



Rainbow Pool Products

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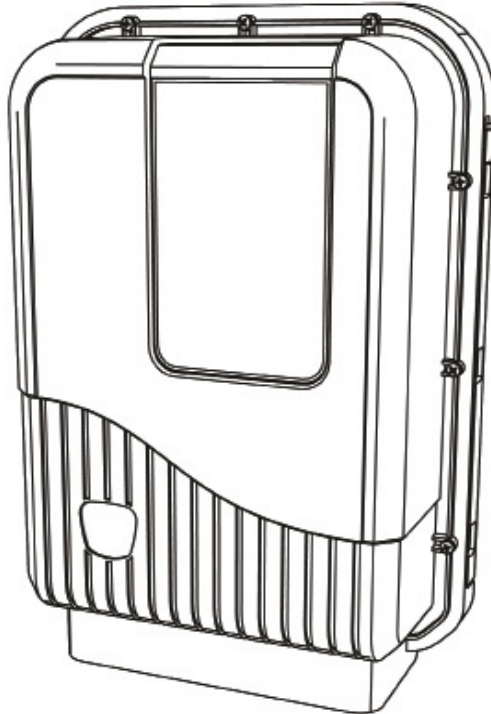
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Ei²

Saltwater Chlorinator Owner's Manual



- Read this manual carefully before installing, maintaining or repairing this appliance!
- The symbol  indicates important information that it is imperative to take into consideration in order to avoid all risks of harm to persons or damage to the appliance.
- The symbol  indicates useful information.



Warnings

At Zodiac, we take safety seriously. Always exercise caution when using electrical appliances and follow the instructions. Failure to do so could result in permanent injury, electrocution or drowning.

Important Information

YOU MUST READ THIS INFORMATION BEFORE INSTALLATION. ALWAYS READ THE LABEL AND OPERATION MANUAL BEFORE USING. PLEASE KEEP YOUR MANUAL AS IT CONTAINS YOUR WARRANTY.

General Warnings

Zodiac saltwater chlorinators are designed for domestic swimming pool use only. Contrary use could affect performance and void warranty. Operating a chlorinator without water flowing through the cell may cause a build up of flammable gases, resulting in fire or explosion. Keep equipment out of reach of children. A damaged supply cord should only be replaced by the manufacturer, or an authorized Zodiac service agent.

When installing and using this electrical equipment, always follow basic safety precautions. Before performing installation, disconnect all power. For swimming pools, Zodiac recommends a range between 1 - 3 parts Per Million (ppm) of free available chlorine must be maintained at all times. Service to Zodiac equipment should only be carried out by qualified and authorized pool professionals.

Child Safety

Children should not be allowed to operate or perform maintenance on this product. No one, particularly children, should sit, step, lean, or climb on any of your pool's operational system. In the interests of child safety, all components of a pool's operational system should be located at least 3.5 metres away from the pool to meet Australian Standards.

Electrical Hazard

Should a lack of water be detected, the unit's electronic flow switch is designed to turn off the system. Interfering with the electronic flow switch could result in personal injury and/or damage to the cell. One pump per electrical socket only (no ancillary equipment should be connected to the same outlet). This outlet is rated for pumps up to 2HP maximum. 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. Children should be supervised to ensure that they do not play with the appliance.

Please Note: Australian standards for the installation of the chlorinator should be carried out by a qualified person in accordance with the Australian wiring rules AS/NZS 3000. The chlorinator power pack should be located in the correct pool zone and connected to supply via a power outlet that is protected by a residual current device (RCD) having a rated residual operating current not exceeding 30mA. The power outlet should have a degree of protection suitable for the pool zone. Ensure that equipotential bonding of all parts of the pool installation is carried out.

Information before installation

Carton Contents:

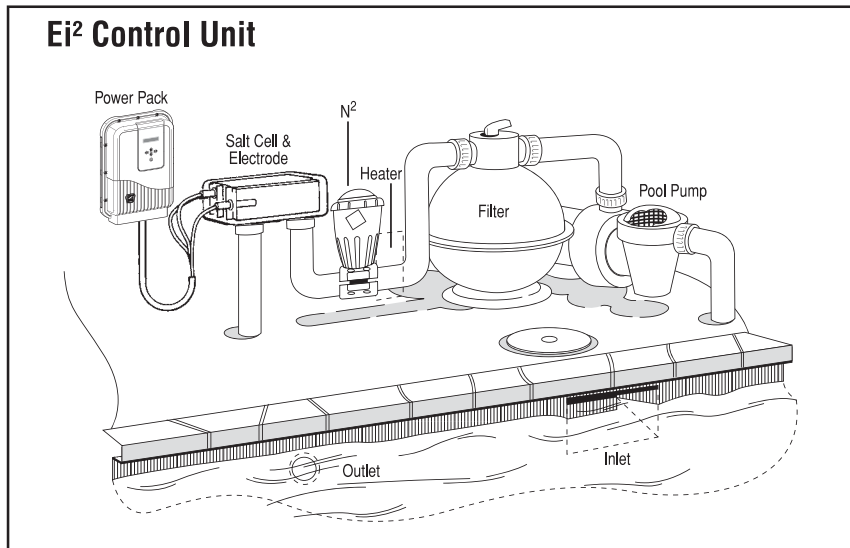
- 1 x Power Pack (control box)
- 1 x Electrolytic Cell
- 1 x Owner/Operators Manual
- 1 x Installation Screw Set
- 1 x Power Pack Hanging Template

Torque = 1.2 N.m (= 12.2 kg.cm)



Technical specifications

Power supply voltage	220 - 240 Vac-50 Hz
Electric power	Max. 140 W
Protection index	IPX3
Control box size (W x L x D)	285 x 405 x 115 mm
Weight (box + cell)	Minimum 7.1 kg



Install the cell

- Cell MUST be installed horizontally downstream of the heater and filter. It MUST be the last piece of equipment in the return line to the pool.
- The position of the cell, relative to other equipment, should be such that gases generated under normal operation should not accumulate in any receptacle or pipework. Thus, the cell should be positioned in-line AFTER all receptacles where gases in excess of 2 litres may accumulate under normal operation. e.g. filter tanks, header tanks, solar systems, by-pass pipe loops, heaters, etc.
- If a valve is required after the cell it should always be a non-return valve not a manually operated version.

Install the power pack

Use the template provided to fit the 2 mounting screws to a wall or post. Keep the head of the screws sitting up by 10mm - 15mm. Now hang the power pack into position by locating the keyhole slots on the rear and slide down into position over the head of the screws (If the power pack is to be installed on a post then it must be centrally positioned on a flat panel of suitable waterproof material at least 300mm wide by 450mm high.)

- Do not enclose the power pack in a box.
- Do not install it above any other heat source.
- A shaded position away from rain and direct sunlight is preferable, though not essential.

Fit the colour coded connectors on the cell lead to the posts on the cell housing.

Plug filter pump (one only) into the 3-pin socket in the base of the power pack. The chlorinator time switch will control both the chlorinator and filter pump.

Safety features

A 'Check Salt' warning appears on screen to alert the pool operator that the salt concentration in the pool has dropped below a preset critical value. More salt should be added. Note the CHECK SALT warning will be displayed if the water temperature of the pool drops to low temperatures or if the cell is damaged or needs replacement. Consult Zodiac or your local pool shop for details.

Preparing the pool: water balance

It is essential that the pool water balance is controlled and adjusted before installing the appliance. Making sure that the pool water balance is correct from the very start will reduce the likelihood of encountering problems in the future once the chlorinator has been set up. Note that parameters are in PPM (parts per million).



Even though it is an autonomous system, it is essential to regularly analyse the water to check the water balance parameters and adjust them if necessary.

Australian Pools Recommendations

	Recommended values	To increase	To decrease	Test frequency (during season)
pH	7.2 – 7.6	Add Buffer or Soda Ash	Add hydrochloric acid	Weekly
Free chlorine	1 - 3	Increase the chlorine production or use Boost mode	Reduce chlorine production	Weekly
TA (Total Alkalinity)	80 – 150	Add sodium bicarbonate	Add hydrochloric acid	Monthly
Calcium Hardness	100 – 300	Add calcium chloride	Add a calcium carbonate sequestering agent (Calci-) or carry out carbonate removal	Monthly
Cyanuric acid (stabiliser)	30 - 50	Only add cyanuric acid if necessary	Partially empty the pool and refill it	Quarterly
Salinity	4000	Add salt	Leave as such or partially empty the pool and refill it	Quarterly

Preparing the pool: Adding salt

Add refined pool salt (sodium chloride) at the rate of 4 kg per 1000 litres.

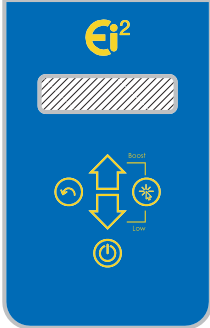






This proportion is equivalent to 4,000 ppm (parts per million). The salt should be added at various positions into the shallow end of the pool. The salt will spread and dissolve more quickly as it runs down the slope of the pool towards the deep end. Run pump to mix dissolved salt throughout pool. When all the salt has dissolved, set the chlorine output control to maximum for the first few days monitor your chlorine readings and adjust as required.

Note: Remove the automatic pool cleaner before adding salt or other chemicals.

Note that the chlorinator output depends on salt concentration, water temperature, and mains power voltage. The nominal standard values of 4,000ppm salt, 25 degrees Celsius water temperature, and correct mains voltage, will provide maximum output. If any one or more of these three variables are less than the standard values, the output may be decreased.


Use









Ei² user interface

		<ul style="list-style-type: none"> - Exit the user menu. - Deactivate Boost mode or Low mode.
		<ul style="list-style-type: none"> - From the home screen: increase or decrease in chlorine production. - In the user menu: value changes when a choice is proposed (flashing characters).
		<ul style="list-style-type: none"> - Access to user menu and navigation in the settings (with successive presses)
		<ul style="list-style-type: none"> - Activate/deactivate the chlorine production by a short press. - Switch off the device with a long press - Switch on the device with a short press
		<ul style="list-style-type: none"> - Activate Boost mode manually
		<ul style="list-style-type: none"> - Activate "Low" mode manually

Note: Low mode will stay in operation until deactivated

Setting the clock

 The Ei² chlorinator is fitted with an internal memory and is fitted with battery back up that will maintain memory for several weeks in the event of a power failure. The time is displayed in a 24 hour format.

- Switch on the device and wait until screen start-up sequence is finished.
- Press the  button to access the user menu, the minutes start to flash.
- Use the  and  buttons to set the minutes, then press  to store.
- Use the  and  buttons to set the hours, then press  to store.
- Press the  button to return to the home screen.

“Summer” and “Winter” modes and setting the “Timers”



“Timer” programming is used to define the device operating times within the filtering system operation times. The daily operating times must be sufficient to correctly treat the water. Ei² has default settings of Timers 1 and 2. However they can be customised.



The Ei² chlorinator can store **2 seasonal operating modes** called by default **“SMR”** and **“WIN”**. The following settings can be customised for each mode:

- **the device operating times, the “timers”: T1 (Timer 1) and T2 (Timer 2)**
- **the required chlorine production rate: 10 %, 20 %, 30 %,... up to 100 %.**

	S	T	A	N	D	B	Y
T	S	M	R	8	0	%	14:25

STANDBY = Device operating status





T = “Timer” mode (always active)

SMR = “Summer” operating mode

80 % = chlorine production rate

14:25 = time in 24 h format

Mode selection: “SUMMER” or “WINTER”

- Press  4 times to set the clock. **“SMR”** starts to flash.
- Use the  and  buttons to choose **“SMR”** or **“WIN”** mode, then press the  button to return to the home screen.

Programming the timers according to the modes






















The times of Timers 1 and 2 cannot overlap. In addition, the time range of Timer 1 necessarily precedes that of Timer 2.

T	S	1	0	8	:	0	0	-	1	2	:	0	0
T	S	2	1	4	:	0	0	-	2	0	:	0	0

TS1 / TS2 = Timer in “summer” mode No. 1 / Timer in “summer” mode No. 2

08:00-12:00 = Operating time range of Timer No. 1

14:00-20:00 = Operating time range of Timer No. 2




- Press  4 times to set the clock. **“SMR”** starts to flash.
- Select the mode to be customised **“SMR”** or **“WIN”** using the  and  buttons, then press  to store and move to the timer setting screen.
- Use the  and  buttons to set the Timer 1 stop minutes, then press  to store.
- Use the  and  buttons to set the Timer 1 stop hours, then press  to store.
- Use the  and  buttons to set the Timer 1 start minutes, then press  to store.
- Use the  and  buttons to set the Timer 1 start hours, then press  to store.
- Repeat the steps for Timer 2.
- Press the  button to store the timers and move to setting the chlorine production rate.
- Use the  and  buttons to choose the required chlorine production rate (from 10 % to 100 %).


Chlorine production activated

When chlorine production starts, the "Start..." message is displayed on screen for about 6 seconds. "CHLORINATION" is then displayed, indicating that the device is producing chlorine.

"Boost" mode: chlorine production increased to 100 % for 24 h

In certain cases the pool may need higher than normal chlorination (stormy weather, high number of bathers, etc.). "Boost" mode is used to increase chlorine level quickly.




- Press buttons  and  simultaneously: "BOOST" is displayed on the screen and 100 % chlorine production starts.
- To stop "Boost" mode, press .

 When "Boost" mode is activated, the rated chlorine production settings are temporarily overridden and the Ei² chlorinator will operate for a total of 24 hours at 100 % chlorine production.

"Low" mode: chlorine production reduced to 10 % if the pool is covered


If the pool has a covering system (shelter, pool blanket, cover, etc.), "Low" mode is designed to adapt the chlorine production to situations where the pool is covered. Its effect is to limit chlorine production to 10%.

Manual activation:


- Press buttons  and  simultaneously: "LOW" is displayed on the screen and chlorine production is reduced to 10 %.
- To stop "Low" mode, press .

Maintenance

Cleaning the electrode

 Although the Ei² is equipped with reverse polarity technology it is still necessary to check the cell and if required clean off any build up that may occasionally occur.

- Turn off the chlorinator and the filtration system, close the isolation valves (if applicable), and disconnect the cell power cable.
- Remove the cell and use a cell cleaning solution* cover all the electrode cell plates.
- Leave the cleaning solution to dissolve the scale deposit for about 15 minutes. Store your cleaning solution in a safe place or dispose of according to your local council regulations, never pour it into the rainwater drainage system or into sewers.
- Rinse the electrode using clean water and put back into position.
- Open the isolation valves (if applicable) and restart the chlorinator and the filtration system.

 * If you do not use a commercially available cleaning solution, you can manufacture it yourself by carefully mixing 1 volume of hydrochloric acid with 9 volumes of water (Warning: always pour the acid into the water and not the opposite and wear suitable protective equipment!).

Troubleshooting

Ei ²	Text Displayed	Possible causes	Solutions
	CLEANING	The self-cleaning cycle is automatic; this message is not an error code but an information message.	<ul style="list-style-type: none"> • Wait for about 10 minutes and chlorine production will resume automatically at the previously set level.
"Check Salt" warning displayed	CHECK SALT	<ul style="list-style-type: none"> • Salinity is under 3,000ppm. • Pool water temperature too low (< 18 °C, variable). • Cell scaled up or worn. 	<ul style="list-style-type: none"> • Add salt to the pool to keep the level at 4,000ppm. If you do not know the salt level or how to test it, consult your pool care professional. • Display warning will come on when the water is too cold. No action required. • Clean or replace the cell.
"Flow" indicator on	NO FLOW	<ul style="list-style-type: none"> • Stop or failure of the filtering pump. • Presence of air or gas in the cell (not filling with water). • By-pass valves closed. 	<ul style="list-style-type: none"> • Check filter, pump basket & skimmers and clean them if necessary. Ensure all valves are set for normal operation. • If using a variable speed pump ensure the speed setting is high enough for adequate flow through the cell. • If suction cleaner is connected to skimmer check cleaner for blockages or restriction of flow
	CHECK PUMP	<ul style="list-style-type: none"> • This message is displayed alternately with "NO FLOW" if the situation continues. • Check the pump connection into the power pack is secure. 	<ul style="list-style-type: none"> • Perform the same checks as above. Note: that Ei² has built in pump protection. This means that Ei² will supply power for 4 mins, if there is no flow detected it will retry after 20mins. It will repeat this again and if still no flow it will enter into standby and require restarting. All schedules will remain in memory.
	CHECK CELL	<ul style="list-style-type: none"> • Short-circuit in the cell or cable disconnected/badly connected. • Worn electrode. 	<ul style="list-style-type: none"> • Check the cell connections. • Replace the cell. • Have the control box (electronic board and transformer) checked by a qualified technician if necessary.
	OVERHEAT	<ul style="list-style-type: none"> • Device internal temperature over 70 °C. • Device internal temperature over 80 °C. 	<ul style="list-style-type: none"> • The device reduces its production to 50 %. • Production stops. • Production restarts automatically when the temperature drops.
	X	<ul style="list-style-type: none"> • The device no longer stores the time. 	<ul style="list-style-type: none"> • Check the condition of the battery. • Replace it if necessary (3 V battery, type "CR2032").

==> If the problem continues contact your pool care professional.

Registering the product

Register your product on our website:

- you will be the first to be informed of new Zodiac® products and special offers,
- you can help us to constantly improve our product quality.

Please go to www.zodiac.com.au

Product conformity

This appliance has been designed and built according to the following standards:

EN61000-6-1: 2006

EN61000-6-3: 2007

IEC 61558-2-6: 1997

AS/ NZ 3136-2001 (IEC 60065 + IEC 60335-2-60)



Relative to which it is compliant. The product has been tested under the normal conditions of use.

PLEASE NOTE: Compliance label for this unit is located on the back of the power pack.



For further information, please contact your pool care professional.



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