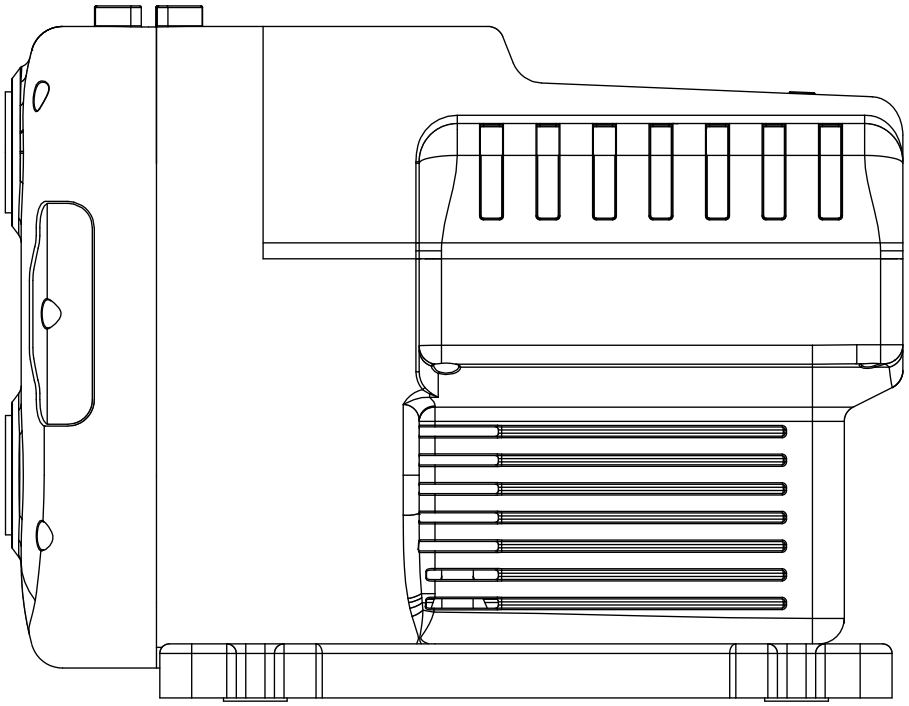


INTELLIGENT PUMP

INSTRUCTION MANUAL

Content

★Please carefully read the users’ manual before installation and operation.

★ Reliable ground connection is necessary before operating.

★ Forbidden to touch the pump when it is energized.

★ In order to prevent electric shock, please ensure the power switch is "OFF", or remove the plug before maintenance and cleaning.

★ When operate the pump, do not remove or open the safety protection device.

★ In order to avoid the pump over-loading, the pump shall be operated within the scope of prescribed conditions.

1.Power requirements

1.1 Power Supply Voltage

Ensure that an AC voltage range of 220V–240V is used (160V–260V may be acceptable). However, if the voltage is too low, the pressure may be reduced.

1.2 Electrical Connection

1.2.1 Before installation and use, check the pump for any damage that may have occurred during transport. Inspect all electrical components, including the cable and plug, to ensure they are intact. The insulation resistance should not be less than 50MΩ.

1.2.2 The pump must be properly installed with a leakage protection device. The power outlet must have a reliable grounding connection.

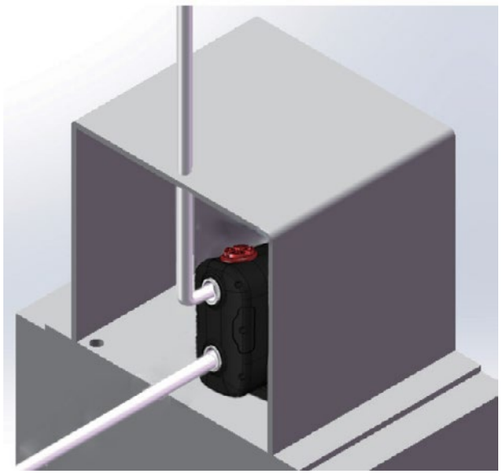
1.2.3 If extending the power cord, ensure the voltage drop is minimised to prevent operational issues. Follow the table below for selecting the appropriate cable specifications:

Cable Length	Minimum Cross-Sectional Area
50m or less	1.5mm² or above
50 - 200m	2.5mm² or above

2.Pump Installation Environment

2.1 Outdoor Installation

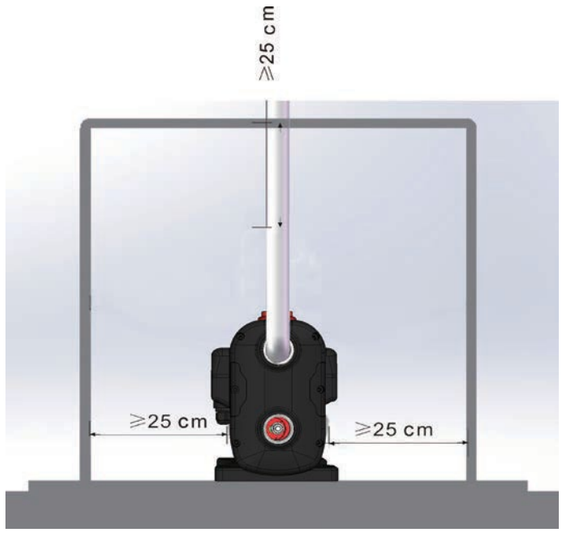
The pump must not be used while lying in water or submerged.When installed outdoors, a suitable cover should be used to protect against sun, rain, and frost.



2.2 Installation Position

Install the pump in a location that allows for easy maintenance and inspection. Ensure the installation area is dry and well-ventilated. For installation in a confined space, follow the reference diagram below:

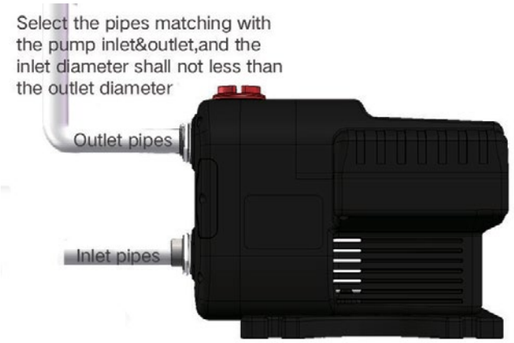
- Maintain at least 25 cm clearance on all sides.
- Ensure a vertical installation of at least 50 cm.



5.Power requirements

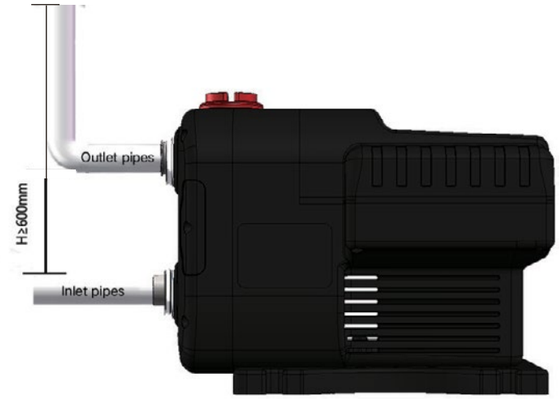
5.1 Piping Diameter

The piping diameter should match the pump inlet and outlet. The outlet piping diameter must not be smaller than the outlet diameter of the pump.



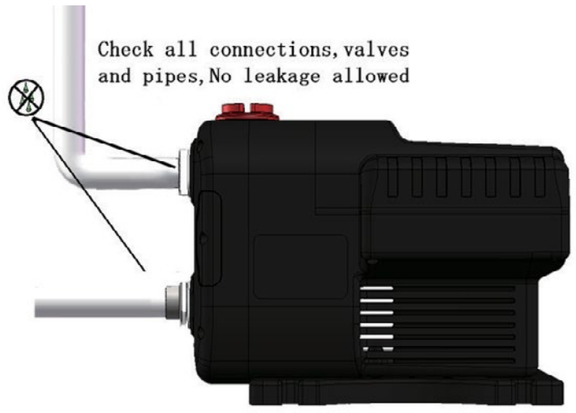
5.2 Outlet Piping Position

The outlet piping should be positioned at least 600mm higher than the inlet before turning a corner.



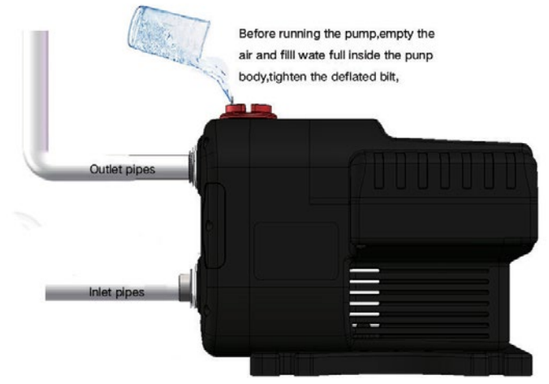
5.3 Ensuring a Leak-Free Pipeline

Ensure that the pipeline is completely sealed, with no leakage. Check all connections, valves, and pipes to confirm that no leaks are present.



6.First-Time Use Instructions

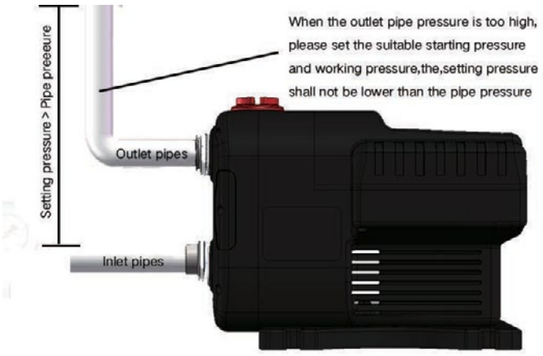
Before using the pump for the first time, fill the pump cavity with water to expel any trapped air.



7.Setting the Requirements

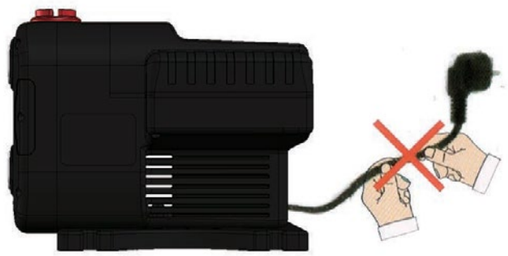
7.1 The pressure setting should not be less than the pressure of the outlet piping itself.

7.2 The starting pressure value is set to approximately 80% of the constant pressure value.



8.Other Points to Note

8.1 When transporting or installing the pump, it is strictly forbidden to grasp the power cord to avoid leakage or electric shock due to power cord damage.



8.2 When the pump is in operation, switch off the power before adjusting the pump's position or touching the pump.

SSP Self-Priming Horizontal Multistage Centrifugal Pump

This pump is designed for high efficiency, low noise, corrosion resistance, and a compact, lightweight structure.

1. Applications

This pump is suitable for:

- Low viscosity, neutral, non-explosive liquids free from solid particles or fibers. (Note: Special pumps are available for oil or oil-based liquids.)
- Circulation in air conditioning systems.
- Cooling systems.
- Water treatment (purification).
- Industrial cleaning systems.
- Liquid transportation, circulation, and boosting.
- Hot and cold water systems.
- Food, beverage, and agricultural ingredient systems.

2. Operating Conditions

- Clean water with solid particle content below 0.1% and a size less than 0.2mm.
- Liquid temperature: 0°C to 70°C.
- Ambient temperature: 0°C to 40°C.
- pH level: 6.5 to 8.5.

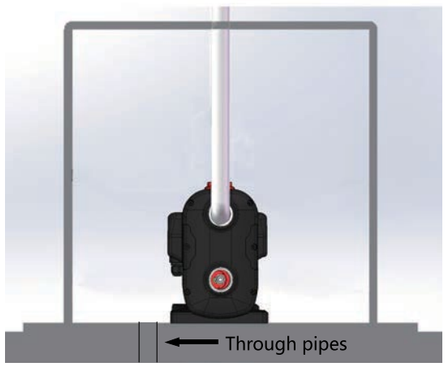
⚠	When handling liquids with densities or viscosities exceeding that of water, the shaft power demand rises; therefore, select a motor capable of delivering the required power.

Installation Precautions

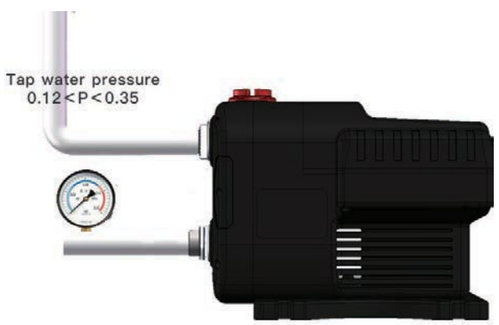
2.3 Ambient Temperature
The ambient temperature range is -15°C to +40°C. When the ambient temperature is below 4°C, the water pump and the pipeline containing water are prone to freezing, which may cause damage to the pump body and pipe rupture. Therefore, when not in use, open the drain screw, drain the water from the pump chamber, and tighten the drain screw. Any exposed pipes should also be protected to prevent cracking. (Use anti-freeze measures if necessary).

2.4 Safety Measures
If cold-proof measures are taken, it is strictly forbidden to enclose the pump with flammable materials to avoid fire hazards.

The area around the pump installation must be set up with sufficient natural drainage to prevent water damage and ensure proper maintenance. Excessive leakage can result in damage, particularly in the basement, kitchen, stairs, and other places where water accumulation may cause significant harm.



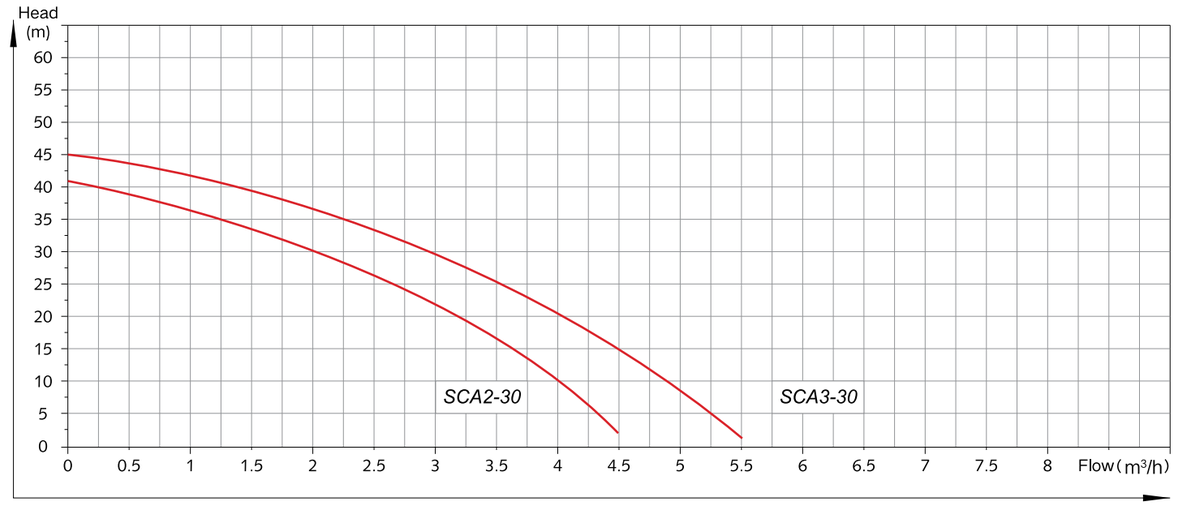
3.Water Inlet Pressure Requirements
For tap water pressurisation, the pressure should be between 0.12MPa and 0.35MPa.



4.Water Temperature and Water Quality Requirements
The water temperature should be between 0°C and 80°C. The water quality must be clean. The volume ratio of solid impurities should not exceed 0.1%, the particle size should not be more than 0.2mm, and the pH level should be between 6.5 and 8.5.

Technical Data

Model	Power Range (W)	Voltage (V)	Frequency (Hz)	Speed range (r/min)	Inlet/outlet pipe thread	Max. head (m)	Rated head (m)	Max.flow (m³/h)	Rated flow (m³/h)
SSP 2-30	100-550	220±20%	50/60	4800	G1/G1	42	30	4.5	2
SSP 3-30	100-750	220±20%	50/60	4800	G1/G1	45	30	5.5	3



Performance Curve

Structure Instruction

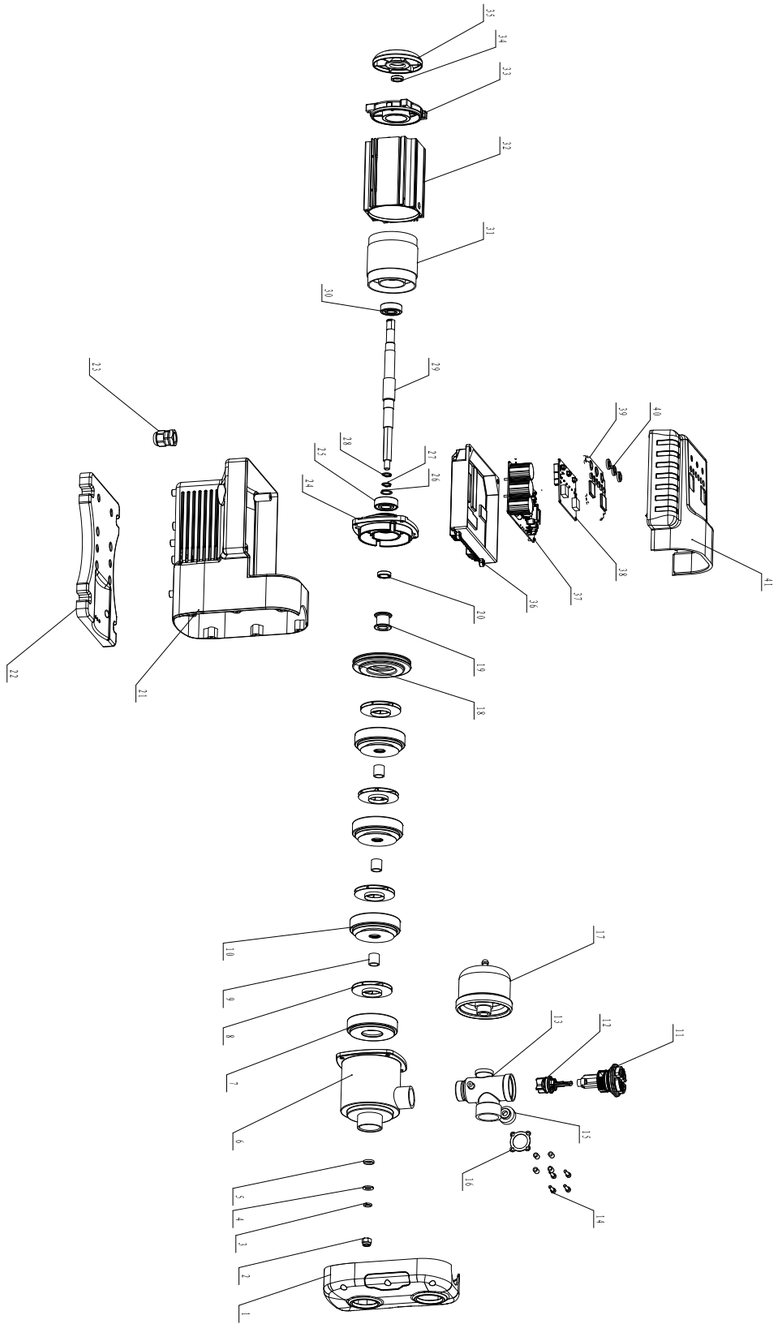
SSP pumps are horizontal, with the pump shaft being an extension of the motor shaft. The pump inlet direction is axial suction, and the outlet direction is radial discharge.

The SSP consists of a motor, sealing seat, guide vane, impeller, inlet and outlet part, pump shaft, mechanical seal, and other main components. The WHBJL series sectional pump consists of a motor, inlet body, outlet body, guide vane, impeller, pump shaft, mechanical seal, and other main components.

The key parts of the pump, such as the guide vane, impeller, and water inlet and outlet section, are made of high-performance engineering plastics, and the pump shaft is made of stainless steel.

The shaft seal is a single-ended mechanical seal, with the grinding block made of silicon carbide or graphite.
Depending on what the customer needs, other materials can also be used for the grinding block.

The standard way the pump and pipes are connected is via pipe threads, in line with GB7307.
The pump structure is shown in the figure.

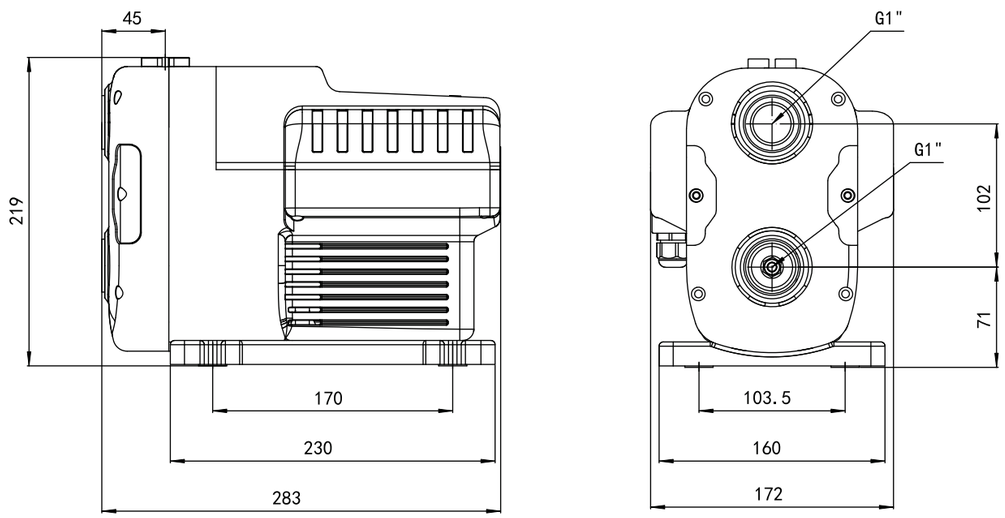


Structure Instruction

No.	Name	No.	Name
1	Inlet guide vane	28	Shaft with spring retainer
2	Lock nut	29	Motor shaft
3	Spring washer	30	Bearing
4	Flat washer	31	Stator
5	Spacer bush	32	Motor barrel
6	Pump body	33	Rear end cover
7	Outlet guide vane	34	Framework oil seal
8	Impeller	35	Fan
9	Spacer bush	36	Controller seat
10	Guide vane	37	Controller
11	Check valve body	38	Touching panel
12	Check valve core	39	Screen cover
13	Check valve seat	40	Tap the switch waterproof cap
14	Socket head cap screw	41	Screen housing
15	Pressure sensor		
16	Pressure sensor pressure plate		
17	Pressure tank		
18	Bracket cover		
19	Mechanical seal		
20	Framework oil sea		
21	Lower housing		
22	Base		
23	PG connector		
24	Front end housing		
25	Bearing		
26	Shaft with spring retainer		
27	Shaft with spring retainer		

Installation and Connection

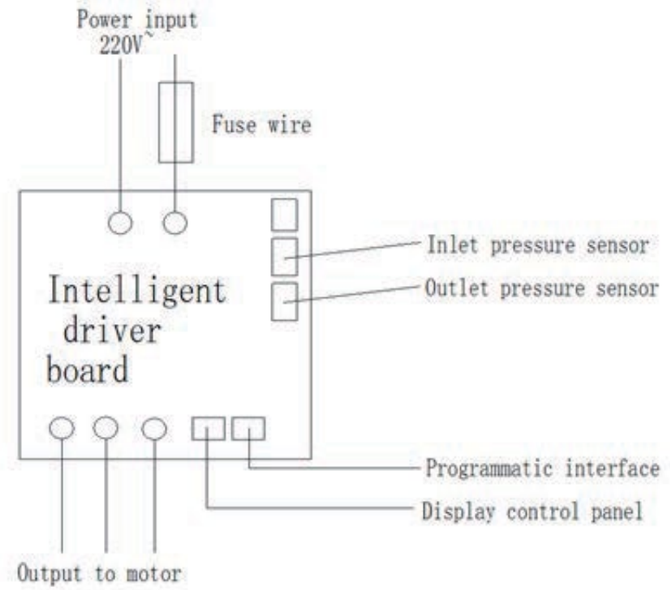
The appearance of SSP pump and installation size (mm)



Appliance Connection

Unless the power has been shut down, please don't do the terminal connection. Pump should be reliable grounding to prevent leakage, and should match the leakage protection switch; electrical connections and protection should be performed accordingly; working voltage is marked on the nameplate, please ensure the supply power is match with the motor power. If pumps' operate places are far away from power supply, please properly add the transmission line, otherwise the drop of the voltage will influence the pump working. If pumps operated outdoors, extension cable must use outdoor special rubber cable and ensure the pump is well running and the direction is same as the pump body.

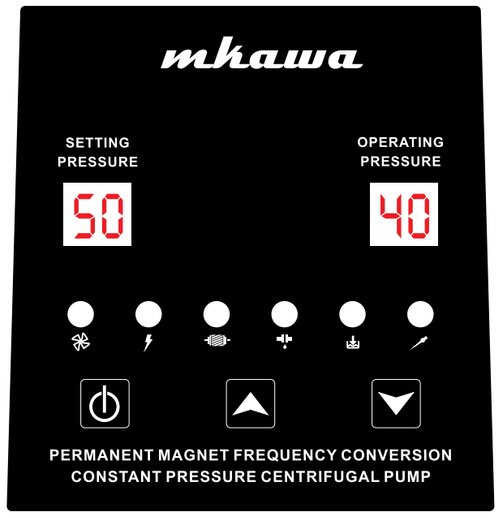
Appliance Connection



Intelligent pump electrical schematic diagram
(Because of products constantly updated,
please in kind prevail)

Power wire length / Model	0~50m	Fuse A	50~100m	Fuse A	100~150m	Fuse A
SSP 2-30 SSP 3-30	1.5mm²	10	2mm²	15	2.5mm²	18

Control panel operation instructions



Running
Leakage
Voltage protection
Water shortage
Motor failure
Sensor failure

[Operation Instructions]

A short press of " ⏻ " will start the pump. Another short press puts the pump on standby.
When the water pump is switched on and the actual pressure is lower than the starting pressure, the pump will start automatically.

Press either " ▲ " or " ▼ " briefly (for one second) to adjust the target pressure.
If no action is taken for five seconds after adjustment, the pressure setting will be exited.
The water pump will then operate at the new target pressure.

Press and hold both " ⏻ " and " ▲ " at the same time for three seconds until the software version number is displayed and the factory settings are reset.

A long press of " ▼ " (for three seconds) will display the operating parameters, and then another long press of " ▼ " (for three seconds) will switch to the next parameter.

Pressing both " ▼ " and " ▲ " together will lock the pressure setting.

[Factory Menu Content]

While the water pump is running, press and hold " ⏻ " for three seconds to access the factory menu.
Once you're in the factory menu, press " ⏻ " briefly to switch between menus, or press " ▲ " to set parameters.
If there's no activity for 30 seconds, or if you press and hold " ⏻ " , you'll exit the factory menu.

Flag	Parameter meaning	Default value	Description
U	Version number		
	Starting pressure	80	Adjustment range: 50-90/step size: 5. When the water pump pressure is less than this value, the water pump start
	Power on time of water pump	0	Record the running time of the water pump, display range: 0-9999 (non adjustable)

Flag	Parameter meaning	Default value	Description
P	Non stop fault parameters	40	Adjustment range: 4-172/Step size: 1. 1. Turn off the water pump manually first, and check if the water pressure can be maintained after the water pump is stopped. If it cannot be maintained (with a pressure drop greater than 2 meters), please clean the water flow switch or check for pipeline leakage. 2. Can maintain pressure, no water flow switch water pump, no shutdown fault, increase this value, it is recommended to+4 each time until the water pump can stop. Attention: Adding too much can easily cause a small flow rate to shut down by mistake
S	Wrong shutdown fault parameters	10	Adjustment range: 2-50/step size: 1. Suggest adding 3 each time, increasing gradually
T	Shutdown judgment deceleration speed	40	It is not recommended to adjust. The larger the speed, the more severe the deceleration
N	Operating mode	0	0: Automatic mode, 2: Cyclic (constant speed) mode
F1	Water shortage pressure setting	99	Water shortage pressure setting Adjustment range: 0-99/Step size: 1. This pressure is effective when it is less than the starting pressure. When the water pressure is less than this pressure for a certain period of time, a water shortage is forced to be reported. If the pressure exceeds this, it is mandatory not to report water shortage. When this value is 0, no water shortage is detected.

Control panel operation instructions

Flag	Parameter meaning	Default value	Description
F2	Water shortage power	Different models have different	The unit is x10W. Less than this power is considered a water shortage. When the pressure judgment or water flow switch malfunctions, the water shortage power can be used to determine the water shortage.
F3	Limit maximum speed when insufficient water intake occurs	Different models have different	The unit is x100RPM. When the water inlet is insufficient, reduce the speed for operation and manually set the reduced speed for operation.
F4	Effective power when water intake is insufficien	Different models have different	The unit is x10W. When the water inlet is insufficient, reduce the speed to operate, and it takes effect when the power is less than this value.
F5	Leakage warning switch	1	0: Turn off leakage prompt 1: Enable leakage prompt
F6	Water pump characteristics shutdown parameters	1	0: Turn off the power characteristic shutdown function 1: Enable power characteristic shutdown function
H	Water shortage shutdown sleep time	2.0	Unit: hour, adjustment range 0-24 Sleep time after water shortage shutdown.
L	Online address	0	0: Single pump operation mode 1: Set the host in multi pump mode

Fault code display and troubleshooting

⚠	Before removing the motor terminal box cover and removing the pump, make sure that the power supply has been cut off.

Fault code	Fault name	Fault cause	Troubleshooting method
E-01	Water pump is short of water	There is water in the pump chamber but there is no water or too little water at the inlet.	1. The current pressure drops by more than 3 meters or the current pressure rises by more than 3 meters. 2. Regularly restart after shutdown. 3. The user presses the power button to restart and restore.
E-02	Leakage reminder	Leakage was detected in the pipeline and the water pump started frequently.	1. Continue for 10 minutes without any decrease in pressure. 2. Allow 180 seconds of uninterrupted operation.
E-03	Stall	Check if the motor is stuck.	1. Automatically attempt recovery after 3 seconds, 5 attempts. 2. The user presses the power button to restart and restore.
E-04	Step out	Sudden excessive load impact, motor parameter mismatch.	1. Automatically attempt recovery after 3 seconds, 5 attempts. 3. The user presses the power button to restart and restore.

Fault code	Fault name	Fault cause	Troubleshooting method
E-06	Pressure sensor failure	Check if the pressure sensor is damaged and if here is a short or open circuit in the wiring.	1. Clean the interface wiring. 2. Replace the sensor.
E-08	Overcurrent	Check for a short circuit in the motor. Is there water at the motor wiring.	1. Automatically attempt recovery after 60 seconds, 5 attempts. 2.The user presses the power button to restart and restore.
E-11	Low voltage protection	Detect voltage below 150V, shut down for protection.	Automatically recover when the detection voltage exceeds 165V.
E-12	Driver over temperature, driver temperature sensor failure	1. IPM built-in temperature sensor signal loss. 2. The temperature detection of the controller power module is greater than 86 ℃.	1. Internal damage to the circuit board. 2. The temperature drops below 70 ℃ and recovers.
E-18	Phase deficiency	Check if the three phases of the motor are properly connected and if the temporal part of the motor is disconnected.	1. Automatically attempt recovery after 60 seconds, 5 attempts. 2. The user presses the power button to restart and restore.
E-21	Communication failure	The motherboard did not receive panel data.	Check if the panel wires are properly connected. Reseat and unplug. If it cannot be resolved, the panel or motherboard may be damaged.

Fault code display and troubleshooting

Fault code	Fault name	Fault cause	Troubleshooting method
E04	Communication failure	The panel did not receive motherboard data.	Check if the panel wires are properly connected. Reseat and unplug. If it cannot be resolved, the panel or motherboard may be damaged.

Important items

1、The contents of this instruction are subject to change without prior notice.

2、Users in the selection of appropriate and correct use of cases, the pump has One year warranty except wearing parts of normal wear and tear.

3、User self-demolition caused by quality problems in warranty period, all consequences shall be the responsibility of the user.

Packing list

Factory No.	
Packing Dimension	365 × 230 × 290mm
N.W./G.W.	6/6.5kg

No	Name	Model	Unit	Quantity	Remark
1	Intelligent constant pressure efficiency multistage centrifugal pump	SSP	Pcs	1	Inner
2	Pressure tank	/	Pcs	1	Inner
3	Warranty card	/	Pcs	1	Inner
4	Specification, packing list	/	Pcs	1	Inner
5	Certificate of approval	/	Pcs	1	Inner

All performances are subject to the actual performance of products sold in the market and apply only to brand products sold by designated dealers.
All the above data are from internal tests, and the data may vary due to different test environments.
All data have been carefully checked for accuracy.
In the event of any printing omission or possible error in translation, our company will not bear the consequences.