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REPLACEMENT CELL

Astral E35 Electrolysis Cell

Replacement cell for the E35 Salt Chlorine Generator

REGISTRATION NUMBER - 32947, *PEST CONTROL PRODUCTS ACT.*

This cell must only be used on this model of salt chlorinator.

Read the Label, the Installation Manual and Operation Manual for the Astral Model E35 Salt Chlorine Generator before using.

**Fluidra Group Australia PTY LTD
219 Woodpark Road
Smithfield, NSW 2164
Australia**

**Public Enquiries: RBF International Ltée
780, Rue Nobel Saint-Jérôme (Québec) Canada J7Z 7A3
450-438-4416**

**ASTRAL POOL, A DIV. OF FLUIDRA INC.
E35 Salt Chlorine Generator
Controls Bacteria and Algae In Swimming Pool and Spa Water
For Domestic Use.**

**A maximum of 160,000 L water can be treated with one Astral Model E35 unit
Maximum daily output of hypochlorous acid equivalent to 0.2 kg/day output of free available
chlorine.**

For swimming pools, a range of 1-3 ppm of free available chlorine must be maintained. For spas, a
range of 3-5ppm of free available chlorine must be maintained.

**READ THE LABEL AND OPERATING MANUAL BEFORE USING
KEEP OUT OF REACH OF CHILDREN
REGISTRATION NO. 32947 PEST CONTROL PRODUCT ACT**

WARNING: Operating the E35 Salt Chlorine Generator without water flow through the cell can cause
a build up of flammable gas which can result in **FIRE OR EXPLOSION.**

NOTICE TO USER: This control product is to be used only in accordance with the directions on this
label. It is an offense under the *Pest Control Products Act* to use a control product under unsafe
conditions.

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E35

Salt Chlorine Generator



INSTALLATION AND OPERATING INSTRUCTIONS



A division of

FLUIDRA



PRECAUTIONS: IMPORTANT SAFETY INSTRUCTIONS READ AND FOLLOW ALL INSTRUCTIONS IN THIS MANUAL

This E SERIES SALT CHLORINE GENERATOR must be installed by a licensed or certified electrician or a qualified pool installer in accordance with the latest edition of the National Electrical Code, NFPA 70(“NEC”) and/or all applicable local and national codes and ordinances. Installations in Canada must be in accordance with the latest edition of CSA C22.2 – the Canadian Electric Code, part 1 (“CEC”).


Improper installation could cause an electrical hazard which may result in death or serious injury to pool users, installers or others due to electrical shock, and/or property damage. Always disconnect power to the Chlorinator at the house circuit breaker before servicing the Chlorinator. Failure to do so could result in death or serious injury to pool users, installers or others. To reduce the risk of injury, do not permit children to use this product


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.


WARNING: Do not use this device with bromide products.


WARNING:.Heavy pool or spa usage, and higher temperatures may require higher chlorine output to maintain proper free available chlorine residuals

- Heavy bather loads may trigger the need for additional chlorine to be added to maintain an appropriate chlorine residual in the water
- DO NOT add pool or spa chemicals directly to the skimmer. This may damage the cell.
- Maintaining high salt and chlorine levels above the recommended range can contribute to corrosion of pool or spa equipment
- Check the expiry date of the test kit as test results may be inaccurate if used after that date
- The life expectancy of the electrode is 20,000 hours under normal use conditions
- When replacing the electrode, only use replacement electrodes having a label that clearly states that it is a replacement electrode for the chlorine generating device, E35 Salt Chlorine Generator, REGISTRATION NUMBER 32947, *PEST CONTROL PRODUCTS ACT*.
- For proper sanitation, spas should be completely drained periodically. The number of days between COMPLETE SPA 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.
- 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.

 **WARNING:** To reduce the risk of injury, do not permit children to use this product.

 **WARNING:** Risk of Electric Shock. Connect only to a branch circuit protected by a ground fault circuit interrupter (GFCI). Contact a qualified electrician if you cannot verify that the circuit is protected by a “GFCI”. “CAUTION: CONNECT ONLY TO A CIRCUIT PROTECTED BY A CLASS A GROUND FAULT CIRCUIT INTERRUPTER”. This marking is to be installed where it is visible during installation.

 **WARNING:** The unit must be connected only to a supply circuit that is protected by a ground fault circuit interrupter (GFCI). Such a GFCI should be provided by the installer and should be tested on a routine basis. To test the GFCI, push the test button. The GFCI should interrupt power. Push the reset button, Power should be restored. If the GFCI fails to operate in this manner, the GFCI is defective. If the GFCI interrupts power to the pump without the test button being pushed, a ground current is flowing, indicating the possibility of an electric shock. Do not use this Salt System. Disconnect the Salt System and have the problem corrected by a qualified service representative before using.

 **WARNING:** To reduce the risk of electric shock, replace damaged cords immediately (where line cord is permissible by local codes) The installation must conform to the latest edition of the National Electrical Code, NFPA70, for USA installations, or all applicable provisions of the Canadian Electric Code, CSA C22.2, for Canada

⚠ WARNING: High voltage is present in some Salt System circuits making it mandatory that any electrical maintenance and repairs be attempted only by properly qualified personnel.



GENERAL OVERVIEW

Congratulations! You have purchased an E35 Salt Chlorine Generator. Please read the instructions carefully and your purchase will provide you with years of trouble free use.

Your Salt Chlorine Generator works by converting some of the salt (sodium chloride) in your pool into chlorine which starts to destroy algae and bacteria and sanitises your pool. As part of the process, the chlorine is converted back into salt and hence salt is not consumed.

Your Salt Chlorine Generator control has many features which ensure simple operation of your Chlorinator System and Filtration system.

WARNING: This appliance is not intended for use by persons including young children or infirm persons with reduced physical, sensory or mental capabilities, or lack of experience or knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety. Please ensure that young children are supervised to ensure that they do not play with the pump or chlorinator.

⚠ WARNING: This Salt Chlorinator System power supply must be connected to the same source power supply as the circulating pump provides water flow to the cell. Any isolation switch, time clock or control that operates the circulating pump must simultaneously operate the Chlorinator System control.

SAVE THESE INSTRUCTIONS

DIRECTIONS FOR USE: INSTALLATION

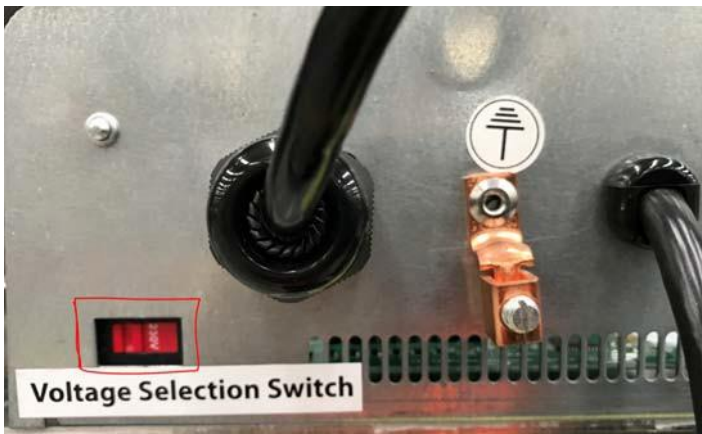
The E35 Salt Chlorine Generator control has a Rating of IP23 enabling it to be installed outdoors. **Regulations require that the control is not allowed to be located within 3 m (10 ft) of the pool water.**

The E35 Salt Chlorine Generator Control should be installed in a well ventilated position ideally away from direct sunlight. Ensure that the unit is not located near pool chemicals as fumes may damage the control.

When installing the control on a post, first attach a flat waterproof panel at least 300 mm (12 in) wide by 500 mm (20 in) long. Make sure the control is located centrally on the panel and sits flat.

Electrical connection can either be 230V or 115V - 10Amp. The AstralPool E-Series is factory set at 230 Volts.

To Change the input voltage, simply locate the switch, located at the lower left corner on the controller and slide the switch to the right until 115V wording is visible. It is now set to 115V input voltage.



CELL INSTALLATION

The Salt Chlorine Generator Cell must be located last in the pipe work just prior to the return to the pool. If valves are installed between the Salt Chlorine Generator Cell and the pool outlet, it is essential that they cannot deadhead the pump. If the pressure in the cell exceeds 350 kpa (50 PSI) and/or the water temperature exceeds 40° C (104° F), the Cell may fail.

WARNING: Never install the cell before the pump or heater

The Cell **MUST** be installed with the barrel unions underneath (water connections pointing downwards) and the cell should be horizontal. 50 mm (2") fittings have been provided. Use 50 mm (2") high pressure PVC pipe and glue into the 50 mm (2") barrel union tails. Make sure that the 'O-rings are correctly fitted and the unions are tightened firmly.

Direction of flow through the Cell is critical – unit must be plumbed with the water entering the cell at the end closest to the terminal connections (as indicated by flow direction label mounted on cell)



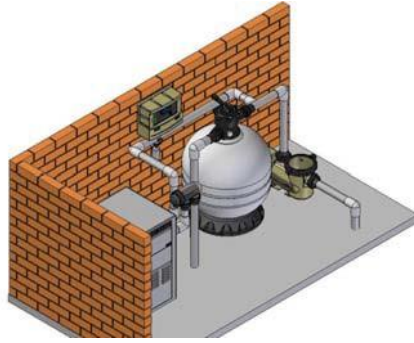
WARNING:

It is essential that pipe work and equipment do not allow gases generated from the Cell to collect and build up.

WARNING: Cell must be installed Horizontal with water connections pointing downwards – this creates a safety gas trap. Installation in any other way may cause explosion, injury or death.

WARNING: Cell must be installed in the return pipework to the pool. Always install after filter, gas heater, and solar heater or heat pump connections.

WARNING: DO NOT install isolation valves on inlet or outlet of cell.



Once the Cell is located, connect the black multi-core cable to the cell. The blue wire must be connected to the blue terminal. The cable is designed to come from below the cell. Make sure wing nuts are correctly tightened to ensure good contact.

POOL PREPARATION

The recommended salt level for the E35 Salt Chlorine Generator is 6,000ppm. The Chlorinator System requires between 4000ppm and 6000 ppm of salt dissolved into the pool water. The level of salt will depend on water temperature. We recommend you add 6 kg (10 lbs) of salt for every 1000 litres (250 gallons) of water (a typical pool of around 50,000 litres (13,000 Gallons) requires 300 kg (520 lbs) of salt).

Salt should always be added at the shallow end of the pool and allowed to dissolve. Running the pump will mix the water and speed the dissolving process.

WARNING: Never add salt to the skimmer box!!

NOTE: Run the pump for 8-10 hours to ensure the salt is dissolved prior to running the chlorinator.

When the salt is dissolved, run the Pump and Salt System and run it on maximum chlorine output. Check that low salt is not indicated on the Low Salt indicator Light. If it is, check again in 24 hours. If the low salt indicator still persists, have the salt level checked by your local pool shops and ensure it is increased to 4000 ppm.

CHLORINE OUTPUT

To adjust the chlorine output:

- (a) Use Increase/Decrease arrows for setting the chlorine output level of the chlorinator. The Chlorinator output can be set from levels 1 through 5.
- (b) Chlorine Output display shows the level set

Maximum efficiency will be achieved from you chlorinator at the following levels:

Water Temperature 15° C (59° F)– Salt level required is 6000 ppm

Water Temperature 25° C (77° F) – Salt level required is 4,100 ppm

SETTING THE RIGHT CHLORINE OUTPUT AND FILTRATION TIME

Summer

To prevent consumption of chlorine by sunlight, try adding Cyanuric Acid as recommended by your local pool professional. Additional benefit will be gained by operating your chlorinator and pump into the evening when the strong sunlight has abated.

Chlorine is most effective when the pH of your pool water is 7.4. The electro-chemical process of the chlorinator, (change salt into chlorine) will automatically raise the pH of your pool water, so it is very important to check your pH weekly and adjust as necessary.

Winter

You should set your Chlorinator to operate for 6 to 8 hours per day.

Checking Chlorine Level

Ideally, check you Chlorine level in the morning. The free chlorine residual level should be somewhere between 1 and 3 parts per million. Increase or decrease the output of the Chlorinator to get the right residual chlorine level

STABILIZER

As previously mentioned, sunlight rapidly dissipates the amount of free chlorine in your pool. Chlorine stabilizer greatly reduces this effect. Without stabilizer, you may need to run your Chlorinator at a higher output to maintain correct chlorine levels.

	Swimming pool
Free available chlorine	1.0 - 3.0 ppm
pH	7.2 – 7.8
Total alkalinity	100 -120 ppm
Calcium hardness	200 – 300 ppm
Cyanuric acid (stabilizer, used in outdoor pools only)	30 – 100 ppm

Salt Level

Although salt is not consumed by the E35 Salt Chlorine Generator, salt is lost during backwashing, and when your pool overflows due to rain or splashing. The correct salt level is important to cell life and the effective operation of your Salt System. Salt level should be maintained around 3000 to 4,000ppm but should never be allowed to fall below 3,000ppm.

A typical pool of around 50, 000 litres (13,000 gallons) requires 30 kg (520 lbs)of salt to initially set-up the pool to 5,000ppm.

A low salt level warning is indicated on your E35 Salt Chlorine Generator if the salt level drops. If Low Salt is indicated, check again in 24 hours and then if it is still indicated, add two 25 kg (50 lb) bags of salt to the shallow end of your pool. Run the filtration system for approx. 6 hours to help mix the salt in the pool. It can take up to a day for the salt to fully dissolve.

If the low salt light is still on, then you should get your pool water tested. If the Salinity is above 5000 ppm then you may need to have your Salt Chlorinator checked.

WARNING: Never add salt directly to the skimmer box. This practice should be avoided as it allows very high concentrations of salt to be passed through your filtration and other pool equipment.

CHLORINATOR MAINTENANCE AND TROUBLESHOOTING

If the supply cord is damaged, it must be replaced by AstralPool or its service agent or a similarly qualified person in order to avoid a hazard.

WARNING: Operating the Chlorinator with less than 3000 ppm of dissolved salt in the water may cause damage to the cell and will void the warranty. Never start chlorinator, until the correct quantity of salt has been added and dissolved in your pool water.

Cell Maintenance

Your E35 Salt Chlorine Generator has an automatic cleaning feature that under normal conditions, will keep the cell plates clear of deposits of salt and calcium.

E35 Salt Chlorine Generator Cells have a negative charge sensor that monitors the flow and salt levels of the water. This sensor is designed to be fail safe. As it is negative charge sensor, deposits of calcium or other debris may be deposited on it and cause it to indicate a low salt or no flow condition. Should a low salt condition be indicated, have your salt level checked at your local pool shop. If the low salt condition persists, or a no flow condition is indicated when the supply pump is operating, you may need to manually clean your chlorinator Cell.

Cell Cleaning Instructions:

- Close applicable valves
- Disconnect the Chlorinator from the Mains by circuit breaker
- Disconnect the cell wires
- Undo the barrel nuts connecting the cell to your filtration system
- Turn the cell upside down (inlet and outlet on top) and fill the cell with a mix of 1 part Hydrochloric acid to 10 parts water and leave standing for a few minutes. As an alternative, you may use an approved commercial Cell cleaning solution
- Repeat if necessary and then rinse well in clean water
- Re-install the cell ensuring o-rings are correctly located and barrel nuts are tightened to prevent leaks
- Re-connect cell wires with wing nuts supplied making sure the blue wire is connected to the blue terminal.

Incorrect connection may damage your chlorinator control. Tighten wing-nuts to ensure the electrical connection is sound

- Return all valves to their normal positions, re connect power at the circuit breaker.

WARNING: Follow safety instructions provided with the Hydrochloric acid or cleaning solution. When handling Hydrochloric Acid, the use of eye protection, mask and gloves are highly recommended. Extreme caution should be taken whenever handling Hydrochloric Acid or Cell Cleaning Solution.

MAINTENANCE OF YOUR CHRLORINATOR

Maintenance Schedule: Your new product incorporates moving parts and withstands high velocity water with chemicals in it. Some of these parts will wear in the normal course of use and require regular checks and maintenance. Performing these checks and maintenance will identify parts that have worn and require repair/replacement before further serious damage is sustained. A small amount of regular care and attention to your pool equipment will help ensure long life and trouble free performance.

To protect against extremes of temperature, your unit is vented to allow expensive electronics to cool. Ants and some insects are often attracted to the warmer, dry environment inside the enclosure. We recommend that, with power turned off, you spray a surface insecticide on the surfaces surrounding the control to prevent ant and insect ingress.

Repeat every three months or as necessary

Timing	Maintenance Check	Service action (if required)
Every 2 weeks	Check cell for calcium build up Check water chemistry Check cable connections to cell	Soak electrode in mixture of 10 parts water to 1 part acid. Use a soft brush only if required. Balance pH in pool and adjust output of unit to ensure satisfactory production of chlorine. Ensure no water contact is occurring with pins.
Every 3 Months	Check cell connections for leaks Check for insects/ ants	Isolate Pump, turn power off, clean and grease O rings or replace if necessary. Spray a surface insecticide on the surfaces around the unit to prevent ant and insect ingress.
Every 6 Months	Check chlorine levels and pump operating hours	Adjust timer and output depending on demand for current season.

Important note: Regular maintenance is important to ensure long life and trouble free performance of your pool equipment. If unable to perform the maintenance yourself, contact your local AstralPool office who will arrange a trained service technician to perform the maintenance for you.

Record your Equipment details here for quick reference:

Model No.: _____

Serial No.: _____

Inst date.: _____

Installer.: _____

TROUBLESHOOTING

Your E35 Salt Chlorine Generator has diagnostic and safety features to make it easy to maintain your system. The table below summarizes potential faults and their causes.

Fault Indication	Potential Cause	Remedy
No Flow	Pump turned off/disconnected or valves closed	Ensure valves/pump on
	Blue wire disconnected from cell	Connect Blue sense wire to cell
Low salt	Salt level in pool has dropped too low	Take sample of water to pool shop and check salt level – add salt as recommended.
	Pool water temperature is low	Add salt and turn chlorinator output down until the water is warmer
	Cell has calcified	Clean cell
	Cell has failed	Call for Service
Display blank	No Power to Controller	Plug in controller and ensure mains power available
	Fuse blown	Have a service technician replace fuse (3 amp slow blow)
Low/No chlorine in pool	Cables not connected to cell	Connect cables
	Timer period too short	Increase timer period – particularly in summer
	Chlorine output level too low	Increase chlorine output
	Filter needs backwashing	Backwash filter
	pH too high	Balance pH level to 7.2– 7.8
	Pool stabilizer (cyanuric acid) too low	Increase Stabilizer between 30 and 100 ppm
Clock loses time when mains power removed	Salt level too low	Increase salt to above 4000 ppm
	Battery life expired	Call a technician