



innoChlor user manual



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PLEASE NOTE:

The Poolrite innoChlor has been designed to work in both **Salt** and **Mineral Salt** pools

Rev: 20171020



innoChlor

rewriting the rulebook on chlorinator design

Congratulations for purchasing the Poolrite innoChlor salt and mineral salt chlorinator. This manual has been prepared for the pool owner or pool technician. It includes instructions for operation, maintenance and installation. We have also included some tips for maintaining the water chemistry and improving the longevity of the chlorinator and cell. We trust that this unit will provide many years of reliable service.

The Poolrite innoChlor chlorinator is Australian Made and Owned and has been developed in Australia, for Australian conditions, with cutting edge technology for a reliable and cost effective sanitizing system. We specified the highest quality electrodes and polymers incorporating the latest technology.

poolrite.com



operating instructions



A Chlorine Output Control Knob

The innoChlor chlorinator has been fitted with a variable chlorine output control. Simply select the exact output of chlorine for your pool by dialing the control knob. By turning the control knob clockwise, this will increase the chlorine output and anti-clockwise will lessen the chlorine output to your pool.

B Timer Clock: Manual AUTO / OFF / ON

The innoChlor Chlorinator has been fitted with a Timer Clock with AUTO / OFF / ON functionality.

ON The upper position will turn on the innoChlor chlorinator indefinitely.

AUTO The middle position will set the innoChlor chlorinator to automatic timer mode.
(See Page 3 for **Analogue Timer Setting Procedure**)

OFF The lower position will turn off the innoChlor chlorinator indefinitely.

C Fuse Holder

The InnoChlor Chlorinator is fitted with a fuse holder.

If the pump is running but there is no LED display lights check to see if the fuse is blown.

If the fuse is blown, replace the fuse to reset the unit.

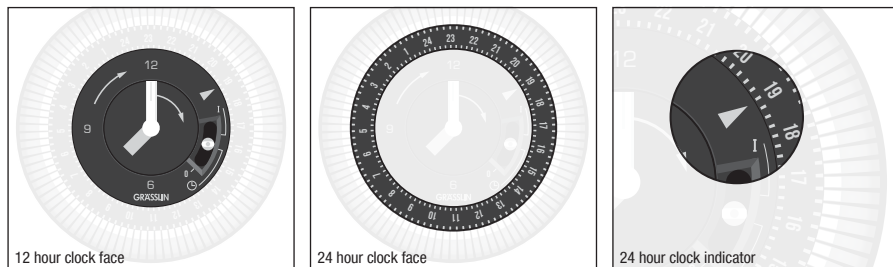
This will then allow for the unit to run correctly.

If the fuse blows again please consult your local distributor for further details.

analogue timer setting procedure

The timer module is equipped with a ratchet mechanism that allows rotation in the clockwise direction. Attempting to force the dial in the anti-clockwise position can damage the internal gears.

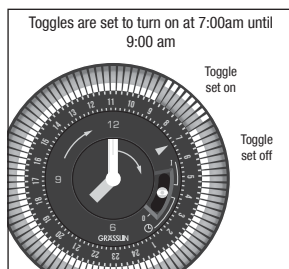
STEP 1 - Set the time



Clasp the outer face of the dial and rotate it clockwise. The internal ratchet will emit a buzzing sound that is normal. Stop rotating when the correct time is reached. If you overshoot, then continue turning clockwise until the correct time is reached. 12 hour indication is displayed by an hour hand and a minute hand on the inner dial. 24 hour indication is displayed on the outer dial. The timer depicted indicates 7 on the inner dial and 19 on the outer dial. Hence the time is set to 7:00pm.

STEP 2 - Set the toggles

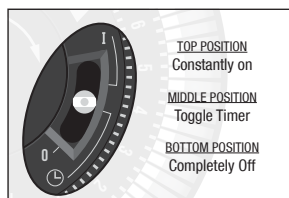
The toggles activate the internal switch that turns the unit on and off. These each correspond to 15 minutes of running and are located around the periphery of the 24 hour dial. When placed on the inner position, the switch will be off. Sliding the toggle to an outer position will cause it to depress the internal switch and activate the chlorinator.



The example to the left has eight of the toggles on the outside position. The timer is set for a time of 7:00am. The toggles from 7:00am to 9:00am are in the outer position. These will activate the switch when they align with the 24 hour clock indicator. At 7:00am, the chlorinator and pump will turn on and at 9:00am, they will turn off.

Set the toggles around the 24 hour face as appropriate. During summer, it is advisable to run the unit for about 4 hours in the morning and another 4 hours after the sun has gone down. If the swimming pool is fitted with an up sized chlorinator, then it may only need to run 4 to 5 hours daily depending on organic loadings.

STEP 3 - Set the main switch



The timer is fitted with a three position switch. The top position will turn on the unit indefinitely. The middle position is the normal running position whereby the unit is activated by the toggles. Switching to the bottom position will turn off the chlorinator indefinitely.

For automatic operation, set the switch to the middle position.

colour reference guide

The Poolrite innoChlor salt and mineral salt chlorinator has been made with a self-diagnosing LED display in both the power pack and cell. The chlorinator will change colours depending on the status and condition of the pool water, pump flow, chlorinator and/or cell.



LIGHT BLUE OPTIMAL SALT LEVEL

When the pool salt level is correct (approx. 3500ppm), the innoChlor colour LED will shine a blue colour.



ORANGE LOW SALT

The LED indicator will change to ORANGE when the salt level falls below the minimum setting (approx. 1500ppm).



YELLOW HIGH SALT

The LED indicator will change to YELLOW when the salt is above the recommended level (approx. 6500ppm).



RED EXTREME HIGH SALT

When extreme high salt is detected (above approx. 8000ppm) the chlorinator will shut down and attempt to restart after 2 hours. If an extreme high salt alarm persists after 3 Hours, check and lower your pool salt concentrate to the recommended level.



PURPLE NO WATER FLOW

Ensure your pool pump is active, if your pool pump has unexpectedly stopped priming, shut down the chlorinator immediately.



BLANK POWER OUTTAGE

Ensure the innoChlor is receiving power.



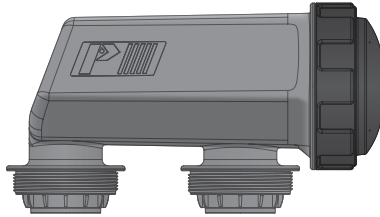
CHLORINE OUTPUT LED BAR

The Poolrite innoChlor utilises LED lights to assist you in knowing how much you are increasing, or decreasing the chlorine output. By turning the Chlorine Output Control Knob (see page 2) the five 'light bars' located on the front of the unit will display what strength the chlorine output is.

The fewer LED bars = the lower amount of chlorine is being produced.

The more LED bars = the higher amount of chlorine is being produced.

maintenance



The electrode has been designed for Reverse Polarity cleaning and Velocity cleaning. It is normal for one of the outside plates to build up a white deposit. This should be removed when the unit changes polarity. The deposit will then form on the other side.

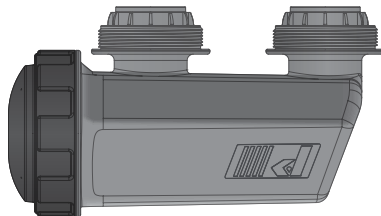
The amount of deposit will depend mostly on the running time, calcium level in the water and pH level. If the calcium level in the water is above 250ppm or other metallic contaminants are present, then it may be necessary to acid wash the electrode periodically.

To acid wash the electrode, prepare 1 Litre of dilute acid solution as follows:

Fill 900ml of water into a plastic bucket. Add 100ml of swimming pool grade hydrochloric acid.

Note: Pay attention to the safety precautions when handling acids.

- Disconnect power to the chlorinator.
- Uncouple the two pipe connectors under the electrode. Do not disconnect the electrical lead.



- Invert the electrode assembly and rest it on a flat surface.
- Clear any accumulated debris from the plates. Do not scrape the plates.
- Pour the diluted acid into one of the ports until the electrodes and white deposits are completely immersed.
- Stand for 10 to 15 minutes.
- Discard the solution in the electrode - Do not put it back into the pool.
- If deposits remain, then repeat the process.
- When the electrode is sufficiently clean, flush it with fresh water.
- Refit the electrode to the pipe work. Ensure that the O rings are correctly seated, grit free and lubricated with non-acetic silicon grease.

pool chemistry

The InnoChlor Chlorinator automatically generates free chlorine from sodium chloride salt. This can be used to sanitize swimming pools, spa pools or gray water recycling systems. After the chlorine kills algae or bacteria, it reverts back into salt that will be electrolyzed into chlorine when it passes into the cell again. The salt will be recycled indefinitely however rainwater and fresh water will eventually dilute the salt and more will need to be added periodically.

CHEMICAL	IDEAL LEVELS
Salt	3000 to 4000 ppm
Free Chlorine	1.0 to 3.0 ppm
PH	7.2 to 7.6
Cyanuric Acid	60 to 80 ppm
Total Alkalinity	80 to 120 ppm
Calcium hardness	Max 300 ppm
Metals	0 ppm
Saturation Index	-0.2 to 0.2

Calculating Pool Volume

For square and rectangular pools

$$\text{Volume} = \text{Length} \times \text{Width} \times \text{Average Depth} \times 1000 \text{ Liters.}$$

For Oval, round and kidney shapes

$$\text{Volume} = \text{Length} \times \text{Width} \times \text{Average Depth} \times 850 \text{ Liters.}$$

Controlling Chlorine Levels

When first installing the equipment, check the chlorine level daily. Set the output to maximum and reduce the running hours if the chlorine level exceeds 3ppm. Increase the running hours if the chlorine level is below 1ppm. When the daily results are consistent, change the testing frequency to weekly. If the testing is consistent, then longer test periods may be used.

Notes:

- A high pH will reduce the amount of free chlorine and require excessive running of the chlorinator and pump. Correctly maintained pH will reduce electricity demand and prolong electrode life.
- Sunlight will destroy free chlorine. Cyanuric acid will protect the free chlorine from sunlight.
- Excessive organic material such as plant leaves and dirt will consume chlorine.
- A correct chemical balance and a clean pool will use less electricity and prolong the electrode life.

Calculating Salt

Only use swimming pool grade sodium chloride salt (NaCl). The innoChlor will automatically adjust the output to suit the salt level in the water. An incorrect salt level will cause premature failure of the electrode.

$$\text{Salt Quantity (kg)} = \frac{\text{Pool Volume (Liters)} \times \text{Salt concentration (ppm)}}{1,000,000}$$

Example: A 60,000 liter pool requiring 3000ppm salt will need 180 kg of salt added.



pool chemistry

Controlling pH

NOTE: At a pH of 8 only 25% of your chlorine will be an effective sanitizer. It will get worse as pH increases - at a pH of 8.5, less than 10% of your chlorine is active. The other 90% is completely wasted. Keeping your pH between 7.2 and 7.5 maximizes the power of the chlorine and makes the pool comfortable.

The pH is a measure of acidity of pool water. A pH less than 7.0 is acidic, a pH of 7.2 is neutral and a pH greater than 7.6 is alkali. The operation of the chlorinator tends to remove hydrogen from the water and hence pH will trend upwards. It is likely that acid and buffer will need to be added periodically. Failure to do so will cause uncomfortable stinging in eyes, excessive scaling of the electrodes and heavy demand on chlorine. This in turn will cause excessive running of the equipment and needless cost.

To decrease pH, add water to a bucket then dilute 1 part swimming pool hydrochloric acid for 2 parts water. Add the mixture to the pool water. Use a test kit to determine the amount of acid to add.

To increase pH, add sodium bi-carbonate

Total Alkalinity

Total alkalinity is a measure of the buffer that will resist changes to the pH. A high TA will assist with maintaining the correct pH level. Add pH buffer to increase or acid to decrease.

specifications

INPUT	240V / 50Hz
POWER CONSUMPTION	250 VA
OUTPUT	
Pump Socket	240V 50Hz 1.5Kw (2.0HP) 8.5A
Cell	Refer Table
FUSE	1.6A Slow-Blow Fuse (Size: 5mm x 20mm)
IP RATING	24
CLASS	I
TYPE	Y

Model	Cl Output	Cell Endurance	Cell Current	Cell Voltage	Salt
InnoChlor P15	15	10,000 Hours	7A	15	3500 ppm
InnoChlor P25	25	10,000 Hours	11A	15	3500 ppm
InnoChlor P35	35	10,000 Hours	16.5A	15	3500 ppm

installation instructions

Power Pack

- 1) Mount the power pack horizontally against a wall or flat surface of at least 350 x 350 mm size.
- 2) For a timber wall, drill two 3mm diameter holes horizontally 60 mm apart. Fit the mounting bracket and screws into the holes.
- 3) For a masonry wall, drill two 5mm diameter holes horizontally 60 mm apart. Fit the Rohr plugs then screws.
- 4) Plug the pump into the socket outlet at the side of the unit.
- 5) Hang the power pack from the mounting bracket.
- 6) Plug the power pack into an approved 10 amp 240V socket outlet.
- 7) The power pack is rated for IP24 and may be installed in the pool zone.
- 8) Ensure that the installation complies with the requirements of the AS/NZS 3000 wiring rules.

WARNING:

Do not mount the unit in direct sunlight.

Do not mount the unit in a manner that will restrict air- flow around the heatsink (back plate).

Ensure that the unit is mounted at least 1 meter from the ground and not subject to flooding.

Do not allow the unit to operate lying down. This can cause overheating.

Do not plug in a pump(s) that draws more than 8.5 amps.

Do not use extension leads to supply power to the unit or between the unit and the pump.

Do not mount the unit above heat sources such as gas heaters.

Please refer to warranty exclusions for non-compliance

Off-Peak Installations

This unit is suitable for connection to an off-peak tariff supply.

CELL

The cell is connected to the power pack via a 1.5 meter lead.

Connect the cell into the return pipe work to the pool.

Multiple electrodes should be connected in parallel. Series connection will cause premature failure of the downstream electrode.

Install the cell horizontally with the two ports oriented downwards. Cell must be installed within 5°-5° of level.

The water can flow in only one direction through the cell. It must enter at the cell cap end.

Heaters and other equipment in the return to pool line must be before the cell i.e. between the cell and filter.

TIP: When specifying a chlorinator size, in moderately warm climates, 1 gram per hour output per 2500 Litres of swimming pool capacity is recommended.

If the pool usage is heavy, and the climate is hot, then salt levels should be at the maximum in order to boost chlorine output.

Water features and disappearing edge pools can lose excessive amounts of chlorine. In these cases, size the chlorinator capacity as 2 grams per hour output per 2500 Litres of swimming pool capacity.



warranty

The warranty is a 2 year full replacement warranty on the power pack.

The Cell is a 3 year full replacement warranty, plus a further 24 month pro-rata on the electrode.

Evolve Group warrants the chlorinator to be free from defects in material or workmanship, under normal use and service on private, single-family residential swimming pools or spas within Australia and New Zealand for two years or 5000 hours operation whichever is first, from date of the initial system installation, provided it is installed in accordance with the installation instructions and specifications. If written proof of the date of the initial system installation is not provided to Evolve Group, the manufactured date will be the sole determinant of the date of the initial system installation.

If a product is defective, in workmanship or materials and is removed within 2 years (24 months) after the date of the initial system installation and is returned freight prepaid, Evolve Group will, at it's option, either repair or replace the defective product and return it freight prepaid. For years 4 and 5, Evolve Group will, at it's option, either repair or replace the defective cell and will charge 60% for the 4th year and 40% for the 5th year off the current list price for such repairs or replacements, plus shipping charges. Evolve Group will not assume any of the cost incurred in removal or re-installation of the product.

This Limited Warranty does not apply to installations in commercial pools, public pools, and pools located outside Australia and New Zealand.

Replacement parts

If a purchased replacement part is defective, in workmanship or materials and is removed within 1 year (12 months) after the date of purchase, and is returned freight prepaid, Evolve Group will, at it's option, either repair or replace the defective purchased part and return it freight prepaid.

Warranty Exclusions

Commercial pools, public pools and pools located outside Australia and New Zealand

Incorrect mounting of the power pack or electrode including but not limited to:

- Power pack mounted in direct sunlight.
- Restricted air-flow around the heat sink (back plate).
- Mounted within 1 meter of the ground or subject to flooding.
- Operated lying down.
- Oversized pump or pumps installed. I.e. current draw of more than 8.5 amps.
- Use of extension leads to supply power to the unit or between the unit and the pump.
- Mounted above a heat sources such as a gas heater.
- Mounted above chemicals, or within range of chemical vapour.

Incorrect salt level or water balance

Poor water flow

Excessive scaling

Excessive acid washing or washing in concentrated acid solutions.

Electrode damage due to mechanical cleaning

Loose cell terminal connection

Excessive use of algaecides

Unfiltered water entering the cell

Metallic contaminants from the water

Consequential damage caused by the failure of other equipment in the pool installation

Blown fuse

Vermin/insect infestation

Water or dust contamination in the power pack

Damage due to causes beyond the control of Evolve Group

Leaks due to incorrect fitting.

Damage caused by static pressure in excess of 200 kPa

Material supplied or workmanship performed by others in the process of installation

Problems resulting from failure to operate the products in accordance with recommended instructions

Problems resulting from failure to maintain pool water chemistry in accordance with recommended levels.

Problems resulting from inadequate chlorine output outside of the recommended sizing

Problems resulting from tampering, accident, abuse, negligence, unauthorized repairs or alterations, fire, flood, lightning, freezing, external water, war, or acts of God.

The express warranty above constitutes the entire warranty of Evolve Group with respect to the chlorinator products and is in lieu of all other warranties, expressed or implied, including a warranty of fitness for a particular purpose. In no event shall Evolve Group be responsible for any consequential or incidental damages of any nature whatsoever.

No wholesaler, agent, dealer, contractor, or other person is authorized to give any warranty on behalf of Evolve Group. This warranty is void if the product has been altered in any way after leaving the factory.



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Poolrite is an Australian made and owned
product of the Evolve Group of companies