

# Saline Blue

## SALT WATER CHLORINATORS – INSTALLATION INSTRUCTIONS

### An introduction to salt water chlorination.

- Salt water chlorination is the healthy alternative to chlorinating your swimming pool, the natural way.
- Very simply, coarse salt is added to your pool to form a mildly saline solution.
- The salinity is kept at a pleasantly comfortable level, being typically one fifth or less than that of sea water.
- The system works by producing chlorine in the unique SALINE BLUE cell in low concentrations whenever the pump and filter is running, and as the filter runs for many hours of the day, the pool's total chlorine demand will still be met, even at these low concentrations.
- With the SALINE BLUE system, chlorine is produced by electrolysis of the pool water as it flows through the cell and returns to your pool.
- A major advantage of the SALINE BLUE system is that the chlorine produced in the cell has no effect on your pool's pH, total alkalinity or calcium hardness, which is not the case with other chlorination methods, making it easier and less costly for you, the pool owner, to keep your water in balance.
- By automatically chlorinating your swimming pool this way, many of the problems associated with other chlorination methods, are eliminated.
- The process is safe, effective, economical, and healthy and requires only minimum maintenance.

## Introduction to the Saline Blue Cell

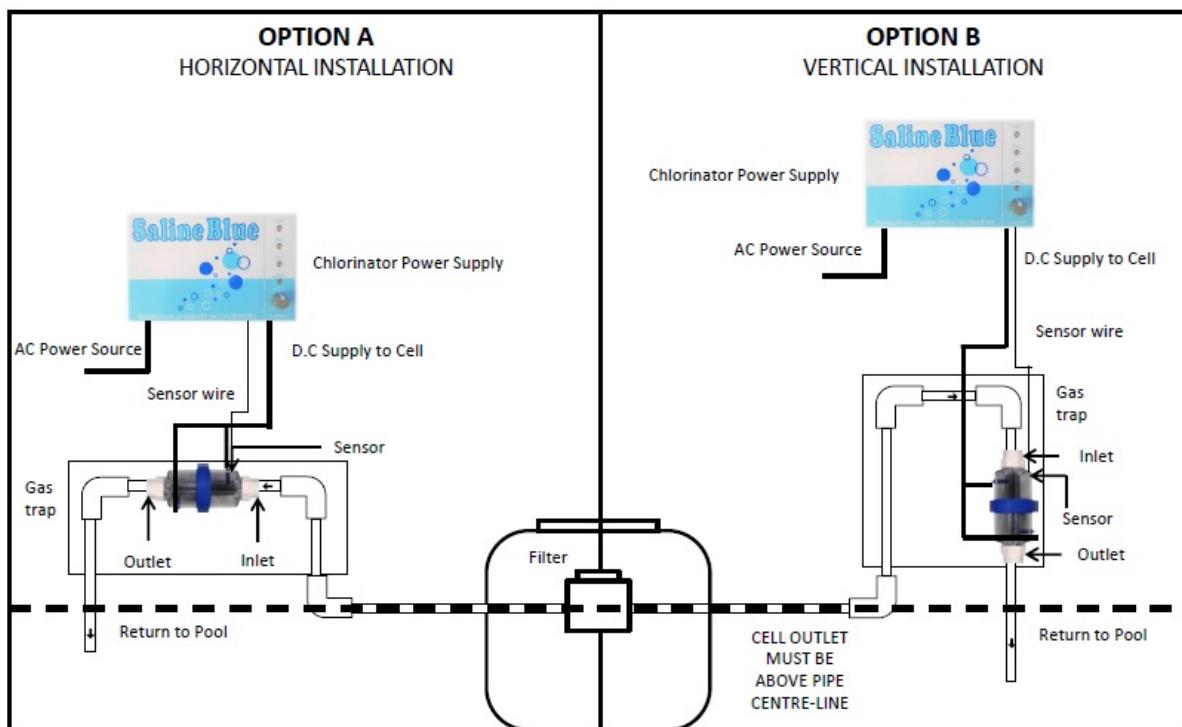
- Ease of installation – unions both ends.
- Improved linear water flow within the cell.
- Lower replacement costs.
- Extended cell life with no knife edge erosion.
- Virtually Zero maintenance.
- Clear housing allows easy monitoring of electrodes & chlorine production.
- Cell housing withstands in excess of 4 bar under test.
- Inline water strainer prevents particles lodging between plates.
- Pro-active water environment monitoring for optimum Chlorine output & cell life.
- All top quality titanium parts, fully serviceable cell.

## The Saline Blue Power Pack

- Power Supply efficiency better than 80%, resulting in reduced electricity costs and longer equipment life.
- All aluminium enclosure for light weight, corrosion resistance and heat dissipation.
- Compact, easy and quick to fit, saving time and money.
- Easily accessible, the enclosure is easily mounted onto walls, or within pool boxes, and needs only one posi screw removed to expose enclosure interior.
- The control box is easily mounted on two screws or bolts which are predetermined on a tear off section of the packaging box. Once these are fixed the control box simply clips on.
- Short circuit and overload protected – cannot be damaged by overdosing with salt.
- Automatic salt concentration and cell function monitoring.
- Fixed current output, timer controlled, allows chlorine output to be accurately adjusted even for very small pools while ensuring maximum cell life.

- Soft-start capability to protect electrode coating at switch-on and at polarity reversal.
- Advanced reversal circuitry which:
  - Remembers its 'run' status even without power
  - Ensures maximum electrode protection during the reversal sequence
  - Monitors pool water environment to maximise Chlorine production & cell life.
  - Should water environment be detrimental to cell life, the unit will shut down.

## Typical Installations



## The Saline Blue Salt Chlorinator Control Box

1. Mount the control box vertically, preferably out of direct sunlight and out of the direct path of any irrigation system. Make sure any plant room or filtration box is well ventilated so as to avoid condensation, especially if other chemicals are also stored in it. Chemical fumes are corrosive!
2. The 'A.C.' mains cable must be connected to the output of the pump timer or wired to the pump motor. This must be undertaken or authorized by a registered electrician.
3. Failure to install the control box as per the aforementioned paragraph may invalidate your warranty.

4. The chlorinator "earth" lead (green / yellow) must be connected to the "earth bus" inside the distribution board, or in accordance with the earthing requirements of the relevant local authorities, if specifically required.

## The Saline Blue Salt Chlorinator Cell

1. Install the cell as shown in the accompanying diagrams using the pipe work to create a 'gas trap'.
2. Ensure the sensor is always positioned at the top, if installed vertically or horizontally.
3. *The cell must be installed as the last piece of equipment in the pool return line, i.e. downstream of any receptacles, pool heaters, solar heaters and other equipment.*
4. If the cell is installed below the pool water level, isolating valves should be fitted at both sides of the cell.

## Salt requirements and calculations

- High purity salt is recommended.
- Iodated salt is **NOT** suitable.
- Always remember: higher salt concentrations = longer cell life and higher chlorine output.
- Lower salt concentrations = reduced cell life and poor chlorine output.
- The transition between 'salt low' and 'salt ok' is set to occur below 0,4%. Always keep your salt levels above 0, 5% for best performance.

## Adding salt to your pool

- Adding salt may be needed from time to time to maintain an optimum salt level.
- Use a salt test strip to determine the salt level in the pool water prior to adding any salt, or ask your local pool shop to test it for you.
- Use the table below to calculate the quantity of salt required to adjust the pool salt concentration.

### Calculation Table

Current salt concentration	Pool volume in liters Pool volume = Length x Average Depth ( Usually 1.2 m to 1.4 m )						
	%	25000 L	50000 L	75000 L	100000 L	125000 L	150000 L
	0	125 kg	250 kg	375 kg	500 kg	625 kg	750 kg
0.1	100 kg	200 kg	300 kg	400 kg	500 kg	600 kg	
0.2	75 kg	150 kg	225 kg	300 kg	375 kg	450 kg	
0.3	50 kg	100 kg	150 kg	200 kg	250 kg	300 kg	
0.4	25 kg	50 kg	75 kg	100 kg	125 kg	150 kg	
0.5	0	0	0	0	0	0	

- When adding salt, place the unopened bags on the stair area of your swimming pool, with some black refuse bags underneath them to prevent staining.
- Check salt levels once a month, more frequently in rainy weather, and adjust accordingly.

## Saline Blue Control Box Operation and Settings

### POWER ON Light:

The power pack controller is receiving power.

### CELL ON Light:

The cell is receiving power.

### SALT LOW Light:

Add salt now to ensure adequate levels of chlorine are produced and to avoid shortening the life of your cell.

### CELL PROTECT Light:

This light will come on in combination with the "salt low light" and indicates improper water environment which could be detrimental to the cell. Perform the following checks in sequence to find the cause of the fault:

- Check that the cable connections to the cell are tight, clean and that the cables are not damaged.
- Have your salt levels tested at your nearest pool shop and if low, add the required amount of salt to bring the level up to above 0,5%. If your cell is still serviceable the "cell protect" and "low salt" lights should go off and normal chlorinator operation should ensue. If the red lights stay illuminated with adequate salt levels in the swimming pool, then the cell requires replacing.
- If the Saline Blue chlorinator is operated in unfavorable conditions the cell protect and salt low light will light up and the unit may switch off.

**Check your chlorine residual levels periodically to ensure your swimming pool is being adequately sanitised. Chlorine levels should be kept in the 1 – 3 ppm range. Adjust the output select up or down accordingly.**

### Suggested filtration run cycles

- Saline Blue recommends operating your chlorinator for two cycles per day (an early morning and late afternoon cycle). These cycles are especially necessary if the swimming pool is not stabilized. Depending on the season, bather load and sunlight exposure, each cycle could vary from 3 – 6 hours, i.e., a total of 6 – 12 hours or more per day.
- If it is necessary to operate the Saline Blue salt water chlorinator only during the daytime, then the addition of stabilizer is recommended.
- In winter, a single daily cycle of 3 – 5 hours should suffice.

**In extremely hot climates, or during periods of unusually hot weather, it may be necessary to super-chlorinate your swimming pool once every 2 – 4 weeks. Contact a local pool dealer, or email us for further information.**

In unfavorable conditions, detrimental to the cell life, the unit may switch off. When conditions are again favorable the unit will automatically switch on.

### Cell maintenance and cleaning

The Saline Blue salt chlorinator cell incorporates a molded-in strainer at the inlet to prevent any debris that may enter the cell, from fouling the electrodes.

As the cell is molded from clear plastic, it is easy to inspect the strainer visually. Inspect the strainer periodically and clean when necessary.

**To clean your cell:**

Turn off pump and SALINE BLUE chlorinator, and turn the multiport valve to the "closed" position.

**To remove the cell:**

Unscrew the two unions and remove the cell assembly. It should not be necessary to disconnect the cables. Carefully remove any debris from the strainer, by hand, or by flushing with a hosepipe. If a hosepipe is used, and the cables have been disconnected from the cell, take time to seal off the cable connections so that they do not get wet.

**To replace the cell:**

Make sure all contact surfaces are clean and that o-rings are present, then replace the cell in the swimming pool return line. Refit the cell power cables if they have been disconnected. If the chlorine output has been set to the "OFF" position, reset to the position prior to cleaning. Turn the multiport valve back to the "filter" position.

**Water chemistry**

The industry standards for swimming pool water are as follows:

Water Balance	Gunite	Fiber Glass
Free chlorine ppm	1.0 to 3.0	1.0 to 3.0
pH	7.2 to 7.6	7.0 to 7.4
Total alkalinity ppm	80 to 120	80 to 100
Calcium hardness ppm	150 to 300	90 to 180
Stabilizer ppm	40 to 60	40 to 60
Salt concentration %	0.4 to 0.6	0.4 to 0.6

**Regularly check and maintain the chemistry of your swimming pool in accordance with these standards to ensure your SALINE BLUE chlorinator works at maximum efficiency.**

## Regular pool maintenance checks

### Weekly checks:

- Visually check the cell electrodes. Only if necessary, remove the cell and flush with a garden hose to remove any debris that may have passed through the filter and lodged in the cell housing. Avoid inserting objects into the cell which can scratch or bend the cell plates. Avoid wetting the power terminals.
- Check the free chlorine level.
- Check the total alkalinity. Adjust if necessary.
- Check the pH of the water. Adjust if necessary.
- Check the pressure gauge on the filter to see if backwashing is necessary.
- If no pressure gauge is present, see that returns to pool are running strongly.

### Monthly checks:

- Check the salt concentration of the pool. Adjust if necessary.
- Check the chlorine stabilizer level. Adjust if necessary.

### Regular checks:

- Clean the weir basket, pump strainer basket, cartridge filter and sand filter (whichever is applicable)

## Warranty

- Saline Blue warrants that Saline Blue salt water chlorinators are free from any defects in materials and workmanship only, for a period of 24 months from date of purchase.
- Saline Blue offers a 36 month pro-rata warranty on the cell. Conditions apply.
- This warranty shall not apply to defects caused by abnormal usage of, or incorrect application of, or incorrect installation of the abovementioned equipment, or by neglect on the part of any person other than Saline Blue.
- This warranty shall lapse if any repairs are attempted or affected by any person not authorized thereto by Saline Blue. Consequential damages or costs however arising are expressly excluded.
- This warranty applies to domestic pools.

## Frequently asked questions

### **What is a Saline Blue Chlorinator?**

- It is an automatic, electronic device that generates chlorine from salt (on-site-electrolytic-chlorination)
- The SALINE BLUE salt water chlorinator consists of a cell, where the chlorine is produced, and a power pack, which supplies regulated power to the cell.

### **How does a Saline Blue Chlorinator work?**

- Chlorine is generated by pumping mildly salted water through the cell during the normal filtration cycle which is returned to the swimming pool where the chlorine gas acts to purify the water.

### **Why use a Saline Blue Salt Chlorinator?**

- Salt chlorination is the healthy alternative to chlorinating your pool; the natural way.
- No need for dangerous storing of granular or liquid chlorine.
- No more red eyes and dry itchy skin.
- Lower maintenance and lower operating costs compared to any other chlorination method.
- Quick and easy to install.

### **What size model will I need?**

- Small pools from as little as 10 000 liters can be accurately chlorinated by the SBR50.
- The SBR-50 Chlorinator will handle up to 50.000 liter pools in cooler climates.
- The SBR-100 model will sanitize larger pools up to 100.000 liters.
- The SBR-150 Salt Chlorinator is manufactured for swimming pools up to 150.000 liters.
- Pools up to 1500 000L can be catered for by using multiples of the above chlorinators.

### **How long will the cell last?**

- Our electrode coatings are designed for 10 000 hour life spans under normal operating conditions.
- Depending on operating conditions, expect to replace the cell every 3–6 years.
- 15 000 hour electrode material is available on request for even longer life spans.

### **How do I get started?**

- It's easy! After installing your salt chlorinator simply add the recommended amount of salt to your swimming pool.
- Choose your desired filtration run cycles.
- Choose desired chlorine output.

### **How much salt will I need?**

- SALINE BLUE salt water chlorinators are designed to operate at salt concentrations 4 000 parts per million (.4%) and up.
- A salt level of 4 000 ppm – 6000ppm is optimum.
- Sea water, by way of comparison, is about 35 000ppm (3.5%).

### **What type of salt should I use?**

- High purity salt is recommended.
- Iodated salt is NOT suitable.
- Consult your pool dealer for further advice.

### **Will I need to add salt later?**

- Yes. The amount required depends on climatic conditions, frequency of backwashing, splash-out, pool leaks and of course, pool volume.
- Salt is not lost via evaporation or during chlorinator operation.
- As a rough guide, you can expect to add between 25 – 50% of the initial amount of salt added at start-up, annually.

### **What will happen if my salt level is too high?**

- Nothing at all. SALINE BLUE salt chlorinators are overload and short circuit proof and will not be damaged at any salt level.

- In fact, higher salt concentrations are beneficial as they increase the chlorine output and life span of the cell.

### How do I know when to add salt?

- It's easy! Simply check the status of the 'Salt Low" indicator on the SALINE BLUE power pack and top up with salt when the indicator is illuminated.
- Your pool dealer will be able to test your water and advice on precise levels if desired.

### Is there any maintenance involved?

- SALINE BLUE Salt Chlorinators use sealed, self-cleaning cells that remain scale free during their operation, eliminating the need for manual scale removal.
- However good a SALINE BLUE Salt Chlorinator is, remember it was developed to assist you with the maintenance of your swimming pool. The water chemistry still needs to be within certain parameters for the chlorinator to be effective.

### Does salt damage pool equipment?

- Modern pool equipment materials will not be damaged by the low levels of salt used by SALINE BLUE salt chlorinators.
- However, should your swimming pool be more than 20 years old and have visible steel piping and fittings, then these should be replaced with PVC or other suitable plastic material.