



HAYWARD®



AquaRite™+ CHLORINATOR

Owner's Manual

To prevent potential injury and to avoid unnecessary service calls,
read this manual carefully and completely.

PLEASE KEEP THIS MANUAL FOR FUTURE REFERENCE

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WARNING: Electrical hazard.
Failure to comply with these instructions can result in serious injuries or death.

THE EQUIPMENT IS INTENDED TO BE USED ONLY ON PERMANENTLY CONSTRUCTED POOLS AND SPAS



WARNING – Disconnect/isolate the equipment from the electricity supply before any installation/service/repair.



WARNING – All electrical wiring must be performed by a qualified and licensed electrical contractor in accordance with all Local/State/Federal Government electrical regulations and the latest edition of the AS/NZS 3000 Wiring Rules.



WARNING – Ensure that the device is plugged into a power outlet that is protected against short-circuits. The device must also be powered via an isolating transformer or through a residual current device (RCD) with a fixed residual operating current not exceeding 30 mA.



WARNING – Check that the supply voltage required by the product corresponds to the voltage of the distribution network.



WARNING – To reduce the risk of electric shock, do not use an extension cord to connect the device to the mains. Use a suitably rated GPO as per the standard AS/NZS 3000.



WARNING – Chemicals can cause internal and external burns. To avoid death, serious injury and/or damage to equipment, wear personal protective equipment (gloves, goggles, mask, etc.) when servicing or maintaining this device. This device must be installed in an adequately ventilated place when equipped with the chemical feed options.



WARNING – Carefully read the instructions that appear in this manual and on the device. Failure to comply with the instructions can cause injuries. This document must be given to the pool owner who should keep it in a safe place.



WARNING – The appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved.



WARNING – Use only genuine Hayward replacement parts.



WARNING – If the power supply cord is damaged the device must not be used. The power supply cord must be replaced by the manufacturer or similarly qualified persons to avoid any danger.

INTRODUCTION

The AquaRite+ is the most advanced salt water chlorinator for sanitising swimming pools and spas or pool/spa combinations on the market. Not only is the AquaRite+ a salt water chlorinator that controls the filtration pump with a magnitude of different on/off timer features, but with the addition of optional upgrade kits, it can measure and control the pH and ORP levels, control a heater and power an LED light, which can all be done remotely with the optional remote display screen and/or the Wi-Fi module with free App.

The AquaRite+ requires a low concentration of salt (sodium chloride) in the pool/spa water and automatically converts the salt into free chlorine which kills bacteria and algae in the water. The chlorine will revert back to sodium chloride after killing the bacteria and algae. These reactions will continuously recycle virtually eliminating the need to add sanitising chemicals to your pool/spa. The only time that you may need to add salt to the pool/spa water is when water is replenished due to back-washing, draining, or splashing out only (not evaporation). The actual amount of chlorine required to properly sanitise a pool or spa varies due to bather load, rainfall, water temperature, and the general cleanliness of the pool or spa. The AquaRite+ is suitable for treating most size residential pools up to 150,000 litres in a cool climate and depending which size Hayward Turbo Cell is connected to the unit.

NOTE: Before installing this product as part of a salt water purification system in a pool or spa using natural stone for coping or for immediately adjacent patios/decking, a qualified stone installation specialist should be consulted regarding the appropriate type, installation, sealant (if any) and maintenance of stone used around a saline pool with an electronic chlorine generator in your particular location and circumstances.

NOTE: The use of dry acid (sodium bisulfate) to adjust pool pH is discouraged especially in arid regions where pool water is subject to excessive evaporation and is not commonly diluted with fresh water. Dry acid can cause a buildup of by-products that can damage your chlorinator cell.

INSTALLATION

Components



Front View



Bottom View



6



7

1. Control Box
2. Turbo Cell
3. Cell Connector
4. Fuse 4.0 A
5. Power Cable
6. Flow Switch
7. 2 x Cable Glands

Optional Upgrade Kits



pH Probe



Measuring Chamber



Peristaltic Pump

—— pH Upgrade Kit ——



ORP Upgrade Kit



Temperature Probe Upgrade Kit



Remote Display Upgrade Kit



Wi-Fi Network Upgrade Kit



Spa Flow Switch Upgrade Kit

Benefits of Upgrade Kit Integration With the AquaRite+

Independently Controlled Accessories

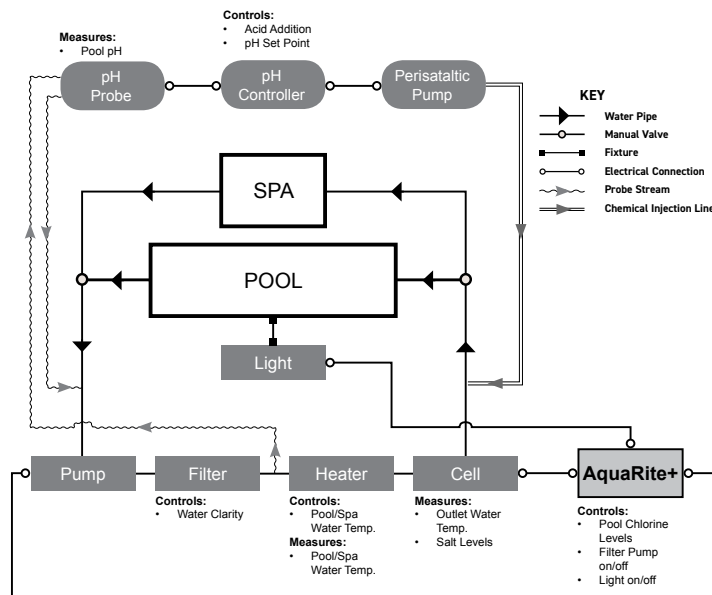
As a standalone salt water chlorinator with no optional upgrade kits connected to it, the AquaRite+ will turn the filter pump on/off through timer schedules as well as measures the pool water temperature back to the pool and salt concentration level via the T-Cell. Depending which T-Cell is fitted to the unit the chlorine production can be set between 0 and 30 g/hr.

To the right is a basic pool/spa system demonstrating how individual components would be set up to replicate the performance of a fully accessory integrated AquaRite+ system. Each component has it's own control point with independent programming. This requires a lot of manual input from the user to maintain the pool and spa.

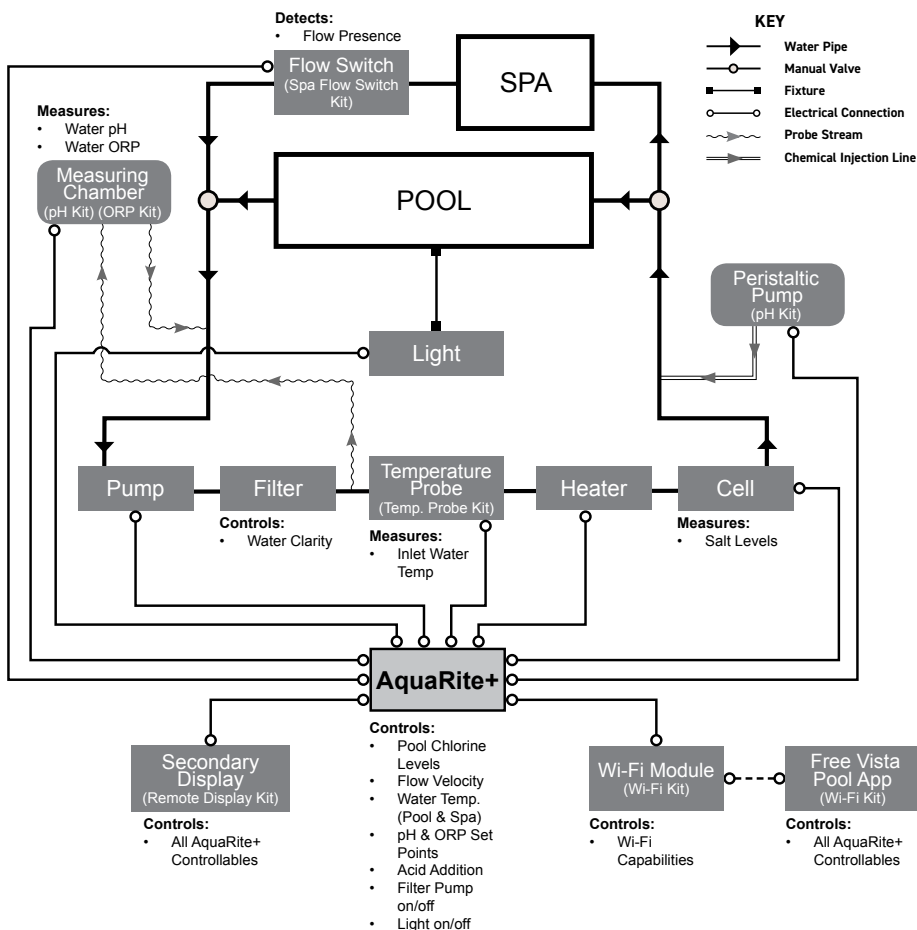
AquaRite+ Controlled Accessories

The AquaRite+'s accessory integration capabilities allows the entire pool/spa system to have one, comprehensive control point. The diagram below demonstrates this.

Through the AquaRite+ programming, the components can communicate measurements and then react accordingly to achieve a safe and comfortable pool environment. User input becomes simplified with the installation of the pH and ORP Upgrade Kits, and the Temperature Probe and Spa Flow Switch Upgrade Kits. Additionally, user accessibility is increased with the inclusion of the Remote Display and Wi-Fi Upgrade Kits. Below is a breakdown of what each kit brings to the pool/spa system:



AquaRite+ as a Stand Alone Chlorinator



AquaRite+ as a Universal Controller

» **SPA FLOW SWITCH UPGRADE KIT** - detects flow from spa, allowing the AquaRite+ to automatically reduce chlorinator output. No secondary method is required to adjust the chlorine levels in the spa.

» **pH UPGRADE KIT** - control of both pH measurement and acid addition for the pool and spa. No secondary pH system is required to balance the spa.

» **ORP UPGRADE KIT** - used in conjunction with the pH kit to measure the water's ORP and controls chlorine output accordingly.

» **TEMPERATURE PROBE UPGRADE KIT** - allows a heater to be controlled by the AquaRite+ by measuring the water temperature before the heater. Also, with this kit, the AquaRite+ has the capability to run 'Heating' and 'Intelligent' filtration modes. These improve the pool system's efficiency through temperature sensing and filter pump reactive programming.

» **REMOTE DISPLAY UPGRADE KIT** - mirrors the display interface on the AquaRite+. Allows a secondary point of pool/spa system control for the user

» **Wi-Fi NETWORK UPGRADE KIT** - Enables the AquaRite+ to communicate with the free Vista Pool App, allowing the user to remotely control the pool/spa system with a phone or tablet.

Wall Mounted Installation

The AquaRite+ must be installed a minimum 3.5 m horizontal distance (or more, if required by local regulations) from the pool, within 1 m of an RCD protected general purpose outlet and within 4.5 m from where the T-Cell will be installed. The unit must be placed vertically on a flat surface, with the cables downwards. As the unit enclosure is also used to evacuate heat (heat dissipation from internal components), it is important that the four sides of the unit remain unobstructed. Do not install the AquaRite+ behind a panel or in an enclosed space. **See the Wall Mounting Installation Template at the centrefold of this guide (between pages 10 -11) and use as an aid to drill accurate holes for the installation.**

Before installing the control unit in the intended location, check that the power cord can reach the protected outlet and that the cell cable can reach the intended T-Cell location. Installation must be performed in accordance with Local/State/Federal Government codes and the latest edition of the AS/NZS 3000 Wiring Rules.



IMPORTANT: ONLY use a hand screwdriver to fasten the mounting lugs to the enclosure until the screws are firm. Use of a power tool will strip the threads out of the plastic.

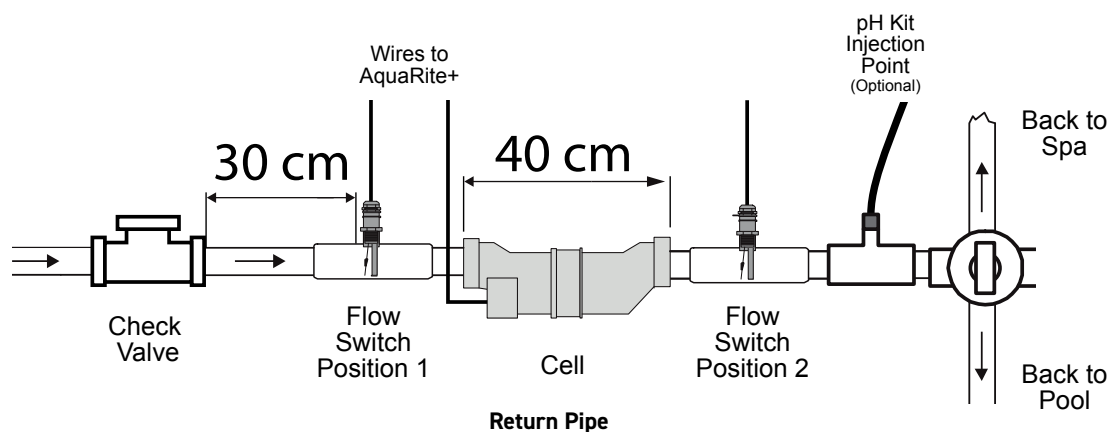
Plumbing Installation

Disconnect the pool filtration pump before starting the installation and remove pressure from the system.

The flow switch must be installed on the return pipe directly in line with the T-Cell and the liquid acid injection point (if optional pH Upgrade Kit is used). Allow a 30 cm straight section before the flow switch if it is mounted in position 1 below. If it is mounted in position 2 below, then the T-Cell can be counted as the 30 cm straight section of pipe.

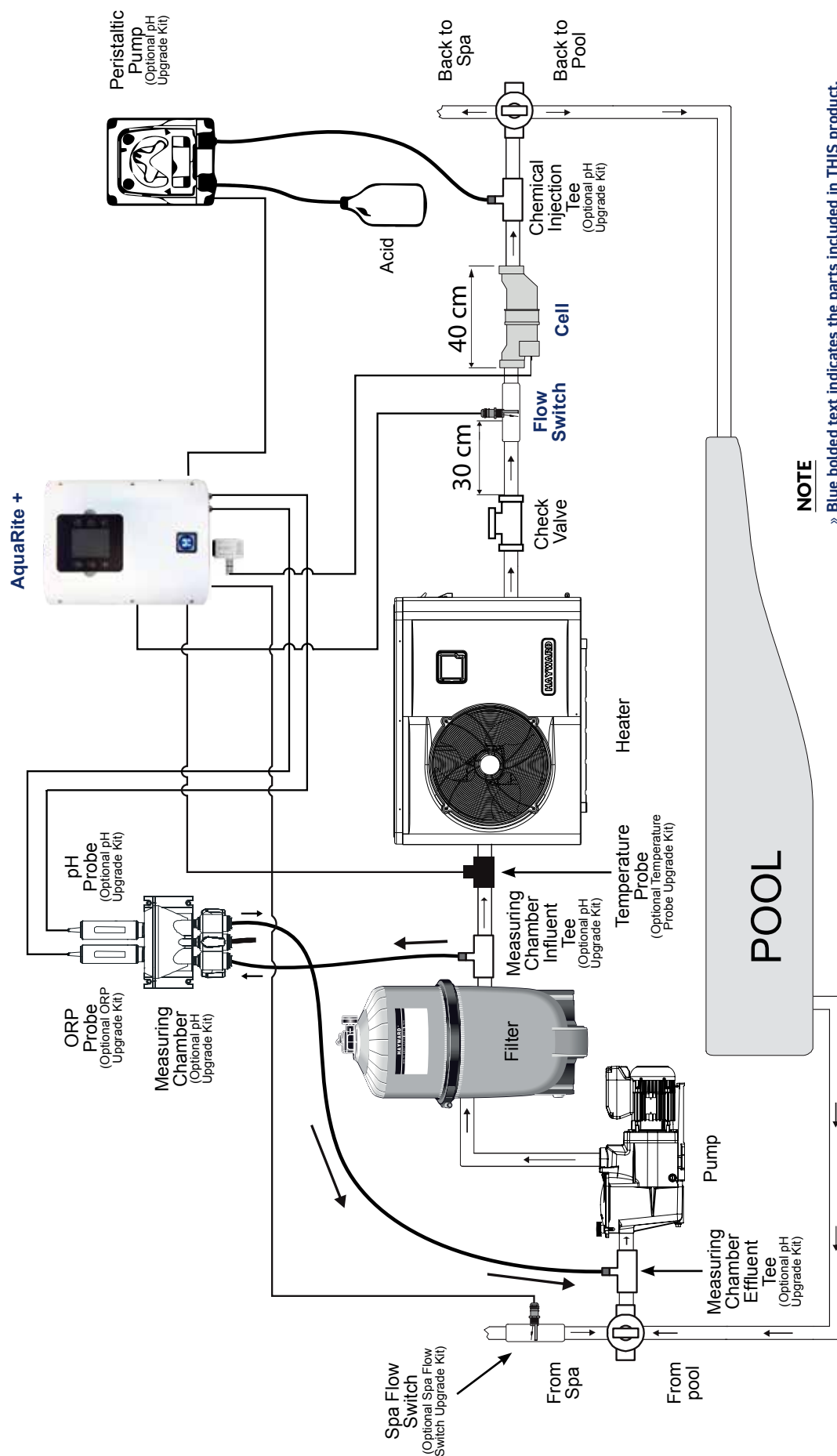
The flow switch must be installed with the arrows on it pointing in the direction of water flow to ensure that it is tripped by the water flow during filter pump operation. The T-Cell can also be mounted vertically as long as the water enters the cell from the bottom to keep it flooded during operation.

(See page 6 for a comprehensive diagram of the AquaRite+ system with the optional accessories.)



IMPORTANT: There must be at least a 30 cm straight pipe run before (upstream) the Flow Switch.

INSTALLATION SCHEMATIC



NOTE

- » **Blue bolded text indicates the parts included in THIS product.**
- All other components in the diagram are only installed when adding their corresponding Hayward AquaRite+ Upgrade Kit to the system
- » Please take special care not to confuse the placement of the chlorinator Flow Switch (in bold) and the Spa Flow Switch.

Removing the Dead Front Panel - For Flow Switch and Accessory Connections

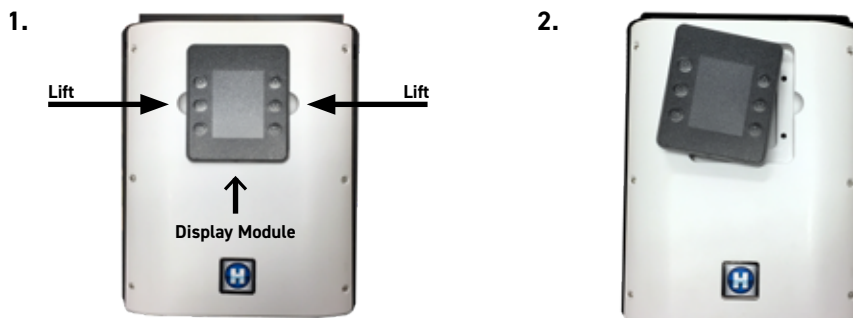
To access the internal circuitry of the AquaRite+, the Dead Front Panel needs to be carefully removed. Follow the instructions below to avoid damaging the device and/or its casing.

Caution - Risk of Electric Shock.

Ensure that the unit has been disconnected from all power supplies before removing the Display and Dead Front Panel. Only a suitably qualified person should remove the Dead Front Panel in accordance with Local/ State/Federal Government regulations and the latest edition of the AS/NZS 3000 Wiring Rules.

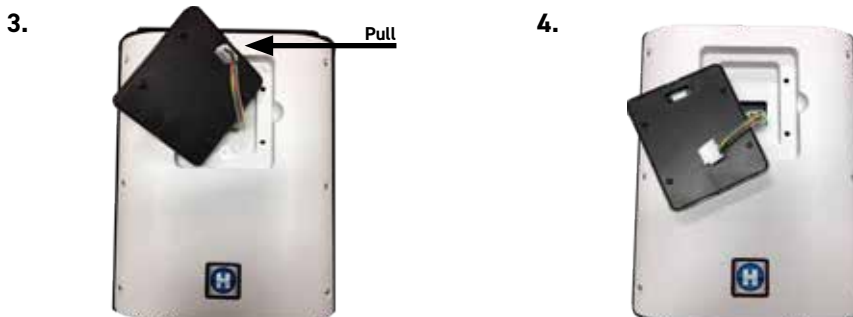
Lift Out Interactive Display Module:

Remove display module from its compartment. Use the grooves on either side to pry it out by hand. Take care to not use excessive force as the module is still wired to the PCB at this stage.



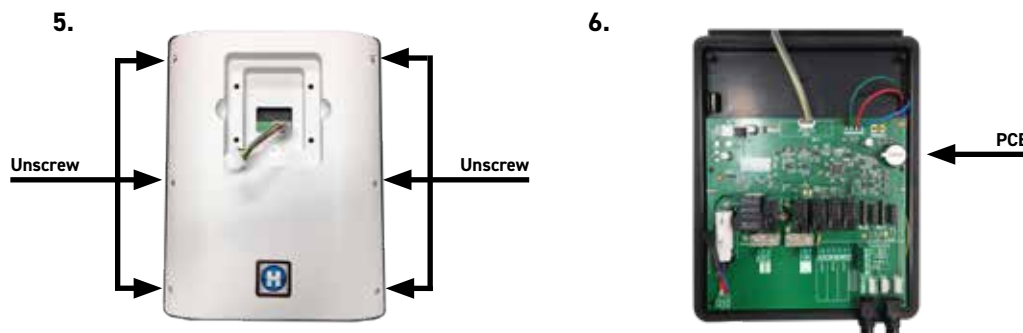
Detach Interactive Display Module:

Turn over the display module and remove the wired plug from the port on the back of the unit. Store the Display Module where it will not get damaged until it is re-installed.



Unscrew Dead Front Panel:

Remove the six (6) screws fastening the panel to the unit. Once all loose, lift the panel off the unit to access the PCB.

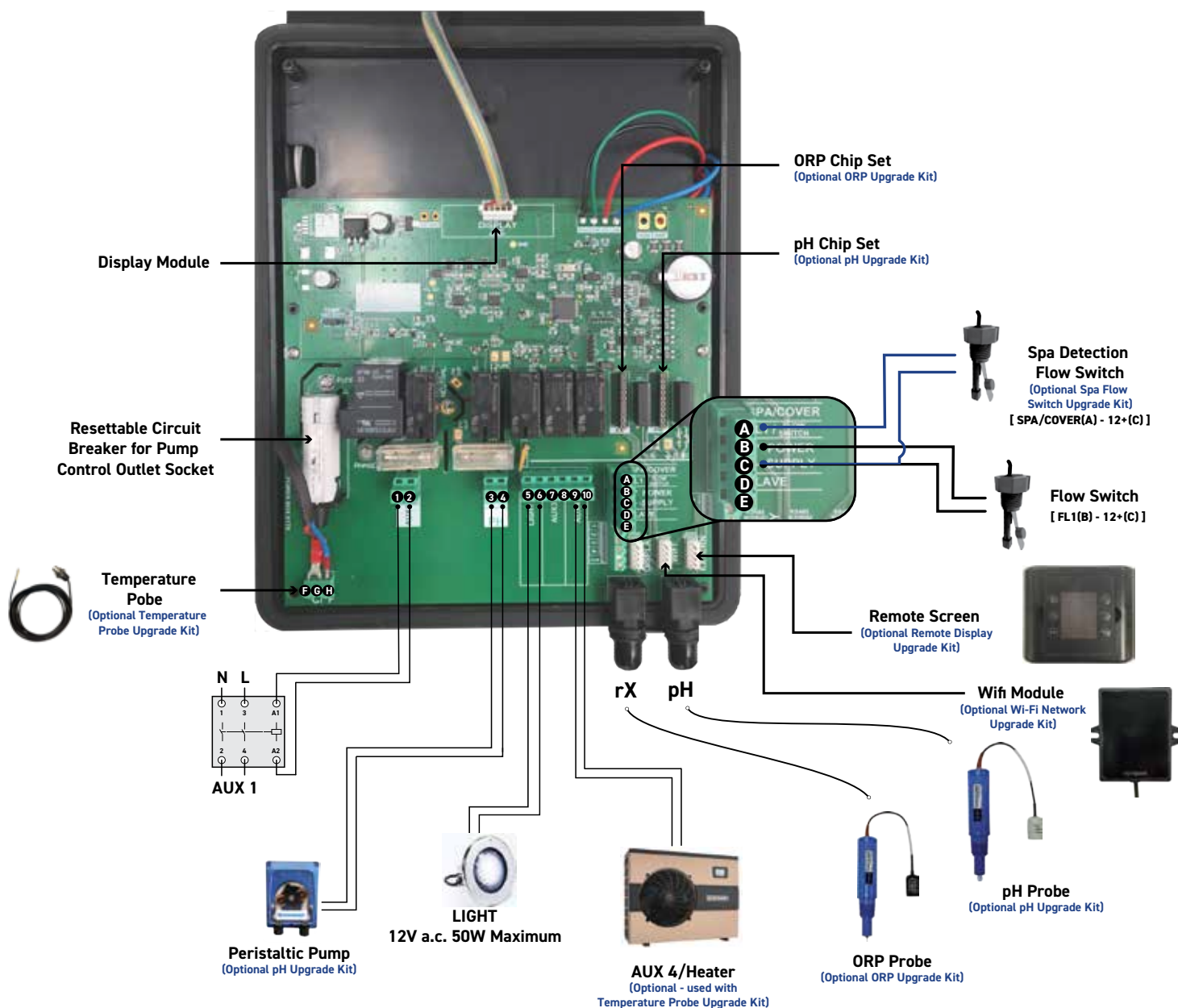


Electrical Installation and Wiring

Connect the AquaRite+ to a GPO with a permanent power supply only.

CAUTION - This circuit must be protected by a residual current device (RCD) with a fixed residual operating current not exceeding 30 mA.

CAUTION - Hayward recommends that a Lightning Surge Protector Device (SPD) is installed on the feed circuit to the AQR+ by a qualified electrical contractor in accordance with AS/NZS 3000 Australian Wiring Rules latest edition.



**Wiring Schematic
(With Optional Upgrade Kits)**

Description of Outgoing Relays

Name	Description	Terminals	Type of output	Max Load
Filter Pump	Filtration pump control	Socket Outlet	240 V a.c.	7 A
Aux 1	Auxiliary voltage output (for contactor switching control)	1 - 2	240 V a.c.	1 A
pH	Peristaltic acid pump	3 - 4	SELV 24 V a.c.	1 A
Light	Lighting control (One {1} LED light only)	5 - 6	SELV 12 V a.c.	50 W
Aux 3	Auxiliary dry contact	7 - 8	Dry contact	1 A
Aux 4	Auxiliary dry contact (or heating control).	9 - 10	Dry contact	1 A

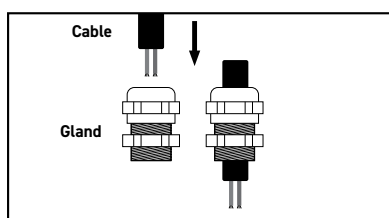
If no heating system is installed on Aux 4, it can be used as another auxiliary contact. To do this, contact Hayward technical support.

Description of Inputs

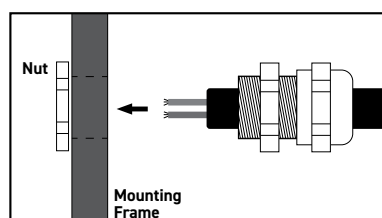
Name	Description	Terminals	Type of output
FL1	T-Cell Flow detection switch	B - C	SELV 12 V
Spa/Cover	Spa flow detection (Optional accessory - available with the Hayward Spa Flow Switch Upgrade Kit)	A - C	SELV 12 V
°C/°F	Temperature probe (Optional accessory - available with the Hayward Temperature Probe Upgrade Kit)	F - G - H	-

Cable Gland Installation

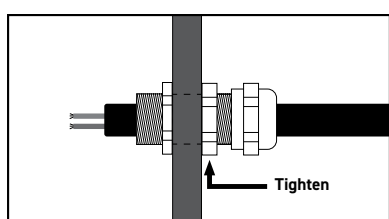
In order to ensure watertight wire connections to the PCB through the AquaRite+ enclosure, wire cables are to be secured with the black cable glands supplied. The two (2) cable glands supplied with the chlorinator are for the Cell Flow Switch and any Light connections.



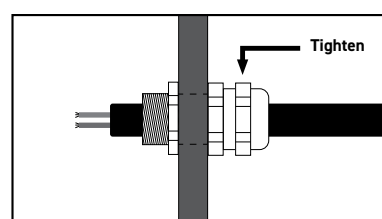
1. Insert the cable into the domed end of the gland and pull through.



2. Hold the nut against the hole on the inside of the mounting frame. Push the cable and gland into the hole whilst simultaneously rotating to screw the nut on to the thread.



3. Tighten gland with a spanner whilst still holding the nut to secure the gland in place.



4. Pull the cord through the gland until the intended input point can be reached. Secure and seal the cord in place by fastening the domed cap with a spanner until firm.

Note: Use the gland location holes in the bottom of the unit before the sides to ensure all cables are pointing downward.

Connecting a Heating System (Aux 4)

The AquaRite+ is compatible with all types of pool heaters such as heat pumps and gas heaters. The use of the Temperature Probe Upgrade Kit is required for correct the operation of the system if it is to control a heater.

Connecting to a heating system not fitted with a remote On/Off control:

In this case, the heating is controlled in series with the heater flow/pressure switch. Connect a 2 x 0.75 mm² double insulated cable in series with the flow detection system on the heater. Set the heating system set point to maximum. The AquaRite+ will use its own water temperature probe to control the heating set point.

Connecting the T-Cell

Your AquaRite+ has come with one of the below listed Turbo Cells in the box. To connect the T-Cell plug it in to the terminal beneath the device (circled below). The different sized T-Cells that can be connected to the device are listed in the table below. Once the T-Cell is connected, the correct T-Cell needs to be selected in the configuration menu for the unit to work correctly. Refer to Page 15 for details.



View of the underside of the AquaRite +

T-Cell Model		Max. Wattage	100% Chlorine Gas Production	Pool Size	
				Cool Climate	Tropical Climate
T-CELL-3	3 A (27 V)	101 W	10 g/hr max	55,000 L	35,000 L
T-CELL-9	5 A (27 V)	155 W	20 g/hr max	95,000 L	75,000 L
T-CELL-15	6.5 A (27 V)	196 W	30 g/hr max	150,000 L	110,000 L

Please Note: The AquaRite+ has been configured for operation with the T-Cell that has been supplied with the unit. If at a later date you choose to move to a smaller or larger capacity T-Cell, the AquaRite+ will need to have the new size T-Cell selected in the configuration menu as explained on page 15 of this manual for proper operation, and the Cell Hour counter will need to be reset.

If the pool will be constantly heated, then sizing of the T-Cell will need to follow the recommendations for tropical climate.

Characteristics

Power Supply	240 V a.c. 50 Hz
Current Consumption	3 A
Power Consumption	200 W (10 Amp maximum with filter pump plugged into power control socket)
Ingress Progression	IPX 3
Pump Power Socket Outlet	240 V a.c. 7 Amps Maximum Load
Dimensions	270 x 220 x 150

WATER CHEMISTRY

Preparing the Pool Water

The pool's water chemistry must be balanced **BEFORE** activating the AquaRite+. Adjustments to the chemical balance of the pool can take several hours, so the "water balancing" procedure must therefore be started well before the AquaRite+ is turned on.

Adding salt: Add the salt several hours or, if possible, a day before turning on the AquaRite+. Ensure that the recommended amount of salt is used, as described below and on page 12. Measure the salt content 6 to 8 hours after adding the salt to the swimming pool.

NOTE: If the water in the pool is not fresh water, add a metal remover and a non-copper based algaecide to the pool, following the manufacturer's instructions. If your water has previously been treated with a product other than chlorine (bromine, hydrogen peroxide, PHMB, etc.), neutralise this product or replace all the water in the pool.

Salt Concentration

Use the following table to determine the quantity of salt (in kg) needed to reach the recommended concentration. Use the formulae below if you do not know the volume of your swimming pool.

	Litres (Pool Size in Metres)
Rectangular	Length x Width x Average Depth x 1000
Round	Diameter x Diameter x Average Depth x 785
Oval	Length x Width x Average Depth x 893

IMPORTANT: The ideal salt concentration is between 2.7 and 3.4 g/L, with 3.2 g/L being optimal.

Before adding any salt, test the salt level. This is especially important for retrofit installations to older pools where all of the chlorine added to the pool over time is ending up as salt. If the level is low, determine the number of litres in the pool and add salt according to the table on page 12. A low salt level will reduce the efficiency of the electrolysis and result in low chlorine production. A high salt level can cause the AquaRite+ to stop chlorinating or prematurely wear out componentry. The salt in your pool/spa is constantly recycled and the loss of salt throughout the swimming season should be minimal. This loss is due primarily to the addition of water because of splashing, back-washing, or draining (because of rain). Salt is not lost due to evaporation.

Type of Salt to Use

Use only salt intended for chlorinators and only that of which is 99% pure sodium chloride (NaCl). This can be found at most pool stores in 20 - 25 kg bags labeled "for use in swimming pools". Alternatively, use common food quality or water softener salt that is at least 99.0% pure. It is also acceptable to use water conditioning salt pellets, however, it will take longer for them to dissolve. Do not use rock salt, iodized salt, salt containing more than 1% yellow prussiate of soda or salt containing anti-caking additives.

How to Add or Remove Salt

For new plaster pools, wait 10 - 14 days before adding salt to allow the plaster to cure. Turn the circulating pump on and add salt directly into the pool. Brush the salt around to speed up the dissolving process - do not allow salt to pile up on the bottom of the pool. Run the filter pump for 24 hours with the suction coming from the main drain (use pool vacuum if there is no main drain) to allow the salt to evenly disperse throughout the pool. The salt display may take 24 hours to respond to the change in salt concentration.

Always check stabiliser (cyanuric acid), when checking salt. These levels will most likely decline together. Use the chart on page 12 to determine how much stabiliser must be added to raise the level to 30 ppm. Start with a stabiliser level of 30 ppm and only increase it if there are issues with maintaining the desired free chlorine level.

To remove salt, drain the pool down and replenish with fresh water. Repeat until the desired level is achieved.

Do not add stabiliser to indoor pools.

Quantity of Salt (kg) Required for 3.2 g/L

Current Salt Concentration (g/L)	Volume of water in the pool in Litres (L)																
	30,000	37,500	45,000	52,500	60,000	67,500	75,000	82,500	90,000	97,500	105,000	112,500	120,000	127,500	135,000	142,500	150,000
0	97	121	145	170	194	218	242	267	291	315	339	364	388	412	436	460	484
0.2	91	114	136	159	182	205	227	250	273	295	318	341	363	385	408	430	453
0.4	85	106	127	148	170	191	212	233	255	276	297	318	339	360	382	403	424
0.6	79	98	118	138	158	177	197	217	236	256	276	297	317	337	358	378	398
0.8	73	91	109	127	145	164	182	200	218	236	255	273	291	310	328	346	364
1	67	83	100	117	133	150	167	183	200	217	233	250	267	283	300	317	333
1.2	61	76	91	106	121	136	152	167	182	197	212	227	243	258	274	289	304
1.4	55	68	82	95	109	123	136	150	164	177	191	205	218	232	246	259	263
1.6	48	61	73	85	97	109	121	133	145	158	170	182	195	207	219	231	243
1.8	42	53	64	74	85	95	106	117	127	138	148	159	169	180	190	201	211
2	36	45	55	64	73	82	91	100	109	118	127	136	145	154	163	172	181
2.2	30	38	45	53	61	68	76	83	91	98	106	114	121	129	137	144	152
2.4	24	30	36	42	48	55	61	67	73	79	85	91	98	104	110	117	123
2.6	18	23	27	32	36	41	45	50	55	59	64	68	73	77	81	86	90
2.8	12	15	18	21	24	27	30	33	36	39	42	45	48	51	54	57	60
3	6	8	9	11	12	14	15	17	18	20	21	23	24	26	27	29	30
3.2	Ideal	Ideal	Ideal	Ideal	Ideal	Ideal	Ideal	Ideal	Ideal	Ideal	Ideal	Ideal	Ideal	Ideal	Ideal	Ideal	Ideal
3.4	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK
3.6 & +	Diluted	Diluted	Diluted	Diluted	Diluted	Diluted	Diluted	Diluted	Diluted	Diluted	Diluted	Diluted	Diluted	Diluted	Diluted	Diluted	Diluted

Quantity of Stabiliser (CYANURIC ACID in kg) Required for 40 ppm

Current Stabiliser Level (ppm)	Volume of water in the pool in Litres (L)																
	30,000	37,500	45,000	52,500	60,000	67,500	75,000	82,500	90,000	97,500	105,000	112,500	120,000	127,500	135,000	142,500	150,000
0	1.2	1.5	1.8	2.1	2.4	2.7	3.0	3.3	3.6	3.9	4.2	4.5	4.8	5.1	5.4	5.7	6.0
10	0.9	1.1	1.4	1.6	1.8	2.0	2.3	2.5	2.7	2.9	3.2	3.4	3.6	3.8	4.1	4.3	4.5
20	0.6	0.8	0.9	1.1	1.2	1.4	1.5	1.7	1.8	2.0	2.1	2.3	2.4	2.6	2.7	2.9	3.0
30	0.3	0.4	0.5	0.5	0.6	0.7	0.8	0.8	0.9	1.0	1.1	1.1	1.2	1.3	1.4	1.4	1.5
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Water Balance

The water must be balanced manually **BEFORE** the device is started up.

The following table summarises the ideal chemical levels recommended by Hayward. Your water should be checked regularly to maintain these ideal levels in order to minimise surface corrosion, scaling or deterioration and to ensure maximum performance from your AquaRite+ Chlorinator.

CHEMICAL	IDEAL LEVELS
Salt	2.7 to 3.4 g/L (2700 ppm - 3400 ppm)
Free Chlorine	1.0 to 3.0 ppm
pH	7.2 to 7.8
Cyanuric Acid (Stabiliser)	30 to 50 ppm max. (Add stabiliser only if necessary) 0 ppm in indoor pool
Total Alkalinity	80 to 120 ppm
Calcium Hardness	200 to 400 ppm
Metals	0 ppm
Saturation Index	-0.2 to 0.2 (0 best)

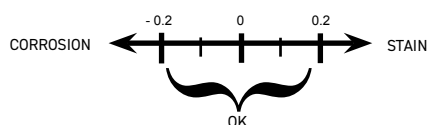
Saturation Index

The saturation index (Si) relates to the calcium and alkalinity in the water and is an indicator of the pool water "balance". Your water is properly balanced if the Si is 0 ± 0.2 . If the Si is below -0.2, the water is corrosive and plaster pool walls will be dissolved into the water. If the Si is above +0.2, scaling and staining will occur. Use the chart below to determine the saturation index.

$$Si = pH + Ti + Ci + Ai - TDS$$

°C		°F	Ti	Hardness (Calcium)		Ci	Total Alkalinity		Ai	Total Dissolved Solids		TDS
12	53	0.3	75	1.5	75	1.9	0-1000	12.10				
16	60	0.4	100	1.6	100	2.0	1001-2000	12.29				
19	66	0.5	125	1.7	125	2.1						
24	76	0.6	150	1.8	150	2.2	2001-3000	12.35				
29	84	0.7	200	1.9	200	2.3						
34	94	0.8	250	2.0	250	2.4	3001-4000	12.41				
			300	2.1	300	2.5						
39	100	0.9	400	2.2	400	2.6	4001-5000	12.44				
			600	2.4	600	2.8						
			800	2.5	800	2.9						

Use: Measure the pH of the pool water, the temperature, water hardness, total alkalinity and total dissolved solids. Use the table above to determine Ti, Ci, Ai and TDS from your measurements. Insert your values of pH, Ti, Ci, Ai and TDS into the formula shown above. If the Si is equal to 0.2 or more, stains may appear. If the Si is equal to -0.2 or less, corrosion or deterioration may occur.

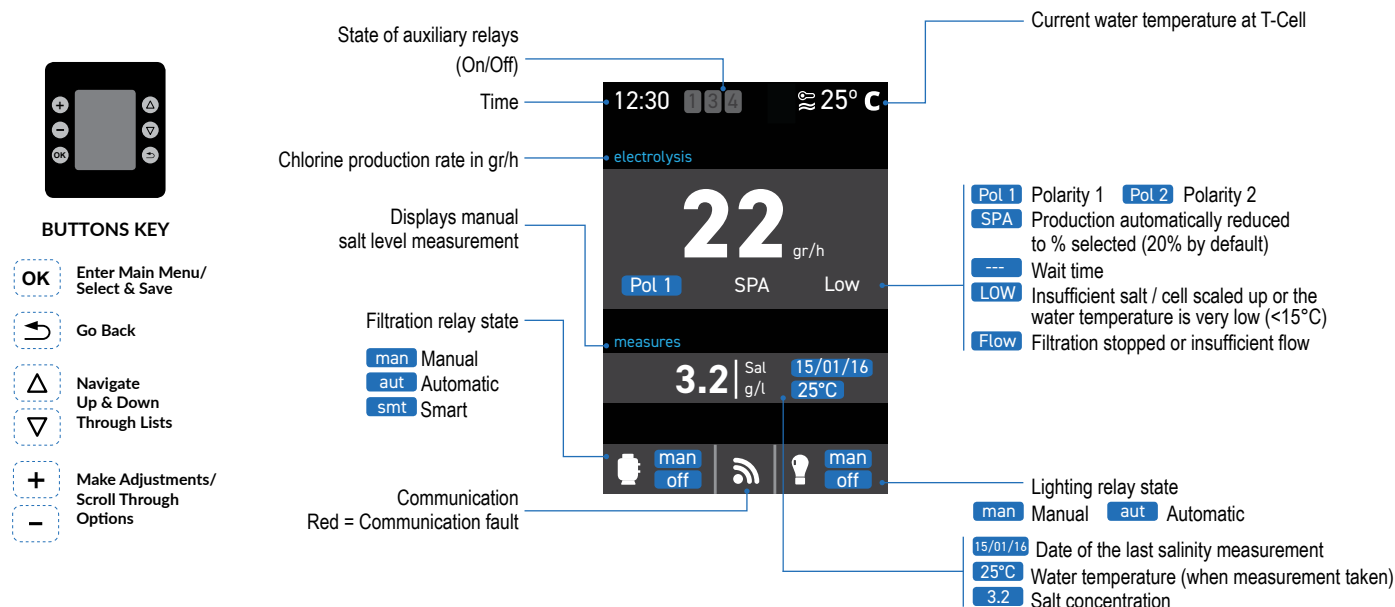


⚠ WARNING – Chemicals can cause internal and external burns. To avoid death, serious injury and/or damage to equipment, wear personal protective equipment (gloves, goggles, mask, etc.) when servicing or maintaining this device. The treatment products must be installed and/or stored in an adequately ventilated place as per the manufacturer's recommendations.

OPERATION

The device is designed to be powered through a RCD protected outlet at all times. The AquaRite+ must not be disconnected unless the pool equipment is undergoing maintenance or the pool is to be winterised. Assuming that the chemical balance of the water is within the recommended ranges, the unit can be started up.

Home Screen Configuration



BUTTONS KEY

- OK**: Enter Main Menu/ Select & Save
- Go Back**: Go Back
- Up & Down**: Navigate Up & Down Through Lists
- +**: Make Adjustments/ Scroll Through Options
- : Make Adjustments/ Scroll Through Options

State of auxiliary relays (On/Off)

Time: 12:30

Chlorine production rate in gr/h: electrolysis

Displays manual salt level measurement: 22 gr/h

Filtration relay state:

- man Manual
- aut Automatic
- smt Smart

Communication: Red = Communication fault

Current water temperature at T-Cell: 25°C

Pol 1 Polarity 1: SPA

Pol 2 Polarity 2: Low

Wait time: ---

Insufficient salt / cell scaled up or the water temperature is very low (<15°C): Flow

Filtration stopped or insufficient flow: Flow

Lighting relay state:

- man Manual
- aut Automatic

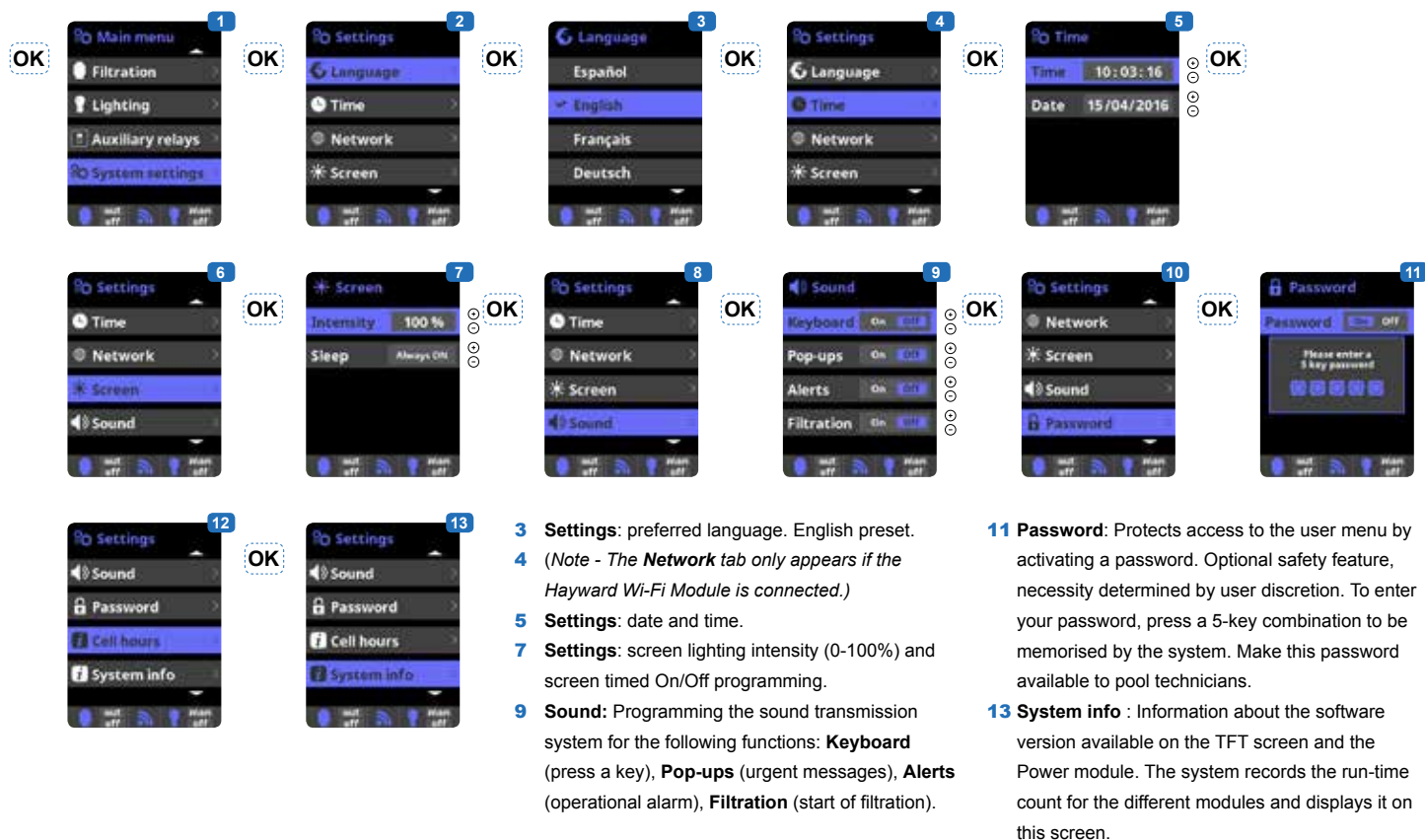
Date of the last salinity measurement: 15/01/16

Water temperature (when measurement taken): 25°C

Salt concentration: 3.2

Settings

Press OK to access the Main Menu. Pressing OK saves any changes made on the current screen.



- 1** Main menu
- 2** Settings
- 3** Language
- 4** Settings
- 5** Time
- 6** Settings
- 7** Screen
- 8** Settings
- 9** Sound
- 10** Settings
- 11** Password
- 12** Settings
- 13** Settings

3 Settings: preferred language. English preset.

4 (Note - The **Network** tab only appears if the Hayward Wi-Fi Module is connected.)

5 Settings: date and time.

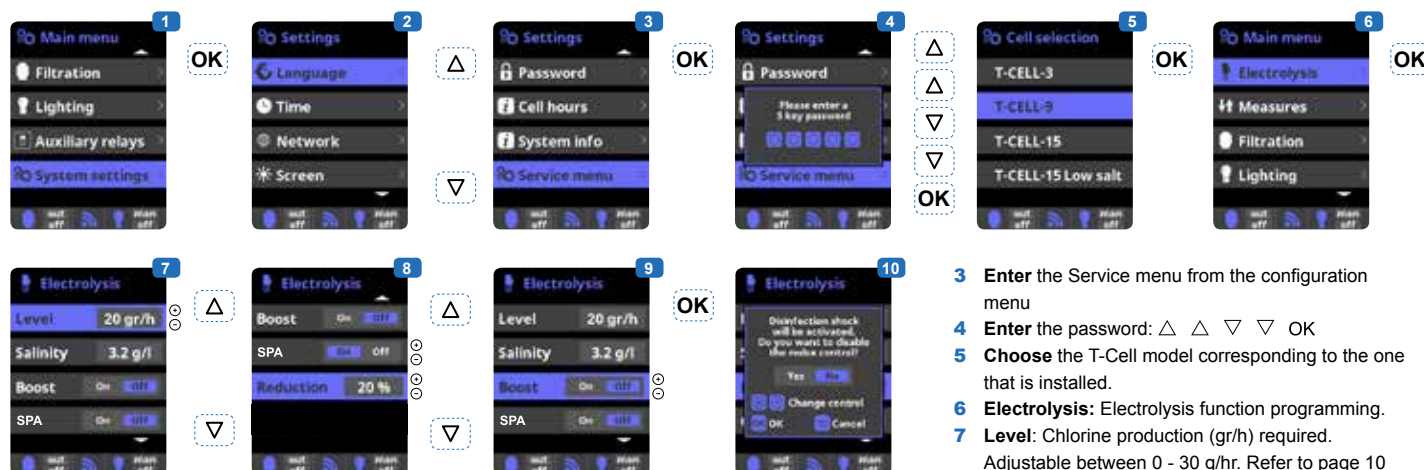
7 Settings: screen lighting intensity (0-100%) and screen timed On/Off programming.

9 Sound: Programming the sound transmission system for the following functions: **Keyboard** (press a key), **Pop-ups** (urgent messages), **Alerts** (operational alarm), **Filtration** (start of filtration).

11 Password: Protects access to the user menu by activating a password. Optional safety feature, necessity determined by user discretion. To enter your password, press a 5-key combination to be memorised by the system. Make this password available to pool technicians.

13 System info: Information about the software version available on the TFT screen and the Power module. The system records the run-time count for the different modules and displays it on this screen.

Setting the Salt Chlorination



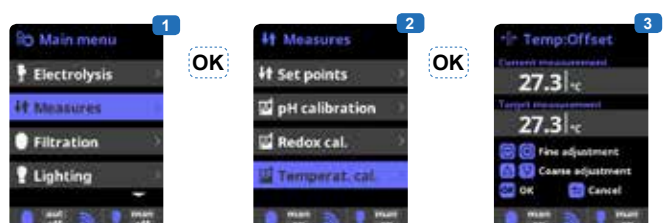
- 8 **SPA:** SPA settings activation. (The installation of the Hayward Spa Flow Switch Upgrade Kit is required to use this feature)
 - 9 **Boost (Super Chlorination):** Filtration and continuous production of chlorine for 24 hours (maximum production level). Automatic return to the filtration and production mode programmed after the 24 hours.
 - 10 During the boost period, redox (ORP) control (option) can be deactivated.
- Note:** the device can only control the operation of the filtration pump if the pump is plugged into the "Filter Pump" outlet socket on the base of the unit.

Salt Concentration



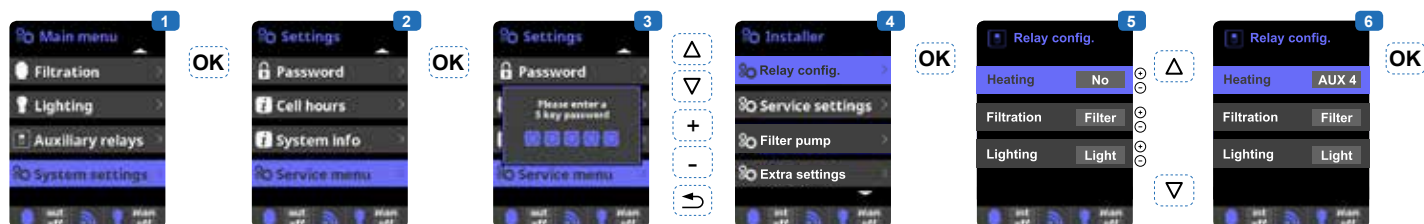
- 1 **Salt concentration measurement.**
- 2 **Enter** in the Salinity menu, use Enter to measure the salt concentration for polarity 1, then for polarity 2. This measurement can only be done manually. It will have to be taken periodically.
- 3 **Adjustment:** Once the measurement has been taken, you can adjust the salt level manually.
- 4 **Display:** Once the salt concentration has been measured, it is displayed on the salt chlorination (electrolysis) screen and the main screen.

Calibrate T-Cell Temperature Probe



- 2 **Temperature probe calibration:** Allows you to set the probes to 1 point.
- 3 Without removing the probe from the water, use the + / - keys to adjust the reading to your reference value (thermometer). The same conditions should apply for measurements.

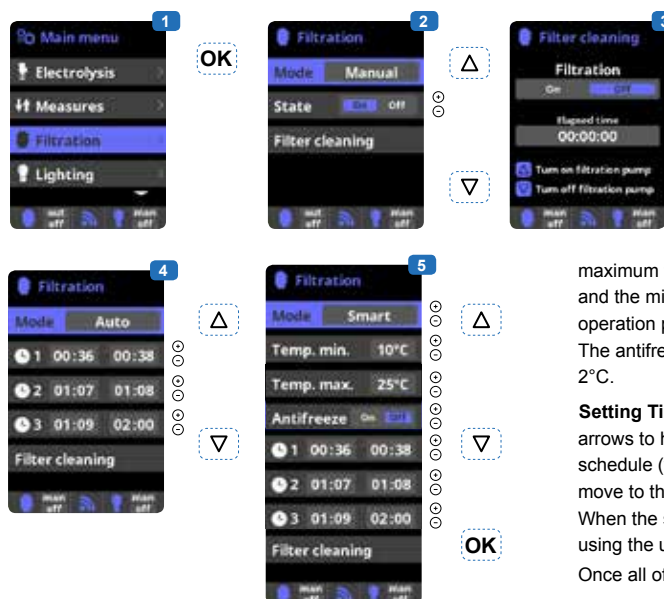
Assigning Relays



- 1 **Enter** System Settings menu from the Main Menu
- 2 **Enter** the Service Menu from the configuration menu
- 3 **Enter** the password: $\Delta \nabla + - \rightarrow$
- 4 **Select** the Relay Config. tab
- 5 **Filtration:** Select the relay that the Filter Pump is connected to. Relay "Filter" is intended for a Filter Pump
Lighting: Select the relay that the lights are wired to. Relay "Light" is intended for Lighting (powered
- 6 **Heating:** Select which relay the heater is wired to. Relay AUX 4 is intended for a heater.

output 12Vac) but can be assigned to AUX 3 as a dry contact control.

Filtration



- 1 **Filtration modes.**
- 2 **Manual:** Allows the filtration process to be turned on and off manually.
- 3 **Filter cleaning:** This mode is used to backwash the filter.
- 4 **Automatic:** In this mode, filtration is turned on according to the start and end times set in the time schedules. The time schedules always operate on a daily basis.
- 5 **Smart:** This mode is based on the automatic mode, with its three filtration intervals, but the filtration times are adjusted according to the temperature. This is done by setting two temperature parameters: the

maximum temperature, above which the filtration times will be determined by the time schedules, and the minimum temperature, below which filtration will be reduced to five minutes, the minimum operation period. Between these two temperatures, the filtration times will increase linearly. The antifreeze mode can be activated to turn the filtration on if the water temperature falls below 2°C.

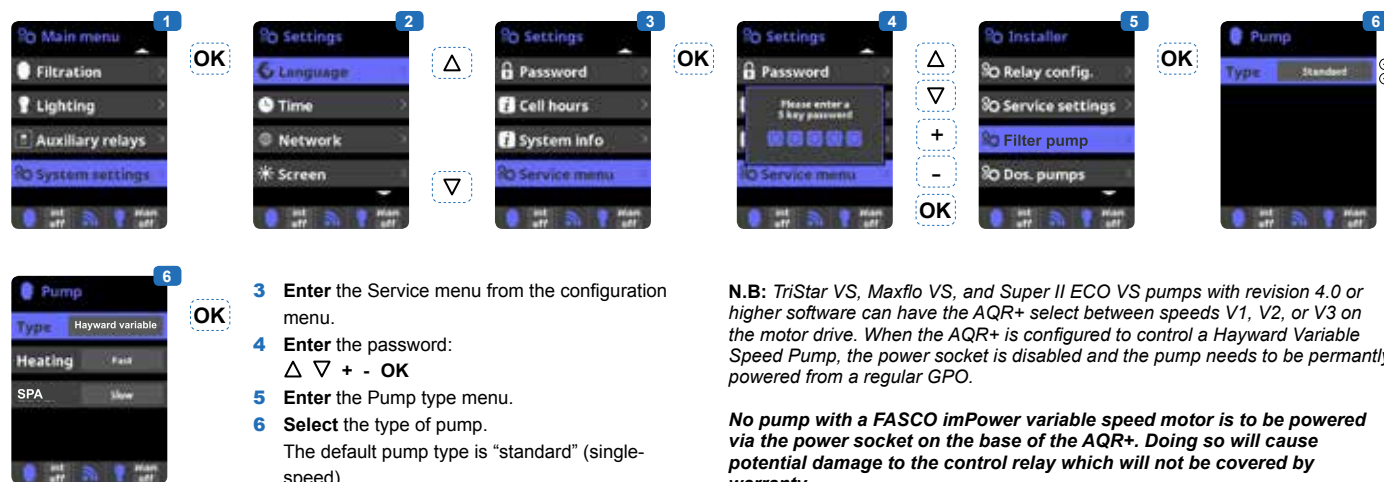
Setting Time Schedules: When setting the time periods for any schedule, use the up and down arrows to highlight the schedule to be adjusted and then press either the + or - button to enter the schedule (will change to a lighter highlight) and adjust the on time hour position. Use the up arrow to move to the right and the down arrow to move left in the schedule.

When the schedule is set, press the 'OK' button once to fully highlight the schedule again and then using the up and down arrows select another schedule.

Once all of the schedules are set to your liking press the 'OK' button twice to save.

Setting the Pump Type

The unit comes preset to power a single speed pump on/off via the power socket on the base of the unit. **Maximum load is 7A.**

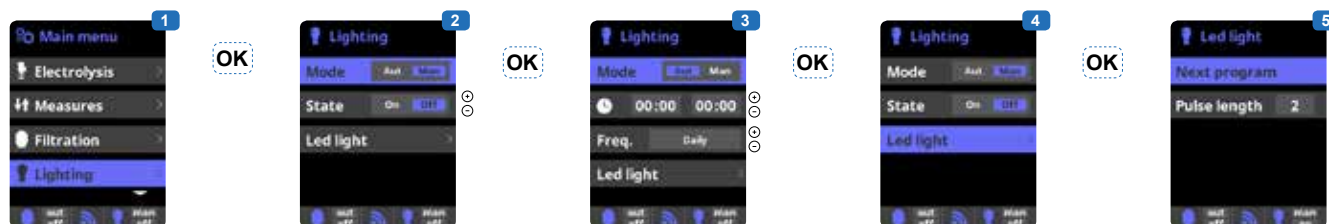


N.B: TriStar VS, Maxflo VS, and Super II ECO VS pumps with revision 4.0 or higher software can have the AQR+ select between speeds V1, V2, or V3 on the motor drive. When the AQR+ is configured to control a Hayward Variable Speed Pump, the power socket is disabled and the pump needs to be permanently powered from a regular GPO.

No pump with a FASCO imPower variable speed motor is to be powered via the power socket on the base of the AQR+. Doing so will cause potential damage to the control relay which will not be covered by warranty.

Lighting

(50 Watts Max Load - One {1} LED Only) (Turning on the light will reduce maximum T-Cell chlorine output by ~ 1/3)



- 1 **Lighting.**
- 2 **Manual mode (ON/OFF).**
- 3 **Automatic mode:** Starts up according to the time slots used to set the lighting start and end times. The time slots can be configured with the following frequencies: daily, every 2 days, every

3 days, every 4 days, every 5 days, weekly, every 2 weeks, every 3 weeks, every 4 weeks.

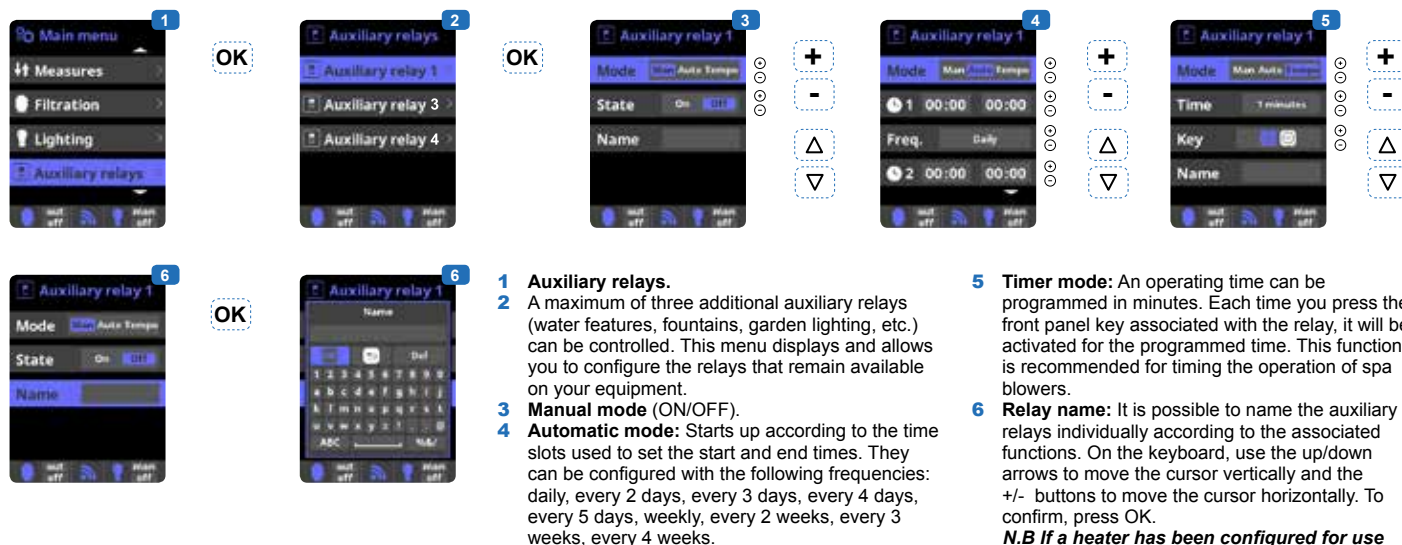
- 4 **LED light:** If you are using a coloured LED light, go to the menu to configure it.

- 5 **Colour selection:** This menu allows you to change the colours manually and, according

to the type of LED light, program the pulse length required to cycle through the colours and programs (by default, 0.5 s, maximum 10 s). Press the 'OK' button with the "Next Program" tab highlighted to change between the colours. Refer to light manufacturer's manual for pulse duration.

Auxiliary Relays - If Relays Are Not Already Assigned

Relays that are not yet assigned will appear in the 'Auxiliary Relays' list.



1 Auxiliary relays.

2 A maximum of three additional auxiliary relays (water features, fountains, garden lighting, etc.) can be controlled. This menu displays and allows you to configure the relays that remain available on your equipment.

3 Manual mode (ON/OFF).

4 **Automatic mode:** Starts up according to the time slots used to set the start and end times. They can be configured with the following frequencies: daily, every 2 days, every 3 days, every 4 days, every 5 days, weekly, every 2 weeks, every 3 weeks, every 4 weeks.

5 Timer mode:

An operating time can be programmed in minutes. Each time you press the front panel key associated with the relay, it will be activated for the programmed time. This function is recommended for timing the operation of spa blowers.

6 **Relay name:** It is possible to name the auxiliary relays individually according to the associated functions. On the keyboard, use the up/down arrows to move the cursor vertically and the +/- buttons to move the cursor horizontally. To confirm, press OK.

N.B If a heater has been configured for use with Auxiliary relay 4, Aux relay 4 will not appear in the Auxiliary Relay list

TROUBLESHOOTING

No Display

- » Check that the power point is turned on.
- » Check the connection cable between the display and the control box.
- » Check that the external 4 A fuse is not defective.
- » Check the power supply: 220-240 V a.c. 50 Hz. (Unplug the power cable from the GPO first)
- » If the problem persists, contact your pool professional.

Excessive Chlorine

- » Check the setting of the chlorine generation level in the Electrolysis menu. Reduce the level by 2 gr/h daily until the desired chlorine level is maintained.

Chlorine Production Rate Does Not Reach The Set Point Level

- » Check the concentration of salt in the water.
- » Check the condition of the cell (it may be dirty or covered in scale).
- » Clean the cell according to instructions.
- » Check the flow switch and clean if necessary.
- » Check that the cell is not worn (contact your pool tech or place of purchase).

Cell Scaled up in Under a Month

- » Very hard water with high pH and total alkalinity (balance and adjust the pH and total alkalinity of the water).
- » Check that the system automatically changes polarity (see display).

White Flakes in the Pool

- » This occurs when the water is unbalanced and very hard.
- » Balance the water; check the cell and clean it, if necessary.

Impossible to Attain a Free Chlorine Level of 1.0 ppm

- » Increase the filtration time.
- » Increase the chlorination production rate.
- » Check the concentration of salt in the water.
- » Check the level of stabiliser in the pool (see table).
- » Check that the reactive agents in your test kit are not out of date.
- » If the temperature or the number of users increases.
- » If the pH is above 7.8, it must be adjusted to be within the range specified in this manual.

Chlorinator Display Indicates LOW

- » Water lacks conductivity or water temperature is <15°C.
- » Check the water balance and salinity.
- » Check for scale on the cell.
- » See "Chlorine production rate does not reach set point level".

Chlorinator Display Indicates FLOW

- » Check the Flow Switch cable.
- » Check Flow. If low clean Filter
- » Check Flow Switch. Test conductivity between cable ends when switch is closed.

Pump Will Not Power Up

- » Ensure Run/On command is given.
- » If still not starting, plug pump into power outlet.
- » If pump starts when connected to a GPO, the internal circuit breaker will need to be reset. Call your pool professional.

SERVICING

Settling Period

During the first 10-15 days, your system will require more attention:

- » Check that the pH remains at the ideal level [7.2 to 7.8].
- » If the pH is exceptionally unstable and uses a lot of acid, check the total alkalinity (see table).

If the balance is highly unstable, contact your pool installer/builder/technician/pool shop.

REMEMBER:

- » That the system needs a certain amount of time to adapt to your pool and will require additional chemicals during the first 3-5 days.
- » The pool must be regularly maintained and the skimmer baskets emptied whenever necessary. Also check that your filter is not dirty.
- » **Add Water**
 - › It is preferable to add water via the skimmers so that it passes through the chlorinator cell before entering the pool. Remember to check the salt level after adding water.

Replacing the 4 A Fuse

To replace the 4 A 250 V Time Lag Main fuse for the unit, it must be unplugged/isolated from the power outlet that it is connected to. Using a flat blade screwdriver or a coin, undo the center of the fuse holder cartridge located at the base of the unit and remove (See page 3 for fuse location). Insert a new 4 A 250 V Time Lag fuse into the cartridge and re-install in to the unit tightening to at least 0.2 Nm of torque so that it cannot be undone without the use of a tool.

Servicing and Cleaning the AquaRite+ Cell

Turn off the main power supply to the Turbo Cell and remove any pressure from the plumbing system before removing the Cell. Once it has been removed, examine the inside of the T-Cell for any traces of scale (whitish brittle or flaky deposits) and debris stuck to the Turbo Cell plates.

- » If no deposits are visible, hold the T-Cell up to the light and look for deposits deeper within the chamber. If there are still no visible deposits, reinstall the T-Cell.
- » If deposits are visible, try to remove them with a water jet from a garden hose. If this method is unsuccessful and deposits still remain on the plates or within the Cell chamber, acid washing will be required.
- » Maintaining the pool at the recommended pH [7.2-7.8] should result in the cell only needing to be cleaned 3 - 4 times per year.

A build-up of deposits on the Cell indicates an exceptionally high concentration of calcium in the pool water. If you cannot find a solution to this situation, you will have to clean the T-Cell plates at regular intervals. The best way to avoid this problem is to maintain the chemical composition of the water at the recommended concentrations.



CAUTION – ALWAYS ADD ACID TO WATER - NEVER ADD WATER TO ACID.

You must wear eye protection and rubber gloves when working with acids. Cleaning process must take place in a well ventilated area. Acids can cause severe injury, burns and respiratory problems when not handled properly.

Acid Washing

This should only be done in severe cases where flushing with water will not remove most of the deposits. To acid wash, turn off the main power supply to the AquaRite+ and remove pressure from the plumbing system before removing the T-Cell. This procedure uses a Hayward T-Cell Cleaning Stand (PN: GLX-CELLSTAND).

- » Remove the T-Cell from the piping.
- » In a clean plastic container, make up a 5:1 solution of water and hydrochloric acid [5 cups of water to 1 cup of hydrochloric acid]. Or use a commercially available cell cleaning product.
- » Fasten the T-Cell to the T-Cell Cleaning Stand with the cord side down, ensuring the black Union O-Ring is in the base of the stand to seal the fixture. Place a plastic container underneath the cell stand to avoid any spills.
- » Fill the T-Cell to the top with the solution and let soak for 15 - 20 minutes.
- » Empty the T-Cell and inspect. If clean, rinse from both ends with hose. If there are still deposits visible, repeat the soaking process until clean.
- » Dispose of the cleaning solution by:
 - › Tipping into the swimming pool if using a hydrochloric acid solution.
 - › Following the instructions on the container if using a commercially available cleaning solution.
- » Reassemble and restore power to the AquaRite+. If the T-Cell was cleaned due to the fault message LOW, reset the average salt measurement reading by following the instructions on page 15.

Winterising

The AquaRite+ T-Cell, flow switch, probes and pool piping run the risk of being damaged if the water freezes. In regions that experience long periods of cold weather, be sure to drain all the water from the pump and filter and from the supply and return pipes before winter. Do not remove the control unit.

WARRANTY

STANDARD CONDITIONS - Australia and New Zealand Hayward Pool Products (Australia) Pty Ltd (ABN 66 083 413 414) ("Hayward Pool Products (Australia)") distributes Hayward Pool Products in Australia and New Zealand and provides the following warranties:

STATUTORY RIGHTS

1. The benefits to the consumer under this warranty are in addition to other rights and remedies of the consumer under the laws in relation to the goods and services to which the warranty relates; and
2. Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You may be entitled to a replacement or refund for a major failure and for compensation for any other loss or damage. You are also entitled to have the goods repaired if the goods fail to be of acceptable quality and the failure does not amount to a major failure.

LIMITED WARRANTY

Hayward Pool Products (Australia) warrants that its products are free from defects in materials and manufacture for 12 months from date of supply by Hayward Pool Products (Australia) plus 90 days to allow for installation and supply (unless otherwise specified). Hayward Pool Products (Australia) will at its discretion, except in the circumstances described below, either repair or replace any product proven to be defective during the warranty period for either materials of manufacture or alternatively pay the cost of repair or replacement within 90 days of the receipt of the defective product, barring unforeseen delays. This warranty is for domestic installation only, is personal to the original purchaser and does not pass to any subsequent purchaser(s).

- To the extent permitted by law, Hayward Pool Products (Australia) will not be liable for products which fail or become defective during the warranty period as a result of freezing, accident, negligence, improper installation, water chemistry, misuse, tampering or lack of care.
- To the extent permitted by law, except as set out in this Warranty, Hayward Pool Products (Australia) excludes all statutory or implied conditions and warranties and any other liability it may have to the Customer (including liability for indirect consequential loss) that may arise under statute or at law including without limitation for breach of contract, in tort (including negligence) or under any other cause of action.
- To the extent permitted by law, except as set out in this Warranty, Hayward Pool Products (Australia) limits its liability under any condition or warranty which cannot be legally excluded in relation to the supply of Goods and Services to:
 1. Repairing the Goods;
 2. Replacing the Goods or supplying equivalent Goods or Services again;
 3. Paying the cost of replacing the Goods or of supplying equivalent Goods or Services again; or
 4. Paying the costs of repairing the Goods.

Claims made for warranty, labour or infield support will not be accepted by Hayward Pool Products unless evidence is provided that installation has been completed in accordance with standard warranty conditions. Please refer to specific program document for details.

WHAT TO DO IF YOU HAVE A WARRANTY CLAIM

The faulty product is to be returned to the place of purchase, or where installed by an approved agent to an authorised warranty agent. No returns will be received directly from end consumers by Hayward Pool Products (Australia). You are responsible for arranging removal of the defective product and arranging installation of the repaired or replacement product, all transportation (and any applicable insurance costs) of transporting the product to the supplier and transporting the replaced or repaired product from the supplier. All returns are subject to Hayward Pool Products (Australia)'s written approval and must be accompanied by either:

1. A Field Inspection Report authorised by the Local Customer Service Manager or Authorised Agent; or
2. A "Return Goods Authorisation" form obtained from Hayward Pool Products (Australia) prior to shipment.

UNAUTHORISED RETURNS WILL NOT BE ACCEPTED

- All Hayward Pool Products (Australia) warranty parts taken as an across the counter warranty exchange must be held for inspection authorisation has been given by the Local Branch Customer Service Manager to dispose of them. Hayward Pool Products (Australia) reserves the right to provide replacement or credit for any items authorised under this warranty program.
- All claims must be accompanied by a copy of original purchase receipt, clearly stating date of purchase. All serial numbers must place the product within the warranty period or a proof of purchase is required. No claims in respect of the product can be made after the expiration of the warranty period.

Warranty service requests can be faxed to:
Hayward Pool Products (Australia) Pty Ltd.
Fax: 1300 POOLS2 (1300 766571)
Or submitted to your local Hayward Pool Products (Australia)
Branch Office.

A standard form is available to request warranty service. We will require:

- Installation contact information including address, daytime telephone numbers, home phone number, email etc.
- Complete model and serial number
- Proof of purchase (if the serial number was manufactured > 1 year ago).
- Evidence that purchase and Installation was completed in one transaction, by the one business or organisation.
- Nature of problem including specific faults and error codes

To determine if you are eligible for an extended warranty register your Hayward pool products online today at:

www.hayward-pool.com.au



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