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WIFIPOOL DUO LS

DISPLAY

COMPLETE MANUAL

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INTRODUCTION

Pool DUO Low Salt utilizes a small electrical current to convert salt to Sodium Hypochlorite (liquid chlorine). This electrolysis process ensures efficient chlorination of pool water, maintaining optimal sanitation levels for a clean and safe swimming environment.

The equipment is designed to monitor and control the pH and redox content (chlorine) of your swimming pool. This guide provides information necessary for installation, troubleshooting, and maintenance.

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

1 Installation	2 pH and RX calibration and automation of pH and RX adjustment	3 Leak testing

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

To ensure optimal product usage and prevent accidents, please thoroughly review this manual before installing and using the product. It is imperative to strictly adhere to the instructions for your safety and proper operation of the salt chlorinator. Failure to heed safety warnings could result in severe consequences including serious injury, property damage, and even life-threatening situations.

General

- Installation personnel must carefully review this manual before proceeding with installation. In case of any improper or mistaken operation, please contact your supplier.
- This appliance is not intended for use by individuals (including children) with reduced physical, sensory, or mental capabilities, or lack of experience and

knowledge, unless supervised or instructed by a responsible person regarding its safe use.

- Improper installation can create an electrical or chemical hazard, which can result in serious injury.
- Always wear safety gloves and safety glasses when working on the installation.
- If you are not familiar with the pool filter system and dosing equipment:
  - Read the entire installation and operating instructions before using the dosing equipment.
  - Only a qualified installer, centre, individual or an authorized dealer can repair this product.
  - never modify anything without consulting your supplier, professional pool contractor.
  - In the event of damaged parts, only use original replacement parts. Failure to do so will void your warranty.
- Maintenance and operation should be performed according to the recommended time and frequency, as stated in the manual.
- Do not install the device in an area where the electronic components of the chlorinator may be damaged by moisture or rain.

Electrical

• It is recommended to install the water treatment system in a bypass configuration so that :
  - Salt electrolysis and acid pumps cannot work if the filter pump does not work. This can be done by purchasing a metering unit with a flow switch, adding a flow switch to the system, or using the same or shorter timer than the filter pump.
  - Salt electrolysis and acid pumps can be switched off manually. This can be done via the on/off switch on the bottom of the dosing pump or via the manual control of the app.

• The electronics or the device itself should never be connected to an output of a frequency converter or drive.
• If a AC drive is used, we recommend placing it at least 3 m away from the metering unit, using a separate circuit for the inverter and the salt electrolysis unit, and checking the interactions between the AC drive and the pH RX measurement (make sure that the pH and RX do not deviate when the inverter is switched on and off).
• 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 appliances and pool water are properly grounded. The pool hose is grounded via in-line grounding on an independent grounding pole.
• Before performing any maintenance or operation, make sure that the peristaltic pump and/or salt electrolysis are disconnected/in the "OFF" position, all machines are turned off, and the power source is turned off.
• NEVER make adjustments inside the equipment
• Our devices do not have an audible alarm, only an alarm on the screen.

Chemical

• In the event of a leak, ensure that no water or chemicals can drip onto the equipment
• Calibrate the pH and RX probes before first use and at least every 3 months thereafter. Check the chlorine level and pH "regularly" with a staining method.
• The addition of pool chemicals should be done after the pool accessories such as water

heater, UV lamp, filter and after the measuring probes
• Chlorine (made by salt electrolysis) and acid react with each other to form toxic chlorine gas. Make sure that 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 the reach of children...
• Place tubs underneath the unit to catch leaks from peristaltic pumps and injection fittings.
•The chemicals used, have to be placed in a second security container, with a volume larger than the chemicals container.
• Repair leaking pipes immediately. Do not operate equipment with leaky pipes.
• Make sure that the machines you use are programmed in such a way that acid and salt electrolysis never work at the same time.
• The acid peristaltic pump should not be used with hydrochloric acid (HCl).
• Use a maximum of 14.99% sulfuric acid as the pH regulator Only units with a black vition peristaltic tube are resistant to hydrochloric acid (HCl).
• Make clear markings on your equipment and on the chemicals.
• Do not allow children or unauthorized persons to access the chemicals.
• To ensure proper operation of peristaltic pump and salt electrolysis, check pumps weekly for leaks. • In case of leaks, repair immediately.
• The Redox of a salt electrolysis system can only be used using gold plated RX probes, as platinum coated probes are desactivated by reaction with hydrogen (H_2)formed during the electrolysis process

$2NaCl + 2 H_2O \rightarrow Cl_2 + H_2 + 2 NaOH$
$Cl_2 + 2 NaOH \rightarrow 2 NaClO$ (liquid chlorine)

SPECIFICATIONS

Internal code	Chlorine capacity – max pool volume	Mounting	Flow switch	Level switch	Salt electrolysis
BEPX0210	$30m^3$	DIY	yes	yes	10 g/h
BEPX0215	$50m^3$	DIY	yes	yes	15 g/h

The capacity of a salt electrolysis is expressed as the grams of chlorine produced per hour.
The relationship between the g/h and the volume of pool for which the salt electrolysis can be used, is relative.

Beniferro defines that per $30m^3$ of swimming pool volume, 10 g/h chlorine needs to be produced to be able to keep the pool clean and healthy with a water treatment operation time of 8 hours.

This assumption is correct for the average 28 °C swimming pool in Western Europe, provided the pool is covered when it is not being used.

Factors increasing the necessary chlorine capacity are – in order of importance:

- not covering the swimming pool.
- increased pool temperature or pool under an enclosure.
- increased exposure of the pool to direct sunlight.
- increased number of swimmers in the pool.

For outdoor pools, to reduce the loss of chlorine due to UV radiation on the water, it is necessary to maintain the level of Cyanuric Acid chorine stabilizer between 30-50 ppm (mg/l).

INSTALLATION INSTRUCTIONS

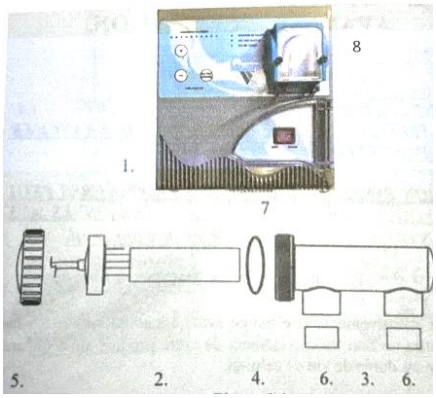
General

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). If in a box, fix the box to the ground.
- 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 …. Equipment.
- Connect water inlet and water outlet, so that the water passes first along the Redox and pH measuring electrode and then along the salt electrolysis (or vice versa).
- 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 liquid, when the liquid level in the drum is “low”.
- Make sure the Water is earthed via a separate earth pin.

Salt electrolysis components



1. Control cabinet
2. Cell
3. Cell casing
4. O Ring
5. Lid
6. Reducers, from 60 mm to 50 mm (Europe)
7. Closing connector for pool hatches
8. pH pump

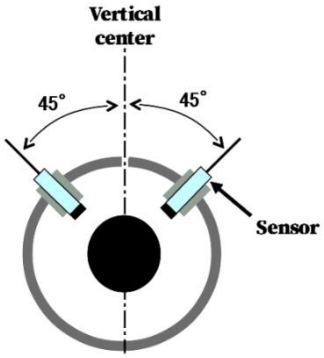
Install the different elements in the following order:

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

Follow the installation scheme just as the picture above

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°.



- Make sure pH adjustment and Chlorinator cannot work if there is no flow through the pH injection / chlorinator pipes. This van 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.

- Check out the parts for the electrolysis components

1. Main power supply
2. Chlorinator powerpack
3. Chlorinator cel.
4. Heater
5. Filter
6. Pump

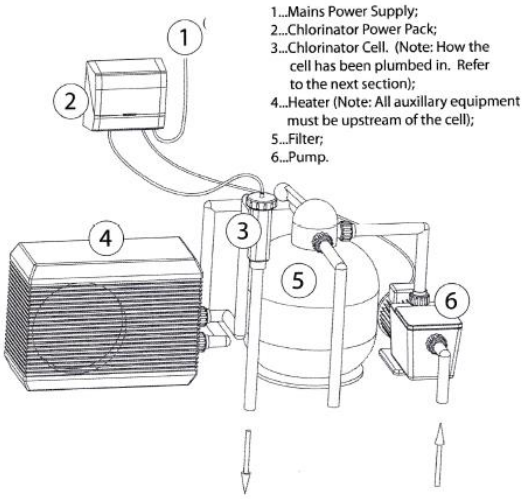


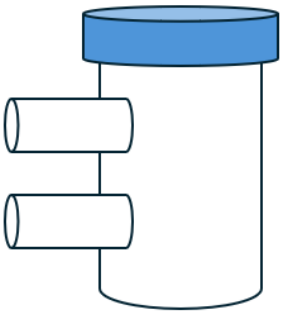
Figure 3.1

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

Electrolyse cel

It is advised to place the electrolysis cell at a distance of less than 1.5 meters from the power supply box, measured from the length of the cable connecting the cell to the power box. The cell should be installed in such a way that gas can accumulate in the cell. In this way, the cell will safely go into standby mode if necessary (e.g. in the event of an interruption of the water flow.
In order to function effectively, the flow/gas sensor (in the lid) must always be installed above the cell inlet and outlet.

The direction of flow in the cell itself is not important.



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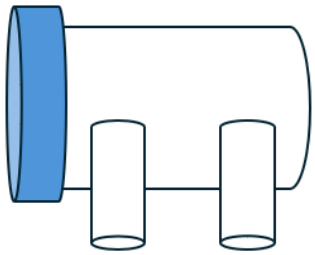

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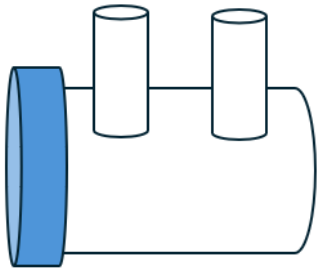

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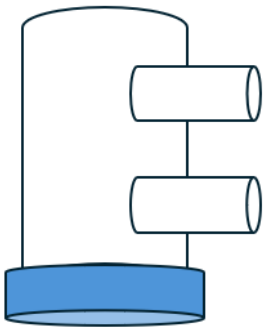

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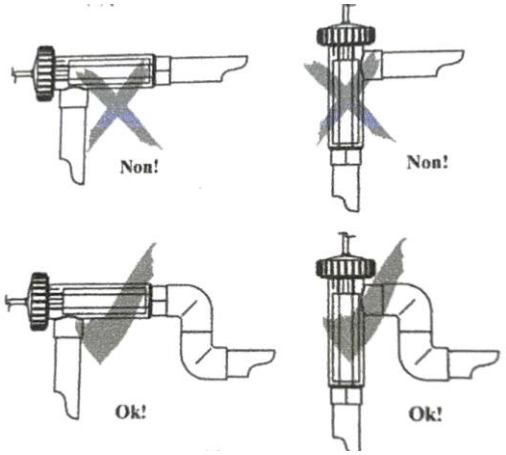


Note: Failure to install the cell as explained will void the warranty.

Grounding your installation

The production of chlorine by electrolysis, which is generated by a low electrical voltage in the cell and therefore in the water that flows through it, can cause leakage currents (completely harmless to users), but which in the medium term can cause damage or corrosion on the metal parts of your installation (stainless steel ladders, or others).
To avoid this possible phenomenon, it is essential to ground your water circuit by installing a grounding sleeve on your circuit.

Feeding cabinet electrolysis

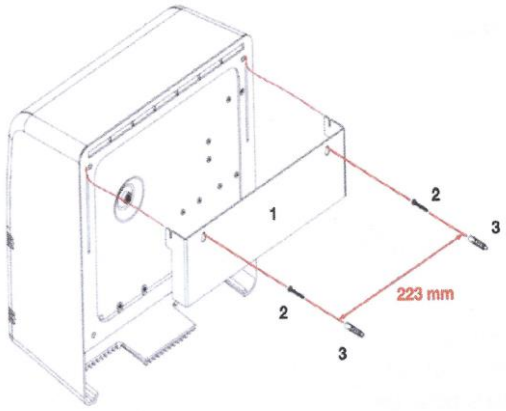
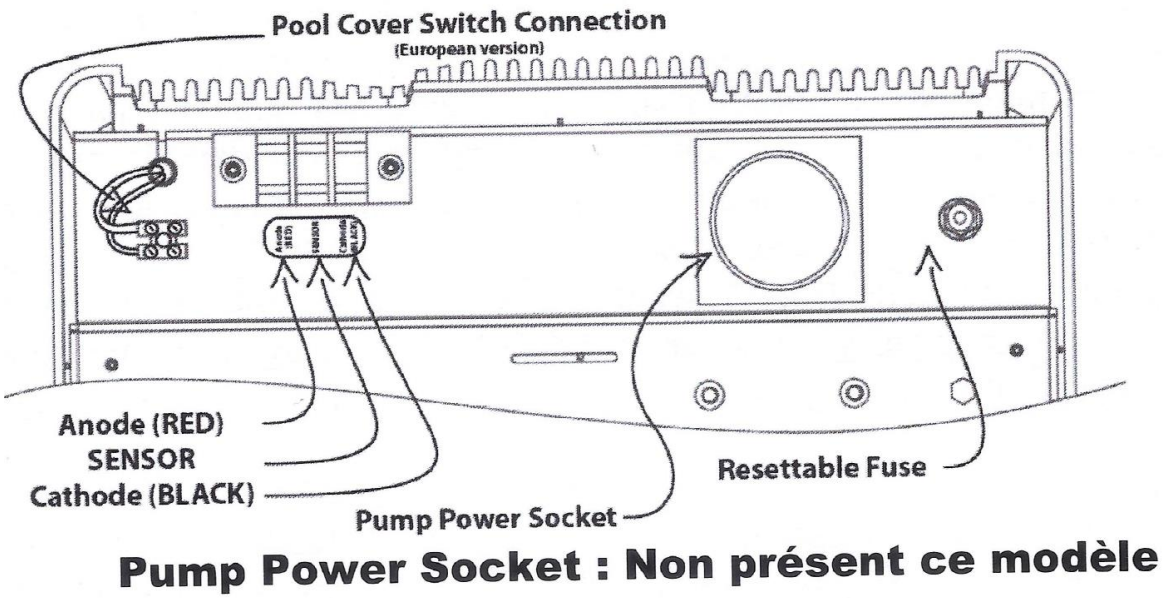


Figure 2.3

Nutrition chlorinator

The power supply should be mounted at a minimum distance of 3.5 m from the edge of the pool, in a dry area, protected from direct sunlight, with reasonable ventilation. The block must be mounted on a wall or vertical structure less than 1.5 m from the location required for the cell and at least 1 m from the ground. In addition, the distance to a socket should not exceed 1.5 meters.
Note: When choosing the location of the electrolyser's power supply, always consider easy access to the power supply for service, maintenance, and general operation.
The electrolysis is supplied with a mounting bracket, 2 mounting screws, and 2 mounting plugs (Figure 1.1 (2). (3) & (4)) When assembling the electrolysis, please take the following points into account:
1) The bracket should be mounted with the hooks facing up. Also note that the mounting locations of the mount are on the upper part, if mounted correctly (see Figure 2.3)
3) Use the mounting bracket as a guide to determine the location of the mounting screws, top edge of the unit.
Note: The required screw spacing is 7 mm. This allows the screw heads to pass through the mounting hole and be anchored in the narrow section to hold the bracket.
Tightening the bracket screws secures the device during assembly and disassembly.
Connections at the bottom of the box.
For optimal performance, it is recommended to power the chlorinator power supply on the same power supply as the circulator of the same circuit.

The cell has 3 connections: Anode (red), cathode (black), water presence sensor (white).
(See diagram below)



WARNING: The electrolyser must always be used in conjunction with the filtration pump.

PREPARING THE POOL WITH SALT AND STABILIZER

Calculation of salt requirements

Salt electrolysis produces chlorine with a water salt content of 1000 to 2000 ppm (1 to 2 grams of salt per liter of water).
Using your pool at 1.5 gr/litre is ideal and will reduce the operating time of your filtration and extend the life of the cell.
The concentration of 1000 ppm corresponds to 1 gram of salt per liter. When you add the salt, spread it evenly over the pool. Do not add salt through the skimmer, as this may damage the filtration system and the leak trolyte dispenser and do not start your automatic cleaning system (robot) until the salt is completely dissolved. Allow the salt to dissolve for 24 hours before switching on the electrolyzer.

Stabiliser

It is recommended to add cyanuric acid. It prevents chlorine from breaking down too quickly, especially during the summer months. The recommended dose of stabiliser (cyanuric acid) is between 30 and 60 ppm (i.e. between 30 and 60 mg per litre).

OPERATING INSTRUCTIONS

General instructions

After 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 probs moist.
- Use only city water, no rainwater or well water.

Calibration

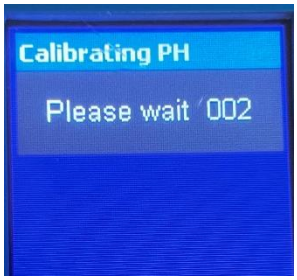
With the following steps, you will have calibrated the electrodes in no time:
There are 2 ways to calibrate:

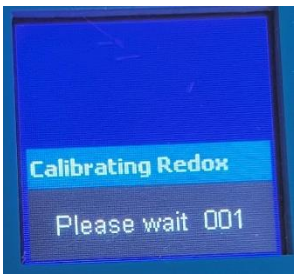
Calibration via calibration fluid

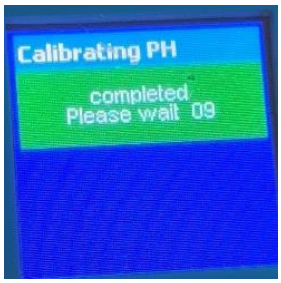
1. Immerse the measuring heads in the calibration fluids for pH (pH 7) and RX (465-468 mV) and wait 5 minutes to reach equilibrium before proceeding with the calibration procedure.

Press the pH or RX buttons (top and bottom buttons) separately for 10 seconds (top and bottom buttons)

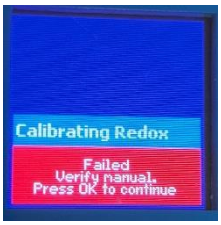
As soon as the calibration starts, a screen is activated that shows what you are calibrating. You can calibrate only Ph or rx.







<- A timer stops after 120 seconds and indicates whether the calibration was successful



If the calibration is not successful, the following message is displayed ->

Reasons for a failed calibration:
- Poor calibration (try again)
- The calibration fluid is contaminated (replace the liquid). Recalibrate
- Probe defective (replace the probe) and recalibrate.

If Ph and Rx are properly calibrated, the screens are automatically hidden

After, about 2 minutes, the lights go out and you can read the values on the screen. If the calibration is correct, the values are as follows:
a) pH 7,0 + 0,1
b) Redox 468 + -10 mV

If the values are not within the range described above, you can repeat the calibration using the pH and RX keys.

Preparation of the pool water

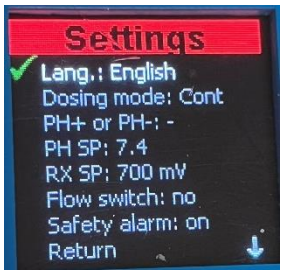
Make sure that the pH value of the pool water is at least between 7.2 and 8.5 and as close as possible to 7.4

Make sure that the chlorine stabilizer content (cyanuric acid) of the pool water is between 20-40 ppm (20-40 g/ 10 m^3)

Set parameters

A number of parameters need to be set. Press the center button. You will see the following screen:

Language



You can set a (different) language. Press the middle button again. Then use the top or bottom button to navigate to the languages Français, Castellano, Italian, English, German. You confirm your choice of language by pressing the middle button.

Dosing method: proportional or continuous

Press the bottom button. The setting "Dosing method" is now checked. Press the center button to activate this setting. You will now see that the dosing method Prop (= proportional) is selected. Press the middle button again. The dosing method is now proportional.

Be careful!
You should NOT choose the salt option for the addition of liquid chlorine.

Explanation of the dosing method proportional:

In the "Proportional" dosing method, the controller continuously goes through a cycle in which:
- pH and chlorine content are measured and stored for 40 seconds (no dosing is currently used).
- The chlorine (if necessary) is dosed for 2 minutes.
- The pH min (if necessary) is dosed for 2 minutes.

This dosing method (prop) is recommended for working with liquid chlorine and liquid pH

With this dosing method, pH and liquid chlorine are never dosed simultaneously

Explanation of the dosing method Cont:

- The pumps always run if pH and/or redox setpoint are not reached.
- If you decide to use this dosing method, the injection point for pH and chlorine should be at least 2 metres apart.

First, adjust the pH for at least 5 minutes.

• Wait for 30 seconds.

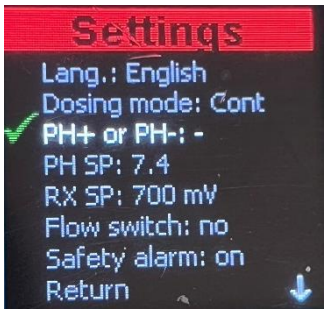
• If the pH has reached the desired level, then adjust the redox (for at least 5 minutes). If after 5 minutes the pH is off-target again, stop the redox adjustment and proceed with pH adjustment.

Additional Method: pH-Master

Another method that can be used is the pH-Master method. Originally developed for salt electrolysis, it can also be applied for liquid chlorine dosing.

When you choose pH-Master, chlorine is only produced without interruption once the set pH value is reached. If the pH value changes to a value out of specification, chlorine production stops, and the system first brings the pH value back to the desired level.

PH+ of PH-



Press the bottom button. The "PH+ or PH-" setting is now highlighted. Press the center button to activate this setting. On - sign appears. Press the middle button again. You have now turned on the power supply with PH-.
PH- should always be adjusted when salt electrolysis is used. When chlorine is produced by the salt electrolysis unit, PH+ (NaOH) is formed as a by-product.

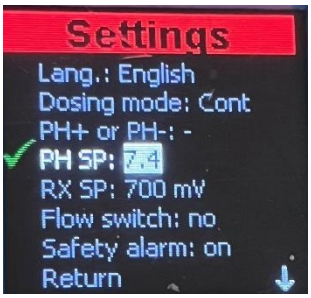
PH- should always be adjusted when liquid chlorine is used. After all, liquid chlorine already contains PH+, which is always added as a stabilizer.

PH- should always be adjusted when using the salt electrolysis. When chlorine is produced by the salt electrolysis unit, PH+ (NaOH) is produced as a by-product.

It is not possible to add PH+ AND PHOTO: PH or PH+, never both at the same time.

In other cases, PH plus can be adjusted.

PH SP(SetPoint)



Press the bottom button. The "PH SP" setting is now activated. Press the center button to activate this setting. You will now see a preset value. Now you can move the value up or down with the top or bottom key. Then confirm with the middle button. The value is now set according to your needs.

As a rule, the pH value is set to 7.4.

Rx SP (Redox SetPoint)

The redox is a measure of the chlorine content.

During commissioning, we recommend setting the set point to 700 mV, as described above for the pH value. After the first commissioning, measure the chlorine content using a colour method. If necessary, adjust the redox setpoint (decrease if the chlorine content is too high, increase if the chlorine content is too low).

Read carefully the chapter "Setting the Rx setpoint" in the manual

Flow monitor no, and

Here you can indicate whether the unit is equipped with a power switch. If you enter YES, the device assumes that a power switch is active.
If there is a water flow, the Ph and chlorine dosing pumps can function. When there is a water flow, the dosing pumps do not work

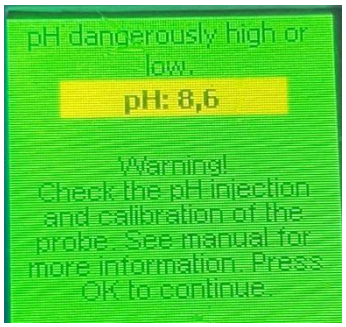
A flow switch is included in the ZWMX7525 version, but not in the ZWMX7520-P version.

Security alarm on or off or info

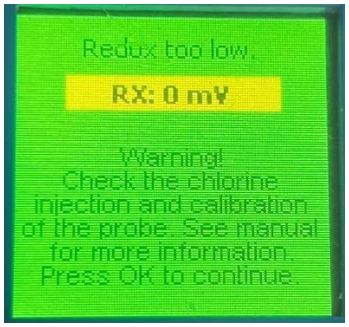
The alarm function is prepared to ensure the safe operation of this device and the swimming pool.

Alarm on:

The alarm screen shows the following:



- pH too high (pH >8.5)
- pH too low (pH<5.5)
- pH setpoint not r eached after 200 minutes of dosing



- Redox too low (<100)
- Rx Setpoint not reached make 400 minutes dosage

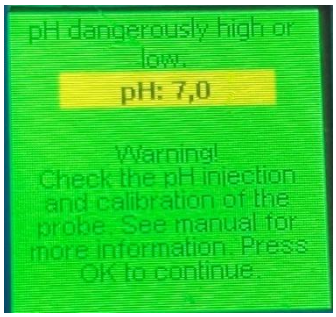
The alarm function is necessary to warn the user of abnormal behaviour of the unit and to prevent a very large dose of a pH liquid from being dosed or from dosing or generating too much chlorine.

The alarm message disappears when the middle menu button (reset) is pressed or after a power failure.

Industrieweg 9 • 3190 Boortmeerbeek, Belgium • info@beniferro.eu • +32 (0) 468 41 84 29

Please note

You might receive a warning even if your pH or RX appears to be at an optimal value. This is because the warning indicates the current pH or RX value, which could have been higher or lower than the optimal level earlier. The device activates the alarm to halt dosing when the level becomes too high. Therefore, while the current reading may seem normal, it could have previously reached dangerously high or low levels.



If after resetting the alarm function the values deviate as described above, the alarm will continue.
Swimming is not allowed in the pool if the "alarm" indicates a deviation
Alarm off:

Never use the device in the alarm OFF position during normal use. If you turn off the alarm, the alarm function described above will not work for 240 minutes.

The alarm OFF mode is only used to check the values of a swimming pool that deviate significantly. (as at the first start)."
For example, the pH value can be very high and the Rx value very low when the pool is first put into use. In this case, you need to use the alarm function "OFF" to check the pH and chlorine.

When the "alarm off" function is used, swimming in the pool is not allowed

Install the suction nipple.

Place the pH suction cup in the acid tank and the chlorine suction cup in the chlorine tank.

It is recommended not to lower the suction cup to the bottom of the jug. If something goes wrong during dosing, the entire container with chlorine or acid is not pumped into the pool.

Start the device

Start the installation by turning on the flow of the pump and the dosing unit.
Switch on the pH dosage (via the switch on the bottom of the dosing pump) until the pH value is between 7.2 and 7.6. If the pH value is less than 7.2: add pH plus manually to the pool water.

Once the pH value is in the range of 7.2 to 7.6, switch on the chlorine dosage.

With the "Prop" dosing method, the acid and chlorine pumps never work simultaneously.
Make sure that the dosing nipples for acid and chlorine do not leak and that acid and chlorine are dosed effectively.

Verify

Regularly check the operation of the probes and the settings by measuring the pH value and the chlorine content using an alternative method (colour measurement). If necessary, adjust the set values of the system.

Chlorine control via Rx: set the Rx setpoint value

The Rx (redox) is a measure of the chlorine content (oxidizing capacity) of the pool water. The higher the Rx, the higher the chlorine content.
the Rx is expressed in mV (millivolts), the chlorine content in ppm (parts per million).
The chlorine content in a swimming pool is ideally between 1 and 1.5 ppm.

There is no clear link between Rx and ppm chlorine, but usually an Rx of 700-750 mV corresponds to a chlorine content of 1 to 1.5 ppm.

Therefore, the chlorine content should be checked at regular intervals at commissioning and thereafter using a color measurement method (e.g. Poollab ZWMX1060). If it turns out that the chlorine content is too high, the Rx setpoint should be lowered. If it is determined that the chlorine content is too low, the Rx setpoint should be increased. If necessary, repeat this procedure several times until the chlorine content remains constant between 1 and 1.5 ppm.

As an extra safety measure, we recommend that you do not lower the suction cup to the bottom of the jerry can when starting. If something goes wrong during dosing, the whole can of acid will not be pumped into the pool.

Read the safety instructions carefully before using chemicals.

Specification pH addition

Since pH + has been added to liquid chlorine, the pH value must be corrected with pH minus. We recommend the use of 15%-30% sulfuric acid. Boe "weaker" the sulfuric acid, boe more accurately the pH dosage will work.

In the exceptional case that the pH falls below 7.2, it is best to bring it back into the zone 7.2-7.6 by adding pH plus.

As an extra safety measure, we recommend that you do not lower the suction cup to the bottom of the jerry can when you launch it
If something goes wrong with the dosage, the whole can of acid is not pumped into the pool
Read the safety instructions carefully before using chemicals.

Calibration and control chlorine /pH

The accuracy of the pH value and the salt electrolysis content should be checked regularly (weekly) by means of a thorough colour measurement (e.g. Poollab ZWMX1060).

Each system shall be calibrated at least once a year. In case of a long bathing season or if there is a discrepancy between the colour method and the pH / Rx values, it is advisable to carry out the calibration also every six months, i.e. twice a year. The procedure for calibrating and setting the set point has already been described in detail above

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 is calibrated, works deze zin is in alle talen verkeerd vertaald
- 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 with droplets or strips 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 spoons 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.

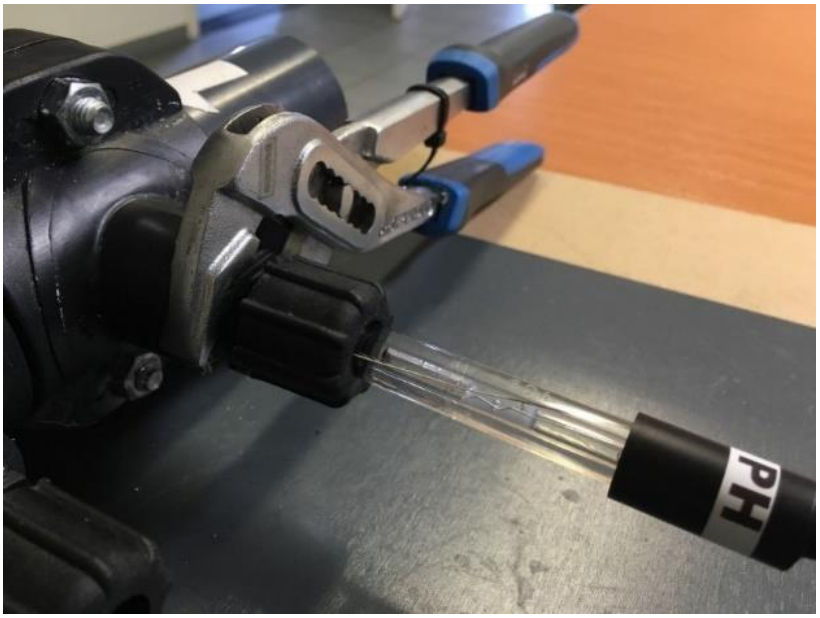
1 Recalibrate and remeasure pH with probe. If in doubt:
2 Check and adjust the alkalinity of your water between 80 and 120 and remeasure the pH with your color method. If doubt remains
3 Renew the pills/liquids of your measurement tool and remeasure the pH with your color method. If doubt remains :
4 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 Twin supplier as well as the supplier of the alternative method).

Leaktesting and leak managment

Insert the pH and RX probes after calibration and put water pressure and flow through the unit.

Insert pH and chlorine electrodes into the electrode holders. Fix the nut with pliers or wrench while tightening the cap.

At start-up of the leak test, do not switch on electrical power to the water treatment unit.



Leaks must be repaired immediately.

Make sure leaks of sulphuric acid cannot mix with leaks of the salt electrolysis outlet, as they may cause formation of toxic chlorine gas.
Make sure leaks cannot run over (other) parts of the swimming pool equipment.
Make sure leaks are captured into a separate container or drip tray.

Start up

Start up the filterpump, and switch on the power to the water treatment unit. As soon as flow is detected, the unit will start up.

Consider starting up the water treatment 15 min later than the filter pump by using a scheduler.

pH and RX setting

We recommend for salt electrolysis to set the pH at 7.6. The salt electrolysis will generate pH+ and the pH will rise. This is compensated by adding pH – via a dosing pump. When pH setting = 7.6, the pH will – in case of overshoot – very likely remain in the correct pH 7.2 – 7.6 operating range.

The real criterium for safe swimming pool water is to have a pH of 7.2 – 7.6 and a free chlorine content of 1 +- 0.5 ppm. The free chlorine is very difficult to measure continuously online, hence the redox is used.
The Redox is a measurement of the oxidation power of the swimming pool water. The higher the redox, the more “aggressive” the pool water will be towards bacteria and algae in the water.

The redox measured depends on many variables (such as chlorine content, type of chlorine used additive content, electrode lifetime ...) and is different for each pool. Usually, a Redox value of 650-750 mV corresponds with 1 ppm chlorine.

Once the pH of the system is balanced, you will need to measure the free chlorine content of your pool using a proper coloring method (e.g. via a Pool Lab). If this is < 1ppm, you should increase the RX setpoint (in 10mV increments) until you measure 1ppm of free chlorine in the pool. If the free chlorine level is higher than 1ppm, reduce the RX setpoint (in 10mV increments) until you measure 1ppm of free chlorine in the pool.

Hysteresis

A pH and RX hysterisis has been programmed, to avoid fast and repetitive start-stops of pH pump or salt electrolysis.

pH Hysteresis is +- 0.04
RX Hysteresis is +- 10mV

This means that pH may be over or under the target value by 0.04 units, without the pH pump being activated or stopped.

RX value may be over or under the target value by 10mV, without the salt electrolysis pump being activated or stopped.

Deviation of the pH measurement compared with another method.
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 spoonfuls 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 Twin 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, as long as 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 ... .

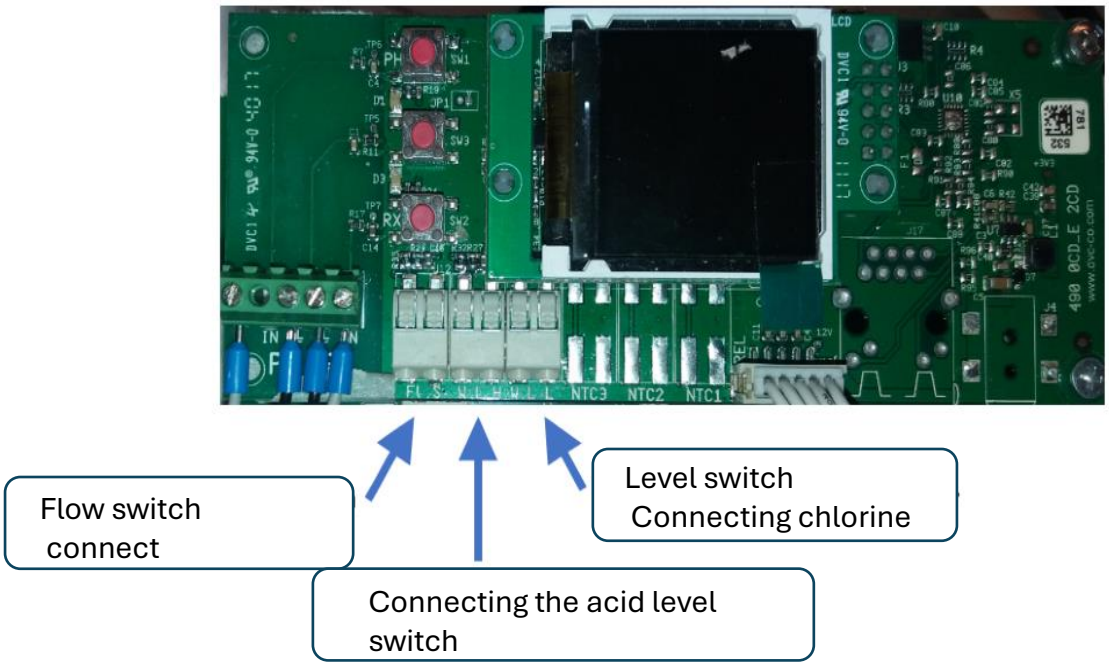
A deviating redox is not so bad. You proceed as follows: measure the free chlorine content in the pool using a color method (before measuring the chlorine content, the pH and hey cyanuric acid content must be within specifications). Add chlorine to the pool until the chlorine level is 1-1.5ppm. The redox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

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

Connecting the flow switch

For units manufactured in 2020 or later, a flow switch can be mounted on the unit.
On the circuit board with the display, the "FS" connector is located at the bottom left.
These are connected to the two contacts of the flow switch.
If no flow rate is detected, neither the acid nor chlorine pump runs and an alarm is triggered.



Connect the level switch

For units manufactured in 2020 or later, 2 level switches can be mounted on the unit.

On the circuit board with the display, the connections "WLH" and "WLL" are located in the middle and bottom right. These are connected to the 2 contacts of the level switch. Connect the WLH connection to the level switch in the acid tank and the WLL connection to the level switch in the chlorine tank.

When a low level is detected, the pump involved stops pumping and an alarm is generated

Table 1

The following table shows the ratios between mV, pH and the corresponding chlorine content in ppm. For example, your device has the following values on the screen: pH 7.2 and RX of 740, then your pool water has a chlorine content of 1.2 ppm.

Attention: this table is not always correct. Products such as flocculants, wall cleaners, settling agents, sulfates, copper sulphate, extreme shredder (Chloramines), electromagnetic interference and/or less than optimal grounding can cause an Rx of 700-750 mV NOT to correspond to a chlorine content of 1-1.5 ppm. This is often a temporary phenomenon that mainly occurs with salt electrolysis.

A color measurement with a solid-state device (e.g. Poollab ZWMX1060) gives the best indication of the chlorine content in the swimming pool.

Free chlorine RX/mV vs pH

pH

pH	6,9	7	7,2	7,3	7,4	7,5	7,6	7,7	7,8	7,9	8	8,1	8,2	ppm
mV	507	505	502	500	499	497	496	494	493	491	490	488	487	0,2
mV	561	558	553	550	548	546	544	541	539	536	534	532	529	0,3
mV	599	596	590	586	583	580	577	574	571	568	565	562	559	0,4
mV	629	625	618	615	611	607	604	600	597	593	590	586	583	0,5
mV	652	648	640	637	632	629	625	621	617	613	610	605	602	0,6
mV	663	658	650	646	642	638	634	630	626	622	618	614	610	0,65
mV	673	669	660	656	651	647	643	639	635	630	626	622	618	0,67
mV	682	677	668	664	660	663	651	647	642	638	634	629	625	0,75
mV	690	686	677	672	668	655	659	654	650	645	641	636	632	0,8
mV	698	694	684	680	675	670	666	661	657	652	647	643	638	0,95
mV	706	702	692	687	682	677	673	668	663	658	654	649	644	0,9
mV	713	708	698	694	689	684	679	674	669	664	659	654	650	0,95
mV	720	715	705	700	695	690	685	680	675	670	665	660	655	1
mV	733	727	717	712	707	701	696	691	686	680	675	670	665	1,1
mV	744	739	728	722	717	712	706	701	695	690	685	679	674	1,2
mV	755	749	738	732	727	721	716	710	705	699	694	688	682	1,3
mV	765	759	747	742	736	730	724	719	713	707	702	696	690	1,4
mV	774	768	756	750	744	738	732	727	721	715	709	703	697	1,5
mV	790	784	771	765	759	753	747	741	735	728	722	716	710	1,7
mV	798	792	779	773	766	760	754	748	741	735	729	722	716	1,8
mV	812	805	792	785	779	773	766	760	753	747	740	734	727	2
mV	824	818	804	797	731	784	777	771	764	757	751	744	737	2,2
mV	841	834	826	813	806	800	792	785	778	771	764	757	751	2,5

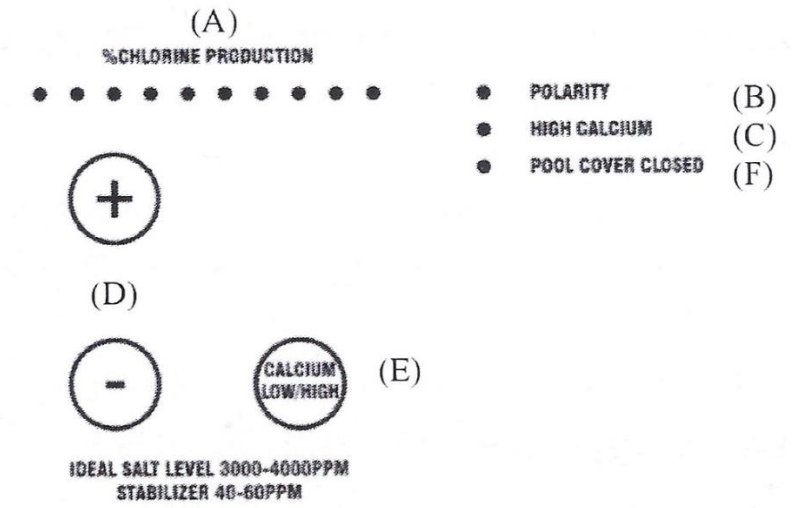
RX/Mv

STARTING THE ELECTROLYZE

Warning: The electrolyzer should always be used at the same time as filtration.

Before turning on the electrolyser, make sure that the pump and electrolyzer are connected.

As soon as the electrolyzer is switched on, the display will show the set chlorine production. By default, the device is set to 100% and must not be changed during the initial installation period. At this stage, your electrolyser produces chlorine.



(A) Production Level – An array of 10 LEDs indicates the chlorine production level of the electrolyzer. Each LED represents 10% of the maximum capacity defined for chlorine production. The output level adjustment is adjustable using the +/- buttons (D)

(B) "POLARITY" LED – Indicates when the electrolyzer is in reverse polarity. This LED indicates the change in polarity of the electrolyzer every 4 or 6 hours, depending on the calcium (limestone) setting.

(C) "HIGH CALCIUM (LIMESTONE)" LED

Depending on the area, the water may contain a completely different content of natural limestone. This affects the production of chlorine and the clogging of cells. Our device is designed to adapt to these different situations. Depending on the hardness of your water, you will need to find the right initial setting.

Knop “CALCIUM HAYT/BAS” (E)

High calcium content: for very hard water

Low in lime: for low-lime water

((F) "POOL COVER CLOSED" LED

The production of chlorine gas by an electrolyser can damage the pool covers if chlorine production is not reduced when the cover is closed.

Our device therefore has a connection that allows it to communicate with the electrical contact provided by the manufacturers of roller shutters on most models.

Our electrolyser therefore expects information from a contactor (open/closed) and under no circumstances an electric current or voltage.

Before any installation, please contact your roller shutter supplier for compatibility between our materials.

The indicator light will illuminate when an external switch is activated to close an automatic pool cover. In this case, the electrolyser reduces production by 50%. The external contactor is connected to the electrolyser by 2 wires and must be connected to the domino located under the electrolyser's electrical box.

Place pH and chlorine electrodes into the electrode bases. Attach the nut with pliers or a wrench to tighten the cap. If you don't do this, there is a chance that a leak will occur that is not covered by the warranty.

MAINTENANCE INSTRUCTIONS

- Maintenance should be carried out at the recommended time and frequency as stated in the manual.

Maintenance of the water treatment

Maintenance has to be carried out by a person knowledgeable off swimming pool technology.
Make sure to take the necessary safety precautions before starting the maintenance such as:

- Turn off the power before starting the maintenance
- Always wear protective gloves and safety goggles when working on the installation.
- Keep the installation and chemicals out of the reach of children

Maintenance of the pH dosing peristaltic pump

The pump peristaltic tube has to be greased regularly with silicone grease. Verify that the tube feels greasy each 2 months.

The pump peristaltic tube has a lifetime of 500/600 operating hours and must be replaced annually.
The inlet and dosing pipelines must be replaced every two years.

As part of the maintenance, verify the integrity of the suction foot and injection nozzle. Replace the rubber seal of the injection nozzle yearly.

Maintenance of the salt chlorinator

Chlorine

Test the pool once a week to ensure that the chlorine level is sufficient to maintain the pool properly. A chlorine measurement of 1.5 mg/L (1.5 PPM) is ideal. The sample is taken close to the skimmers. If the level is below 1.5 mg/L, increase production if it is not 100%. If this is not

enough, increase the daily operating time of your filtration. And regularly check the salt concentration in the water, it should be between 3 and 5 g/L.

pH-level

The correct pH level is between 6.8 and 7.2 for fiberglass pools and between 7.2 and 7.6 for other pools.

Total Alkalinity

Total alkalinity should be checked at least once a month and kept between 120 and 150 mg/L (120 PPM to 150 PPM) to benefit from a correct water balance. If necessary, add cyanuric acid.

Cell Information

The cell should be checked regularly to prevent the accumulation of foreign materials. Common causes of premature cell rupture:

- Use of the cell with too low a dose of salt in the water.
- Excessive accumulation of limescale on the cell
- There is not enough water flowing through the cell.
- Damage to the electrode due to scratches with a sharp object.
- Cleaning the cell in a solution that is too acidic.
- Cleaning the cell for too long and too regularly.

Note: The warranty will be void if any of the above occurs.

WINTERIZING AND SPRING START-UP INSTRUCTIONS

Winterizing the system

Winterize the units containing electronics, unit in a dry and warm (15 – 25 ° C) environment.
Winterize the pH and RX probes in a special winterizing solution for probes (which is a KCl-water mixture). Make sure the probes are always kept wet.

To ensure thorough cleaning, it is essential to flush all tubes of the peristaltic pump and electrolysis with water. This process contributes to maintaining optimal hygiene standards and extends the lifespan of the equipment.

Flushing the tubes of the peristaltic pump requires careful attention. We begin by circulating 250 ml of clean water through the pump. This ensures that any remaining residues or contaminants are flushed away, preparing the pumps for further cleaning and use.

A next step in this process is removing the white peristaltic tubing from the roller assembly. This is an important step to ensure that the tubing can be thoroughly cleaned

and inspected. By carefully removing the tubing, we can detect any blockages or damages and take corrective measures if necessary.

Do not insert the white peristaltic tubing into the pump until spring start-up, as leaving the tube into the peristaltic chamber may squeeze it infdefinitely.
To ensure thorough cleaning, it is essential to flush all peristaltic pump hoses with water. This process contributes to maintaining optimal hygiene standards and extends the life of the equipment.

Flushing the peristaltic pump hoses requires careful attention. We start by circulating 250 ml of clean water through the pump. This ensures that any remaining residue or contaminants are flushed out, preparing the pumps for further cleaning and use.

The next step in this process is to remove the white peristaltic tubing from the roller assembly. This is an important step in ensuring that the hose can be thoroughly cleaned and inspected. By carefully removing the hose, we can detect any blockages or damage and take corrective action if necessary.

Spring start-up

Recalibrate the pH and RX probes.

Verify for leaks. Verify and adjust the salt level.

Insert and greese – with silicon greese – the white peristaltic tube and rolers.

Correct pH, if needed temporarily dose pH+ (manually or automatic).

At correct pH (7.2 - 7.6): make sure pH- is used and set in the app. Start up the electrolysis. After reaching 650-700mV, verify the free chlorine level using a high quality measurement and adjust the redox setpoint as described above.

TROUBLESHOOTING

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.

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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 Twin 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

PROBLEM	CAUSE	SOLUTION
The screen does not light up	Supply voltage is missing	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	Check the flow rate and flow switch (go to the flow switch setting: no).
	Wrong cabling or wrong contact	Use the “administrator verification” procedure. See below
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
The unit no longer functions.	**1: Connection between the PCBs**: The connection between the rear and front PCBs may be defective, causing communication between different parts of the unit to be interrupted. **2. Faulty relay**: The relay may not function as expected, affecting the operation of the pH and RX pumps. The service menu can be used to test whether the relay is functioning correctly. **3. Faulty display or display circuit board:** If the pumps operate after disconnecting, but the unit still does not function properly, the problem may be with the display or the entire display circuit board. 4. **Poor calibration of the probes**: The probes must be recalibrated to ensure correct readings, which can affect the overall operation of the unit.	Check extra info below. --- appendix section A
The unit is in read only.	Possibly done by accident.	Check extra info below. --- appendix section B

COMMON QUESTIONS FOR ELECTROLYSIS

How does electrolysis work?

The electrolysis works with salt in the water, which consists of sodium and chlorine. The electrolyser supplies current to the cell which, through its coating, acts as a catalyst and promotes specific reactions arising from sodium hypochloride.

How the self-cleaning electrolyzer worksHow does electrolysis work?

The conductive plates of the cell contain anodes (+) and cathodes (-) close to each other and between the plates the production takes place
chlorine is used by electrolysis. Limescale deposits naturally on the (-) polarity plates and is removed from the (+) polarity plate.
That is why we perform a regular polarity reversal electrically and automatically to clean the cells themselves.
Note: Chlorine is produced in both polarities.

Fuse

This electrolyzer model comes with a resettable fuse (see Figure 3.3)
You can reset by pressing the red button. If the fuse cannot be reset,

Low chlorine production

One possible reason for the low chlorine production is low salinity.
If this happens, the display will show a salt level lower than the set level and it will be impossible to read
Salt must then be added according to the procedure in section "4.1 Calculation of salt requirement"
It should be noted that swimming pools generally do not lose salt. In hot weather, the water will evaporate and therefore the salinity rises, while heavy rain can dilute the water and reduce the water and salinity.
Another possible reason is the overestimation of the electrolyzer's capacity. The chlorine production capacity of an electrolyser is calculated based on the amount of pool water. The electrolyser is designed for swimming pools in temperate zones. In cold areas, the electrolyser may be too small and in tropical regions too large.
Ask your dealer for advice on choosing your model. In addition, in case of very intensive use (very many people in the pool), it will be advisable to increase the chlorine production to ensure good disinfection.

WARNING: Never open the electrical box: risk of electrocution.

CUSTOMER RESPONSIBILITIES

Before calling customer service, please read the instructions carefully and check your responsibilities as a customer against the following list.

You may be charged in the following situations:
1 Button on/off that is not ON
2 Electrolyzer not installed correctly
3 Poor water chemistry (salt, pH etc.).
4.Poor maintenance of the cell.
5. Too little water flow.
6. Modification of the electrolyser by unauthorized persons.

GUARANTEE

This product has been manufactured and tested under the best conditions and is subject to the following garantievoorwaarden.et should be stored in such a way as to avoid mechanical damage.

The power supply unit and the cell are warranted for 24 months from the date of purchase, if there is evidence of a manufacturing defect or proven defect.

THE WARRANTY IS IMMEDIATELY VOID IN THE FOLLOWING CIRCUMSTANCES:

Improper installation.
Use of a cell not supplied by us
Lack of grounding of the hydraulic circuit
Poor water chemistry: Salt, pH, etc. are not sufficient
Power supply box not protected or inadequate ventilation
Cell not well maintained or too low water flow
Wrong choice of the device model depending on the volume of the pool

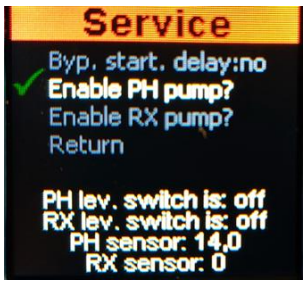
This warranty applies only to and is limited to our electrolyzer
Warranty request
When you apply for warranty coverage, you'll need to provide a copy of your invoice or receipt, as well as the serial number that appears on your device.
You may also be asked by the technical service to provide a photo of the installation before returning your device for appraisal.
If one of these elements was not provided, the guarantee would not be taken into account.
A file will be made available to you in electronic or other version so that your request can be processed quickly.

ADMINISTRATOR VERIFICATION

Attention : this operation can only be executed by a person knowledgeable in swimming Pool technology and water treatment.

Go into the administrator menu via the main menu / administrator menu with password 2121.

Via this menu, it is possible to verify the correct cabling of the unit. This is done via starting separately the pH pump or RX pump (Salt electrolysis)



For the verification of the pH pump : Choose option “Enable pH pump”. The pH pump (the peristaltic pump on the left on a liquid chlorine dosing device) has to start. If it does not start, check the pump by switching ON and OFF the pump using the button on the pump itself. If the pump still does not start, contact your supplier or the manufacturer.

For the verification of the RX pump (or Salt electrolysis) : Choose option “Enable RX pump”. The RX pump (the peristaltic pump on the right on a liquid chlorine dosing device) has to start. If it does not start, check the pump by switching ON and OFF the pump using the button on the pump itself. In case of salt electrolysis : press the ON/Standby bottom once. If the pump / salt electrolysis still does not start, contact your supplier or the manufacturer.

APPENDIX

Appendix section A: *The unit no longer functions.*

Extra info for problem: The unit no longer functions.

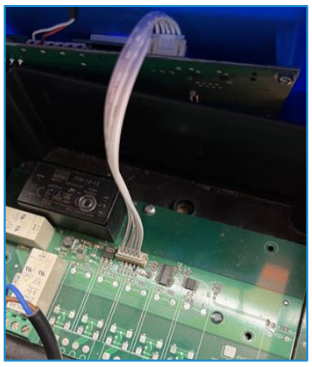
Open the unit and disconnect the two circuit boards. The pH and RX pumps should start after disconnecting.

Steps:

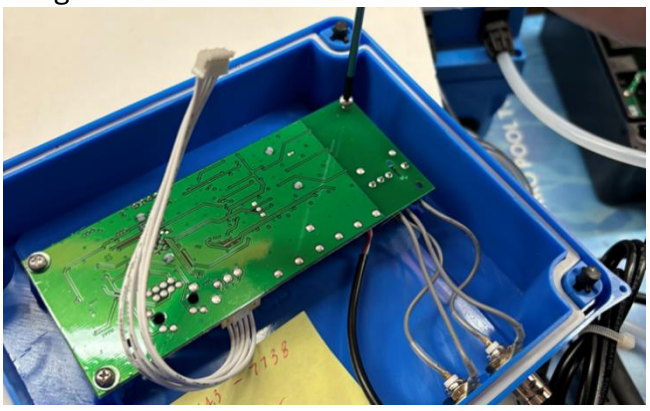
To disassemble:

a. Turn off the system.
b. Loosen four screws (press and turn 90 degrees).

Disconnect the connection between the rear and front circuit boards:
a. Pull out the white cable and hold the base plates.
b. Put everything on one side.



Unscrew the flow monitor from the system:
a. Move the cover.
b. Install the flow monitor from the new hood.
c. Connect the white cable.
d. Tighten the cover with the screws.



Calibration: The probes need to be recalibrated.

Test method:

If the pumps do not work, follow the test instructions below. If the pumps work, check whether the display or the entire display circuit board is defective.

You can test via the service menu. If the relay works, the system works. If the relay is not functioning, connect a wire from the pH pump going to the relay directly to the power. This should ensure that the pH pump or electrolysis functions

Appendix section B: *The unit is in read only.*

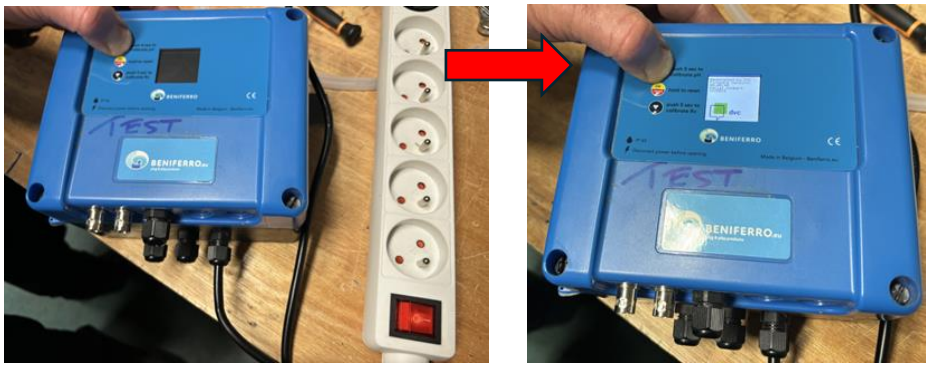
Extra info for: Switching Your Pool Twin Display from Read-Only Mode to Normal Mode

Occasionally, your device may enter "read-only" mode, meaning the Pool Twin display can only read values without making any changes. This mode is often activated accidentally. To reset the Pool Twin display and switch it back to normal mode, follow these steps:

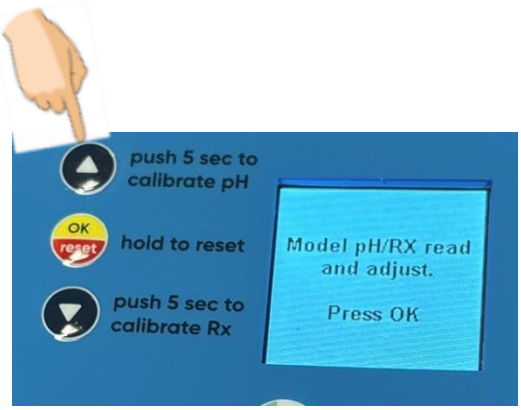
Steps to Switch from Read-Only Mode to Normal Mode:

1. **Disconnect the System from the Power Supply**
   - Ensure the device is completely powered off.

2. **Press the Top Button and Reconnect the Power Supply**
   - Hold down the top button.
   - While holding the button, reconnect the device to the power supply.
   - Continue holding the button until the system is fully started



3. **Confirm Switching to Normal Mode**
   - After the system starts, press and hold the screen displaying the version.
   - A confirmation screen will appear, asking if you want to switch to normal mode.
   - Press "OK" to confirm.



Once these steps are completed, the device should operate in normal mode.

What to Expect After Switching

Upon starting, if the system is still in read-only mode, you will see a screen indicating this status. In read-only mode, the device only measures values and does not control any functions.

Manufacturer
Beniferro B.V.
Industrieweg 9
3190 Boortmeerbeek Belgium

+32 476 965919
info@beniferro.eu
www.beniferro.eu