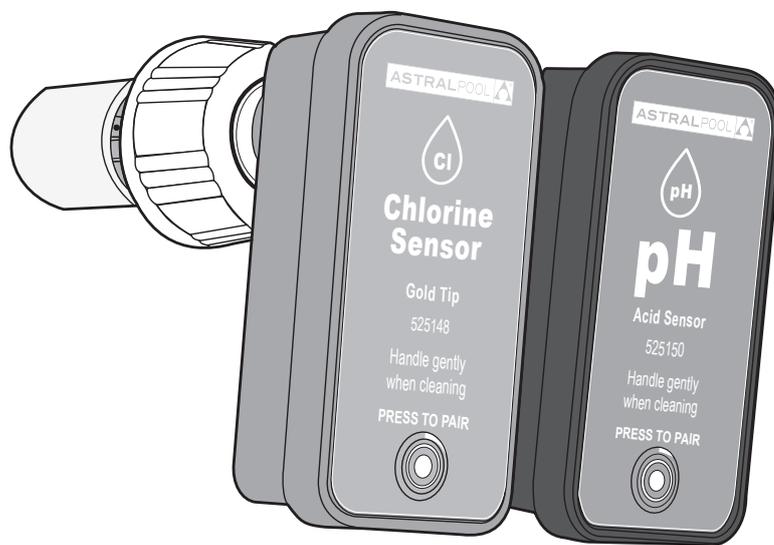


ASTRALPOOL



INSTALLATION MANUAL



HALO[®] PH AND GOLD CHLORINE ORP SENSORS

WARNING

FOR YOUR SAFETY - This product must be installed in accordance with AS/NZ 3000 - 2018 and any other local applicable regulations. Before installing this product, read and follow all warning notices and instructions that accompany this product. Failure to follow warning notices and instructions may result in property damage, personal injury, or death. Improper installation and/or operation will void the warranty.

Improper installation and/or operation can create unwanted electrical hazard which can cause serious injury, property damage, or death.



For full warranty terms and conditions and to register your warranty, visit www.astralpool.com.au/warranty and complete your details. Or scan the QR code to go directly to the registration page

Record your equipment details here for quick reference:

Model No. : _____

Serial No. : _____

EQUIPMENT INFORMATION RECORD

DATE OF INSTALLATION _____

INSTALLER INFORMATION _____

LIGHTING CONTROLLER MODEL _____

SERIAL NUMBER _____

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Section 1. Important Safety Instructions

READ AND FOLLOW ALL INSTRUCTIONS

All electrical work must be performed by a qualified installer and conform to all national, state, and local codes. When installing and using this electrical equipment, basic safety precautions should always be followed, including the following:

⚠ WARNING

The Halo Chlorinator power supply has an IP23 rating, meaning it is suitable for installation outdoors. For safe operation the power supply must be installed in the correct orientation, with the cables leaving from the bottom of the device. If installing the power supply near the pool or spa water, you must ensure that the rules of AS3136 are followed at all times. AstralPool® strongly recommends that installation be performed by a registered pool builder, electrician or other suitably qualified person.

⚠ WARNING

Risk of electric shock - Install the controller at least 3.5 metres from the inside wall of the pool and/or hot tub using non-metallic plumbing.

⚠ WARNING

If the supply cord is damaged, it must only be replaced by AstralPool, its service agent or a similarly qualified person, in order to avoid a hazard.

The transformer is not intended for series/parallel connection.

Never connect more than one light to a single power supply outlet. Each outlet on the power supply must go to one – and one only – underwater light.



SAVE THESE INSTRUCTIONS

Section 2. Installation

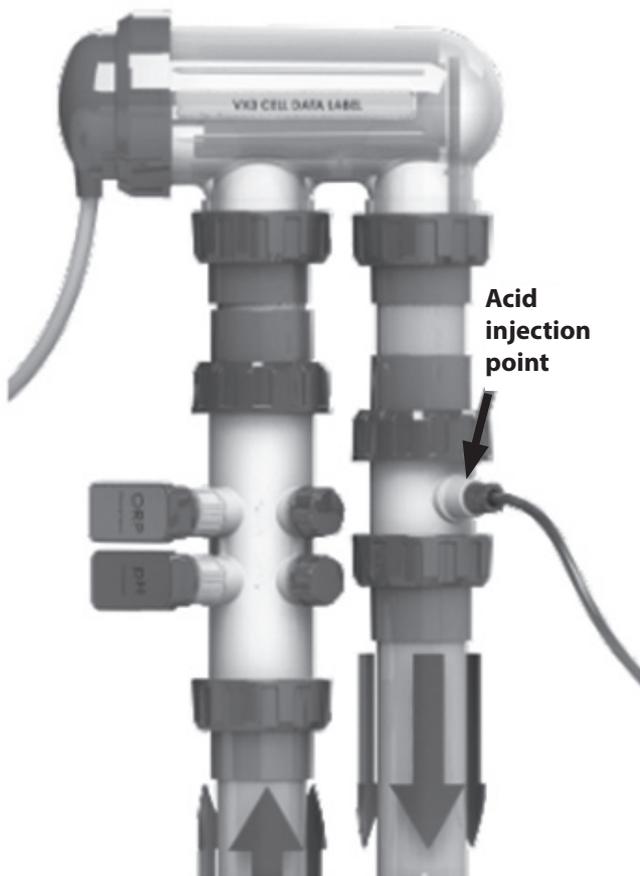
Halo Chlorinators can communicate to a pH sensor and a Gold Chlorine ORP sensor. (As ORP is dependent on pH, a Gold Chlorine sensor can only be installed if a pH sensor and acid dosing pump are installed)

Halo pH and Gold Chlorine ORP Sensors are mounted into a sensor mounting chamber. This chamber can be installed in a horizontal or vertical orientation and must be plumbed into the pool system pipework after the filter but before the chlorinator cell. Ideally the chamber should be mounted as far away as possible, upstream from the Chlorinator cell.

NOTE: Ensure that the Chlorinator cell cable or any other electrical cable doesn't contacting the probes or probe chamber.

The sensors are wireless and communicate via Bluetooth to the Halo Chlorinator, so must be located within 5 m of the Halo Chlorinator power supply.

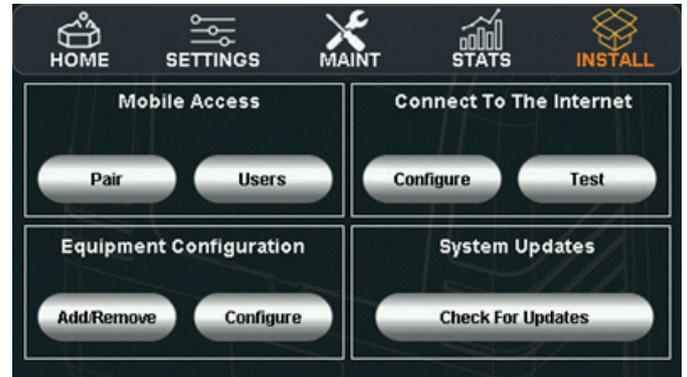
If an acid dosing pump is being installed, the acid injection point (where the acid goes into the pool water) must be mounted into the pipework, after the chlorine cell and all other equipment. Ideally the chamber should be mounted as far away as possible, downstream from the Chlorinator cell.



2.1 Configuring the Halo Chlorinator to use pH and Gold Chlorine ORP sensors

From the "Home" screen of the Halo Chlorinator, press the "Settings" icon  and then press the "Install" icon to display the Install page.

Press the "Add/Remove" button and select "pH Sensor".



To pair the sensor to the Halo Chlorinator, press the round button (on the sensor label) under "Press to Pair".



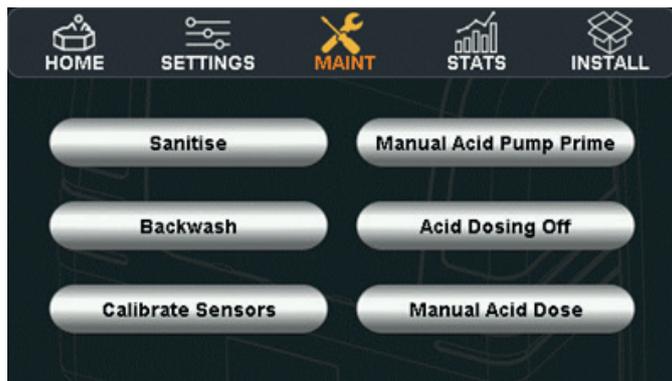
If a pH sensor and an acid dosing pump have been configured (See acid dosing pump instructions), then a Gold Chlorine ORP sensor can also be paired to the Halo Chlorinator using the "Add/Remove" button and choosing "ORP Sensor".

2.2 Calibrating pH and Gold Chlorine ORP sensors

The pH and Chlorine sensors may require periodic calibration.

From the “Home” screen of the Halo Chlorinator, press the settings icon  and then press the “Maint” icon to display the maintenance page.

Press the “Calibrate Sensors” button to enter the calibration mode.



Within the calibration screen there is an option to “Run the pump during calibration”.

- If the sensors are still in place in the pool pipework, then the pump should be run during calibration. To ensure that the pool water is thoroughly mixed, it is advisable to run the filter pump for at least an hour before performing a calibration.

NOTE: See note on ORP calibration below.

- If the sensors have been removed and placed into calibration fluid, then the pump should not be run during calibration.

For pH sensors, if you notice that your pH measurement is slightly different from your Pool Shops (or a test strip etc) measurement then you can use the “Run the pump during calibration” option and adjust the sensor reading up or down to match the other reading. (Alternatively, you can choose to not run the pump during calibration and use pH calibration fluid to calibrate the pH probe. Calibration fluid is available from AstralPool® dealers.)

For ORP sensors, the differences in pool chemistry (salt level, pH, cyanuric acid “stabiliser”, hardness, etc.) makes comparisons between the ORP level and measured free chlorine (chlorine ppm) levels extremely difficult. Because of this, calibrating the ORP sensor using the pool water is of little value, so if you wish to calibrate (or check the performance) of the ORP sensor then the “Run the pump during calibration” option should not be used and the ORP

sensor should be removed from the pipework and calibrated using calibration fluid. (Calibration fluid is available from AstralPool dealers.)

Section 3. User Manual

Halo pH and Gold Chlorine ORP sensors are designed to help keep your pool water in balance, however regular water tests (preferably from your local pool shop) should be conducted and compared to the sensor measurements.

3.1 pH

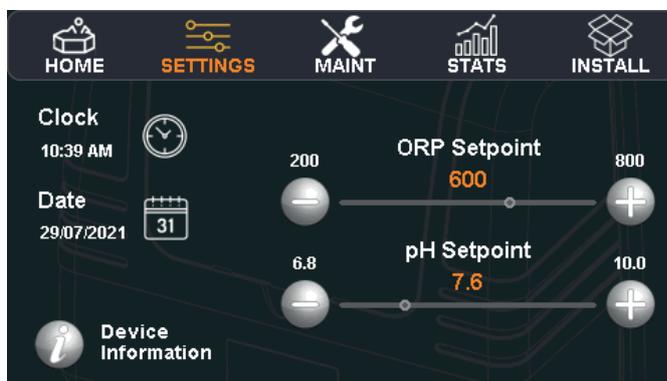
pH is a measure of acidity of the pool water. As chlorine is produced, the acidity of the water changes and the pH rises. The pH sensor senses this change and signals the acid dosing pump to add acid to the pool water to keep it in balance.

The pH level is displayed on the “Home” page in the centre of the screen, below the menu bar.

When the filter pump is off, the pH sensor doesn't take any measurements and the display will show the last measurement as pH was XX. When the pump has been running the pH is displayed as pH is XX. (New measurements aren't displayed for 3 minutes after the pump starts.)

- For fibreglass pools a pH level between 7.2 and 7.4 is recommended.
- For all other pools a pH level between 7.4 and 7.6 is recommended.

From the “Home” screen of the Halo Chlorinator, press the “Settings” icon  and then press the “Settings” icon, in the top ribbon, to display the Settings page.



The pH sensors occasionally need calibration. See installation instructions for details.

3.2 Gold Chlorine ORP sensors

ORP (Oxidation Reduction Potential) is a measure of the pool water's ability to disinfect (sanitise) by inactivating micro-organisms and oxidising organic materials. The Gold Chlorine ORP sensor senses the ORP of the water and signals the Halo Chlorinator to generate an appropriate amount of chlorine to sanitise the pool water.

The chlorine level is displayed on the "Home" page, in the centre of the screen, below the menu bar. The level is shown as "Low", "OK" or "High".

When the filter pump is off, the ORP sensor doesn't take any measurements and the display will show the last measurement as chlorine **was** XX. When the pump has been running the ORP is displayed as chlorine **is** XX. (New measurements aren't displayed for 3 minutes after the pump starts).

There are many factors that affect ORP readings such as filter pump run time, pH, salt level and cyanuric acid. Cyanuric acid suppresses the ORP (chlorine) reading. Whilst many suppliers will recommend up to 50 ppm of cyanuric acid (CyA), AstralPool® recommends a **maximum** of 20 ppm cyanuric acid on Halo Chlorinators (the lower the better, remembering that fresh chlorine is produced everyday).

Generally, an ORP level of 700 is a good starting point. When the pool is first installed, it is advisable to take weekly measurements of free chlorine. If the free chlorine level is too low, increase the ORP set point (reduce the setpoint to reduce the free chlorine). When making adjustments it is advisable to make small changes (e.g. 700-715) and then wait 2 or 3 days before retesting the free chlorine.

It is also advisable to check that the filter pump is running for enough time to allow for chlorine generation. From the "Home" screen of the Halo Chlorinator, press the "Settings" icon  and then press the "Stats" icon in the top ribbon to display the "Stats" page. On this page the "% Cell Output" shows the percentage of time that the cell is operating at full capacity. If this figure is above 80%, it is advisable to increase the filter pump run time. (Similarly, in the off season, this figure can be used to allow you to reduce the filter pump run time, however you also need to allow enough time to filter out debris and skim leaves, etc.)

The display of chlorine is "Low", "OK" or "High" is based on how far the ORP is from the setpoint, so the water analysis could show that the free chlorine level is low whilst the chlorinator is showing chlorine is OK, if this is the case, the ORP setpoint should still be adjusted in small steps as above.

Setting the ORP set point is done on the same page as setting the pH set point. (See above.)

Halo pH and Gold Chlorine ORP sensors are powered by a long-life battery that should last 5 years. To provide peace of mind, the battery level is indicated via the Install page.

From the "Home" screen of the Halo Chlorinator, press the settings icon  and then press the "Install" icon on the top ribbon to display the "Install" page. On the lower left corner of the install page, press the "Add/Remove" button and the ORP and/or sensors will be displayed (along with other installed devices). In the example below, the battery is shown with 2 "bars". At this stage, the battery life is approximately 1 year. When the display shows 1 "bar", the battery life is approximately 1 month.

The graphic on the left side of the image is the signal strength of the sensor.





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Fluidra Group Australia Pty Ltd

219 Woodpark Road
Smithfield NSW 2164, Australia
1 300 186 875

www.astralpool.com.au