2019-2631
2019-10-10

Saline C™ 6.0 Salt Chlorine Generator

CONTROLS BACTERIA AND ALGAE
in
Swimming Pool (and Spa) Waters

COMMERCIAL

A maximum of 283,000 L of water can be treated with
Saline C™ 6.0 Salt Chlorine Generator

Maximum output of hypochlorous acid equivalent to 2.268 kg
of free available chlorine per day

For swimming pools, a range of 1.0 - 3.0 ppm of free available chlorine must be maintained.

For spas, a range of 3.0 - 5.0 ppm of free available chlorine must be maintained.

KEEP OUT OF REACH OF CHILDREN

READ THE LABEL AND OPERATING MANUAL BEFORE USING

REGISTRATION NO. 30927 PEST CONTROL PRODUCTS ACT

WARNING: Operating the Saline C™ 6.0 Salt Chlorine Generator
without water flow through the cell can cause a buildup of flammable gases
which can result in FIRE OR EXPLOSION.

Do not use this device with bromide products.

NOTICE TO USER: This pest control product is to be used only in accordance with the directions on the label. It is an offence under the *Pest Control Products Act* to use this product in a way that is inconsistent with the directions on the label.

Hayward Commercial Pool Products
10101 Molecular Drive, Suite 200
Rockville, MD. 20850
Phone: (800) 657-2287
www.haywardcommercialpool.com

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Titanium Electrode

Replacement Electrode for the Saline C™ 6.0 Salt Chlorine Generator

REGISTRATION NO. 30927 PEST CONTROL PRODUCTS ACT

This electrode must only be used on this model of chlorine generating device.

READ THE LABEL AND REFER TO OWNER'S MANUAL OF THE SALINE C™ 6.0 SALT CHLORINE GENERATOR, BEFORE USING.

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HAYWARD®

Saline C™ 6.0

Salt Chlorine Generator

Owner's Manual

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Congratulations on purchasing your new Saline C™ 6.0 Salt Chlorine Generator. We trust that this system will offer you the ultimate in swimming environments, and give you years of trouble free operation.

This user's manual will explain in detail the operation of your new system, as well as water chemistry guides, warranty information, and much more.

If at any time you need additional information on your system, please feel free to contact us.

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WARRANTY

The Hayward system carries a limited 3 year warranty

1. 3 year warranty on assembly of electrical components and cell housing.
2. 1 year on all electrical items.
3. 2 years or 15,000 hours, whichever occurs first, pro-rated hourly, on titanium electrodes. (Year 1 is warranted fully, thereafter pro-rated warranty applies, applicable over the full 2 year period)

- Hayward advises that titanium electrodes will have to be replaced every 15,000 hours of operating time. Under no circumstances shall the replacement titanium electrodes exceed the original 15,000 hour warranty.

- Hayward warranties will not be honored should it be shown that the operating and maintenance procedures have not been followed, particularly with regard to the correct maintenance of salt concentration and water chemistry.

- Hayward warranties of the titanium electrodes will not be honored if the system is operated in water temperatures lower than 15°C.

- Hayward warranties of the titanium electrodes will not be honored if the system is operated in water where the salt concentration is lower than 3000 ppm.

- During the warranty period the customer shall return the defective component, freight prepaid, accompanied by the original invoice or proof of purchase, and Hayward shall at its sole discretion elect to repair or replace the defective component and return it to the customer, freight pre-paid.

Hayward accepts no responsibility other than to repair or replace a defective component, and this warranty specifically excludes product failure due to accidental damage, abuse, misuse, negligence, damage due to non-compliance of the operating manual or unauthorized alterations or modifications to the system. Hayward accepts no responsibility and is not liable for any extended warranties or variations to this warranty offered by re-sellers of Hayward systems.

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SAFETY INFORMATION

PLEASE READ THE FOLLOWING SAFETY INFORMATION CAREFULLY!

WARNING!

- Only a certified technician may install and service your Hayward system.
- Do not use this product with bromide products.
- Modifying your Hayward system in anyway may cause bodily injury and will void your warranty.
- Warning: To reduce the risk of injury, do not allow children to operate this device.
- Only replace components with those specified by manufacturer.
- When installing your system, ensure that power is linked to the main pump power source for the pool to ensure that your Hayward system never operates when the pumps are off.
- All boxes on your Hayward system contain high voltage components. Never open any box while power is “on”.
- WARNING: Heavy pool (and/or spa) usage, and higher temperatures may require higher chlorine output to maintain proper free available chlorine residuals.
- If additional chlorine is required due to heavy bather loads, use granular or liquid chlorine (sodium hypochlorite), to maintain appropriate chlorine residual in the water.
- Maintaining high salt and chlorine levels above recommended range can contribute to corrosion of pool (and/or spa) equipment.
- DO NOT add pool (and/or spa) chemicals directly to the skimmer. This may damage the cell.
- Check the expiry date of the test kit as results may be inaccurate if used after that date.

- When replacing the cell, only use replacement cells having a label that clearly states that it is a replacement cell for the chlorine generating device Saline C™ 6.0 Salt Chlorine Generator, REGISTRATION NUMBER 30927, *PEST CONTROL PRODUCTS ACT.*

- Follow all aspects of the local and National Electrical Code(s) when installing Saline C™ 6.0 Salt Chlorine Generator.

- NOTE: For outdoor pools, chlorine residuals can be protected from destruction by sunlight by addition of stabilizer (cyanuric acid).

- NOTE FOR USE ON SPAS: For proper sanitation, spas must be completely drained periodically. The number of days between COMPLETE DRAINAGE is equal to the volume of spa water in litres, divided by 10 times the maximum number of daily spa users. Refill spa with water and repeat DIRECTIONS FOR USE of the device.

- HEALTH AND HYPERTHERMIA WARNINGS FOR SPA DEVICES:

    - People with a medical condition should consult a physician before entering pool or spa water.

    - Maximum spa water usage temperature is 40°C. Bathing in spa water at 40°C should not exceed 15 minutes.

PREPARING YOUR WATER BEFORE INSTALLATION

Hayward saline chlorination systems operate by utilizing the sodium chloride that has been added to the pool water, to produce sodium hypochlorite (liquid chlorine), through the process of electrolysis.

In order for your Hayward system to operate correctly, sodium chloride (salt) must be added directly to the pool at least 24 hours before the installation of the equipment.

5 kg of sodium chloride must be added for every 1,000 litres of pool water (ie: a 200,000-litre pool will require 1,000 kg of salt for start-up).

It is best to add the salt around the pool, and not load all salt in one section. Once the salt has been added, brush the surface of the pool continuously until the salt has all dissolved. You must never leave large amounts of salt on the surface of the pool, as this may cause damage to the pool surface.

When you add the initial load of salt, you will need to add additional chlorine, as the salt will cause a chlorine demand.

Your pool water should be balanced in the following range before turning your Hayward system on.

Water balance parameters

	Swimming pool	**Spa**
Free available chlorine	1.0 – 3.0 ppm	3.0 – 5.0 ppm
pH	7.2 – 7.8	7.2 – 7.8
Total alkalinity	100 – 120 ppm	100 – 120 ppm
Calcium hardness	200 – 300 ppm	150 – 200 ppm
Cyanuric Acid (stabilizer)	30 – 100 ppm	30 – 100 ppm

Salt ranges

	Swimming pool	**Spa**
Salt level	4,000 – 5,000 ppm	4,000 – 5,000 ppm

NOTE: Low salt levels will cause a reduction in chlorine production and will damage the device. High salt levels will increase the possibility of corrosion on pool equipment.

NOTE: If too much salt has been added, dilute with fresh water.

Use standard test kits to check water chemistry, and use either a conductivity tester or salt test strip to check saline levels.

(Note that most conductivity testers require frequent calibration to ensure accurate readings, failure to calibrate the equipment will result in inaccurate readings.)

How to Calculate volume of a pool

For a rectangular shaped pool

Length (m) x Width (m) x Average Depth (m) x 7.5 x 3.8 = Litres of water

For an oval or round shaped pool

Average length (m) x Average Width (m) x Average Depth (m) x 5.9 x 3.8 = Litres of water

The following is a chart to determine the amount of salt required to raise a pool or spa to 5000 ppm

SALT CHART FOR CORRECT MAINTENANCE

ppm Salt Levels		**Number of KG of Salt to Be Added**									
ppm Salt					**Pool and or spa Volume (litres)**						
	1,000	**100,000**	**200,000**	**300,000**	**400,000**	**500,000**	**600,000**	**700,000**	**800,000**	**900,000**	**1,000,000**
5000	**CORRECT**	**CORRECT**	**CORRECT**	**CORRECT**	**CORRECT**	**CORRECT**	**CORRECT**	**CORRECT**	**CORRECT**	**CORRECT**	**CORRECT**
4800	2	20	40	60	80	100	120	140	160	180	200
4400	6	60	120	180	240	300	360	420	480	540	600
4000	10	100	200	300	400	500	600	700	800	900	1000
3800	12	120	240	360	480	600	720	840	960	1080	1200
3500	15	150	300	450	600	750	900	1050	1200	1350	1500
3200	18	180	360	540	720	900	1080	1260	1440	1620	1800
3000	20	200	400	600	800	1000	1200	1400	1600	1800	2000
2700	23	230	460	690	920	1150	1380	1610	1840	2070	2300
2500	25	250	500	750	1000	1250	1500	1750	2000	2250	2500
0-(Initial Salt Addition)	50	500	1000	1500	2000	2500	3000	3500	4000	4500	5000

Note:
There may already be some salt present in the pool or spa water.
Be sure to test the salt levels prior to adding more salt to the water.

TOOLS AND PARTS REQUIRED FOR INSTALLATION

Your Hayward system will include an installation kit comprising of the following items:

Description	Qty
Strainer clear bowl with 20 mesh	1
PVC ball valve Sch. 40	2
PVC male adaptor Sch. 40	4
PVC nipple SCH 80	2
PVC bushing Threaded	1
PVC union S EPDM w/o O-ring Sch. 80 threaded	2
Akenstrut clamps	2
Polypropylene valve, speed fit	2
Elbow street 90, SCH 80	2
Salt test strips	1

Additionally you will need the following items, not included, to complete the installation:

- Polypropylene tubing
- Flex PVC tubing
- Wall anchors
- Disconnect box, fuse box, conduit, wiring and related material to supply 220v to systems (220v systems only)

The following tools will be required to complete the installation:

Hand Tools
Set of sockets
Hammer
Screw Drivers – Flat & Phillips
Wire Strippers
PVC Cutters
60 cm (24") Level
Slip joint pliers
Crescent wrench
Tape Measure
Teflon Tape
Allen Wrenches
True RMS Clamp Meter
Wire Cutters

Power Tools
Drill
Hammer Drill

Drill Bits
Hole saw
Paddle bit
Steel bit drill set
Mason bit

Taps
2.5cm
0.9cm

PLUMBING YOUR SYSTEM

Your Hayward system can be plumbed using two different methods. Both will work fine, however, the following must be taken into account before making the decision of what method to use.

1. Your Hayward system requires a minimum of 75 Lpm of flow through the cell to produce the rated amount of chlorine. Be sure that if you use the pressure drop plumbing method [1] you have sufficient pressure drop across your filter to adequately flow 75 Lpm through the cell.

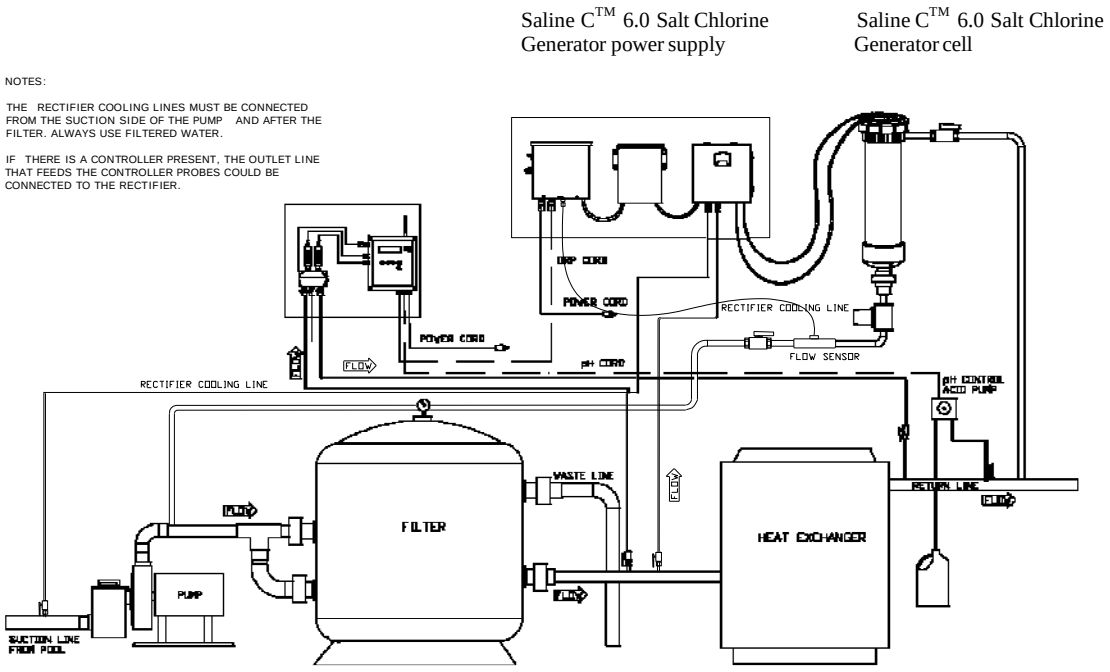
2. When using the pressure drop plumbing method [1], you are sending un-filtered water through the cell, so you need to ensure that you clean the included strainer at least 1 time per week to remove any debris. Failure to clean the strainer will result in a lack of flow, reducing chlorine production, and ultimately reducing flow to the point that the flow switch de-activates the system.

3. If you elect to use the bypass plumbing method [2], you will need to purchase a butterfly valve based on the size of the pipe you are using. This can sometimes be cost prohibitive, but the upside of this plumbing method is that you are sending filtered water through the cell, which reduces the frequency of needing to clean the strainer. Bypass plumbing method [2] also generally allows for more flow through the cell, which is recommended.

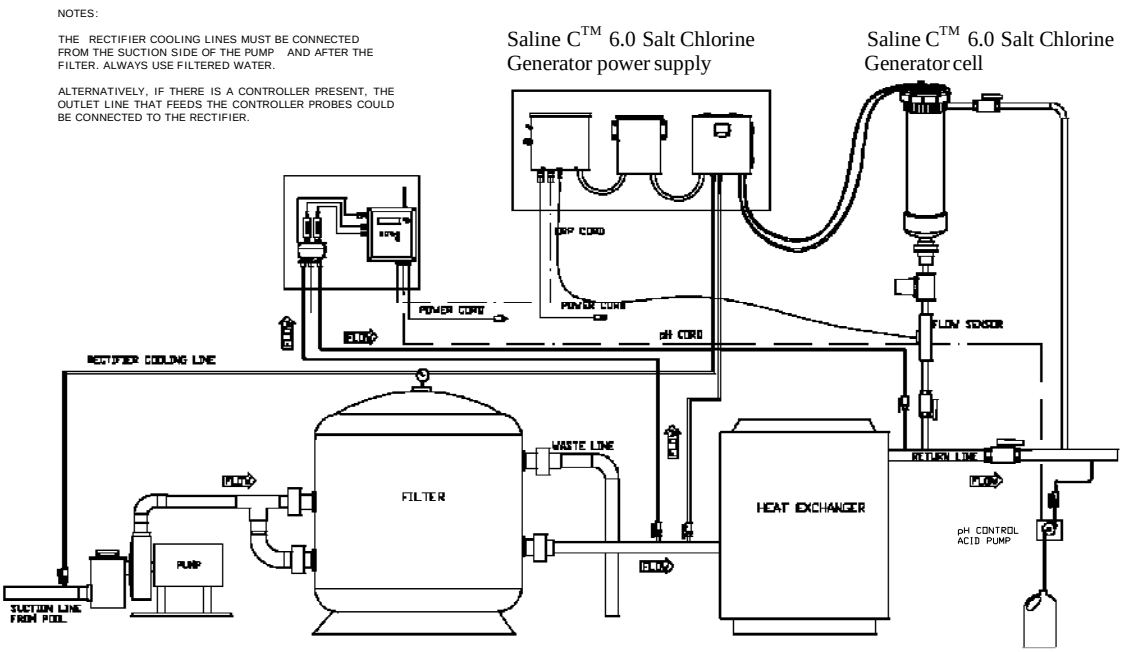
4. Remember, always ensure that the return line from the Hayward cell is plumbed after the heater. **Never** plumb the return line before the heater, as you will be sending a high ppm of chlorine through heater, which may cause damage.

5. No matter which plumbing method you use, you will always have to plumb the cooling line into box 3 (rectifier) using filtered water. This cooling line allows the heat sink in box 3 to cool the critical components.

PRESSURE-DROP PLUMBING METHOD [1]



BYPASS MANIFOLD PLUMBING METHOD [2]



ELECTRICAL SPECIFICATIONS

Each Hayward model has very specific wiring requirements based on its line voltage and amperage draw.

- The Saline C™ 6.0 Salt Chlorine Generator operates at 110 – 120v. A power cord will be supplied out of the power box. Plug this into any standard 110 – 120v outlet. As above, the cord labeled ORP must be plugged into a controller, or a 120v outlet.

- Your Hayward system **must** be wired to the main pump power supply, so that if the pump is shut down, the power to your Hayward system is lost.

ELECTRICAL SPECIFICATIONS AND FUSE SIZING

MODEL:	MAX PRIMARY AC AMPS	SYSTEM INPUT VOLTAGE	BREAKER REQUIRED
Saline C™ 6.0 Salt Chlorine Generator	9.9	110 – 120v	20amp

Fuse sizing:

Model	Fuse size and type
Saline C™ 6.0 Salt Chlorine Generator	20amp dual element, slow blow, RK5 fuse

STARTING THE SYSTEM

Once your Hayward system has been successfully wired and plumbed, it is ready for use.

- Make sure that the valves to and from the cell are in the open position.
- Make sure that you have water flowing through the water-cooled heat sink in box 3.
- Ensure that the cord labeled ORP is either plugged into a controller or directly into a 110v outlet

1. Move the safety switch to the “on” position.

2. Wait 10 seconds for the system to respond.

3. Turn the black knob on the side of box 1 clockwise, and watch the amp or voltmeter on box 3 slowly increase.

(**If your system is linked to an automatic ORP controller, we suggest you turn the system to maximum, which will allow for full production every time the controller calls for it. If you are running your system manually you will need to find the point at which you keep a satisfactory level of chlorine in the water. It may take several days to find this point.)**

- If your Hayward system is linked to an automatic controller, remember that it will only work when the controller is in feed mode. It is also a good idea to make sure that your controller is not set in proportional band mode, instead try using double set point control (if your controller supports this function). An example of this is if you want to maintain a 700 ORP, have the controller set to turn on at 695 ORP and turn off at 705 ORP, that way your Hayward system is not switching on and off all the time.

(Call the manufacturer of your controller if you are having difficulties in comprehending the saline chlorination system set up instructions. Most controllers also require a “gold tip” ORP probe when working with a saline chlorination system.)

GENERAL OPERATION

Your Hayward system operates when power is activated by the main pumps, and from your ORP controller, and will continue to operate for as long as power is applied from those two sources.

- The system has an output range of 5-100% of the rated chlorine production, and can be adjusted by turning the black knob of the side of box 1 in a clockwise or anti-clockwise motion. When adjusting the control knob on the side of box 1, you will notice the amperage needle of the gauge on box 3 increases or decreases.

  Higher amperage = higher chlorine production.

Normal operating amps and volts for this model device are:

- Saline C™ 6.0 Salt Chlorine Generator - 25 amps @ 15v

- Water flow through the Hayward cell is critical. Whether you plumbed your system in using the pressure drop or bypass method, please ensure that you have at least 75 Lpm through the cell to achieve the rated chlorine production.

  **** Remember, your Hayward system is a chlorine generator, and will only operate as well as you maintain it. Careful attention must always be paid to proper chemical balancing, and regular service.**

MAINTENANCE AND CLEANING

Your Hayward system is designed to operate 24/7 at max power, and will give you years of trouble free use if you follow these basic maintenance and cleaning instructions.

- Remember, this system produces sodium hypochlorite “liquid chlorine” from the salt that you have added to the water. It will only continue to operate correctly if salt is maintained at the correct 5000ppm level. Low salt will lower the amount of chlorine produced, and cause damage to the electrolytic cell. **(Warranties will not be honored if it is determined that salt has been run low.)**

- There is a strainer mounted at the bottom of your Hayward cell, which will trap debris and stop it from entering the cell, this strainer needs to be cleaned regularly.

- The plates that are inside the PVC cell housing are the most critical part of the system. You will notice that over time a white substance (calcium minerals) will build up on the plates, especially at the top of the cell. This buildup needs to be cleaned by removing the cell from the housing and soaking it in a dilute muriatic solution (1:5) for about 10 – 15 minutes. Reverse polarity systems will need to be cleaned every 3 – 6 months. **(Warranties will not be honored if it is determined that the cell has not been cleaned regularly.)**

1. Muriatic acid is corrosive, please follow safety instructions and wear protective clothing.
2. To avoid splash, always ADD MURIATIC ACID TO WATER rather than water to muriatic acid.

- **Remember, the titanium plates that make up the cell are the most expensive part of the Hayward system and are going to need to be replaced roughly every 15,000 hours of operating time. By ensuring that salt is always at the correct level, and plates are cleaned regularly, you will increase their “life”, thus saving you money…**

Hayward offers a wide range of other products that can help you maintain salt levels in your pool, including conductivity controllers and saturated salt feeders for those pools that lose large amounts of water.