



BENIFERRO.eu
plug & play products



Wifipool DUO
HS en SR GEN 2



INTRODUCTION

The “Wifipool DUO” is used to monitor and control pH, and Redox (chlorine), of your swimming pool. pH and redox (chlorine) are measured continuously. If pH is too high, or chlorine levels too low, it will automatically pump liquid pH- or Chlorine in the swimming pool. The Salt electrolysis will also measure the conductivity.

This guide provides information necessary for installation, troubleshooting, and maintenance. Please read the entire manual on www.beniferro.eu before installing and commissioning the product.

To install and use the measuring and control box, you need to follow a series of steps:

- | | | |
|-------------------------------|--|--|
| 1 Installing the Wifipool app | 2 Connecting the measuring and control box to the Wi-Fi network and to the telephone | 3 pH and RX calibration and automation of pH and RX adjustment |
|-------------------------------|--|--|



This manual contains all the necessary information for installation, troubleshooting and maintenance. Read the manual thoroughly before opening or using the unit. The manufacturer of this product will not be held responsible for any injury to and/or damage of the product resulting from improper installation or unnecessary/incorrect maintenance. It is essential that the instructions in this manual be always followed.

SAFETY WARNINGS AND INSTRUCTIONS

General

- Installation personnel should read this manual carefully before proceeding with installation. In case of incorrect use, contact your provider.
- This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental abilities, or lack of experience and knowledge, except under the supervision or instruction of a responsible person regarding its safe use.
- Improper installation can create an electrical or chemical hazard, resulting in serious injury.
- Always wear gloves and safety goggles when working on the facility.
- If you are not familiar with the pool filtration system and dispensing equipment:
 - o Read all installation and operating instructions before using dispensing equipment.
 - o Only a qualified installer, center, individual, or authorized dealer can repair this product.
 - o Never change anything without consulting your supplier, a professional pool contractor.
 - o In case of damaged parts, use only original spare parts. Failure to do so will void your warranty.
- Maintenance and use should be performed in accordance with the recommended time and frequency as indicated in the manual.
- Do not install the device in an area where the electronic may be damaged by moisture or rain.
- Install the water treatment unit on a solid base or against the wall (always vertically).
- Always keep the product in an upright position. If the product is tilted or placed on its side, the probes will not be able to measure properly, resulting in incorrect readings.
- In case of damaged parts, it is preferable to purchase replacement parts from the manufacturer. Use only original standard parts. Failure to do so will void your warranty.

Electrical

- Disconnect all power supplies during installation or during any other operation on the equipment.
- It is recommended that the water treatment unit be installed in a bypass configuration so that:
 - o Chlorine and acid pumps cannot operate if the filtration pump is not working. This can be done by purchasing a metering device with a flow switch, adding a flow switch to the facility, or using the same or shorter timer than the filter pump.
 - o Chlorine and acid pumps can be turned off manually. This can be done by using the on/off button at the bottom of the dosing pump or via the manual control of the app.
- If a frequency converter is used, we recommend to locate it at minimum 3m from the dosing unit, to use a separate electrical circuit for the converter and the pH/RX pumps unit and to verify interactions between frequency converter and pH – Redox measurement (verify that pH and Redox do not deviate when switching on-off the convertor).
- All external power supplies and adapters for pool equipment must be connected to a power source with 30 mA residual current protection.
- Make sure all equipment and pool water are properly grounded. The pool hose is grounded via an in-line grounding to an independent grounding pole.
- Before performing any maintenance or operation, make sure all electrical equipment (the peristaltic pumps, salt electrolysis etc ..) are disconnected and the "OFF" position. switch off the power source.
- NEVER make adjustments inside the equipment.
- Our devices do not have an audible alarm, only an on-screen alarm.

Chemical

- Keep the installation and chemicals out of the reach of children. Always wear safety gloves and goggles when working on the installation.
- Calibrate pH and Redox probes before first use and at least every 3 months thereafter. Check the chlorine level and pH "regularly" with a high quality color method.
- The addition of pool chemicals should be done downstream of the pool accessories such as the water heater, UV lamp, filter and downstream of the measuring probes
- Chlorine and acid react

together to form toxic chlorine gas. Make sure the chemicals are placed outdoors or in a very well-ventilated area, in a drip tray, that they cannot come into contact with each other, and that they are kept out of reach of children...

- Make sure water or chemicals cannot drip onto the installation. Do not place equipment under the dosing system. Dripping of Chemicals onto equipment will not make part of a guarantee compensation.
- Have 2 sumps underneath the equipment to collect leaks at peristaltic pumps and injection nipples. Sump pans should be positioned so that chlorine and acid leaks cannot mix.
- Repair leaking pipes immediately. Do not operate equipment with leaky pipes.
- Only use liquid chlorine with anti-scaling precipitation agent.
- For Chlorine injection leakage, please read the scaling cleaning chapter in the full manual.
- Make sure the machines you use are programmed so that acid and chlorine are never added at the same time.
- The acid dispenser should not be used with hydrochloric acid (HCl).
- Use only liquid chlorine approved for swimming pools and with anti-calc remover, or add an anti-calc remover to liquid chlorine.
- Use a maximum of 14.99% sulfuric acid as the min pH.
- Make sure the chlorine container and the acid container are not confused. Make clear markings on your installation and on the chemicals.
- Do not allow children or unauthorized persons to reach the chemicals.
- To ensure proper operation of peristaltic pumps, check the pumps weekly for leaks. In case of leaks, please refer to the complete manual of your installation on www.beniferro.eu
- Ensure that the measuring probes remain consistently moist during transportation, especially when being transported for maintenance or repair work at the supplier's facility. Flush all lines with water before dismantling the equipment.

PAIRING AND SETUP INSTRUCTIONS

Carry out pairing and setup before physical installation, indoors in an environment with an ethernet connection and a strong wifi signal of the future swimming pool wifi network

Setting up the wifi connections

- **Install Wifipool app**
Install the Wifipool app on your telephone. Read the wifipool app manual for details.
- **Pair your equipment**
Pair the pH/RX equipment to your home Wi-Fi network and your phone. Read the Wifipool app manual for details. Perform the pairing in-house, using an ethernet cable close to the Wi-Fi router and before physical installation. Read the wifipool app manual for details.

Ethernet connection on the box



The automation is embedded in the app when pairing the equipment to the mobile telephone. Also the wheel settings and symbols will be entered into the system.

The pH- pump will work if:

- o pH>7,6 AND
- o Flow = true
- o pH drum is not empty (only if level detection is present)

The RX-pump will work if:

- o pH<=7,6 AND
- o RX<700
- o Flow = true

The standard fail safe setting is : “off”: in case internet connection or server connection is lost, the fail safe will stop all dosing devices.

The automation can be adjusted manually. Consult the Wifipool App and simple device manual on how to do this.

Here are some recommendations for expanding your automation

- Create a scheduler-snippet to define the time during which the pH pump and RX pump can run. Make sure the automation starts 15 min after start-up of flow, to make sure the pH and Redox probes are in equilibrium before starting the chemical treatment. Stop the pH pump and RX pump timer before filter pump shut down.
- Create a notification scheduler, and make sure the water treatment has had the opportunity of reach equilibrium. Set notifications if
 - pH<6 or >8
 - RX<500 or > 900
 - No flow or pH drum empty

The principle of snippets can be found in the [Wifipool App and simple device manual](#).

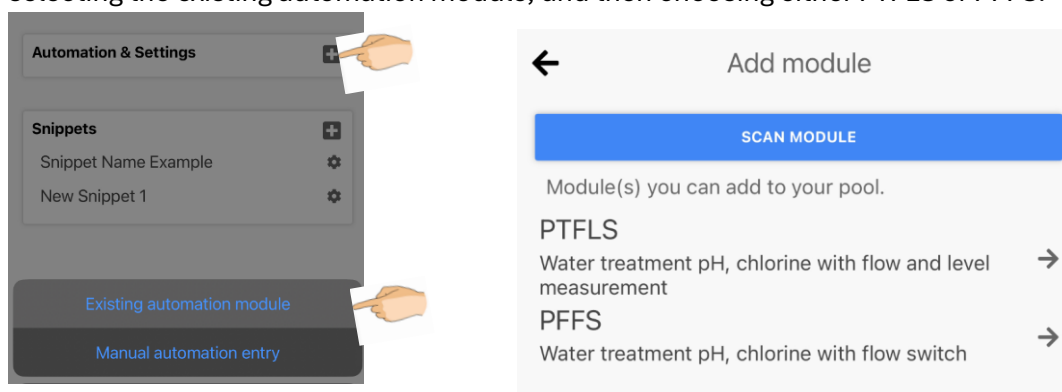
Alternative method for entering the automation

The automation is set via the Wifipool app and can be set via three methods adding existing automations, scanning or manual entry (or a combination).

Access the automation page via the Pool settings page -> automation and setting page.

1 existing automation

The first method is to add existing automations. You can do this by pressing the plus icon, selecting the existing automation module, and then choosing either PTFLS or PFFS.



The difference between PTFLS and PFFS:

PTFLS:

- **pH module > 7.6, flow switch detects flow, and level switch is high:** This will enable the pH pump.
- **RX < 700, pH < 7.6, flow switch detects flow, and the second level switch is high:** This will enable the RX pump.

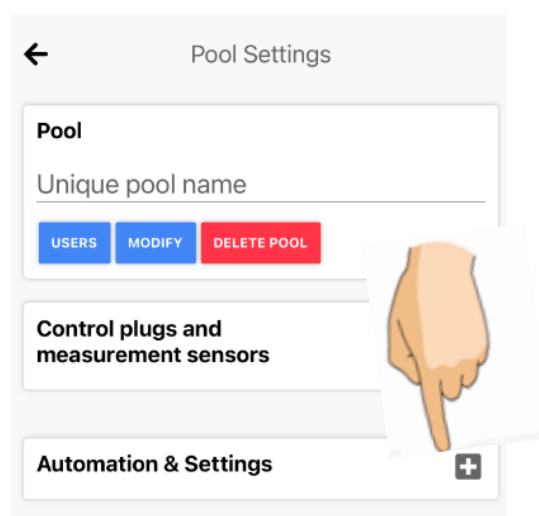
PFFS:

- **pH > 7.6 and flow switch detects flow:** This will enable the pH pump.
- **RX < 700, pH ≤ 7.6, and flow switch detects flow:** This will enable the RX pump.

2 automation via scanning

For additional information regarding automation features and setup via scanning, please refer to the Wifipool and Simple Device manual. These comprehensive guides provide detailed instructions and insights to help you maximize the functionality of your Wifipool system.

- 1) Press + on “Automation and settings” (Pool settings page) and choose « Existing automation.
- 2) The app will ask to scan an automation barcode.
- 3) Select the correct automation below, and scan it with your phone.



<u>Barcode</u>	<u>Module Description: Combined pH + RX Control</u>
pH and RX without flow switch PTS	
pH and redox control, flow switch but no level switch PFFS	
pH and redox control, with flow and level switches PTFLS	

The pH- pump will work if:

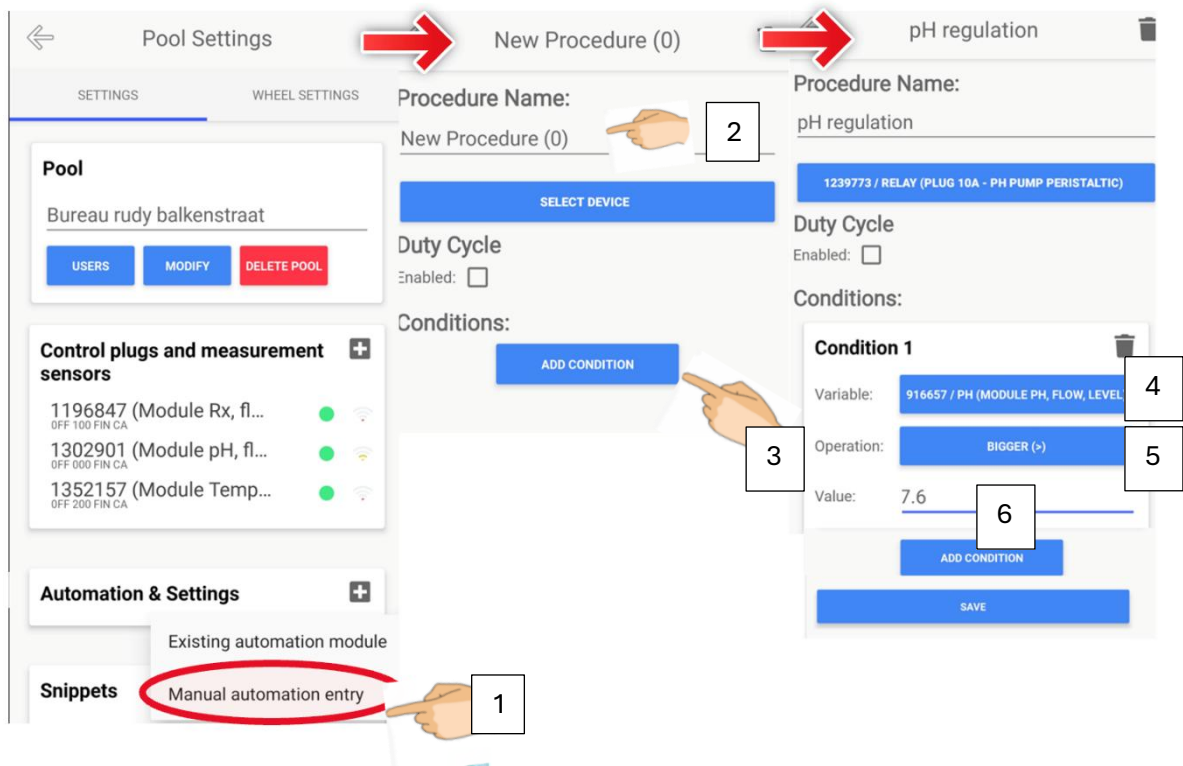
- o pH > 7,6 AND
- o Flow = true
- o pH drum is not empty (only if level detection is present)

The RX pump will work if:

- o pH ≤ 7,6 AND
- o RX < 700
- o Flow = true

3 automation via manual entry

Enter the conditions described above, manually into your Wifipool app.
Consult the Wifipool app and simple device manual for details.



- | |
|--|
| 1. To add a manual entry, simply tap the plus icon and select "Manual Automation Entry." This will initiate a new procedure. |
| 2. Ensure to rename the procedure to a more fitting title. |
| 3. You can incorporate conditions by using the "Add Condition" icon. |
| 4. Select the appropriate variable (e.g., pH level). |
| 5. Choose an operation (e.g., greater than, smaller than...). |
| 6. Specify a value. While the recommended pH level is 7.6, you can manually adjust it to suit your preferences. |

INSTALLATION INSTRUCTIONS

General

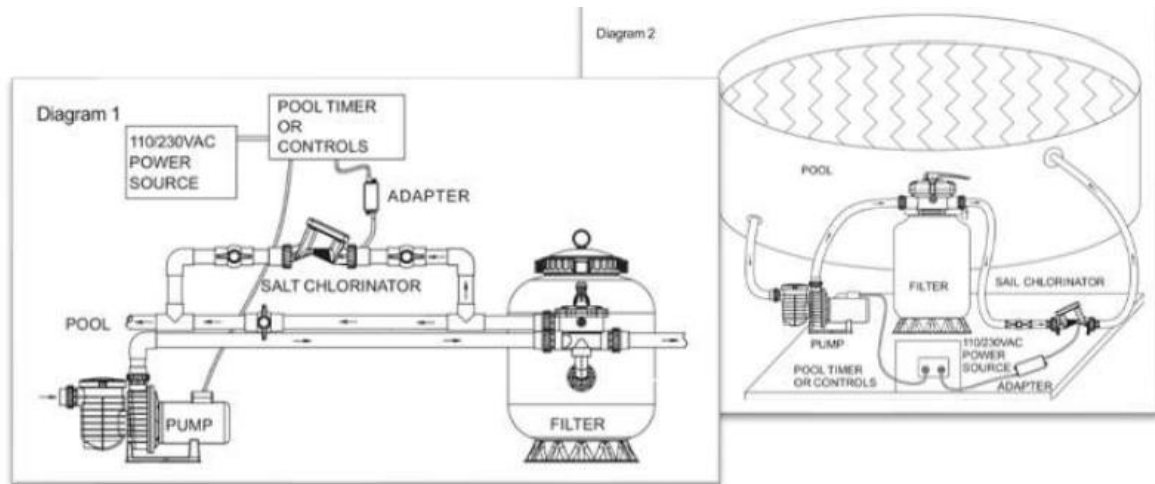
The factory supplies the water treatment unit electrically connected and, in some case, already mounted on a plate or in a box. Modification to the unit has to be made by trained personnel, knowledgeable about swimming pool technology and electrical systems. The attention points below must be respected.

Read the Safety instructions and warnings before proceeding with the installation

General installation recommendations

- Fix the water treatment unit on a solid base or against the wall (always vertical).
- Before use, please ensure that the pipe used for installation is the same size with the salt chlorinator. The unit equipped with two kinds of connections. One connection is for pipe 50mm and 1.5", the other connection is for flexible hose with inner diameter 32mm or 38mm.
- Before use, please ensure that the valves of the pipe connecting to the chlorinator are turned off.
- Before installation, please clean any clutter or oil off on the pipes and the connection joint.
- The salt chlorinator should be installed on the pipeline before returning to the pool in the water treatment process and should be installed on the bypass pipeline. An adjustable valve must be installed on the main pipeline. (as shown on Diagram 1).
- Before installing the salt chlorinator, please ensure that the water flow matches the direction on the chlorinator indicating, otherwise, the unit will not work.
- When connecting the pipes to the chlorinator, please use glue specialized for PVC, when connecting flexible hose to the chlorinator, special locking hoop is required to connect the hose, no glue is required.
- The chlorinator should be installed in a well-ventilated area, which is conducive to the
- heat dissipation of the electrical controls. The external power adapter of the chlorinator must be installed to a power source that contains a leakage switch protection (100-240V ~ 50/60Hz), the power source should be the same for the pump. The external power adapter must be fixed on the wall with screws.
- There are two ways to install the salt chlorinator, as shown in Diagram 1 for horizontal installation. When installed horizontally, it is suggested. As shown in Diagram 2 for flexible hose installation.
- The product must be installed indoors in a dry, warm and well-ventilated area. If you want to do this outside, the unit will need to be sheltered from rain and direct sunshine.
- Install the water treatment after pump and filter, and after all accessories such as UV lamp, heating, ionization ...
- Connect water inlet and water outlet, so that the water passes first along the Redox and pH measuring electrode and then along the pH and chlorine injectors.
- To connect the pipes, use only line that is suitable for gluing PVC.

- Optionally you can add level switches to the installation. The level switches will stop dosing of the pH / Chlorine liquid, when the liquid level in the drum is "low".



Make the electrical connections in such a way that:

- The salt electrolysis and acid pump cannot operate when the filter pump is not working.
- The salt electrolysis and acid pump can be turned off when the filter pump is operating.

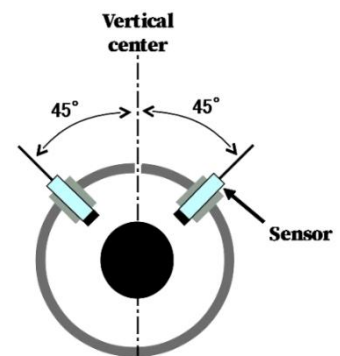
The chlorinator's external power adapter must be connected to a power source that has a 30mA ground fault circuit breaker.

Install the different elements in the following order:

1. pH and RX measurement
2. pH and RX adjustment

Make sure following requirements are met:

- Always keep the product in an upright position. If the product is tilted or placed on its side, the electrodes or flow switch may not be able to measure correctly. Flow switch, pH and redox electrodes must be placed vertically in a horizontal pipeline. The flow switch must be oriented in the direction of the arrow on the switch. The pH and Redox probes have to be in a horizontal line, at a maximum angle of 45°.
- For the measurement and distribution tube : make sure the flow direction is :
 1. Flow through measurement probes
 2. flow through dosing nipples
 3. Flow switch must be installed in the same line as the dosing nipples.
- Make sure pH / chlorine adjustment cannot work if there is no flow through the pH injection / chlorinator pipes. This can be done by using a flow switch and/or by connecting the electrical connections of the dosing pump / chlorinator to the same electrical line as the filter pump.
- If you live in a area with high water hardness, it is advisable to attach a 5-10cm long tube (use part of the peristaltic aspiration tube) to the injection nipple.



- For product supplied in a box, additional 2 inch and 32-38mm connectors are supplied to fit the typical intex / Bestway or other aboveground swimming pool connections.



- If you do not have a flow switch on the unit, adjust the electrical connections so that The chlorine and acid pumps cannot work if the filter pump does not work. The electrical 230V feed to the wifipool control box must loose power as soon as the filter pump switches off.

The chlorinator should be mounted in a well-ventilated, dry, and shady location, so it is not exposed to rain or direct sunlight. And the power pack should be mounted onto a post or wall 1.5 meters above the pool water, to ensure the gap surrounding no less than 100mm, with sufficient ventilation for its heat dissipated. The left side of power pack is for cooling exhaust, where should not be blocked or too close to other equipment to affect its heat dissipated. Using the template supplied in this Manual, mark two holes distant 180mm for fitting the Power pack to the wall, drill two holes for fixing 2 pieces M8 screws, align two holes of power pack backside and push it down for fix. HINT if fitting against a limestone wall, use a piece of wood as backing to prevent corrosion of the Power Pack bracket. Connect the 2 red and 1 black electrode contact to the two poles of the generator, 2 (+) pole tip and 1 (-) pole tip correspondingly; then connect the control box and the generator with the water level / temperature joint wire correspondingly. (see figure 2 / 3).

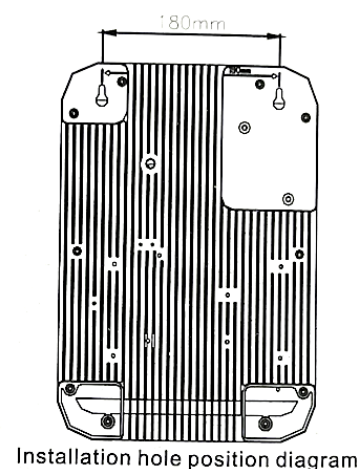
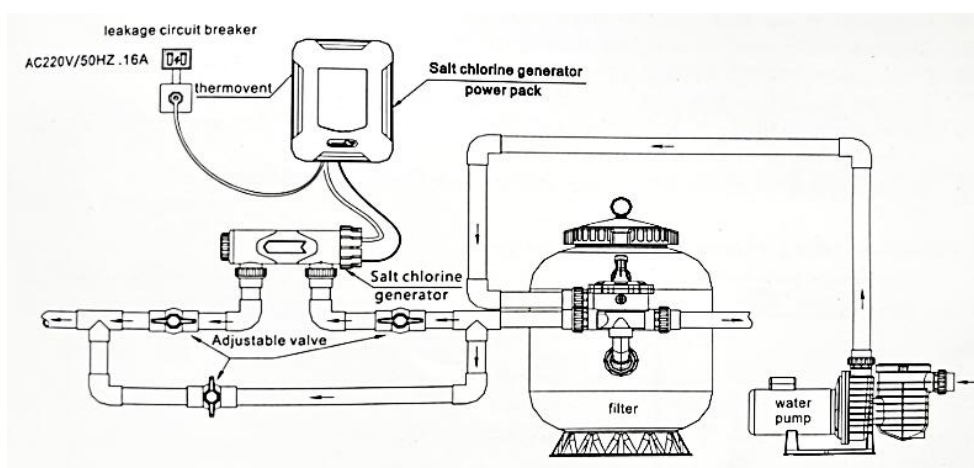


Figure 2

Note: The chlorinator must be supplied by power supply with a leakage switch (AC220V-240V/50Hz, 16A), and supplied through a residual current device (RCD) with a rated residual operating current not exceeding 30mA.



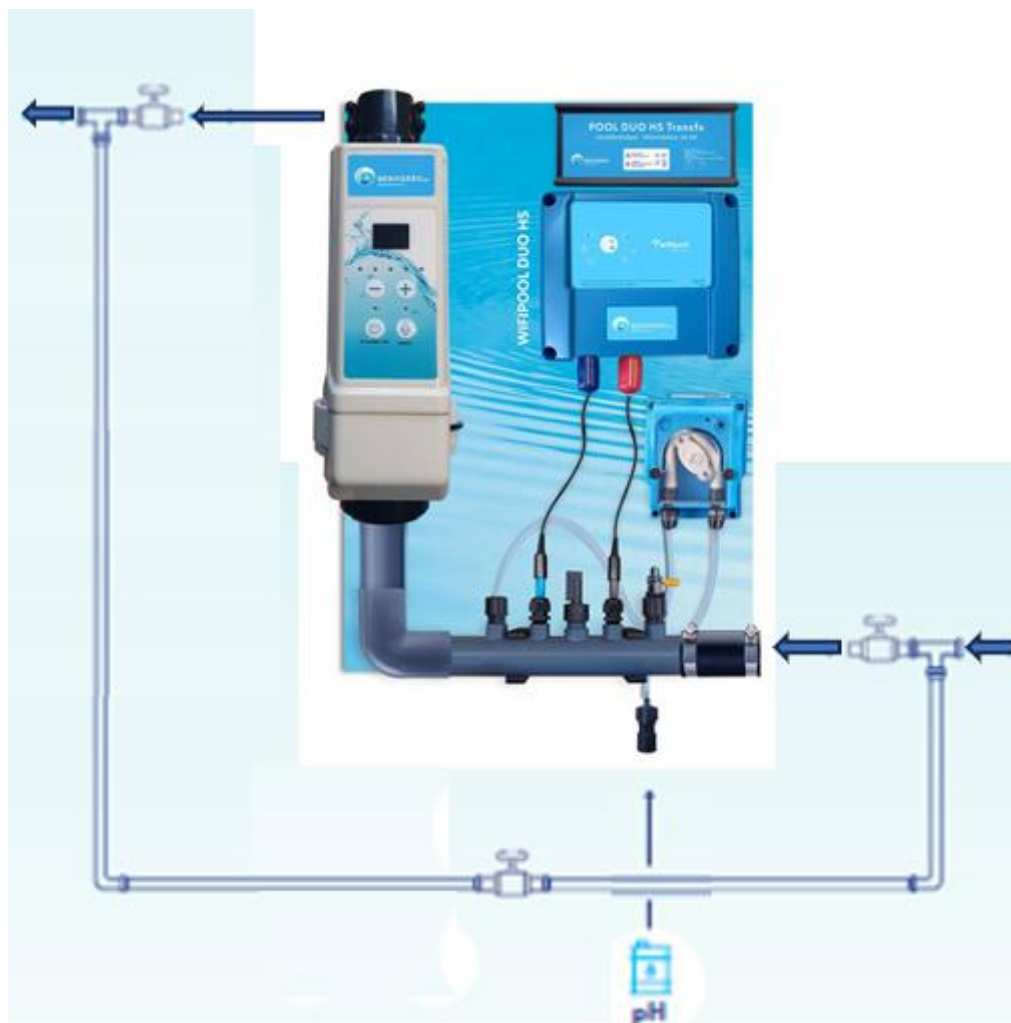
Premounted HS Units installation

Hang the device on a stable surface in the desired location, preferably in a bypass.

It is best to place the water treatment after heating and other accessories. Assemble the different parts in the following order: Current direction:

1. pH and RX measurement
2. pH Dosage
3. Salt electrolysis

Follow the installation diagram as shown in the image below



2) Connect the device with an Ethernet cable, if available. If this is not the case, the device switches to Wi-Fi.

3) Add 3.5-4 g/l salt to the pool

4) Insert the pH suction cap into the acid drum.

It is recommended not to lower the suction plug at the bottom of the container when starting. If something goes wrong with the dosage, the whole box of acid will not be pumped into the pool.

HS SALT ELECTROLYSIS OPERATING PANEL

If the salt electrolysis does not work, manually turn the electrolysis to "ON" with the Wifipool app, and press the salt electrolysis button "Standby/on" 1 time.

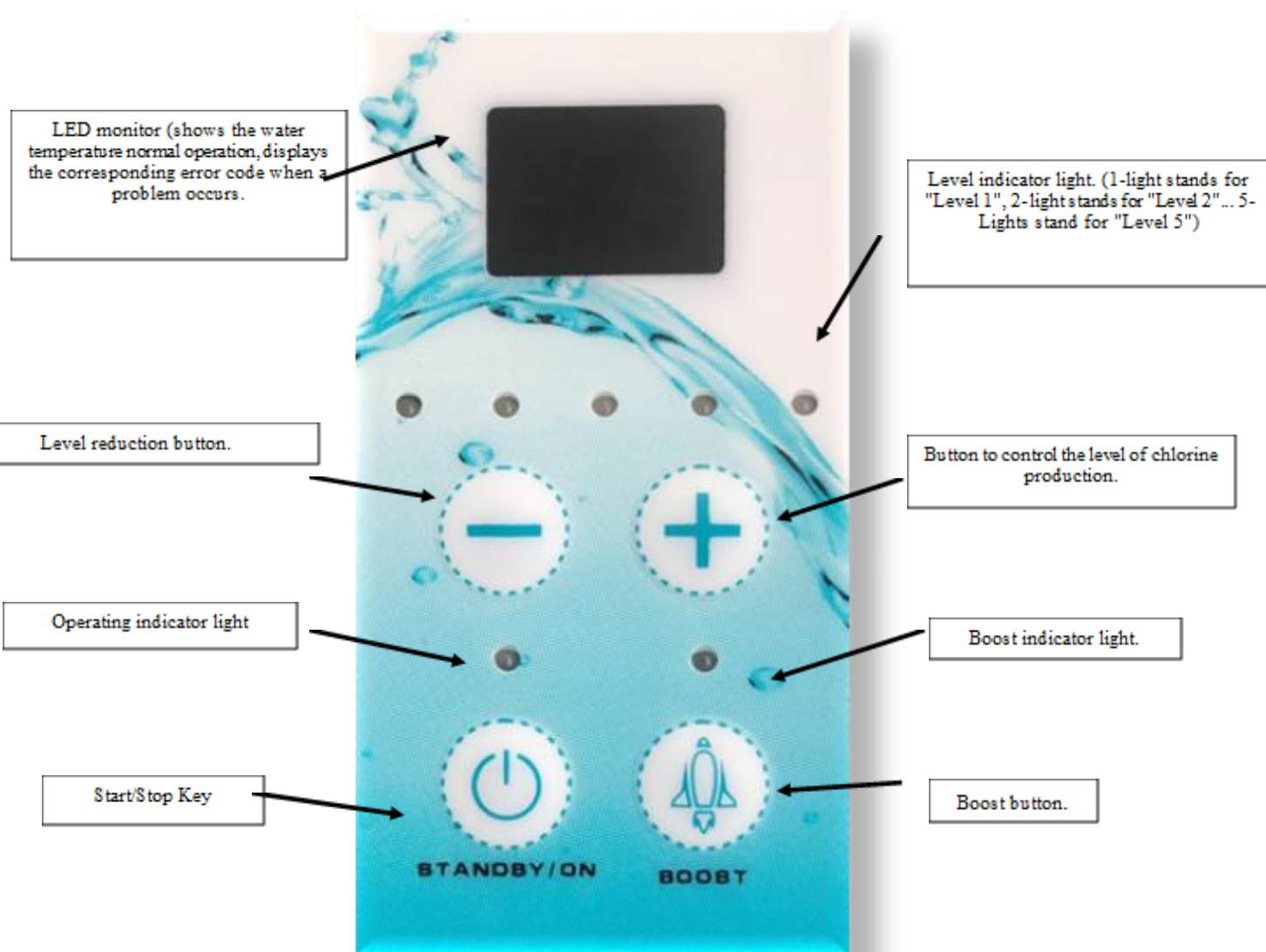


Figure 3

SR OPERATING INSTRUCTIONS

Preparation before use and start-up

1. Incomplete grounding of the pool pipes can have negative effects on the measurement results and thus lead to abnormal pH and chlorine values in the pool.

a. Proper grounding is made as follows:

The pool line near the measuring probes is grounded through an in-line grounding to a second independent grounding post.

b. Use only city water, not rainwater or well water!

2. Make sure that the salt concentration of pool water is in the normal operating range (2700-4500PPM). Please refer to the mixture and maintenance of water and salt in this manual to make adjustment on salt concentration.

3. Make sure the content of the chlorine stabilizer (cyanic acid) in the pool water is between 20-40 ppm (20-40 g/10m³).

4. Start the pump, make sure that there is water flow pass through the salt chlorinator, and there is no water leakage at each connection, and the water flow switch is closed. (The water flow must meet the following conditions: 2m/h ≤ water flow ≤ 15m/h)

5. Connect the adaptor of the unit to the power source.

6. Press ON/OFF button, the power indicator shows red first, then the unit will start automatically, power indicator turns green, the unit already under normal operation. Press ON/OFF to stop working if needed.

7. Operation time setting

a. about setting value

- The unit have 5 operation time settings: 4 hours, 6 hours, 8 hours, 12 hours and 24 hours.
- The operation time will be 4 hours/6 hours/8 hours/12 hours/24 hours per day.
- Setting 04, it means that from the set time, the unit runs for 4 hours, stops for 20 hours, and then runs for 4 hours, stops for 20 hours and repeat.
10
- Setting 06, it means that from the set time, the unit runs for 6 hours, stops for 18 hours, and then runs for 6 hours, stops for 18 hours and repeat.
- Setting 08, it means that from the set time, the unit runs for 8 hours, stops for 16 hours, and then runs for 8 hours, stops for 16 hours and repeat.
- Setting 12, it means that from the set time, the unit runs for 12 hours, stops for 12 hours, and then runs for 12 hours, stops for 12 hours and repeat.
- Setting 24, it will run continuously from the time of setting. The factory default setting is 24.

b. operation instruction

- Press timer button, it will show current setting of the operation time.
Press timer to make adjustment on the operation time setting, the display will show 04, 06, 08, 12, 24 in order. (the display will show next operation time setting on each press)
- After fixing the operation time value, the display will flash with showing current setting value for 5 seconds, then save current setting automatically. If there is no setting 10 seconds after press timer button, it will show water temperature again.

8. Chlorine output setting

a. about setting value

- The unit have two chlorine output settings: HALF and FULL



- HALF(HA) means that the salt chlorinator will produce chlorine under 50% production capacity, that is, for the chlorinator with chlorine output 5g, 7.5g, 10g, under setting HALF(HA), the corresponding chlorine output is 2.5, 3.75, 5g/h. HA setting is suitable for swimming pools smaller than the pool volume suggested, or when the pool is not used and the salt chlorinator needs to be in economical working condition.
- FULL(FU) means that the salt chlorinator will produce chlorine under 100% production capacity, that is, for the chlorinator with chlorine output 5g, 7.5g, 10g, under setting FULL(FU), the corresponding chlorine output is 5, 7.5, 10g, the default setting of chlorine output is FU.

b. Operation instruction

- Press half/full it will show the current setting of chlorine output (FU or HA), press once again to make adjustment on the chlorine output. After fix the chlorine output setting value, stop pressing, then save current setting automatically. If there is no setting 10 seconds after press half/full button, it will show water temperature again.

9. Self-clean cycle time

a. about setting value

- Self-clean function can prevent calcium from accumulating on the electrode, make the electrode in good condition.
- Self-clean cycle time have 3 settings: 4h, 8h and 12h. it will reverse polarity every 4h/8h/12h.
- The display shows "--" when it is under polarity reverse status.
- The default setting for self-clean time is 4h.

b. Operation instruction

- Press cycle it will show current setting for self-clean cycle time (default setting is 04), press cycle to change the setting, the display will show 04, 08 and 12 in order. After fix the self-clean cycle time setting value, the display will flash with showing current setting value for 5 seconds, then save current setting automatically. If there is no setting 10 seconds after press cycle button, it will show water temperature again.

Parameter checking

10. Version number: long press timer for 3 seconds, it will show version number.

11. Working voltage: Long press cycle for 3 seconds, it will show working voltage.

General instructions

After pairing and physical installation of the unit, we are ready to start calibrate, leak-test and start-up the unit.

- Before using the equipment, pH and RX probes have to be calibrated
- The measuring probes must always be kept moist during transport. A small box containing fluid is provided for this purpose, ensuring the integrity of the product. Prolonged exposure to dry conditions can lead to inconsistent measurements and/or broken probes. For any maintenance and repair work, please ensure to keep probes moist.
- Use only city water, no rainwater or well water.



Calibration

- The pH and Redox probes must be calibrated regularly, and the correct functioning must be verified by means of a high quality color measurement method (e.g. Poollab)
- Connect the pH and redox measuring heads to the BNC connection (figure 4-5) in the positions provided for this purpose: pH probe (blue connection) on the left (or top) , RX probe (red) on right or bottom.



Figure 1: pH (blue-left) and Rx (red-right)

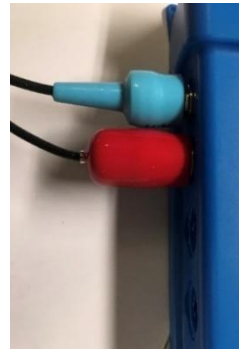
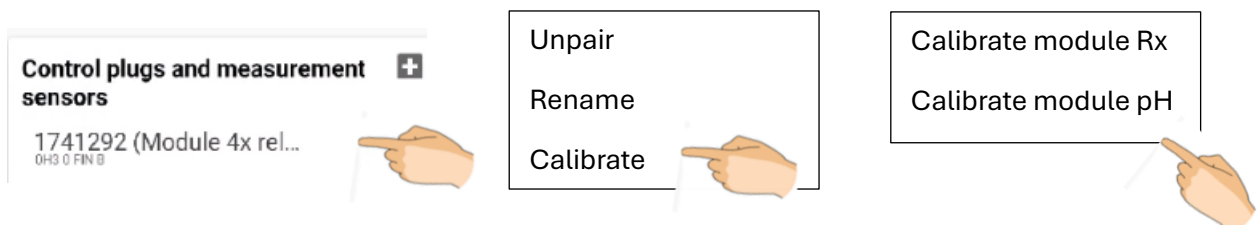


Figure 2: pH (blue-top) and Rx (red-bottom)

- During calibration we make sure pH and Redox (RX – chlorine) probes are correctly measured. Calibration needs to be done at the start of the swimming pool season, and on a monthly basis during normal operation and in case of doubt on water quality. Verify pH and chlorine content of your pool regularly (we advise each 2 weeks to do a color-test using a high quality instrument such as the Poollab from Water-ID), recalibrate and/or adjust setpoints as required.
- Before calibration, make sure you have the calibration solutions for pH and Redox ready.
- Via the Pool settings / “Control plugs and measurement sensors” module, you can start off the calibration process.
- Go to the “Pool Settings” page, and upon ticking your module, and a submenu will appear. Simply select "Calibrate pH Pump" or "Calibrate RX Pump" to initiate the calibration process.



- The calibration process will take +- 3-4 minute per probe, and the app will indicate whether the calibration was successful or not.

After hitting The calibration button, and selecting pH or RX calibration, you will be offered the coice to calibrate against a calibration solution pH7 or RX 468mV or to calibrate against a self-measured value.

Calibration in a calibration solution pH7 or RX 458mV

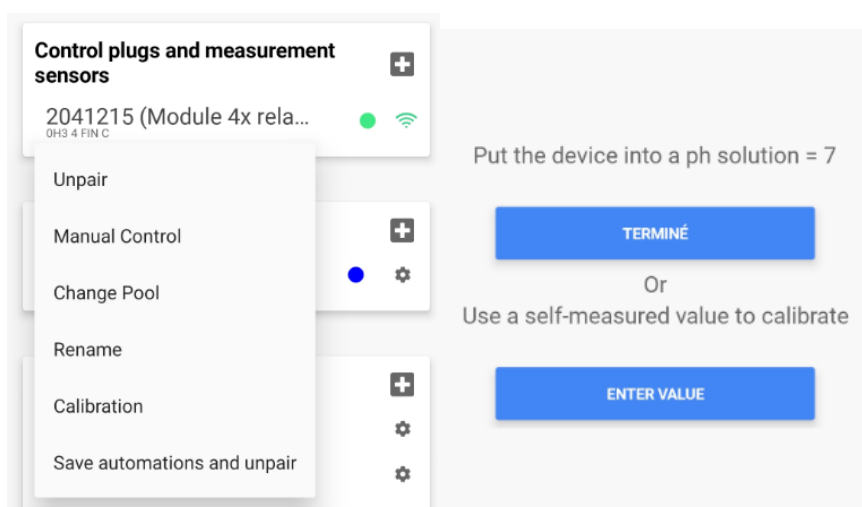
You will be asked to put the measurement probe into a pH=7 or a RX = 468 mV solution, ofter which you can simply follow the instructions on the screen.

If the calibration is unsuccessful, please repeat the calibration process. If the calibration remains unscusessfull, replace the calibration solution or the probe.

Calibration against a self-measured value.

If you have a good and representative pH or RX value of the swimming pool water, which deviates from the value measured, it is possible to adjust the pH or RX measurement against this value.

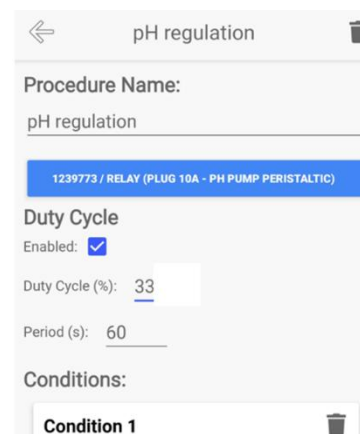
In that case, make sure that the probe is in equilibrium with the swimming pool water, select the option “calibrate against a self-measured value”, enter the value and finish the calibration process.



Reducing pH dosing speed and Chlorine generation intensity for small pools or SPA

The pH / chlorine dosing speed can be reduced by adjusting the Duty cycle in the pH and RX automation sheet.

In the example where the duty Cycle is 33% per 60 seconds, the pH pump will dose 33% of 60 seconds = 20 seconds each minute.



Using the duty cycle can reduce the “overshoot” (adding too much pH correcting agent) in small swimming pools or SPA’s`

Attention:

For the pH peristaltic pumps, we recommend a duty cycle of 60 seconds which is set at :

- 80% for pools of 35-45 m³
- 60% for pools of 25-35 m³
- 40% for pools of 15-25 m³
- 20% for pools of 5-15 m³

We recommend not to set the duty cycle for pools > 45m³

TROUBLESHOOTING

Troubleshooting Wi-Fi / app related problems

For Wi-Fi equipment, it is possible to share the app with your supplier or the manufacturer. This is explained in the Problem-solving section of the Wifipool app and simple device manual.

Setting up a Teams meeting via your telephone and sharing the screen will also allow your supplier / manufacturer to see your telephone screen.

Deviation of the pH measurement compared with another method.

We have a very specific order that we recommend in case of doubt pH measurement.

This is the result of many years of experience.

When working with probes, one must accept the following as true:

- In principle, a calibrated probe measures correctly, more correctly than a color method.
- A probe that calibrates itself works
- The color method works correctly, only if the alkalinity of the water is correct.
- A difference of 0.2 between two methods is normal, a difference of 0.5 is not acceptable.
- A simple measurement of droplets does not give reliable results

Here are the steps to follow in case of doubt about the pH:

In case of opposite pH measurement (one method gives an acidic result, the other method gives a basic result):

Take a glass of water and add 2 tablespoons of vinegar. Both methods must measure an acidic pH. If the probe gives a pH > 7: add 10 spoonful of vinegar and see if the pH rises or falls. If the pH rises: contact the sensor supplier

After this verification:

Always take samples in the pool just before the skimmer, so that the sample corresponds to the water passing by the electrodes.

1. Recalibrate and remeasure pH with probe. If in doubt:
2. Check and adjust the alkalinity of your water between 80 and 120 and remeasure the pH with your color method. If doubt remains
3. Renew the pills/liquids of your measurement tool and remeasure the pH with your color method. If doubt remains :
4. Buy a new calibration solution and measure pH with probe. If doubt remains
5. Buy a certified pH 7.4 solution and measure pH with a probe. If the pH of the probe is between 7.2 and 7.6 accept the probe. If the measured pH is 7.0-7.1: check the pH at 7.6. If the pH of the probe is 7.7-7.8: control the pH to 7.2. If the pH is lower than 7.0 or higher than 7.8: contact your supplier (Pool Duo supplier as well as the supplier of the alternative method).

Deviation of the Redox measurement compared with another method.

A deviating RX value is not so bad if the probe is sensitive to changes and the redox increases when more chlorine is added to the pool.

You can test this by mixing 5 drops of liquid chlorine in a bucket of water and measuring the redox before and after adding the chlorine. Due to the 5 drops, the Redox must rise significantly.

A deviating redox can be caused by a deviating pH and/or by "contaminants" in the swimming pool such as flocculant, anti-algae, wall cleaner, etc.

A deviating redox is not so bad. You proceed as follows: measure the free chlorine content in the pool using a color method (before measuring the chlorine content, the pH and hey cyanuric acid content must be within specifications). Add chlorine to the pool until the chlorine level is 1-1.5ppm. The redox that you then read is the redox that you must set as the setpoint.

If you still have doubts about the redox value you have read, you can proceed as follows:

- Change calibration fluid and recalibrate the device.
- If you still have doubts about the redox value read:
 - Exchange redox probe and recalibrate.

Troubleshooting for the peristaltic pump

For any problems with the app or the Wifipool device, it is recommended to consult the Wifipool App and Simple device manual. This guide provides detailed instructions for identifying and resolving common errors.

PROBLEM	CAUSE	SOLUTION
Acid pump does not dispense	No electrical power present	Verify electrical power Startup acid pump via manual control.
Acid pump does not dispense	Switch under the dosing pump is set to "O"	Set switch to "1"
	Settings of pH control are wrong : pH+ while pH- is dosed (or vice versa)	Verify settings
	There is a level detector attached that gives a wrong contact	Delecte Level Detector from pH dosing requirements.
	A flow switch is connected and it indicates that there is no flow	Delecte Flow from pH dosing requirements.
Acid pump continues to dose	Setpoint not yet reached	No Action Required
	Wrong parameter set : pH+ while pH- is being dosed (or vice versa)	Corrects parameter.
	Smart plug error	Reset smart plug (delete from app , hard reset (7xin-out) and re-install.
	Relay on PCB Stuck	Contact supplier.
Acid pump only dispenses occasionally	Acid pump is on proportional dosing or in duty cycle mode	No Action Required
Acid pump does not pump.	A flow switch is connected and it indicates that there is no flow	Verify flow and flow switch (Delecte Flow from pH dosing requirements)
	There are level detectors attached that give a wrong contact	Disconnect Level Detectors. (Delecte level detector from pH dosing requirements)
Acid pump does not suck up liquid	Barrel is empty or suction foot hangs above liquid level	Replace acid or chlorine container; Lower suction foot.
	Suction foot is clogged	Replace suction foot ZWMX2205

	Peristaltic tube is leaking	Replace peristaltic tubing ZWMX2231 or AWMX2232 Ensure dosing tube is greased regularly
	Injection nozzle is clogged	Replace injection nozzle ZWMX2220
Liquid (acid) in dosing compartment of acid pump	Santoprene or Viton tube leak	Verify if dosing nipple is clogged, and replace dosing hose. Ensure dosing tube is greased regularly
Dosing tube in pH forms a bladder	Supply of acid in injection nipple curdled by dirt / calcification	Immediately stop dispensing acid and clean/replace the nipple.
Calibration failed	Calibration solution obsolete or dirty	Replace calibration solution
	Probe not yet in balance	Repeat calibration
	Broken probe	Replace probe
	Probe has been standing dry	Replace probe
Device gives alarm: pH too high	pH > 8.5	Verify pH with color method. Correct pH manually or switch off the alarm function once and let the dispenser reduce the pH.
	pH > 8.5	Drum mistake : you are using pH+ instead of pH-
	Electrode broken	Replace electrode
	Acid pump does not suck up liquid	See above
Device goes into alarm: pH too low	pH<5.5	Drum or setting error : setting is pH+ and drum is pH-
	pH<5.5	Verify pH with color method. Correct pH manually or switch off the alarm function once and let the dispenser reduce the pH. Use pH+ once and set device setting to pH+
	Electrode broken	Replace electrode
	Overdosing	Use the duty cycle function to slow down dosing.
pH always 7, also in calibration solutions pH 4 and pH 9.	pH probe broken	Replace probe

Scale Build-Up in Liquid Chlorine Peristaltic Pump Injection Nipples	Failure to Use Anti-Scaling Equipment: Neglecting to employ chlorine-containing anti-scaling agents. Omitting the addition of anti-scaling agents to the chlorine container. Neglecting the Chemical Cleaning Procedure: Failure to complete the chemical cleaning procedure yearly (or more frequently if necessary). Ignoring the replacement of the injection nipple on an annual basis.	You can find the solution in chapter: MAINTENANCE INSTRUCTIONS Maintenance of the Chlorine injection nipple
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APP PROBLEMS

Issue	Possible cause and solution
1 The app cannot find my device.	If something goes wrong during the pairing process (e.g. loss of WIFI), it may be necessary to reset a plug or measurement box. Plug your plug or measurement box into the mains for 30 seconds, then: 1. Plug in your plug or USB briefly (1-2 sec) and then unplug your plug/USB for 2-4 seconds. 2. Repeat this step a second, third, fourth, fifth, and sixth time 3. Insert your plug or USB briefly (1-2 sec) and let it in on the 7th time
2 I can't pair my device.	There are two possible causes: 2a Your Wi-Fi network is not strong and stable. Bring the Wi-Fi devices into your home, close to the Wi-Fi source. Make the connection between the devices and the phone and then bring the devices to the pool house 2b Your phone/Android version is not compatible with the Wifipool app. In this case, you can ask a friend to pair the devices with their phone. Once linked, he/she adds you as a user and promotes you to owners. Also let us know (info@beniferro.eu) what phone you have and what IOS or Android version it has so we can customize the app.
3 My device does not connect to WiFi	If your device does not connect to your Wi-Fi and you've made sure the Wi-Fi credentials are correct, it can be caused by using special

	chars or white spaces in your SSID or Password of your Wi-Fi. Remove them and try again. Other reason can be using an SSID longer than the allowed 32 characters.
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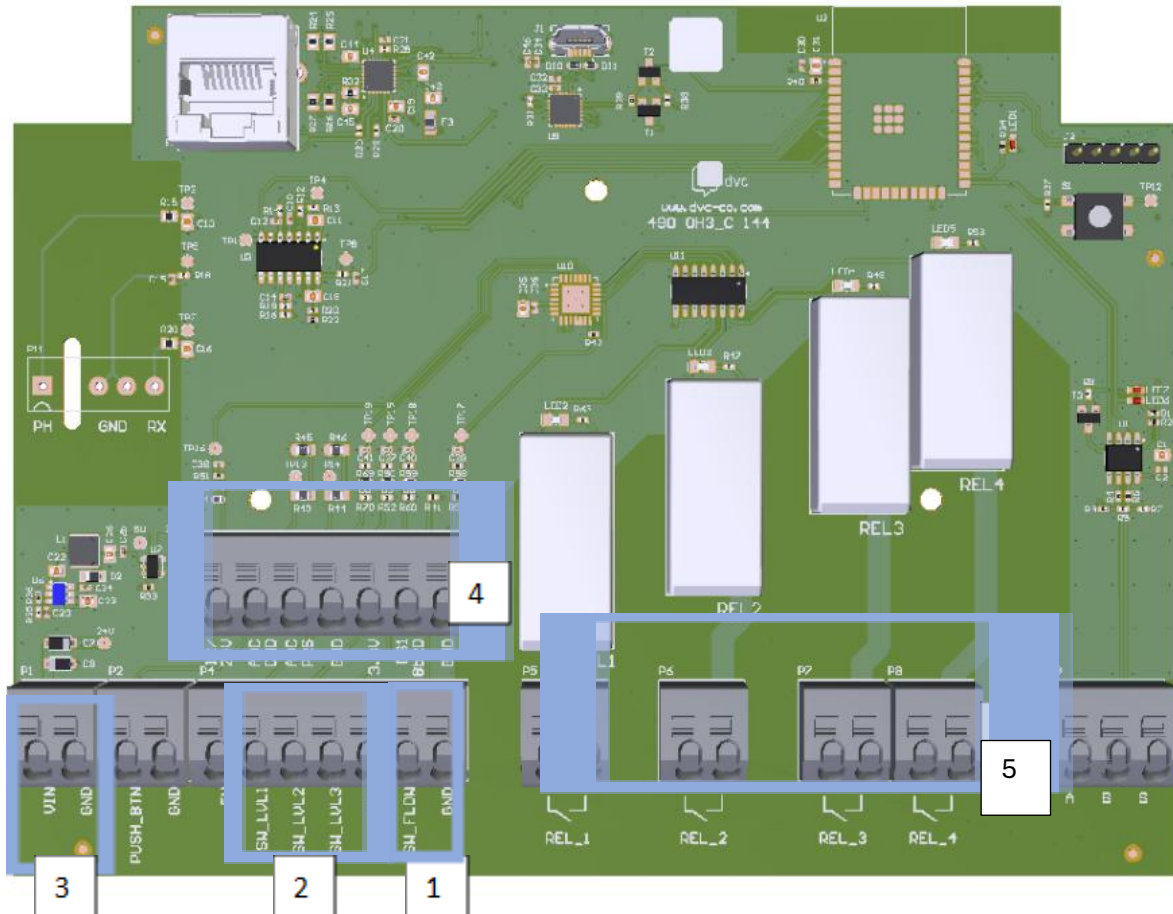
SALT ELECTROLYZER SR

Error code	Cause	Remark	Solution
E1	Indicates that aircooling fin temperature is too high	the maximum temperature is 65°C. the fault display must be cleared manually.	First check whether there is E6 error code, if yes, please ensure that the temperature sensor is connected, if connected well please change the sensor. If E6 error codes not present, please check the hardware circuit
E2	Indicates the water temperature exceeds the normal temperature range	Normal working temperature range: 10~45°C	First check whether there is E7 error code, if yes, please ensure that the temperature sensor is connected, if connected well please change the sensor. If E7 error codes not present, please make sure the operating water temperature is within the normal range.
E3	Indicates no water	Normal operation should be with sufficient water flow through the cell.	First ensure the water level sensor has been connected, if already connected, then check whether it is lack of water or with air, if there is water, then clean the water level probe.
E5	Means the salt concentration is low	Normal working salt concentration 2700-4500ppm	First use a salimeter to check the salt concentration in the pool. When the salt concentration is below 2700 ppm, add right amount salt into the pool. When pool salt concentration reaches to the normal working range, the error code will be cleared automatically, and the machine will start to work normally.
E6	Indicates the temperature sensor inside the control box has malfunctioned	the fault display must be cleared manually	First check if the corresponding temperature sensor is connected, if it is connected, please change the sensor.

E7	Indicates the water temperature sensor has malfunctioned	the fault display must be cleared manually	First check if the corresponding temperature sensor is connected, if it is connected, please change the sensor.
E8	Indicates the system power input is too high or too low	the fault display must be cleared manually	Please change the hardware of the power supply.
E9	Indicates controller current output is too high	the fault display must be cleared manually	Please contact the supplier to replace or examine the control box.
EA	Indicates that the electrode has malfunctioned	the fault display must be cleared manually	First check the electrode is connected, if connected well please change the electrode.
EB	Indicates the system memory chip has malfunctioned	the fault display must be cleared manually	Contact supplier to examine or replace the memory chip.
EC	Indicates the system detects a circuit fault	the fault display must be cleared manually	Turn the power off and reboot, if not report failure, can start normally. If the fault occurs repeatedly, please contact the supplier to examine or replace the control box.

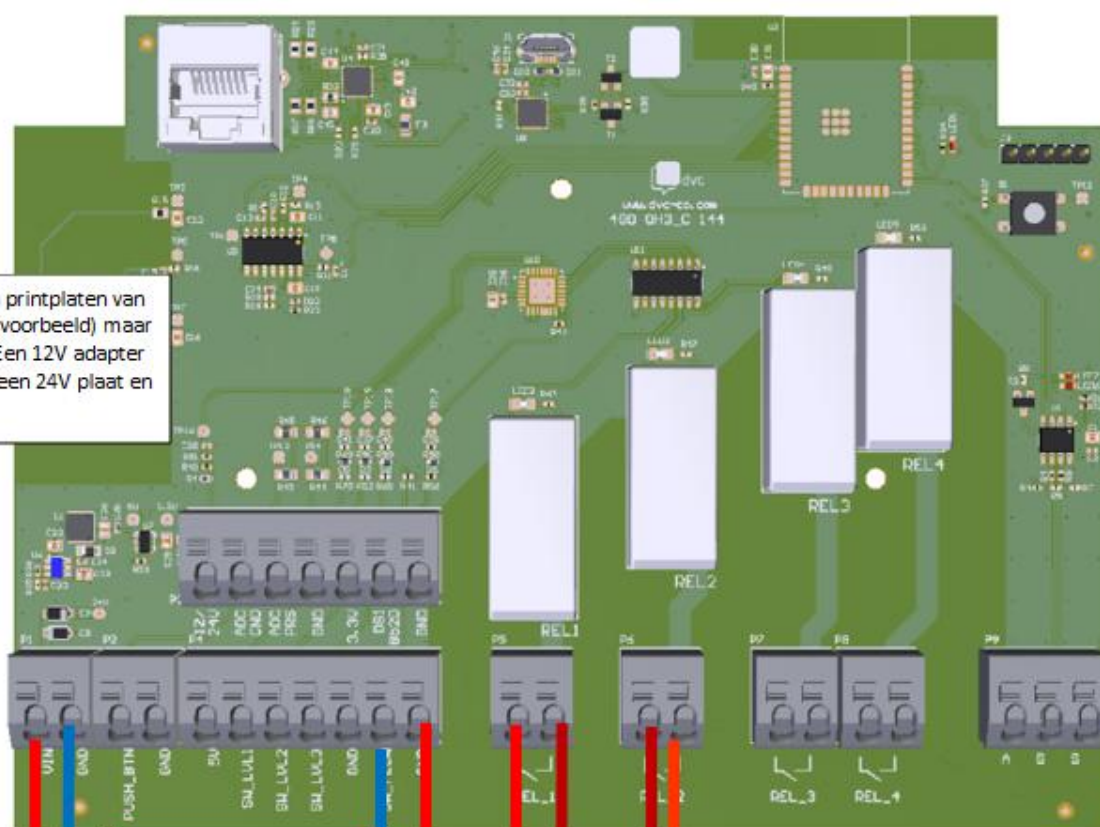
Power switch on, if "power" indicator of control panel is not on, please check if there is AC220V power input at the electronic board input connection. If there is power input, please check if the fuse on the circuit board has burned out. If everything is normal, may the electronic board have been damaged, please contact the supplier.

STRUCTURE, WIRING DIAGRAM AND DIMENTIONS



1	Flow switch
2	Level switches
3	Power supply
4	Temperature
5	Relays

LET OP: Er zijn printplaten van 12V (zoals dit voorbeeld) maar ook van 24V. Een 12V adapter werkt niet op een 24V plaat en omgekeerd!

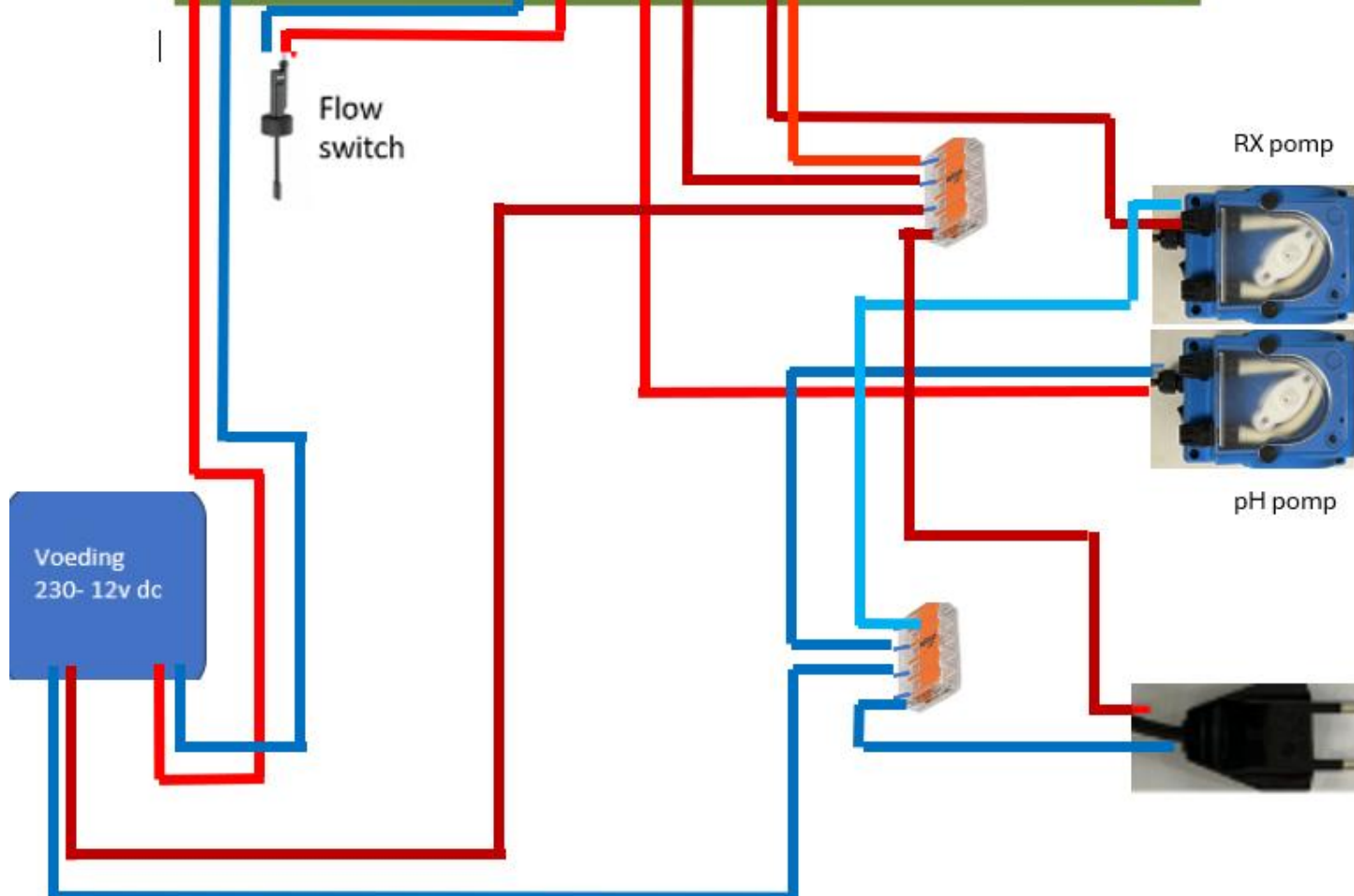


Flow
switch

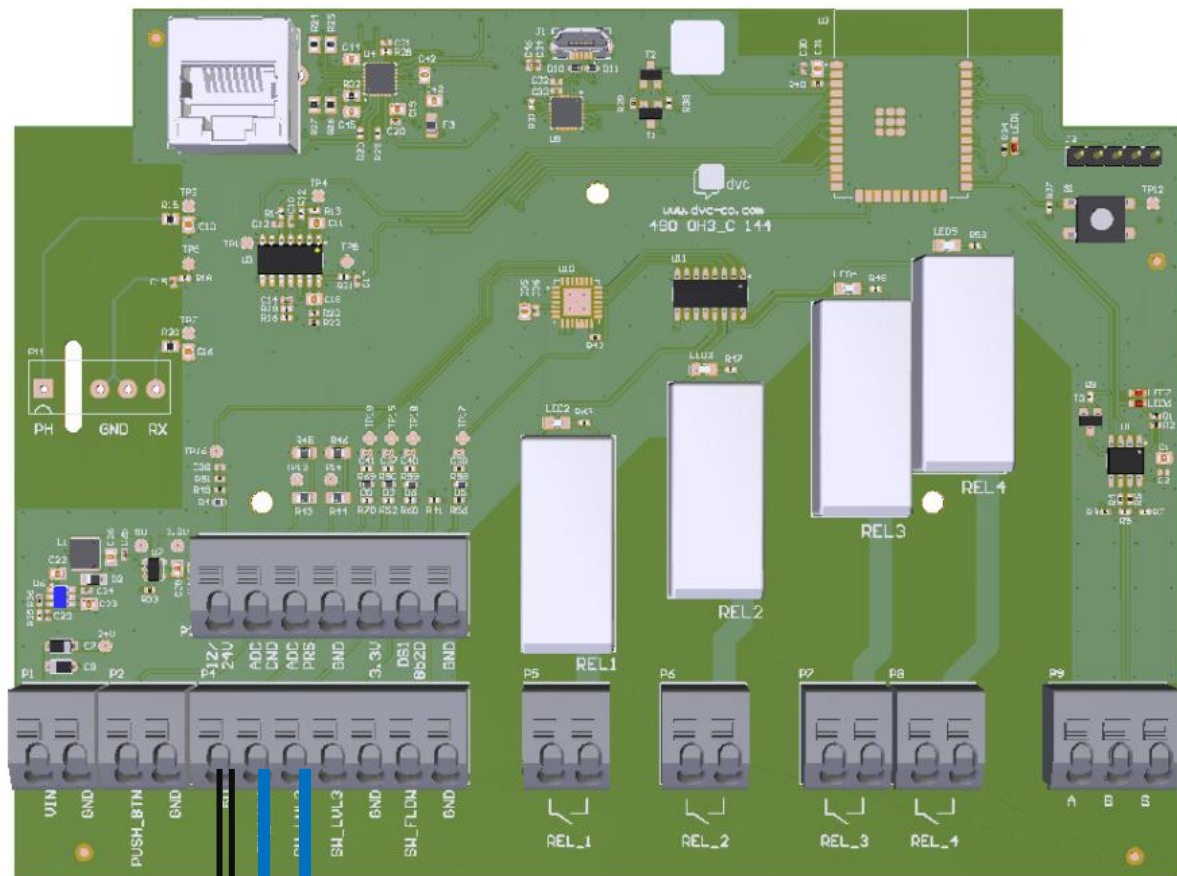
RX pump

pH pump

Voeding
230- 12v dc

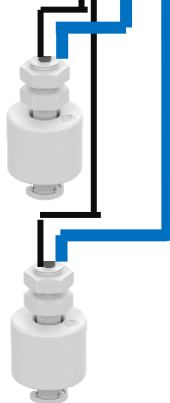


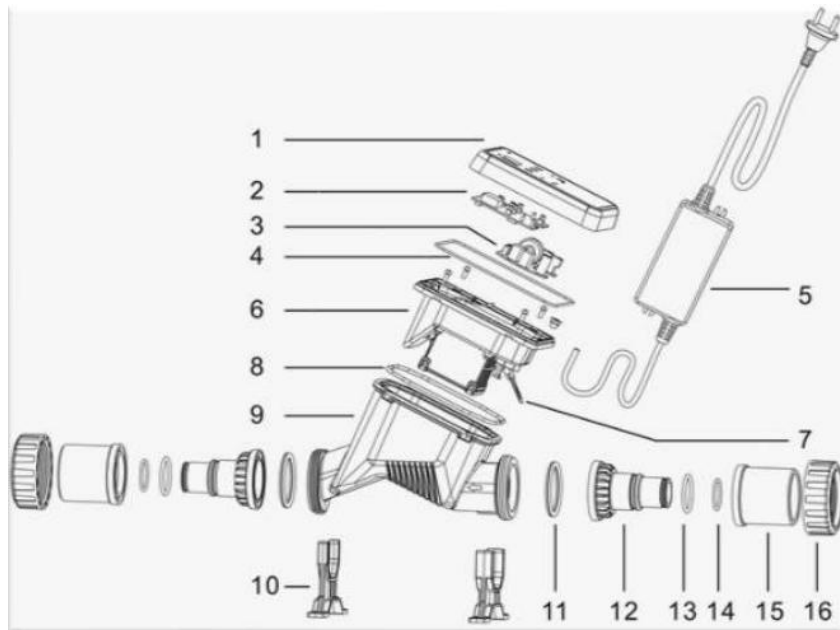
Connecting level switches



pH Level
switch

RX Level
switch





Item	Description	Item	Description
	Face cover	9	Cell house
2	Control board	10	Base support
3	Electrical Circuit board	11	1.5 inch o'ring
4	O'ring for face cover	12	32/38
5	Adapter	13	38 o'ring
6	Titanium plate	14	32 o'ring
7	Water flow switch	15	1.5 inch connector
8	O'ring for cell	16	Nut

