

Clear Connect

works with

FLUIDRA
POOL



m^3
30-180

Tech
8.000
10.000

pH

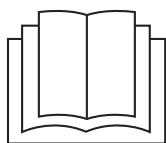
ORP

g/L
 $^{\circ}C$

WiFi

USER MANUAL

EN



Salt Chlorinator for swimming pools

Models

7 / 7 Scalable
12 / 12 Scalable
21 / 21 Scalable
30 / 30 Scalable
40 / 40 Scalable

CE



CONTENTS



① General Information

6

1.1	General Characteristics	6
1.2	Safety Warnings and Recommendations	7
1.3	Contents	8
1.4	Dimensions	8
1.5	Technical Description	9



② Installation of the Equipment

10

2.1	Wall-Mounted Equipment	10
2.2	Information on Connections	10
2.3	Installation Diagram	11
2.4	Electrolysis Cell Installation	11
2.5	Connecting the Electrolysis Cell	12
2.6	Installing the pH/ORP sensor, injector, flow switch and temperature probe	12
2.7	Initial Start-up	14



③ User Interface

14

3.1	Description of the Cover	14
3.2	Starting Sequence, Turning Wi-Fi/BT and the pH/ORP Drivers On/Off	15
3.3	Navigation Description	15
3.4	Home Screen Information	16



④ Navigating and Changing Production (%), pH and mV (ORP) Set Points

17

4.1	Changing Production (%) Set Point	17
4.2	Changing pH & mV (ORP) Set Points	18



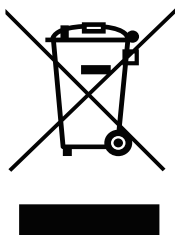
⑤ Configuration Menu

19

5.1	FW Version and Configuration Reset	20
5.2	Model, Active Functions and Hours of Operation	20
5.3	Polarity Inversion	21
5.4	Boost Mode	21
5.5	Flow Switch Control	22
5.6	Cell Flow Sensor (Flow Gas)	22
5.7	Cover	23
5.8	Intelligent pH- Dosing	23
5.9	Initial pH Stabilisation	24
5.10	PumpStop	24
5.11	Internal Chlorine Control	25
5.12	External Chlorine Control	25
5.13	Temperature Alarm	26
5.14	g/L Alarm	26

5.15 Info Mode	27
5.16 Biopool	27
 ⑥ Info Menu, Calibration and Alarms	28
6.1 Calibrating the pH Sensor	29
6.2 Calibrating the mV (ORP) Sensor	30
6.3 Calibrating the Salinity (g/L)	31
6.4 Calibrating the Temperature	32
6.5 Alarm Information	33
 ⑦ Total/Partial Resets	36
 ⑧ Pairing with FluidraPool	37
 ⑨ Maintenance	38
9.1 Electrolysis Cell Maintenance	38
9.2 pH/ORP Sensor Maintenance (2–12-Month Maintenance)	38
9.3 pH Pump Maintenance (2–6-Month Maintenance)	39
 ⑩ Troubleshooting	40
 ⑪ Technical Specifications and Features	41
 ⑫ Warranties	42

PLEASE NOTE: This instruction manual contains essential information about the safety measures to adopt during the installation and commissioning. Hence, it is essential, that both the installer and the user read these instructions before installing and using the equipment.
Keep this manual for future reference about operating this device.



Treatment of electrical and electronic devices at the end of their useful life (applicable in the EU only).

Products marked with this symbol cannot be thrown out with domestic rubbish when they reach the end of their useful life. The user is responsible for depositing this type of refuse in a recycling point for electrical and electronic waste. Proper treatment and recycling of this type of waste makes an essential contribution to the conservation of the environment and general health. For more precise information on the collection points for this type of waste, contact your local authorities.

This manual contains instructions related to the operation and maintenance of salt electrolysis systems. To achieve the best performance from the salt electrolysis systems, follow the instructions below:



① General Information

1.1 | General Characteristics

- Once you've installed your salt electrolysis system, you need to dissolve some salt in the water. The salt electrolysis system consists of two elements: an electrolysis cell and a control unit. The electrolysis cell contains a number of activated titanium plates (electrodes), so that when an electric current is passed through them and the salt solution passes through them, free chlorine is produced.
- Maintaining a certain level of chlorine in the pool water guarantees its quality. The salt electrolysis system will produce chlorine when the pool's filtration system (pump and filter) is running.
- The control unit has several safety devices, which are activated in the event of abnormal system operation, as well as a control micro-controller.
- Salt electrolysis systems have an automatic cleaning system for the electrodes that prevents the formation of incrustations on them.

1.2 | Safety Warnings and Recommendations

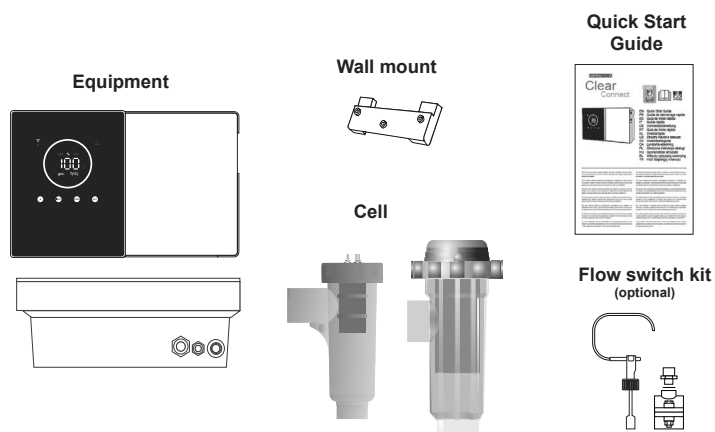
- Installation and manipulation should only be performed by suitably qualified technicians.
- Applicable standards for prevention of accidents and for electrical installations must be respected.
- During installation, bear in mind that electrically disconnecting the equipment requires a switch or circuit breaker according to standards IEC 60947-1 and IEC 60947-3 which ensures an omnipolar cut-off, directly connected to the power supply terminals and with a contact separation in all poles, providing total disconnection under overvoltage category III conditions, in an area that fulfils the safety requirements of the site. The switch must be located in the immediate vicinity of the equipment and must be easily accessible. Additionally, it must be marked as the equipment's disconnection element.
- The equipment must be powered by a residual current device (RCD) not exceeding 30 mA. The equipment must be earthed.
- The installation must comply with the requirements of IEC / HD 60364-7-702 and national standards applicable to swimming pools.
- The manufacturer accepts no responsibility for assembly, installation or setting up, nor for any manipulation or addition of components other than when carried out in the manufacturer's installations.
- This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or who lack experience or knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety. Children must be supervised to ensure that they do not play with the appliance.
- If the power cable is damaged, it must be replaced by the manufacturer, by their after-sales service or by a similar qualified technician in order to avoid any type of danger.
- Do not attempt to alter the control unit to operate at any other voltage.
- Ensure that all electrical connectors are properly tightened, to avoid bad connections leading to overheating.
-  Before installing or replacing any system component, ensure that the system has been disconnected from the power supply and that no water is flowing through it. Only use genuine replacement parts.
- Because the equipment generates heat, it is important to install it in a well-ventilated area. Do not install near flammable materials.
- Although the equipment has an IP rating, under no circumstances must it be installed in areas at risk of flooding.
- This equipment is intended to be permanently connected to the water supply and should not be connected using a temporary hose.
- This equipment comes with a mounting bracket; see installation instructions.

Keep this instruction manual for future reference.

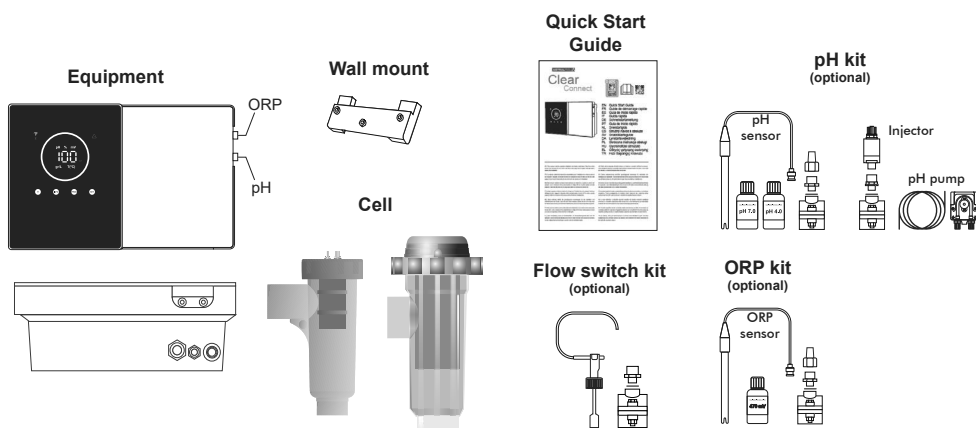


Please read the instruction manual before proceeding with the installation of the equipment.

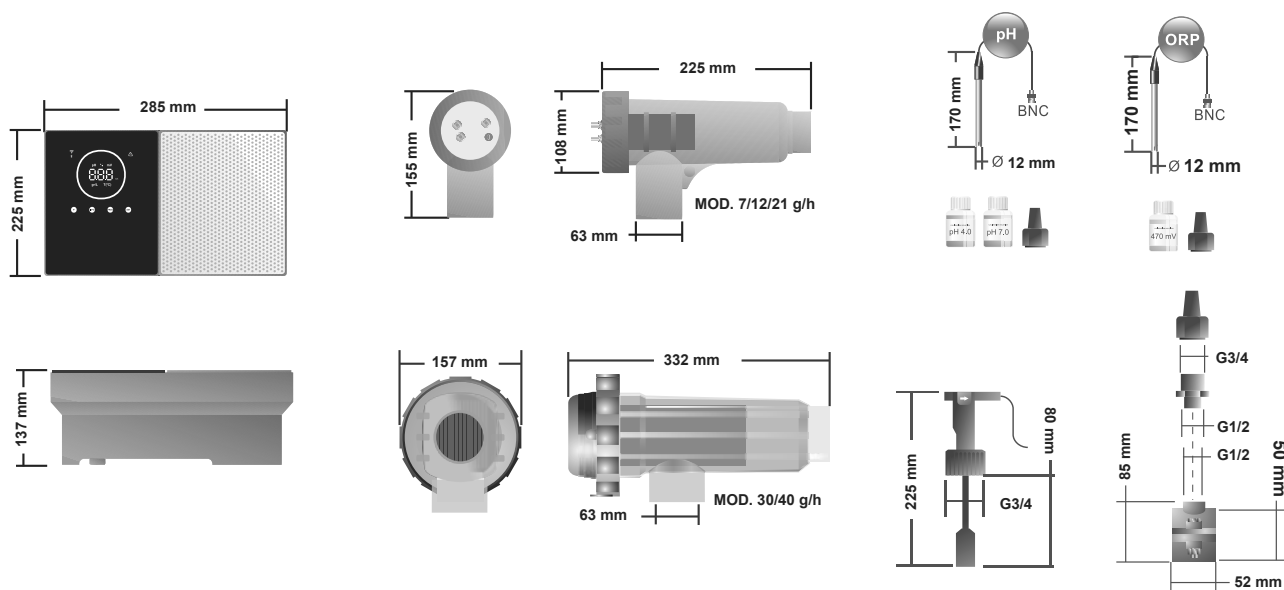
Clear Connect 7 g/h
Clear Connect 12 g/h
Clear Connect 21 g/h
Clear Connect 30 g/h
Clear Connect 40 g/h



Clear Connect Scalable 7 g/h
Clear Connect Scalable 12 g/h
Clear Connect Scalable 21 g/h
Clear Connect Scalable 30 g/h
Clear Connect Scalable 40 g/h

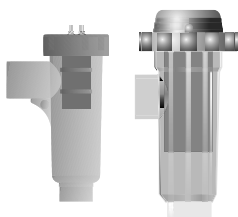


1.4 | Dimensions

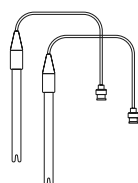




Control unit	MODEL				
Description	7	12	21	30	40
Operating voltage	230 V AC 50/60 Hz.				
Consumption (A ac)	0.2 A	0.5 A	0.65 A	0.75 A	0.95 A
Fuse (5x20 mm)	T 1A	T 2A	T 2A	T 3.15A	T 4A
Outlet (Adc)	3.5 A X 2	6 A X 2	3.5 A X 6	6 A X 5	6.5 A X 6
Output (gr Cl ₂ /hr)	6 - 7	10 - 12	17 - 21	24 - 30	31 - 40
m ³ Pool (16 - 24 °C)	30	60	100	140	180
m ³ Pool (+25 °C)	25	50	80	120	160
Salinity	3 - 12 g/L (5 g/L recommended)				
Ambient temperature	max. 40°C				
Casing	ABS				
Polarity inversion	2h, 3h, 4h, 7h and test 2' (soft)				
Output control	0-100% (10 output levels)				
Flow detector (gas)	Yes (Factory setting ON)				
Flow switch detector	Yes (factory setting OFF)				
Output Control by cover	Configuration menu (10-80%). Volt-free contact.				
External Output Control	Yes. Volt-free contact.				
Diagnos. of Electrodes	Yes				
pH safety shutdown	Yes, soft setting 1...120 min				
Salinity indicator	Yes, g/L				
Temperature indicator	Yes, 0 - 50°C (°C/°F)				
Salt alarm indicator	Yes. High and Low LED				
Temperature alarm indicator	Yes. High and Low LED				
Conf. menu System	Yes				
Modbus	Yes				
Wi-Fi	Yes				

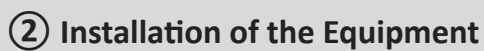


Electrolysis Cell	MODEL				
Description	7	12	21	30	40
Electrodes (self-cleaning activated titanium)	Tech Grade 8,000 - 10,000 hr.				
Min. flow rate (m³/h)	1	2	5	6	8
Number of electrodes	3	7	7	11	13
Material	PVC			Methacrylate derivative	
Pipe connection	Ø 63 mm PVC gluing				
Maximum pressure	1 kg/cm²				
Working temperature	15 - 40°C max				
Temperature sensor	Yes				

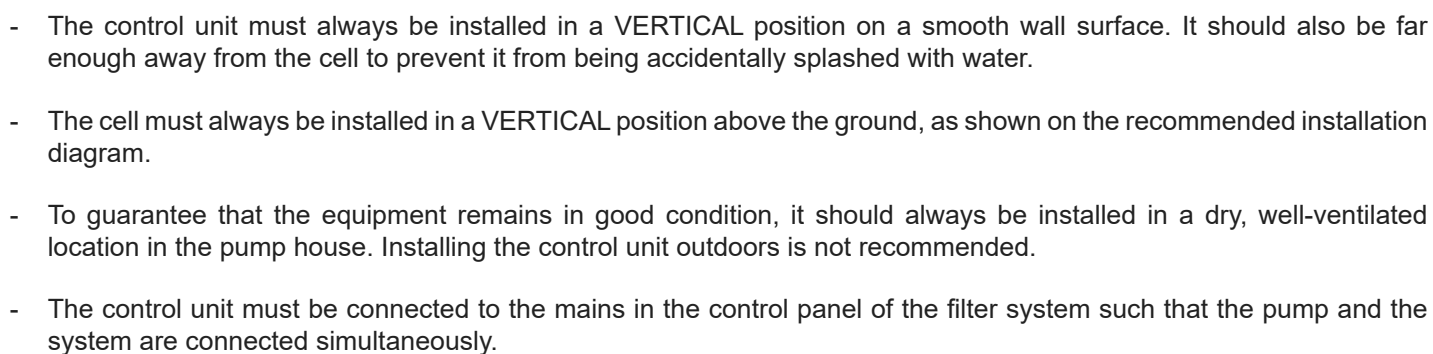


pH/ORP sensors	MODEL	
Description	pH - mV (ORP)	
Measuring range	0.00 - 9.99 pH / 000 - 999 mV (ORP)	
Control range	7.00 - 7.80 pH / 600 - 850mV (ORP)	
Biopool ON control range	6.50 - 8.50 pH / 300 - 850mV (ORP)	
Precision	± 0.01 pH / ± 1 mV (ORP)	
Calibration	Automatic (pH-ORP standards)	
Control outlets (pH)	One 230 V / 500 mA outlet (dosing pump connection)	
pH/ORP sensors	Epoxy body, single connection	

IP Grade	IP45	
Bluetooth	Band- width: 2400-2483.5 MHz	RF Output Power: 11.23 dBm
Wi-Fi 2.4 GHz	Band- width: 2400-2483.5 MHz	RF Output Power: 19.91 dBm

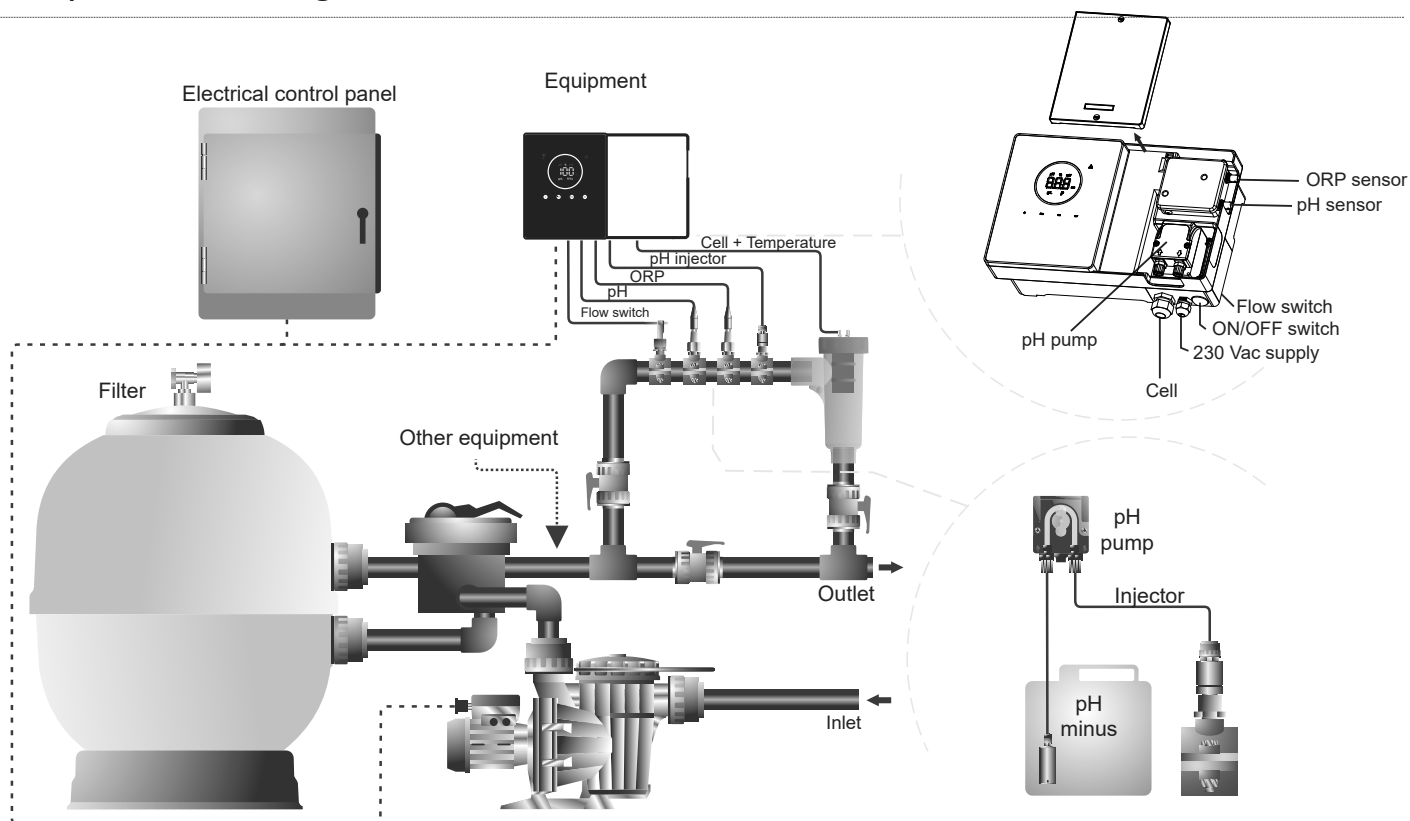


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2.3 | Installation Diagram



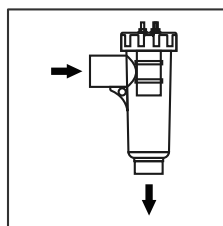
N.B.: This layout shows an installation for an Clear Connect model including all the options. The layout may vary according to the particular model.

2.4 | Electrolysis Cell Installation

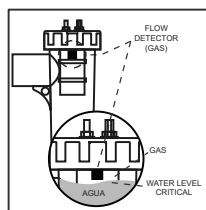
The electrolysis cell is made of a transparent polymer inside which the electrodes are housed. The electrolysis cell should be installed in a weather-protected location and **always behind the filtration system** and any other devices in the installation such as heat pumps, control systems, etc.

The installation should allow the user easy access to the installed electrodes. The electrolysis cell must always be located in a place in the pipe that can be isolated from the rest of the installation by means of two valves, so that maintenance work can be carried out without the need to empty the pool completely or partially.

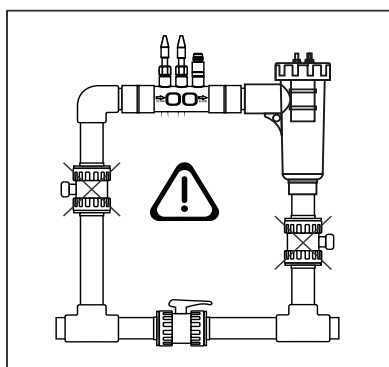
When the cell is installed in bypass (recommended), there must be a valve to regulate the flow through the cell. Before proceeding with the final installation of the system, the following points should be taken into account:



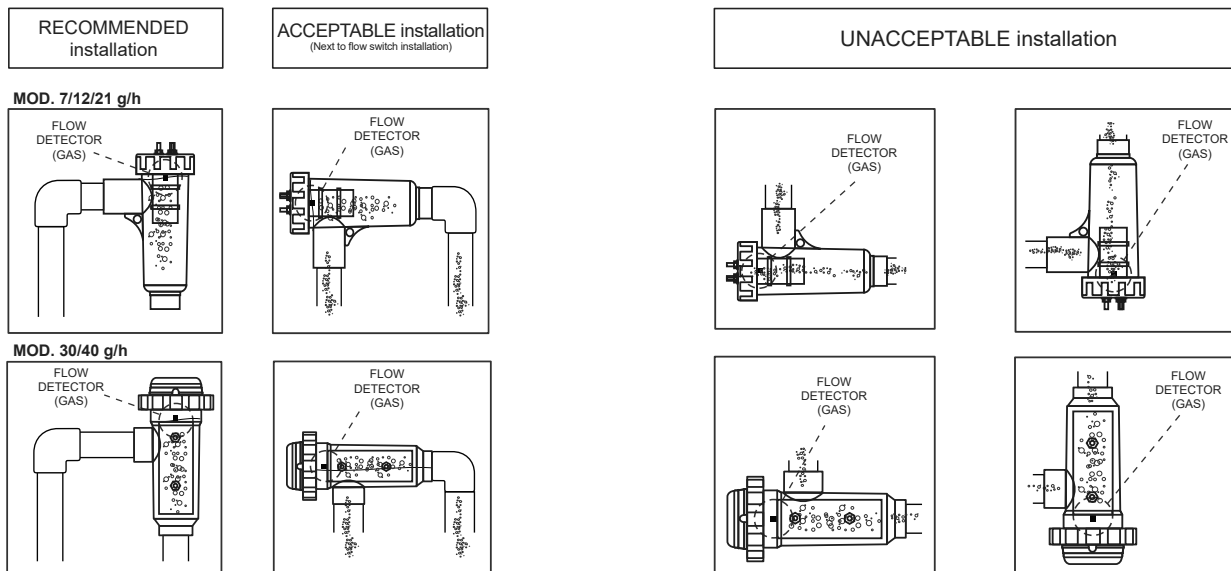
The direction of flow marked on the cell must be respected. The recirculation system must guarantee the minimum flow rate specified in the Technical Data Sheet.



The flow detector system (gas detector) is activated in the event of zero or very low recirculation (flow) of water through the cell. Non-evacuation of the electrolysis gas generates a bubble that electrically isolates the auxiliary electrode (electronic detection). Therefore, when inserting the electrodes into the cell, the gas detector (auxiliary electrode) must be placed at the top of the cell. The safest layout is as shown in the recommended installation diagram.

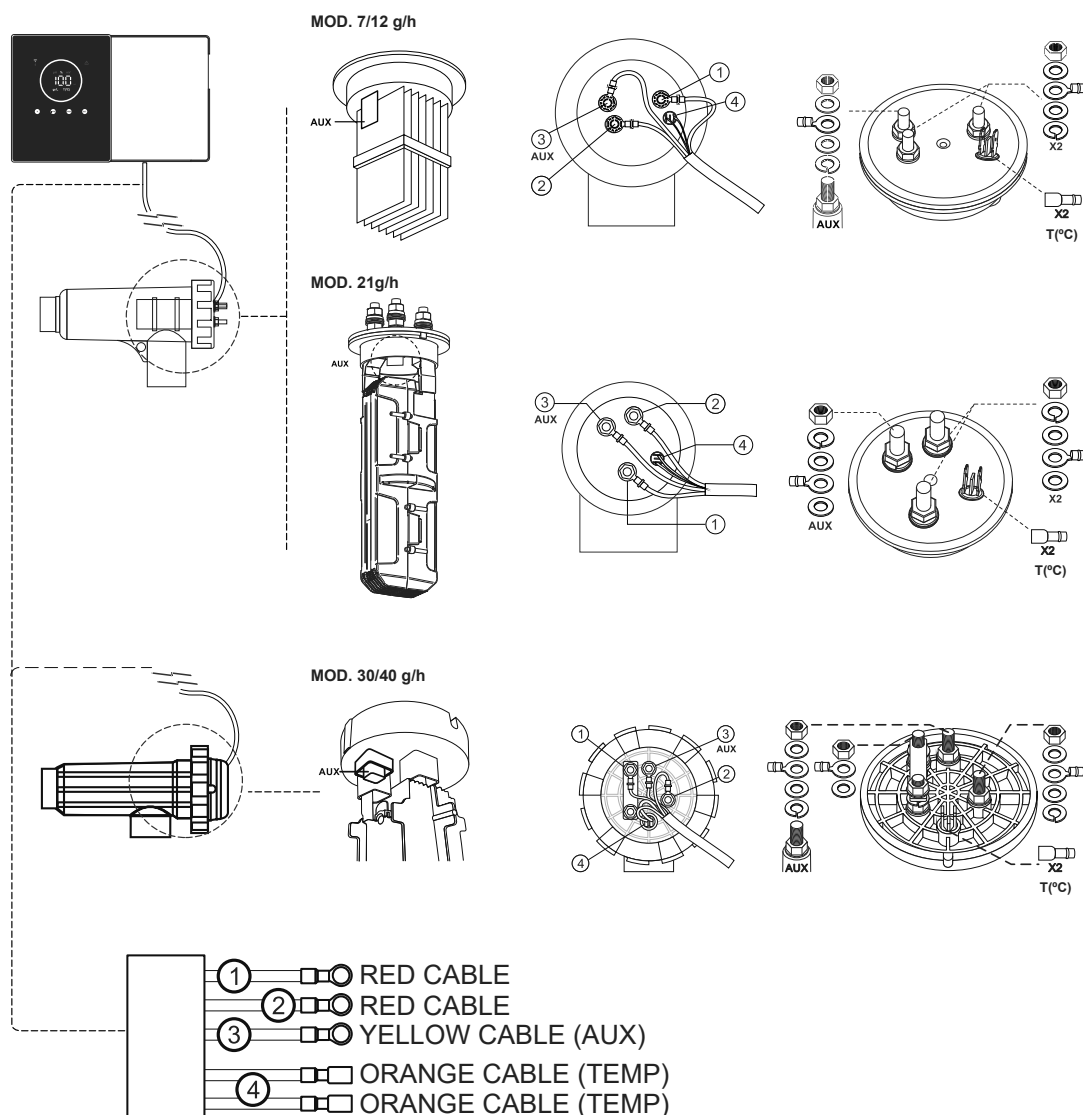


WARNING: if the inlet and outlet valves to the pipe where the electrolysis cell is installed are closed simultaneously, the flow detector (gas detector) will not work properly, leading to risk of rupture of the cell. Although this is an unusual situation, it can be avoided by blocking the return valve to the pool once the device has been installed, so that it cannot be tampered with accidentally.

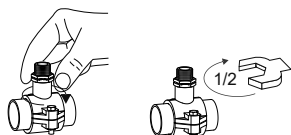
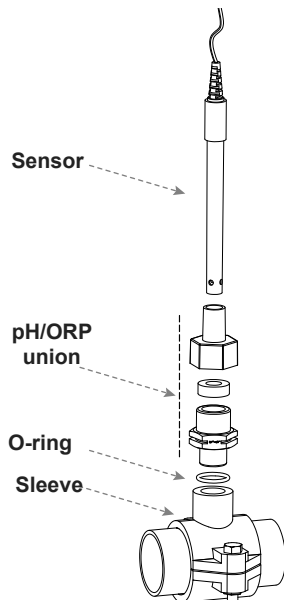


2.5 | Connecting the Electrolysis Cell

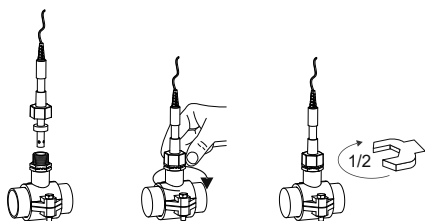
Connect the electrolysis cell to the control unit according to the following diagram. Due to the relatively high current flowing through the electrolysis cell cables, under no circumstances should the length or section of the cables be changed without first consulting your authorised distributor.



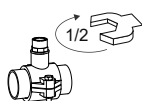
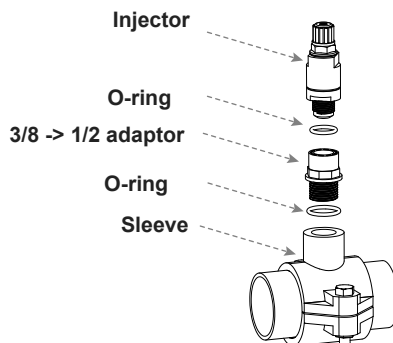
2.6 | Installing the pH/ORP sensor, injector, flow switch and temperature probe



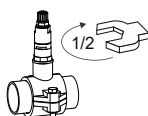
1) Make sure that the O-ring is in the fitting. Screw the fitting into the collar by hand and then give it a second tightening with a wrench.



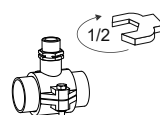
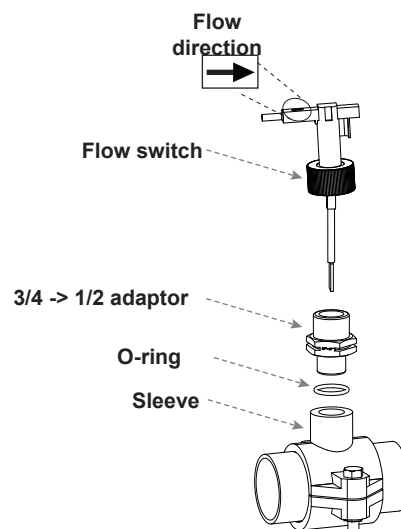
2) Insert the pH/ORP sensor into the fitting. Screw the pH/ORP sensor into the fitting by hand and then give it a second tightening with a wrench.



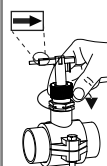
1) Make sure the O-ring is on the adaptor. Screw the adaptor into the sleeve by hand and tighten it with a spanner.



2) Screw in the injector by hand and tighten it with a spanner.



1) Make sure the O-ring is on the adaptor. Screw the adaptor into the sleeve by hand and tighten it with a spanner.



2) Make sure the arrow at the top of the flow switch points in the direction of the flow of water.

Screw the flow switch onto the adaptor by hand.

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2.7 | Initial Start-up

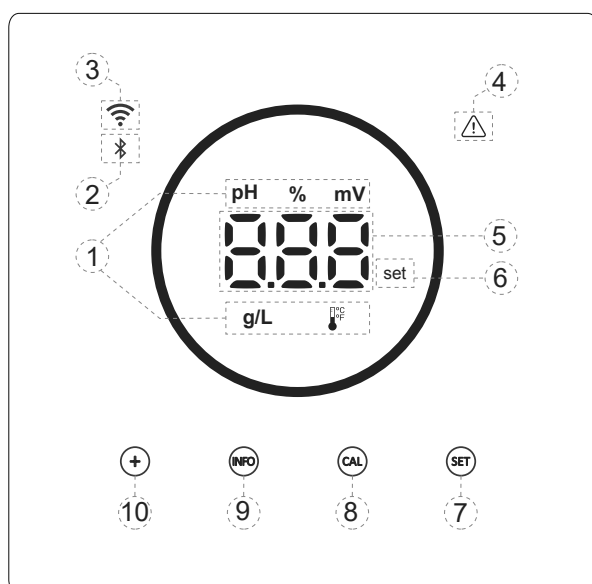
1. Ensure that the filter is 100% clean, and that the pool and installation is free of copper, iron and algae, and that any heating equipment installed is compatible with the presence of salt in the water.
 2. Balance the pool water. This will allow us to achieve a more efficient treatment with a lower concentration of free chlorine in the water, and to extend the operating life of the electrodes with less limescale in the swimming pool.
 - a) The pH should be 7.2–7.6
 - b) Total alkalinity should be 60–120 ppm.
 3. Although the system can operate within a salinity range of 3–12 g/L, you should try to maintain the recommended optimum salt level of 5 g/L, adding 5 kg per m³ of water if the water did not previously contain salt. Always use common salt (sodium chloride), without additives such as iodides or anti-caking agents, and of a quality fit for human consumption. Never add salt through the cell. Add directly to the pool or in the equalisation basin (away from the pool sump).
 4. When salt is added, and if the pool is to be used immediately, chlorine treatment should be carried out. As an initial dose, 2 mg/L of trichloroisocyanuric acid may be added.
 5. Before starting the operating cycle, disconnect the control unit and run the filter pump for 24 hours to ensure complete dissolution of the salt.
 6. Then start up the saline electrolysis system, setting the salt electrolysis production level so that the free chlorine level is maintained within the recommended levels (0.5-2 ppm).
- N.B.: to determine the level of free chlorine, a test kit must be used.
7. In pools that are exposed to strong sunshine or intensively used, it is advisable to maintain a level of 25–30 mg/L of stabiliser (isocyanuric acid). Under no circumstances should a level of 75 mg/L be exceeded. This will help to prevent the destruction of free chlorine in the water by sunlight.

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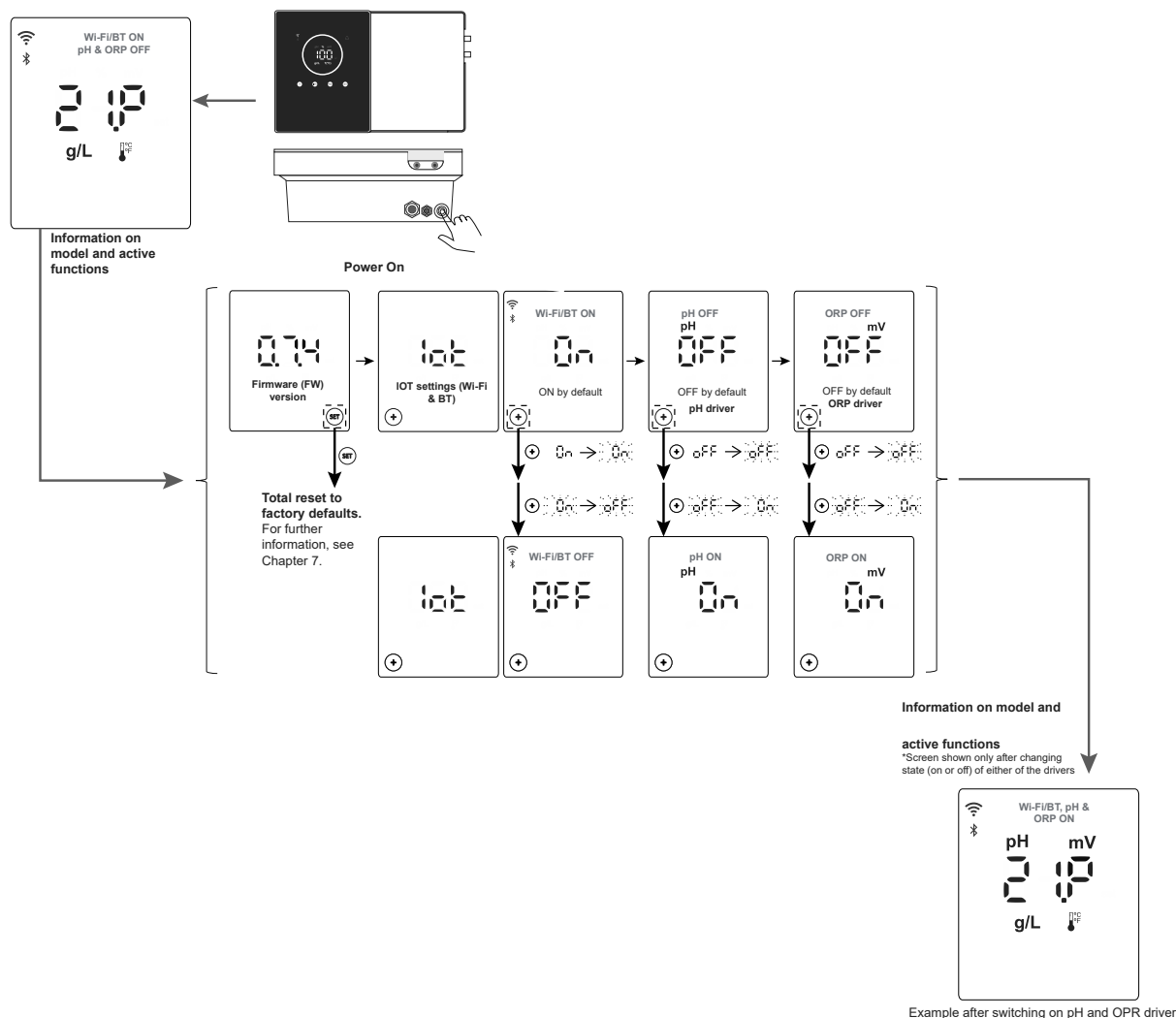


③ User Interface

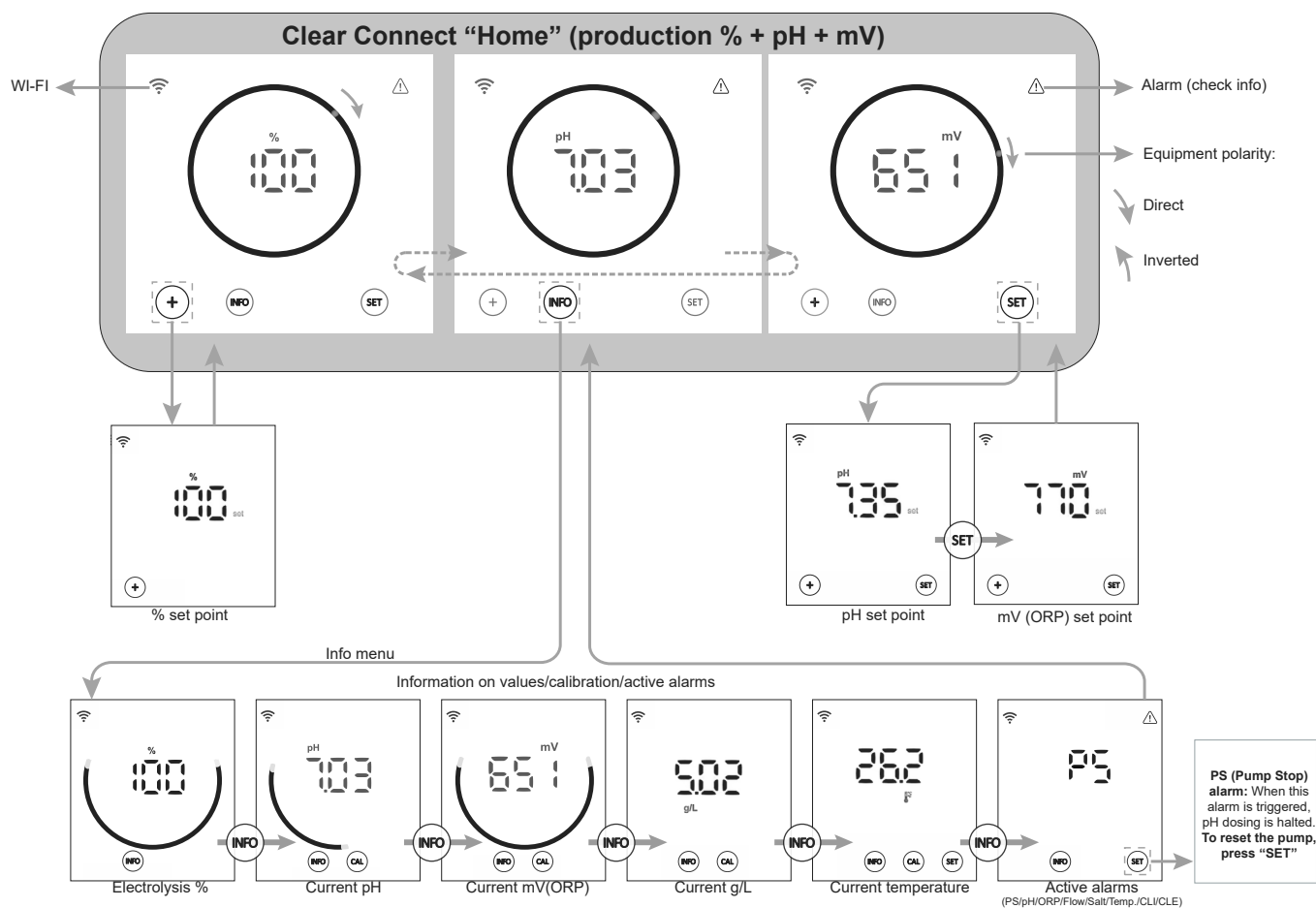
3.1 | Description of the Cover



3.2 | Starting Sequence, Turning Wi-Fi/BT and the pH/ORP Drivers On/Off



3.3 | Navigation Description



3.4 | Home Screen Information

By default, the Home screen cycles through the pool water's main values (% , pH, mV), allowing its condition to be checked at a glance.

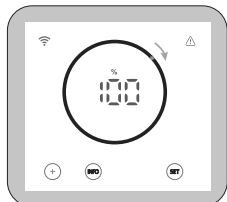
Temperature and salinity g/L are shown by default on a second plane (factory setting: INF OFF). The user may choose to view these on the Home screen by activating INF ON in the Configuration menu.

Parameters shown vary according to equipment version:

A) INF OFF

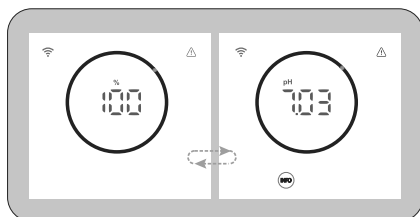
1. Model Clear Connect: shows only the equipment's current level of production (%).

%



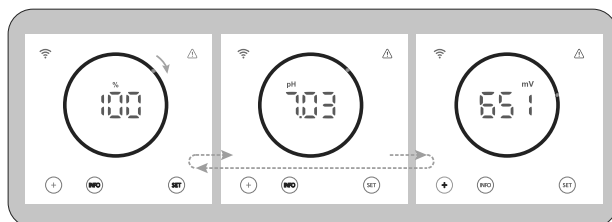
2. Model Clear Connect pH: cycles between current production (%) and pool pH.

% - pH



3. Model Clear Connect pH/ORP: cycles between current production (%), pool pH and mV (ORP).

% - pH - mV

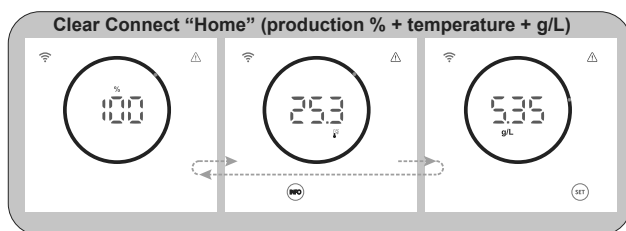


B) INF ON

Info mode can be switched on from the Config menu. With Info mode ON, the equipment will always show 3 variables on the Home screen according to equipment model.

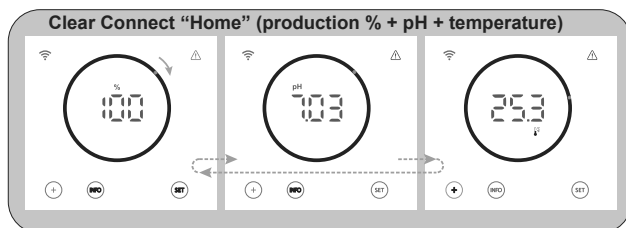
1. Model Clear Connect: cycles between current production (%), temperature and g/L.

% - T - g/L



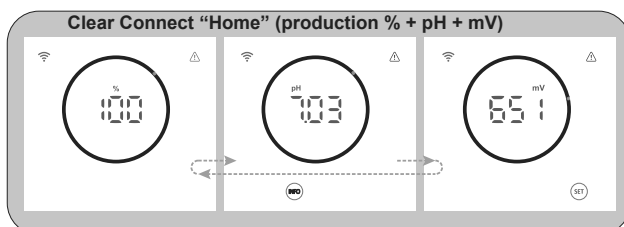
2. Model Clear Connect pH: cycles between current production (%), pH and temperature.

% - pH - T



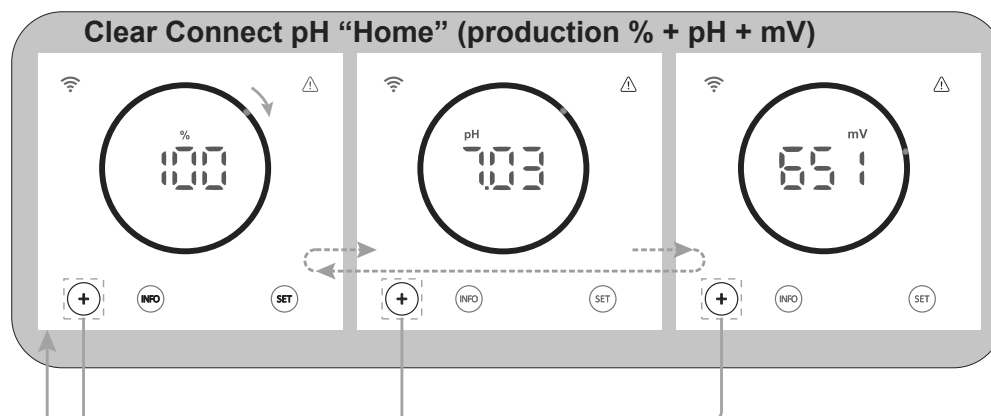
3. Model Clear Connect pH/ORP: cycles between current production (%), pH and mV (ORP).

% - pH - mV





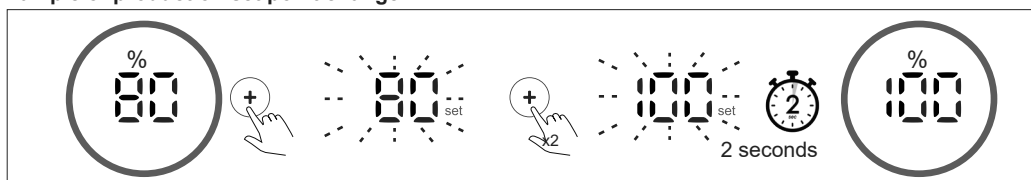
4.1 | Changing Production (%) Set Point

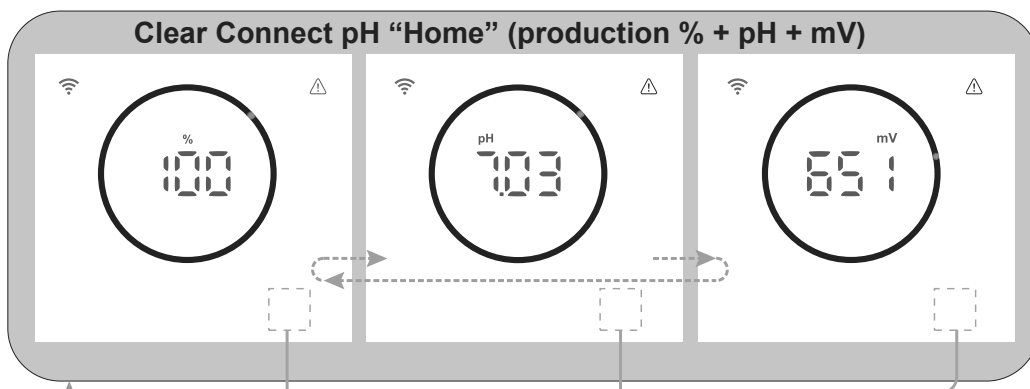


To change the production set point, follow the steps below.

- **Access change mode:** press the key. The current value of the set point will begin to flash.
- **Change the set point:** the new set point is set using the key.
- **Saving the set point:** once the new set point has been selected, the equipment will save it automatically after 2 seconds of inactivity, returning to the Home screen.

Example of production set point change:





To change the pH/ORP set point, follow the steps below.

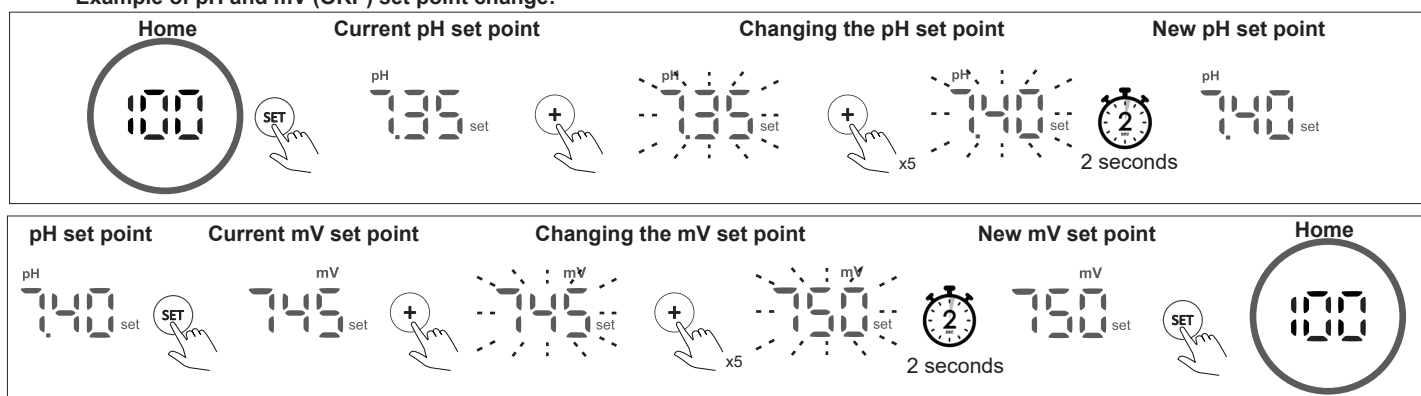
Changing the pH set point

- **Access change mode:** press the **SET** key; the current pH set point will be shown on the equipment's display. Press the key and the set point will begin to flash.
- **Change the set point:** the new set point is set using the **+** key.
- **Saving the set point:** once the new set point has been selected, the equipment will save it automatically after 2 seconds of inactivity.

Changing the mV (ORP) set point

- **Access change mode:** press the **SET** key; the set point will be shown on the equipment's display. Press the **+** key and the set point will begin to flash.
- **Change the set point:** the new set point is set using the **+** key.
- **Saving the set point:** once the new set point has been selected, the equipment will save it automatically after 2 seconds of inactivity.
- **Back to the Home menu:** press the **SET** key to return to the equipment's Home menu.

Example of pH and mV (ORP) set point change:

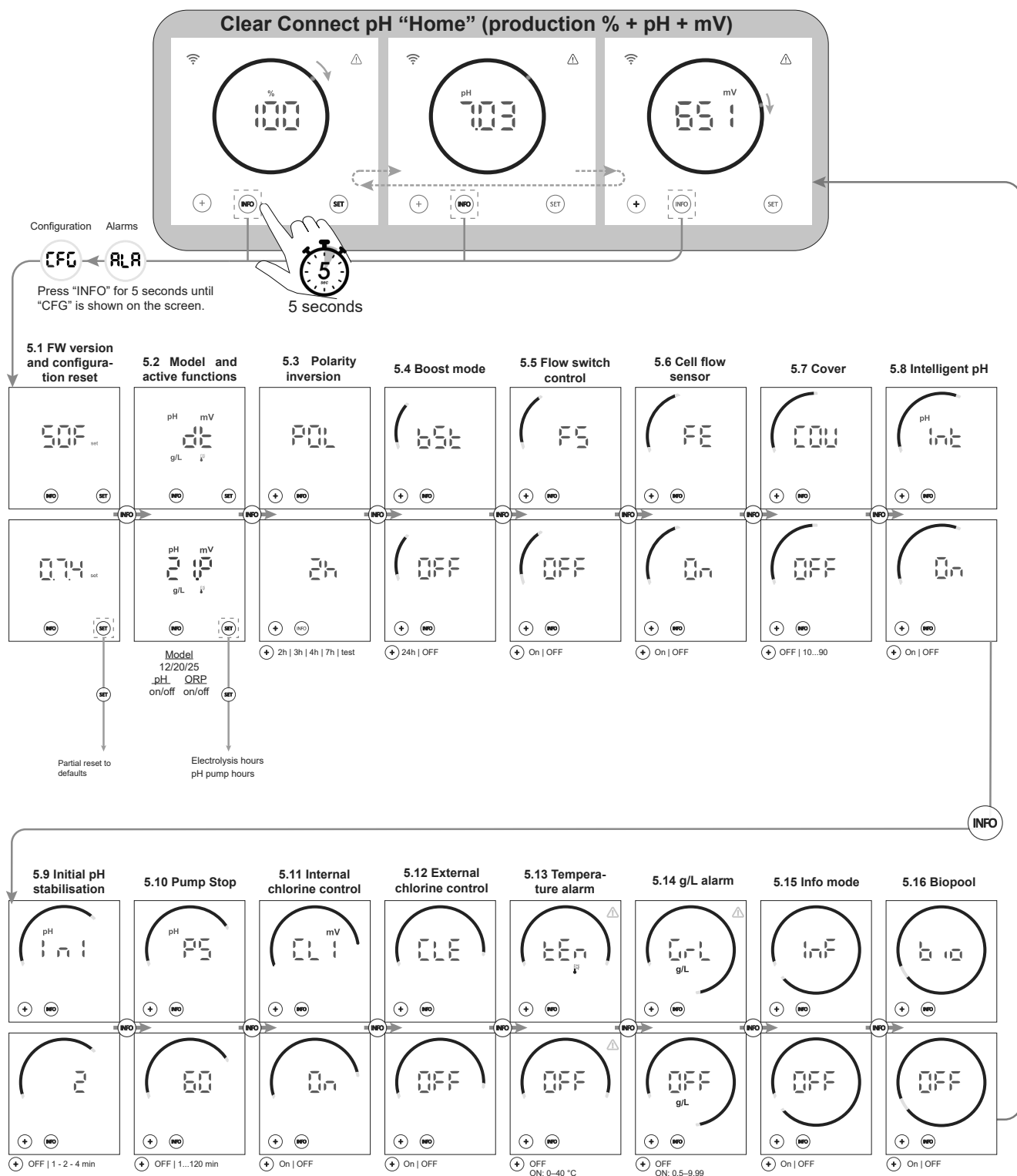




⑤ Configuration Menu

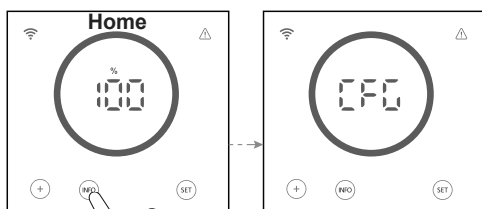
All equipment settings can be reviewed and changed in the configuration menu.

To access the configuration menu, press the “Info” key on the equipment's home screen for 5 seconds until “CFG” is shown on the screen, and release the key.



N.B.: Values shown on the screens are the default settings.

5.1 | FW Version and Configuration Reset

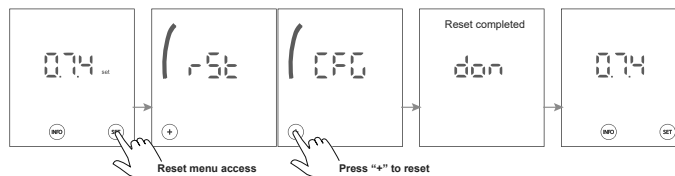


5 seconds
Press "INFO" for 5 seconds until
"CFG" is shown on the screen.

SOF: shows the equipment's firmware version.



Configuration reset: The equipment allows all settings to be reset to their default value. To do so, while the firmware version information is being shown press the "INFO" key followed by the "+" key. Once resetting is complete, the equipment will show "don".

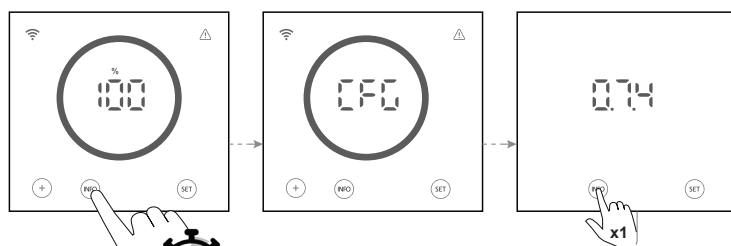


Set ON: settings are not factory defaults.
Set OFF: current settings are factory defaults.

Access to default setting reset

5.2 Model and active functions

5.2 | Model, Active Functions and Hours of Operation



5 seconds
Press "INFO" for 5 seconds until
"CFG" is shown on the screen.

dt: shows the equipment model (Clear Connect_7/12/21/30/40) and active functions (pH, mV, T, g/L).

Review of total and partial hours of electrolysis and pH pump operation

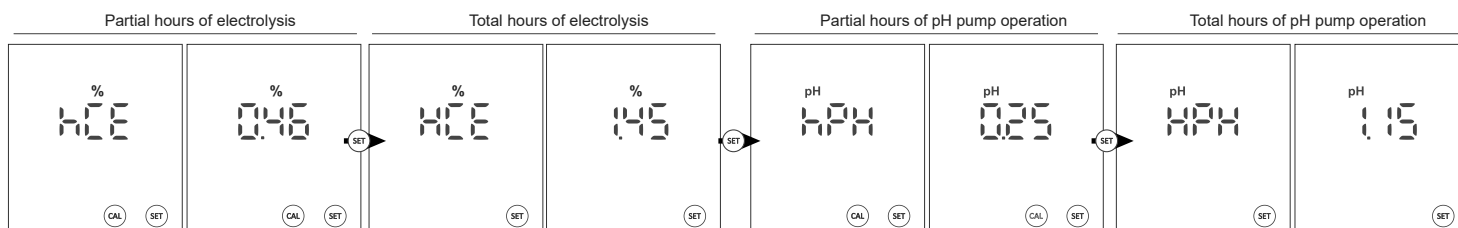
- **Total hours of electrolysis:** Shows the number of hours of electrolysis since installation of the equipment. Information is shown in thousands.
(Example: 0.09 = 90 hrs | 1.20 = 1,200 hrs - 12.5 = 12,500 hrs)
- **Partial hours of electrolysis:** shows the number of hours of electrolysis since the hours were last reset.
- **Total hours of pH pump operation:** shows the number of hours the pH pump has operated since its installation. Information is shown in thousands.
(Example: 0.05 = 50 hrs | 0.60 = 600 hrs)
- **Partial hours of pH pump operation:** shows the number of hours the pH pump has operated since the hours were last reset.

Information on active functions.
(Example: pH+mV+g/L+Temp.)

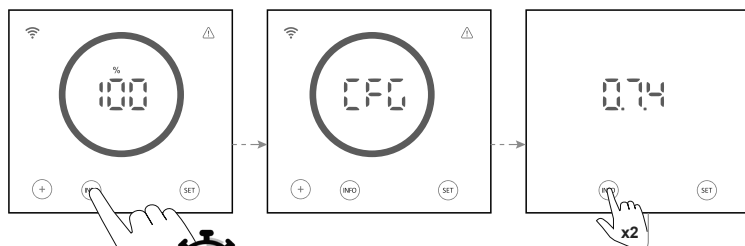
Information on equipment
model. (Example: 20g/h)

Access to total/partial hours of
electrolysis and pH pump operation

5.3 Polarity inversion



5.3 | Polarity Inversion

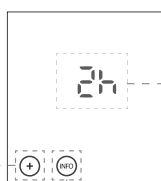


5 seconds



POL: polarity inversion time.
Default setting 2h/2h.

Polarity inversion enables the removal of lime accumulated on the electrodes. The default inversion time is 2h/2h but is configurable (2h/2h, 3h/3h, 4h/4h, 7h/7h and test mode 2min/2min).

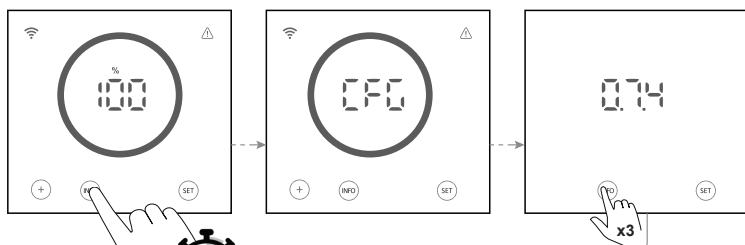
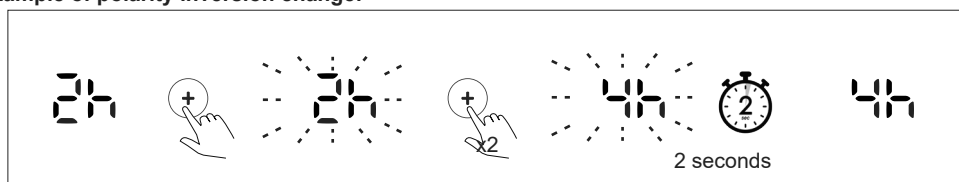


Set polarity inversion time

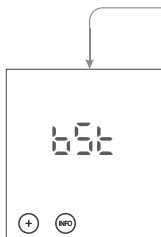
Change setting
2h - 3h - 4h - 7h - tst

5.4 Boost mode

Example of polarity inversion change:

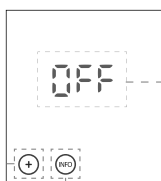


5 seconds



bSt: Boost mode
Default setting: OFF

Boost mode enables a rapid increase in pool chlorine level. When boost mode is activated, the equipment will operate for 24 hours at a 100% production level regardless of the production set point. After 24 hours of operation, production level at the set point is resumed.

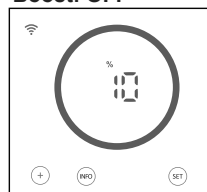


Current setting

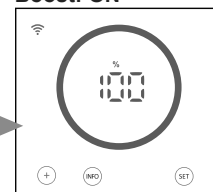
Change setting
ON | OFF

5.5 Flow switch control

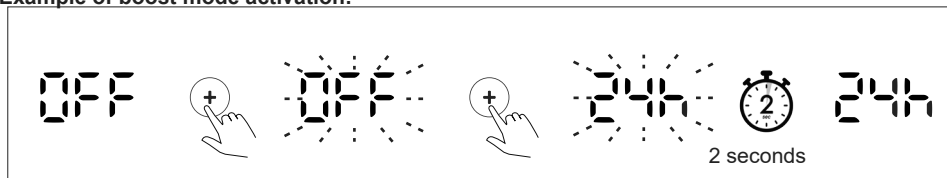
% set: 10%
Boost: OFF



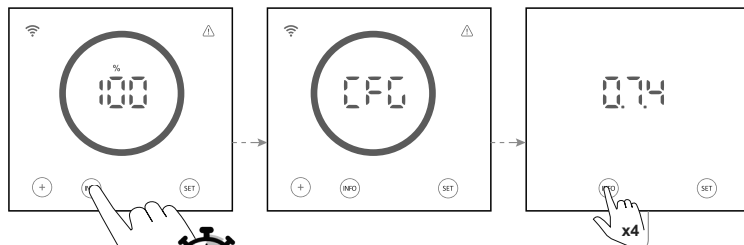
% set: 10%
Boost: ON



Example of boost mode activation:

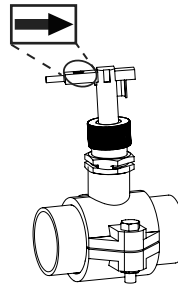


5.5 | Flow Switch Control

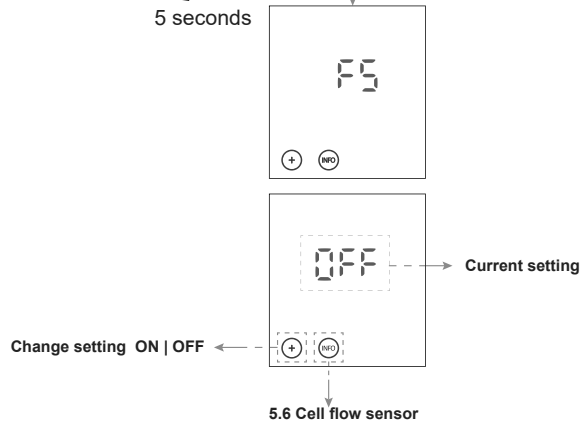


FS: flow switch control.
Default setting: ON.

When this function is enabled, the equipment will stop chlorine production when the sensor does not detect any flow.

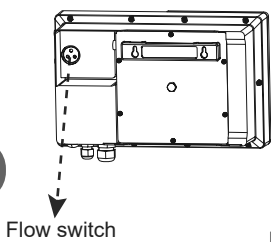
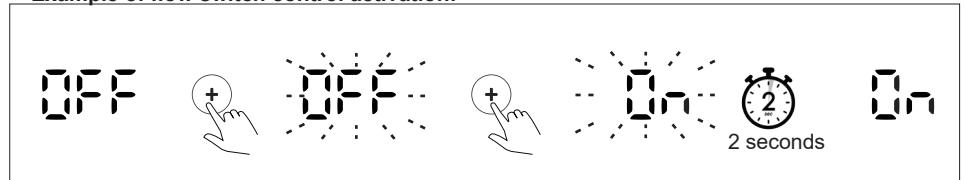


If FS is ON and the system does not detect any water flow, the equipment displays the FS alarm and electrolysis production is stopped immediately.

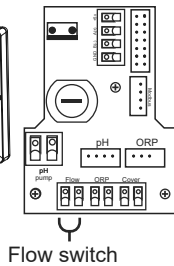


5.6 Cell flow sensor

Example of flow switch control activation:

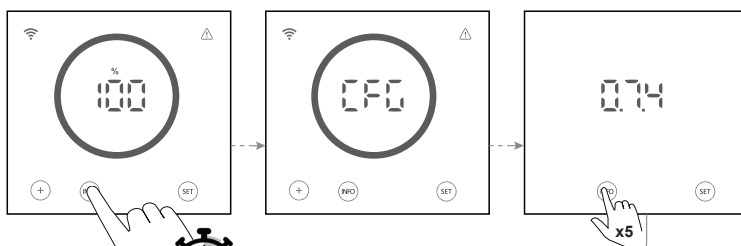


Flow switch



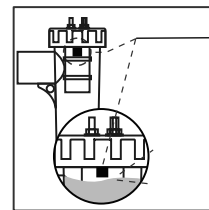
Flow switch

5.6 | Cell Flow Sensor (Flow Gas)

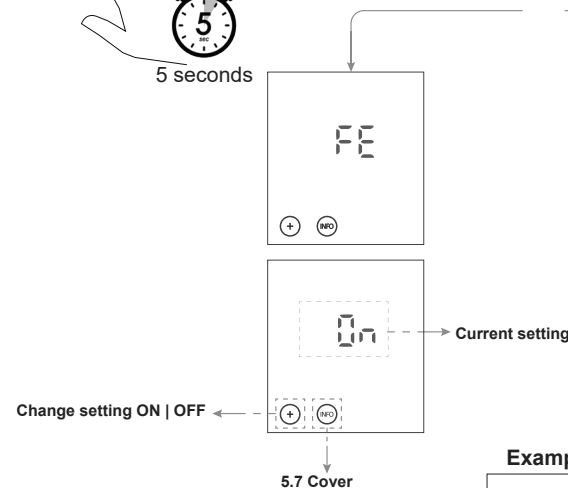


FE: cell flow sensor (flow gas).
Default setting: ON.

The cell flow detection system is activated when there is little or no water recirculation (flow) through the cell. Non-removal of electrolysis gas generates a bubble that electrically isolates the auxiliary electrode (electronic detection). Therefore, when the electrodes are introduced into the cell, the gas detector (auxiliary electrode) must be located in the upper part of the cell. See the recommended installation diagram in section 2.3 of this manual.

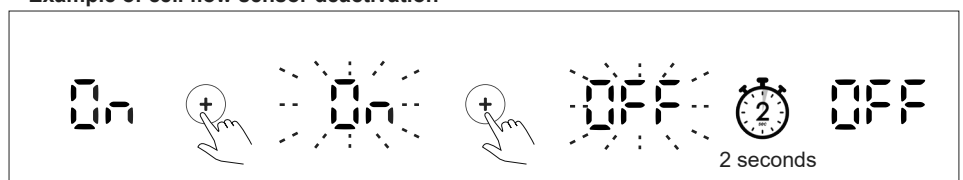


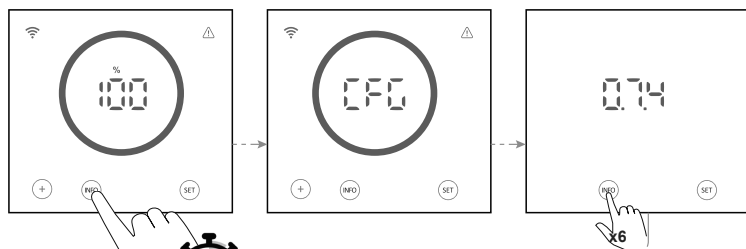
Cell flow sensor



5.7 Cover

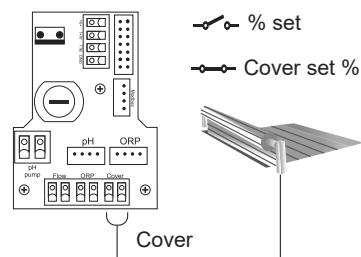
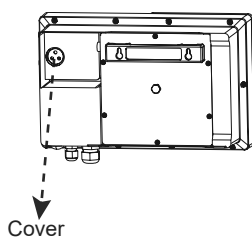
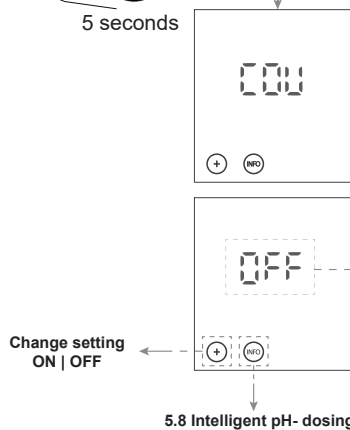
Example of cell flow sensor deactivation



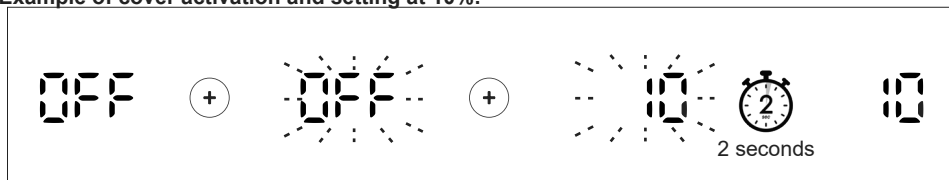


COV: Cover.
Default setting: OFF

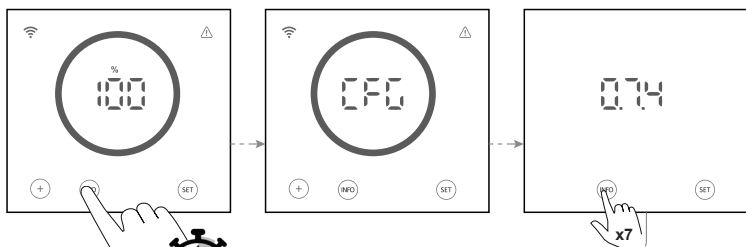
The cover function allows configuration of a production set point so that this is automatically activated when the pool cover is closed for the winter. This percentage is configurable (10–90%).



Example of cover activation and setting at 10%:

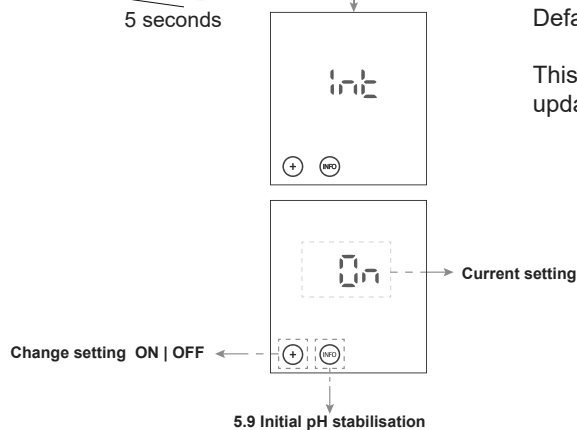


5.8 | Intelligent pH- Dosing

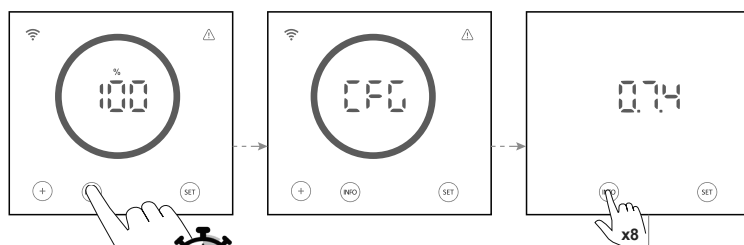


int: intelligent pH- dosing.
Default setting: ON

This function provides more precise pH control. The working cycle of the pump is updated dynamically depending on the measurement.



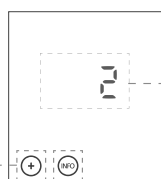
5.9 | Initial pH Stabilisation



5 seconds

INI: initial pH stabilisation.
Default setting: 2min.

This is the pH reading stabilisation time. After switching on the equipment, a time of 1min/2min/4min can be set to obtain a stable pH reading.
N.B.: The pH pump will not dose during the stabilisation period.



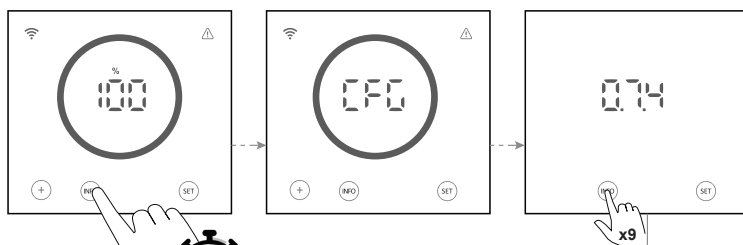
Current setting

Change setting OFF |
1 - 2 - 4 min

5.10 Pump Stop

EN

5.10 | PumpStop



5 seconds

PS: PumpStop.

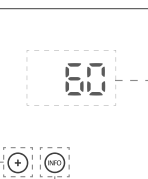
Default setting: 60min.

The pH has a PumpStop safety system which acts on the dosing pump and prevents the following:

- Damage caused by dry running the pump (depleted pH-minus product).
- Overdosage of pH Minus product (damaged or aged sensor).
- pH regulation problems due to high alkalinity of the water (freshly filled pool, high carbonate levels).

When PumpStop is ON (by default), the system stops the dosing pump after a time set in minutes without having reached the pH set point.

N.B.: To reset the PumpStop alarm, see chapter 6.5 PumpStop Alarm.

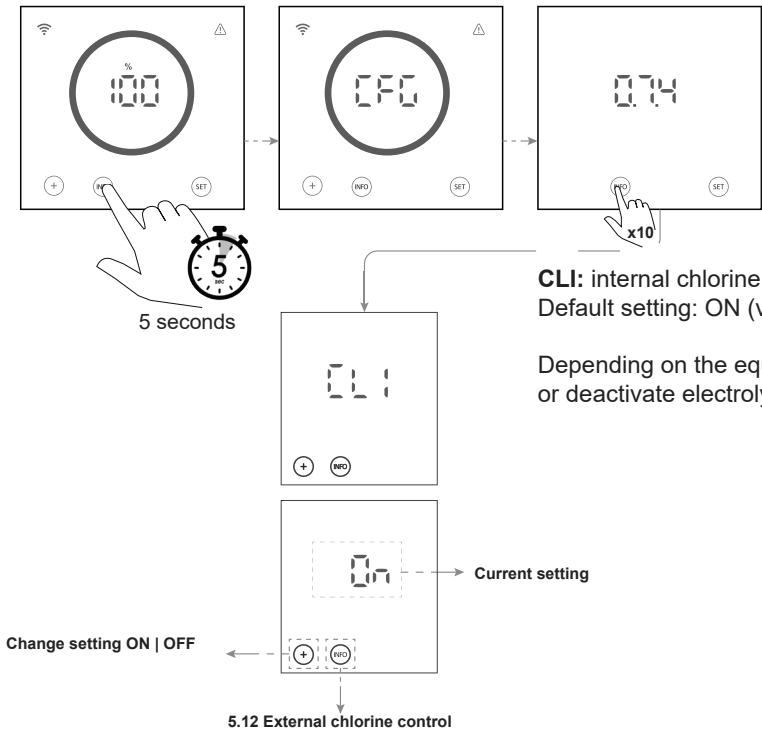


Current setting

Change setting OFF |
1-120 min

5.11 Internal chlorine control

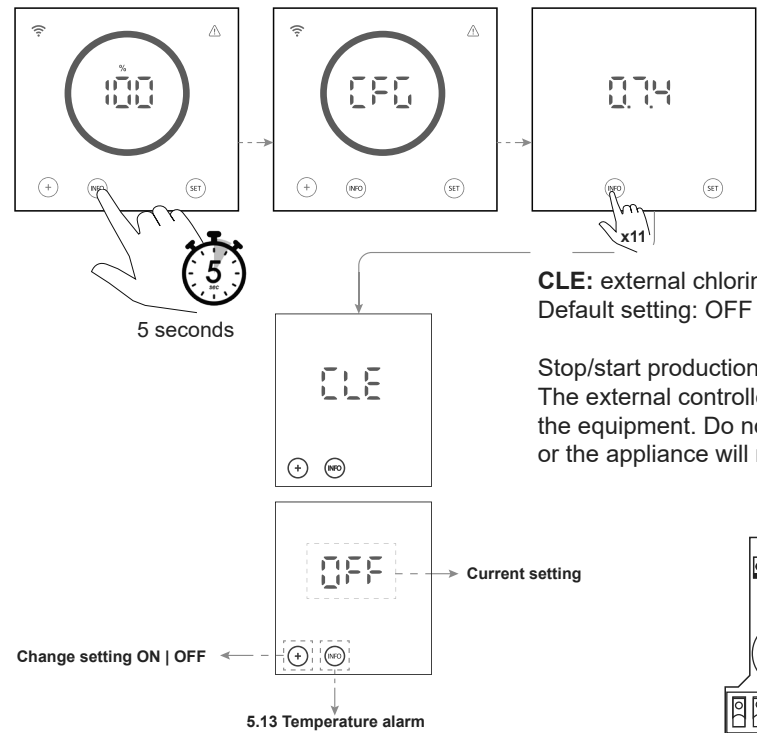
5.11 | Internal Chlorine Control



CLI: internal chlorine control.
Default setting: ON (version Clear Connect with ORP kit)

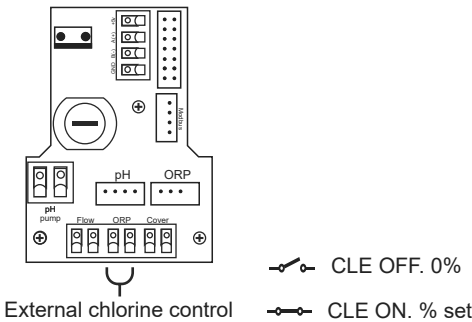
Depending on the equipment's ORP reading function, the equipment will activate or deactivate electrolysis to adjust it to the previously configured ORP set point.

5.12 | External Chlorine Control

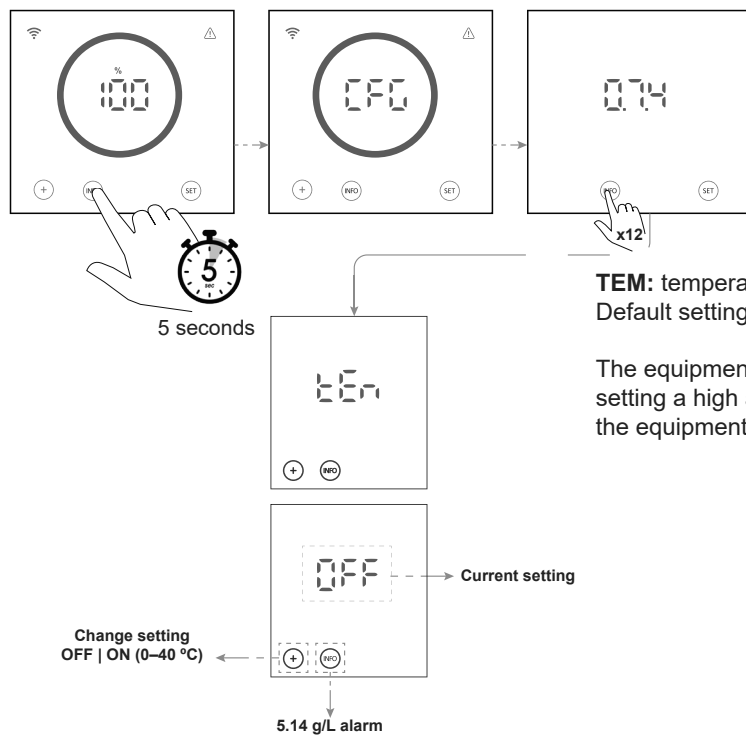


CLE: external chlorine control.
Default setting: OFF

Stop/start production based on the reading given by an external controller. The external controller will send a signal (volt-free input) to start/stop production by the equipment. Do not activate this function if you do not have an external controller, or the appliance will not start producing chlorine and will display a CLE alarm.



5.13 | Temperature Alarm

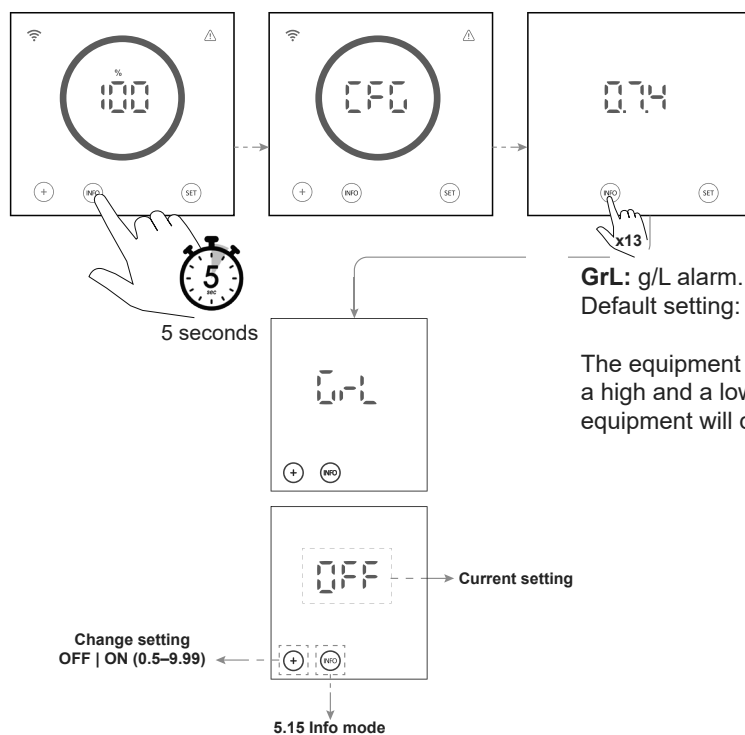


TEM: temperature alarm.
Default setting: OFF

The equipment allows for the operating temperature range to be configured, setting a high and a low temperature value. When the temperature is out of range, the equipment will display an alarm.

EN

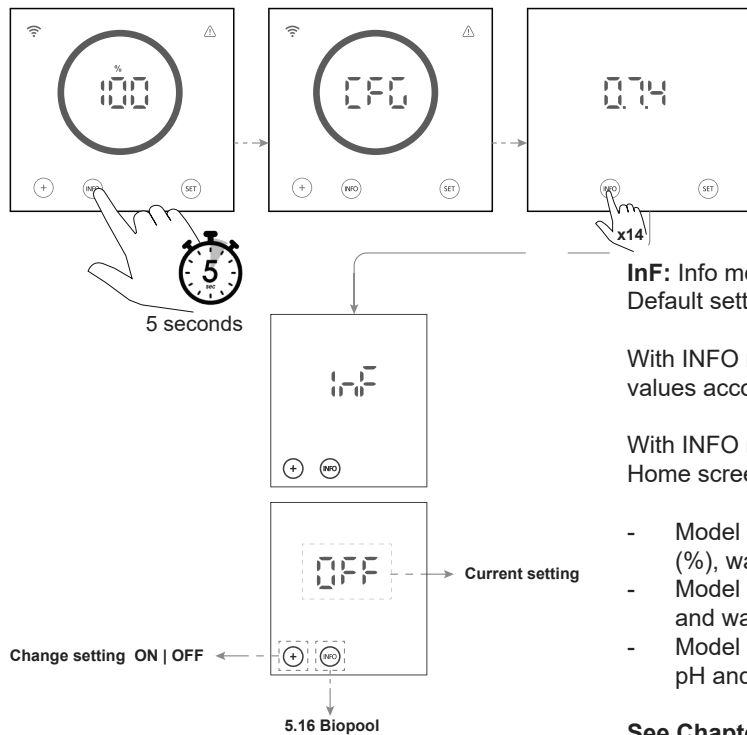
5.14 | g/L Alarm



GrL: g/L alarm.
Default setting: OFF

The equipment allows for the operating salinity range to be configured, setting a high and a low salinity g/L value. Should the salinity be out of range, the equipment will display an alarm.

5.15 | Info Mode



InF: Info mode.
Default setting: OFF

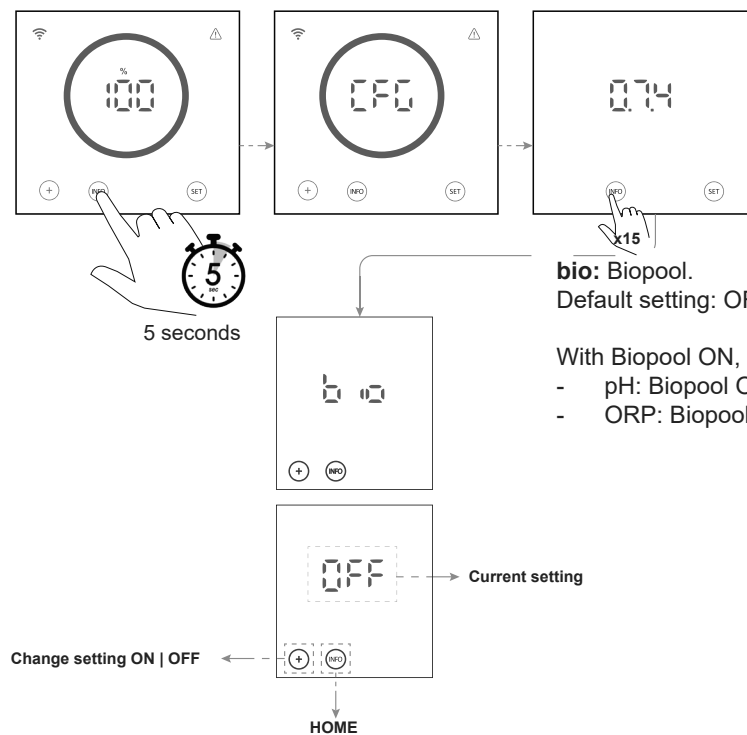
With INFO mode OFF, the equipment's Home screen will only display major values according to the equipment version installed (% , pH and ORP).

With INFO mode ON, the equipment will always show 3 variables on the Home screen.

- Model Clear Connect: cycles automatically between current production (%), water temperature and pool's g/L reading.
- Model Clear Connect pH: cycles between current production (%), pH and water temperature.
- Model Clear Connect pH/ORP: cycles between current production (%), pH and mV (ORP).

See Chapter 3.4 of this manual.

EN



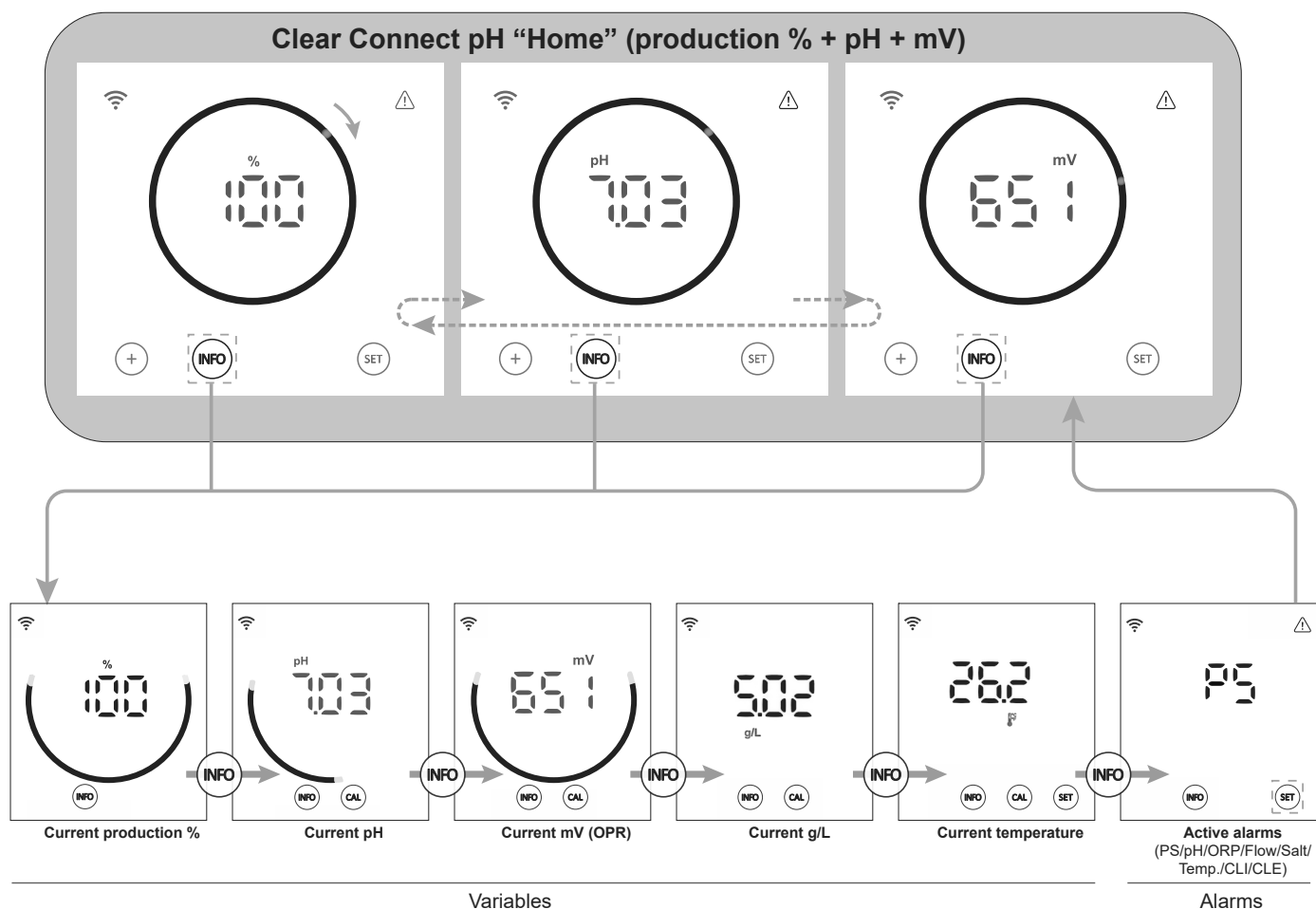
bio: Biopool.
Default setting: OFF

With Biopool ON, the pH and ORP set point range is increased.

- pH: Biopool OFF 7.00–7.80 / Biopool ON 6.50–8.50
- ORP: Biopool OFF 600–850 / Biopool ON 300–850



⑥ Info Menu, Calibration and Alarms



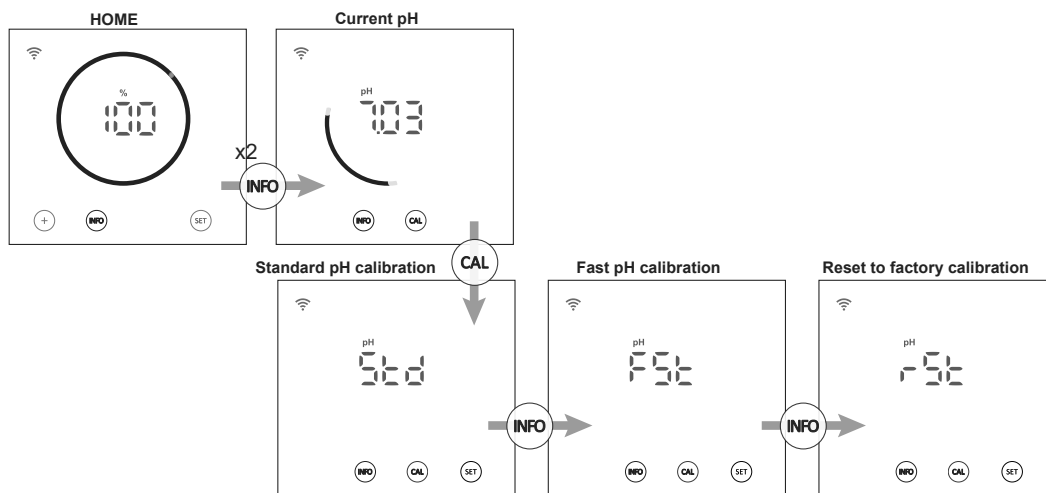
The “INFO” key is used to navigate between current values.

The “CAL” key is used to access pH, ORP, TEMP and g/L calibration.

The following variables and alarms can be viewed from the Info menu:

Variables	Alarms
Production %	pH high/low
pH	mV(ORP) high
mV (ORP)	PumpStop
Salinity (g/L)	Conductivity high/low
Temperature (°C/°F)	Cell
	Temperature high/low
	Salinity high/low
	Flow switch
	Cell flow (flow gas)

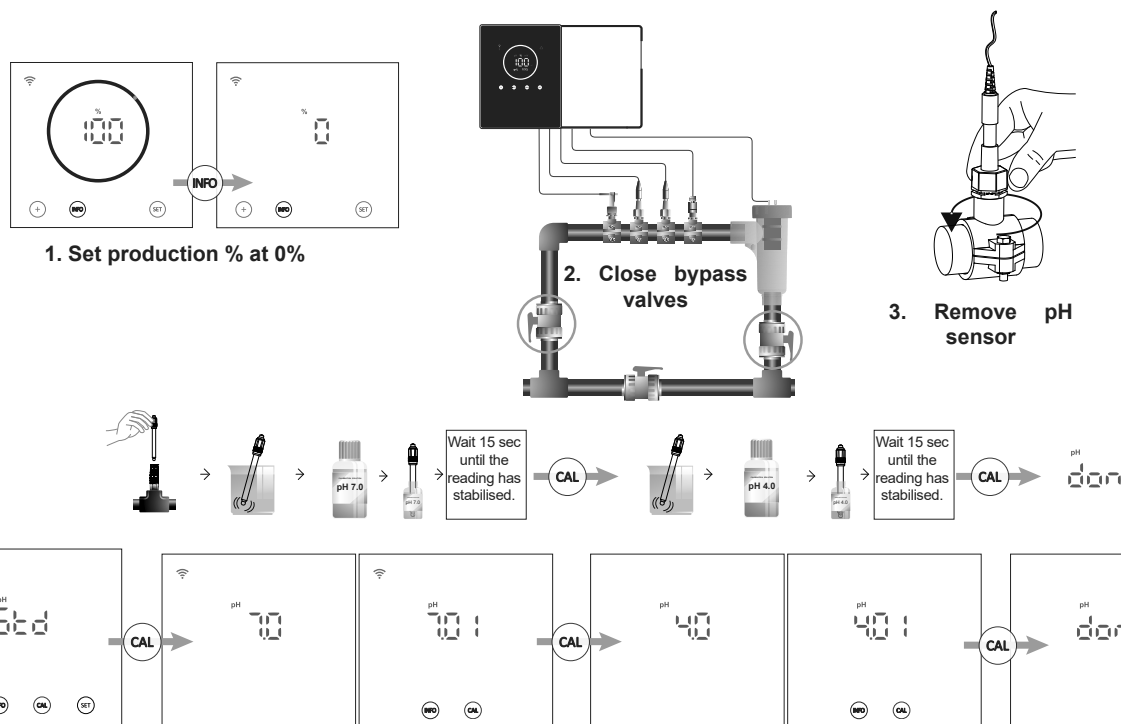
6.1 | Calibrating the pH Sensor



From the pH calibration menu, the equipment allows standard calibration, fast calibration or resetting the current calibration to factory settings:

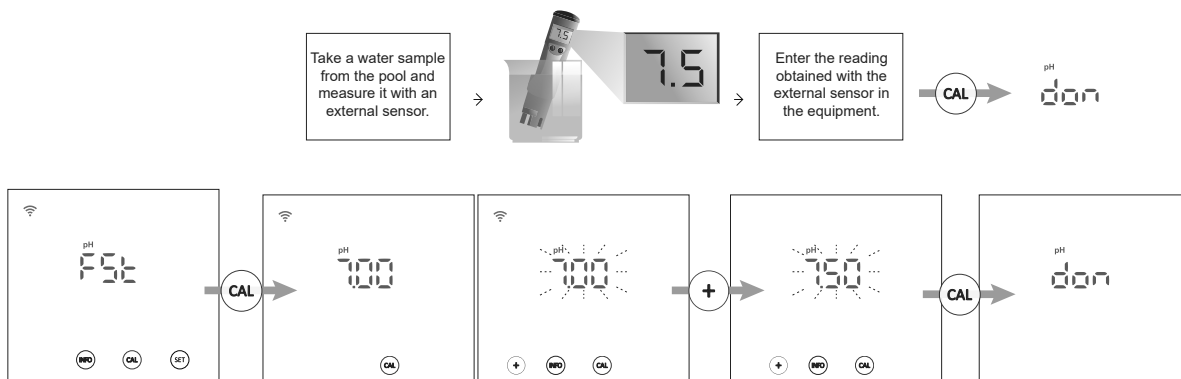
- Standard pH calibration

Standard calibration mode allows precise calibration of the sensor using two calibration solutions with pH 7.0 and pH 4.0. However, this requires that the sensor be removed from the installation.



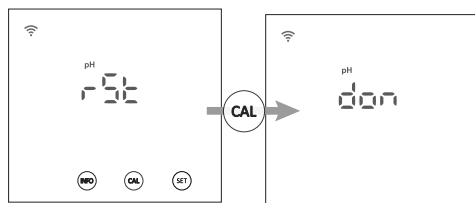
- Fast pH calibration

Fast calibration mode allows routine recalibration of the sensor when there are small errors in its readings with no need to remove the sensor or use calibration solutions. For this type of calibration you need to know the current pH of the pool water, which can be read using an external sensor.

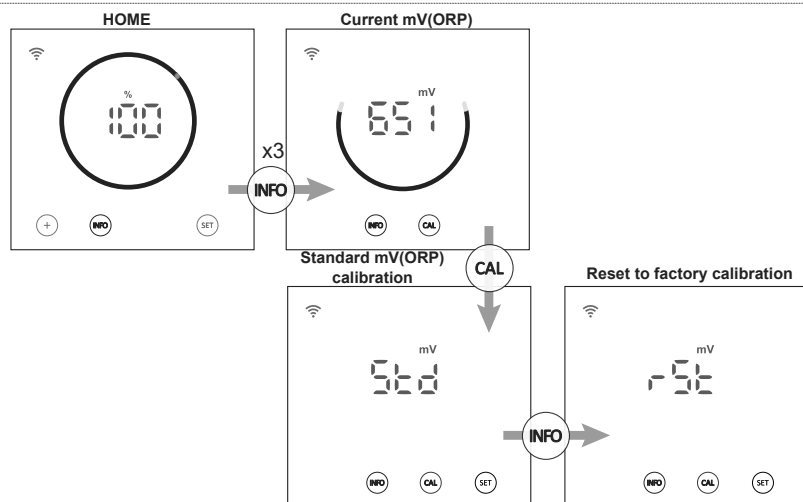


- Reset to default calibration values

Resetting calibration values to default values deletes any previous calibration (STD or FST) from the equipment.



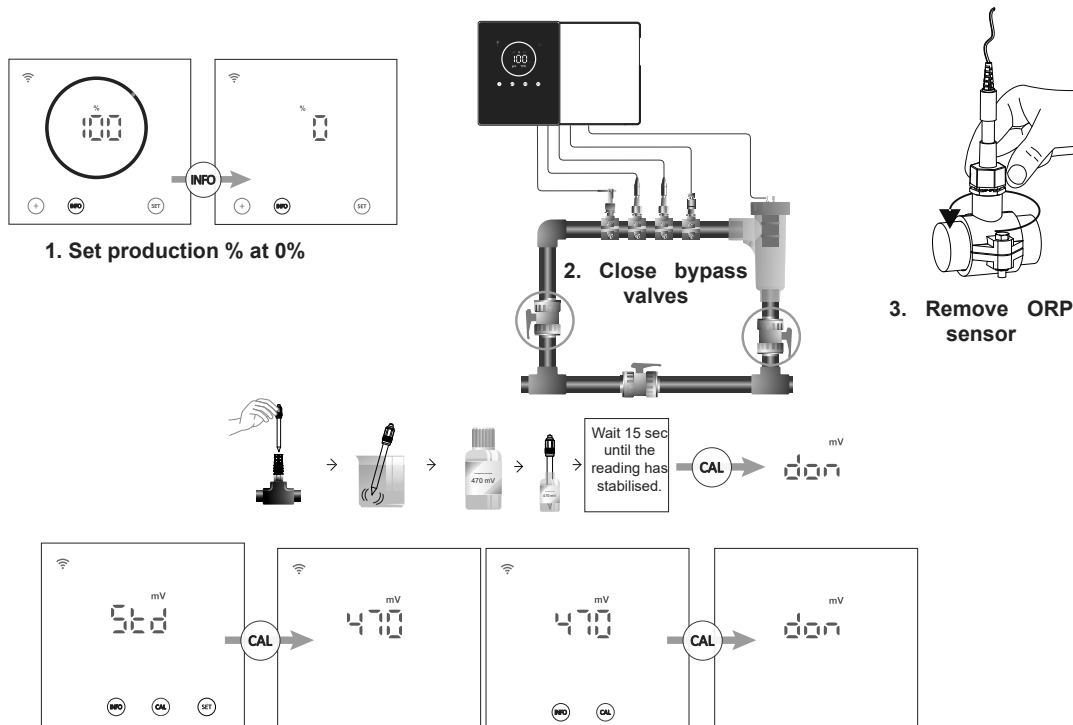
6.2 | Calibrating the mV (ORP) Sensor



From the mV(ORP) calibration menu, the equipment allows standard calibration or resetting the current calibration to factory settings:

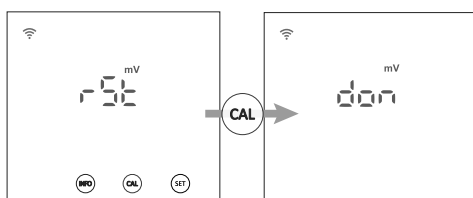
- Standard mV(ORP) calibration

Standard calibration mode allows precise calibration of the sensor using a 470 mV calibration solution. However, this requires that the sensor be removed from the installation.

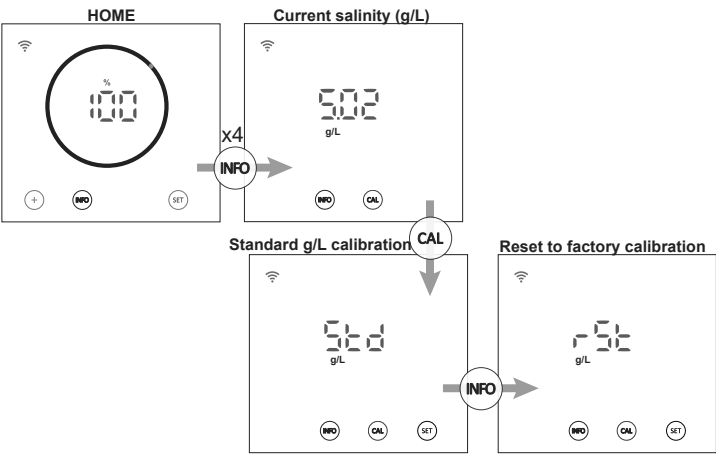


- Reset to default calibration values

Resetting calibration values to default values deletes any previous calibration from the equipment.



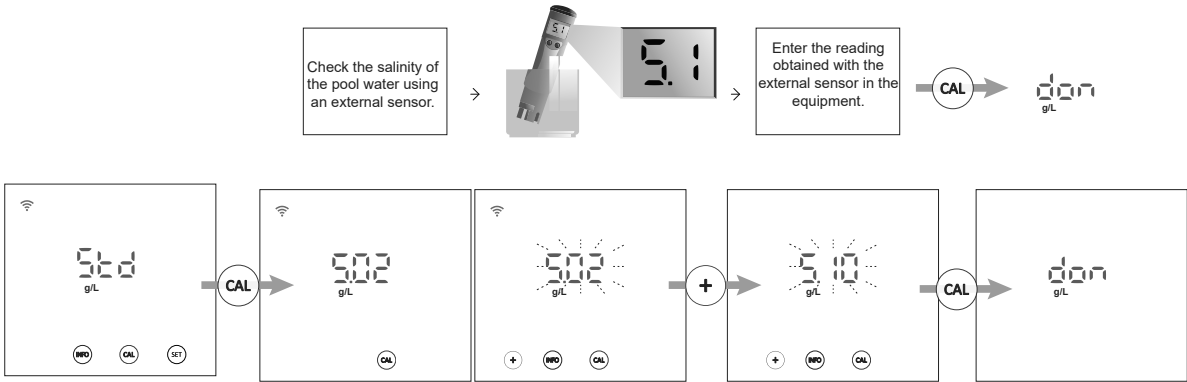
6.3 | Calibrating the Salinity (g/L)



From the salinity calibration menu, the equipment allows standard calibration or resetting the current calibration to factory settings:

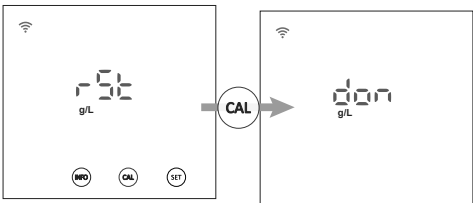
- Standard salinity (g/L) calibration

Salinity (g/L) calibration mode allows routine recalibration to correct small errors in readings. For this you need to know the current salinity of the pool water, which can be read using an external sensor.

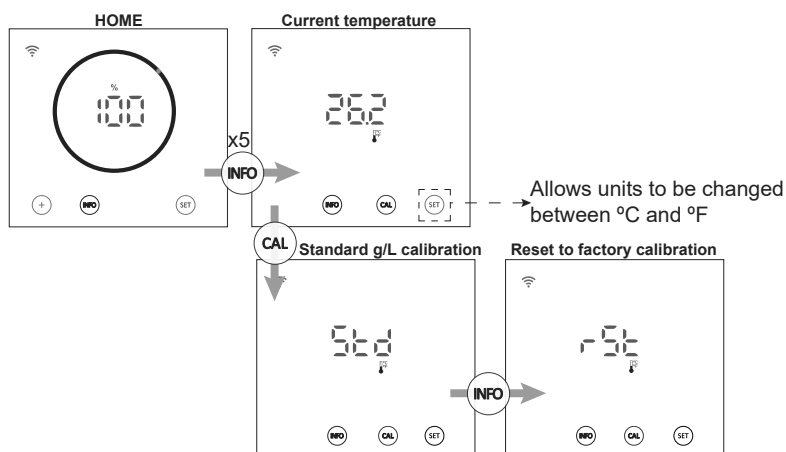


- Reset to default calibration values

Resetting calibration values to default values deletes any previous calibration from the equipment.



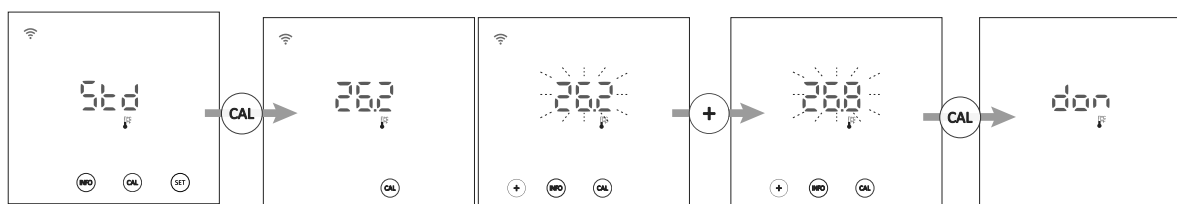
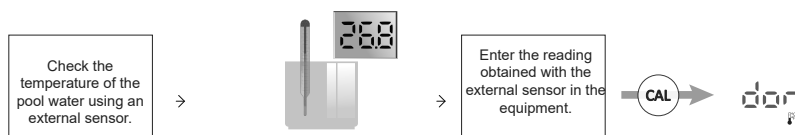
6.4 | Calibrating the Temperature



From the temperature calibration menu, the equipment allows standard calibration or resetting the current calibration to factory settings:

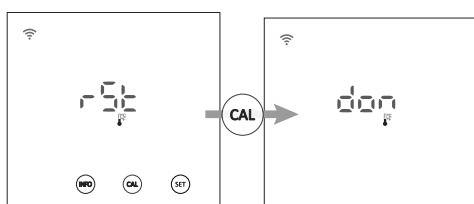
- Standard temperature calibration

Temperature calibration mode allows routine recalibration to correct small errors in readings. To know the current temperature of the pool water, you can use an external sensor.



- Reset to default calibration values

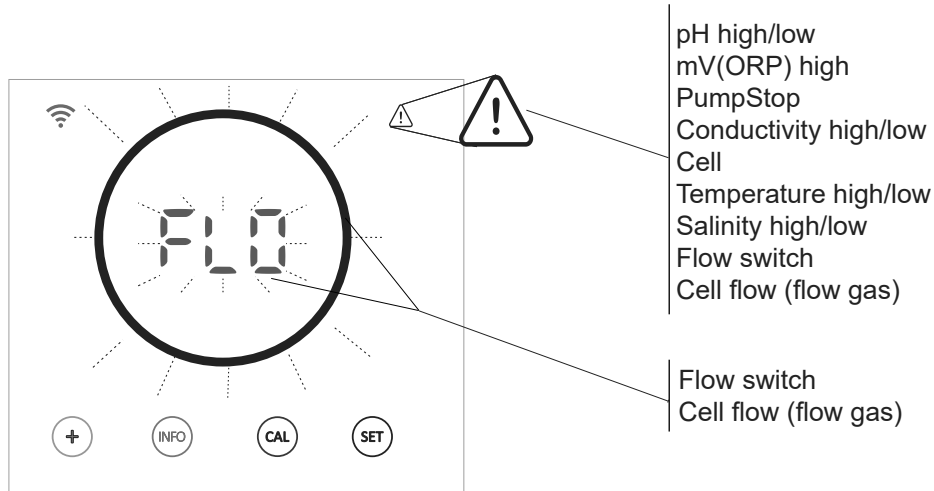
Resetting calibration values to default values deletes any previous calibration from the equipment.



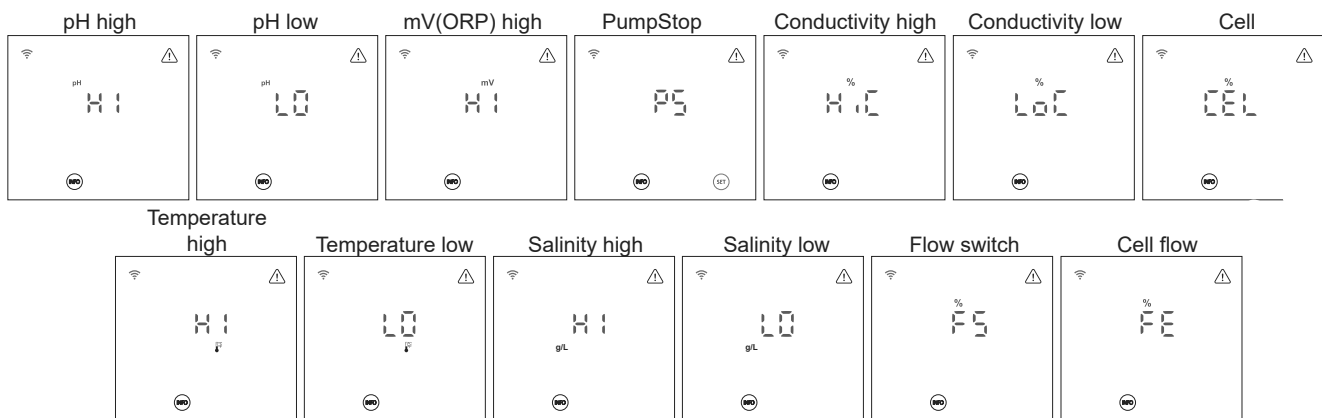
6.5 | Alarm Information

When the equipment has an active alarm, an alarm signal appears on the Home screen. In addition to this signal, if it is a flow alarm (FS or FE) the circle on the Home screen will flash. To check the remaining alarms, access the alarm menu.

Indication of alarms on the Home screen

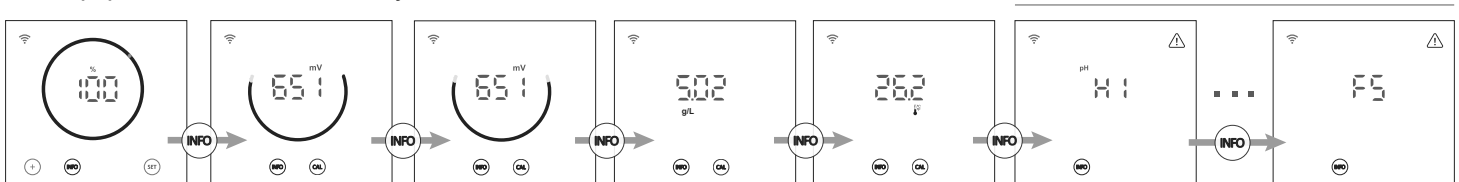


Active alarm displays

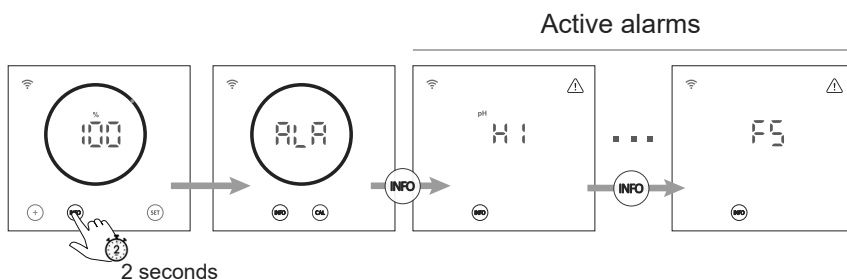


There are two options for checking active alarms:

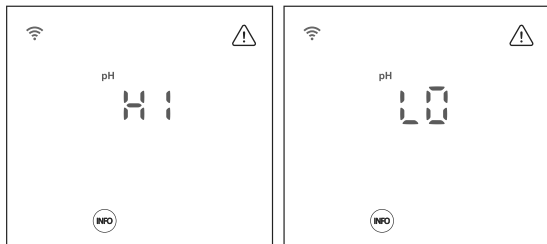
- **Using the INFO menu:** from the equipment's Home screen, press the "INFO" key to access the INFO menu and navigate through this menu using the "INFO" key. After displaying %, pH, mV(ORP), g/L and temperature values, the equipment shows all currently active alarms.



- **Using the Alarms menu:** to access the Alarms menu, press and hold the "INFO" key on the Home screen for 2 seconds until the screen shows "ALA"; release the key. All currently active alarms will then be shown on the screen.



- pH high/low alarm



Low or high alarms appear if the pH reading is outside the set values. These values cannot be modified.

If the high pH alarm appears, the pH pump will be switched off according to the safety values set.

Standard mode

pH > 8.5 = pH HIGH ALARM = Pump off

pH < 6.5 = pH LOW ALARM

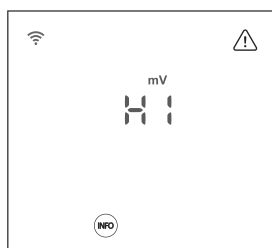
Biopool mode

pH > 9.0 = pH HIGH ALARM = Pump off

pH < 6.0 = pH LOW ALARM

The pH of the pool must be manually reduced to 8.45 (standard mode) or 8.95 (biopool mode) for the pump to start dosing again.

- mV(ORP) high alarm



- ORP high alarms appear if the reading is not within established safety limits. The mV(ORP) high limit cannot be changed.

If the mV(ORP) high alarm appears, production will cease.

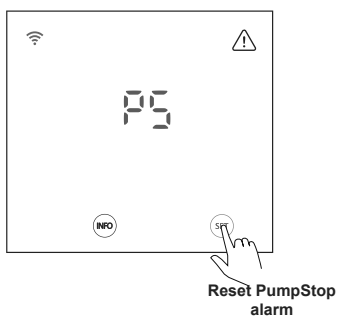
Standard mode

mV(ORP) > 855 = ORP HIGH ALARM = Dosing is stopped

Biopool mode

mV(ORP) > 855 = ORP HIGH ALARM = Production is stopped

- PumpStop alarm



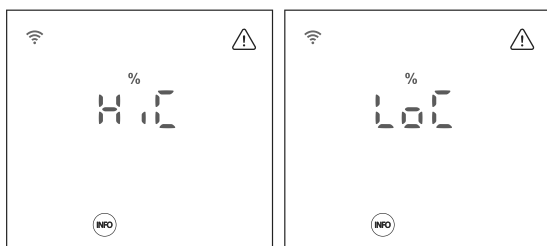
The pH has a PumpStop safety system which acts on the dosing pump and prevents the following:

- Damage caused by dry running the pump (depleted pH-minus product).
- Overdosage of pH Minus product (damaged or aged sensor).
- pH regulation problems due to high alkalinity of the water (freshly filled pool, high carbonate levels).

When PumpStop is ON (default: 60min), the system stops the dosing pump after a time set in minutes without having reached the pH set point.

To reset the PumpStop alarm, press the "SET" key while the alarm is displayed.

- Conductivity high/low alarm



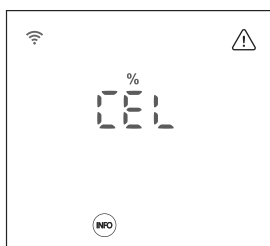
- The conductivity alarm will appear when production % cannot reach the set production due to high or low conductivity.

- Temperature and grams of salt are the two factors that determine the conductivity of water.

HiC: conductivity high (salt and/or temperature ↑ ↑)

LoC: conductivity low (salt and/or temperature ↓ ↓)

- Cell alarm

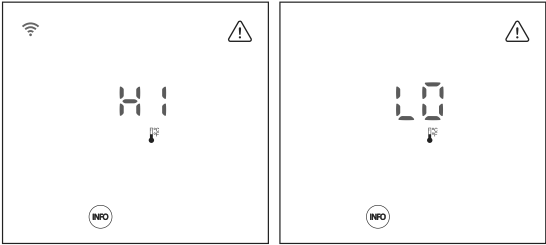


- The cell alarm will appear when the devices detect that the electrode is at the end of its life (passivated).

Once the passivated electrode has been replaced by a new one, the equipment will automatically reset the cell alarm after a complete polarity cycle (direct + inverse).

Estimated lifetime of electrodes = 8,000 hours

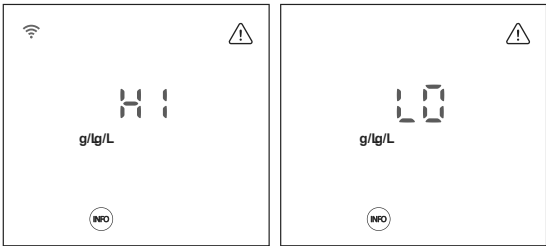
- Temperature high/low alarm



The temperature alarm will appear when temperature values are outside the range set by the user.

When the water temperature is very low, the equipment might not reach 100% production due to low conductivity.

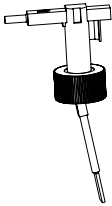
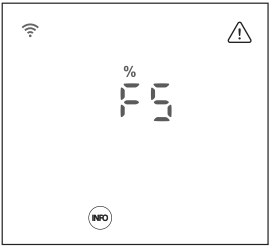
- Salinity high/low alarm



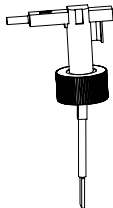
The salinity alarm will appear when salt g/L values are out of range.

Normally, when the g/L value is too low or too high it will affect production by the equipment due to the conductivity of the water.

- Flow-switch alarm



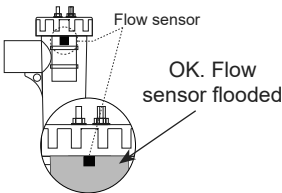
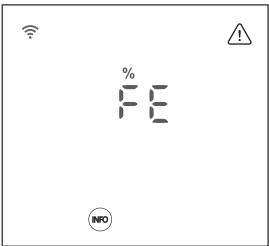
Flow OK = production % OK



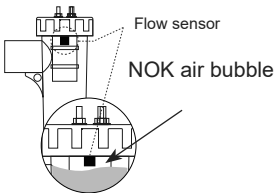
No flow = FS ALARM

When the contact connected to this input is open (external flow detector idle) and [FS] is activated in the equipment, the electrolysis system switches off due to the flow alarm.

- Cell flow alarm (flow gas)



Flow OK = production % OK



No flow = FE ALARM

The cell flow alarm is activated when there is little or no water recirculation (flow) through the cell.

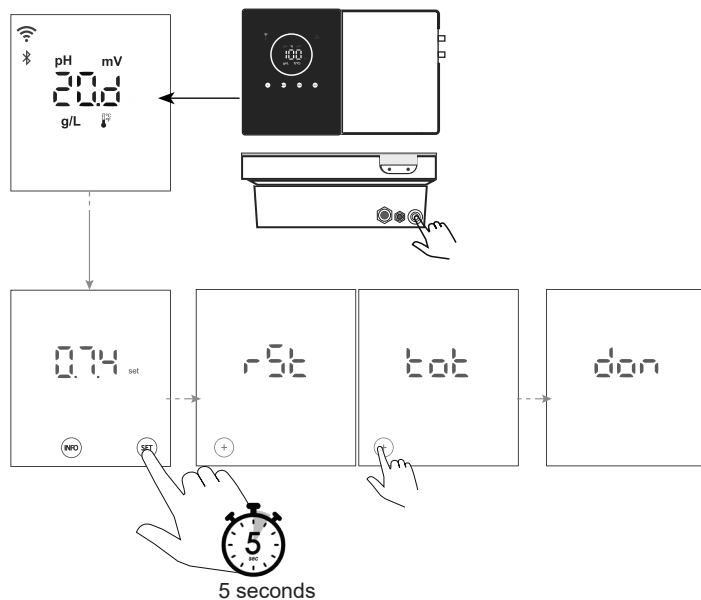
Non-removal of electrolysis gas generates a bubble that electrically isolates the auxiliary electrode (electronic detection).



⑦ Total/Partial Resets

As we have seen in chapters 3.2 and 5.1, the equipment has two types of reset, total and partial.

- **Total reset (3.2):** All general parameters plus all Config menu settings are reset.

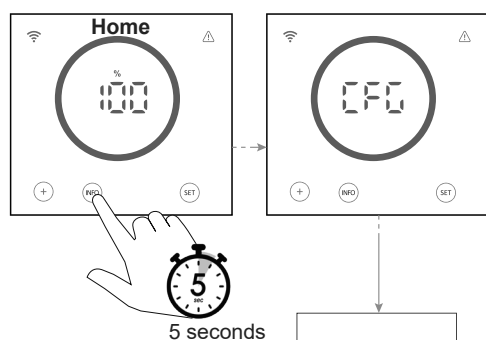


General parameters

Config menu

Parameter	Value
pH set	7.20
mV (ORP) set	750
% set	0
pH driver	ON
mV (ORP) driver	OFF
pH calibration	Factory calibration
mV (ORP) calibration	Factory calibration
Temperature calibration	Factory calibration
g/L calibration	Factory calibration
Wi-Fi/BT	ON
Polarity inversion	2h
Boost	OFF
Flow switch	OFF
Cell flow	ON
Cover	OFF
Intelligent pH	ON
pH initialisation time	OFF
PumpStop	ON (60min)
Internal chlorine control (CLI)	ON
External chlorine control (CLE)	OFF
Temperature alarm	OFF
g/L alarm	OFF
Info mode	OFF
Biopool	OFF

- **Partial reset (Config menu) (5.1):** only the Configuration menu settings are reset to default values.



Press "INFO" for 5 seconds until "CFG" is shown on the screen.

Config menu

Parameter	Value
Polarity inversion	2h
Boost	OFF
Flow switch	OFF
Cell flow	ON
Cover	OFF
Intelligent pH	ON
pH initialisation time	OFF
PumpStop	ON (60min)
Internal chlorine control (CLI)	ON
External chlorine control (CLE)	OFF
Temperature alarm	OFF
g/L alarm	OFF
Info mode	OFF
Biopool	OFF

Access configuration
reset

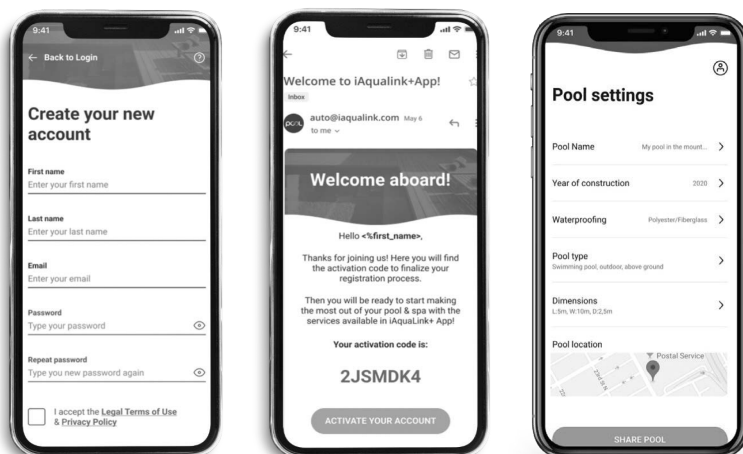
Reset to defaults



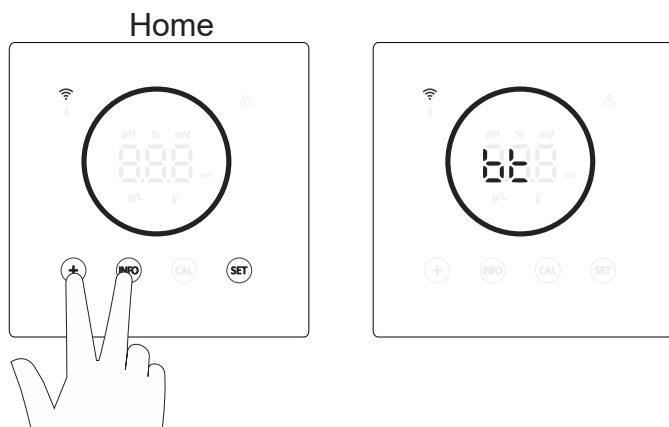
⑧ Pairing with FluidraPool



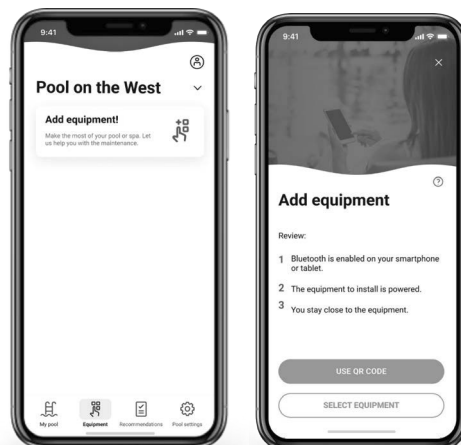
1) Download and install the FLUIDRA POOL app.



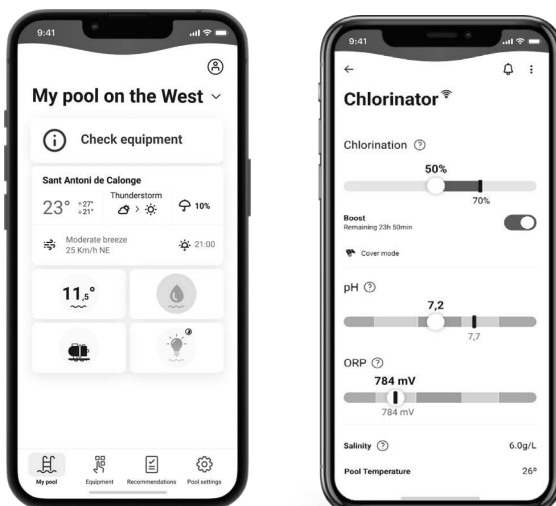
2) Create a user account and set up a new installation.



3) Enter the pairing mode from the Home screen (press "+" and "INFO" simultaneously for 5 seconds).
"bt" will be displayed on the screen and flash next to a Bluetooth symbol.



4) Press "Add equipment" and follow the FLUIDRA POOL instructions.





⑨ Maintenance

9.1 | Electrolysis Cell Maintenance

The cell should be maintained in suitable condition to ensure long-lasting operation. The saline electrolysis system has an automatic electrode cleaning system to avoid the build up of limescale on the electrodes; therefore, it should not be necessary to clean them. Should it be necessary to clean the interior of the cell, proceed as follows:

1. Disconnect the 230 Vac power supply from the equipment.
2. Remove the quick connectors from the electrodes and remove the electrode pack.
3. Use a diluted hydrochloric acid solution (1 part acid to 10 parts water), submerging the electrode pack in this solution for a maximum of 10 minutes.
4. **NEVER SCRAPE OR BRUSH THE CELL OR THE ELECTRODES.**

Saline electrolysis system electrodes consist of titanium strips coated in noble metal oxides. The electrolysis processes that occur on their surface cause their progressive wear; therefore, to increase their useful life, the following points should be taken into account:

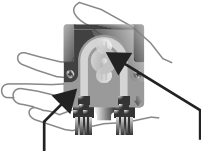
5. Even though saline electrolysis systems are SELF-CLEANING, prolonged operation of the system at pH values over 7.6 in hard water may produce an accumulation of limescale on the surface of the electrodes. This limescale progressively deteriorates the coating, causing a reduction in their useful life.
6. Frequent cleaning/washing of the electrodes (as described above) will shorten their useful life.
7. Prolonged operation of the system in waters with salinity below 3 g/L will cause a premature deterioration of the electrodes.
8. Frequent use of algacide products with a high copper content may create copper deposits on the electrodes, progressively damaging the coating. Remember that the best algacide is chlorine.

Electrodes

The system will display the word "CEL" to indicate a malfunction of the electrolysis cell electrodes. This malfunction is normally due to the electrode passivation process, occurring once they have reached the end of their useful life. However, and despite being a self-cleaning system, this malfunction may be the result of the formation of excessive incrustations on the electrodes, when the system operates in very hard waters and with high pH values.

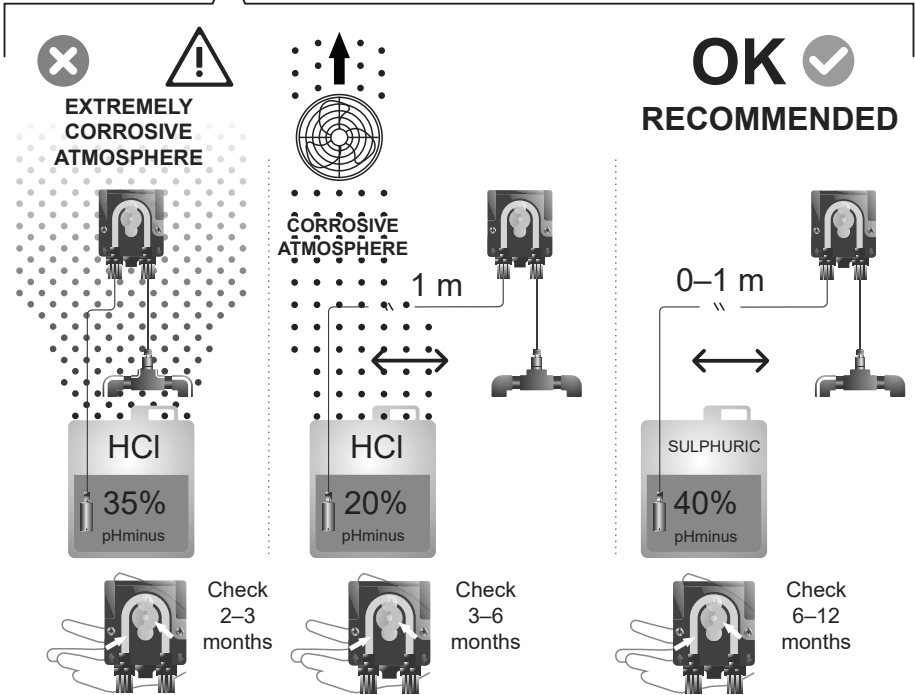
9.2 | pH/ORP Sensor Maintenance (2–12-Month Maintenance)

1. Regular visual inspections are recommended to check that the sensors are in good condition.
2. Ensure that the sensor membrane is always damp.
3. If a sensor is not going to be used for an extended period of time, store it in a storage solution.
4. To clean a sensor, do not use abrasives that could score its surface.
5. Should the dirt not come off using a soft damp cloth, a cleaning solution may be used.
6. Sensors are consumable items that must be replaced after a certain period of use.



CHECK TUBING AND ROTOR

pHminus (ACID): 2–12 MONTHS





10 Troubleshooting

Message	Solution										
Flow alarm - Gas sensor (FE) - Flow sensor (FS)	The flow alarm will appear if the cell is not completely flooded (electrode gas sensor), or if there is no water flow (flow switch sensor). Check the pump, filter and backwash valve. Clean if necessary.										
STOP CL alarm	The STOP Cl alarm may appear for one of three reasons: CLE = Stopped by an external controller. - Check the external controller (ORP/ppm) and the reading. - If there is no external controller, disable the CLE function (CLE=off), or production will not start. CLI = Stopped by the value of ClmV or Clppm in the device. - Check the level of chlorine in the pool using a photometer or a test strip. - If necessary, clean and calibrate the ORP/ppm sensor.										
ORP (mV) – High alarm	High alarms appear if the reading is not within established safety limits. High ClmV safety limits cannot be changed. <table><tr><td>Mode</td><td>ORP high alarm</td></tr><tr><td>Standard</td><td>ClmV > 855</td></tr><tr><td>Biopool</td><td>ClmV > 855</td></tr></table> - Check the level of chlorine in the pool using a photometer or a test strip. - If necessary, clean and calibrate the ORP sensor. - If the free chlorine value is low and the total chlorine value is high, reduce the chloramines by superchlorinating with sodium hypochlorite. - If chlorine ppm are high and the mV reading is low, check cyanuric acid concentration. Should the values be above 60 ppm, partially drain the pool. Increase daily filtering. - If the deviation is high during the calibration process (± 60 mV in the 470 mV solution), the equipment will report an error in the measurement, which could arise due to deterioration of the sensor or the calibration solution.	Mode	ORP high alarm	Standard	ClmV > 855	Biopool	ClmV > 855				
Mode	ORP high alarm										
Standard	ClmV > 855										
Biopool	ClmV > 855										
pH Low/High alarm	Low or high alarms appear if the reading is not within established safety limits. These safety limits cannot be changed (if the high pH alarm appears, the pH pump will be switched off for safety reasons): <table><tr><td>Mode</td><td>Low pH alarm</td><td>High pH alarm</td></tr><tr><td>Standard</td><td>pH < 6.5</td><td>pH > 8.5</td></tr><tr><td>Biopool</td><td>pH < 6.0</td><td>pH > 9.0</td></tr></table> - Check the pH of the pool water using a photometer or a test strip. - If necessary, clean and calibrate the pH sensor. For further information on sensor maintenance, see sections 6.1, 6.2 and 9 of this manual. - The pH of the pool must be manually reduced to 8.45 (standard mode) or 8.95 (biopool mode) for the pump to start dosing again. - If the deviation is high during the calibration process (± 1 pH unit), the equipment will report an error in the measurement, which could arise due to deterioration of the sensor or the calibration solution.	Mode	Low pH alarm	High pH alarm	Standard	pH < 6.5	pH > 8.5	Biopool	pH < 6.0	pH > 9.0	
Mode	Low pH alarm	High pH alarm									
Standard	pH < 6.5	pH > 8.5									
Biopool	pH < 6.0	pH > 9.0									
PUMP-STOP alarm	When the PUMP-STOP FUNCTION is activated (default 60 min), the system stops the dosing pump after a programmed time without having reached the pH set point. - Check the pH of the pool using a photometer or a test strip. - If necessary, clean and calibrate the pH sensor. - Check and adjust the alkalinity of the water (consult your pool specialist). - Check the levels of acid in the container.										
Cell alarm	The cell alarm will appear when the devices detect that the electrode is at the end of its life (passivated). Estimated lifetime of electrodes = 8,000–10,000 h If necessary, replace the electrode.										
Low/High TEMPERATURE sensor alarm	- The temperature alarm will appear when temperature values are outside the range set by the user. (The temperature alarm is OFF by default.) - When the water temperature is very low, the equipment will not reach 100% production due to low conductivity.										
Low/high g/L alarm	- Like the temperature alarm, this alarm will appear when the g/L salt values are outside the range set by the user. (The g/L alarm is OFF by default.) - Normally, when the g/L value is too low or too high, it will affect the output of the device due to the conductivity of the water.										
Alarms E1–E5	<table><tr><td>E1</td><td>When the calibration time is longer than 5 min without user intervention</td></tr><tr><td>E2</td><td>When the deviation between readings during the calibration process is higher than the permissible range (e.g. faulty sensor) Temperature: Deviation ±20 °C pH: Deviation ±1 pH unit ORP: Deviation ±60 mV in 470 mV solution </td></tr><tr><td>E3</td><td>-</td></tr><tr><td>E4</td><td>Unable to calibrate T, fast pH and salinity (g/L) when filtering is OFF</td></tr><tr><td>E5</td><td>Triggered when calibration cannot be performed if: Temperature: There is no NTC. Salinity g/L: Production is below 30%. pH/ORP: No driver, or system is initialising. </td></tr></table>	E1	When the calibration time is longer than 5 min without user intervention	E2	When the deviation between readings during the calibration process is higher than the permissible range (e.g. faulty sensor) Temperature: Deviation ±20 °C pH: Deviation ±1 pH unit ORP: Deviation ±60 mV in 470 mV solution	E3	-	E4	Unable to calibrate T, fast pH and salinity (g/L) when filtering is OFF	E5	Triggered when calibration cannot be performed if: Temperature: There is no NTC. Salinity g/L: Production is below 30%. pH/ORP: No driver, or system is initialising.
E1	When the calibration time is longer than 5 min without user intervention										
E2	When the deviation between readings during the calibration process is higher than the permissible range (e.g. faulty sensor) Temperature: Deviation ±20 °C pH: Deviation ±1 pH unit ORP: Deviation ±60 mV in 470 mV solution										
E3	-										
E4	Unable to calibrate T, fast pH and salinity (g/L) when filtering is OFF										
E5	Triggered when calibration cannot be performed if: Temperature: There is no NTC. Salinity g/L: Production is below 30%. pH/ORP: No driver, or system is initialising.										



11 Technical Specifications and Features

Standard operating voltage

230 V AC - 50/60 Hz.

Cable: 3 x 1.0 mm², leng. 2 m.

MOD. 7 0.2 A

MOD. 12 0.5 A

MOD. 21 0.65 A

MOD. 30 0.75 A

MOD. 40 0.95 A

Fuse

MOD. 7 T 1 A (5x20 mm)

MOD. 12 T 2 A (5x20 mm)

MOD. 21 T 2 A (5x20 mm)

MOD. 30 T 3.15 A (5x20 mm)

MOD. 40 T 4 A (5x20 mm)

Output voltage

Cable 3 x 2.5 mm², leng. 2 m.

MOD. 7 10.5 V DC / 3.5 A

MOD. 12 10.5 V DC / 6.0 A

MOD. 21 23.0 V DC / 3.5 A

MOD. 32 20.0 V DC / 6.0 A

MOD. 42 24.0 V DC / 6.5 A

Output

MOD. 7 6-7 g

MOD. 12 10-12 g

MOD. 21 17-21 g

MOD. 30 24-30 g

MOD. 40 31-40 g

Minimum recirculation flow rate

MOD. 7 2 m³/h

MOD. 12 3 m³/h

MOD. 21 5 m³/h

MOD. 30 6 m³/h

MOD. 40 8 m³/h

Number of electrodes

MOD. 7 3

MOD. 12 5

MOD. 21 7

MOD. 30 11

MOD. 40 13

Net weight (including packaging)

MOD. 7 9 kg.

MOD. 12 11 kg.

MOD. 21 13 kg.

MOD. 30 15 kg.

MOD. 40 17 kg.

Control system

- Microprocessor.

- Tactile control buttons and operation indicator LEDs.

- Control I/O: 3 volt-free contact inlets for automatic cover status,

ORP / residual chlorine and external flow controller.

- Outlet to cell: output control (10 discrete levels).

- Salinity / Temperature range:

3 - 12 g/L / 15 - 40°C

- Integrated pH/ORP controller (pH and pH/ORP models only).

- Non-isolated MODBUS

- 220 V / 0.5 A outlet for pH pump control (pH and pH/ORP models only).

Self-cleaning

Automatic, by polarity inversion

Working temperature

From 0°C to 50°C

Natural convection cooling

Material

- Control unit

ABS

- Electrolysis cell

Methacrylate derivative. Transparent

pH sensor

Body: plastic (blue)

Range 0 - 12 pH

Solid electrolyte

ORP sensor

Body: plastic (red)

Range 0 - 1000 mV

Solid electrolyte



GENERAL CONSIDERATIONS

- In accordance with these conditions, the seller guarantees that the product covered by this guarantee conforms to its specifications at the moment of its delivery.
- The warranty period of the product is that which is determined by the legal requirements of the country in which the product was acquired by the consumer.
- The warranty period will be calculated from the date of delivery to the purchaser.

Specific warranties:

- * The electrodes are covered by a 2-YEAR warranty, without extensions.
- * The pH/ORP sensors are covered by a 1-YEAR warranty without extensions.
- * These specific warranty periods are particularly subject to the limitations set out in the "LIMITATIONS" section.
- If the Product fails compliance and the purchaser informs the seller during the Warranty Period, the seller shall repair or replace the Product, at their own expense, in the place that they deem appropriate, unless this proves impossible or involves a disproportionate effort.
- If the Product cannot be repaired or replaced, the purchaser may request a proportional reduction in the price, or, if the compliance failure is sufficiently important, termination of the sales contract.
- Parts replaced or repaired under this warranty will not extend the warranty period of the original Product, although they will be covered by their own warranty.
- In order for this warranty to be effective, the purchaser must provide proof of the date of purchase and delivery of the Product.
- When more than six months have elapsed since the delivery date of the Product to the purchaser, and if the purchaser claims a compliance failure of said Product, the purchaser shall provide evidence of the origin and existence of the alleged fault.
- This Warranty Certificate does not limit or prejudice any consumer rights under other national laws in force.

SPECIFIC CONDITIONS

- For this warranty to be effective, the purchaser shall strictly adhere to the Manufacturer's instructions included in the documentation provided with the Product, whenever these are applicable according to the Product range and model.
- When a schedule is set for the replacement, maintenance or cleaning of certain Product parts or components, the warranty will only be valid if said schedule has been followed correctly.

LIMITATIONS

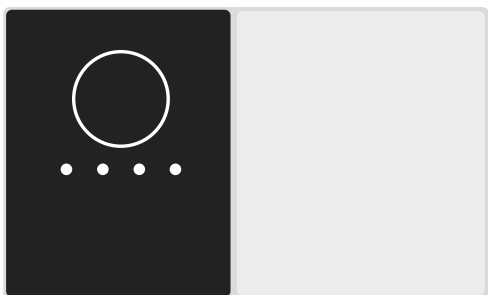
- This warranty will only be applicable for sales made to consumers. By "consumer", we refer to any individual who acquires the Product for any purpose that falls outside their professional activity.
- No guarantee is offered for normal product wear and tear, nor for any fungible or consumable parts, components or materials.
- The warranty does not cover instances where the Product: (1) has been misused; (2) has been inspected, repaired, maintained or manipulated by unauthorised personnel; (3) has been repaired or maintained with non-original parts or (4) has been incorrectly installed or commissioned.
- When compliance failure of the Product is due to incorrect installation or commissioning, this warranty will only be effective if such installation or commissioning process is included in the sales contract of the Product and has been performed by the seller, or under the seller's responsibility.
- Damage or faults in the Product due to any of the following causes:
 1. Inadequate system programming and/or calibration in the pH/ORP sensors on the part of the user.
 2. Explicit use of unauthorised chemical products.
 3. Exposure to corrosive environments and/or temperatures below 0 °C or above 50 °C.
 4. Operation at a pH greater than 7.6
 5. Operation at salinities below 3 g/L of sodium chloride and/or temperatures below 15 °C or above 40 °C.

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