

ELECTROCHLOR LCD CHLORINATORS

Owners Manual

25A SC Self-Clean
30A SC Self-Clean



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WARNING

This equipment must be installed and serviced by a qualified technician. Improper installation can create electrical hazards which could result in property damage, serious injury or death. Improper installation will void the warranty.



Note :

For Tariff 33 installation best to connect Electrochlor LCD to normal power for at least 12 hours to fully charge the batteries. Otherwise Electrochlor LCD can be just plugged into power to set the time and programs.

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Electrochlor Salt Water Chlorinator

The Electrochlor will automatically maintain the chlorine level of your pool and eliminate problems associated with periods of very high or low chlorine levels. Fewer fluctuations in chlorine levels mean fewer fluctuations in pH levels. This adds up to more stable, balanced water.

Consistently maintained sanitizer levels in the pool water will prevent the growth of all common algae. A salt-water chlorinated pool requires much less attention than a chlorine pool.

Chlorine Generation

A small amount of natural salt is dissolved into the pool water. As the pool water flows through the electrolytic cell, electrolysis separates the salt water into its basic components, sodium and chloride. Pure chlorine gas is produced by this process and goes to work in the pool. Following this process the chloride and sodium re-bond and become natural salt again.

Electrochlor

Electrochlor consists of a Power Pack (to supply power to the cell) and Salt Cell (where the chlorine is produced).

Electrochlor Power Pack



The Power Pack monitors and controls chlorine production by regulating the amount of electrical energy supplied to the salt cell.

In built pool monitor

Electrochlor's power pack has an inbuilt:

- Salt level indicator
- Chlorine production indicator
- Self diagnostics

Pump Protection

If no water flow is detected in the salt cell, Electrochlor automatically switches off the pump to prevent any damage to the pump and pool equipment. Indicators "FL" will start blinking on the LCD panel to alert the pool owner, until the fault is rectified.

Electrochlor Salt Cell



The Electrochlor's salt cell consists of a series of titanium electrodes with opposite charges. Electrochlor's clear salt cell housing allows visual inspection of the salt cell plates and enables monitoring of chlorine production.

The cell housing is constructed using clear U.V. stabilized acrylic. Both anode and cathode of the self-clean chlorinator are made from uniquely coated titanium mesh to add extra durability and life.

Self-Cleaning

Electrochlor Self Clean Salt Cell has the added ability to reverse the polarity of the voltage to clean calcium build up off its electrodes.

The Electrochlor's electrodes, the anode and cathode and hold an electrical potential difference between them for a designated period of time. This difference is reversed after that period of time has expired and then the anode becomes the cathode and the cathode becomes the anode.

The reversing of polarity or electrical potential difference will then start to remove any calcium build-up, which may have been deposited onto the cathode.

This continuous reversing of polarity will keep the cell clean from calcium deposits during its operation, providing the chemical balance and flow of the pool water thru the cell is maintained within normal parameters.

It is recommended that you obtain regular water chemistry tests from your local pool professional to ensure your water balance is within range.

The Electrochlor chlorinators must operate between the salt level ranges listed below.

SALT LEVELS

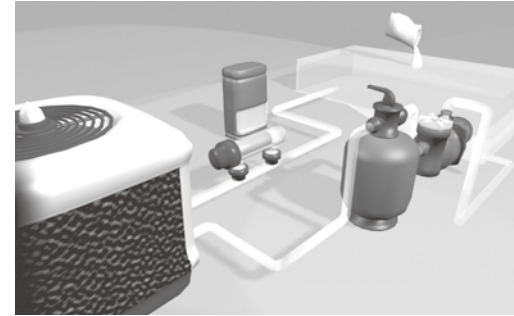
MINIMUM = 5000 ppm

OPTIMUM = 6000ppm

MAXIMUM = 6500ppm

Testing kits are available from the local pool professional and should be used to accurately check the salt levels in the pool water.

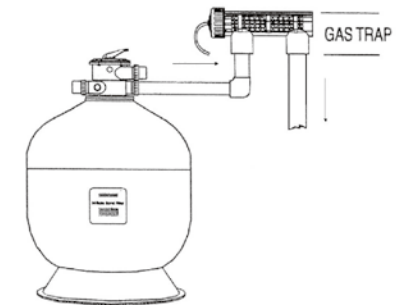
Installation



1. Ensure that the chlorinator cell is the last piece of equipment installed on the filtration system – this is so the chlorine produced will not damage other equipment such as heaters.
2. The cell may be installed above or below water level. If it is below water level, please ensure that an isolation valve is installed so the unit can be serviced without losing water from the pool.
3. The cell may be mounted on different angles so long as a gas trap is provided.

GAS TRAP: *The cell must be positioned in such a way as to provide a gas trap. The bottom of the cell must be above the top surface of the pipe from the previous piece of equipment, as per the below diagram.*

Installation as indicated will prevent the hydrogen gas (a bi-product) of the electrolysis process to collect in the filter should scavenging water flow cease.



HOW TO ADD SALT

After installing your salt chlorinator, you simply add the recommended amount of salt to your pool and choose your desired chlorine level.

1 kg of salt in 1,000 litres of water raises the salt level by 1000ppm. Therefore, 420 kgs of salt will raise a 70,000 litre pool from 0 ppm to 6,000 ppm.

Do not add the salt to the skimmer box. Run the filter for 4 to 6 hours to help disperse the salt around the pool. Note: allow 24 hours for the salt to fully dissolve.

WHAT TYPE OF SALT SHOULD I USE?

High purity salt, it is important that the salt does not contain additives. Any common salt (like table salt) usually has an additive that may have staining properties.

Maintenance

Although the Self-Cleaning chlorinator is designed to greatly reduce the need to clean the salt cell plates, inspection and removal of small calcium build up will be periodically required to insure correct performance.

Salt Cell Cleaning Procedure

1. Press the **ON/OFF** button on the power pack to turn the pump and Electrochlor to standby mode.
2. Unscrew the barrel unions from the salt cell and disconnect the cables from the salt cell's brass connectors.
3. Turn the salt cell housing upside down with both ports facing upwards.
4. Pour the Cell Wash cleaning solution into the housing to dissolve the calcium build-up from the salt cell plates. There should be just enough solution to cover the salt cell plates.
5. Allow enough time for the solution to dissolve the calcium build-up from the salt cell plates. Approximately 5 to 10 minutes.
6. Once the calcium build-up has been removed, pour out the Cell Wash solution into a bucket and lightly rinse-off excess calcium and Cell Wash solution from the salt cell assembly, with fresh water.
7. Reconnect the salt cell onto the filter system.
8. Press the **ON/OFF** button on the power pack to reactivate the pump and Electrochlor.



Never use products that are not specifically manufactured to clean the Electrochlor's salt cell. Do not use raw acids such as hydrochloric acid. This will damage the salt cell and severely shortens its life and will void warranty. Please consult your local pool professional for advice on salt cell cleaning products.

Advanced Programming

Program the chlorinator timer to turn on or off at any time that suits your lifestyle. 7 Day timer allows for settings on week days, week ends, any day or every day operation. 3 program settings are available.

You can program the Electrochlor for extra chlorination during the weekends and less chlorination during weekdays.

Electrochlor's operation modes are controlled by **UP** or **Down** keys. You can scroll through the following operation modes.

TIMER – to run as programmed.

MANUAL – to run non stop.

OFF – to switch chlorinator off.



Chlorine Production Levels

The output of the chlorinator can be adjusted to reflect the different seasonal requirements in order to maintain satisfactory chlorine sanitizer levels.

The amount of chlorine produced is displayed by a bar graph, which can be adjusted by pressing the **SET Level** key and then by pressing the **UP** or **DOWN** keys and pressing the **ENTER** key to confirm.

When chlorine production is set at 100%, the Bar Graph will be shown in full in the LCD display with correct water balance. Each segment on the bar graph represents 10% of chlorine production. The total bar graph is made up of 10 segments

If the pool water is over chlorinated, simply reduce the chlorine production set level.

Note: Chlorine production level should be turned down during filter's backwashing and rinsing cycles, to stop the pump from cutting out prematurely.

SALT light ON

As the salt level drops, the SALT light will come on at any salt level between 4500ppm and 5500ppm depending on mains voltage and water temperature. A water temperature of of less than 20°C may trigger the SALT light to come on. During periods of low temperature, if the SALT light is on, take a water sample to your pool shop to test the salt level of your swimming pool.

If the Salt light is on during periods of high temperature it is advisable to empty no more than two 25 Kg bags of salt at one time into the shallow end of the pool. The salt will slowly drift down to the deep end, helping to disperse the salt.

Observe the chlorinator pool monitor and confirm the SALT light is not showing. If the light remains on, wait 24 hours and repeat the procedure with a further two bags of refined salt.

Note: Operating the Electrochlor at reduced salt levels may shorten the life of the electrode.

Self Diagnostics

The Bar Graph and “ F ” symbol indicates the following conditions:

- **F0** - The salt level may have fallen below the required level.
- **F0** - There is too much calcification on the salt cell plates for programmed chlorine production level.
- **F0** - The pool water temperature is lower than 15° C.
- **F1** – When the current can only reach 50% of set chlorine production level. This condition indicates that one SCR (Silicon-Controlled Rectifier) is not working.
- **F2** – The salt cell requires replacement.
- **FL** – No flow of water is present in the salt cell or a sensor wire has broken or the pump is not working or connected.

Note: The microprocessor on the chlorinator will hold its memory if there is a power interruption, ensuring that when it is turned on again, the operating sequence of the reverse cycle is maintained.

Time Clock Operation

When the Electrochlor is set to **TIMER**, the timer will activate both the pump and chlorinator, as programmed.



Setting the Time Clock

Press and hold **PROG** key for 5 seconds, the day and time displays will start blinking. Let go of the **PROG** key and program via the **UP** or **Down** keys.

- The “day” will blink --> **Press UP** or **Down** keys to set --> **ENTER** to confirm.
 The “hour” digit will blink --> **Press UP** or **Down** keys to set --> **ENTER** to confirm.
 The “minute” digit will blink --> **Press UP** or **Down** keys to set --> **ENTER** to confirm.

Setting Filtration / Chlorinator Times

Press **PROG** key once and release and the “ 123 ” will flash on the display to indicate 3 available programming periods for filtration/chlorination times. Use **UP** or **DOWN** keys to select either **1, 2** or **3** then press the **ENTER** key.



The day and **ON** displays will start blinking. Use **UP** or **DOWN** keys to select the **day, week days, week end** or **ALL days** then press the **ENTER** key to confirm.

Next set the set the start time and finish time.

Start Time

- The **ON** hour digit will blink --> **Press UP / Down** to set --> **ENTER** to confirm.
 The **ON** minute digit will blink --> **Press UP / Down** to set --> **ENTER** to confirm.

Finish Time

- The **OFF** hour digit will blink --> **Press UP / Down** to set --> **ENTER** to confirm.
 The **OFF** minute digit will blink --> **Press UP / Down** to set --> **ENTER** to confirm.

Note: The Electrochlor's default program is set to operate 4 hours in the morning and 4 hours in the afternoon everyday.

Super Chlorination

If the SC key is pressed once the Electrochlor will be set to produce chlorine at maximum level for 24 hours non stop overriding previous programming and the letter SC will be displayed on the LCD panel. Pressing the SC key again when the SC is displayed on the LCD panel will disable the super chlorination and revert to the original programming.



Technical Specifications

Model	Input Watt kW (max)	Output current DC amp (max)	Chlorine production gram/hour	Max Pool Capacity Climate	
				< 26°C	> 26°C
25A / 25A SC	0.3125	25	25	150,000 litres	102,500 litres
30A / 30A SC	0.3750	30	30	180,000 litres	125,000 litres

	25A / 25A SC	30A / 30A SC
Primary input volts	220-240 VAC 50/60 Hz	220-240 VAC 50/60 Hz
Input power	330W	380W
Max. total current	10A	10A
Pump outlet max.	8A	8A
Cell volts	6-8V	6-8V
Degr. of protection to AS1939	IP23	IP23

- All units are equipped with a 3 amp self-resetting fuse.
- Pool capacity is based on a stabilised swimming pool with a minimum salt level of 5,000 ppm.

Water Chemistry

It is important to maintain the correct water chemical balance in the swimming pool; this will help protect the Electrochlor chlorinator unit and its cell.

Consult the local pool professional for the correct water balance according to the swimming pool type.

The Electrochlor chlorinator will run correctly at the following chemistry levels

pH.	7.2 – 7.8	Suggested 7.2 – 7.6
Total alkalinity	60 – 200ppm	Suggested 80 – 150ppm
Calcium hardness	100 – 500ppm	Suggested 60 – 250ppm
Stabilizer (Sun screen)	30 – 60ppm	
Salt	5500 – 6500ppm	Suggested 6000ppm

Trouble Shooting

SYMPTOM	POSSIBLE CAUSE	REMEDY
FL displayed and Filter LED off. Salt LED off	Pump not connected, no flow of water in cell, no salt in water. valves closed	Connect pump to ensure water flow in cell. Add required salt to water. Open valves, Clean filter, Check water level
	Back washing in progress	Change to normal filtration
	Dirty flow detector	Clean flow detector
	Electronic fault	Return to distributor for repair
F0 displayed	Back washing in progress, Cell built-up with calcium Cell coating deteriorate	Return to normal operation Clean cell Replace cell
Low chlorine level in pool	Operating time too short	Increase operating time
	Production control set too low	Set production higher
	Low salt	Add required amount of salt
	Pool chemistry not correct	Have water tested
F1	Production half	Check and replace SCR
F0, F1 or F2 displayed and Control set at maximum	Low salt, water below 15 C, cell dirty or built-up.	Add salt, Increase water temp to 20 C and above. Clean cell
	Electrical fault	Return to distributor for repair
Unit does not operate	No electrical power Electrochlor LCD switch off	Connect power, check fuse, switch on Electrochlor LCD
	Pump not connected	Connect pump
Not keeping time	Time clock setting, power outage and battery not connected	Reset clock, connect battery link, If battery is flat this will require reset after blackout
	Electrical fault	Return to distributor for repair

General Safety Rules

- The equipment mentioned in this manual is specially designed for the sanitizing of water in swimming pools.
- It is designed to work with clean water at a temperature not exceeding 35°C (95°F).
- The installation should be carried out in accordance to the safety instructions of swimming pools especially Standard HD 384.7.702 and the specific instructions for each facility.
- The rules enforced on accident prevention should be carefully followed.
- Any modification of the chlorinator requires the prior consent of the manufacturer. Original replacement parts and accessories authorized by the manufacturer ensure a high level of safety. The manufacturer accepts no liability for the damage and injuries caused by unauthorized replacement parts and accessories.
- During operation, some parts of the chlorinator are subject to dangerous electric voltage. Work may only be performed on the chlorinator or on the equipment connected to it after disconnecting them and the starting device from the mains power.
- The user should make sure that assembly and maintenance tasks are carried out by qualified authorized persons and that these persons have first carefully read the Service and Installation Instructions.
- The operating safety of the chlorinator is only guaranteed if the Installation and Service instructions are correctly followed.
- The limit values stated in the Technical Specifications should not be exceeded under any circumstance.
- In the event of defective operation or fault, contact the manufacturer's Technical Support Department or it's nearest Authorized Agent.
- If the supply cord is damaged, it must be replaced by the manufacturer or its service agent or a similarly qualified person.
- This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.

These chlorinators are approved and conformed to AS3136 Swimming Pool Equipment, as a prescribed article under Australian Registration.

These chlorinators conform to the Australian Electromagnetic Compatibility Standard marked by the C-tick.