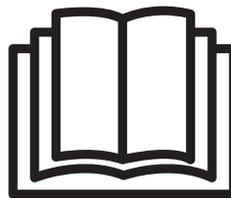
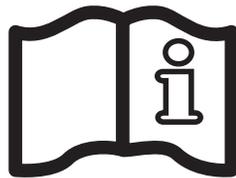




HAYWARD®



AquaRite + OWNER'S MANUAL

PLEASE KEEP THIS MANUAL FOR FUTURE REFERENCE



WARNING: Electrical hazard.
Failure to comply with these instructions can result
in serious injuries or death.
THE EQUIPMENT IS INTENDED TO BE USED ONLY IN
SWIMMING POOLS

⚠ WARNING – Disconnect the equipment from the mains supply before any intervention.

⚠ WARNING – All electrical connections must be carried out by a qualified approved electrician in accordance with the standards currently in force in the country of installation.

F	NF C 15-100	GB	BS7671:1992
D	DIN VDE 0100-702	EW	SIST HD 384-7-702.S2
A	ÖVE 8001-4-702	H	MSZ 2364-702:1994 / MSZ 10-533 1/1990
E	UNE 20460-7-702 1993, REBT ITC-BT-31 2002	M	MSA HD 384-7-702.S2
IRL	IS HD 384-7-702	PL	TS IEC 60364-7-702
I	CEI 64-8/7	CZ	CSN 33 2000 7-702
LUX	384-7.702 S2	SK	STN 33 2000-7-702
NL	NEN 1010-7-702	SLO	SIST HD 384-7-702.S2
P	RSIUEE	TR	TS IEC 60364-7-702

⚠ WARNING – Check 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 a residual current device (RCD) with a nominal operating residual current not exceeding 30 mA.

⚠ WARNING– Ensure that children cannot play with the device. Keep your hands and any foreign object away from openings and moving parts.

⚠ WARNING – Check that the supply voltage required by the product corresponds to the voltage of the distribution network and that the power supply cables are suitable for the product power supply.

⚠ 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.

⚠ WARNING – To reduce the risk of electric shock, do not use an extension cable to connect the device to the mains. Use a wall socket.

⚠ 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 every pool user, 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 original Hayward parts.

⚠ WARNING – If the power supply cable is damaged, it must be replaced by the manufacturer, the after-sales service or similarly qualified persons to avoid danger.

⚠ WARNING – The device must not be used if the power cord is damaged. An electric shock could occur. A damaged power cord must be replaced by the after-sales service or similarly qualified persons to avoid danger.

USE ONLY GENUINE REPLACEMENT PARTS

REGISTRATION

Thank you for choosing Hayward. This manual contains important information regarding the operation and maintenance of your product. Please retain it for reference.

TO REGISTER YOUR PRODUCT IN OUR DATABASE, GO TO:
www.hayward.fr/en/services/register-your-product



For Your Records

Record the following information for your convenience:

- 1) Purchase Date _____
- 2) Complete Name _____
- 3) Address _____
- 4) Zip code _____
- 5) Email Address _____
- 6) Part number _____ Serial number _____
- 7) Pool Dealer _____
- 8) Address _____
- 9) Zip code _____ Country _____

Note



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GENERAL

The AquaRite + is a system that controls the equipment and it is used in conjunction with a salt chlorinator for treating swimming pools.

The AquaRite + allows you to control the filtration system (pump) as well as the peripheral equipment (heat pump, lighting, etc.).

It can also be used to treat your pool effectively by salt water electrolysis. For the chlorinator to function, it requires a low concentration of salt (sodium chloride) in the pool water. The AquaRite + automatically disinfects your pool by converting the salt into free chlorine which kills the bacteria and algae in the pool. The chlorine reverts back to sodium chloride. This continuous cycle means that there is no need to treat your pool manually.

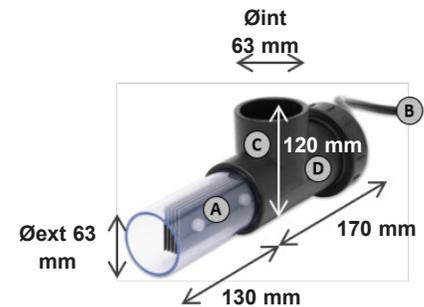
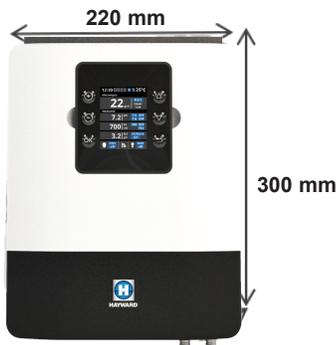
The AquaRite + is suitable for treating most residential swimming pools.

The quantity of chlorine required to treat a swimming pool correctly varies according to the number of bathers, the rainfall, water temperature and the cleanliness of the pool...

NOTE: Before installing this product on the filtration system of a pool or spa with an adjacent natural stone terrace or deck, consult a qualified installer who will advise you on the type, installation, sealant (if any) and maintenance of stone that can be laid around a saline pool.

NOTE: The use of dry acid such as sodium bisulfate to adjust the pH of the swimming pool is not recommended, especially in arid regions where pool water is subject to significant evaporation and is not commonly diluted with mains water. Dry acid can cause a build-up of by-products that can damage your chlorinator.

INSTALLATION



ELECTRONIC BOX

Ⓐ	Main connection 230 V - 50 Hz
Ⓑ	Cell connection
Ⓒ	Gas detector connection
Ⓓ	4 A Fuse
Ⓔ	4 A Fuse
Ⓕ	pH and Rx connection
Ⓖ	ON/OFF switch

CELL

Ⓐ	Electrolysis cell
Ⓑ	Connection to unit
Ⓒ	Cell housing
Ⓓ	Flow/gas detector (internal)

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Wall-mounted installation

Fix the box and the measuring chamber on the wall (optional). The box must be installed in the equipment room (dry, temperate, ventilated). Caution, acid vapours can cause irreversible damage to your device. Position the treatment product tanks accordingly.

The AquaRite + must be fitted a minimum horizontal distance of 3.5 m (or more, if required by local regulations) from the pool, within 1 m of a protected outlet and within 4.5 m of the planned cell location.

The box must be placed vertically on a flat surface, with the cables downwards. As this box is also used to evacuate heat (heat dissipation from internal components), it is important that the four sides of the box remain unobstructed. Do not to install the AquaRite + behind a panel or in an enclosed space.

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 cell location.



Disconnect the pool filtration pump before starting the installation. The system must be installed in accordance with the standards currently in force in the country of installation. The control box must be fitted a minimum horizontal distance of 3.5 m (or more, if required by local regulations) from the pool, within 1 m of a protected outlet and 4.5 m of the planned cell location. Install and use the product at an altitude below 2000 m.

The flow switch must be installed on the return pipe directly in line with and upstream of the cell and the treatment product injection point. Allow a 25 cm straight section before the flow switch. A hole should previously have been drilled in the pipe to allow the flow switch to pass through. Screw the flow switch into the saddle clamp, taking care to seal with Teflon. Then install the clamp on the pipe. The flow switch must be installed in the direction of operation to ensure that it is tripped by the flow from the filtration pump.

The device used to inject the treatment products (acid, etc.) must be installed last on the water return line, after any equipment (heater, cell, etc.). A hole should previously have been drilled in the pipe to allow the treatment product to pass through. Install the saddle clamp and screw the injection valve into the saddle clamp using the adapter provided. Seal with Teflon.

Use the transparent PVC hose for suction (between the acid tank and the peristaltic pump) and the semi-rigid white polyethylene tube for injection (between the peristaltic pump and the injection valve).

All the metal components of the swimming pool can be connected to the same earth as per local regulations

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Including in the packaging

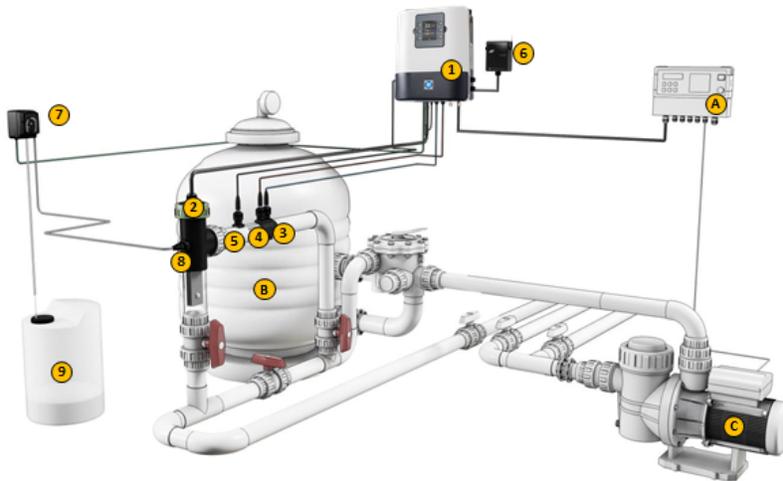


pH kit



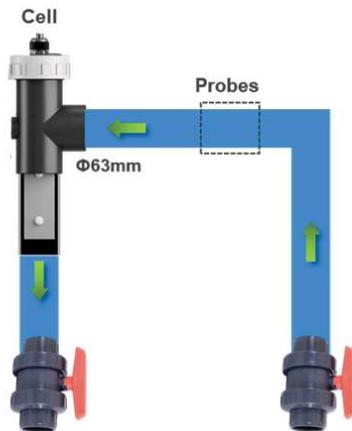
Temperature probe

Unit installation



- A** Filtration pump timer*
- B** Silex / glass / diatom filter
- C** Recirculation pump
- 1** Electronic box
- 2** Electrolysis cell (always vertical)
- 3** pH probe (optional)
- 4** Rx probe (optional)
- 5** Temperature probe (optional)
- 6** WiFi modul (optional)
- 7** Acid dosing pump (optional)
- 8** Acid injector (optional)
- 9** Sulphuric acid container (not supplied)

Cell installation



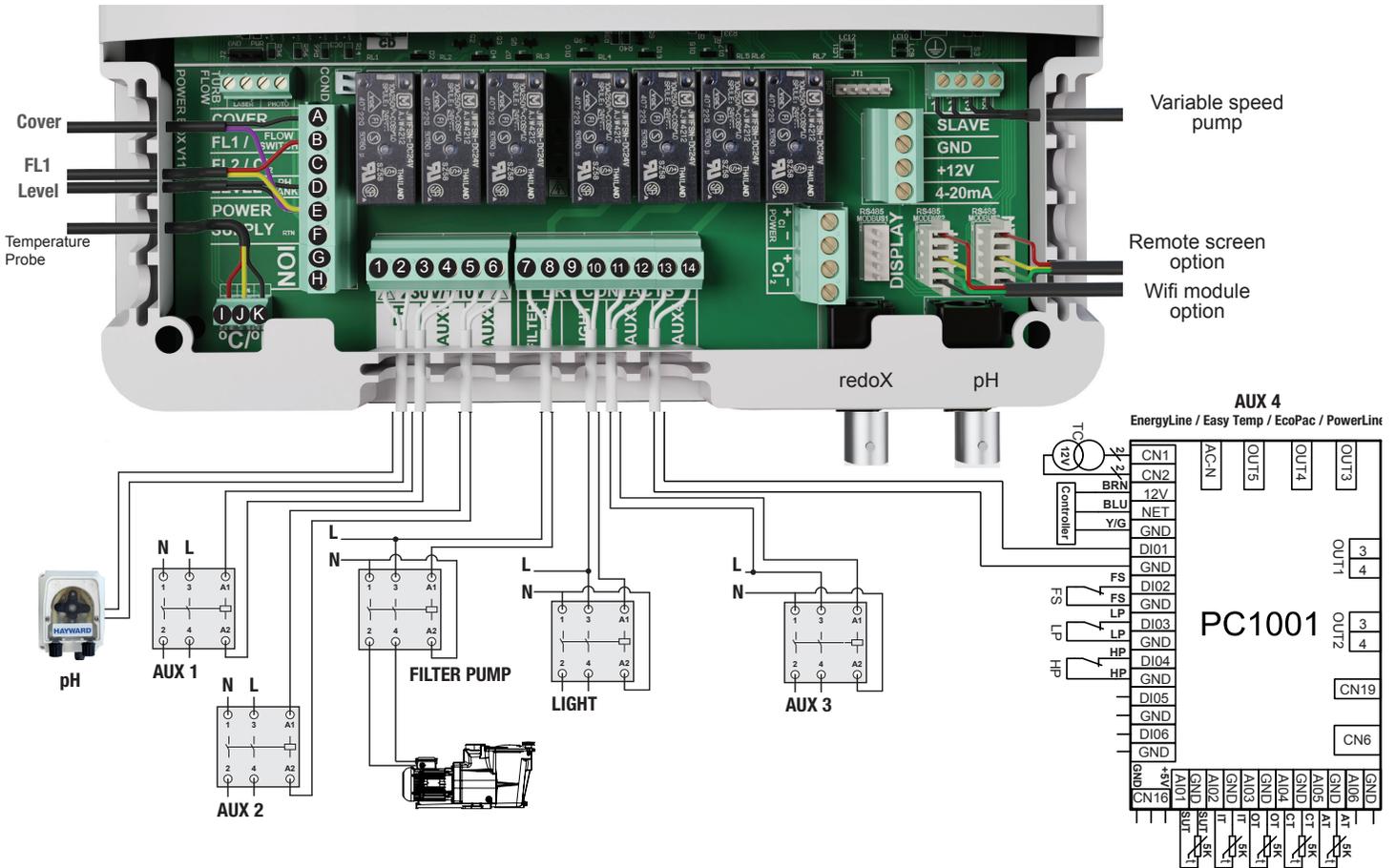
- 1 - Install the cell in a vertical position.
- 2 - Install the cell on a by-pass.
- 3 - Install the cell at the highest point of the installation.
- 4 - Connect the cell and gas detector to the electronic box.

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Electrical installation and wiring

Connect the AquaRite + to a permanent power outlet.

⚠ This circuit must be protected by a residual current device (RCD) (residual current: 30 mA max.).



Description of outgoing relays

Name	Description	Terminals	Type of output	I _{max}
pH	Peristaltic acid pump 230 V~	1 - 2	Voltage output	1 A
Aux1	Auxiliary voltage output 230 V~	3 - 4	Voltage output	1 A
Aux2	Auxiliary voltage output 230 V~	5 - 6	Voltage output	1 A
Filter Pump	Filtration pump control	7 - 8	Dry contact	
Light	Lighting control	9 - 10	Dry contact	
Aux3	Auxiliary dry contact	11 - 12	Dry contact	
Aux4	Auxiliary dry contact (or heating control).	13 - 14	Dry contact	

If no heating system is installed on Aux4, it can be used as another auxiliary contact. To do this, contact Hayward technical support.

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Connecting a heating system (Aux 4)

The AquaRite + is compatible with all types of pool heaters such as heat pumps, electric heaters or even heat exchangers.

Connecting to a Hayward heating system fitted with a remote On/Off control

Connect a 2 x 0.75 mm² electric cable (not supplied) across terminals (13)-(14) of auxiliary contact Aux 4, then connect it across the DI01 and GND terminals on electronic circuit board PC1001 of the Hayward heat pump or any other compatible equipment (see the installation instructions). Set the set point of the heat pump or heating system to maximum. The AquaRite + will use its own water temperature probe to control the heating set point.

Compatible equipment includes the seasonal Energyline Pro, the All Seasons Energyline Pro, EasyTemp, EcoPac, PowerLine and other brands with a remote On/Off control.

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

In this case, the heating is controlled in series with the flow controller. Connect a 2 x 0.75 mm² cable in series with the flow control system.

Set the heating system set point to maximum. The AquaRite + will use its own water temperature probe to control the heating set point.

Connecting inputs:

Name	Description	Terminals	Type of input
FL1	Flow switch	B - E	Dry contact
Cover	Closed cover detection	A - E	Dry contact
Level	Acid container level detection	D - E	Dry contact
ION	Not used	G - H	-
°C / F°	Black wire	K	-
	Yellow wire	J	-
	Red wire	I	-

Connect the flow switch supplied to input terminals B and E.

Connecting the cell

Connect the cell to the connector beneath the device (B and C)



The different cells that can be connected to the device are as follows:

AquaRite + ref.	Type of cell		Max. Wat.	Protection
AQR-PLUS-SV16ST	RC16	16 A (8 V)	120 W	16 A
AQR-PLUS-SV22ST	RC22	20 A (8 V)	160 W	16 A
AQR-PLUS-SV33ST	RC33	16 A (10 V)	180 W	16 A
AQR-PLUS-SV50ST	RC50	20 A (10 V)	220 W	16 A

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Characteristics

Power supply	230 V~ 50 Hz
Current consumption	0.9 A
Power consumption	200 W
Safety rating	IPX4
Characteristics of pH and AUX1 relays	$I_{max} (pH+Aux1+Aux2) = 3,15A$, $P_{max} (PH+Aux1+Aux2) = 725 W$
Dimensions	270 x 220 x 150

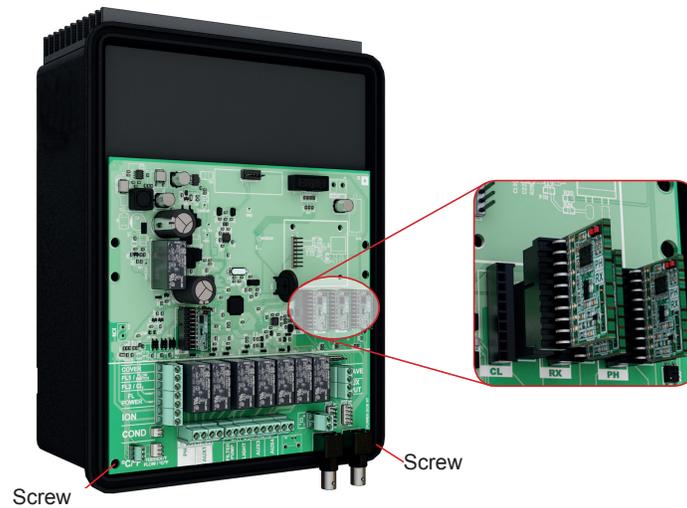
Connecting the ORP option (Optional)

Insert the ORP probe into the measuring chamber.

Connect the BNC connector on the ORP probe to the redox BNC input on the AquaRite +.

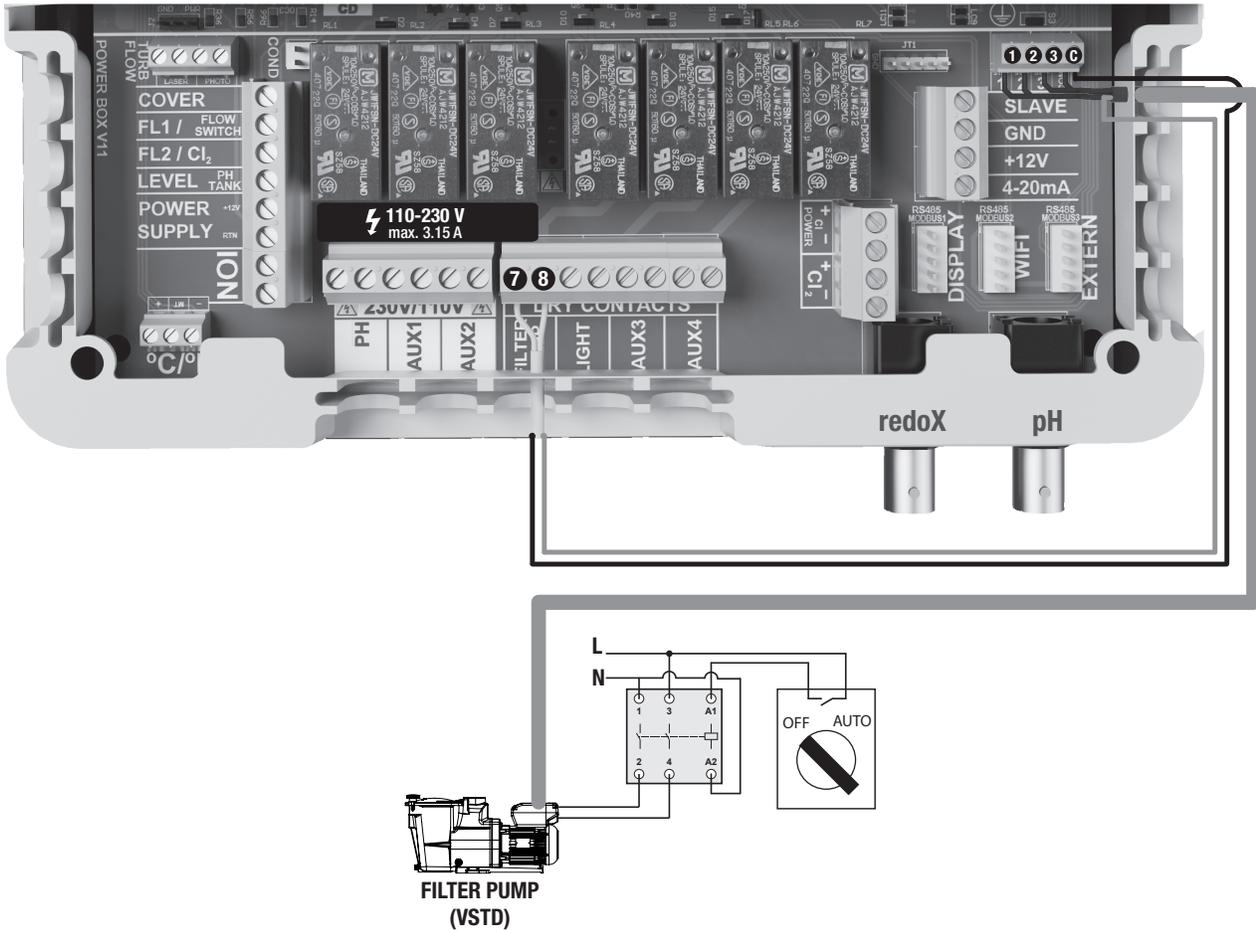
Remove the two screws from the bottom of the box and unclip the top of the cover to remove it.

Fit the electronic card into the AquaRite + box.

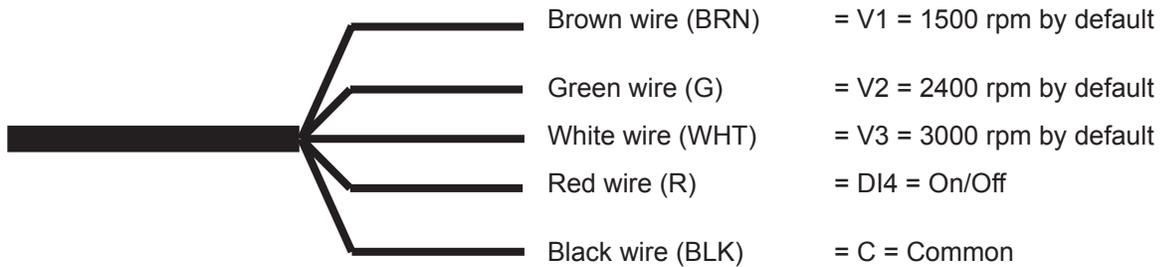


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Connecting a Hayward variable-speed pump with digital inputs



When using a Hayward variable-speed pump fitted with digital inputs, bridge the common black wire, connected to terminal (C), to terminal (7) and follow the connection instructions given in the following table. You will have to strip the digital cable back 15 cm and cut the orange wire.



Name	Description	Terminals	Colour
V1	Low pump speed (V1)	1	Brown (BRN)
V2	Average pump speed (V2)	2	Green (G)
V3	High pump speed (V3)	3	White (WHT)
C	Common	C - 7	Black (BLK)
DI4	On/Off	8	Red (R)

USE ONLY GENUINE REPLACEMENT PARTS

Assigning speeds

Whatever the filtration mode (**Manual, Automatic, Smart, Heating or Intelligent**), one of the three operating speeds (V1, V2 or V3) can be selected, thus providing a high degree of flexibility for setting and adjusting the water flow according to the equipment. The device will first have to be configured to take the variable-speed pump into account (see the section entitled "Setting the pump type").

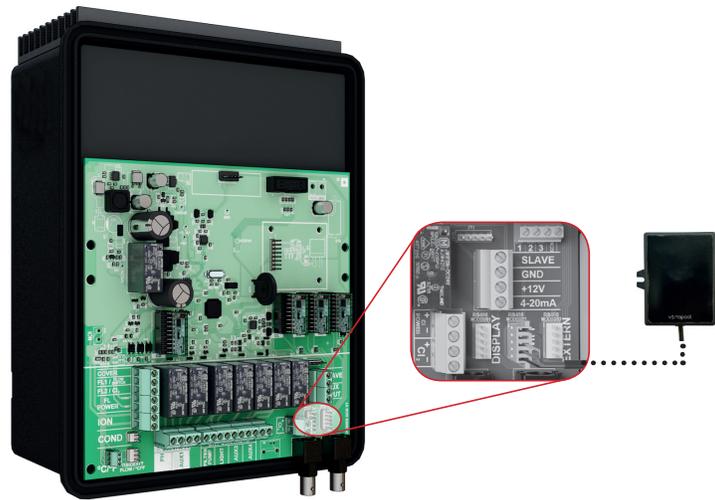
The speed assigned to the "antifreeze" mode is V2.

Note: We should point out that the speed of all pool devices requiring a minimum water flow that is appropriate to their correct operation must be set manually before being stored in the memory and used by the AquaRite + (heat pump, chlorinator, etc.). See the variable-speed pump instructions for setting all the parameters related to its operation and safety.

Connecting the Wifi option (Optional)

The Wifi module must be installed in the equipment room (dry, temperate, ventilated) and located within reach of the wireless network cover to which it will be connected. Switch off the device before connecting the module.

Plug the Wifi module connector into the RF / WIFI connector on the AquaRite + card.



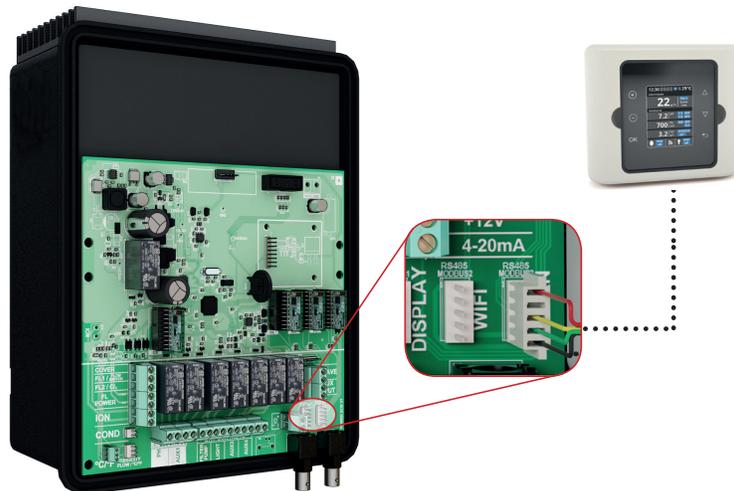
Installing the screen wall-mounting kit (not supplied)

Remove the screen from the box and unplug it.

Plug the extension connector into the DISPLAY connector on the AquaRite + card.

Plug the other end of the extension into the screen after first passing the cable through the wall bracket.

Fit the cover (supplied) over the front of the AquaRite + to replace the screen.



USE ONLY GENUINE REPLACEMENT PARTS

Preparing the pool water

To prepare the pool water to enable the AquaRite + to function, its chemical composition must be balanced and salt added. This must be done **BEFORE** turning on the AquaRite +. Certain adjustments to the chemical balance of the pool can take several hours. The 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. 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 and/or if it is liable to contain dissolved metals, use a metal remover, according to the manufacturer's instructions.

If your water has previously been treated with a product other than chlorine (bromine, hydrogen peroxide, PHMB, etc.), neutralize 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 concentrations. Use the formulae below if you do not know the volume of your swimming pool.

	m³ (pool dimensions, in m)
Rectangular	Length x width x Average depth
Round	Diameter x Diameter x Average depth x 0.785
Oval	Length x width x Average depth x 0.893

The ideal salt concentration is between 2.7 and 3.4 g/l, with 3.2 g/l being the optimum value. If the level is low, determine the volume (m³) of the pool and add salt in accordance with the following table. A low salt level reduces the efficiency of the AquaRite + and reduces chlorine production. A high salt concentration can cause the AquaRite + to fail and make your pool water taste salty. As the salt in your pool is constantly being recycled, the loss of salt during the season is minimal. Salt is mainly lost when water has to be added due to splashing, backwashing or draining (because of rain). Salt is not lost through evaporation.

Type of salt to use

Use only salt intended for chlorinators in conformance with EN 16401. Use only sodium chloride (NaCl) that is more than 99% pure. Do not use food-grade salt, iodized salt, salt containing yellow prussiate of soda or salt containing anti-caking additives.

How to add or remove salt

For new pools, let the plaster dry for ten to fourteen days before adding salt. Start up the filtration pump, then add salt directly into the intake side of the pool. Make the water circulate to speed up the dissolution process. Do not allow salt to accumulate at the bottom of the pool. Run the filtration pump for 24 hours, opening the main drain valve fully to allow the salt to dissolve evenly throughout the pool.

The only way to lower the salt concentration is to partially empty the pool and refill it with fresh water.

Always check the stabilizer (cyanuric acid) when checking the salt concentration. The corresponding concentrations tend to decrease together. Refer to the following table to determine the quantity of stabilizer to be added to bring the concentration to 25 ppm. Add stabilizer only if necessary.

Do not add stabilizer to indoor pools.

Quantity of salt (kg) required for 3.2 g/l

Current salt concentration in g/l	Volume of water in the pool in m ³																
	30	37.5	45	52.5	60	67.5	75	82.5	90	97.5	105	112.5	120	127.5	135	142.5	150
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 & +	Di-luted	Di-luted	Di-luted	Di-luted	Di-luted	Di-luted	Di-luted	Di-luted	Di-luted	Di-luted	Di-luted	Di-luted	Di-luted	Di-luted	Di-luted	Di-luted	Di-luted

Quantity of salt (kg) required for 1.5 g/l (Low Salt)

Current salt concentration in g/l	Volume of water in the pool in m ³															
	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	
0	30	37.5	45	52.5	60	67.5	75	82.5	90	97.5	105	112.5	120	127.5	135	
0.2	26	32.5	39	45.5	52	58.5	65	71.5	78	84.5	91	97.5	104	110.5	117	
0.4	22	27.5	33	38.5	44	49.5	55	60.5	66	71.5	77	82.5	88	93.5	99	
0.6	18	22.5	27	31.5	36	40.5	45	49.5	54	58.5	63	67.5	72	76.5	81	
0.8	14	17.5	21	24.5	28	31.5	35	38.5	42	45.5	49	52.5	56	59.5	63	
1	10	12.5	15	17.5	20	22.5	25	27.5	30	32.5	35	37.5	40	42.5	45	
1.2	6	7.5	9	10.5	12	13.5	15	16.5	18	19.5	21	22.5	24	25.5	27	
1.4	2	2.5	3	3.5	4	4.5	5	5.5	6	6.5	7	7.5	8	8.5	9	
1.5	Ideal	Ideal	Ideal	Ideal	Ideal	Ideal	Ideal	Ideal	Ideal	Ideal	Ideal	Ideal	Ideal	Ideal	Ideal	
1.6	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	
1.8	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	
2.5 & +	Di-luted	Di-luted	Di-luted	Di-luted	Di-luted	Di-luted	Di-luted	Di-luted	Di-luted	Di-luted	Di-luted	Di-luted	Di-luted	Di-luted	Di-luted	

Quantity of stabilizer (CYANURIC ACID in kg) required for 25 ppm

Current stabilizer concentration (ppm)	Volume of water in the pool in m ³																
	30	37.5	45	52.5	60	67.5	75	82.5	90	97.5	105	112.5	120	127.5	135	142.5	150
0 ppm	0.75	0.94	1.13	1.34	1.53	1.69	1.91	2.09	2.28	2.47	2.66	2.84	3.03	3.22	3.41	3.59	3.75
10 ppm	0.45	0.56	0.68	0.81	0.92	1.01	1.14	1.26	1.37	1.48	1.59	1.71	1.82	1.93	2.04	2.16	2.25
20 ppm	0.15	0.19	0.23	0.27	0.31	0.34	0.38	0.42	0.46	0.49	0.53	0.57	0.61	0.64	0.68	0.72	0.75
25 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

USE ONLY GENUINE REPLACEMENT PARTS

Chemical water balance

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

The following table summarizes the concentrations recommended by Hayward. Your water should be checked regularly to maintain these concentrations and minimize surface corrosion or deterioration.

CHEMISTRY	Recommended CONCENTRATIONS
Salt	3.2 g/l
Salt (Low salt)	1.5 g/l
Free chlorine	1.0 to 3.0 ppm
pH	7.2 to 7.6
Cyanuric acid (Stabilizer)	20 to 30 ppm max. (Add stabilizer only if necessary) 0 ppm in indoor pool
Total alkalinity	80 to 120 ppm
Water hardness	200 to 300 ppm
Metals	0 ppm
Saturation index	-0.2 to 0.2 (preferably 0)

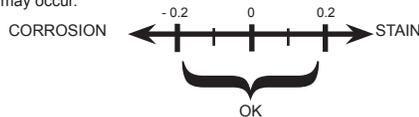
Saturation index

The saturation index (Si) gives us information about the calcium content and alkalinity of the water; it is a water balance indicator. Your water is correctly balanced if the Si is 0 ± 0.2 . If the Si is below -0.2, the water is corrosive and the coating on the pool walls may be damaged. If the Si is above +0.2, stains may appear. Use the table below to determine the saturation index.

$$Si = pH + Ti + Ci + Ai - 12.1$$

°C	°F	Ti	Hardness (Calcium)	Ci	Total alkalinity	Ai
12	53	0.3	75	1.5	75	1.9
16	60	0.4	100	1.6	100	2.0
19	66	0.5	125	1.7	125	2.1
24	76	0.6	150	1.8	150	2.2
24	76	0.6	200	1.9	200	2.3
24	76	0.6	250	2.0	250	2.4
29	84	0.7	300	2.1	300	2.5
34	94	0.8	400	2.2	400	2.6
34	94	0.8	600	2.4	600	2.8
39	100	0.9	800	2.5	800	2.9

Use: Measure the pH of the pool water, the temperature, water hardness and total alkalinity. Use the table above to determine Ti, Ci and Ai in 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.

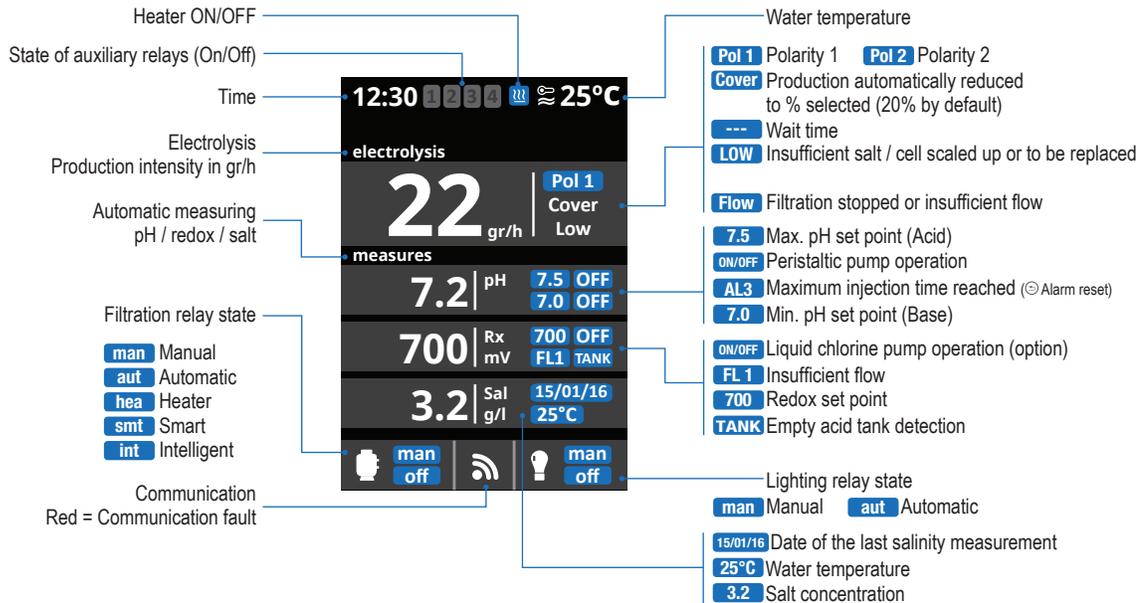
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OPERATION

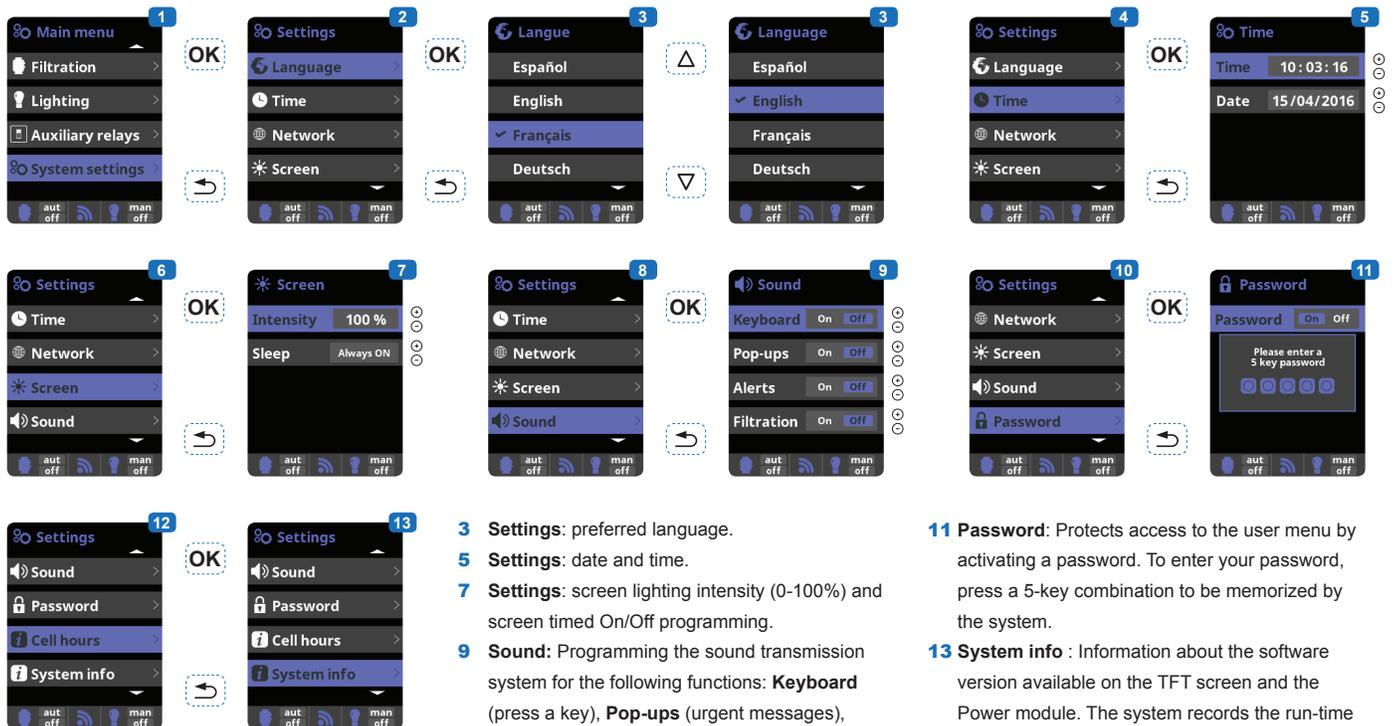
The device is designed to be connected to a protected outlet at all times. The AquaRite + must not be disconnected unless the pool equipment is undergoing maintenance or the pool is to be closed (wintering).

Assuming that the chemical balance of the water is within the recommended ranges, the device can be started up.

Configuration

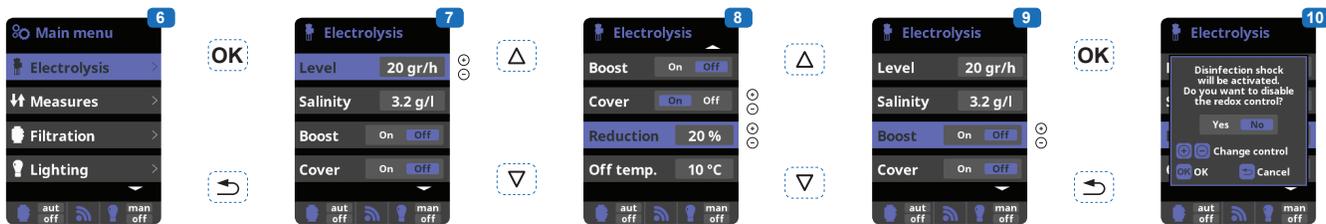


Settings



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Setting the salt chlorination



- 6 **Electrolysis:** Electrolysis function programming.
- 7 **Level:** Chlorine production (gr/h) required.

- 8 **Cover:** Closed cover safety activation.
Reduction: % of chlorine production when the cover is closed (20% by default).
- 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.

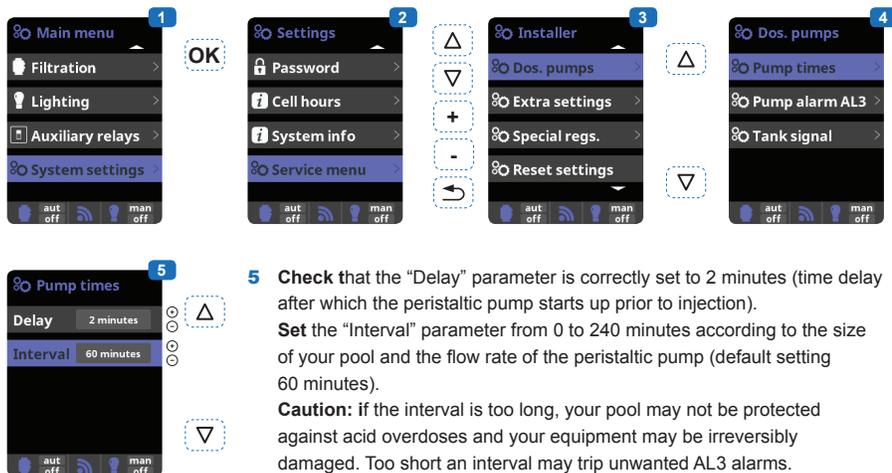
- Note:** the device can only control the operation of the filtration pump if the pump is connected to the "Filter Pump" relay.
- 10 During the boost period, redox control (option) can be deactivated.

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 screen and the main screen.

Setting the pH correction time

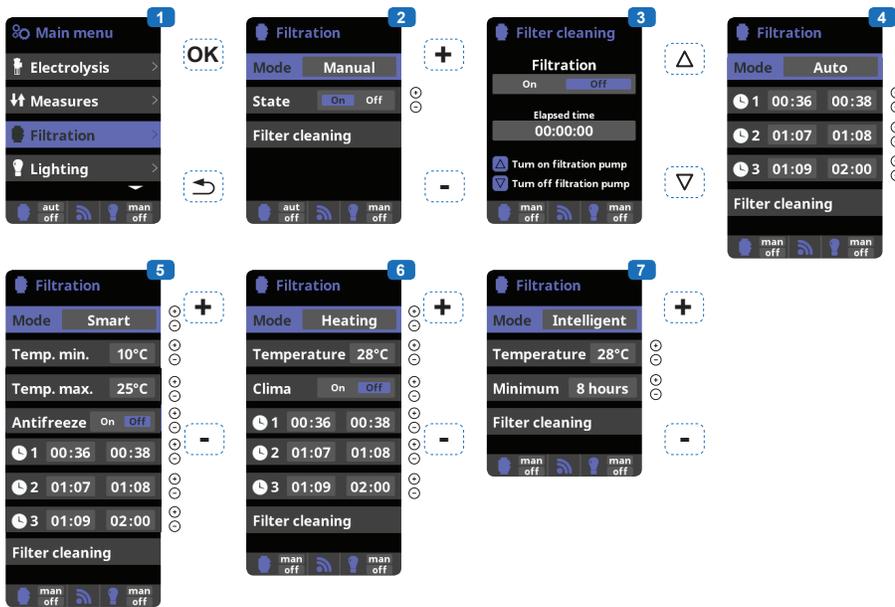


- 5 **Check** that the "Delay" parameter is correctly set to 2 minutes (time delay after which the peristaltic pump starts up prior to injection).
Set the "Interval" parameter from 0 to 240 minutes according to the size of your pool and the flow rate of the peristaltic pump (default setting 60 minutes).
Caution: if the interval is too long, your pool may not be protected against acid overdoses and your equipment may be irreversibly damaged. Too short an interval may trip unwanted AL3 alarms.

- 1 **Setting the pH correction time.**
The chemical parameters of the water must be set manually before the device is started up. If these adjustments are not made in advance, unwanted AL3 alarms may be tripped.
- 2 **Enter** the password: $\Delta \nabla \odot \ominus \rightarrow$
- 3 **Select** the "Dos. pumps" menu.
- 4 **Select** the "Pump times" menu.
Do not change the default values on the "Pump alarm AL3" and "Tank signal" menus.

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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 slots. The time slots 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 slots, 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 be staggered linearly. The antifreeze mode can be activated to turn the filtration on if the water temperature falls below 2°C.

6 Heating : This mode acts in the same way as the automatic mode, but it can also operate via a relay that controls the temperature. The set point temperature is determined in this menu and the system operates with a hysteresis of one degree (for example: if the set point temperature is 23°C, the system will start up when the

temperature falls below 22°C and shut down only when it rises above 23°C).

Heating control OFF: The heating operates only during the filtration periods configured.

Heating control ON: Keeps the filtration on after

the filtration period has expired if the temperature is below the set point temperature. When the setpoint temperature is reached, the filtration and heating stop and only resume when the next programming period begins.

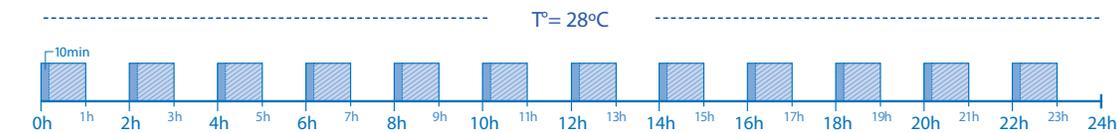
7 Intelligent*: In this mode, the user has two operating parameters: Select the required water temperature and the minimum filtration time (minimum two hours and maximum 24 hours). The filtration will operate for at least ten minutes every two hours to check the temperature. The minimum filtration time selected is divided into twelve sections that are added to its ten minutes. **Example 1:** Over twelve hours, the time

is divided between the twelve times a day when the filtration starts up to check the temperature.

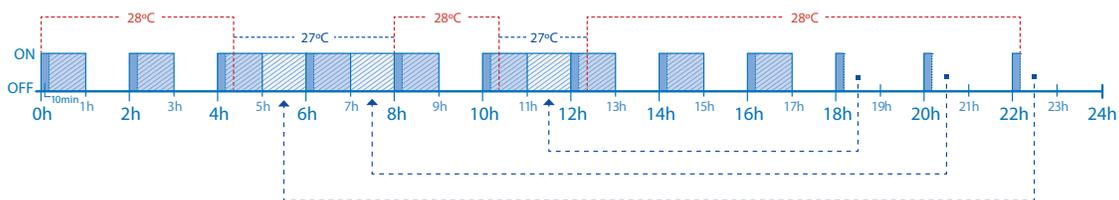
Example 2: (12 hours x 60 minutes) / 12 = 60 minutes every two hours. This is the filtration and heating period every two hours. If the programmed filtration period ends and the required temperature has not been reached, the filtration and heating remain on until the required temperature is reached. To minimize the

number of hours during which filtration operates each day, this additional time will be deducted from the next filtration periods occurring during the rest of the day. (See the chart below).

Intelligent mode



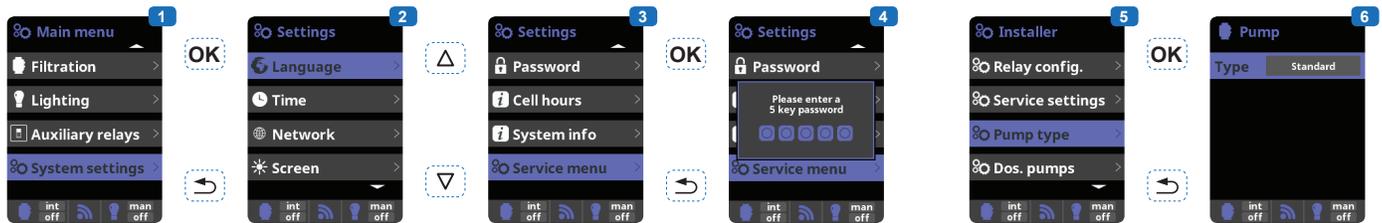
Intelligent mode operation if the temperature is constant



Intelligent mode operation if the temperature varies

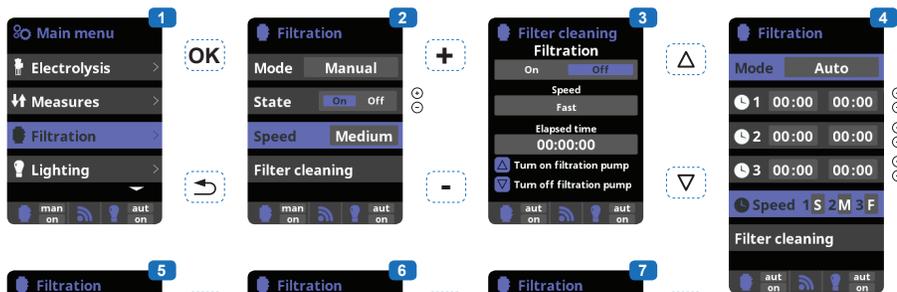
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Setting the pump type



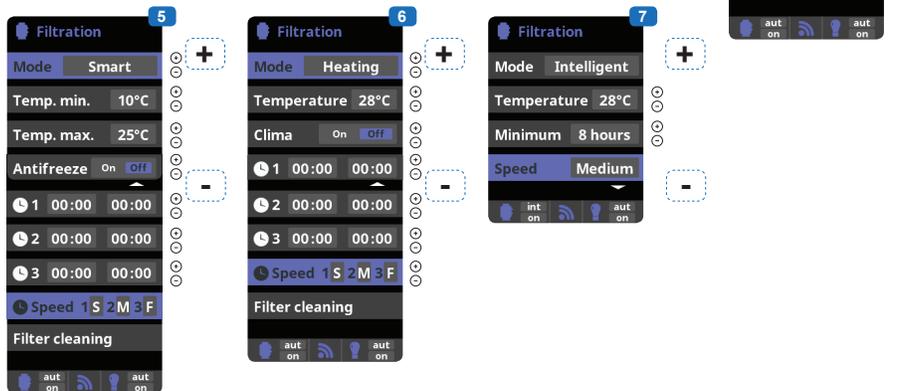
- 3 Enter the Service menu from the configuration menu.
- 4 Enter the password (contact Hayward's technical support for the code)
- 5 Enter the Pump type menu.

- 6 Select the type of pump.
The default pump type is "standard" (single-speed).
If you are using a variable-speed pump, select "Variable speed".
In this case, one of the 3 speeds (V1, V2, V3) can be assigned to the heating and when the cover is closed.



After connecting a variable speed pump, you can assign a different speed individually to each filtration period, as required.
V1: S, V2: M, V3: F

Filter cleaning: To clean the filter with a variable-speed pump, it is best to use the highest speed (V3).



Lighting



- 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).

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Auxiliary relays

- 1 Auxiliary relays.**
- A maximum of four 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.

Measures

- 1 Measures:** Adjustment of set points and measuring probes.
- 2 Set points** for each measurement.
- 3 Setting** the set points.
- 4 pH probe calibration:** Recommended once a month during the pool season.
- 5 Calibration** using buffer solutions (liquids models pH7 / pH10 / neutral). Follow the on-screen instructions (fig. 6).
- 7 Manual calibration:** Allows you to set the probes to 1 point (without buffer solution) – recommended only for adjusting small deviations in readings.
- 8** Without removing the probe from the water, use the + / - keys to adjust the reading to your reference value (photometer or other measuring instrument).
- 9 Redox probe calibration:** Recommended every two months during the pool season.
- 10 Calibration** with reference solution 465 mV. Follow the on-screen instructions (fig. 11).
- 12 Manual calibration:** Allows you to set the probes to 1 point (without solution) – recommended only for adjusting small deviations in readings.
- 13** Without removing the probe from the water, use the + / - keys to adjust the reading to your reference value (photometer or other measuring instrument).
- 14 Temperature probe calibration:** Allows you to set the probes to 1 point.
- 15** 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.

USE ONLY GENUINE REPLACEMENT PARTS

Setting the Wifi module (optional)

- 1** **Internet:** Once the module is connected, switch on the device. A Network menu appears in the Settings menu.
- 2** **Wifi:** Select the Wifi menu to start an automatic search for available networks.
- 3** Choose the relevant available network.
- 4** Enter the password for this network via the keyboard. Use the up/down arrows to move the cursor vertically and the +/- buttons to move the cursor horizontally. To confirm, press OK.
- 5** **Configuration:** If you want to configure your connection manually or if automatic configuration fails, you can change the network parameters in this menu.
- 7** **Status:** Displays information about your current connection.
- 8** **Test connection:** Checks that your connection has been established.

When the module is connected to the Wifi network and the two LEDs are on continuously (steady), you can register at poolwatch.hayward.fr. Get your ID Node (see below) and follow the registration process. Once you have registered, you can monitor all your AquaRite + parameters remotely with Hayward PoolWatch

Available on the **App Store**

ANDROID APP ON **Google play**

Setting the redox level (redox kit option)

The redox level tells you the oxidation potential, i.e. the disinfectant capacity of the water.

Setting the redox set point is the last step in setting the AquaRite +.

To find the optimum redox level for your pool, follow the steps below:

- 1) Start up the pool filtration system (the salt in the pool must be evenly dissolved).
- 2) Add chlorine to the swimming pool until it reaches 1 to 1.5 ppm. This level is achieved with (approximately 1 to 1.5 g/m³ of water). The pH level must vary between 7.2 and 7.5.
- 3) After 30 min. Check whether the level of free chlorine in the pool (manual DPD1 test kit) is between 0.8 and 1.0 ppm.
- 4) Look at the redox value on the screen and enter it as the redox set point.
- 5) The next day, check the free chlorine levels (manual DPD1 test kit) and the redox level. Increase / reduce the setting, if required.

Remember to check all your water parameters at regular intervals (2-3 months) (see table) and adjust the redox set point according to the steps listed above.

SERVICING

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

- Check that the pH remains at the ideal level (7.2 to 7.4).
- If the pH is exceptionally unstable and uses a lot of acid, check the alkalinity (see table).

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

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 clogged.

ADD WATER: It is preferable to add water via the skimmers so that it passes through the cell before entering the pool. Remember to check the percentage of salt after adding water.

DOSING PUMPS: Regularly check the acid level to ensure that the pump does not run dry. The dosing pump must be checked and serviced at regular intervals.

Servicing the probes

The probes must be clean and free from oil, chemical deposits and contamination to function properly. As they are in continuous contact with the water in the pool, the probes may need to be cleaned weekly or monthly, depending on the number of bathers and other specific pool characteristics. A slow response, more frequent pH calibration and inconsistent readings indicate that the probes need to be cleaned.

To clean the probes, turn off the power to the AquaRite +.

Unplug the probe connectors from the control box, unscrew the probes and carefully remove them from the chamber. Clean the probe bulb (white ring at the bottom of the body of the probe) with a soft toothbrush and regular toothpaste.

A household washing-up liquid detergent may also be used to remove any oil.

Rinse with fresh water, replace the Teflon tape on the threads, and reinstall the probes.

If the probes continue to give inconsistent readings or require excessive calibration after they have been cleaned, they should be replaced.

Servicing and cleaning the AquaRite + cell

Turn off the main power supply to the AquaRite + before removing the cell. Once it has been removed, examine the inside of the cell for any traces of scale (whitish brittle or flaky deposits) and debris stuck to the plates. If no deposits are visible, reinstall the cell. If deposits are visible, try to remove them with a garden hose. If this method is unsuccessful, use a plastic or wooden tool to remove deposits stuck to plates (do not use a metal tool as this will damage their coating). 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 cell at regular intervals. The best way to avoid this problem is to maintain the chemical composition of the water at the recommended concentrations.

Acid washing: This should only be done in severe cases where flushing will not remove most of the deposits. To acid wash, turn off the main power supply to the AquaRite +. Remove the cell from the piping. In a clean plastic container, make up a solution of water and acetic or phosphoric acid (such as that used to remove scale from a coffee machine). **ALWAYS ADD ACID TO WATER - NEVER ADD WATER TO ACID.** Be sure to wear rubber gloves and protective goggles for this operation. The level of the solution in the container should just reach the top of the cell, so that the wire harness compartment **IS NOT** under water. It may be helpful to coil up the wire before submerging the cell. Allow the cell to soak for a few minutes, then rinse it with a garden hose. If the deposits are still visible, soak and rinse again. Put the cell back and examine it from time to time.

Wintering

The AquaRite + cell, the 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.

Probe storage

The end of the probes must always be in contact with water or a solution of KCl. If they are removed from the measuring chamber, they should be stored in the plastic caps provided (filled with water). If the storage caps have been mislaid, the probes should be stored separately in small glass or plastic containers with their ends immersed in water.

The probes must always be in a frost-free environment.

TROUBLESHOOTING GUIDE

No display

- Check that the On / Off switch is on.
- Check the connection cable between the display and the control box.
- Check that the external 250 mA fuse is not defective.
- Check the power supply: 210-230 V \sim 50 Hz.
- If the problem persists, contact your pool installer/builder.

Excessive chlorine

- Low electrolytic cell current.
- If your pool has an automatic redox control system, check the redox setting.
- Check the redox probe and calibrate, if necessary.

Electrolysis does not reach maximum intensity

- 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 installer/builder).

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)

Impossible to attain a free chlorine level of 0.8 ppm

- Increase the filtration time.
- Increase the chlorination production rate.
- Check the concentration of salt in the water.
- Check the level of isocyanuric acid 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.

Alarm AL3: pH dosing pump stopped

- The maximum time allowed to attain the pH set point has been reached. The pH acid dosing pump is stopped to avoid overdosing and acidifying the water.
- Please carry out the following checks to avoid equipment failure:
 - Check that the can of liquid pH is not empty.
 - Check whether the pH read on the machine corresponds to the pH in the pool (use a pH analysis kit). Otherwise, please calibrate the pH probe or replace it, if necessary.
 - Check that the pH pump is running normally.
- To delete this message and reset the dosing, press the "Return" key.

Chlorinator display indicates LOW

- Water lacks conductivity.
- Check the water balance and salinity.
- Check for scale on the cell.
- See "Electrolysis does not reach maximum intensity".

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.

Chlorinator display indicates FLOW

- Check the flow switch cable.