evolution WATER & LIGHTING SOLUTIONS

INSTALLATION & OPERATION MANUAL

Auto Cell Cleaning Model

With Timer: A15TS - A20TS - A25TS - A30TS - A35TS

No Timer: A15 - A20 - A25 - A30 - A35

27/30 Mudgeeraba Road, Worongary Queensland 4213
Phone 61 7 5565 0000 Fax 61 7 5565 0010
E. sales@evolutionwls.com.au
www.evolutionwls.com.au

EVOLUTION SALTWATER CHLORINATOR

Foreword

Congratulations on purchasing an Evolution Series Saltwater Chlorinator for your swimming pool. This system is designed for robust reliability and easy operation to give you many years of trouble free service.

Please read the instructions thoroughly before operating your unit. If you have any concerns or require any further assistance, then please to not hesitate to contact our friendly staff or any of our Evolution distributors.

Chemicals

It is important to note that the Evolution Series chlorinator does not maintain the water chemistry of your swimming pool water; it simply produces chlorine from a mild salt solution. To ensure that your chemical balances are within the guidelines listed below you should also have your water tested regularly at your local pool shop to encourage a sparkling clean healthy pool.

PH	7.2 – 7.4
Total Alkalinity	90ppm – 150ppm
Cyanuric Acid	40ppm – 65ppm
Salt	4000ppm
Chlorine	1.5ppm – 2.0ppm

For the best chlorine results in a balanced pool a salt level of 4000 parts per million (ppm) is required. This is easily achieved by using the formula below or approximately **20kg of salt per every 5000 litres.**

For example:

Pool volume = Length x Width x Average Depth x 1000
= 9m x 4m x 1.5m x 1000
= 54000 litres

Salt required $= \frac{\text{Pool Volume x 4 (salt level required, 4000ppm)}}{1000}$

$= \frac{54000 \times 4}{1000}$

= 216kg

Or 11 x 20kg bags of pool salt

NB: Before adding salt to your swimming pool, please make sure your Evolution Series Chlorinator is switched off to avoid overload damage. THIS WILL VOID ALL WARRANTY.
It is recommended to manually add chlorine to your swimming pool on initial startup as a saltwater chlorinator is designed to maintain Chlorine levels and not run for unnecessary long hours to try to build an acceptable chlorine level. The manual addition of chlorine may also be required for unforeseen situations where your swimming pool has required a high chlorine demand, for example after large bather load.

Cell Housing Installation

The electrolytic cell housing must be plumbed into the return line after the filter. Please see the installation diagram, fig.1, below for the preferred method. If a heater is plumbed into the system then the cell housing must be installed after the heater in the return line to protect the elements or heat exchanger. If a solar heating system is installed then the cell housing should be fitted after the line going up to the roof and after the return line coming back from the roof if it rejoins the main swimming pool return.

The cell housing has allocations for either 40mm PVC pipe or 50mm PVC pipe with the use of the supplied PVC reducing bushes.

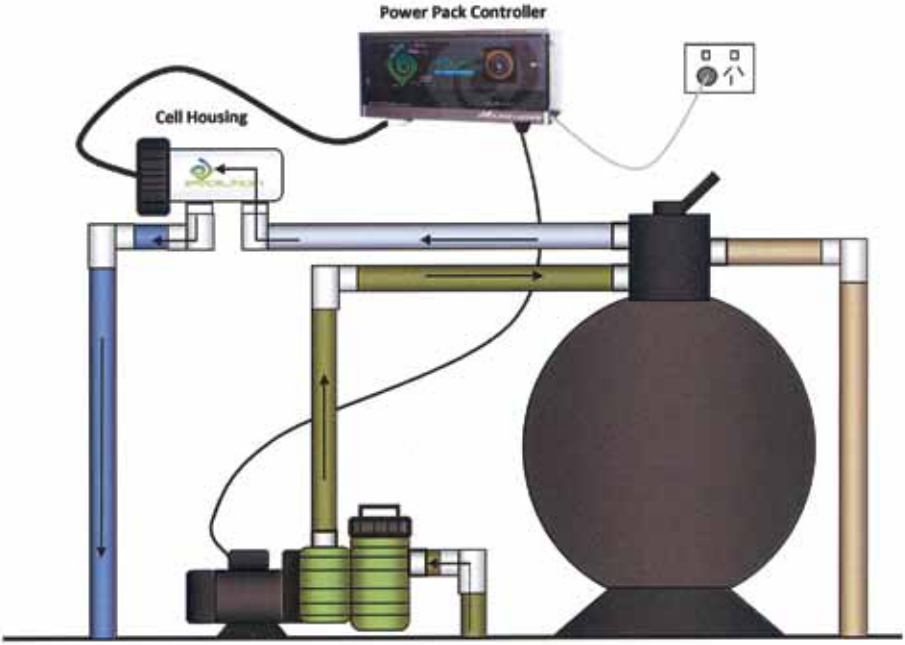


Fig. 1

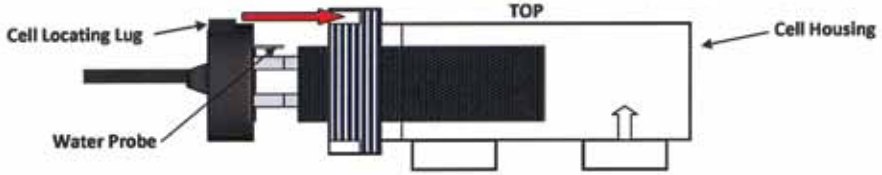
Backwash Line

Suction Line from Pool

Filtered Water from Filter (Return Line)

Sanitised Water from Cell

*****Please note the Installation Position of the Electrolytic cell for water probe positioning*****



Power Pack Installation

Mounting the Evolution chlorinator power pack is done by either using the supplied mounting bracket or directly hanging on the wall with screws. If mounting directly on the wall, use the guide notches on the top vents to position the holes for installation. The chlorinator power pack is to be mounted at least 800mm above ground level.

It is strongly recommended that the unit be installed where it is protected from the elements. Rain and sunlight will prematurely age your unit. It should also be mounted in a position where it is away from accidental water spray. The unit should be installed so that adequate air flow can circulate freely around the power pack to allow the chimney drafting effect to perform efficiently.

Functions

Now that you have installed your Evolution power pack and cell correctly you can learn how to use it. All Evolution Series chlorinators are fitted with a 240v 10A power socket located on the right hand underside of the power pack. Your pool pump should be plugged into this socket so that the chlorinator and pump activate together when the timer switches on at the allocated time settings or in a model without a timer the pump and chlorinator is controlled by the on/off switch. 7 in fig 2..Failure to plug the pool pump into this socket could lead to the chlorinator staying on with no water circulation. In case of water probe failure, over heating and a possible gas build up may occur. This build up may shatter the cell housing. Please see fig.2 below in regards to function control.

Fig 2.

1. Chlorine Output LEDs
2. Chlorine Control
3. High Salt Light
4. 10% Output and Polarity LED
5. Time Switch
6. Circuit Breaker
7. Timer Mode / Off switch (Timer Model)
   On / Off Switch (No Timer Model)

1. Chlorine Output LEDs – Fig.2

The output lights follow the curve of the distinguished Evolution logo. If the correct salt level is in the pool then all 10 lights will illuminate. Each light represents 10% chlorine output. If all lights are not illuminated then a higher salinity level will be required. Make sure all salt is dissolved properly before adding more. The chlorine control, 2 in fig. 2, will increase or decrease the chlorine output to suit your chlorine demand. If all of the indicator lights flash then there is a water fault problem.

2. Chlorine Control – Fig. 2

The chlorine controller determines the amount of chlorine production. By simply turning the control clockwise you increase the chlorine output and by turning the control anti-clockwise you decrease the chlorine output. Do not force the control past its stop as this will damage the unit and void warranty.

3. High Salt Light – Fig 2

This light is a red warning indicator and will only illuminate when the salt level in the swimming pool is higher than 4500 parts per million. If this light is on, decrease the output by turning the chlorine control, 2 in fig.2., anticlockwise until the high salt (red light) goes off and the 10 chlorine output LEDs are on. 1 in fig 2. If this light is the only one illuminated then the unit has gone into over temperature cutout and will reset once back to normal running temperature.

4. Polarity Light – Fig 2

The polarity light is the first indicator light, 10% in the chlorine output array, 4 in fig.2. This light will alternate between orange and green every reversing cycle, 4-12 hours. Factory setting is a 12 hour cycle.

5. Timer – Fig 2

The FM/1 series time switch is designed for control of the chlorinator and circulation pump 24 hours.

Time Setting

To set the time, turn the minute hand clockwise. Do not set the time by rotating the “outer” dial.

Turn the minute hand clockwise until the time of day on the outer dial is aligned with the red marker on the inner dial (nine o’clock position).
For example, to set the chlorinator and pool pump for 3.00pm, adjust the timer as per Fig 3. The inner dial on the timer has 24 hr markings with 15 minute increments. Turn the minute hand clockwise until 15, 3.00pm, is aligned with the red mark on the inner dial. The hour and the minute dial will show exactly 3.00pm. It is very important to make sure that if you set the time to 3.00pm then the red mark on the inner dial must point to 15 not 3, which would be 3.00am. The time switch is programmed by pushing the captive trippers to the outer ring position for the entire period that the chlorinator and pump is to be turned “ON”, i.e. each tripper is worth 15 minutes on the 24 hour dial. When the tripper is pushed in, the timer is in the “OFF” position.

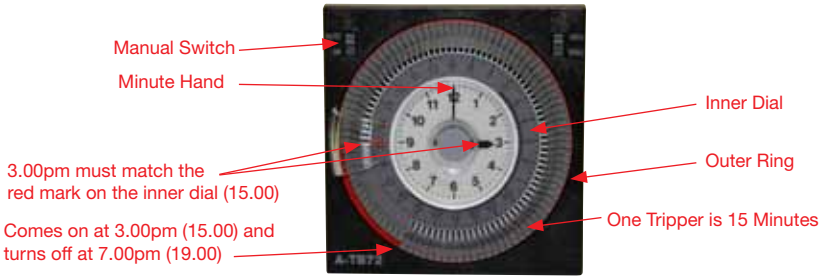


Fig 3

6. Circuit Breaker

The circuit breaker mounted on the front right hand side of the Evolution chlorinator is designed to trip out in the event of power surge or overload. When tripped the yellow centre button will pop out shutting down the unit. To reset, press the yellow centre button back into resume normal function. **Important note, turn off the chlorinator at the power point before attempting to reset the circuit breaker.** Should the circuit breaker continue to trip then you should contact your local Evolution distributor.

7. Switch

Timer Model (A_TS): This switch allows you to choose the timer operation mode for your chlorinator and pool pump. Switched to the left position, Timer, allows the chlorinator and pool pump to turn off and on at your designated timer settings. The Manual selection, switched to the right, allows the chlorinator and pump to work continuously until you physically change the chlorinator's mode. The Off position in the middle will turn the power off to the chlorinator and circulation pump.

No Timer Model (A_): This switch allows you to turn the chlorinator and pump ON and OFF only.

Maintenance

Some of the components have already been discussed in this manual in regards to keeping a happy sparkling clean pool but here is a quick summary.

Correct pool water chemistry is a must so take your water sample to your local pool shop and have it tested regularly. Even though you have purchased a self cleaning chlorinator, maintenance on the **cell** is imperative to promote optimum chlorine production and cell life. Where the chlorinator is producing Chlorine, a small amount of Calcium builds up on the cell plates. After 12 working hours Calcium may stay attached to the edges of the plates or the water probe hence requiring cleaning. There are too many variables to determine the regularity of cleaning the cell but it should be cleaned in a mild Hydrochloric Acid solution,1 part acid to 10 parts water, at least every six months.
When cleaning the cell you must turn the chlorinator off or it will damage your unit and void warranty. Do not use any utensils or harsh chemical cleaners to remove any calcium buildup from the cell as it will damage the cell's semi precious coating and again void warranty.

The **chlorinator power pack** should only be serviced by qualified electrical technicians. For your nearest Evolution recommended service technician, please contact Evolution Water & Lighting Solutions on +61 5565 0000 or email us on **repairs@evolutionwls.com.au.**

TROUBLESHOOTING

Fault/Problem	Possible Cause	Remedy
NO FLOW - All chlorine output LED's flashing as per note 1. Page 4	Pump turned off	Ensure pump is on
	Valves closed	Valves open
	Air in system	Check all o-rings and grease
	Dirty filter/Blockage	Clean or Backwash filter
	Low water level	Fill up pool
	Calcium buildup on water probe Sensor	Clean probe in a mild hydrochloric acid – Page 5
HIGH SALT - Red LED illuminated 3. Page 3	Salt too high, above 4500ppm	Turn chlorine control anticlockwise as per note 3. Page 4 until salt levels reduce
NO LIGHTS	Circuit Breaker tripped, 6. Page 3	Reset Circuit Breaker as per note 6. Page 5. If it trips again immediately call a technician.
	Mains power failure	Check switches and switchboard circuit breaker
LOW / NO CHLORINE PRODUCTION	Chlorine output too low	Increase chlorine production as per note 2. Page 4.
	Salt level too low	Increase salt level to 4000ppm and check stabiliser (Cyanuric) levels
	PH too high	Adjust Ph between 7.2 – 7.4
	Timer period too short	Increase running time
	High phosphate levels	Add Starver
	Cell connections	Check connections at junction box under unit.
ABNORMAL CALCIUM BUILDUP ON CELL	Calcium levels in swimming pool water are extremely high or water chemistry is not balanced	Get your water tested and balanced as per the Langlier Saturation Index Unit not reversing, call a technician.
TIMER TIMES OUT OF SYNC	Timer not set correctly	Check setting procedure as per note 5, Page 4
	Chlorinator installed on off peak tariff	Timer will need battery backup if installed on off peak tariff
	Timer / Off / Manual switch not switched correctly	Make sure switch is selected as per note 7, Page 5
OVER TEMPERATURE - Red LED Illuminated Only (no other lights) 3. Page 3	Salt Level too high, above 4500ppm	Turn chlorine control anticlockwise as per note 3. Page 4 until salt levels reduce.
	Installed in an area where the ambient temperature is extremely high	Supply adequate cooling. Install outside of the extreme temperature.

Warranty

Your Evolution Series Chlorinator is covered by a 3 year full warranty from the date of purchase. The power pack controller and electrolytic cell are covered against defects in materials and assembly from the date of purchase in a domestic application. All electrical or mechanical failure due to faulty components will be repaired or replaced at no cost to the owner, including labour. Warranty will not be given without proof of purchase, so keep your original purchase invoice in a safe place.

In field labour is limited to the Gold Coast city metropolitan area. Outside of these areas the complete unit should be returned to Evolution Water & Lighting Solutions or one of our warranty agents. Freight charges may apply and are completely at the discretion of Evolution Water & Lighting Solutions. Please contact us in regards to a recognised warranty agent in your area.

Unfavourable environments and operating conditions beyond the control of the manufacturer such as incorrect power supply (Must be 230V 50 Hz), the Evolution Series chlorinator plugged into an ancillary device such as a Variable Frequency Drive, wear and tear, water and insect damage, extreme ambient temperatures or any other adverse situation that affects the Evolution Series Chlorinator will void warranty. All warranties only apply if the equipment is installed and operated in complete compliance with the installation and operating instructions.

Evolution Series Chlorinators and electrolytic cells installed in a commercial situation are covered by a 1 year warranty. Commercial situations meaning motels/hotels, health spas, apartment/town house complexes and any situation with an unusually high bather load or abnormal conditions.

Evolution Water and Lighting Solutions will not accept liability for any consequential loss or damage of any kind.

FOR ALL WARRANTY ENQUIRIES PLEASE DO NOT HESITATE TO CALL +61 7 5565 0000 OR EMAIL repairs@evolutionwls.com.au

NOTES

NOTES

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Worongary Queensland 4213
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evolution WATER & LIGHTING SOLUTIONS

Manufactured in Australia

for Australian Conditions