printing particles can be installed for printing labels. Select the desired side of silicone to use.

6), Replace the seals

Seal ring is to seal the vacuum chamber during operation, this is very important for vacuum degree. Due to different pressures, seals wear out and must be replaced regularly.

Check the seals at least once a week to see if there is wear or damage.

- The average maintenance cycle of the sealing ring at least once every six months.
- Seal is stuck in the vacuum chamber lid tank and it can be put out directly. The new seal length can be according to the old seal strip, too long or too short can cause the lid cannot be closed or leak.
- Put the new seal ring into the vacuum chamber lid groove.
- Ring should be placed flat, no tension phenomenon, the end must be cut straight, and compact to prevent leakage.

8.Failure Analysis and solutions

1).Machine failure and solutions

Problem status	Caused by reason	Solutions
Machine not work, control panel not show information	No connect voltage	Power on
	Mainly circuit fuse broken	Replacement right size fuse
	Power switch touch point loose	Check-fixed-repair-or replacement
Control panel start, machine not work	Vacuum chamber inside sensitive switch position not right or broken	Adjust or replace new sensitive switch
	Setting parameter	Finished parameter setting
	Machine inside problem	Contact manufacture or

		supplier
Vacuum cover can't open automatically	Pneumatic spring or pull spring problem	Check-fixed-or replacement
Can't reach limited vacuum degree, machine vacuum speed slow	Pump running wrong direction	Correct the direction(3 phase voltage)
	Vacuum time setting short	Extend vacuum time
	Vacuum pump oil not enough or oil not clean	Check oil level, fill oil or replace oil(notice oil type and oil volume)
	Tube leak	Replacement
	Tube connected place loose	Checking and tighten
	Gas bag or cylinder leak	Checking and tighten
	Leak air or seal wearing	Replace seal
	Oil mist filter saturation	Replace mist filter
Can't sealing or sealing not good	Bag not put in the heating plate well	Put the bag in right place
	Sealing time too long or too short	Reduce or extend sealing time
	Heating time choose not right	Choose suitable heating time
	Silicon strip broken or dirty	Cleaning or replacement
	Tape broken or dirty	Cleaning or replacement
	Bag inside not clean	Cleaning bag
Can't fill air or fill air not good (if have)	Filling air time too short or too long	Reduce or extend filling air time
	Air tank empty or limited to empty	Replacement air tank
	Air tank not open	Open air tank
	Filling air parameter setting wrong	Check pressure meter if in 1MPa(1-ATO) Warning! Mixed air any time can't more than 1MPa
Vacuum chamber vacuum degree is normal, but still have air in bag	Heating plate reset position not good. Heating plate and silicone strip distance too big or too small	Adjust reset, flexible Adjust distance.

2.) Vacuum pump problem and solutions

Problem status	Caused by reason	Solutions
Pump start electric current or work electric current overloading	Pump oil too full or oil type not right	Checking oil type and oil level
	At low temperatures, the viscosity of oil is too high	Replacement suitable vacuum pump oil

	Exhaust filter stuck	Clean or replace the filter
Pump temperature high when running	Pump oil full or less	check and adjust the oil level
	Radiating not good	clean bad fins, improved ventilation environment
Abnormal noise pump operation	Transmission parts badly worn or loose	identify defective parts repaired in time
	running in the wrong direction	Correct direction (three-phase power)
Smoke or exhaust vents droplets	Pump too much oil	Take out more oil
	Exhaust filter install not in position or broken	Install again or replacement
	Exhaust filter stuck	Cleaning or replacement

3).the solenoid valve Troubles

Problem status	Caused by reason	Solutions
Seal defective	sealing area is soiled	Clear
	Sealing surface damage	repair or replacement
	Sealing rubber damaged	Replacement
Solenoid valve cannot open and close or open and close inflexibly	Control fuse burn broken	Replacement
	Connect wire not well	Repair
	Rectifier diode breakdown	Replacement
	coil burned	Replacement
	Armature lift dirt	Replacement
	Spring Rusty stuck or broken	Replacement
	low voltage	Check the power supply

4).Sealing problem and solutions

Problem status	Caused by reason	Solutions
Can't sealing	Sealing time not choose	Choose suitable sealing temp.
	Sealing time too long or too short	Short or extend sealing time
	Vacuum degree not reach and start sealing	Checking vacuum degree can't more than 0.06Mpa
	Heating wire damaged	Replacement
	Heating transformer damaged	Replacement
	Sealing contactor fault	Repair or replacement
	Sealing solenoid valve failure	Repair or replacement
Sealing not well	Heat seal stuck	Repair
	Silicone strip broken or dirty	Clean or replacement
	High temp. Tape broken or dirty	Clean or replacement
	Bag inside not clean	Clean bag inside
	Heating wire loose	Tighten it
	Cooling time too short	Extend it
Temperature choose not right	Setting suitable temp.	

9. Equipment storage

1, short time storage

- ✧ Turn off the power switch, unplug the power, and put power line away.
- ✧ Pressure vacuum cover.
- ✧ If possible, put a plastic bag to prevent dust.
- ✧ Store in a dry, dust-free, and shock-proof room.

2. Long time storage

When machine is out of the factory, the interior has been done anti-corrosion treatment, so no necessary to use protective oil. If bad storage conditions (such as corrosive environments, high temperature or frequent temperature changes), protective oil can be used. If you have any questions, please contact the manufacturer or supplier.

- ✧ Turn off the power switch, unplug the power and put power line away.
- ✧ Close the lid of the vacuum chamber.
- ✧ Put a plastic bag to prevent dust.
- ✧ If possible, keep the original packaging.
- ✧ If you need transportation, vacuum pump oil must be drained.
- ✧ Store in a dry, dust-free and shock-proof room.

3. Start machine after storage

According to "Installation" and "start" section operate.