

Multistage centrifugal frequency pressure maintain pump

Installation and operating instructions



Product Type: PFM 03-30 EC

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Company Statements :

- ◆ Please read the instructions carefully before use. Installation and use of equipment must comply with local regulations and applicable operating standards for proper use of water pumps.
- ◆ Please observe the instructions with various signs such as warnings and cautions for the purpose of using the product correctly and preventing damage.
- ◆ If there is obvious vibration and abnormal noise or smell after the pump running a few minutes, immediately shut off the power. Then ask the dealer or the company's service centers.
- ◆ Disasters or losses that occurred due to the following non-compliance with the contents of this manual are not covered by the company's warranty:
 - 1) The pump cannot be used normally due to the disassembly, maintenance or use of the pump out of the operating conditions of the pump by unqualified personnel.
 - 2) Losses due to electrical, mechanical, or chemical causes.
 - 3) Environmental pollution from the use of dangerous liquids.
- ◆ If you have any questions or find errors or omissions in the contents of this manual, please contact the dealer or the company.



Warning

Before starting the installation, it is necessary to carefully read the installation and operating instructions of the equipment. Equipment must be installed and used in accordance with local regulations and good operating practices.



Warning

People (including children) who have reduced physical strength, are dull or unconscious, lack experience and relevant knowledge, must be supervised and supervised by the person responsible for their safety before using the pump.

Symbol description



Warning

If these instructions are not observed, it may result in death or serious personal injury.

Caution

If these instructions are not observed, it may result in malfunction or damage to the equipment.

Note

Tips and advice that make work easier.

Notes:

Before installation and use, please read the installation manual carefully.

- (1) Any failure to comply with the contents marked in the safety warning mark may cause personal injury, pump damage and other property damage, for which the factory does not assume any responsibility and compensation.
- (2) Installers and operators must comply with local safety regulations.
- (3) The user must confirm that this product is installed and maintained by a person who is proficient in this manual and has a professional qualification certificate.
- (4) Do not install the pump in wet areas or where water may be splashed.
- (5) For ease of maintenance, a globe valve should be installed on both sides of the inlet and outlet of the pump.
- (6) During installation and maintenance, the power supply of the pump should be cut off.
- (7) If there is obvious vibration and abnormal noise or smell after the pump running a few minutes, immediately shut off the power. Then ask the dealer or the company's service centers.
- (8) Do not start the pump without pumping liquid.
- (9) The pumped liquid may be high temperature and high pressure, and the liquid in the system must be drained or the shut-off valves on both sides of the pump must be closed before moving and disassembling the pump to avoid burns.
- (10) In summer or when the ambient temperature is high, please pay attention to ventilation to prevent condensation and electrical failure.
- (11) In winter, if the pump system is not running or the ambient temperature is lower than 0 °C, the liquid in the pipeline system should be drained to avoid freezing cracking of the pump body.
- (12) If the pump is not used for a long time, please close the water pipe valve at the inlet and outlet end of the pump and cut off the power supply of the pump.
- (13) If the cable cord is damaged, it must be replaced by a professional.
- (14) If you find that the motor is hot or abnormal, please immediately close the valve at the inlet end of the pump, cut off the power supply of the pump, and immediately contact the local dealer or service center.
- (15) If the pump cannot be eliminated according to the introduction in this manual, please immediately close the water pipe valve at the inlet end of the pump, cut off the power supply of the pump, and immediately contact the local dealer or service center.
- (16) This product should be kept out of the reach of children, and after installation, isolation

measures should be taken to keep children out of reach.

(17) This product should be placed in a dry, ventilated, cool place, and stored at room temperature.

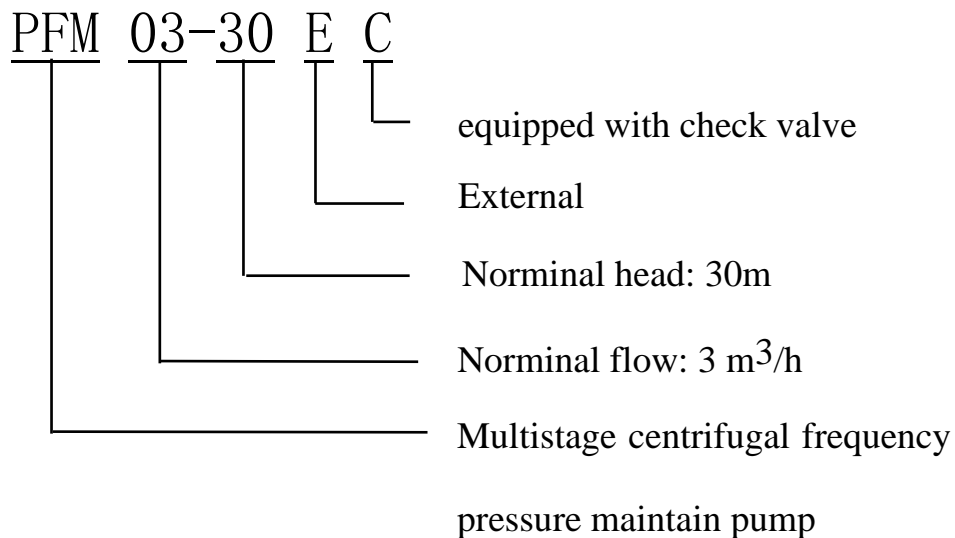
(18) Disasters or losses that occurred due to the following non-compliance with the contents of this manual are not covered by the company's warranty:

- 1) The pump cannot be used normally due to the disassembly, maintenance or use of the pump out of the operating conditions of the pump by unqualified personnel.
- 2) Losses due to electrical, mechanical, or chemical causes.
- 3) Environmental pollution from the use of dangerous liquids.

(19) If you have any questions or find errors or omissions in the contents of this manual, please contact the dealer or the company.

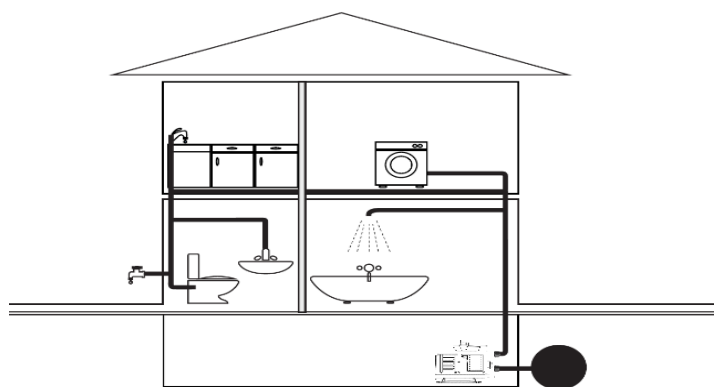
1. Product Introduction

1.1 Type Key



1.2 Applications

- Pressure boosting of city mains water
- Water supply from shallow wells
- Domestic and light commercial water supply



Pressurization of urban tap water

1.3 Technical Data

Rated voltage: 220V	Rated current:2.9A	Frequency: 50Hz
Max. flow: 5.5m ³ /h	Max. head: 45m	Max.input power: 600W
Norminal flow : 3m ³ /h	Norminal head: 30m	IP rating: IP44
System pressure: ≤10bar (inlet pressure≤0.6bar)	Insulation class: F	Max.Suction head: 8m
Direction: Counterclockwise when viewed from pump inlet	Inlet and outlet interface: G1 internal thread	

1.4 Pumped liquids

Pumped liquids: fresh water	Temperature range: 0 to +50 °C
PH: 6.5-8.5	Hardness: 25° dH
Solid impurity content in the medium: the diameter and length of solid impurities ≤ 0.1mm, and the volume ratio is ≤0.1%.	

1.5 Environment requirements

How to use: Keep the shaft Horizontal	Altitude: <1000m
Environment temperature range: 0 to +55°C(There is no freezing phenomenon in the pipeline and water pump)	Use environment humidity: ≤95%

1.6 Storing requirements

Temperature range during storing: -20 to +60 °C(There is no freezing phenomenon in the pipeline and water pump)	Maximum relative humidity during storing:95%RH
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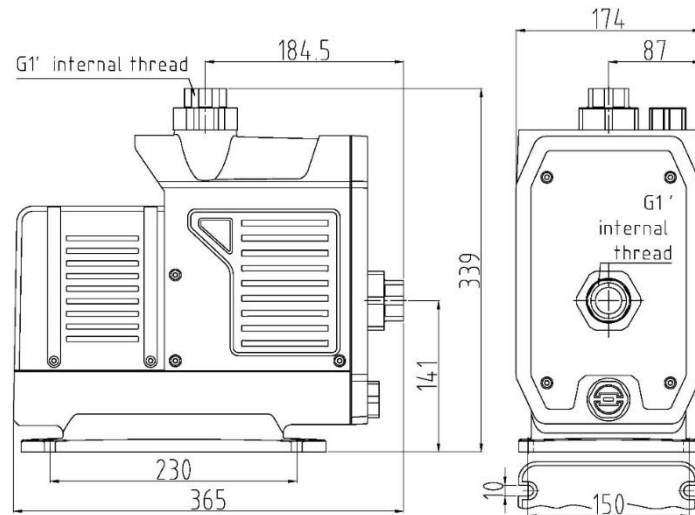
2. Product list、dimensions &construction

2.1 Product list

Pump	1	I&O instructions	1
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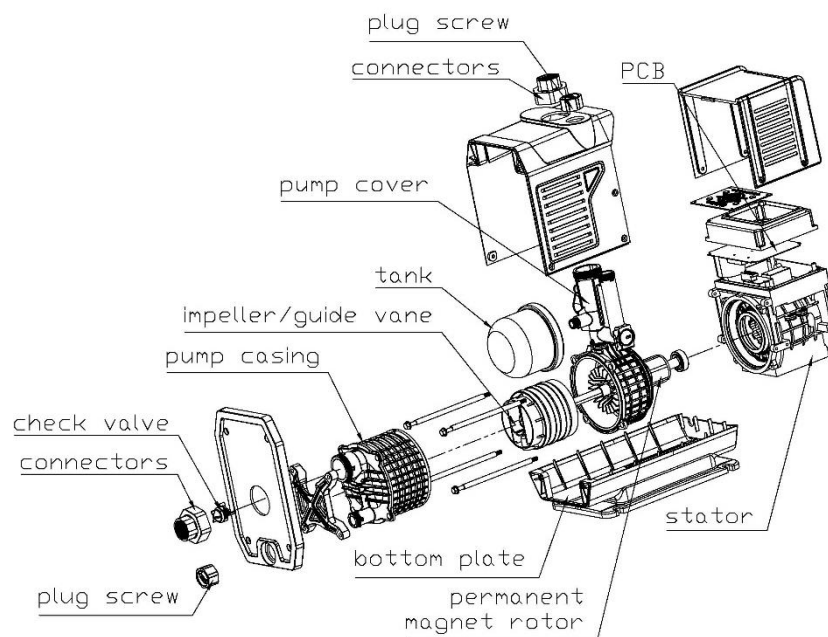
2.2 Dimensions

Note Fixed water pump foot bolts can be M8 and below specifications.



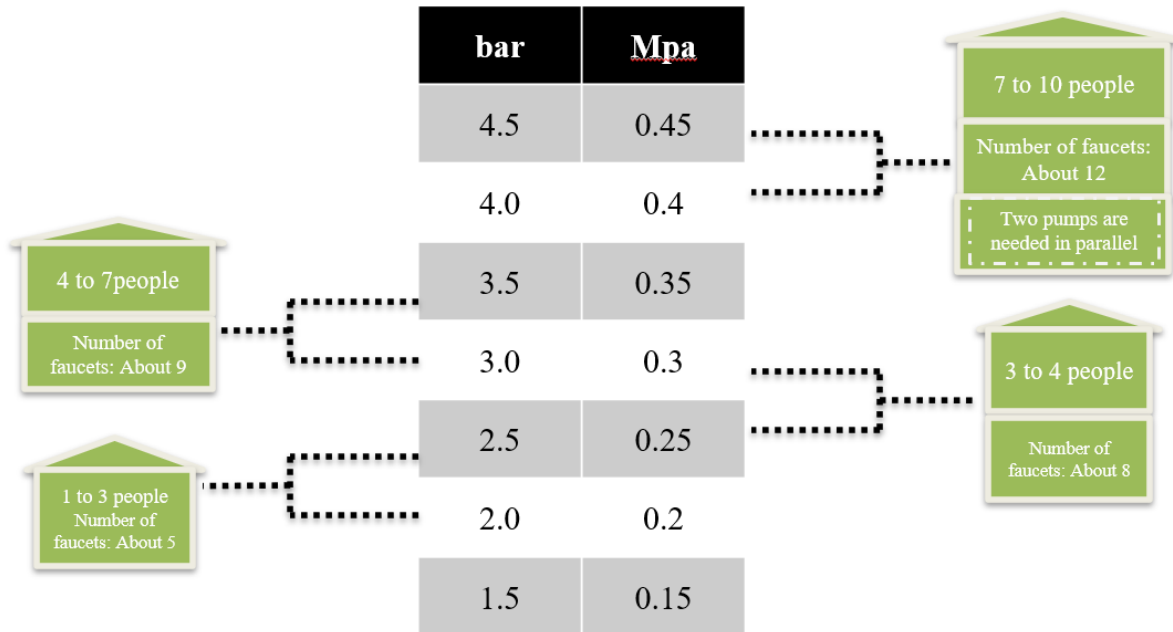
2.3 Construction

Caution Water pump wearing parts: check valves, joints, joint nuts, mechanical seals, etc., need to regularly check whether the operation is abnormal to prevent leakage.

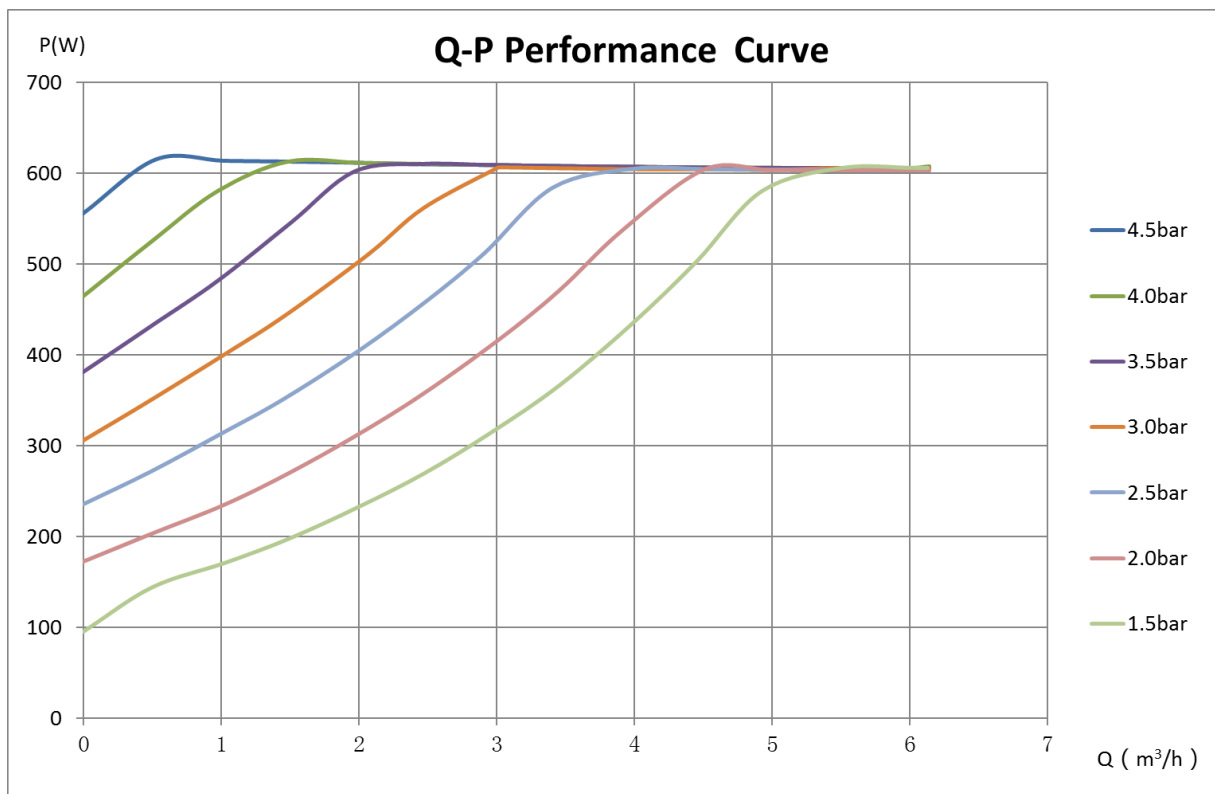


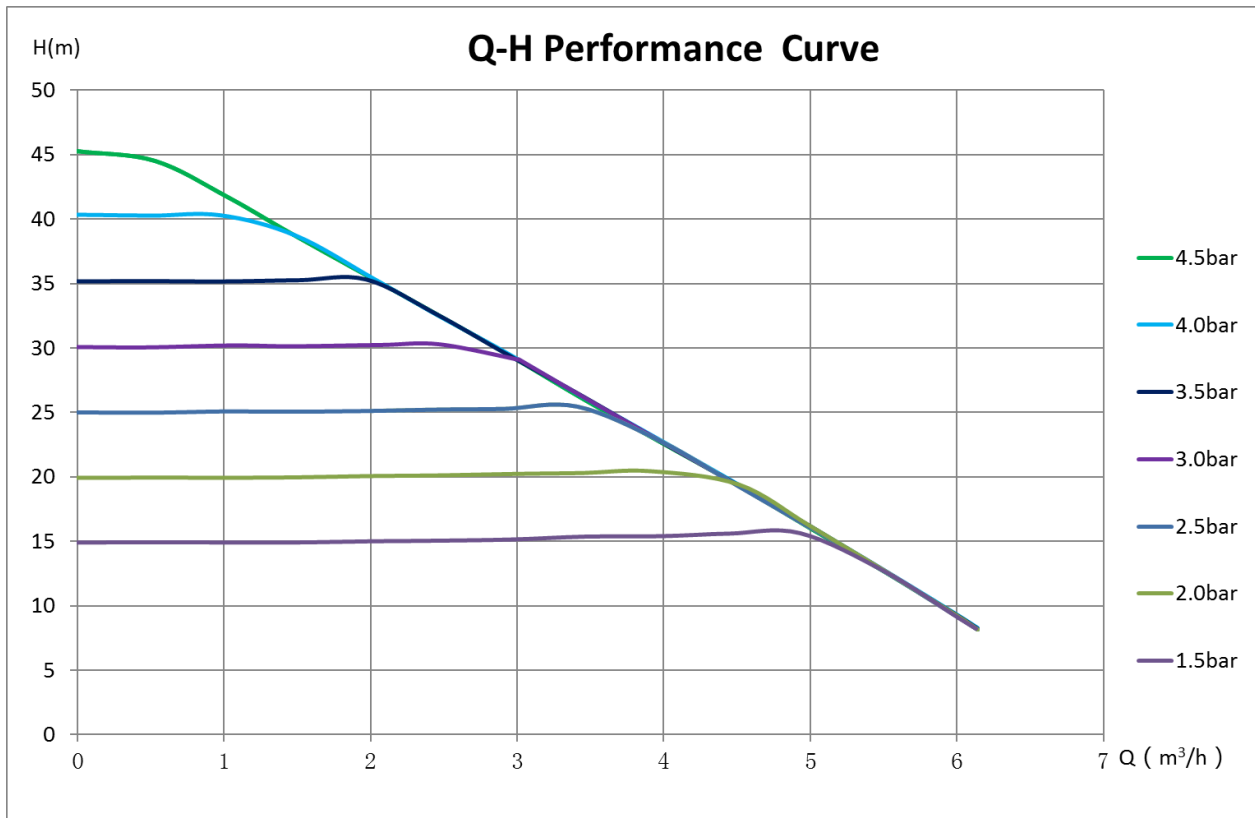
2.4 Gear selection

According to the water consumption model construction and calculation, the default setting of 3.0bar pressure gear can meet most household water consumption scenarios.



3. Performance Curves





Note: The above performance curves are in non-priming state

4. System Application

a) Installation requirements

Caution

(1) Check whether the power supply voltage and frequency of the installation site are consistent with the voltage and frequency identified by the pump.

(2) The environmental factors of the installation site should be within the scope of the pump use requirements.

(3) The water pump can be installed indoors or outdoors, and should be protected when installed outdoors to prevent rain, water, exposure, etc. .

(4) When installing, the pump must be in a horizontal position, the water outlet of the pump is up, and the water inlet is horizontal.

(5) When installing the water pump in the pipeline, it is necessary to confirm whether the inlet of the check valve rebounds normally.

(6) The pump should be installed on the water collection device, and drainage measures should be done in the installation area to prevent damage caused by pipeline or pump leakage.

(7) Before installing the pipeline, ensure that the check valve is installed in the correct position, and it rebounds normally after pressing.

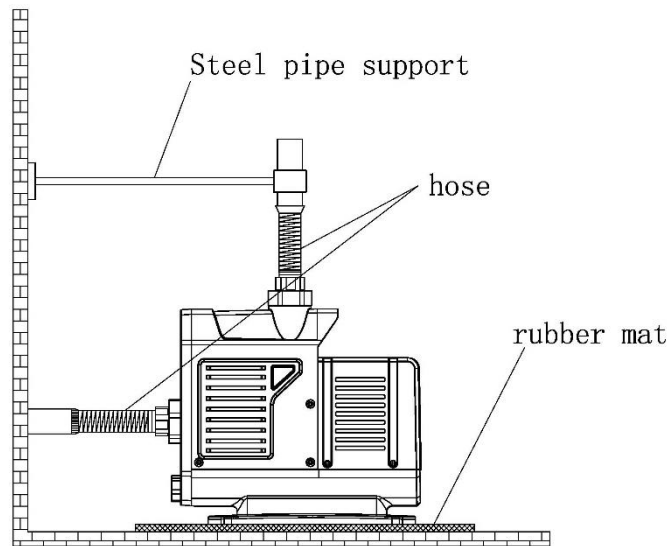
(8) Seal the pipe joint and the pipeline interface with threaded sealing tape.

(9) When installing the joint, press the pipe joint with your hand so that the flat pad is in level contact with the water pump interface, pre-tighten the pipe nut with the other hand, and tighten it with pipe pliers or similar tools.

(10) It is recommended to use a flexible hose at the pipe fitting, and install the water pump on an anti-vibration rubber mat, and set a bracket close to the hose connector to reduce noise. (Fittings, hoses and brackets sold separately).

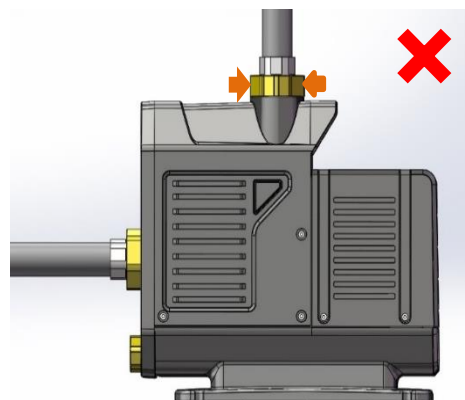
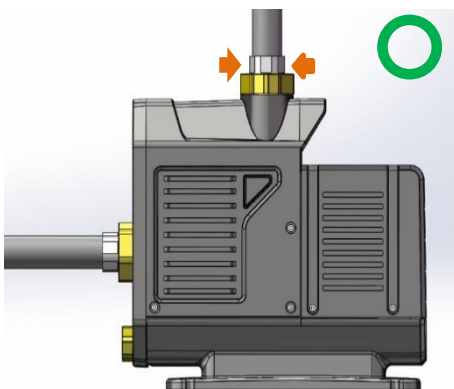
b) How to install

- i. The connectors, hoses, brackets, etc. in the picture need to be purchased separately by the user.



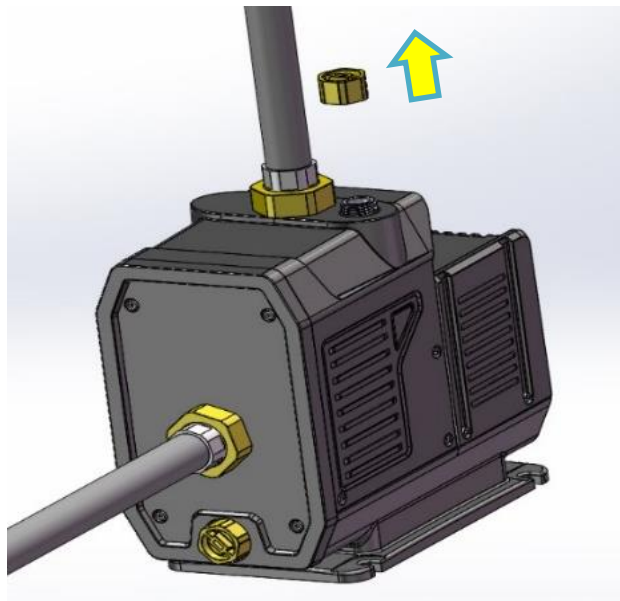
- ii. Precautions for installation of water pump connection

Caution When connecting external piping to the pump connection, ensure that tools such as pipe pliers are stuck on the metal joint (left-hand panel) to prevent damage to the joint sealing structure.

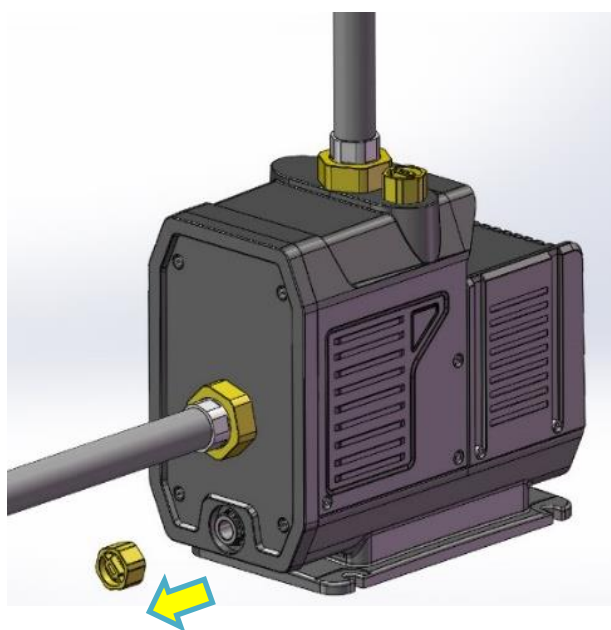


iv. Pump water injection and drainage operation method

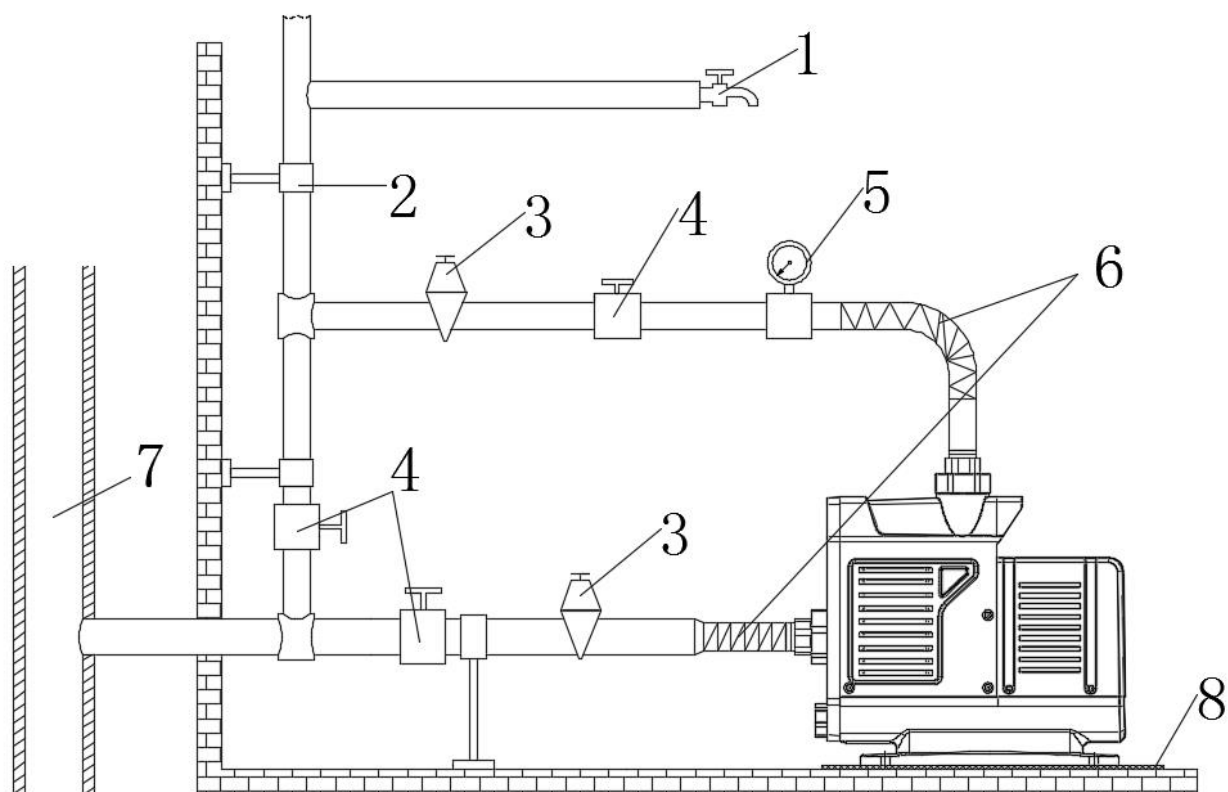
- Before the pump is powered on, make sure that clean water (about 1L) has been added to the pump. The filling method is shown in the figure, now unscrew the water injection screw plug counterclockwise, then fill clean water through the water injection hole until it overflows, and finally tighten the water injection screw plug clockwise.



- If the pump is not used for a long time or needs to be stopped in winter, the water stored in the pump must be discharged (the internal pressure of the pump needs to be drained before drainage), and the drainage method is to unscrew the drain screw plug counterclockwise, and after the pump is emptied, the drain screw plug is tightened again.

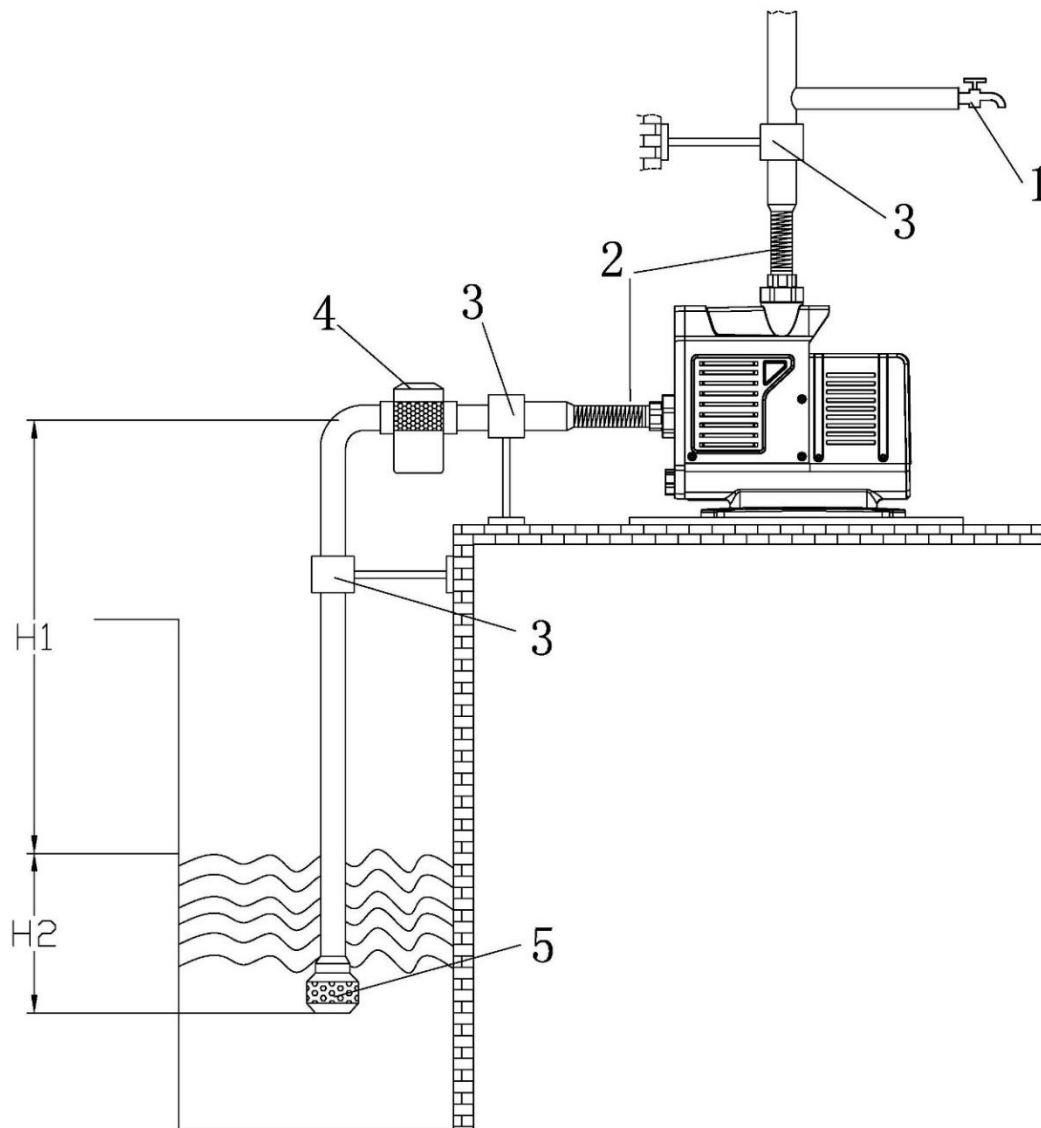


4.3 Mains water pressure boosting



Pos.	Description
1	Highset tapping point
2	Pipe hangers and supports
3	Optional pressure-reducing valve on the inlet side if the pressure can exceed 10 bar
4	Valves
5	Pressure gauge
6	Flexible hoses
7	Mains water pipe
8	Rubber Pad

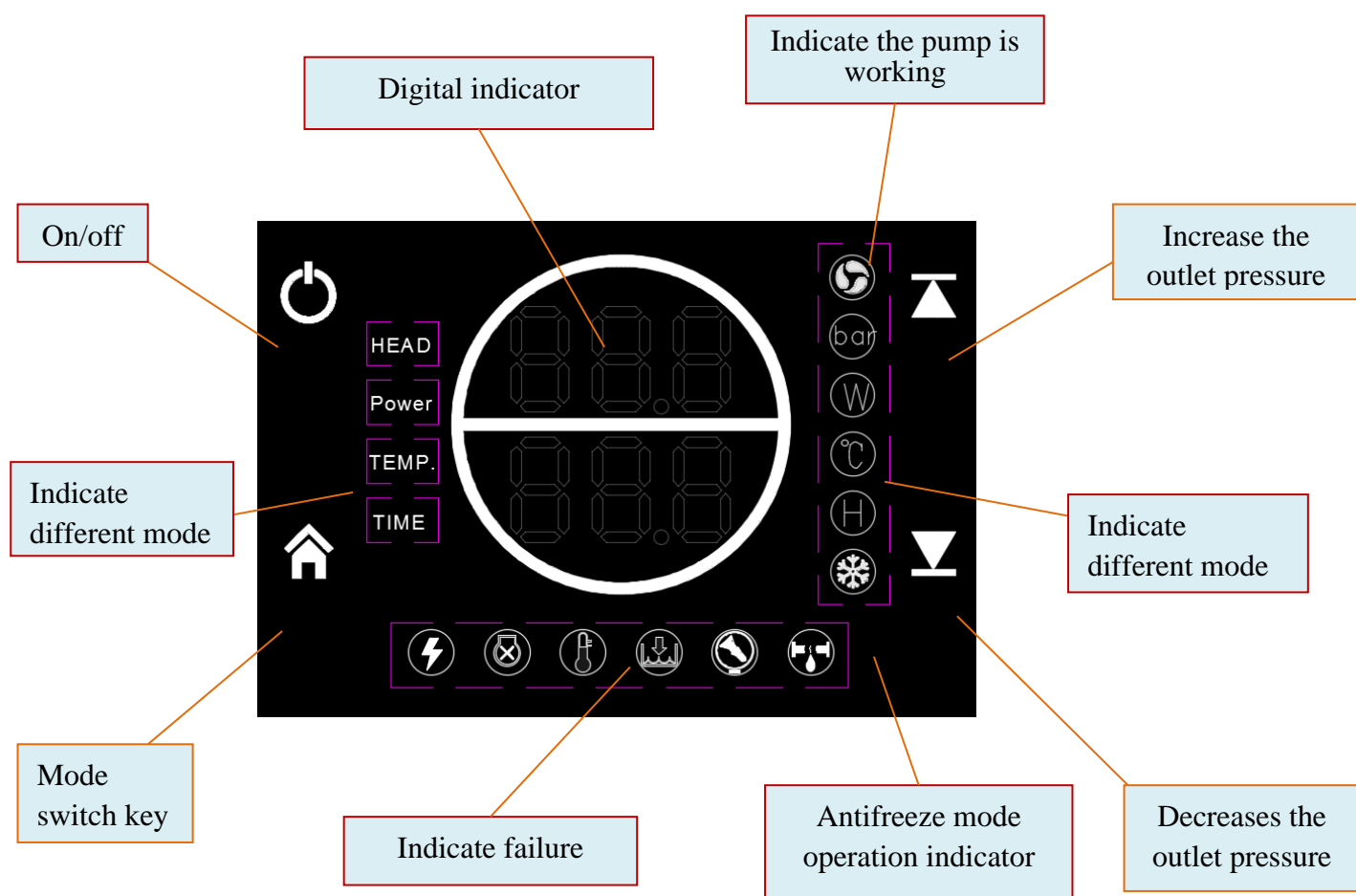
4.4 Suction from well or tank



Pos.	Description
1	Highset tapping point
2	Flexible hoses
3	Pipe hangers and supports
4	Inlet filter (If the water may contain sand, gravel or other debris, please install a filter on the inlet side to protect the pump and installation)
5	Foot valve with strainer
H1	Maximum suctionlift is 8 m
H2	Inlet pipe must be submersed at least 0.5 m

5. Control Function

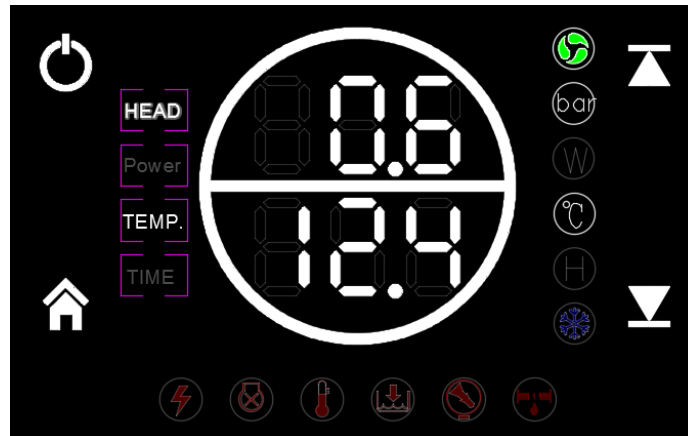
5.1 Menu overview




5.2 Setting the product

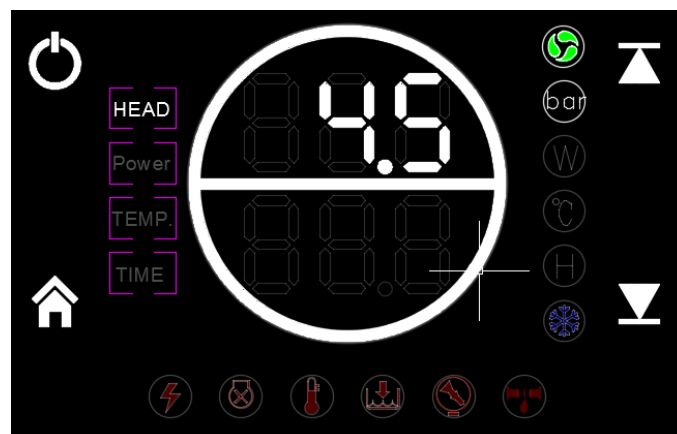
(1) Starting the pump (The factory pressure setting is 3 bar.)

For example: "Pressure 0.6bar, Temperature 12.4℃"



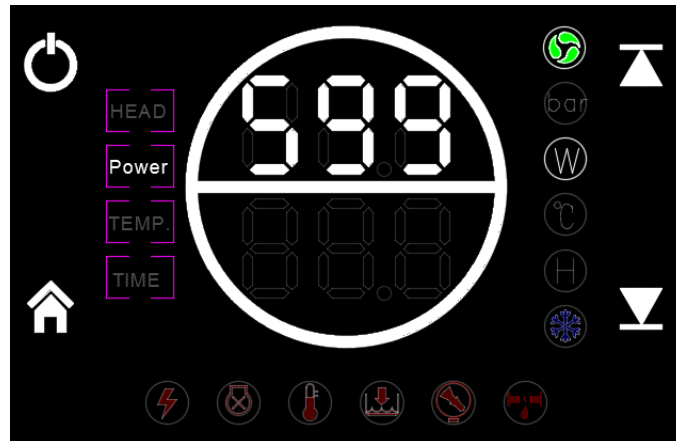
(2) Setting the outlet pressure:

Users tap the "  " once in a row, when the "pressure" indicator lights up and flashes, then adjust the outlet pressure by pressing "▲/▼" .



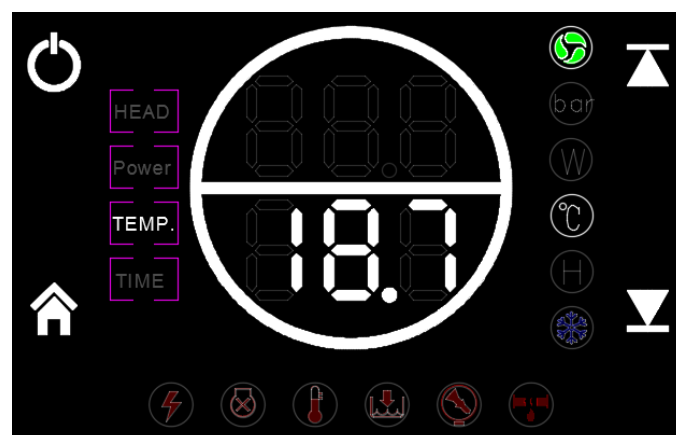
(3) Check the input power:

Users tap the "🏠" twice in a row, when the "power" indicator lights up and flashes, then check the input power.




(4) Check the liquid temperature:

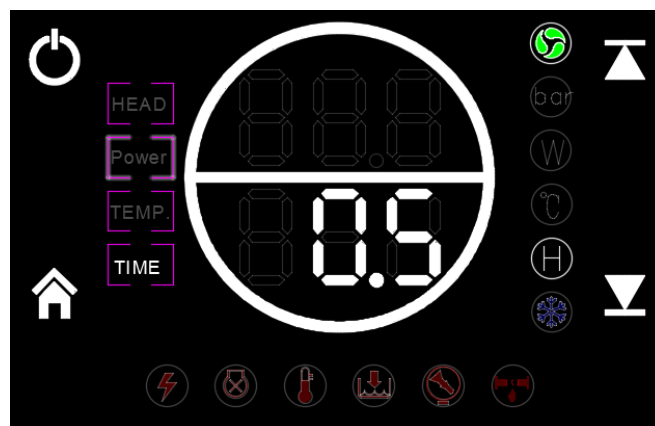
Users tap the "🏠" third in a row, when the "temperature" indicator lights up and flashes, then check the liquid temperature.




(5) Setting the scheduled operation:

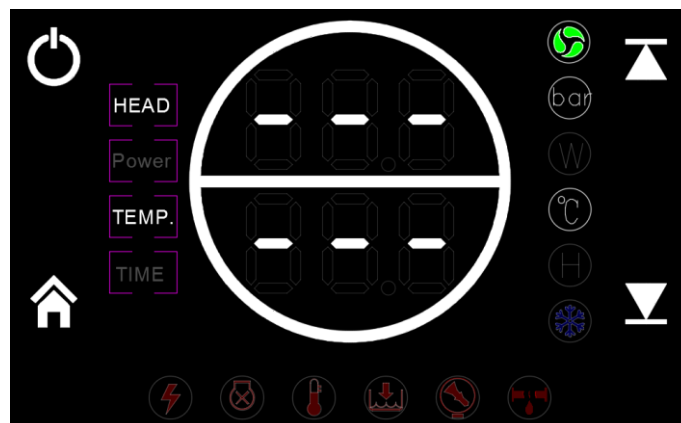
User tap "  " forth in a row, and when the "time" indicator lights up and flashes, the timing running time can be adjusted by tapping "▼/▲", and the unit is set to one hour.

Note: Timing mode means that the pump automatically stops after the set time of operation, and if the pump needs to be started, it needs to be manually restarted.



(6) Setting the pump standby :

Users taps "  ", then the pump stops running. The pump restarts when the user taps it again.



6. Fault Finding chart






Warning !

Before preparing to make any repairs to the pump, make sure that the power supply has been disconnected and cannot be accidentally switched on.

When the pump is running abnormally, the cause of the fault can be found according to the corresponding fault phenomenon and fault indications/code in the table (shown as the basis), and corresponding countermeasures can be made.

Fault	Indications	Code	Cause	Remedy
The pump is not running.		E02	short circuit	Cut the power off immediately. Contact the dealer or company.
		E04	Motor detection phase loss	Cut the power off immediately. Contact the dealer or company.
		E05	The pump is blocked by impurities.	Immediately turn off the power, open the lid cover and use a flat screwdriver to turn the shaft tail.
		E00	The power supply voltage exceed the rated range.	Check the power supply and the pump nameplate.Reestablish the power supply within the prescribed voltage range.
		E01	The power supply voltage below the rated range.	
		E03	Dry running	Check the water source.
		E06	The IPM temperature is too	Power off immediately and check whether the

			high.	liquid or ambient temperature exceeds the limit
		E07	Temperature sensor failure	Immediately power off, open the inner box cover to see if the temperature sensor and pressure sensor have come off, if none of them fall off, check whether the temperature of the liquid and the pressure of the pipeline are too large.
		E08	Pressure sensor failure	
		E09	The liquid temperature is too high.	Check the temperature requirements within 1.4 and 1.5 Check the water temperature of the pipeline.
Fault	Indications	Code	Cause	Remedy
The pump performance is insufficient.	/	/	(1) the pump inlet pressure is too low.	Check the inlet conditions of the pump.
			(2) The water inlet pipe, the water inlet pipe filter or the pump are blocked by impurities	Clean the inlet pipe and filter, if there is no effect, please cut the power off immediately. Contact the dealer or company.
			(3) There is a leakage in the inlet pipe.	Repair the inlet pipe.

			(4) There is air in the inlet pipe or the pump.	Prime the inlet and the pump. Check the inlet conditions of the pump.
There is some noise in the pump.	/	/	(1) There is air in the pump.	Turn on the water source, the pump runs for a while, and the air is discharged with the water flow.
	/	/	(2) Dry running	Check the water source.