

CPSC SERIES

SALT WATER CHLORINATOR

HIGH PERFORMANCE

SELF CLEANING CHLORINATION SYSTEM



Leading the way in
Pool & Spa Equipment Since 1979

88 Spencer Road Nerang Qld 4211 Australia

Phone: +61 (0) 7 5596 3773 Fax: +61 (0) 7 5596 1951

Email: sales@compupool.com.au

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OPERATION

1.1 General

The Compu-Pool CPSC Series is an automatic chlorine generating system for pool or spa sanitation. The operation requires a low concentration of salt in the pool or spa water. The Compu-Pool CPSC Series sanitizes your pool by converting the salt into free chlorine after killing bacteria.

The Compu-Pool CPSC Series is rated to handle the following size pools and spas:

Compu-Pool CPSC 08	-	10,000 litres (3,000 Gallons)
Compu-Pool CPSC 16	-	60,000 litres (16,000 Gallons)
Compu-Pool CPSC 24	-	80,000 litres (24,000 Gallons)
Compu-Pool CPSC 36	-	120,000 litres (35,000 Gallons)

1.2 The Chemistry Involved

The Compu-Pool CPSC Series Cell, by electrolysis, produces sodium hypochlorite (NaOCl). In water, sodium hypochlorite dissociates into sodium (Na⁺) and hypochlorite (OCl⁻) ions.

It is the hypochlorite ions that form with the hydrogen (H⁺) ions (from the water) to form hypochlorous acid (HOCl), the active agent that destroys bacteria and algae, and oxidizes organic matter.

1.3 Water Chemistry - The Essentials Swimming Pools / Spas

Chlorine Stabilizer (cyanuric acid): Chlorine Stabilizer is needed to maintain proper levels of chlorine. Most unstable chlorine is destroyed by the UV radiation from the sun within 2 hours. Chlorine stabilizer must be maintained between 40 – 100 PPM.

Nitrates: Nitrates can cause extremely high chlorine demands and will deplete chlorine from your swimming pool. In some cases Nitrates may even lower your chlorine levels to zero. Your local pool professional can test for Nitrates. Make sure Nitrates are not present in your pool.

Free Available Chlorine

1.0 – 3.0 ppm
2.0 – 3.0 PPM

pH

7.2 – 7.8
7.2 – 7.8

Calcium Hardness

200 – 300 ppm
150 – 200 PPM

Stabilizer (Cyanuric Acid)

40 – 60 ppm (min.)
40 – 60 ppm (min.)

Total Alkalinity

100 – 120 ppm
80 – 120 ppm

Metals: Metals can cause loss of chlorine. Also, metals can stain your pool. Have your local pool professional check for metals and recommend methods of removal.

Chloramines: Chloramines should not be present in pool water. When organic materials combine with Free Chlorine, Chloramines are formed. This ties up the Free chlorine in your pool and does not allow the chlorine in your pool to disinfect. Chloramines also cloud pool water and burn the eyes. (Super Chlorinate (shock) to remove Chloramines at the initial startup of the pool).

pH Levels: pH produced by the Chlorinator is close to Neutral pH. However, other factors usually cause the pH of the pool water to rise. Therefore, the pH in a pool chlorinated by the Chlorinator tends to stabilize at approximately 7.8. This is within national standards. If the pool pH rises above 7.8 have a pool professional test to see if other factors such as high Calcium Hardness or Total Alkalinity are the cause and then balance accordingly.

Total dissolved Solids (TDS) adding salt to pool water will raise the TDS level. While this does not adversely affect the pool water chemistry or clarity, the pool water professional testing for TDS must be made aware salt has been added for the chlorinator system. The individual performing the TDS test will then subtract the salinity level to arrive at the correct TDS level.

1.4 What Type of Salt to Use

The purer the salt the better the life and performance of the electrolytic cell. Use a salt that is at least 99.8% pure NaCl. The preferred salt is an evaporated, granulated, food quality, non-iodized salt. Consult your salt supplier.

Avoid using salt with anti-caking agents (sodium ferrocyanide, also known as YPS or yellow prussiate of soda) that could cause some discoloration of fittings and surface finishes in pool.

Water conditioning salt pellets are compressed forms of evaporated salt and may be used but will take longer to dissolve.

Do Not use calcium chloride as a source of salt.

(Use sodium chloride only.)

Do Not use Rock salt

(insoluble impurities mixed with the rock salt can shorten the life of the unit).

1.5 Using the Front Panel Controls

MAIN SWITCH

1. ON / OFF: For normal operation, the Main Switch should be left in the on position. In this position the Compu-Pool CPSC will produce chlorine according to the desired output %. Simply press the button again to turn the unit off.

2. SELECT BUTTON: This button will allow access to the timer settings. When using this function the button needs to be pushed in for 3 seconds before the select button will response, this is provided as a safety device.

3. SUPER CHLOR: When you have an abnormally high bather load, a large amount of rain, a cloudy water condition which needs a large amount of purification to be introduced, simply press the SUPERCHLOR button. This electronically “super chlorinators” the water for 24 hours or until the power has been turned off.

4. WINTER MODE: When you not using your pool during the winter months, it is advisable to activate the winter mode, simply press the WINTER MODE button. The Winter Mode will reduce the output of chlorine to 50% of set output, for example, output is 80% winter mode 40%. Reducing the chlorine output during periods when the pool is not in use will help maximize the life of the cell.

5. MANUAL PUMP OVERRIDE: To override the time clock, switch the unit off, via the power button. Once the unit is off, simply press the right chlorine output button. This will allow the filter pump to continual run without chlorination.

6. CHLORINE OUTPUT LEVELS: Pressing the arrow button left or right will change the CHLORINE PRODUCTION in 10% increments.

7. SETTING THE TIME: There are two timer functions to allow two filtration cycles per day. Set the timer cycles to meet your desired running time via the chlorinator menu / select button. When setting the timer use the up and down arrow keys to move the cursor and select the correct time.

INDICATOR LED's

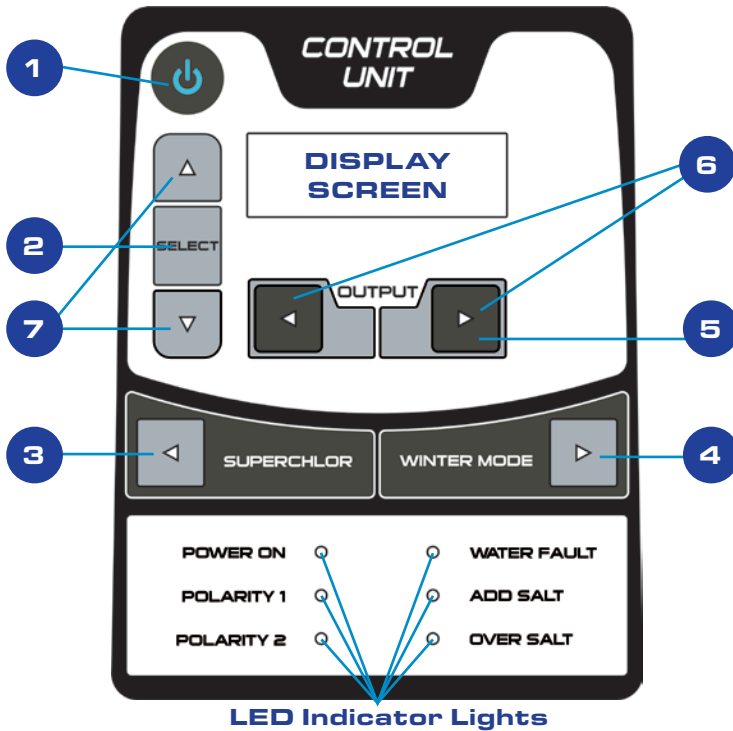
POWER: When illuminated, the Compu-Pool CPSC has input power activate.

POLARITY 1 & 2: When illuminated, it indicates which side of the cell is producing.

NO FLOW: When illuminated, the flow switch has detected no water flowing and the Compu-Pool CPSC has stopped generating chlorine. After 2 minutes this fault will automatically turn the unit off for safety reasons.

OVER SALT: When illuminated, the salt level is too high. The Compu-Pool CPSC has an inbuilt regulating system that enables it to continue to produce chlorine with the increased salt content. At this point do not add any further salt and allow the salt content to return to desirable levels.

ADD SALT: When illuminated, the salt level is to low and the Compu-Pool CPSC is generating at low efficiency. Further salt is required, it is advisable to have your salt level professionally checked. Correct salt levels are important for maximising cell life and desired chlorine output.



LED Indicator Lights

1.6 Maintenance

The Cell operates most efficiently when it is clean, so the auto cell cleaning will keep the cell free of the white calcium build up common to standard chlorinators. However a six monthly check and possible cleaning of any foreign buildup will maintain full chlorine output and prolong cell life.

To remove the Cell, isolate the power supply to filter pump and chlorinator. Unplug the cell cord from the cell terminals.

Undo the two-barrel unions joining the cell housing to the pool filtration system and carefully remove the cell housing. Lay the housing upside down on a flat surface with the inlet ports on top.

To clean the Cell, if any foreign buildup is visible, fill the cell housing with a solution of five parts water and one part hydrochloric acid. Leave for a few minutes then hose off until cell plates are clean.

WARNING

FOR QUALITY AND VALUE - INSIST YOUR CHLORINATOR IS ONLY SERVICED WITH GENUINE COMPU POOL PRODUCTS PARTS

Installation

2.1 Installing the Power Unit

The Compu-Pool CPSC power unit is to be mounted at least 1.0 metres above ground level and if possible protected from direct weather.

Locate the power unit as close to the pump and filtration system as possible. Make sure the 1.8m DC power cord can reach that section of pipe selected for the cell. Do not install the Power Unit within 3 m (10 ft) of the pools edges.

Use the equipment provided and mount the Power Unit at eye level. Once holes are drilled into the wall and screws are tightly secured lift the Power Unit onto the bracket ensuring that it is secure on the wall.

2.2 Installing the Cell

Be sure pool pump is turned off. The cell is to be fitted into the return to pool line after the pump and filter. Water flow should come from the filtration system through the hole marked "inlet" and back out through the hole marked "outlet".

Ensure barrel unions are tightened to the cell. Then pressure solvent cement (glue) piping to the barrel unions. The cell is to be mounted horizontal with the inlets and outlets facing down.

2.3 Wiring

Plug power pack into a suitable weatherproof outlet and plug pump into pump socket in bottom of power supply unit. This socket is dedicated to the pool pump only. If the chlorinator is to be hard wired, then a qualified electrician must complete the installation. All units have a battery backup timer installed.

Troubleshooting

3.1 Definitions

ALGAE: Plant-like organisms which grow in water. Especially active in summer conditions, where chlorine disinfectant level is too low to destroy them. Algae may be green, brown or black (Black Spot) in colour.

CHLORINE DEMAND: The amount of chlorine that should be added to the water to provide proper bacteria and algae control.

CHLORINE RESIDUAL: The amount of chlorine left over, after the “demand” has been met.

COMBINED CHLORINE: Weak chlorine which is combined with the contaminants in the water.

FREE CHLORINE : Active chlorine in the water with the potency to destroy contaminants.

SHOCK TREATMENT: The removal by means of oxidation of those materials that have chlorine demand.

SUPERCHLORINATION: An extra large amount of chlorine added to the water.

3.2 Troubleshooting

NOTE: If the chlorinator and pump are running it is normal for a cloud of small bubbles to be produced in the cell, indicating chlorine is also being produced.

PROBLEM

(1) CHLORINE RESIDUAL
Low or nil

POSSIBLE CAUSE

- Insufficient running times
- pH too high or low
- Insufficient stabilizer
- Cell needs cleaning
- Check chlorine production

(2) CHLORINE PRODUCTION

Low or nil

- Chlorine dial turned down
- Salt content below 0.3%
- Cell needs cleaning
- Check Cell connections at the plug connecting to the Cell
- Check fuse on power unit
- Check filter pump running
- Check water flow through Cell is sufficient

(3) WATER FLOW THROUGH CELL IS LOW

- Check for air in system
- Check operation of pump
- Check filter is clean
- Check water level of pool
- Check for blockage in System

Scenario 1

Water looks clean but no chlorine residual reading.

To test for chlorine residual, switch on the filtration system and adjust the Compu Pool CPSC Series Chlorinator to maximum output. After a few hours take a water sample from the pool. Test this water with your test kit. Chlorine residual should measure between 1 and 3 ppm.

Solution:

- Adjust total alkalinity to 80 – 120 ppm.
- Adjust the pH within the range 7.2 – 7.6.
- Make sure your cell is clean.
- Check cyanuric acid levels.
- Increase the setting of the output control.
- Increase the running time of the filter and chlorinator. Make sure that the filter is clean and functioning properly.
- Add salt if indicated by 'Add Salt' light.

Use chlorine stabilizer (cyanuric acid) to protect chlorine residual.

This chemical acts as a sun-screen for chlorine and prevents chlorine from being too quickly destroyed by the sun. Chlorine stabilizer is essential to prolong the life of chlorine in the pool water. It should be added following the manufacturer's instructions to achieve a level of 40 – 100 ppm.

Scenario 2

Pool green and no chlorine reading.

Chlorine is still considered the most effective way of destroying algae and bacteria in your pool water. A chlorine residual of 1 to 3 PPM is considered desirable.

Solution:

Superchlorinate or manually shock the pool. This will raise the chlorine residual to a very high level for a short period to time, and reduce chlorine demand.

1. Superchlorinate using the SuperChor function:

- (i) Backwash the filter.
- (ii) Adjust the pH to within the range 7.2 – 7.6. [See 'Water Chemistry the Essentials'.]
- (iii) Press the button marked 'SuperChlor'. The unit automatically increases its output and runs for approx. 24 hours of pool pump time.
- (iv) After 24 hours, backwash the filter.
- (v) Re-adjust the pH to 7.2 – 7.6.
- (vi) Check the chlorine reading.
- (vii) If the chlorine reading is too low, repeat steps (iii) to (vi) until the chlorine reading is satisfactory.

3.3 Recommendations and Helpful Hints

Recommended List

- Read and keep your manual in a safe place.
- Increase Chlorine Production before party time and return to normal afterwards.
- Increase Chlorine Production when temperature goes up.
- Increase Chlorine Production when number of guests goes up.
- Use Stabilizer (Cyanuric Acid) to Stabilize Chlorine in Pool.
- Mount Control Center in shade or out of the direct sunlight whenever possible.
- Decrease Production when temperature goes down. For example winter.
- Take pool water sample to Pool Professional once per month.

Not Recommended List

- Do not get fertilizer in your pool. Fertilizers contain nitrates which cause a high chlorine demand on pool water.
- Never use dry acid to adjust pH in arid geographic areas with excessive evaporation and minimal dilution of pool water with fresh water. A build up of by products can damage the electrolytic cell.
- Do not add any pool water balancing chemicals (including salt) unless the Chlorinator is turned off.
- Do not let Chlorine Stabilizer drop below 30 PPM.

Warranty

CPSC Series automatic salt water generator carries the following warranty should fault occur due to faulty manufacture or materials.

Compu Pool Products warrants the original purchaser of the unit for a period of 2 full years on the power controller and 1 year full and 4 years pro-rata on the cell from the date of purchase by the owners, should examination disclose to its satisfaction the unit has failed due to faulty manufacture or materials.

The warranty may be void if the following occurs:

1. Damage to the unit beyond Compu Pool Product's control.
2. If correct pool chemistry is not maintained.
3. The Power Unit and Cell are not installed correctly by any person other than a person authorized to do so by Compu Pool Products or its agent.
4. All wearing parts which must be regularly checked and replaced when naturally worn.
5. The Electrolytic Cell is not cleaned regularly or cleaned by any other method other than by the method recommended by the manufacturer.
6. The Chlorinator Power Unit and Cell is serviced by any other person other than a person authorized to do so by Compu Pool Products or its agent.

This warranty is applicable to workmanship and materials only. Compu Pool Products or its agent will replace at no charge all parts return freight paid, which display faulty workmanship or materials.

Compu Pool Products or its agent accept no responsibility for loss, damage or injuries to person or property arising from warranty failure of equipment, or installation of that equipment, unless with the authority of Compu Pool Products or its agent. This warranty shall not extend to any expenditure otherwise incurred.

4.1.1 Replacing The Cell

When replacing the cell, only use replacement cells having a label that clearly states that it is a genuine replacement cell for the Compu-Pool CPSC Series 8, 16, 24 or 36.



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