Speedy Pool Twin
Wi-Fi
Full Instruction Manual

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CONTENTS

INTRODUCTION

The Speedy Pool Twin, is an advanced device specially designed to accurately monitor the pH value and Redox (chlorine) levels of your pool. The Speedy Pool Twin provides pool owners with a reliable way to monitor and maintain their water quality, ensuring a safe and healthy swimming climate.

This manual has been carefully compiled to provide users with all the necessary information for successful installation, effective troubleshooting, and optimal maintenance of the Speedy Pool Twin. In the manual, you'll find detailed step-by-step instructions on how to properly install the device, tips on how to troubleshoot any potential issues you may encounter, and advice for regular maintenance to maximize your device's lifespan and performance.

In addition, Beniferro offers the possibility to equip the measuring and control box of the Speedy Pool Twin with various accessories of your choice. This means that you can tailor the device to your specific wants and needs, giving you even more control over the water quality of your pool. Whether you're looking to add additional sensors, connectivity options, or other accessories, the flexibility of the Speedy Pool Twin makes it a versatile and valuable addition to any pool.

With the introduction of the Speedy Pool Twin, Beniferro sets a new standard in pool maintenance, where ease of use and precision go hand in hand. Thanks to this comprehensive manual, you will be well prepared to get the most out of your Speedy Pool Twin and enjoy crystal clear and healthy pool water.

SAFETY

To ensure optimal product use and avoid accidents, we recommend that you read this manual carefully before installing and using the product. It is imperative to strictly follow the instructions for your safety and proper operation of the Speedy Pool Twin. Failure to heed safety warnings can have serious consequences, including serious injury, property damage, and even life-threatening situations.

General

- Installation personnel should read this manual carefully before beginning installation. In case of incorrect or incorrect operation, contact your supplier.
- This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge...
- Improper installation may cause an electrical or chemical hazard, resulting in serious injury.
- Always wear safety gloves and goggles when working on the installation.
- If you are not familiar with the pool filtration system and dosing equipment:
    - Read the entire installation and operating instructions before using the dispensing equipment.

- O Only a qualified installer, center, individual, or authorized dealer can repair this product.
- O Never modify anything without consulting your supplier or professional pool contractor.
- O In case of damaged parts, use only original spare parts. Failure to do so will void your warranty.

• Maintenance and operation should be carried out 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.
• It is recommended to install the water treatment unit in a bypass configuration.
• Keep the installation and chemicals out of the reach of children. Always wear safety gloves and goggles when working on the installation.
• 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.
• Beniferro is only liable for the functionality of the appliance, and not for any consequential damages.

Electric

• Disconnect all electrical supplies during installation.
• The electrical installation must be carried out in such a way that:
- O The Chlorine and Acid Pump cannot work if the filter pump does not work. This can be done by adding a flow switch/flow controller ZWMX3552-P to the installation or by using the same feed line as the filter pump.
- O The electronics, the unit, or any part of the unit must NEVER be connected to an output of a frequency converter or drive.

• If a frequency converter is used, we recommend placing it at least 3 meters from the dosing unit, using a separate electrical circuit for the inverter and the water treatment unit, and verifying the interactions between frequency converter and pH – Redox measurement (check that pH and Redox do not deviate when switching the converter on and off).
• All external power supplies and adapters for pool equipment must be connected to a power source with a 30 mA RCD.
• Make sure all equipment and pool water are properly grounded. The pool pipe is grounded via an inline grounding to an independent grounding pole.
• Before performing any maintenance or work, make sure that the water treatment unit is unplugged, that all machines are turned off, and that the power source is turned off.
• NEVER make any adjustments to the dispensing equipment.
• There is no sound alarm on our devices, only an alarm on the screen.

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 chlorine levels and pH "regularly" with a high-quality coloring method.

• Adding pool chemicals must be done downstream of the pool accessories such as the water heater, the UV lamp, the filter and downstream of the measuring probes
• Chlorine and acid react together 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...
• Do not allow water or chemicals to drip onto the installation. Do not place any equipment underneath the dispensing system. Dripping chemicals onto equipment is not part of a warranty fee.
• Have 2 sumps underneath the equipment to catch leaks at peristaltic pumps and injection nipples. Spill trays should be positioned so that chlorine and acid leaks cannot mix.
• Repair leaking pipes immediately. Do not use equipment with leaking pipes.• Use only liquid chlorine with an anti-limescale precipitating agent.
•For chlorine injection leakage, please read the chapter on cleaning limescale in the entire manual.
• Make sure that the machines you are using are programmed so that acid and chlorine are never added at the same time.
• The acid dispenser must not be used with hydrochloric acid (HCl).
• Use only liquid chlorine approved for swimming pools with anti-limescale remover, or add an anti-limescale remover to liquid chlorine.
• Use a maximum of 14.99% sulphuric acid as the minimum pH.
• Do not mix up the chlorine container and the acid container. Make clear markings on your installation and on the chemicals.
s• Do not allow children or unauthorised persons to access the chemicals.
• To ensure proper operation of peristaltic pumps, check the pumps weekly for leaks. In the event of a leak, please refer to the complete manual of your installation at www.beniferro.eu
• Ensure that the probes are kept constantly moist during transport, especially when they are transported for maintenance or repair work at the supplier's factory. Flush all pipes with water before disassembling the equipment.

PAIRING AND INSTALLATION INSTRUCTIONS

Perform the pairing and configuration before physical installation, indoors in an environment with an Ethernet connection and a strong Wi-Fi signal from the future pool Wi-Fi network

Setting up the Wi-Fi connections

- **Install Zwemcocloud app**

Install the Zwemcocloud app on your phone. Read the Wi-Fi Pool app manual for more information.

- **Pair your equipment**

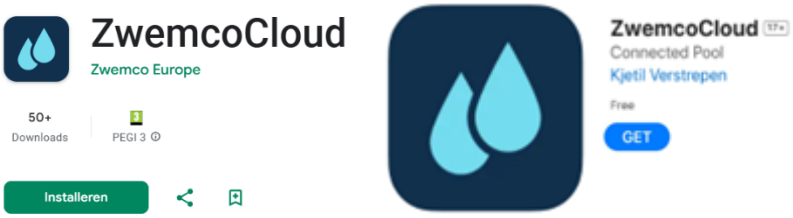
Pair the Speedy pool twin with your home Wi-Fi network and your phone. Please read the Zwemcocl app manual for more information. Perform the pairing internally, using an ethernet cable near the Wi-Fi router and before physical installation. Read the Wi-Fi Pool app manual for more information.

INSTALLATION

Download the app:

Go to the Play Store (Android)

or App Store (iOS) and download the 'ZwemcoCloud' app.



Log in:

Log in with your SwimcoCloud account. Don't have an account yet? Easily create one via the app.

To register, go to the login page and click on "No account? Create one.". This will take you to the registration page, where you can fill in your details and then click on "Continue".

Linking devices to your swimming cocloud pool

Pair a device:

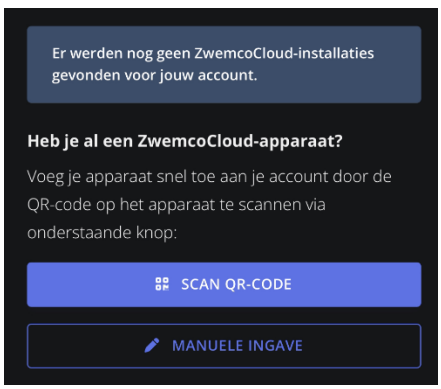
We recommend performing this step indoors, in an environment with a strong and stable Wi-Fi network.

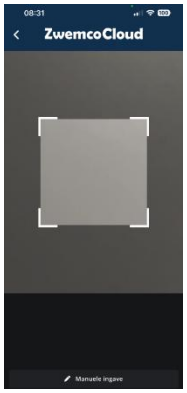
Pairing is very simple due to the stickers on the devices or the attached invoice. This contains a barcode or QR code that you can scan with your smartphone.

When multiple devices are delivered together, they are automatically linked to each other with a single QR code that is included.

Tap Scan QR Code, choose your device, then scan the code on the sticker.

If the device is recognized, you will see this. Tap 'yes, continue' if this is the correct device. The device will then be connected to your new pool.





Note: if the modules indicate 'offline' after pairing, you still need to configure the network settings. (see step 4 on the following pages)
Finally, press add address

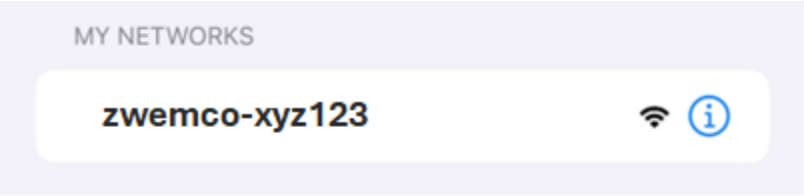
Network settings

It is advised to connect the devices using an ethernet cable (UTP), to ensure a stable network connection. No further Wi-Fi or internet configuration is required for this.

If this is (always) not present / will not be present, it is necessary to connect the devices via Wi-Fi as well. We recommend performing this step indoors, in an environment with a strong and stable Wi-Fi network.

Configuration of Beniferro controls and water treatment devices

1. Go to the WiFi settings of your smartphone or laptop and connect to the 'swimming co-...' network. If you have multiple devices, repeat this procedure one at a time.



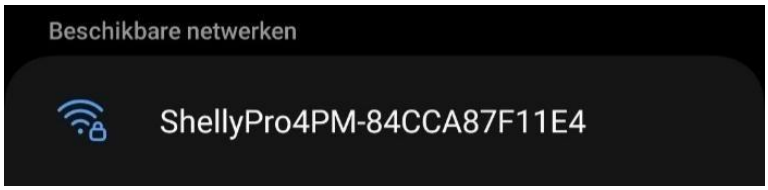
Then open your web browser and surf to the following address: ‘http://192.168.4.1’.*

Note : with some telephones it is not possible to surf to this address. In that case, use a different telephone, or work via a laptop.

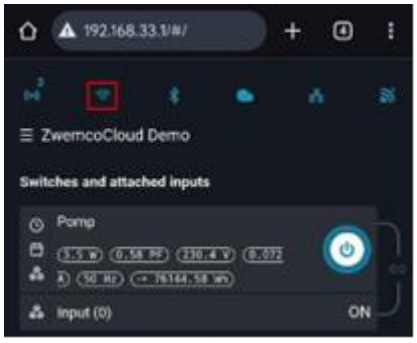
1. If prompted (sometimes multiple times), use username 'admin' as well as the password 'admin' to log in to the device.
2. Choose your home network from the list or enter the name manually.
3. Enter the password and press 'Save'.
4. The device will try to connect to the network and show you whether or not the connection was successful.
5. Repeat the procedure for each of your devices (some devices consist of multiple modules).
6. Then wait 5 minutes.
7. Then, proceed to pair the devices in the next step.

Relay/control module configuration (Shelly)

Open your smartphone's Wi-Fi settings and connect to the local 'Shelly-xxx' network. The password is the Pool ID under the QR code that came with your device.

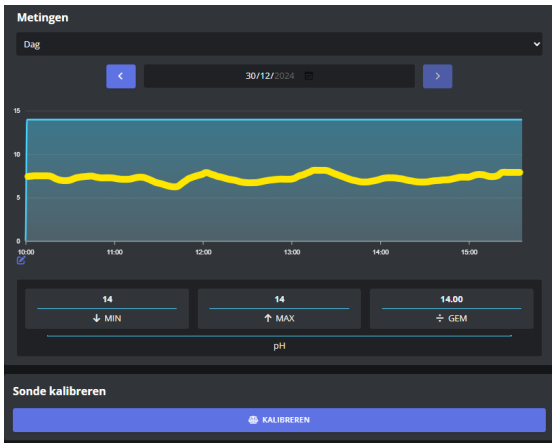


Open your web browser and surf to 'http://192.168.33.1'. Then tap on the Wi-Fi icon at the top.



pH and RX sensors and calibration

If a water treatment system is connected, the current Redox and/or pH values are displayed in most cases. However, for added assurance, it is
recommended to recalibrate the sensors to verify that the values displayed are correct. To do this, first press the pH or RX value displayed to go to the detail page.



Calibrating the probes via detail page

It is essential for reliable measurement results, to calibrate the pH and RX sensors before first use

To do this, press the Calibration button and follow the instructions on the screen.

In a normal calibration, you start from a pH = 7 or a Redox = 468mV solution.

Right pointing backhand index with solid fillU can also adjust the value of the pH (or Redox) manually, if you have determined the pH or redox using an alternative method.

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

CONFIGURE DASHBOARD

At the bottom of the dashboard, you can find a button to open the dashboard's edit page. Here you can change the order of your devices, as well as the icon and name for each device. You can also determine which sensors to display on the dashboard.

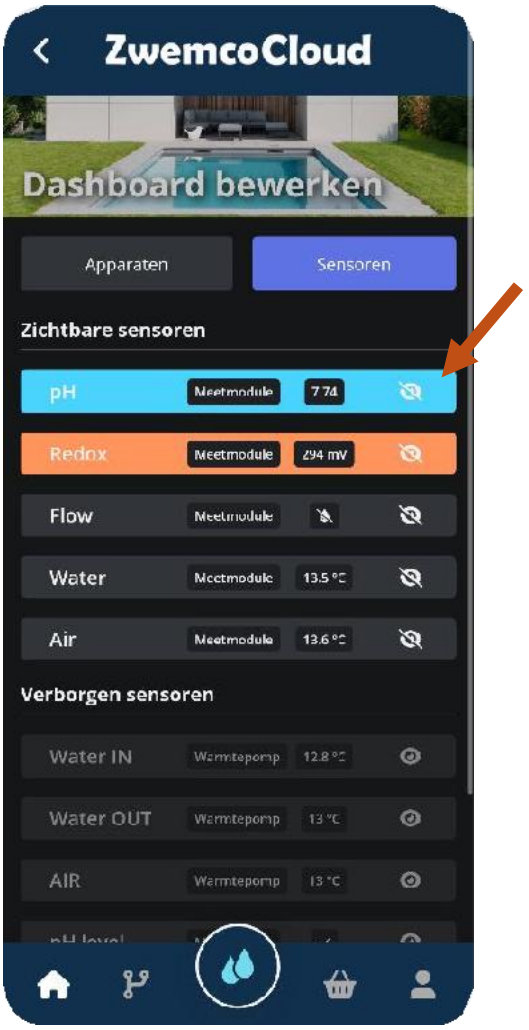
Devices

In this example, *'pH dosage'* is hidden and is not shown on the dashboard.

1. By tapping on the plus sign, this can be added back to the visible devices.
2. For the visible devices, you can change the order by tapping the up or down arrow.
3. Tap on the icon at the front to change it to another icon from our database. Next to it, you can change the name of the device by tapping in the text field.

Sensors

You can access this page via Dashboard / Edit Dashboard / Sensors



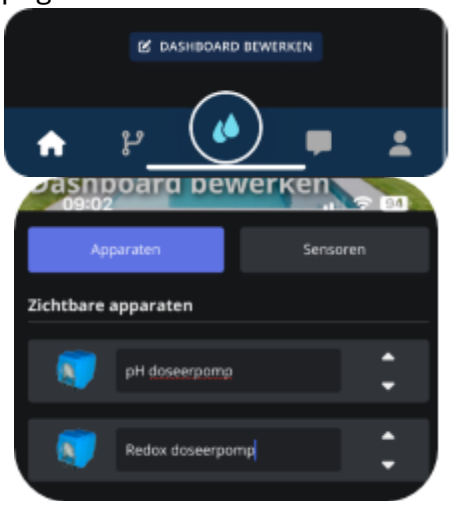
Only the sensors of the measurement module are displayed on the dashboard. The temperature sensors from the heat pump are hidden.

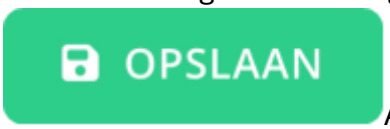
If the device is visible, tap the eyelet with a line through to hide it.

If you have a hidden device, tap the eyelet icon to make it visible again.

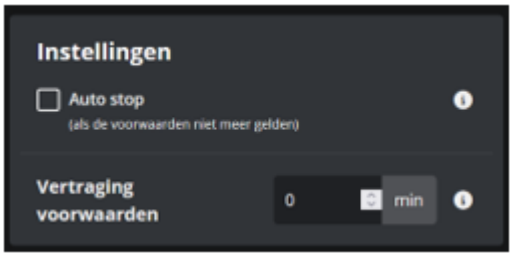
Changing names

1. You can access this page via Dashboard / Edit Dashboard



1.  In the Edit Dashboard menu, you can change the names (see also chapter "Edit Dashboard" for more information).
1.  Click on the name of the pump and change:
1. "pH dosing" to pH dosing pump
1.  "RX dosing" to RX dosing pump
1.  A green rectangular sign with white text Description automatically generated

1. You'll be redirected back to the dashboard, where the new names will be visible.



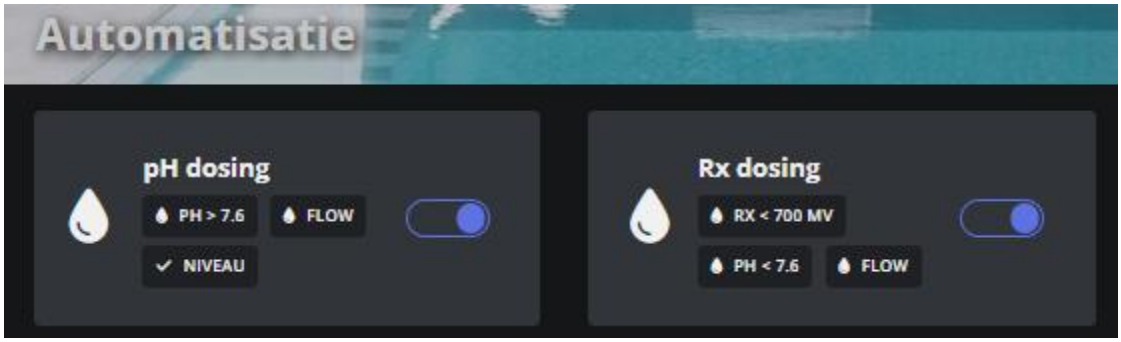
When you create or edit an automation, you will find two settings at the bottom of the page:

Auto stop automation: This does not just execute the set action once (IF…), but also stops it if the conditions are no longer met. (AS LONG AS I CAN…) This setting is activated by default for schedules and dispensing devices.

Delay conditions: This makes it possible to set a delay. E.g.: 5 minutes: after all conditions are met, wait another 5 minutes to then re-evaluate the conditions and stop the automation

AUTOMATIONS

The automation page is called up by pressing the symbol 



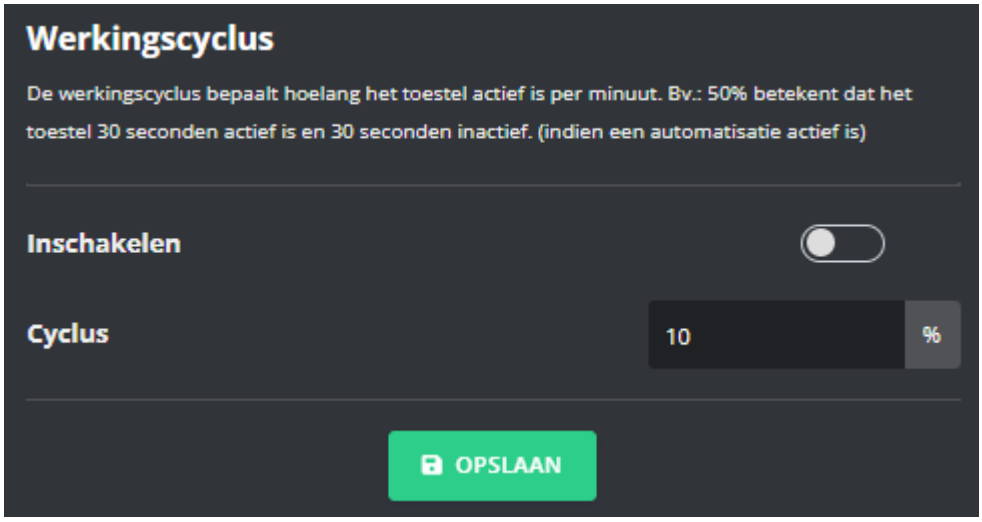
The automations of your device were already introduced during production and inspection of your device. Here are some examples:

1. pH Addition : The pH pump will add acid, if the pH > 7.6, and flow is detected.

1. Chlorine addition: Adding chlorine is triggered when the redox value drops below 700 mV, but only when the current is detected and the pH is below 7.6.

1. Spa refill : The Spa is refilled every night, down to the level of the Spa level detector.

You can use the operating cycle to slow down the dosage of a device. An operating cycle of 10% means that the device will dose 6 seconds per minute. This allows "overshoots" to be avoided.



If you want to add or adjust automations yourself, we refer you to the full app manual of Zwemcocloud for more detailed instructions on setting up 'IF-THEN' automations, adjusting existing settings, or installing additional modules (such as automatic valve, Pool Twin, or salt electrolysis).

It is also possible to scan automations. For water treatment, these are the barcodes below.

SPA-PHRXFL	pH + Rx + flowswitch + 2 levelswitches:	
SPA-PHRXF	pH + Rx + flowswitch:	
SPA-PHRXL	pH + Rx + 2 levelswitches:	
SPA-PHRX	pH + Rx without flow/level:	

For swimming pools there are 4 available automations inside library. Go to the automasions settings and go to library.

The first automation is **“pH + Rx regulation: pH master, flow switch, and 2 level switches.”**

The pH pump will continue dosing as long as the pH is greater than 7.6, there is flow, and a level switch is turned on.
Rx dosing will continue as long as the Rx is less than 700 mV, the pH is below 7.6, and both flow and level switches are on.

The second automation is **“pH and Rx regulation: pH master, timetable, and 2 level switches.”**

The pH pump will be turned on when the pH is greater than 7.6 and between 8 AM and 8 PM.
Rx dosing will continue when the Rx is less than 700 mV, the pH is below 7.6, the time is between 8 AM and 8 PM, and a level switch is on.

The third automation is **“pH and Rx regulation: pH master, flow switch, no level switches.”**

The pH pump will dose when the pH is greater than 7.6 and flow is detected.
Rx dosing will continue when the Rx is less than 700 mV, the pH is below 7.6, and flow is detected.

The fourth automation is **“pH and Rx regulation: pH master, timetable, no flow or level switches.”**

The pH pump will dose when the pH is greater than 7.6 and the time is between 8 AM and 8 PM.
Rx dosing will continue when the Rx is less than 700 mV, the pH is below 7.6, and the time is between 8 AM and 8 PM.

For more details, please refer to the full manual of the app.

Chlorine control via Rx: set the Rx setpoint value

The Rx (redox) is a measure of the chlorine content (oxidizing capacity) of the Spa 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 level in a swimming pool is ideally between 1 and 1.5 ppm.

There is no clear relationship 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 commissioning and at regular intervals afterwards using a color measurement method (e.g. Poollab ZWMX1060). If the chlorine level is found to be too high, the Rx setpoint should be lowered. If the chlorine level is determined to be too low, the Rx setpoint should be increased. If necessary, repeat this procedure several times until the chlorine level remains constant between 1 and 1.5 ppm

Note: if your device loses internet connection, the automations that do not require an internet connection will continue. In this way, the pH and chlorine control will continue to work. However, you will not be able to consult the current pH and redox.

Automation systems that use online weather forecasts, for example, will not work if there is a loss of internet connection.

PHYSICAL INSTALLATION

General

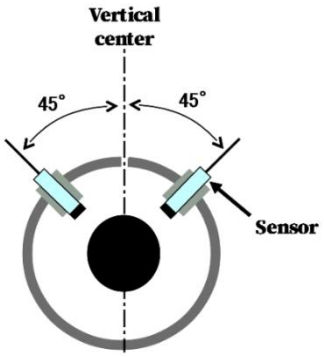
The factory supplies the water treatment unit electrically connected and in some cases already mounted on a plate or in a box. Modifications to the unit must be carried out by trained personnel with knowledge of pool technology and electrical systems. The following points of attention must be respected.

Read the safety instructions and warnings before proceeding with the installation

General Installation Recommendations

- Fix the water treatment unit against the wall (always vertically).
- The product should be installed indoors in a dry, warm, and well-ventilated area. If you want to do this outdoors, the device must be protected from rain and direct sunlight.
- Install the water treatment after pump and filter, and after all accessories such as UV lamp, heater, ionization.... Equipment.
- To connect the pipes, only use glue that is suitable for bonding PVC.
- Optionally, you can add level switches to the installation. The level switches stop dispensing the pH/chlorine liquid, when the liquid level in the vessel is "low".

Ensure that the following requirements are met:



- Always store the product in an upright position. If the product is tilted or placed on its side, the electrodes or the flow switch may not be able to measure correctly. Flow switch, pH and redox electrodes should be placed vertically in a horizontal pipeline. The flow switch should be pointed in the direction of the arrow on the switch. The pH and Redox probes should be in a horizontal line, at a maximum angle of 45°.
- Make sure the pH/chlorine adjustment does not work if there is no flow through the pH injection/chlorinator lines. 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.

Installation Overview

Installation of the water treatment panel

PH and redox probes must be installed in front of the injection nipples of the dosing equipment. Use the correct hose inserts provided.

1) Attach the water treatment unit to a solid wall. Attach both the lower and upper part of the panel.
2) Place the pH and chlorine electrodes in the electrode holders. Tighten the nut with pliers or a wrench to tighten the cap. If you do not do this, there is a risk of a leak that is not covered by the warranty.

The Speedy Pool Twin system ensures that the water in your pool maintains optimal pH and disinfection levels. This guide provides a quick reference for installing the system on the wall near your pool.

Part Descriptions

The following components are included with the Speedy Pool Twin system:

Temperature sensor and flow switch:

Temperature sensor: Measures the temperature of the pool water and provides this information to the control unit. Includes a long cable for easy installation.

Flow Switch: Detects the flow of the water and ensures that the sensors only measure when there is sufficient water flow.

Injection probes:

Used to inject chemicals (such as pH lowering agents or chlorine) into the water. Supplied with connecting hoses for easy connection to the system.

pH (blue) and RX (red) Probes and Calibration Solutions:

pH sensor (blue): For measuring and controlling the acidity of the pool water.

RX sensor (red): For measuring and controlling the chlorine level (RX) of the pool water. **Includes calibration solutions** to ensure the accuracy of the sensors.

Level switches (optional):

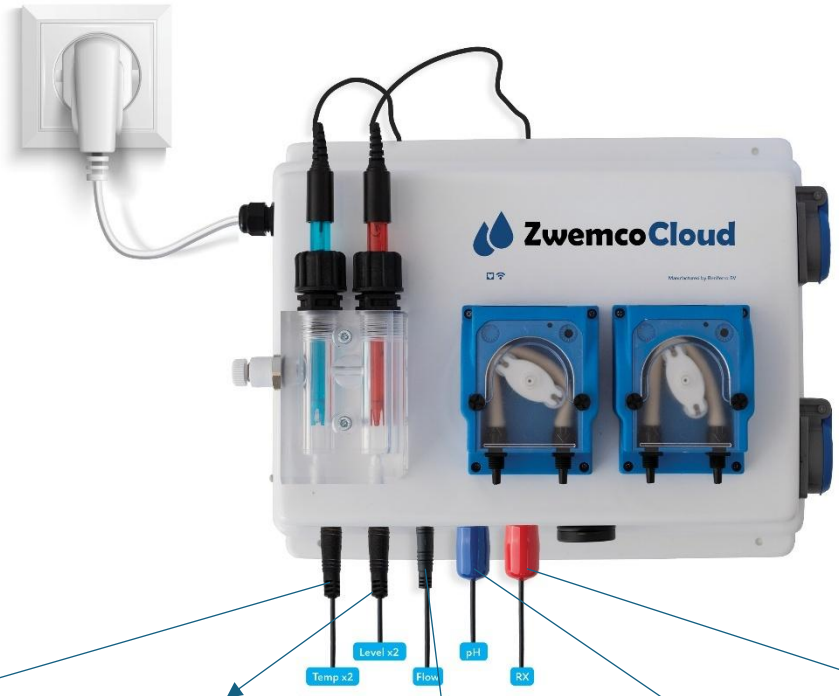
Used to monitor the level of the chemicals in the tank.
Help to prevent the tank from running out by giving a warning when the level is low.

1 Temperature sensor and flow switch

Injection probes

pH probe (blue),
RX Probe (Red),
Calibration Solutions

Level switches (optional)



Temp x 2 | Level x2 | Flow | pH | RX

Installation steps

1. Assemble the Control Unit

1. **Choose a Location**: Select a spot on the wall within range of the pool and filtration system. Make sure the location is dry and protected from direct sunlight and the weather.

2. **Mark the Mounting Points**: Use the control unit's mounting brackets as a template to mark the drill points on the wall.

3. **Drill Holes**: Drill holes at the marked points and insert wall plugs.

4. **Fix the Control Unit**: Fix the control unit to the wall with screws.

2. Install the Sensors and Probes

1. **Place the Probes**:
    a. The pH sensor and RX sensor (probes) are housed in two separate glass jars attached to the lid of the control unit.

2. **Connect the Sensors:**
    a. Connect the pH sensor and RX sensor to their respective inputs on the control unit. The sensors are usually color-coded for easy identification (pH in blue and RX in red).

2. **Position the Probes:**
    a. Place the probes in the designated ports on the water circulation system. Please refer to the diagram for the exact locations:
        i. The pH probe is connected to the "pH" port.
        ii. The RX probe connects to the "RX" port.

3. Connect the Hoses

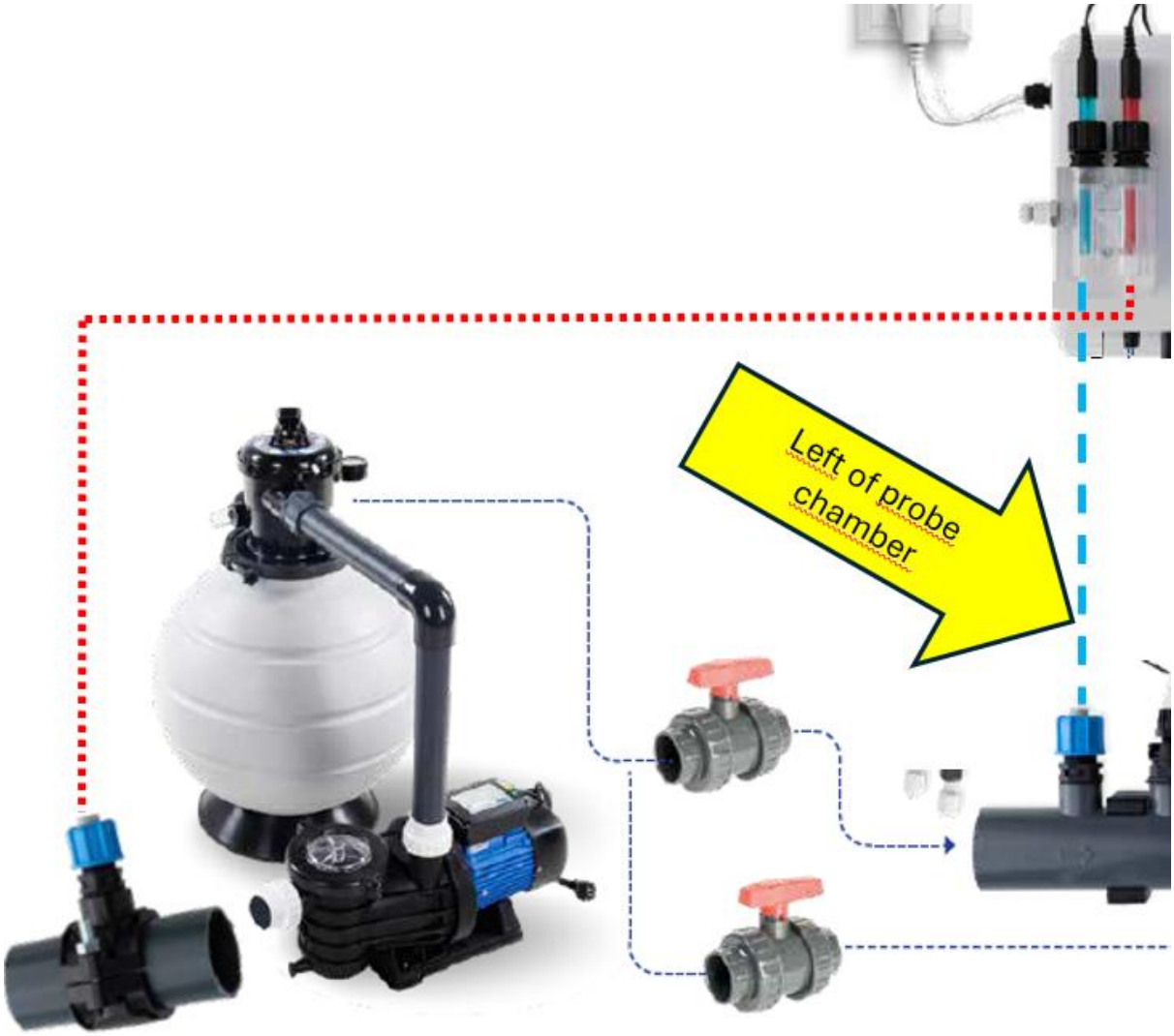
1. **Identify the Hose Connections:**
   - The control unit has two hose outlets, one for the pH adjustment and one for the RX (disinfectant) adjustment.

2. **Connect the Hoses:**
   - Attach the pH pump hose to the designated injection point in the pool's water circulation system.
   - In the same way, attach the hose of the RX pump to the respective injection point.

4. Integrate with the Pool Filtration System

1. **Install the Flow Cell:**
   a. The dosing tube, which contains the injectors, must be installed in the main water line after the filtration system. Make sure the flow direction is correct (as indicated by arrows on the flow cell).

3. **Connect to the Pump:**
   b. Make sure that the main pump of the pool is properly connected to the filtration system, the probe chamber and the injection tube, as shown in the diagram.



5. Power and Calibration

1. Turn on:
- Connect the control unit to a power source and turn it on.

2. Calibrate the Sensors:
- Follow the manufacturer's instructions to calibrate the pH and RX sensors via the control unit interface or the accompanying mobile app.

6. Monitor and Adjust

1. Monitor the Measurements:
- Use the mobile app or control unit interface to monitor pH and RX levels in real-time.

2. Adjust Settings:
- Make any necessary adjustments to the desired pH and disinfection levels via the control unit.

Diagrams Reference

Refer to the attached diagrams for visual guidance on installation:

- **Diagram 1:** Overview of the system setup, including the control unit, sensors, and connections.

- **Diagram 2:** Close-up of the control unit with the pH and RX motors, sensor connections and hose paths.

By following these steps, you should have the Speedy Pool Twin system installed and operational, keeping your pool water at optimal quality.

CALIBRATION PH AND RX

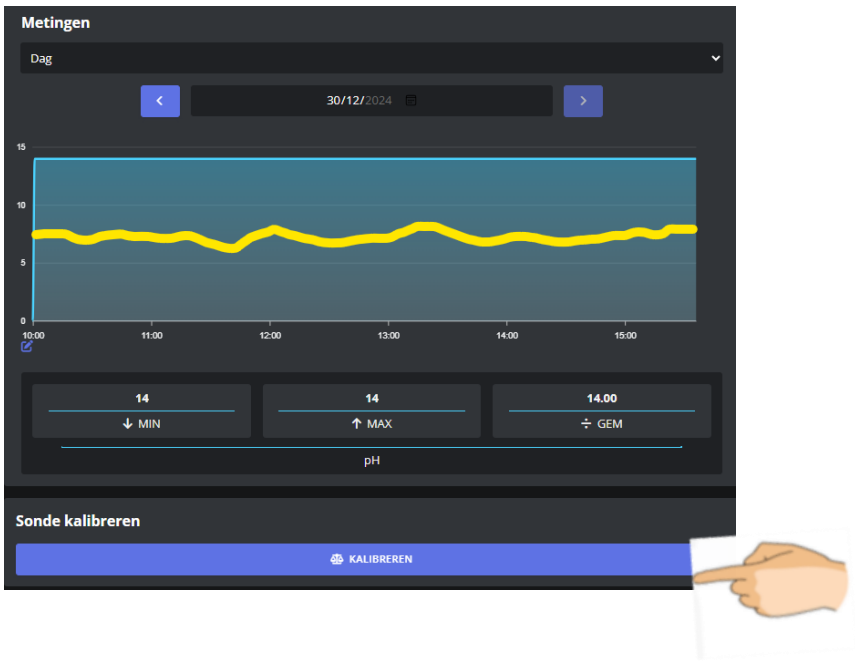
Calibration

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

- During calibration, we ensure that the pH and Redox probes (RX – chlorine) are measured correctly. Calibration should be carried out at the beginning of the pool season, and monthly during normal use and in case of doubt about the water quality. Regularly check the pH level and chlorine level of your pool (we recommend performing a color test every 2 weeks with a high-quality instrument such as Water-ID's Poollab), calibrate and/or adjust the setpoints as needed.
- Before calibration, make sure you have the calibration solutions for pH and Redox on hand.

- You can tap on each of the measurements to go to the detail page. Here you will find, among other things, the graph display. Calibrating the probes can be done via this detail page.
- It is essential for reliable measurement results to calibrate the pH and RX sensors before first use
- • The calibration process takes +- 3-4 minutes 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 choice to calibrate against a calibration solution pH7 or RX 468mV or to calibrate against a self-measured value .



<u>Calibration in a calibration solution pH7 or RX 458mV</u>

You will be asked to put the measurement probe into a pH=7 or a RX = 468 mV solution, after 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 in 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.

MAINTENANCE INSTRUCTIONS

Maintenance should be performed at the recommended time and frequency as stated in the manual.

Maintenance of the water treatment

Maintenance should be carried out by a person who understands swimming pool technology.

Be sure to take the necessary safety precautions before starting maintenance, such as:

Turn off the power before starting maintenance

Always wear protective gloves and goggles when working on installation.

Keep the plant and chemicals out of the reach of children

Maintenance of the peristaltic pump for pH dosing

The pump's hose hose should be greased regularly with silicone grease. Check every 2 months to see if the tube feels greasy.

The pump's peristaltic hose has a service life of 500/600 operating hours and should be replaced annually.
The inlet and dosing pipes must be replaced every two years.

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

Maintenance of the RX – Peristaltic Dosing Pump for Chlorine

RX – Peristaltic pump for chlorine dosing requires the same maintenance as the pH pump. For RX, special attention should be paid to the maintenance of the RX injection nipples, as blockage of the injection nipple can cause the peristaltic tubing to leak (due to pressure build-up).

Maintenance of the chlorine injection nipple

Anti kalk

The chlorine injection nipple can leak due to clogging by saling / Calcium carbonate crystals.

This can be prevented by adding anti-scalinig to the chlorine.

How do you prevent limescale from injection nipples?

1. Use anti-limescale equipment:
    - Use chlorine-containing anti-scaling agents.
    - Add anti-scaling agents to the chlorine container.
2. Complete the chemical cleaning procedure annually (more if necessary) or replace the injection nozzle annually.

A black round object with a hole

Removal of limescale in liquid chlorine peristaltic pump injection nipples

sodium and/or calcium carbonate crystals

The formation of limescale, due to the formation of sodium and/or calcium carbonate crystals in liquid chlorine, poses significant challenges. These crystals are formed as a result of the reaction between the NaOH content of chlorine and CO2 from the atmosphere.

The accumulation of limescale in the injection spout hinders its function, potentially disrupting the flow. This obstruction can lead to several undesirable outcomes:

- Reduced or stopped chlorine flow
- Leakage from the injection nipple itself
- Swelling and leakage of peristaltic tubes

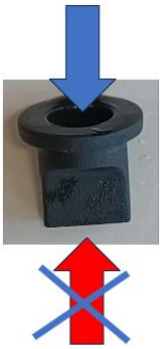
Such problems not only jeopardize operational efficiency but also pose safety risks. In addition, prolonged presence of tarnishing can cause corrosion in the equipment.

How to descale the injection nipples?

First, it is important to understand the construction of the injection system.

<- Sealing the injection tube

<- Rubber check valve that prevents pool water from flowing into the liquid chlorine container



The blockage of the check valve by crystals can lead to a reduction or complete cessation of the chlorine flow, as well as leakage at the seal of the injection tube and swelling and rupture of the peristaltic tube.

For DIY units, make sure to cut off 5 cm of tube.

Method 1: Physical Removal of Flaking

Use a small screwdriver to gently unblock the rubber check valve. This action can restore power temporarily.

Make sure that the screwdriver has an ideal (minimum) length of 5.0 cm. Gently push and turn the screwdriver until you reach the rubber one-way valve to avoid damage. Always wear safety goggles and gloves during this procedure.

Method 2: Chemical descaling

The deposit can react with vinegar and produce CO2 gas. Note: Liquid chlorine reacts with vinegar to produce gaseous and highly dangerous (toxic and corrosive) chlorine gas. It is imperative to flush the injection nipple thoroughly with water before and after vinegar treatment.

Always wear safety goggles and gloves during this procedure.

WINTERIZATION AND SPRING START-UP INSTRUCTIONS

Winterizing the system

Winterize the units with electronics, place them in a dry and warm (15 – 25 °C) environment. Winterize the pH and RX probes in a special winter solution for probes (a mixture of KCl and water). Make sure that the probes always remain wet.

To ensure thorough cleaning, it is essential to flush all peristaltic pump and electrolysis 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. For the peristaltic chlorine pump, use the maintenance method described above under "descaling".

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.

Do not insert the white peristaltic tubing into the pump until it is started up in the spring, as leaving the tubing in the peristaltic chamber can squeeze it indefinitely.

Start-up spring

Recalibrate the pH and RX probes. Check for leaks. Check the salt level and adjust it. Place and grease – with silicone grease – the white peristaltic tube and rollers in. Correct pH, if necessary temporarily dose pH+ (manual or automatic).

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

ERROR CODE AND POSSIBLE SOLUTIONS

Error	Speak	Remark	Solution
Ethernet cable is paired but can't connect to device	Possible faulty or incorrect connection		Check whether or not the LED light is flashing when the cable is connected. If the light is flashing, ethernet is not connected. If the light is not flashing, Ethernet is connected.
Zwemcocloud can't connect to your network	Your device may not be near your router.	There is no assistance regarding Wifi problems	Wait a while after seeing your error code and see if your device is definitely not

			connected. Start the pairing process again.
Paired, ethernet out. No connection, dot stays red	Wrong password or SSID		Connect back to Ethernet, delete the device and install it back.

PROBLEEM	**CAUSE**	**SOLUTION**
Acid pump does not dose	Switch under the dosing pump is set to "O"	Set the switch to "1"
Acid pump does not dose The acid pump continues to dose	pH control settings are wrong: pH+ instead of pH- is dosed (or vice versa)	Check the settings
	A level indicator is connected that gives the wrong contact	Disconnect level indicator
	A flow switch is connected and 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	Verify with manual operation
	Setpoint not yet reached	No action required
The acid pump continues to dose Acid pump only doses occasionally	pH control settings are wrong: pH+ instead of pH- is dosed (or vice versa)	Parameter aanpassen
	Relays remain on	Contact the supplier.
	The acid pump stands for proportional dosing	No action required
Chlorine pump does not dose	Switch under the dosing pump is set to "O"	Set the switch to "1"
Chlorine pump does not dose The chlorine pump continues to dose	Rx control settings are incorrect	Check the settings
	A level indicator is connected that gives the wrong contact	Disconnect level indicator
	Wrong cabling or wrong contact	Verify using manual operation

	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: none)
The chlorine pump continues to dose Acid pump and chlorine pump do not pump.	Setpoint not yet reached	Check the settings and chlorine content using the color method.
	Relay on circuit board remains switched on	Contact the supplier.
Acid pump and chlorine pump do not pump. Chlorine or acid pumps do not absorb liquid	A flow switch is connected and indicates that there is no flow	Check the flow rate and flow switch (go to the flow switch setting: none)
	Wrong cabling or wrong contact	Verify using manual operation
	Level detectors are connected that have the wrong contact	Disconnect level indicator
Chlorine or acid pumps do not absorb liquid Liquid (acid or chlorine) in the dosing compartment of the chlorine or acid pump	The vessel is empty or the suction foot is above the liquid level	Replace the acid or chlorine tank. Lower the suction foot.
	Suction foot is blocked	Replacing the suction cup ZWMX2205-Z
	The hose is leaking	Hose replacement ZWMX2231-Z
	Injection nozzle clogged	Replace the injection sprayer ZWMX2220-Z. Use Chorine with anti-scaling additive and injector with 5cm extension tube
Liquid (acid or chlorine) in the dosing compartment of the chlorine or acid pump	Santoprene dosing hose leaks	Check if the dosing nipple is clogged and replace the dosing tube.