

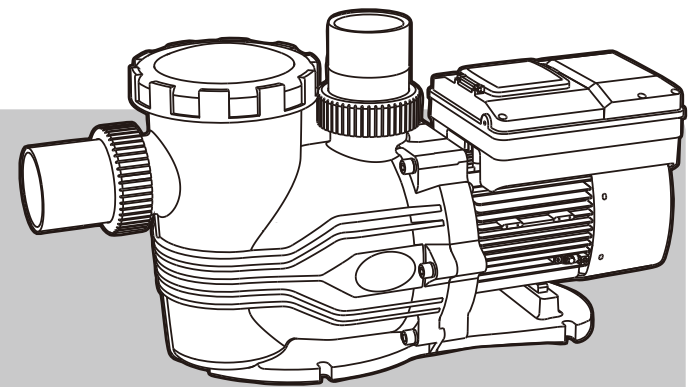


WL-BVX SERIES

INSTALLATION & OPERATION MANUAL OF VARIABLE SPEED PUMP

WL-BVX300

WL-BVX400



GUANGDONG LASWIM WATER ENVIRONMENT EQUIPMENT CO., Ltd



To scan QR code for more information.
For more information please visit www.laswimwater.com

202602

Please Read The Manual Carefully Before Use.

1 OUTLINE

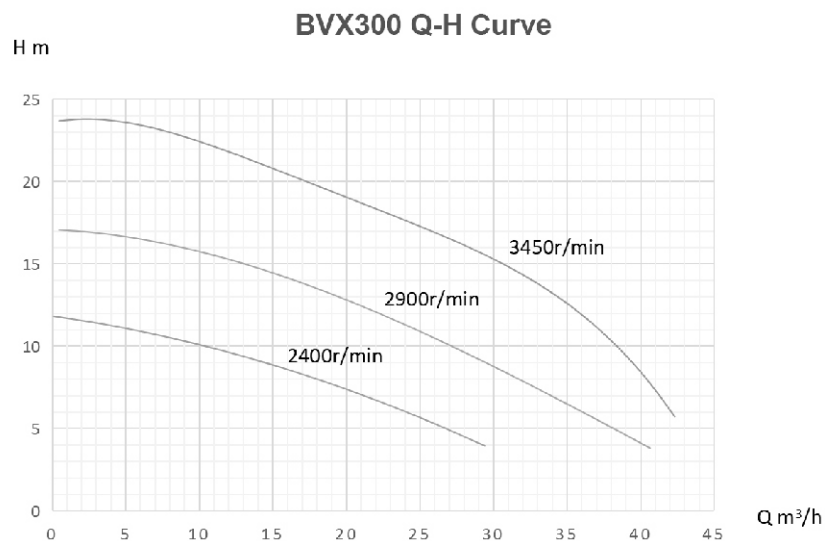
Suitable for medium and small-sized water environment circulation and filtration, small and medium-sized household swimming pools, small and medium-sized commercial swimming pools, water feature, aquaculture, hot springs spa pools, aquatic parks and so on.

2 BASIC PARAMETERS

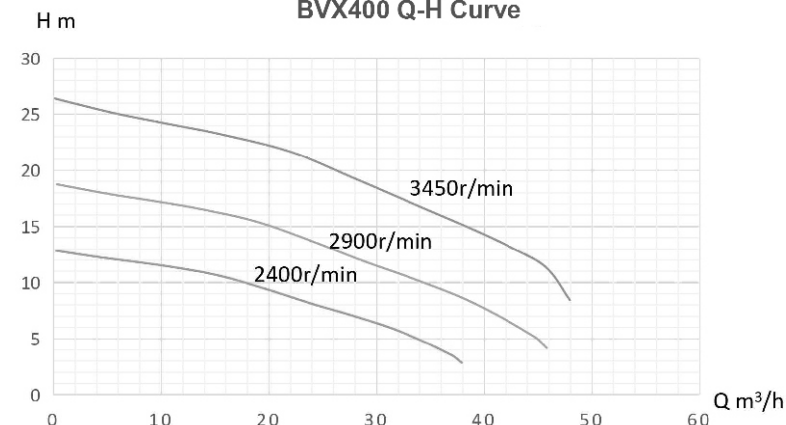
2.1 Pump performance parameters

Model	Rated Power supply(V/Hz)	Speed Range (r/min)	Output Power	Connection size	Self-priming Height(m)	Ambient Temperature (°C)
WL-BVX300	220-240V 50/60Hz	1000-3450	P2=3HP	2.5" 75mm or 2" 63mm	3	5-50
WL-BVX400	220-240V 50/60Hz	1000-3450	P2=4HP	2.5" 75mm or 2" 63mm	3	5-50

2.2 Pump performance curve



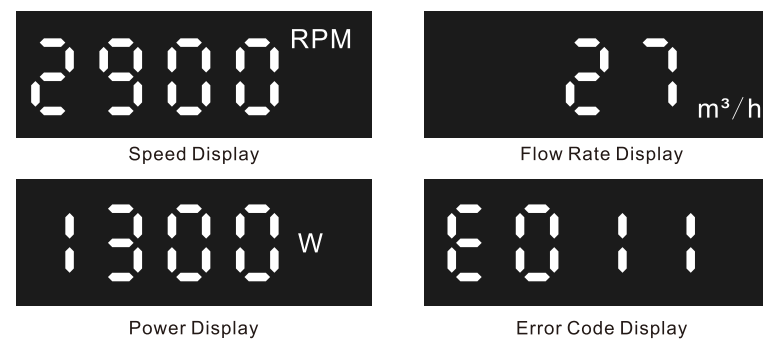
BVX400 Q-H Curve



Model	Advised Pool volume (m³)	Max. Flow (m³/h)	Max. Head (m)	Head		
				8m	10m	12m
				Flow Rate(m³/h)		
WL-BVX300	140-160	42	24	40	39	37
WL-BVX400	140-160	48	26	48	47	44

3 INSTRUCTIONS FOR THE USE OF THE PRODUCT

3.1 Screen display mode



3.2 INDICATOR LIGHT INSTRUCTIONS

Indicator Light Status	Status Description
(Wi-Fi Indicator) Red Flashing	Device Network Abnormality.
(Wi-Fi Indicator) White Solid	Device has completed network pairing, and network status is normal.
(Wi-Fi Indicator) White Flashing	Device is in network pairing mode, can use the app to complete pairing.
(Bluetooth Indicator) White Solid	Phone Bluetooth is connected to the device.
(Bluetooth Indicator) White Flashing	Device is in pairing mode, and the app can connect to the device.
(Switch Indicator) Red Solid	Device is powered on, but in off state.
(Switch Indicator) White Solid	Device is powered on and in operation state.
(Switch Indicator) Light Off	Device is powered off.

3.3 FUNCTION DESCRIPTION

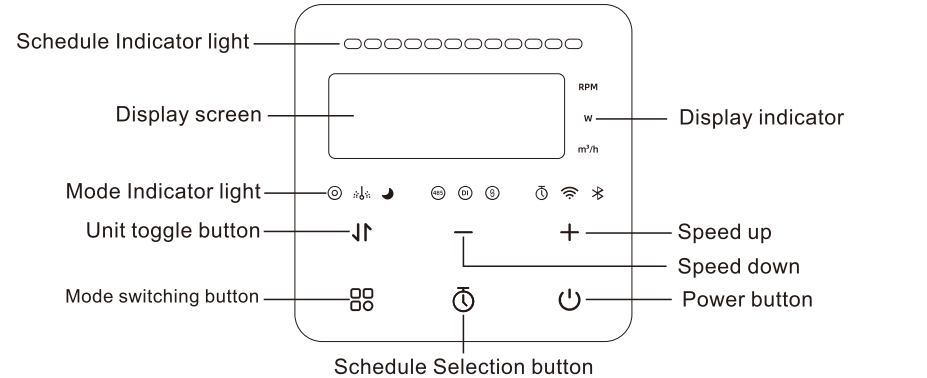
Mode button function:
Factory preset 4 operation modes : Normal mode, Backwash mode, Night mode, and Silent mode.

Modes	Mode Definition Description
Normal mode	The water pump is powered on and runs at 3450r/min.
Backwash mode	The water pump first runs at 3450r/min for 5 minute and then 2900r/min.
Night mode	The water pump runs at 2900r/min.
Silent mode	The water pump runs at 2400r/min.

3.4 APP DOWNLOAD

Search for "Tuya" on Google Play or the App Store to download the app. Open the Tuya app, tap "Add Device" in the top-right corner of the main screen,and follow the "Wi-Fi Pairing/Unpairing" instructions to connect the pump.

3.5 INSTRUCTIONS FOR THE USE OF THE PANEL



Interaction description

1. Switch units:Use the buttons on the control panel to operate the device. When a button is pressed, the unit will cycle through "RPM", "W",and"m³h"
2. Select the unit: When you see the display screen or indicator light showing the unit you want to select, release the button. At this point, the selected unit will receive a visual feedback. For instance, the corresponding indicator light will illuminate solid white to confirm your selection.
3. Confirm the selection: After releasing the button, the device will automatically confirm your selection without any additional operation.

Indicator light description

When the machine is turned off, the indicator light goes out; when it is turned on, the indicator light remains on with a solid white light.



Interaction description

1. Use the plus and minus buttons on the device to increase or decrease the target speed. Each time the button is pressed, the rotational speed will increase or decrease by 50r/min.
2. Press and hold the — and + keys for 5 seconds to restore the factory Settings.

Indicator light description

When the machine is turned off, the indicator light goes out; when it is turned on, the indicator light remains on with a solid white light.



Interaction description

1. Click the mode button and select the mode from left to right in sequence. When "Normal Mode" is selected, the corresponding mode indicator light will be on. Release your hand to automatically complete the Settings. When "Night Mode" is selected, the mode indicator light turns white and enters the night state. When the mode button is pressed again

The indicator light turns red and enters the silent mode.

2. Normal filtration mode: The water pump runs at 3450r/min;

3. Backwashing mode: The water pump first runs at 3450r/min for 5 minutes and then returns to 2900 revolutions per minute. 3. Night mode: The water pump operates at 2900 r/min.

4. Silent mode: The water pump operates at 2400 r/min.

5. The rotational speeds of all modes are preset fixed values. If you click the keys or buttons on the operation panel to adjust the rotational speed, The indicator light corresponding to the current mode will automatically go out.

Indicator light description

When shutting down, the indicator light goes out. After the main control recognizes that it has entered the control mode, the corresponding mode indicator light remains on constantly.



Wi-Fi Indicator Light: Press buttons  and  simultaneously, and the icon will flash to enter the network pairing status.

Red flashing: Abnormal device network;

White solid: The device has completed network pairing, and the network status is normal;

White flashing: The device is in network pairing mode, please use the App to complete pairing;

Bluetooth indicator light: Please button  and  simultaneously, and the icon will flash to enter the Bluetooth pairing status;

White solid: The mobile Bluetooth is connected to the pump;

White flashing: The device enters the pre-pairing status and can be connected to the device through a mini-program.

Switch indicator light:

When the device is turned off, all indicators are off. Wi-Fi Red/White indicator; Bluetooth Indicator; Power Switch Red/White Indicator



Interaction description

Enable Schedule Settings

Click the "Schedule Selection button".

At this point, the "Schedule indicator light" will turn white, and the light strip at the top of the control panel will start to flash. The left most part represents the current time, and moving one bar to the left indicates two hours.

Schedule settings

Use the  button on the control panel to adjust your plan Settings. You need to set two time periods and the speed at once.

Confirm Schedule Settings

Click the "Schedule Selection button" again to proceed to the next setting stage: the speed setting.

Set the speed

Use the - and + buttons on the control panel to adjust the speed.

Complete the speed setting

Click the "Schedule Selection button" again to confirm and save all the user's Settings.

End Settings

When all the Settings are completed, the "Schedule Indicator light" will go out, indicating that the plan setting process has been completed.

Indicator light description

When shutting down, the indicator light goes out. When a task schedule is set, the corresponding RGB indicator light will light up and flash.

·Schedule One: Green

·Schedule Two: Blue



Interaction description

During the process of switching control modes, the device enters the standby state. During this process, the corresponding mode indicator light flashes. Wait for 2 seconds to confirm, and the corresponding mode indicator light remains on constantly.

Identify physical keys

First, locate the external physical button on the water pump.

Switch modes

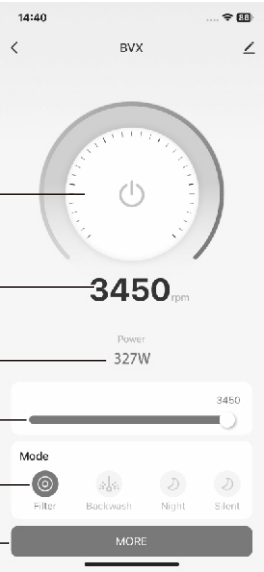
Different modes of the device can be switched by swiping the physical buttons. Every time you switch to a new mode, the indicator light related to that mode will turn white to indicate the currently selected mode.

Indicator light description

When shutting down, the indicator light goes out. The main control recognizes that after entering the control mode, the corresponding mode indicator light remains on with a constant white light.

3.6 APP FUNCTION DESCRIPTION

Home Page



1. Click the on/off button in the middle of the dial to control the on/off of the water pump.

2. Check the current speed and power (if it is connected to a sensor, power, head and flow rate can be displayed).

3. Press and hold the slider and slide it left and right to adjust the target speed.

4.1 Normal mode: The water pump runs at 3450r/min.

4.2 Backwashing mode: The water pump first runs at 3450r/min and then returns to 2900r/min after 5mins.

4.3 Night mode: The water pump runs at 2900r/min.

4.4 Silent mode: The water pump runs at 2400r/min.

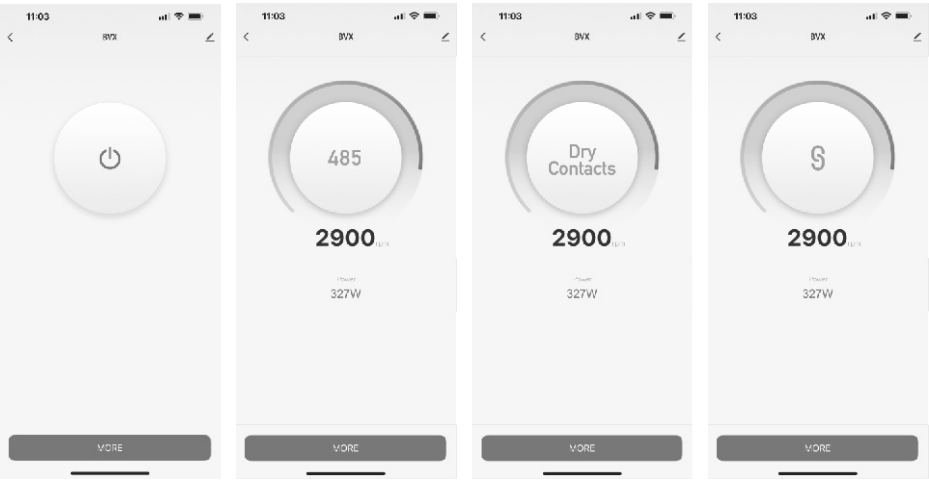
5. Click on "More" to enter the menu page.

Power Off Page

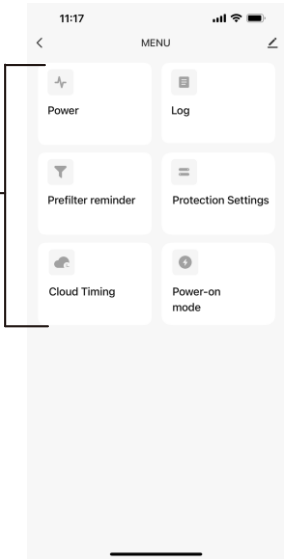
RS-485 Page

Dry Contacts Page

Imaging Function Page



Menu Secondary Page



1. Tap on Power Consumption to enter the detailed page for viewing;

2. Tap on Pump Log to enter the detailed page for viewing;

3. Tap on Prefilter Reminder to enter the detailed page for viewing;

4. Tap on Protection Settings to enter the detailed page for viewing;

5. Tap on Cloud Timing to enter the detailed page for viewing;

6. Tap on Power-On Mode to enter the detailed page for viewing;

7. If a sensor is connected, it will display "Constant Pressure Water Supply" and "Constant Flow Water Supply."

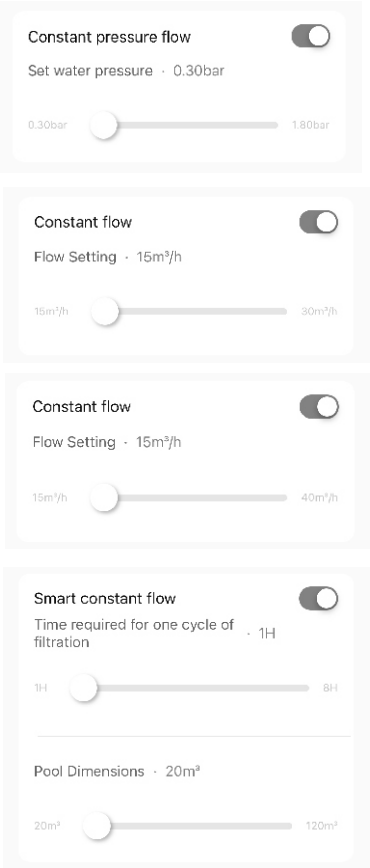
Constant Pressure

Constant Flow

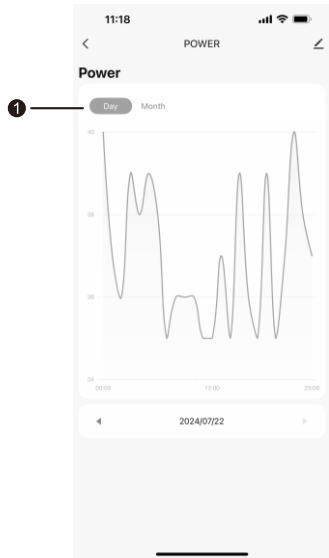
8.Constant Pressure Function: According to the water outlet pressure of the water pump set in the program, the water pump automatically adjusts its speed to achieve constant pressure to transport water.

9.Constant Flow Function: According to the flow rate of the water pump set in the program, the water pump automatically adjusts its speed to achieve a constant flow rate to transport water. BVX300:15-30m³/h, BVX400:15-40m³/h.

10."Constant Water Flow" and "Intelligent Constant Water Flow" are mutually exclusive.

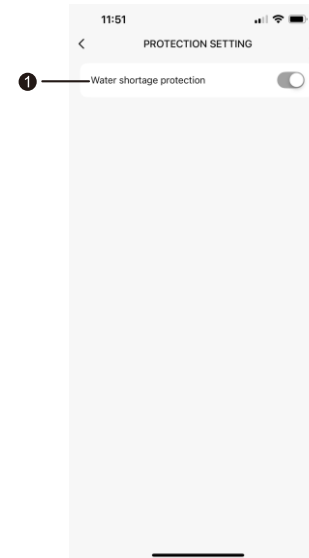


Power Consumption Page



1. Tap "Day" or "Month" on the curve chart to switch the time period;
2. Tap on the curve in the chart to display the specific energy consumption value;

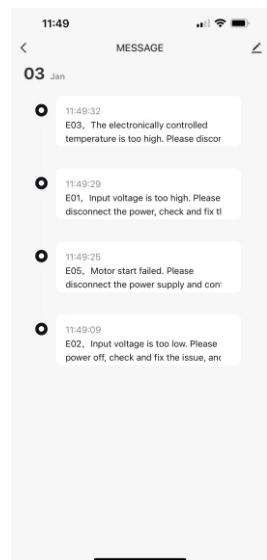
Protection Settings



1. Swipe left or right to turn on or off the "Water shortage protection". If a sensor is connected, it can display high-temperature protection and protection against water inlet blockage.
2. Swipe left or right to turn on or off the "high-temperature protection".
3. Slide left or right to turn on or off the "Anti-freeze Protection" at the water inlet".

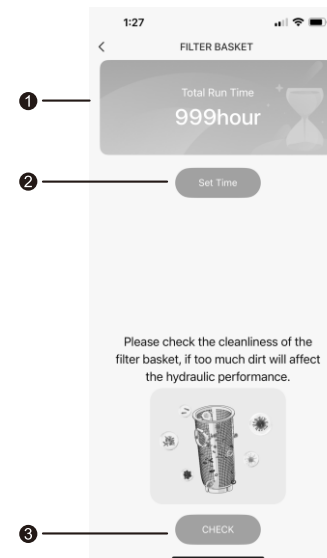


Pump Log Page

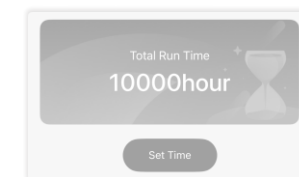


You can view detailed error information.

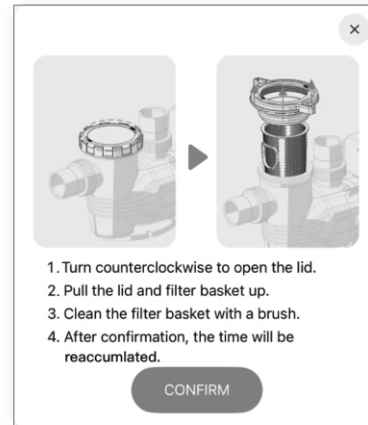
Filter Basket Reminder Page



1. It will display the cumulative runtime of the pump.
2. 1. When a reminder time is set, a pop-up will appear at the bottom after the device reaches the specified runtime, reminding the user to check the cleanliness of the filter basket. By clicking the "Set Time" button, you can set the reminder time for the next filter basket check.
2. The reminder time can be set within a range of 1000 to 10000, with a step increment of 500. Click "Confirm" to complete the setting for the next reminder time.



- 3 1. The reminder to check the filter basket will only appear at the bottom of the page after the reminder time is set and the device reaches the specified runtime.
2. Clicking the "Check" button will open the "Disassembly Guide" pop-up. After disassembling and cleaning the prefilter basket, click the "Confirm" button to reset the cumulative time, and the reminder at the bottom of the secondary page will disappear. If you click the "Close" button in the top-right corner, it will indicate that the cleaning reminder is ignored, and the reminder at the bottom of the secondary page will remain.



3. Click the current speed or switch to enter the third-level page, where you can adjust the speed and toggle the switch (the switch has the highest priority).

ON ✓
 OFF

1000 ✓
 1050
 1100
 1150
 1200

Add Schedule Page

3:48 Add Schedule Save

1 46
 2 47 AM
 3 48 PM
 4 49
 5 50
 6 51

Repeat Once >
 Note >
 Switch All ON >
 dp_set_speed 1000 >

- 1 Scroll up and down to select a specific time.
- 2 1. Click the arrow to enter the third-level page, where you can set the execution rules for the timer. You can check or uncheck the options as needed.

The action will be carried out only once if you do not select it.

Sun. ☐
 Mon. ☐
 Tues. ☐
 Wed. ☐
 Thurs. ☐
 Fri. ☐
 Sat. ☐

2. Click the arrow to enter the third-level page, where you can add a note for the timer. Click "Save" to immediately create the note, or click "Cancel" to return to the previous page.

Note

Pump No.1

Cancel Save

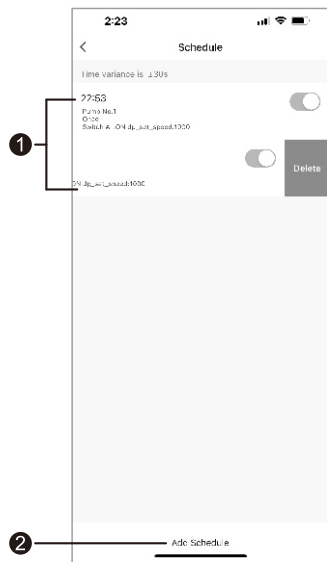
Power-on Mode Page

2:02 Intelligent variable speed pump-v... Power-on Mode

1 Power On Recovery Powered On Standby

- 1 1. Enabling "Power-on Recovery", the device defaults to the power-on state when powered on.
2. Enabling "Power on Standby", the device defaults to standby mode when powered on.
3. "Power-on Recovery" and "Power-on Standby" are mutually exclusive states.

Scheduled Timers Page

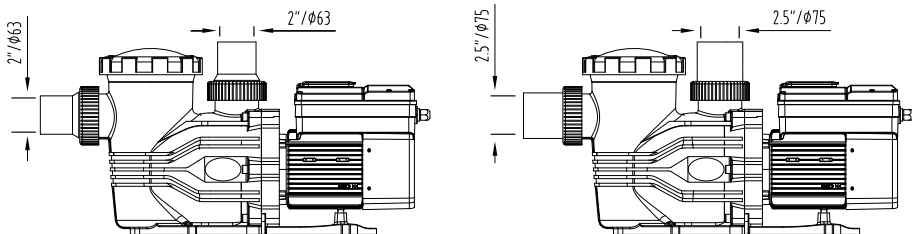


1. You can view the details of the scheduled settings.
 2. Swipe to turn the timer on or off.
 3. For any unwanted schedules, swipe left to delete them.
2. Click the "Add Schedule" button at the bottom of the screen to add a new schedule.

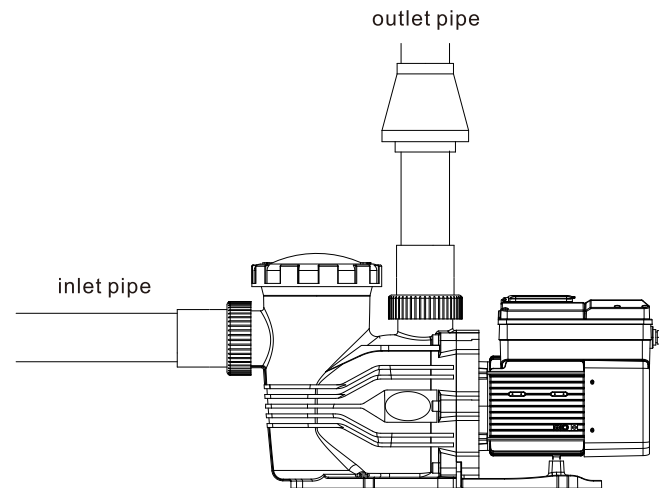
4 PRODUCT STRUCTURE DIMENSION

4.1 CONNECTION SPECIFICATIONS (INLET, OUTLET)

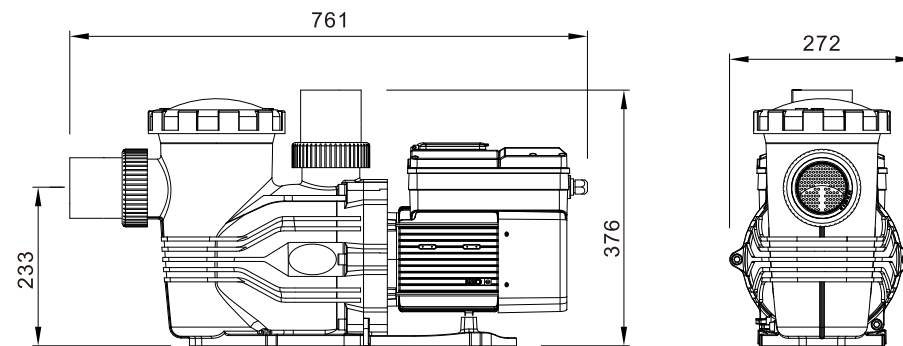
The pump comes with 2" /63mm and 2.5"/75mm port. The user can use water pipe adapters to match different sizes of pipes.



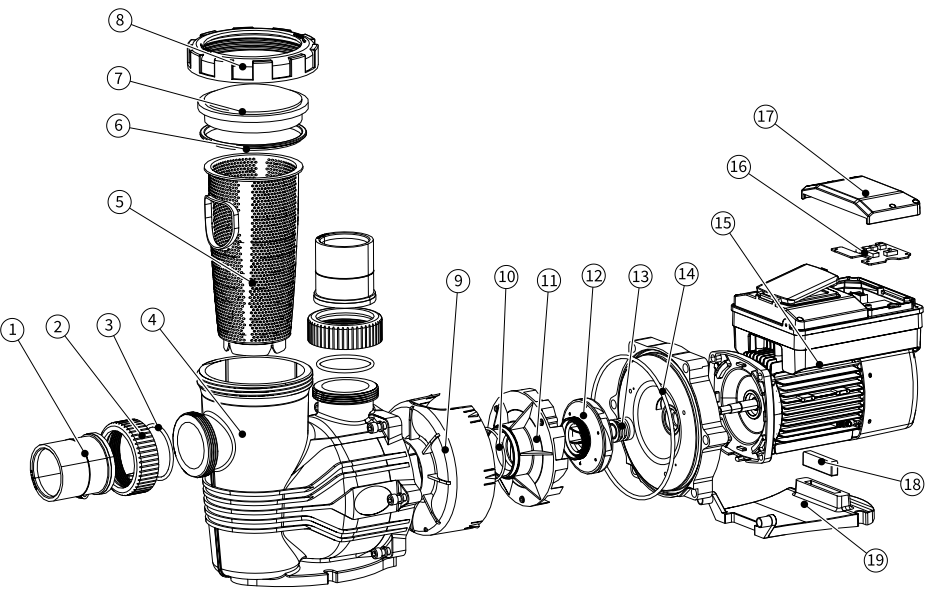
4.2 PIPING INSTALLATION GRAPH



4.3 PRODUCT SIZE SPECIFICATION (mm)



4.4 PRODUCT ASSEMBLY EXPLOSION VIEW

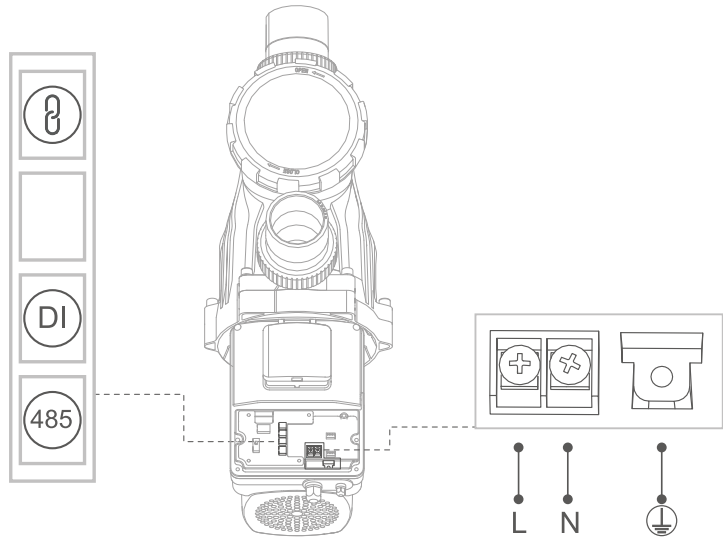


1	Pipe fitting
2	Coupling nut
3	Pipe fitting O-ring
4	Pump head
5	Basket
6	Transparent lid O-ring
7	Transparent lid
8	Nut for transparent lid
9	Diffuser cover
10	Diffuser O-ring

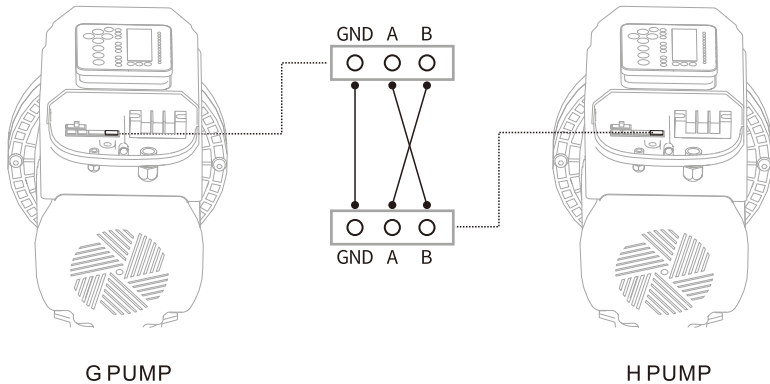
11	Diffuser
12	Impeller
13	Mechanical seal
14	Pump head gasket
15	Motor and Drive
16	Weak electricity connection board
17	Control box cover
18	Motor vibration damping pads
19	Base

5 ATTENTION TO INSTALLATION MATTERS

5.1 WIRING GUIDE



5.2 IMAGE FUNCTIONAL DESCRIPTION



Wiring debugging: two pumps image function interface using three-core wire connection, GND to GND, A to B, B to A, complete the wiring. One of the pumps dip switch to image mode (Note: If both units are switched to image mode, you can not enter the image function)

Function description: Assuming that G pump is the main equipment and H pump is the standby pump, when G pump is off, alarm or power failure, H pump can be turned on automatically, and if G pump starts normally, H pump stops automatically to satisfy the operation index of one open and one standby.

5.3 INSTALLATION PRECAUTIONS

- a. The pump needs to be installed on a flat and solid plane and fixed with hexagonal bolts;
- b. The pump inlet and outlet and piping must be aligned not to be misconnected;
- c. Pump outlet need to install check valves;
- d. The pump inlet and outlet pipes should be fixed to avoid damage to the pump due to pump vibration;
- e. The pump can not be installed in more than 2M water surface;
- f. The pump periphery needs to be reserved for adequate location of water drainage;
- g. The pump needs to be safely grounded to prevent leakage;

5.4 COMMISSIONING OPERATIONS

Pump start-up operation

- a. Empty the air inside the pipe.
- b. Open the pump inlet and outlet pipe valves to let the pre-filter pump body full of water (if the pump is installed in the horizontal plane above the transparent cover, open the pre-filter shell filled with water).
- c. Clean and check the sealing ring, and then cover the upper cover.
- d. Turn the top cover clockwise to tighten it.
- e. In the case of ensuring that all parts are connected and safe to start the pump (if the three-phase motor pump, please determine the motor steering, from the direction of the tailgate should now be clockwise rotation).
- f. After the pump is started, please observe the pump for a few minutes until the pump is running normally before leaving.

WARNING

- a. Close the inlet and outlet valves when opening the nut face cover, and loosen the drain screw to discharge the air or water pressure inside the pump before opening. When the pump is working, the drain plug, transparent cover nut and other fittings of the pump should not be loosened.
- b. Only use the matching special tool or spanner to tighten the transparent cover nut.
- c. The pump can not run in the absence of water, otherwise the mechanical seal will be damaged, resulting in water leakage or water diffusion. Never close the water outlet valve when the pump is working, such as closing the valve may lead to damage to the pump.
- d. In the lower temperature areas if the pump stops, please unscrew the open water screw plug to empty the water pump in the water, to prevent the water from freezing damage to the pump.
- e. If the pump is out of service for a long time, disconnect the power supply of the pump and close the inlet and outlet pipe valves of the pump.
- f. Before starting the pump for the first time and re-activating the pump after a long period of disablement, the pump should be turned on after checking that there is no abnormality.

6 FAULT PROTECTION AND FAULT INDICATION

Fault Code	Fault Name	Fault Description
E01	Overvoltage Protection	Pump input voltage is too high, check the power supply. Turn off the power for 3 seconds before turning it on,
E02	Low Voltage Protection	Pump input voltage is too low, check the power supply. Turn off the power for 3 seconds before turning it on.
E03	Over-heated Protection	The internal temperature of the pump is too high, and the over-heated protection is activated, check whether the operating environment temperature is too high, or whether if the air outlet is blocked. Turn off the power for 3 seconds before turning it on
E04	Phase Failure	If the motor does not start, check the internal wiring for any loose connections or wiring errors.
E05	Start up Failure	If the motor fails to start, check the circuit. Failure after 5 restart attempts indicates a potential motor or drive circuit fault (e.g., current sampling failure).
E06	Water Shortage Protection	The water pump is idling. Check whether water intake is blocked or the water inlet valve is not open. Turn off the power for 3 seconds before turning it on
E08	Overload Protection	The water pump runs abnormally and the overload protection starts, please disconnect the power supply and contact after-sales support for assistance.
E11	Keypad Failure	The pump key panel is malfunctioning, check whether the pump internal wiring is loose.
E12	PFC Module Abnormal	The pump is failure. Please contact the service for maintenance.
E13	Anti Freezing Protection	When the current water temperature is below 10°C, the pump will run for 1 minute every 5 minutes, to prevent the pump housing from damage by icing.
E15	Medium High Temperature Reminder	Detect the medium temperature in the pump is higher than 55°C, the outlet valve may be closed.(Sensor connection required)
E17	Water Outlet Blockage Protection	Detect that the outlet pressure is too high, the water pump increases the speed to 3200 rpm, and tries to flush away obstacles. Repeat twice every 5 minutes. If it is not flushed open, it will stop for protection. (Sensor connection required)
E18	Water Inlet Blockage Protection	Detects abnormal negative pressure at the water inlet. (Sensor connection required)

7 PRECAUTIONS FOR USE

(1)Wiring must be configured correctly as indicated in the wiring diagram presented in the specifications; incorrect wiring may result in a safety accident.

(2)Please avoid using in the following environmental conditions:

①Environments with severe vibration.

② Near combustible objects.

③Environments where condensation is likely to occur and where the relative humidity is 90% or more.

(iv) Please do not store the product in a state of external force and heavy load, and do not place heavy objects on the product, or the appearance of the product may be broken or the device may be damaged.

(3)Please avoid storing the product in high temperature and humid place, it is recommended that the long-term storage humidity is 40~60%RH and temperature is 20~30°C.

(4)In case of error, please refer to the error code prompts for troubleshooting. If you still can't solve the problem, please contact the salesman or call the after-sales hotline (0086)760-23127299.

