AQUA FORTE®

User Manual

Inverpro VS Pool Pump + WiFi

POND PUMP

Contents

1. Introduction

This information belongs exclusively to, and is inextricably linked to the Inverpro VS Pool Pump + WiFi. Without written permission it is not permitted to make any change to the device or the accompanying documentation.

1.1. Purpose of this manual

The purpose of this manual is to help users understand the features and functions of the Inverpro VS, and to provide guidance on how to use it safely and effectively.

The manual includes all relevant information on:

- Safety *(on page 6)* provides important information on how to use the product safely, including warnings and precautions that users should be aware of.
- Product specifications *(on page 6)* describes the dimensions, features and other relevant information about the product.
- Installation guidance *(on page 7)* provides step-by-step instructions on how to install the product, including information on electrical connections, and positioning.
- Operation *(on page 12)* explains how to use the product, including how to set the temperature, how to turn it on and off, and how to adjust the settings.
- Maintenance *(on page 24)* provides guidance on how to keep the product in good working order, including information on cleaning and regular maintenance tasks.

Overall, the product manual is an essential resource for anyone who owns or operates a Inverpro VS Pool Pump + WiFi. By following the instructions and guidance provided in the manual, users can ensure that they can get the most out of their investment.

1.2. Target audience

This pool pumpis an important investment for pool owners who want to keep their pool clean. This manual is intended for everyone using or installing a pool pump.

1.3. Intended and non-intended use

⚠ CAUTION

Safety Hazard
Make sure that the pool pump is installed according to the procedures described in this manual.

A pool pump is a device that keeps the water in your pool clean and healthy. However, it is important to understand both the intended and non-intended uses of a pool pump for this purpose. In all deviating situations, the manufacturer or an authorized dealer must be consulted in advance.

1.3.1. Intended Use

A pool pump serves several intended purposes:

- pumping dirty water to a pool filter;
- circulating pool water for better oxygen levels.

This pump is for use with permanently installed in-ground or above-ground swimming pools and may also be used with hot tubs and spas with a water temperature under 50 °C.

1.3.2. Non-Intended Use

While a pool pump can be a great way to improve pool water quality, there are also some non-intended uses that should be avoided. For example, it is not advised to use this pool pump in above-ground pools that can be readily disassembled for storage.

Additionally, this pool pump is not submersible.

Finally, a pool pump should not be used to pump any other liquids than pool water.

By understanding both the intended and non-intended uses of a pool pump, you can ensure that you are using the device in the most efficient and cost-effective way possible.

1.4. Reading guide

This manual contains important warnings and notes that highlight information relevant to the user:

⚠ WARNING

This section warns that there is a safety hazard.
Indicates a hazardous situation that could result in serious injury or death and/or serious damage to the product or environment if the safety instructions are not followed.

⚠ CAUTION

This section warns of a possibly hazardous situation.
Indicates a hazardous situation that could result in minor or moderate injury and/or damage to the product or environment if the safety instructions are not followed.

Information that is considered important but is not injury-related (e.g., information related to property damage).

Information that's useful for future use.

Information that is relevant to the context or understanding of the user.

Tips and tricks to make usage easier or more convenient.

1.5. Warranty

This product comes with a 24 month general product warranty starting at the date of purchase.

The warranty covers any defects in materials or workmanship under normal use and maintenance. If a defect arises during the warranty period, you should contact your dealer immediately.

To make a warranty claim, you must provide proof of purchase, the defective product and a description of the problem. The warranty does not cover damage caused by improper installation, unintended use, abuse, or neglect. It also does not cover normal wear and tear, or any damage caused by acts of nature such as lightning.

Any damage caused by calcium/limescale is **not** covered by the warranty!

This warranty is the sole and exclusive warranty for this pond pump. We make no other warranties, express or implied, including any warranty of merchantability or fitness for a particular purpose. In no event shall we be liable for any incidental, consequential, or special damages arising out of or in connection with the use or inability to use this product, even if we have been advised of the possibility of such damages.

2. Safety

This manual does not include site and/or country specific regulations, the installer of the drum filter is responsible for following the local rules and regulations.

We have provided important safety messages in this manual and on your device. Read all safety information and instructions. Failure to observe the safety information and instructions may result in electric shock, fire and serious injury. Keep all safety information and instructions for future reference.

2.1. Warnings

⚠ DANGER

Electrical hazard

- BEFORE cleaning the product, shut off the power!
- Normal users MUST NEVER attempt to service or open the product cover!
- If the device is malfunctioning, contact your nearest dealer or service center.
- All installations must be fitted with an earth leakage protection or a residual current protection device with a rated residual operating current not exceeding 30 mA.

⚠ CAUTION

- Packing parts (e.g. plastic bags) may be dangerous. Therefore, store away from children, domestic animals and anyone incapable of understanding the dangers. This device is not a toy.

Service and/or disposal MUST be carried out by people with proven expertise.

2.2. Safety information

- Repairs may only be carried out by a trained service technician. If repairs are required, please contact the nearest after-sales service centre. Any repairs should be performed in strict accordance with this manual.
- Don't block the product inlet and/or outlet.
- In order to increase efficiency:
  - Do not use the pump in highly polluted water.
- In case of storm/lightning, disconnect the main power supply to prevent any damage caused by lightning.
- Switch off the product during installation of and/or repairs to the product.

3. Product specifications

This pool pump is able to perform normally within an air temperature range of -10°C~42°C, but the device performance depends on the operating conditions.

The advised pool volume for this pool pump is 50-90 m^3.

Model	Voltage (V-Hz)	P1 (kW)	Qmax (m^3/h)	Hmax (m)	Circulation (m^3/h)	
					At 8m	At 10m
RD352	220~240 / 50/60	1.4	28.7	16.7	27.5	25.1

Related parameters are subject to adjustment periodically for technical improvement without further notice. For more details please refer to the nameplate of the product.

3.1. Overall dimensions (mm)

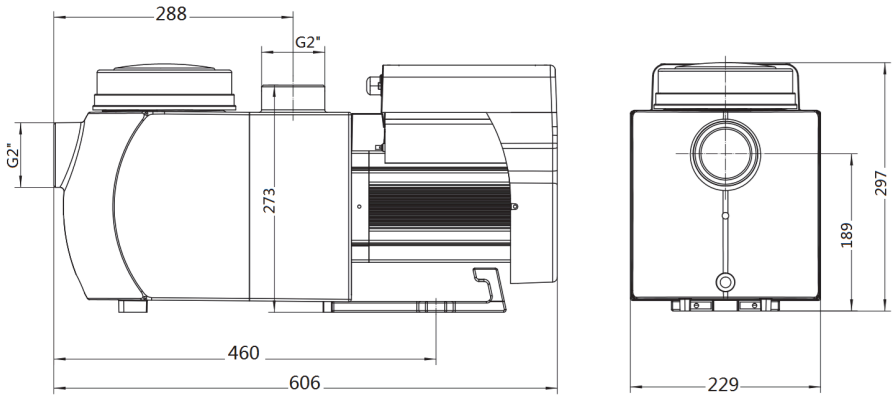

Figure 1. Front/side view

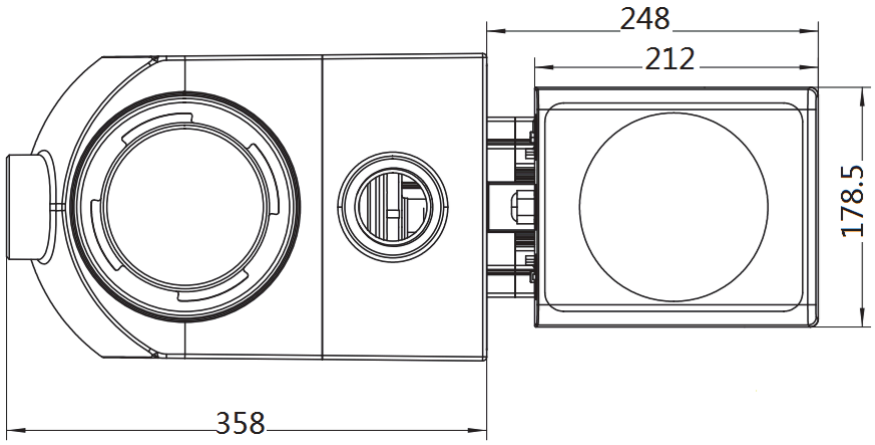

Figure 2. Top view

4. Installation guidance

⚠ WARNING

Safety hazard
Do not pump flammable liquids.
Connect only to a branch circuit protected by a ground-fault circuit interrupter (GFCI). Contact a professionally trained and qualified electrician if you cannot verify that the circuit is protected by a GFCI.
The ground wire (green/yellow) on the motor must be connected to the grounding system to prevent the risk of electric shock.

⚠ CAUTION

- Do not install the pump in a damp or non-ventilated location.
- Do not let the pump run dry: This could cause damage to the motor.
- Do not connect the pump to any other voltage than that shown on the rating lable of the pump.
- Do not use the power cord coiled to avoid induction problems.
- Do not let the pump freeze in wintertime.

The power socket used for the pump must be equipped with a leakage current protecting device. The leakage current shall not exceed 30 mA.

4.1. Installation location

Ambient temperature	Indoor installation, temperature range: -10~42°C
Water temperature	5°C~50°C
Salt pools	Salt concentration up to 0.5%, i.e. 5 g/l
Humidity	≤90% RH (20°C±2°C)
Altitude	Do not exceed 1000m above sea level
Installation height	Max. 2m above water level
Insulation	Class F, IP55

- Install the pump as close to the pool as possible. The suction and return piping should be as short as possible to reduce friction loss and improve efficiency.
- It is recommended to place the pump indoors or in the shade to avoid direct sunshine, heat and rain.
- Keep the pump and motor at least 150mm away from obstacles, as pump motors require free circulation of air for cooling.
- Install the pump horizontally.
- Attach the pump on the support in the hole with screws to prevent unnecessary noise and vibration.

4.2. Piping

- For optimal pool plumbing, a pipe size of 63mm is recommended.
- The diameter of the suction line should be the same as or larger than the inlet line diameter. This prevents the pump from sucking in air, which affects the efficiency of the pump.
- Use a special sealant for PVC material when installing the inlet and outlet fittings (joints).
- The plumbing on the suction side of the pump should be as short as possible.
- Equip the pump outlet piping system with a check valve to prevent the pump from the impact of medium recirculation and pump-stopping water hammer.

For more convenient routine maintenance, it is recommended to instal a valve on both the suction and the return lines of the pump. It is also recommended that a valve, elbow or tee installed on the suction line should be no closer to the front of the pump than seven times the suction line diameter.

4.3. Valves and fittings

- Elbows should be no closer than 350mm to the inlet.
- Do not install 90° elbows directly onto the pump inlet/outlet.
- Joints must be made tight.
- The pump inlet/outlet union size: optional with metric (50 or 63mm) or imperial (1.5” or 2”).
- In case of flooded suction systems, gate valves should be installed on the suction and return line for maintenance. The suction gate valve should be no closer to the pump than seven times the suction pipe diameter described in this section.
- Install a check valve in the return line when there is significant height between the return line and the outlet of the pump.
- Install check valves when plumbing in parallel with other pumps. This helps prevent reverse rotation of the impeller and motor.

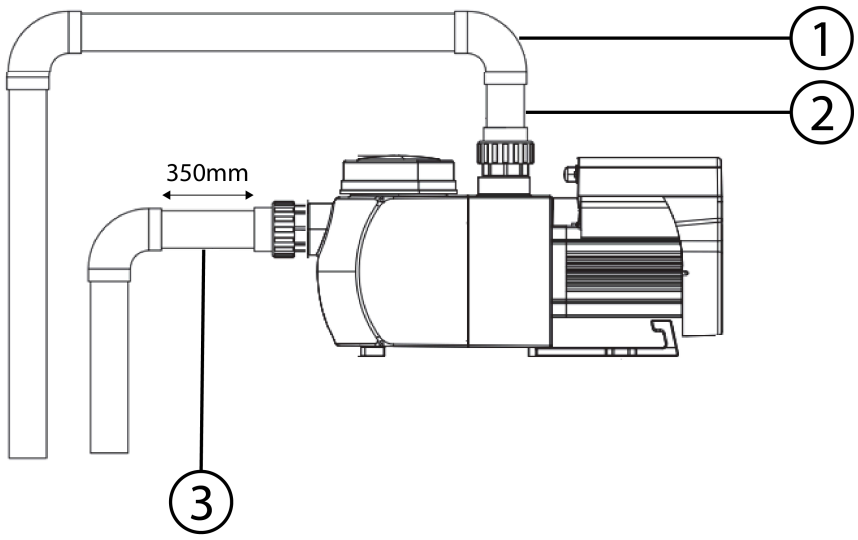

Figure 3. Valves and fittings

1. Elbow
2. Return pipe to pool (Ø 63mm)
3. Suction pipe (Ø 63mm)

4.4. Setup for external control

The device can be set up for external control. If more than one external control is enabled, the priority is as follows:

1. Digital input
2. RS485
3. Panel control

The device has the following connectors:

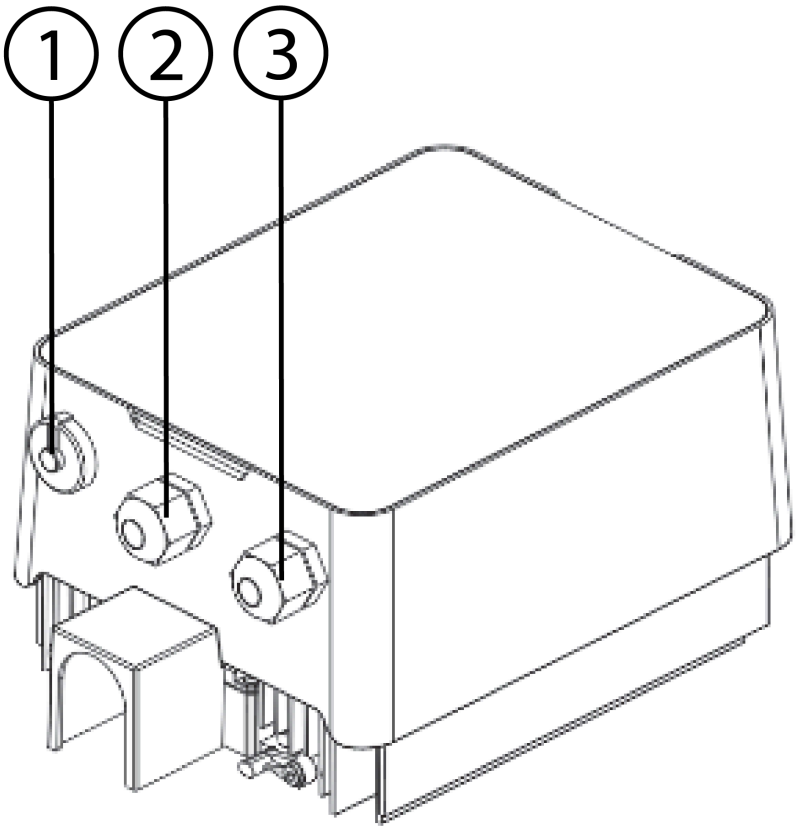

Figure 4. External control (1)

1. Connector for configurable user inputs, including Digital Input and RS485
2. Relay output
3. AC power input

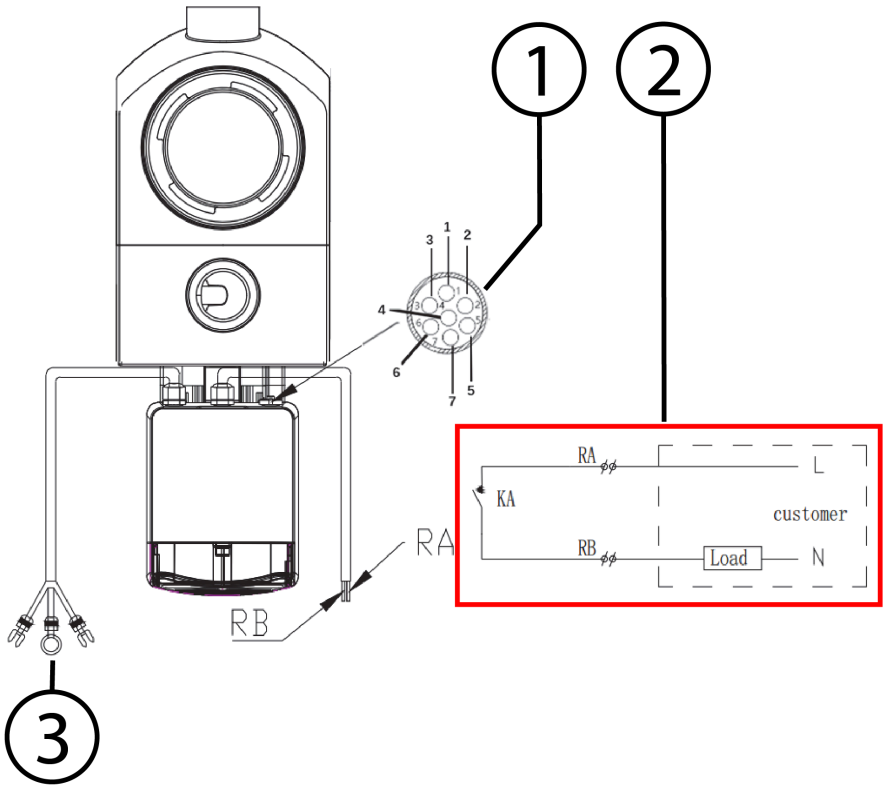

Figure 5. External control (2)

1. Connector for external control, see Table 1: PIN descriptions *(on page 12)*
2. Relay output
3. AC power input

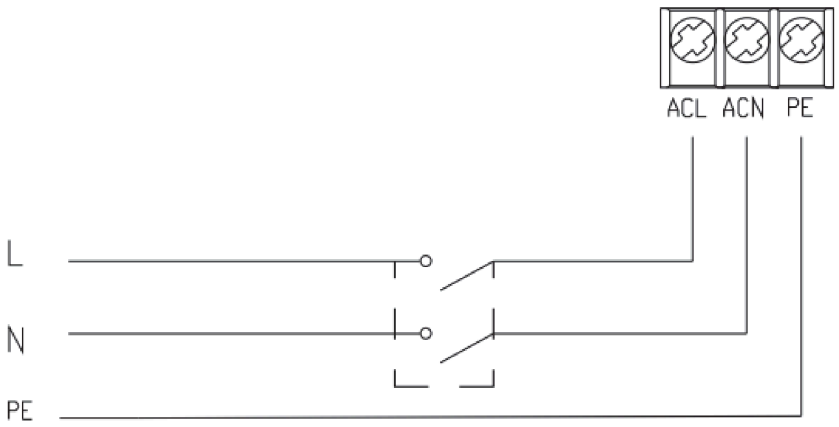

Figure 6. External control (3)

- L = Brown
- N = Blue
- PE = Yellow and green

Table 1. PIN descriptions

Name	Color	Description
PIN 1	Red	Digital Input 4
PIN 2	Black	Digital Input 3
PIN 3	White	Digital Input 2
PIN 4	Grey	Digital Input 1
PIN 5	Yellow	Digital Ground
PIN 6	Green	RS485 A
PIN 7	Brown	RS485 B

4.4.1. Digital input

The running capacity is determined by the state of the digital input.

- When PIN4 connects with PIN5, the pump will be forced to stop. If disconnected, the digital controller will be invalid.
- When PIN3 connects with PIN5, the pump will be forced to run at 100%. If disconnected, the control priority will go back to panel control.
- When PIN2 connects with PIN5, the pump will be forced to run at 80%. If disconnected, the control priority will go back to panel control.
- When PIN1 connects with PIN5, the pump will be forced to run at 40%. If disconnected, the control priority will go back to panel control.

The capacity of the inputs (PIN1/PIN2/PIN3) can be modified according to the parameter setting.

4.4.2. RS485

The device can be controllerd via Modbus 485 communication protocol through connection with PIN6 and PIN7.

4.4.3. Relay output (optional)

Connect terminal L & N to enable external control. An additional on-off relay is necessary when bearing power is greater than 500W (2.5A).

5. Operation

⚠ CAUTION

- Fill the pump with water before starting. Do not run the pump dry. In case of dry run, the mechanical seal will be damaged and the pump will start leaking.
- Ensure that the inlet and outlet of the pump are unblocked with foreign matter.

After the first self-priming, the pump will redefine the adjustable flow range. The pipeline pressure will be recorded by the system after the pump has run at the set flow/capacity for 3 minutes without other operation. During the running of the pump, if it is detected that the pipeline pressure changes beyond a certain range, the icon of % or m³/h (or another flow rate unit) will flash for 5 minutes. If the change lasts for 5 minutes, the pump will perform a self-priming and self-learning procedure (see Self-priming *(on page 14)* , and redefine the flow range accordingly.After redefinining the flow range, the pump will automatically adjust the running capacity to reach the set flow.

5.1. Before initial startup

Check the following before using the pump for the first time:

- Check whether the pump shaft rotates freely.
- Check whether the power supply voltage and frequency conform to those indicated on the nameplate.
- Check if the motor rotates clockwise, when facing the fan blade.

5.2. Control panel

The control panel of the device contains the following elements:

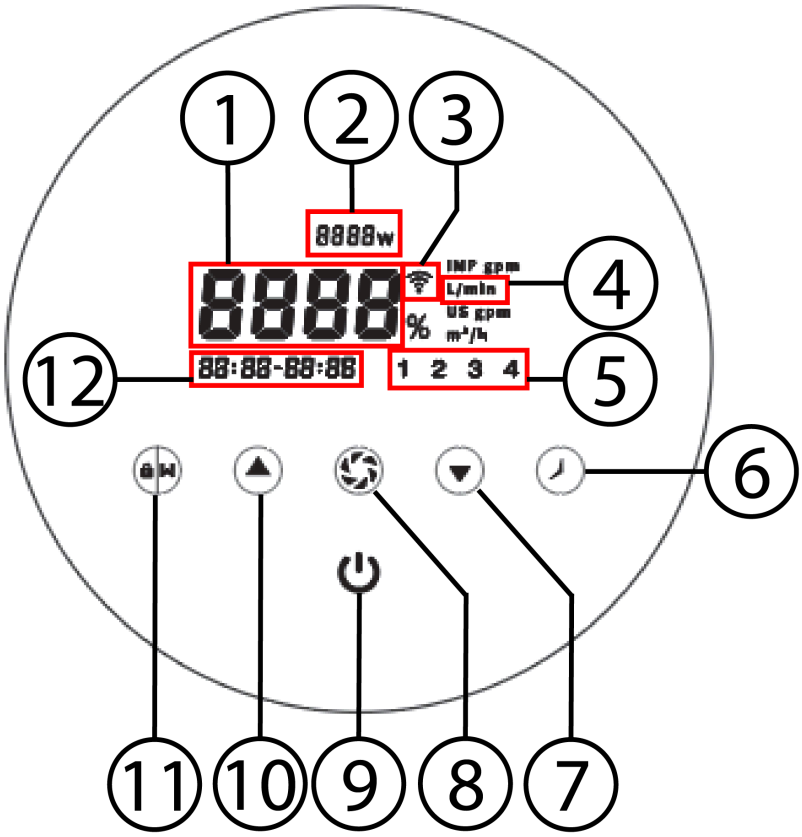

Figure 7. Control panel

1. Running capacity/flow rate
2. Power consumption
3. WiFi indicator
4. Unit of flow
5. Timer indicator
6. Timer button
7. Down button (to change capacity/flow/time)
8. Mode button
9. On/off button
10. Up button (to change capacity/flow/time)
11. Backwash/unlock button
12. Timer period

5.3. Startup

1. Switch on the power.

   ↳ The screen will fully light up for 3 seconds. The device code will be displayed. The device will now enter the normal working state.

2. If the screen is locked, only the Backwash/unlock button will light up. Press and hold the Backwash/unlock button for at least 3 seconds.

   ↳ The other buttons will all light up.

The screen will automically be locked if there is no operation for more than 1 minute. The brightness of the screen is reduced by 1/3. Shortly press the Backwash/unlock button to wake up the screen.

5.4. Self-priming

The pump is delivered with self-priming enabled. Each time the pump restarts, it will perform self-priming automatically. To disable the self-priming, enter the parameter setting (see Parameter setting *(on page 15)*).

If the default self-priming function is disabled, and the pump has not been used for a long time, the water level in the basket may drop. To manually activate the self-priming function:

1. Press the Backwash/unlock button and Mode button simultaneously for 3 seconds.
2. Adjust the period between 600s to 1500s (default value is 600s).
3. After the manual self-priming is completed, the pump will perform self-learning for 180s to redefine the flow range of the system.
4. Press and hold the Backwash/unlock button at least 3 seconds to exit the manual self-priming. The pump will perform self-learning for 180s after the next restart.

5.4.1. Self-priming

When the system performs self-priming, it will count down from 1500s and stop automatically when the system detects that the pump is full of water. The system will then recheck again for 30s to make sure the self-priming is completed.

To exit self-priming manually, press and hold the Backwash/unlock button for 3 seconds. The pump will start the self-learning process for 180s and then enter the default Manual Inverter Mode.

If the user exits the self-priming after the following start up, the pump will run with the mode and settings that were active before the last shut-down.

5.4.2. Self-learning

After the first self-priming is completed, the system will perform the first time self-learning for 180s, and redefine the adjustable flow range of the pump by detecting the pipeline pressure. For example: The default adjustable flow range of InverHero IH30 is 5-30m³/h. After self-learning, the range may be redefined to 7-25 m³/h. The user can still set 30m³/h in this situation and the pump will adjust the running capacity automatically to reach the current reachable max. flow rate (25m³/h). The flow display on the controller will turn back to 25m³/h after 3 seconds.

5.5. Backwash

1. Press the Backwash/unlock button to start the backwash or fast re-circulation in any running state.
2. Use the Down and Up button to adjust the time. The time can be set between 0 and 1500s, with 30s for each step.
3. The running capacity is 100% by default. To change it, enter the parameter setting between 80~100% (see Parameter setting *(on page 15)*).
4. Press and hold the Backwash/unlock button for 3 seconds after the backwash is completed or disabled. The pump will return to the normal operating state before backwash.

5.6. Manual Inverter Mode

1. Press and hold the Backwash/unlock button more than 3 seconds to unlock the screen.
2. Press the On/off button to start.

   ↳ The pump will un at 80% of the running capacity after self-priming.

3. Press the Up or Down button to set the running capacity between 30~100%. Each step is 5%.
4. Press the Mode button to switch to Auto Inverter Mode.

5.7. Auto Inverter Mode

In the Auto Inverter Mode, the pump can automatically detect the system pressure and adjust the speed of the motor to reach the set flow.

1. Press and hold the Backwash/unlock button for at least 3 seconds to unlock the screen.
2. Press the Mode button to switch from the Manual Inverter Mode to the Auto Inverter Mode.
3. Press the Up or Down button to adjust the flow rate. Each step is 1 m^3/h.
4. Press and hold the Up button and Mode button simultaneously for 3 seconds to change the unit of the flow rate.
   The flow rate can be changed to lpm, IMP gpm or US GPM. The default is m^3/h.
5. Press the Mode button to switch to Manual Inverter Mode.

5.8. Timer Mode

The operating status and running capacity of the pump can be controlled by timer. The timer can be programmed daily, as needed.

1. Press the Timer button to enter the timer setting.
2. Set the local time with the Up and Down button.
3. Press the Timer button to confirm and move to the Timer 1 setting.
4. Press the Up or Down button to choose the desired running period, running capacity or flow rate.
   When the % icon is flashing, press the Mode button to switch to setting the flow rate, if needed.
5. Repeat the above steps to set the other 3 timers.
   All 4 time periods should be set in chronological order. Any overlap between the periods will be considered invalid and the pump will only run based on the previous valid setting. If all 4 settings are invalid, the Timer period will flash with an empty value and the Timer indicator will flash. Press the Timer button to reset the time period again.
6. Press and hold the Up and Down button simultaneously for 3 seconds to return to a previous setting.
7. Press and hold the Timer button for 3 seconds to save the settings.
   It is not necessary to set all 4 timers if you do not need them. Press and hold the Timer button for 3 seconds and the system will automatically save the current set value and activate the timer mode.
8. Use the Up and Down button to check the settings for each timer.

When the timer mode is activated, and the current time falls within a set time period, the pump will start running with the set running capacity or flow rate.

If the current time does not fall within a set time period, the timer number (1, 2, 3 or 4) that will start running next flashes on the Timer indicator. The Timer period on the control panel will display the corresponding time period.

5.9. Parameter setting

5.9.1. Restore factory settings

1. Turn off the device with the On/off button.
2. Press and hold the Timer button and Up button simultaneously for 3 seconds to restore the factory settings.

5.9.2. Check the software version

1. Turn off the device with the On/off button.
2. Press and hold the Timer button and Down button simultaneously for 3 seconds to view the software version.

5.9.3. Manual priming

1. Turn on the device with the On/off button.
2. Press and hold the Backwash/unlock button and Mode button simultaneously for 3 seconds to start manual priming.

5.9.4. Enter parameter settings

1. Turn off the device with the On/off button.
2. Press and hold the Up button and Down button simultaneously for 3 seconds.
3. If the current address does not need to be adjuster, press and hold the Up button and Down button simultaneously to move to the next address.
4. Refer to the table below for the purpose of each address:

Table 2. Parameter address

Parameter address	Description	Default setting	Setting range
1	PIN3	100%	30~100%, increments of 5%
2	PIN2	80%	30~100%, increments of 5%
3	PIN1	40%	30~100%, increments of 5%
4	Backwash capacity	100%	80~100%, increments of 5%
5	Control mode of analog input	0	0: Current control
			1: Voltage control
6	Enable or disable the priming that occurs at each start	25	25: Enables
			0: Disables

5.10. Protection and failure

5.10.1. High temperature warning and speed reduction

The device has a high temperature warning state that works in "Auto Inverter/Manual Inverter Mode" and "Timer mode" (except during backwash/selfpriming).

- When the module temperature reaches the trigger threshold (81°C), it enters the high temperature warning state.
- When the temperature drops to the release threshold (78°C), the high temperature warning state is released.

The display area alternately displays AL01 and the running speed or flow. If AL01 is displayed for the first time, the running capacity will be automatically reduced:

- If the current operating capacity is higher than 85%, the running capacity will be automatically reduced by 15%.
- If the current operating capacity is higher than 70%, the running capacity will be automatically reduced by 10%.
- If the current operating capacity is lower than 70%, the running capacity will be automatically reduced by 5%

When AL01 is displayed and it is not the first time, it is recommended to check the module temperature every 2 minutes. For every 1-degree Celsius increase compared to the previous period, thespeed will decrease by 5%.

5.10.2. Undervoltage protection

When the device detects that the input voltage is less than 197V, the device will limit the current running speed.

- When the input voltage is less than or equal to 180V, the running capacity will be limited to 70%.
- When the input voltage range is within 180V ~ 190V, the running capacity will be limited to 75%.
- When the input voltage range is within 190V ~ 197V, the running capacity will be limited to 85%.

6. InverFlow app

The app named “InverFlow” can be downloaded from the App Store for Apple users, or from Google Play for Android users. Search for “InverFlow” in the App Store or Google Play to download the application.

The app is subject to updates without notice.

Data shown in the app is for reference only. Weather forecasts and power consumption data may be affected by network problems or imprecisions in calculations.

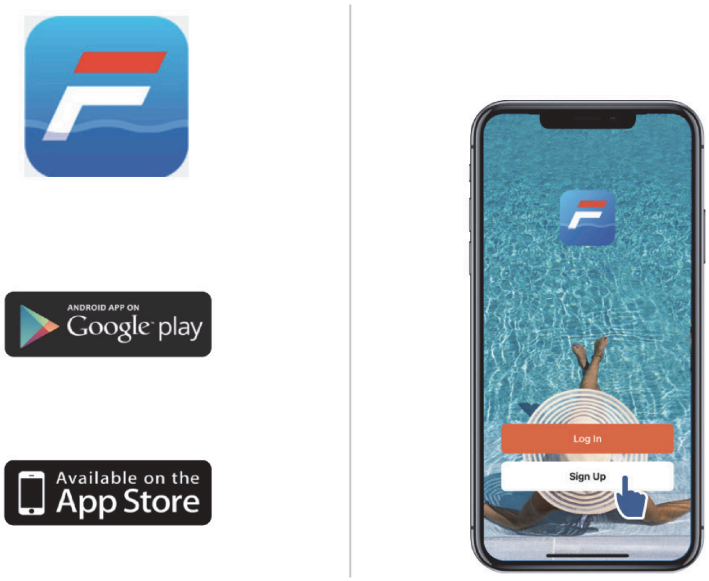

Figure 8. InverFlow

Press the Sign Up button to register by e-mail or a third party application.

6.1. E-mail registration

1. Press the Sign Up button on the main screen.
2. Enter your e-mail address and follow the instructions on screen to get a verification code.
3. Enter the verification code.

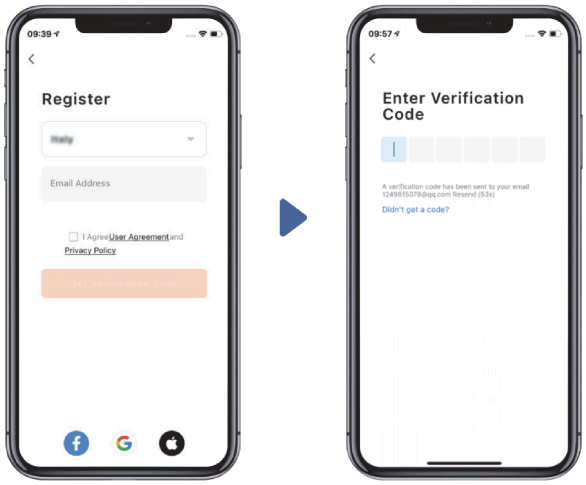

Figure 9. E-mail registration

6.2. Third-party application registration

1. Press the Sign Up button on the main screen.
2. Choose your preferred third-party application to register with.
3. Sign up with your details for the third-party application.

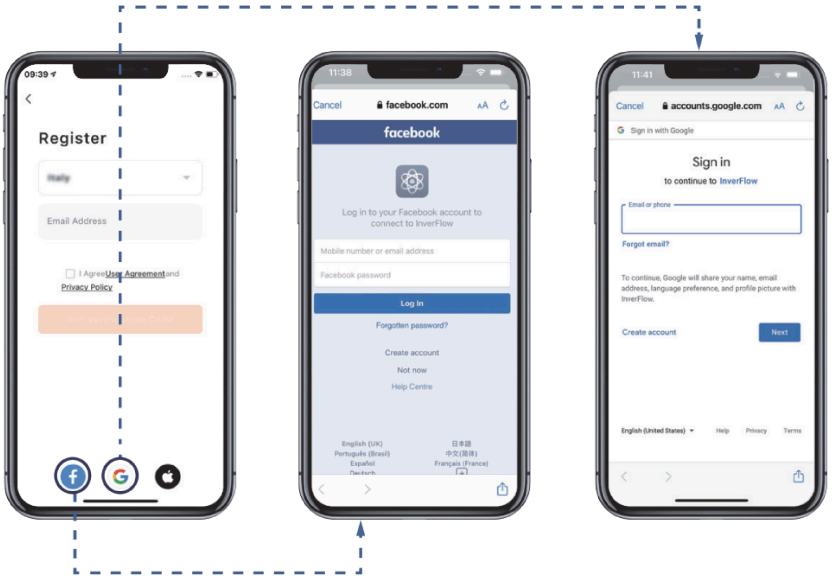

Figure 10. Third-party application registration

6.3. Create a home

Follow the steps below to set up your home in the application. Setting your location will allow the app to show you weather details.

1. Press the Me button in the bottom right.
2. Press Home Management.
3. Tap and enter your Home Name.
4. Tap and enter your Location, if needed.

6.4. App pairing

Make sure the pump is turned on before pairing.

6.4.1. Pairing with WiFi and Bluetooth (recommended)

Network requirement:

- 2.4GHz, or
- 2.4GHz and 5GHz into one SSID

A separate 5GHz network is not suitable.

1. Confirm that your phone is connected to WiFi and your Bluetooth is on.
2. Press and hold the Backwash/unlock button for 3 seconds until a beep is heard to unlock the screen.
3. Press and hold the On/off button for 5 seconds until a beep is heard and release. The WiFi indicator will flash.
4. In the InverFlow app, go to the Home screen.
5. Press Add Device.
6. Under Discovering devices.., press Add.
7. Enter the login details for the WiFi network and press Next. The app should start adding the device.
8. Press Next once the device is added.
9. Press Done in the top right to close the window.

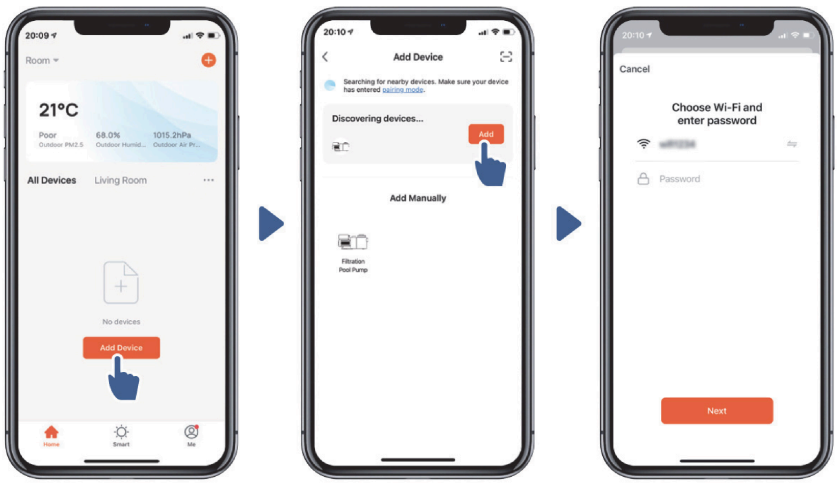

Figure 11. Pairing with WiFi and Bluetooth (1)

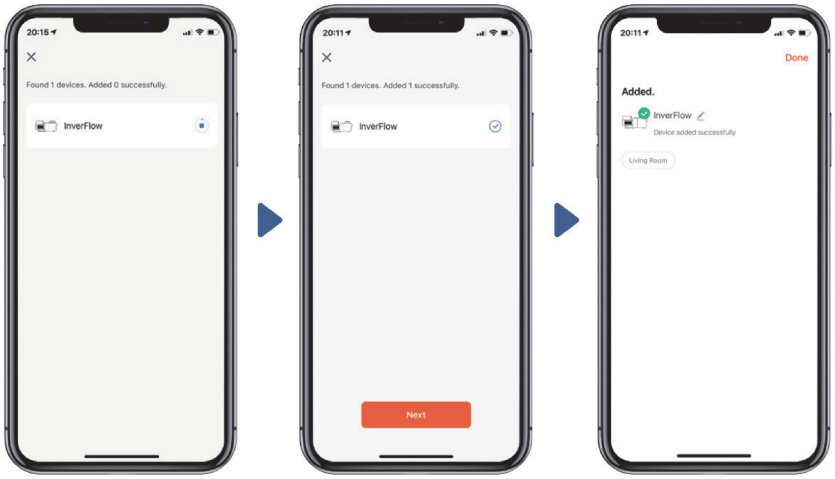

Figure 12. Pairing with WiFi and Bluetooth (2)

6.4.2. Pairing with WiFi (2.4GHz only)

Network requirement:

- 2.4GHz only

1. Confirm that your phone is connected to WiFi and your Bluetooth is on.
2. Press and hold the Backwash/unlock button for 3 seconds until a beep is heard to unlock the screen.
3. Press and hold the On/off button for 5 seconds until a beep is heard and release. The WiFi indicator will flash.
4. In the InverFlow app, go to the Home screen.
5. Press Add Device.
6. Under Add Manually, press the Filtration Pond Pump.
7. Enter the login details for the WiFi network and press Next.
8. Follow the instructions shown in the app. The app should start adding the device.
9. Press Done in the top right to close the window.

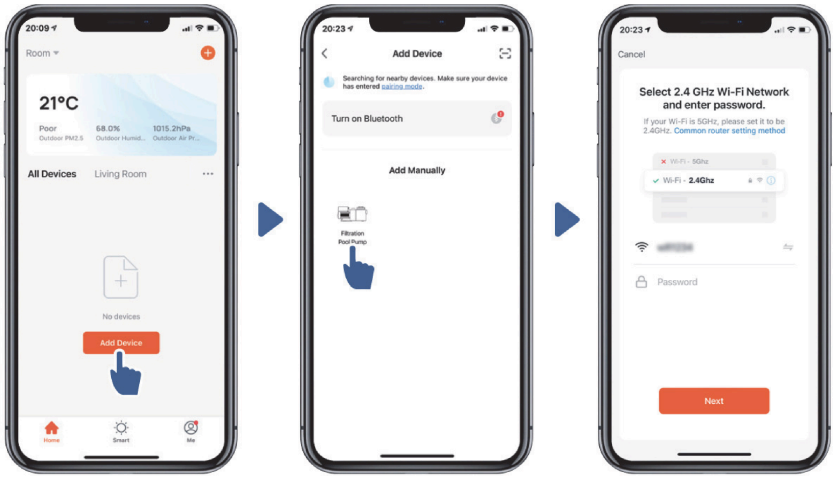

Figure 13. Pairing with WiFi (1)

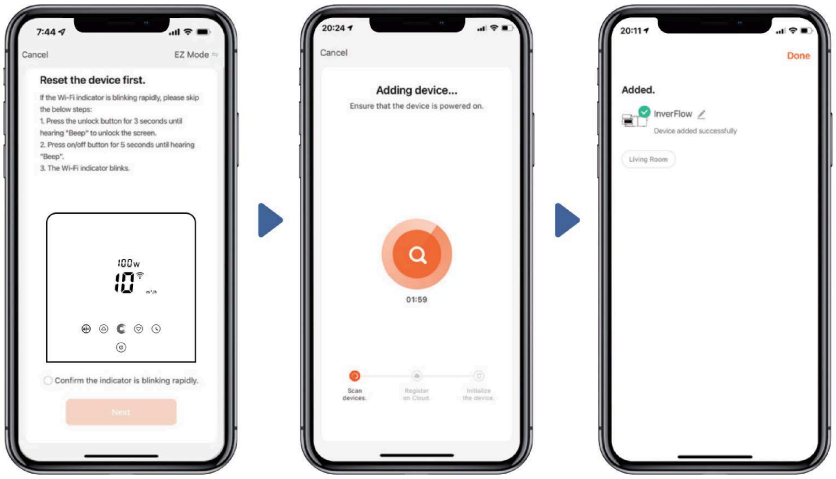

Figure 14. Pairing with WiFi (2)

6.5. Using the application

The app can be used in Auto Inverter Mode or in Manual Inverter Mode.

6.5.1. Auto Inverter Mode

When Auto Inverter Mode is used, the application has the following features:

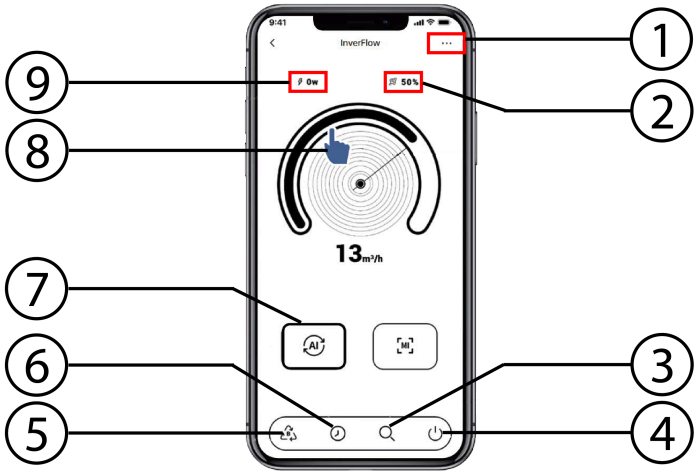

Figure 15. Operation with Auto Inverter Mode

1. Change the flow rate units/View the error code list.
2. Displays the real-time running capacity.
3. Data.
4. On/off.
5. Backwash.
6. Timer.
7. Auto Inverter Mode.
8. Turn the control dial to set the flow rate.

6.5.2. Manual Inverter Mode

When Manual Inverter Mode is used, the application has the following features:

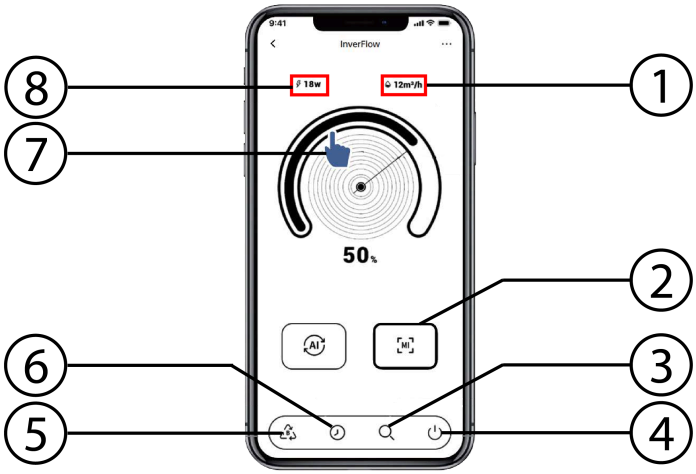

Figure 16. Operation with Manual Inverter Mode

1. Displays the real-time flow rate.
2. Manual Inverter Mode.
3. Data.
4. On/off.
5. Backwash.
6. Timer.
7. Turn the control dial to set the running capacity.
8. Displays the real-time power consumption.

6.6. Sharing devices

A device can be shared so that multiple people can control it from their own smartphone. Make sure that all devices have the InverFlow app installed first. The administrator of the device can follow the steps below to share the device:

1. Open the InverFlow app and go to the settings in the top right.
2. Press Device settings.
3. Press Share Device.

Figure 17. Sharing devices (1)

4. Press the Add Sharing button.
5. Press Share with the Account InverFlow.

6. Enter the account details.

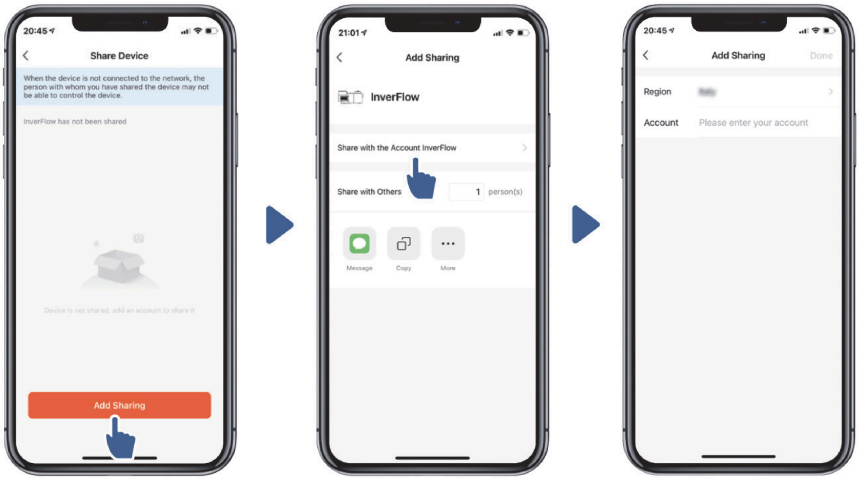

Figure 18. Sharing devices (2)

6.7. Feedback

You can view Frequently Asked Questions and give feedback on the device by following the steps below:

1. In the InverFlow app, press on Me in the bottom right.
2. Press on FAQ & feedback.

   The screen gives a list of Frequently Asked Questions with answers. You can search for keywords at the top.

3. Press on Unresolved? Send Feedback at the bottom to submit feedback.
4. Enter information about the issue and Submit.

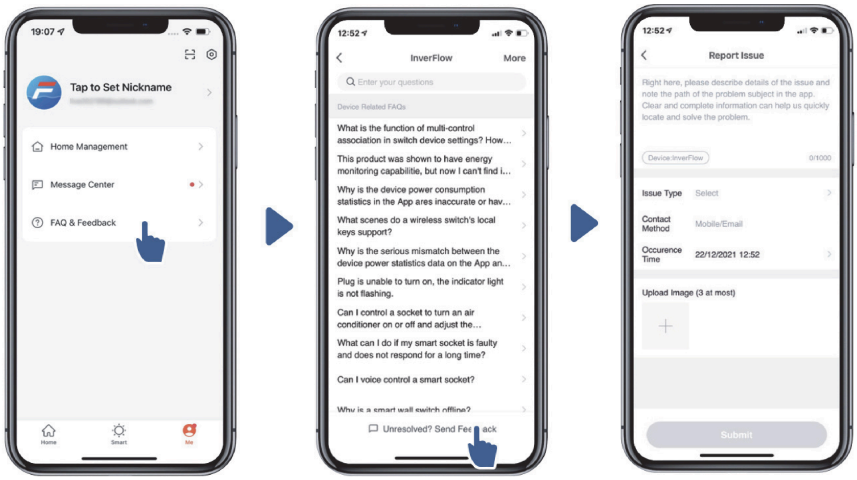

Figure 19. Feedback

7. Maintenance

⚠ CAUTION

- Always disconnect the power cord from the electrical outlet before handling the pump.
- The pump shaft cannot be removed.

- Monthly maintenance will prolong the pump's life.
- Maintenance should only be carried out by people with proven expertise.

7.1. Emptying the strainer basket

Frequently inspecting and cleaning the strainer basket will help prolong its life. The basket can be viewed through the transparent lid and should be emptied when there is rubbish building up inside.

1. Disconnect the power supply.
2. Remove the lid of the strainer basket by turning it counterclockwise.
3. Lift up the strainer basket.
4. Empty the strainer basket and rinse it out if necessary.

Do not hit the basket on a hard surface to get the rubbish out. The basket might be damaged.

5. Inspect the basket for any signs of damage. Replace it if necessary.
6. Place the basket back in the pump.
7. Check the O-ring of the lid for signs of stretching, tearing, cracking or other damage. Replace it if necessary.
8. Place the lid back and hand-tighten it.

8. Troubleshooting

Table 3. Troubleshooting

Problem	Possible causes	Possible solutions
Pump does not start	Power supply fault; disconnected or defective wiring	
	Fuses blown or thermal overload open	
	Motor shaft obstructed	Check the motor shaft for free movement and lack of obstruction
	Long idle time	Unplug the power supply and manually rotate the rear shaft of the motor a few times with a screwdriver
Pump does not prime	Pump/strainer house empty	Make sure the pump/strainer house if filled with water and the O-ring of the cover is clean
	Loose connections on the suction side	Check if the connections on the suction side have been installed correctly
	Strainer or skimmer basket full with debris	Empty the strainer basket
	Suction side clogged	Check the suction side for obstructions and remove if necessary
	Distance between pump inlet and liquid level is higher than 2m	Lower the height of the pump installation
Low water flow	Pump does not prime	

Table 3. Troubleshooting (continued)

Problem	Possible causes	Possible solutions
	Air entering suction piping	Make sure the suction piping is fully below water level
	Basket full of debris	Empty the basket
	Inadequate water level in pool	
Excessive noise from pump	Air leak in suction piping	
	Cavitation caused by restricted or undersized suction line	
	Leak at a joint	
	Low water level in pool	
	Unrestricted discharge return lines	
	Vibrations caused by improper installation	
	Damaged motor bearing or impeller	Contact the supplier for repair

8.1. Error codes pool pump

When the device detects a failure (except for the running capacity reduction strategy and 485 communication failure), it will power off automatically and display the error code. After the power has been off for 15 seconds, check if the error code is cleared. If cleared, the device will resume to start.

Table 4. Error codes

Item	Error code	Description
1	E001	Abormal input voltage
2	E002	Output overcurrent
3	E101	Heat sink overheat
4	E102	Heat sink sensor error
5	E103	Master driver board error
6	E104	Phase-deficient protection
7	E105	AC current sampling circuit failure
8	E106	DC abnormal voltage
9	E107	PFC protection
10	E108	Motor power overload
11	E201	Circuit board error
12	E203	RTC time reading error
13	E204	Display board EEPROM reading failure
14	E205	Communication error
15	E207	No water protection
16	E208	Pressure sensor failure
17	E209	Loss of prime

When E002/E101/E103 is displayed, the device will resume working automatically. However, when it appears a fourth time, the device will stop working. To resume operation, unplug the device, plug it back in and restart it.

9. Disposal

When disposing of your old device, please do so safely and properly to protect the environment and comply with local regulations.

AQUA® FORTE

SIBO Fluidra Netherlands B.V.
Doornhoek 3950
5465 TC Veghel (NL)
T +31 (0) 413 – 29.39.18
E info@fluidra.com