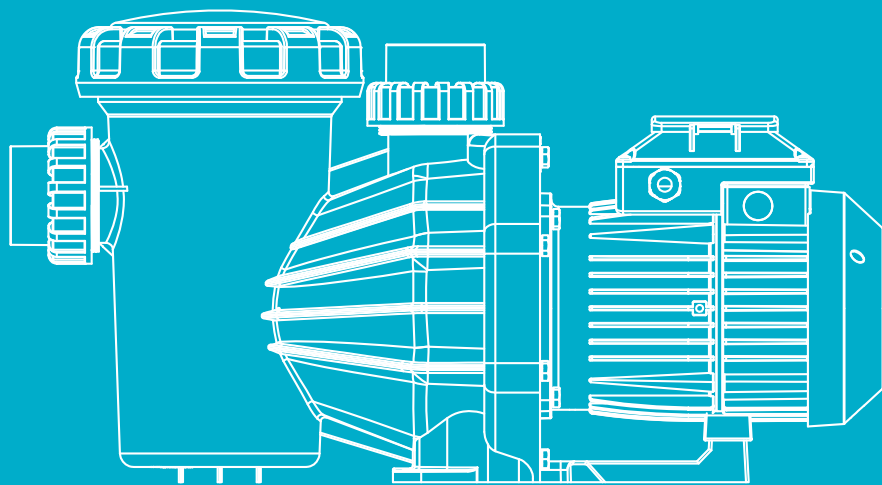




ECOWAVE PUMP

With Wi-Fi AND MODBUS OPTIONS



USER MANUAL



RoHS
COMPLIANT
2002/95/EC

SAA

Model: **ECWV125 / ECWV165**

WARNINGS AND SAFETY INSTRUCTIONS

GENERAL WARNING

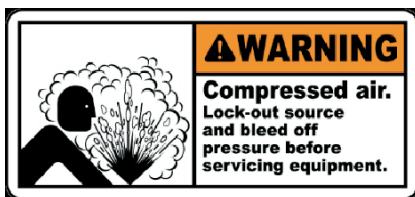
This instruction contain general caution information for use in Pool and SPA pump installation application. Specified Pump model function should be refer to particular manual. Components such as the filtration system, pumps and heater must be positioned so as to prevent their being used as means of access to the pool by young children.



RISK OF ELECTRICAL SHOCK

This appliance should be installed by qualified electrical personnel in accordance with National Electrical Code and all applicable local codes and ordinances. Hazardous voltage can shock, burn, and cause death or serious property damage. DO NOT use an extension cord to connect unit to electric supply to reduce the risk of electric shock.

1. The pump should be permanently connected to an individual circuit breaker.
2. Pump must be connected to a residual current device (RCD) having a rated residual operating current Not exceeding 30 mA or receptacle with ground fault circuit interrupter (GCFI).
3. Electrical grounding must be connected before connecting to electrical power. Failure to ground all electrical equipment can cause serious or fatal electrical shock hazard.
4. Bonding: Use at least #8 AWG (#6 AWG for Canada) a solid copper conductor, run a continuous wire from external bonding lug (if available) to the pressure wire connector provided on the electrical equipment and to all metal parts of swimming pool, spa, or hot tub, and metal piping (except gas piping), and conduit within 1.5 m (5 ft) of inside walls of swimming pool, spa, or hot tub.
5. Never open the inside of the drive motor enclosure. There is a capacitor bank that holds a mains supply voltage charge even when there is no power to the unit. The voltage should be referred to the individual pump operation voltage.
6. The pump is capable of high flow rates; use caution when installing and programming to limit pumps performance only.
7. Switch OFF pump power before servicing and disconnecting the main circuit to the pump.
8. Never change the filter control valve position while the pump is running.



COMPRESS AIR HAZARDOUS

This system enclosed pre-filter / filter and become pressurized. Pressurized air can cause the Lid to separate which can result in serious injury or death.

Pool and spa circulation systems operate under high pressure. When any part of the circulating system (i.e. lock ring, pump, filter, valves, etc.) is serviced, air can enter the system and become pressurized. Filter tank Lid and pre-filter cover must be properly secured to prevent violent separation. Place pre-filter / filter air relief valve in the open position and wait for all pressure in the system to be relieved before remove the lib to access the basket for cleaning.



HYPERTHERMIA

SPA water temperature excess 38°C (104°F) may be injurious to health. Measure water temperature before entering SPA. Hyperthermia occurs when the internal temperature of the body reaches a level several degrees above the normal body temperature of 98.6 °F (37 °C). The symptoms of hyperthermia include drowsiness, lethargy, and an increase in the internal temperature of the body.



SUCTION ENTRAPMENT HAZARD

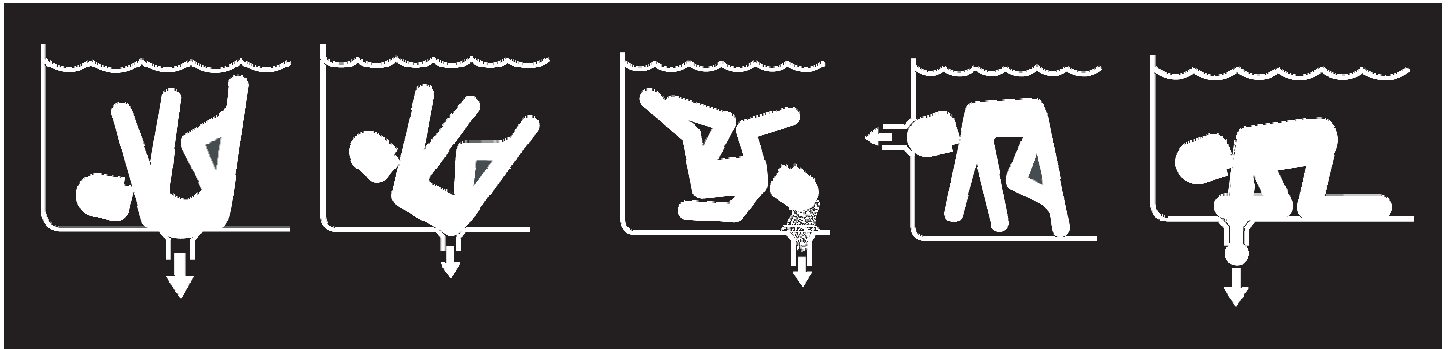
This pump produces high levels of suction and creates a strong vacuum at the main drain at the bottom of your pool and spa. This suction is so strong that it can trap adults or children under water if they come in close proximity to a pool or spa drain or a loose or broken drain cover or grate. The Virginia Graeme Baker (VGB) Pool and Spa Safety Act creates new requirements for owners and operators of commercial swimming Pools and spas.

Commercial pools or spas constructed on or after December 19, 2008, shall utilize:

1. A multiple main drain system without isolation capability with suction outlet covers that meet ASME/ANSI A112.19.8a Suction Fittings for Use in Swimming Pools, Wading Pools, Spas, and Hot Tubs and either:
 - 1.1 A safety vacuum release system (SVRS) meeting ASME/ANSI A112.19.17 Manufactured Safety Vacuum Release systems (SVRS) For Residential and Commercial Swimming Pool, Spa, Hot Tub, and Wading Pool Suction Systems and/or ASTM F2387 Standard Specification for Manufactured Safety Vacuum Release Systems (SVRS) for Swimming pools, Spas and Hot Tubs or
 - 1.2 A properly designed and tested suction-limiting vent system or
 - 1.3 An automatic pump shut-off system.

Commercial pools and spas constructed prior to December 19, 2008, with a single submerged suction outlet shall use a suction outlet cover that meets ASME/ANSI A112.19.8a and either: 1. A SVRS meeting ASME/ANSI A112.19.17 and/or ASTM F2387, or 2. A properly designed and tested suction-limiting vent system, or 3. An automatic pump shut-off system, or 4. Disabled submerged outlets, or 5. Suction outlets shall be reconfigured into return inlets.

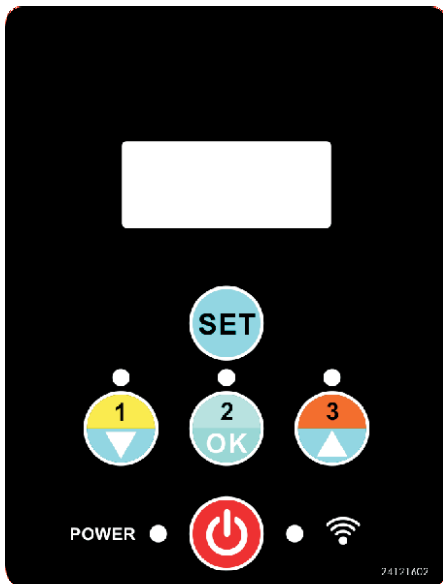
There are five types of suction entrapment according to The Virginia Graeme Baker (VGB) Pool and Spa Safety Act 1 Body Entrapment a section of the torso becomes entrapped 2 Limb Entrapment an arm or leg is caught by or pulled into an open drainpipe 3 Hair Entrapment or entanglement hair is pulled into and/or wrapped around the grate of the drain cover 4 Mechanical Entrapment the bather's jewellery or clothing gets caught in the drain or the grate 5 Evisceration the victim's buttocks come into contact with the pool suction outlet and he or she is disembowelled.



TO REDUCE ENTRAPMENT HAZARD RISK



Two function suction outlets per pump must be installed to prevent entrapment. The minimum separate of suction on the same plate must be at least point to point measurement 1 meter (3ft) apart. It is used to avoid "dual blockage" by bather. If suction is found damage, broken, cracked, missing or not securely attached during regular checking, shut down the pool and replace it immediately. A vacuum release or vent system is recommended to install for suction entrapment release.



Control and LED	Description
1) Speed Display	Displays the current motor speed, menu or error codes.
2) "SET" Button	Used to enter set menu (hold for at least 3 seconds).
3) "Speed 1/▼" Button	Selects preset Speed 1 or reduce speed in set menu.
4) "Speed 2/OK" Button	Selects preset Speed 2 or confirms/saves parameters in set menu.
5) "Speed 3/▲" Button	Selects preset Speed 3 or increases speed in set menu.
6) "Power" Button	Power on/off
7) Power LED	Green LED light up when power on.
8) Wi-Fi Indicator	Indicates Wi-Fi status.

Basic Operation

1. To start the pump from stop, press Speed 1, 2 or 3. The pump will operate in self-priming mode. During this mode, the LED display will flash, and the green LED for the selected speed level will light up.
2. Once the self-priming mode is completed, the selected speed will be displayed on the LED screen.
3. Depending on the selected speed level, the pump will operate as follows:

- If speed level 1 is chosen, the pump will run continuously under preset speed until the "Power" button or another preset speed level button is pressed. Speed 1 should be set for normal circulation.
- If speed level 2 is chosen, the pump will run for 24 hours in the programmed setting. After that, it will default back to speed level 1.
- If speed level 3 is chosen, the pump will run for 2 hours in the programmed setting. After that, it will default back to speed level 1.

Note: To save power, the LED display will turn off after 3 minutes of normal operation.

To stop the pump at any time, press the "Power" button. The pump will save operating status and then stop, the LED display will show "OFF."

If the power is power up by using the "Power" button, The pump will operate in the programmed self-priming mode and then restore saved condition and run.

Note: To set up the pump menu, has to stop its running until LED display "OFF", otherwise things wont be save.

Adjusting Self-Priming Mode: Time and Speed

The pump is set at the factory with a default starting speed of 2900 RPM for 2 minutes. The following steps show how to change these parameters:

1. After powering on the pump, press the "Power" button. If the pump is running, this will stop it, and the LED window will display "OFF."
2. Hold the "SET" button for at least 3 seconds. The preset priming speed will be displayed in the display.
3. Press the "1/▼" button to decrease the speed, or press the "3/▲" button to increase the speed in 10 RPM increments. The priming speed range is from 2900 RPM to 3400 RPM.

4. Press the "OK" button to save the priming speed setting. The priming time will then begin to flash in the LED window. To cancel and return to the previous mode, press the "SET" button.
5. Press the "1/▼" button to decrease the time, or press the "3/▲" button to increase the time in 1-minute increments. The starting time range is from 0 to 10 minutes. To cancel without changing the starting time, press the "OK" button.
6. Press the "OK" button to save the starting time setting and exit programming mode.

Note: Setting the starting time to 0 minutes will disable self-priming mode.

Adjusting Preset Speeds

The user interface provides manual speed control for the pump. There are 3 factory preset buttons to choose from (1, 2, or 3). Speed level 1 is preset at 1500 RPM, speed level 2 at 2500 RPM, and speed level 3 at 2900 RPM. After pressing the button (1, 2, or 3), the LED for the selected speed level will light up, and the speed will be displayed in the LED window.

Note: In self-priming mode, the LED for the selected speed level will light up. The priming speed will flash in the LED window.

The following steps demonstrate how to change the preset speed:

1. Press the button corresponding to the preset speed level (1, 2, or 3) you want to change. If the pump is stopped, it will start running.
2. Allow the pump to complete the self-priming mode (if the button was pressed while the pump was stopped).
3. Hold the "SET" button for at least 3 seconds.
4. Press the "1/▼" button to decrease the speed, or press the "3/▲" button to increase the speed in 10 RPM increments. Each preset speed can be set between 800 - 3400 RPM.
5. Press the "OK" button to save the selected speed and exit programming mode. To cancel and revert to the original programmed speed, press the "SET" button.

Reset to Factory Default Settings

Confirm that the pump is powered on, and the green power LED is lit.

If the pump is running, press the "⏻" button to stop it. Hold the "SET" button for at least 15 seconds.



The LEDs for the three preset speed levels and the power LED will light up simultaneously, indicating that the factory default settings have been restored.

Controller Errors (To be reviewed with the supplier)






Error	Description	Reason
E01	Overcurrent: driver current output exceeds the threshold.	- Driver output failure. - Driver IPM module is damaged.
E73	Under-voltage: the main electric current is too low. or disconnected from the power supply	- Ambient temperature is too high. - Supply voltage fluctuation is too large.
E10	Overheating: the motor heat sink is overheated.	- Ambient temperature is too high. - Motor Cooling Fan does not work.
E74	No Flow: No water Flow is detected.	- The Mechanical seal might damage if no water flow.
E75	Safety Vacuum Release System.	- To prevent entrapment or injury in swimming pools.
E76	Lock Rotor: A locked rotor condition occurs when the motor's rotor.	- The motor is stock.

Install Smart Life App and setup ECWV pump to connect to the internet

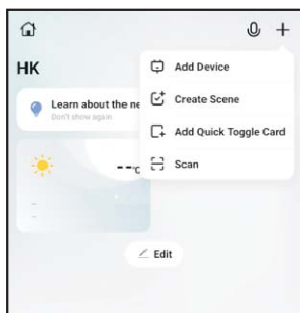
Step 1) Install the Smart Life App from official store.

Android (PlayStore)	iOS (AppStore)
 Smart Life - Smart Living Installed	 Smart Life - Smart Living Smart Living *****1.5K Volcano Technology Lim...

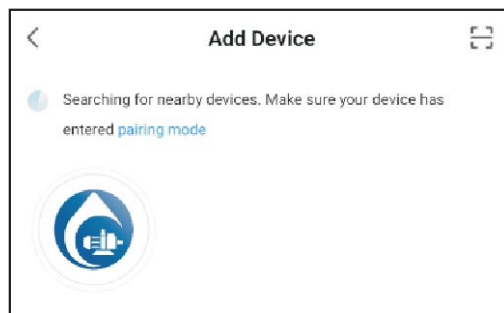
Step 2) Trigger network configuration mode for the ECWV pump.

Step	Operation	Screenshot
1	Make sure the pump is in off mode.	
2	long press SET key until the pump setup mode	
3	Press Up or Down button to Wi-Fi menu and then press OK button once	
4	Make sure Wi-Fi function is ON Press Up or Down button to Wi-Fi menu and then press OK button once	
5	Trigger Wi-Fi function reset Press Up or Down button to Wi-Fi reset menu and then press OK button once	

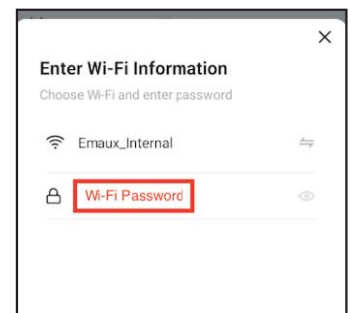
Step 3) Open the Smart Life app and click "Add device" in the Smart Life app.



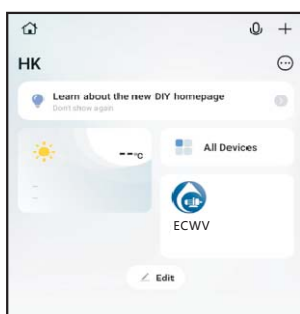
1) Click "Add Device"



2) Select pump icon



3) Select your target Wi-Fi network and input password



6) Done



5) Device is added in success



4) Wait until the setup is finished

Internet connection status

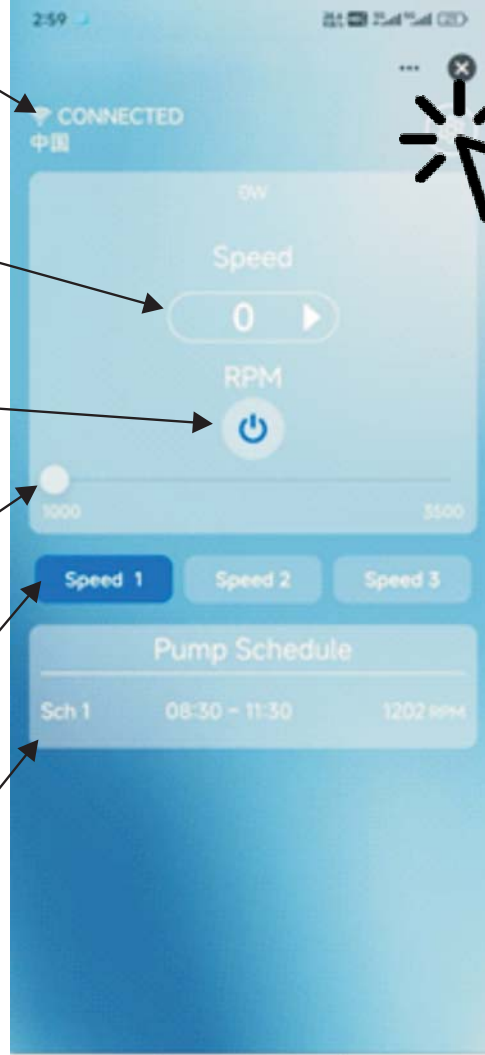
Current Speed

Power ON/OFF

Set Speed

Select Preset Speed

Schedule Settings



RS485 SETTING

The pump equipped with RS485 communication interface for external automation controller. It is not for domestic user access purpose. It is an always ready to interface for external automation control.

The pin assignment is 1 = A and 2=B. The waterproof connector type is SP1310 4pins. SPV's RS485 is a pure data communication without 5V power supply output.

Contact your dealer for MODBUS programing manual, if you are a system integrator

6.1 RS485

There are two parameters can be change.

Parameters:

Slave Address (e.g. EA:2); The identity address of the pump

Baud rate (e.g. Eb:9600): data baud Rate for RS485

EMAUX WATER TECHNOLOGY CO., LTD

2/F, LOCKHART CENTRE, NO. 301-307 LOCKHART ROAD,
WANCHAI, HONG KONG

PHONE +852 2832 9880

 **YOUR PREMIER SUPPLIER**

www.emauxgroup.com