

JET

Stainless Steel Self-priming Centrifugal Pump

Operation Manual



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Read this manual carefully before install, start the pump.

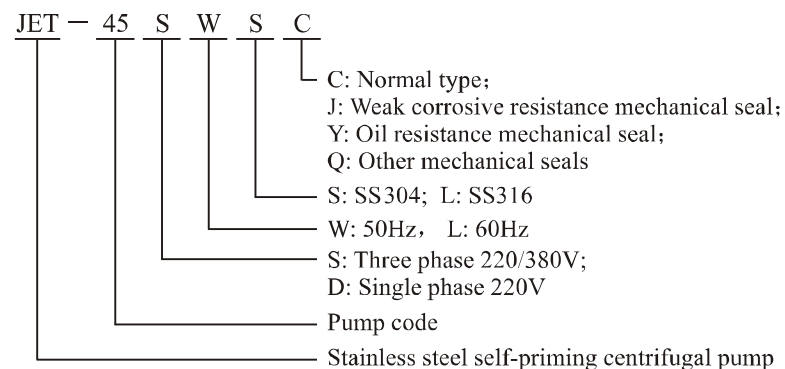
I. General

JET stainless steel self-priming centrifugal pump is plain light jet pump. Its flow components are made of stainless steel plate and high-intensity plastic. Its flow passage is smooth with efficient hydraulic. Motor shell is made of cast aluminum alloy material. The advantage of the pump is small volume, light weight and smooth operation, and it owns the merit of easy and reliable installation. The pump is widely used in household water supply, water storage reservoir and the systems of water and pressurized.

1、Features

- Self-priming jet centrifugal pump provides higher pressure and good suction ability.
- Casing and impeller, etc are made of stainless steel. Venturi is made of plastics with high intensity and abrasion proof.
- Fan cooling and dust proof motor. There is a built-in protector for one phase motor, prevent from overheat, overload. It is safe and reliable when operating.
- Used screwed suction and discharge, quick and easy installation.
- Compact structure, less movable parts, strong and durable, easy to service if required.

2、Definition of model



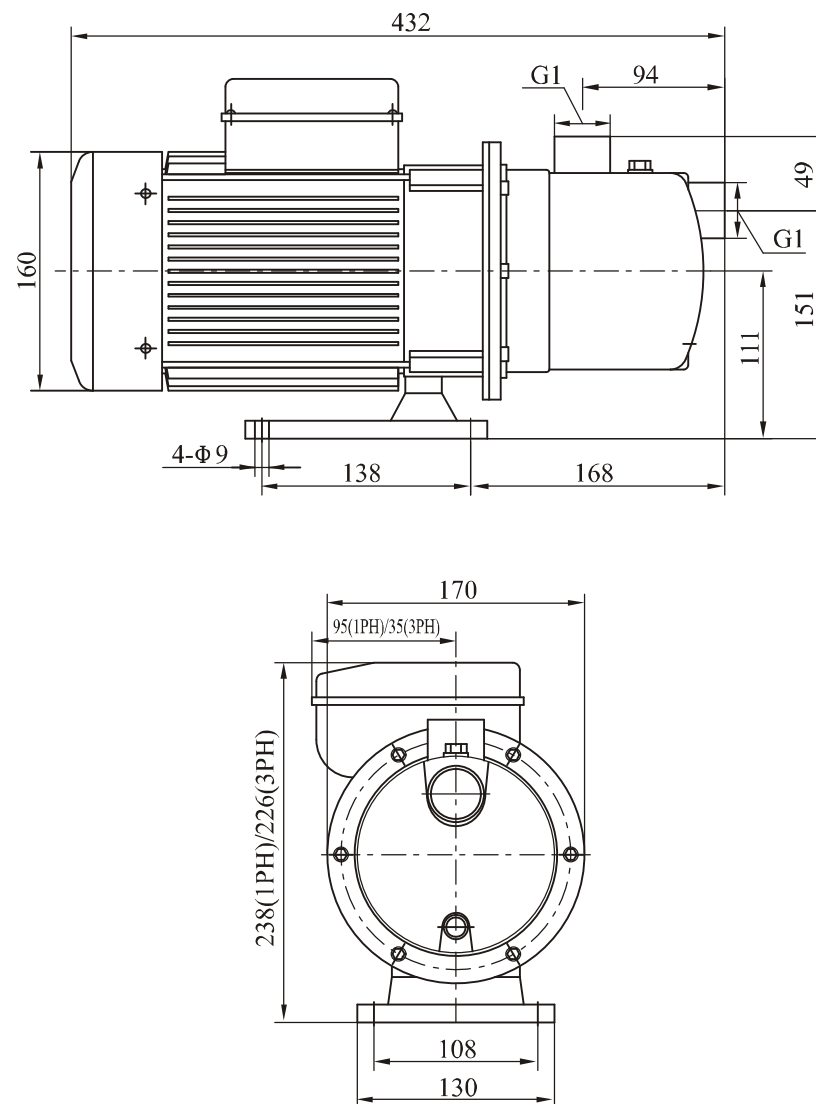
II. Installation type and operation conditions

JET-stainless steel self-priming centrifugal pump has its own screw thread joints for the inlet and outlet parts. The pump can be jointed by either screw thread pipeline or screw thread flange pipeline. The pump base is fixed by bolts.

1. The pumped liquid should has the characters of thin, clean, non-solid particles and fibers, non-corrosive, non-crystallizable and chemical neutral. And its performance should be close to water.

2. Maximum liquid temperature: $+45^{\circ}\text{C}$
3. Maximum ambient temperature: $+40^{\circ}\text{C}$
4. Maximum working pressure: 0.6MPa
5. Maximum suction head: 7m

III. Outline and dimensions



IV. Installation

1、Inspect products data

You can first check the data such as installation dimension in the manual, then determine the installation wiring, location and connection.

2、Connect the inlet and outlet pipeline

Use the appropriate pipe joint and pipeline according to the screw thread models of inlet and outlet joint. Cut the tube in appropriate length according to the installation location. When connect screw thread joint, please seal it with Teflon tape or similar hermetical material. When install the inlet and outlet pipe, please make sure that the casing will not receive large hard tube torque and inner stress. Please be sure that the base is smoothly installed and the pump should be avoided hanging in the air.

The diameter and length of the inlet and out let pipe should be calculated to guarantee the pump operates in high efficiency.



Warning: There must be install a non-return valve in the pump inlet, to ensure self-priming.

3、Fix pump base. Bolts which match with holes in the pump base should be chosen to fix the pump base in order to reduce the vibration caused by the pump starting.

4、External cables

To figure out the right diameter and length of cable according to the electrical data such as phase of the electrical, current and voltage and also start-up modes.

Connect cables according to the wiring diagram instructed in the connection box. Elicit the outlet end of the cable from the screw thread hole which is in the side of terminal box.

In addition, the connector of motor external electrical cable should be fully sealed and insulated and should have a certain intensity.

5、Check the connection of the power supply and electric controller.

The power cable and electronic control instrumentation wiring should be connected before the operation of pump. Please also check voltage, frequency, etc. Pump unit should be grounded, leakproof. Electronic devices should ensure that the whole pump not be lack of phase, voltage instability and damaged, such as overload.

V. Start-up

1、Please fill water to the pump before first operation. When filling water, you are allowed to unscrew the vent nut of the casing and then filling liquid to the casing with funneled vessel. And you are also allowed to fill water through higher place of the outlet pipe. Pump can be started when casing is mostly full.

2、Switch on the power supply and view the rotary direction by viewing the motor fan. Arrow on the pump head indicates the correct direction of rotation. That is, from the motor end, pump shall run counter-clockwise. If the arrow and fan run in the reversed direction, please cut off electricity, then change the two-phase wiring of the power supply.

3、Please keep the valve of the inlet pipe completely open and adjust the valve of the outlet pipe. Observe the performance data from flowmeter or pressure instrument when pump is operating. When the value is arrived to the expected value and it is stable, then pump can operate normally.

It is advised to close the relative electricity control instrument and protector before stopping operation.

VI. Trouble shooting guide

Phenomena	Cause	Solution
Pump runs but gives no water	(1) Inlet and outlet valve is not open; inlet and outlet tubes are blocked; impeller or venturi flow passage is blocked.	(1) Check and remove the obstruction.
	(2) The rotary direction of motor is wrong or rotary speed is slow when motor is lack of phase.	(2) Adjust motor rotary direction and fasten motor wire.
	(3) Leakage in inlet pipe.	(3) Tighten every surface of seals, vent the air.
	(4) Deficiency of water supply in the inlet tube, and pressure is too low.	(4) Reduce the water loss of inlet tube or heighten the liquid level of inlet.
Pump with inadequate flow	(1) First check pump according to cause 1.	(1) First, try to solve according to cause 1.
	(2) Tube and flow passage are partly blocked; valve is not completely open.	(2) Remove impurities blocked; Adjust valve.
	(3) Voltage is too low.	(3) Stabilize voltage.
	(4) There's air in casing.	(4) Discharge the air completely in the casing.
Abnormal vibration or noise from pump	(1) Tube is not stably supported.	(1) Stabilize tube.
	(2) Cavitation comes out.	(2) Decrease the height of suction.
water leakage	(1) Mechanical seal is not installed well.	(1) Re-install mechanical seal correctly.
	(2) Mechanical seal is frayed or damaged.	(2) Change mechanical seal.

VII. Maintenance

When pumps need to be repaired because of disorder or some other kinds of fault. Please do as following:

1、General inspection

A. Please check if the surface of pump is mechanically damaged; if the shell of the motor and pump is seriously corrosive and damaged: if the joint of the cable is short circuit or connector is loose.

B. Please check if the joint pipe connected with pump is leak or inspiration.

2、Motor inspection and pump disassembly

Follow the below steps for pump assembly, disassembly and maintenance.

A. Close inlet and outlet valve and discharge all the liquid in the casing. Loosen the screw thread joint, pipe which is connected with pump and also loosen the bolt for base fixup. Then you can move out pump.

B. Unscrew the hexagonal screws which connect casing and motor cover, then take out the casing assembly. Fetch out diffuser and venturi from casing assembly by turns. Check pump flow passage and casing to see if there are fibre and mud blocked. Check impeller nut to see if it's loose and also check O-ring to see if it's loose or dropped.

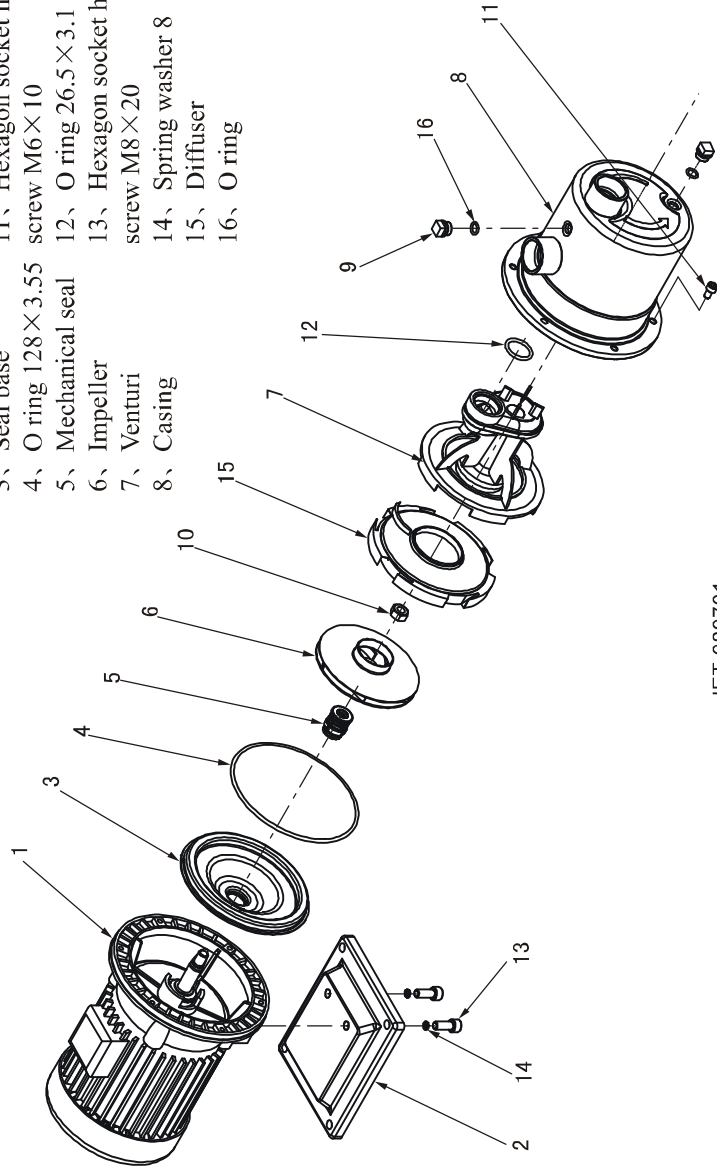
C. Turn impeller manually. Check the outer edge of the impeller and radial-beating jump. If jump is obvious, impeller or motor shaft extension requires straightening treatment.

D. Loosen and take out impeller nut. Use flat head screwdriver or catch plate to fixup axis body. Loosen and demount impeller, take out the rotary ring of the mechanical seal. The stationary ring of mechanical seal can be taken together with lining of pump head. Please check the surface of the stationary ring to see if it's attrite, scratched, and elastomer is elastic deformation or worn.

When assemble pump, please wipe all parts and components clean, and clean the two parts of mechanical seals with soft clean cloth. Reverse the process above can assemble a pump.

VIII. Construction sketch

- | | |
|--------------------|-------------------------|
| 1、 Motor | 9、 Gag |
| 2、 Base | 10、 Nut M10×1 |
| 3、 Seal base | 11、 Hexagon socket head |
| 4、 O ring 128×3.55 | screw M6×10 |
| 5、 Mechanical seal | 12、 O ring 26.5×3.1 |
| 6、 Impeller | 13、 Hexagon socket head |
| 7、 Venturi | screw M8×20 |
| 8、 Casing | 14、 Spring washer 8 |
| | 15、 Diffuser |
| | 16、 O ring |



JET-080701

X. Important Notice

1. Customers will not be advised if this manual is updated.
2. Pump will be guaranteed for one year under normal operation with the correct model. Wearing part is not included.
3. Users shall be responsible for the damage if they disassemble the pumps by themselves in guaranteed period.