



ZODIAC

ZODIAC EZ SALT

SALTWATER CHLORINATOR

INSTALLATION AND OPERATION MANUAL

Zodiac, Mastering the Elements

Renowned worldwide for the quality and reliability of its products in the aeronautical and marine sectors, Zodiac has now brought its expertise to swimming pools, to bring you a full range of pools, automatic pool cleaners and water treatment systems.

Backed by Clearwater technology, expertise and experience, Zodiac brings you the reassurance of top quality equipment in terms of both design and performance.

A real guarantee of efficiency and peace of mind!

EZ SALT MODEL FOR RESIDENTIAL POOLS

READ THE LABEL AND OPERATION MANUAL BEFORE USING.

PLEASE KEEP YOUR MANUAL AS IT CONTAINS YOUR WARRANTY.

THE ZODIAC EZ SALT CONTAINS A POWER PACK AND A CELL.

The EZ SALT Model is specifically designed for above ground pools. Using it in a different application may hinder its performance and as a result, the warranty will be void.

For swimming pools, a minimum of 1 ppm of free available chlorine must be maintained.

WARNING: Operating the EZ SALT without water flow through the cell can cause a build up of flammable gases which can result in FIRE OR EXPLOSION.

KEEP OUT OF REACH OF CHILDREN.

Retain this manual for future reference.

WARNING: If the supply cord is damaged, it must be replaced by the manufacturer or its service agent or similarly qualified person in order to avoid any potential hazards.

WARNING: Failure to heed the following warnings can result in permanent injury, electrocution or drowning.

When installing and using this electrical equipment, basic safety precautions should always be followed, including the following:

- Service should only be attempted by a qualified pool professional.
- Disconnect all AC power during installation
- Connect to a circuit that is protected by a ground fault circuit interrupter. (GFCI)
- Do not operate the EZ SALT without water circulation.

PREVENT CHILD INJURY AND DROWNING

- To reduce the risk of injury, do not permit children to operate or perform maintenance on this product.
- Do not let anyone, especially small children, sit, step, lean, or climb on any equipment installed as part of your pool's operational system. Unless otherwise stated, ALL components of your pool's operational system should be located at least 3 metre (10 feet) from the pool so children cannot use the equipment to gain access and be injured or drown.

ELECTRICAL HAZARD

- To reduce risk of electrical shock
- Make sure all power to pool equipment area is off prior to any installation or removal of EZ SALT components.
- Do not bury cord. Locate cord to minimize abuse from lawn mowers, hedge trimmers and other equipment.
- Install the power pack at least 3 metres (10 feet) from the inside walls of a pool to prevent any possibility of the unit coming in contact with water.
- Your EZ SALT has been designed with an electronic flow switch. This device automatically switches the system 'OFF' when the water through the cell stops. To prevent cell damage and personal injury, do not in any way interfere with this system which has been designed for your protection.
- Never plug more than one pump at a time into a 3-pin socket (where fitted) in the base of the power supply.

Congratulations on your purchase of a Zodiac EZ SALT. You have made a wise decision and you will benefit from your EZ SALT for many years to come.

Please take a moment to read through the entire manual before installing your new unit. Your EZ SALT must be installed and operated as specified.

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SAFETY INSTRUCTIONS

IMPORTANT SAFETY INSTRUCTIONS. READ AND FOLLOW ALL INSTRUCTIONS. SAVE ALL INSTRUCTIONS.

CHEMICAL USE HAZARD

- To avoid personal injury when working with pool chemicals, always wear rubber gloves and eye protection and work in a well-ventilated area. Use caution when choosing a location to open and use chemicals as they may damage any surface in which they come in contact.
- The addition of certain chemicals can reduce the effectiveness of chlorine. Always make sure that proper residual chlorine levels are maintained to avoid personal injury.
- This product manufactures chlorine. Individuals with any type of chlorine sensitivity should take the appropriate precautions to avoid injury or illness.

EQUIPMENT WATER PRESSURE HAZARD

- Always turn pump off prior to installing or removing the EZ SALT cell. Your pump and filter system operates under pressure and the pressure must be released before you begin work. Please see your pump and filter owner's manual for further instructions.
- To avoid cell damage, water pressure in the cell must not exceed 200kPa (29psi).

WARNING: FAILURE TO HEED THE FOLLOWING WARNINGS COULD CAUSE DAMAGE TO POOL EQUIPMENT OR PERSONAL INJURY.

- The Zodiac EZ SALT for above ground pools must be installed and operated as specified.
- Scratching or bending plates in cell housing can reduce cell life.
- Power to the EZ SALT should be turned off before unplugging the cell connectors to prevent cell damage and low voltage sparks.
- Keep the cell terminals protected with a light coating of silicone grease to allow for a positive electric connection. Use of any other type of grease may damage the terminal seals and 'o' rings. Do not immerse these terminals in acid wash solution, and avoid accidental contact with salt water.
- Water above the temperature of 40°C (104°F) flowing through the cell can cause the plastic cell to discolour.
- Power pack must not be installed directly above any other heat source such as filter, pump or heater. It must be at least 30 cm (12 inches) from the ground to allow free circulation of air around it. It must not be installed in a closed box. 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 30 cm (12 inches) wide and 30 cm (12 inches) high.
- Check the cell frequently to prevent the accumulation of pool debris that for any reason may have by-passed the pool filter.
- Turn device off when backwashing filter.
- Power supply to EZ SALT must be synchronized with pool pump power source or automatic timer.

CAUTION

Bottom Tracks

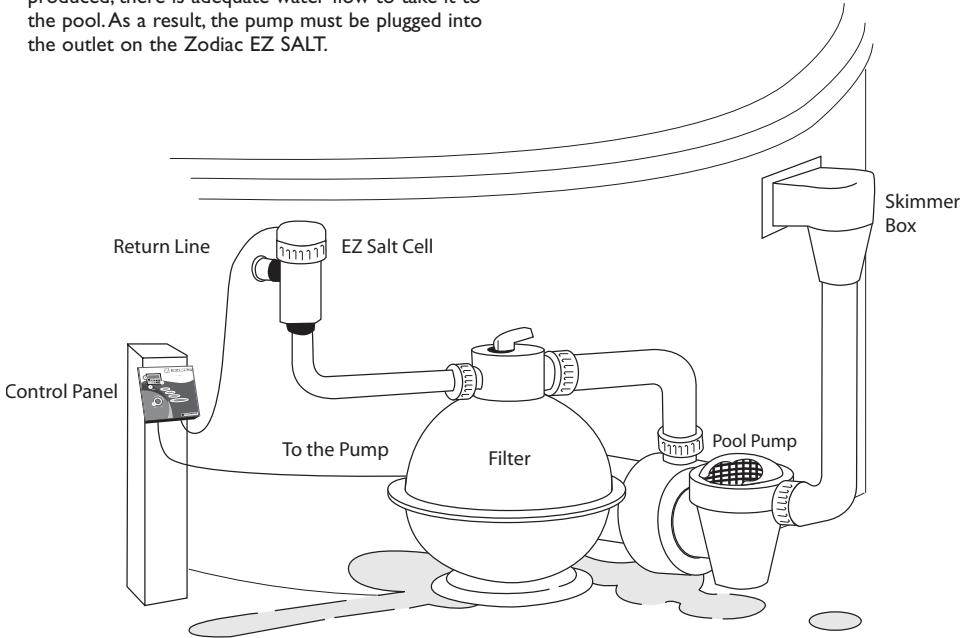
The EZ SALT is not suitable for above ground pools with steel bottom tracks. Water from splash out can accumulate in the bottom track. As water evaporates, salt and other dissolved solids are left behind. As these materials become more concentrated over time, they can cause damage to the track which can result in the pool wall collapsing. There are also other pool components that may be susceptible to similar damage. It is therefore best to contact the manufacturer of your pool to verify that it is compatible with a EZ SALT. Zodiac will not be liable for any damages caused by the installation of a EZ SALT on an incompatible above ground pool.

INSTALLATIONS INSTRUCTIONS

PLEASE NOTE:

Synchronization with the Pump

All EZ SALT chlorinators must be synchronized with the pool's pump to ensure that when chlorine is being produced, there is adequate water flow to take it to the pool. As a result, the pump must be plugged into the outlet on the Zodiac EZ SALT.



IMPORTANT! PLEASE READ THE SAFETY INSTRUCTIONS COMPLETELY BEFORE INSTALLING OR OPERATING THE ZODIAC EZ SALT.

I. Installing the Cell

- It is very important that the cell is the last piece of equipment before the pool. If it is not, the chlorine will corrode other equipment. It is also extremely unsafe for the gases produced by the EZ SALT to travel through a filter or heater.
- The cell must be installed with the terminals facing up. For above ground pools it is to be fitted to the outside of wall by connecting it to return eyeball to the wall of the pool.
- A one-way check valve is fitted on the return side of the cell to ensure proper flow sensor operation.
Important: Do not fit an isolating valve between the cell and the pool wall. The cell is fitted with an internal restrictor valve to enable the removal of the electrode for inspection and cleaning.
- Gluing: The cell unions are moulded ABS polymer. They can be glued to PVC using PVC cement. First clean both surfaces with solvent cleaner then apply glue to both surfaces. Assemble glued joint and hold in place for at least 30 seconds. Allow 24 hours to set before turning on the circulation system.

WARNING: DO NOT TURN OFF THE PUMP BEFORE TURNING OFF THE EZ SALT.

INSTALLATION INSTRUCTIONS

2. Connecting the power pack to the cell

Connect the blue sensor wire clip to the blue sensor terminal and the other 2 wires to either terminal on the cell. It does not matter which one goes where. Check that the terminals are a snug fit.

Keep the cell terminals protected with a light coating of silicone grease to allow for a positive electric connection. Use of any other type of grease may damage the terminal seals and 'o' rings.

Fit the terminal cover to protect the terminals

3. Installing the power pack

Determine the proper area to mount the power pack:

- a) Position at least 3 metres (10 feet) horizontally away from the pool.
- b) Place power pack within 2 metres (6 feet) of a GFCI protected mains power outlet. There is 7.5 metres (25 feet) of cell lead.
- c) Power pack must not be installed directly above any other heat source such as filter, pump or heater. It must be at least 30 cm (12 inches) from the ground to allow free circulation of air around it.
- d) Do not enclose the power pack in a box.
- e) A shaded position away from rain and direct sunlight is preferable, though not essential.

Mount the power pack to a wall or post using the screws provided at 150mm (6 inches) centres. If the power pack is to be installed on a post, first install on a flat panel of suitable waterproof, non flammable material at least 30 cm (12 inches) wide by 30 cm (12 inches) high.

4. Connecting to power supply

The EZ SALT must be plugged into a GFCI outlet and the pump must be plugged into the outlet on the EZ SALT. The EZ SALT has an inbuilt timer to program the operation of the circulation system. It is not necessary to use an external timer. Do not install this system with a pool pump that has a separate timer, as this does not allow for proper synchronization with the EZ SALT.

- a) Plug the 240V pump into the AC outlet on the bottom of the Zodiac power pack. This outlet is intended ONLY for the pool pump. DO NOT USE for any other purpose. The pump outlet is rated at 240V AC, 8 amp max. Check the electrical rating marked on the pump motor. Connecting a pump with a higher amperage rating may result in permanent damage to the EZ SALT.
- b) Plug the Zodiac EZ SALT into a GFCI protected outlet. The EZ SALT should now start to operate normally. If the GFCI fails to operate in this manner, there is a ground current flowing indicating the possibility of an electrical shock. Disconnect the power until the fault has been identified and corrected.

Note: *The EZ SALT output depends on salt concentration, water temperature, and mains power voltage. The nominal standard values of 4000 ppm salt, 27 °C (80° F) 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 less.*

WARNING: THE EZ SALT MUST NEVER BE ON WITHOUT THE PUMP BEING ON.

5. Adding Salt

Add refined pure salt (sodium chloride), at the rate of 4 kg per 1000 litres to raise the salt level from 0 to 4000 ppm. For existing pools with a residual of sodium chloride from chlorine use, determine the current level of salt in the pool then add enough salt to raise the level to 4000 ppm. 1 gram per litre (or 1 kg per 1000 litres) raises the salt level 1000 ppm. Refer to the section Salt: When and How to Add it, for further details.

INSTALLATION INSTRUCTIONS

6. Initial start-up

Test the concentration of salt, and add salt if necessary. Do not operate the EZ SALT until the salt has dissolved and has reached at least 3000 ppm, as this will cause damage to the unit.

After waiting 24 hours to allow the PVC glue on the cell fittings to fully set, and making sure that all the salt has dissolved in the pool water, switch on the pump and EZ SALT.

7. Safety features

The 'Chlorine Output' light indicates that the EZ SALT is operating correctly and producing chlorine. In the event of hydrogen gas accumulating in the cell housing (for example, when there is no water flow through the cell), the EZ SALT will cease producing chlorine for safety reasons. (See Safety Test).

The 'Add Salt' light warns the pool operator that the salt concentration in the pool has dropped below a preset critical value. See the section called 'Salt: When and How to Add it'.

Note: The 'Add Salt' light may activate if the water temperature of the pool drops to temperatures below 18°C (65°F) or if the cell is damaged or needs replacement. See the Troubleshooting section, Problem G for further instructions.

Safety test

It is essential that the flow failure system be tested by the following method.

1. Switch on the pump and EZ SALT, and adjust the chlorine output to maximum.
2. Disconnect the blue sensor lead clip from the terminal pin at the end of the cell.
3. After a short delay the red 'No Flow' light should come on and the 'Chlorine Output' light will go out, showing that no chlorine is being produced.

This check should confirm that the flow failure system is operating correctly.

4. Reconnect the sensor lead clip to the terminal pin which will cause the EZ SALT to resume normal operation.
5. Do not continue to operate the EZ SALT if the test of the flow failure system indicates a fault.
6. Contact Zodiac for advice.

HOW YOUR ZODIAC EZ SALT WORKS

Common salt (sodium chloride) is made up of two elements, sodium and chloride. When your EZ SALT is installed, a measured quantity of salt is dissolved in the pool water to make it slightly salty. As part of the daily filtration cycle, the pool water is passed through the electrolytic cell to produce chlorine which is dissolved instantly into the water.

In simple, non-technical terms, the chlorine instantly starts to destroy bacteria, viruses and algae, and in doing this reverts to dissolved salt. This cycle continues with more new chlorine being produced from the salt water in the electrolysis cell, sanitizing the pool, and changing once more back to dissolved salt.

Every day, when the EZ SALT and the circulation system are switched on, dust and debris are trapped by the pool filter and the EZ SALT sanitizes the water to make it safe and sparkling clean.

IMPORTANT: *To ensure your EZ SALT works at maximum efficiency, regularly check and maintain the chemistry of your pool.*

Water Chemistry Readings

Maintain daily levels as determined by testing kit.

The following parameters show the correct levels for stable water care, please use appropriate products to adjust levels as required, these can be purchased from your pool care professional

Free available chlorine:	1.0 – 3.0 ppm
pH level:	7.2 – 7.6
Total Alkalinity:	100 – 120 ppm
Calcium Hardness:	200 – 300 ppm
Stabilizer (Cyanuric acid):	30 – 100 ppm (NOTE: Indoor pools do not require chlorine stabilizer)
Salt Concentration:	2500 – 4000 ppm

NOTE: *Check expiry date of the test kit as test results may be inaccurate if used after that date.*

ZODIAC EZ SALT OPERATION

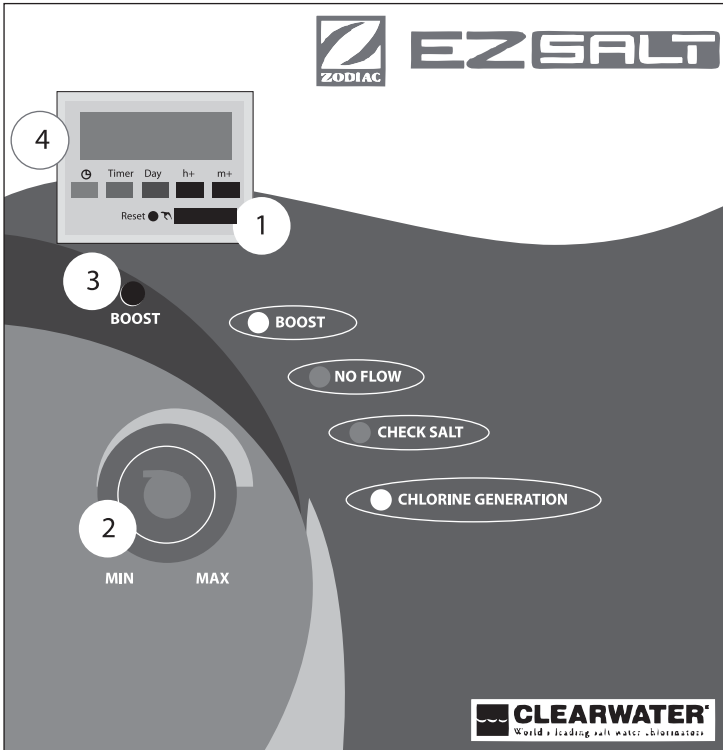
The amount of chlorine produced is controlled by the number of hours the EZ SALT and filtration system are on, as well as the setting of the output control. The EZ SALT functions may only be set when the filtration system is running.

The Zodiac EZ SALT is equipped with a 'Boost' feature which automatically super chlorinates the pool for an approximate 24-hour period of pool pump operation.

The Zodiac EZ SALT is also fitted with 3 indicator lights that monitor the operation of the system, the concentration of salt in the pool, and the water flow.

The Zodiac EZ SALT is designed to require minimum operator maintenance using reverse polarity technology, this helps to minimize the cell from scaling. If the cell should develop any scaling (calcium build) up please check the maintenance section of this manual for the proper cleaning procedure. We recommend regularly checking the cell for any scaling.

CONTROL PANEL FUNCTIONS



1. On/Off Button

The ON / OFF button (large button on the time switch) will switch the EZ SALT on or off. A blue light appears in the Chlorine Generation indicator window when the unit is on.

2. Output Control

Chlorine output is selected by rotating the Output Control from minimum to maximum. In the Minimum position no chlorine will be made.

3. Boost Button

The 'Boost' function is used to rapidly add chlorine to the pool. This feature automatically super chlorinates your pool for approximately 24 hours of pool pump run time. It is safe to swim during this 24 hour period.

Note: During "Boost start up", the EZ SALT may actually switch the cell off for a few minutes as the cell is preparing for the following 24 hour operation. If this happens, the blue Chlorine Generation light will flash.

CONTROL PANEL FUNCTIONS

4. Time Switch

EZ Salt is fitted with an inbuilt time switch to enable the user to program the filtration running times.

Setting the Clock.

1. Push and HOLD the Clock button.
2. Press the Min. button to increment the minutes.
3. Press the Hour button to increment the hours. Note the hours are displayed in 24 hour format.
4. Press the Day button to increment the day.
5. When you have finished setting the clock release the Clock button.

SETTING THE TIME SWITCH FOR AUTOMATIC OPERATION

The time switch may be set for up to 6 ON/OFF times for each day. For convenience you may select groups of days rather than setting timers for each individual day

To set the ON/OFF time.

1. Press the Timer button to step through the timer setting you wish to set for Timer 1 thru Timer 6.
Typical swimming pool settings are for two timers per day. **It is not necessary to select all 6 timers**

NOTE: For each Timer setting, you must select in the following sequence:

TIMER SETUP

1. TIMER 1

- a. Press Timer button to select - **TIMER 1 ON**
- b. Press Day button to select :-
Individual days **MO – SU** or group of Days **MO TU WE TH FR SA SU** or **MO TU WE TH FR**
or **SA SU** or **MO TU WE TH FR SA**
- c. Press Hour button and select Hour to come on it must be 4 digits **00:00**
--:00 or 00:-- is not recognized
- d. Press Minute button and select minute to come on it must be 4 digits **00:00**
--:00 or 00:-- is not recognized
- e. Press Timer button to select **TIMER 1 OFF**
- f. Press Day button to select :-
Individual days **MO – SU** or group of Days – **MO TU WE TH FR SA SU** or **MO TU WE TH FR**
or **SA SU** or **MO TU WE TH FR SA**
- g. Press Hour button and select Hour to come on it must be 4 digits **00:00**
--:00 or 00:-- is not recognized
- h. Press Minute button and select minute to come on it must be 4 digits **00:00**
--:00 or 00:-- is not recognized

2. TIMER 2

- a. Press Timer button to select **TIMER 2 ON**
- b. Press Day button to select :-
Individual days **MO – SU** or group of Days **MO TU WE TH FR SA SU** or **MO TU WE TH FR**
or **SA SU** or **MO TU WE TH FR SA**
- c. Press Hour button and select Hour to come on must be 4 digits **00:00**
--:00 or 00:-- is not recognized
- d. Press Minute button and select minute to come on must be 4 digits **00:00**
--:00 or 00:-- is not recognized
- e. Press Timer button to select **TIMER 2 OFF**
- f. Press Day button to select :-
Individual days **MO – SU** or group of Days **MO TU WE TH FR SA SU** or **MO TU WE TH FR**
or **SA SU** or **MO TU WE TH FR SA**
- g. Press Hour button and select Hour to come on must be 4 digits **00:00**
--:00 or 00:-- is not recognized
- h. Press Minute button and select minute to come on must be 4 digits **00:00**
--:00 or 00:-- is not recognized

3. Repeat this sequence for TIMERS 3 to 6 if required

Press Clock button to return to clock

Backup Battery

EZ SALT is fitted with a rechargeable battery. If the power is removed, the unit will retain the output power settings and super chlorinate settings.

INDICATOR LIGHTS: WHAT THEY MEAN



1. Chlorine Generation

A Blue LED will indicate chlorine is being produced. The amount of chlorine being produced is indicated by the setting of the rotary Output Control knob.

Note: This setting does not show the actual chlorine reading in the pool. Use a test kit to confirm the salt level or free chlorine reading of pool water.

Chlorine Generation – Blue Light Flashing

The blue Chlorine Generation light flashes for a few minutes during cell reversal (cell cleaning cycle) indicating no output during this time.

2. Boost – Light On

This light indicates that the super chlorinate feature has been selected, it will turn off when the super chlorinate period has ended.

Boost – Light Off

Function not selected.

INDICATOR LIGHTS: WHAT THEY MEAN

3. Check Salt – Light On

The 'Add Salt' light will come on at any salt level between 2000ppm and 3000ppm depending on mains voltage and water temperature (below 18°C, 65°F). The chlorine output light will also go off in a low salt condition, however some chlorine will still be produced a level lower than the level selected on the output control. This is not a fault but a precaution to ensure the salt level is never too low. (See "Salt: When and how to add it" page 14).

NOTE: *Operating the EZ SALT at reduced salt levels may shorten the life of the cell.*

Check Salt – Light Off

Indicates that the salt level in the pool is correct for the output setting.

4. No Flow – Light On

This indicates insufficient water flow in cell, usually caused by the pump not running. The chlorine output will also turn off at this time. Do not leave the device on when the pump is off or when backwashing the filter.

All Lights Off

All lights off indicates the EZ SALT is turned off. Turn unit on.

CELL LIFE

The expected lifespan of the Zodiac EZ SALT Model cell is approximately 3 years in a seasonal climate. However in conditions where there is a high demand for chlorine (high bather load, poor water chemistry, very hot climate) this lifespan may be reduced. When replacing the cell, use only genuine Zodiac replacement cells having a label that clearly states that it is for use with the Zodiac EZ SALT Model.

OPERATING TIPS

A. Filtration and chlorination system operating periods

Run your filtration and chlorination system for at least 6 to 8 hours per day. During very hot weather it may be necessary to run the system for additional hours, but in winter where pools remain open, the filtration system may be run over a shorter period of time. Shorter periods will help to lengthen the life of the cell electrodes.

B. Free (residual) chlorine reading

The free chlorine residual in the pool should be between 1- 3 ppm. Increasing the daily operating period of the system increases the free chlorine reading, and a shorter operating period reduces the chlorine reading. Likewise, operating the EZ SALT at maximum output will produce a higher chlorine reading than operating at a lower setting.

C. Chlorine stabilizer (cyanuric acid) level

The chlorine stabilizer (cyanuric acid) reading should be between 30-100 ppm. This will vary depending on your regional climate. Chlorine stabilizer helps to keep a satisfactory free chlorine reading in hot sunny climates. Extremely hot and sunny climates will require readings at the higher end on the given range. Refer to stabilizer chart. Cyanuric acid prevents rapid destruction of chlorine by the sun's rays. Regulations may exist regarding the use of cyanuric acid; please consult your local authority.

NOTE: *Cyanuric acid is not needed for indoor pools.*

D. pH readings

It is **ABSOLUTELY ESSENTIAL** that the pH of the pool be maintained in the range of 7.2 – 7.6. The effectiveness of chlorine as a sanitizer is significantly reduced as the pH rises. At a pH of 8.0 nearly all of the chlorine being added to the pool is ineffective, and it will be almost impossible to maintain a satisfactory free chlorine reading. Over chlorinating will cause an increase in pH. Maintain a chlorine level of 1-3 ppm and do not superchlorinate unless necessary.

E. Superchlorinate function

The Boost button automatically boosts chlorine levels for a period of 24 hours. During this time it is safe to swim. Superchlorinating should not be part of regular maintenance. Use the function only in situations of increased bather load, or if experiencing trouble (see Troubleshooting section). If your chlorine levels are appropriate (1-3 ppm), superchlorinating on a regular basis is not necessary and will raise pH levels and reduce the life of the cell.

F. Regular maintenance checks

Daily:

- Check the free chlorine.
- Check the total alkalinity. Adjust if necessary.
- Check the pH of the water. Adjust if necessary

Weekly:

- Visually check the cell electrodes. Only if necessary, remove the cell and flush with a garden hose to remove any debris that may have passed through the filter and lodged in the cell housing. Avoid inserting objects into the cell which can scratch or bend the cell plates.
- Check the pressure gauge on the filter to see if backwashing is necessary.

Monthly:

- Check the salt concentration of the pool (see 'Salt: When And How To Add It').
- Check the chlorine stabilizer reading. Adjust if necessary.
- Rinse the pool walls and rails.

PLEASE NOTE:

- *Maintaining constantly high levels of salt and chlorine above recommended range can contribute to corrosion of the pool equipment. Salt levels exceeding the recommended concentration can be reduced by diluting the pool water with fresh water.*
- *Do not add pool chemicals directly to the skimmer. This may damage the cell.*
- *You should always test the chlorine levels of your pool before each use.*

G. Backwashing pool filter

- When backwashing your pool filter, turn off the EZ SALT by turning the control knob to Zero.
- Remember to reset the chlorine output after back washing

SALT – WHEN AND HOW TO ADD IT

When to add salt.

Add salt when indicated on the control panel. The indicator light marked 'Add Salt' functions automatically when extra salt is needed. Note that the 'Add Salt' light may switch on at any salt level between 3000 and 4000ppm, depending upon the water temperature and mains voltage (see note). This is not a fault but a precaution to ensure that the salt level is never too low.

The salt concentration should normally be around 4000 ppm, but should never be allowed to fall below 3000 ppm, as this can reduce the life of the cell electrodes.

Salt is not lost through evaporation. Salt is lost with the water splashed out of the pool or during backwash. Adding fresh water to the pool dilutes the salt concentration. A top-up of salt is needed from time to time, just before and just after summer are the best times.

NOTE: *Even if the salt concentration is around 4000ppm, the Add Salt light may switch ON if the water temperature or mains supply voltage are too low. In this situation, it may not be possible to set the Chlorine Output to maximum. Addition of more salt to the pool will allow the Chlorine Output to reach maximum settings.*

How much to add.

Use only refined salt (sodium chloride) when adding salt to the water of your pool. For example home pools of about 50,000 litres require eight 25Kg bags of salt to reach 4000 ppm concentration for a new salt pool. Each additional 25Kg bag of salt will increase the salt reading by about 500 ppm. Larger pools require greater amounts of salt to be added. Add enough salt to obtain a salt concentration of 4000 ppm. Note: ppm (parts per million) is sometimes referred to as mg/l (milligrams per litre).

How to add salt.

When the control panel indicates "add salt", empty the contents of no more than one 25 Kg (50lb) bags of salt to the pool at one time. The salt will slowly disperse.. 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.

Observe the chlorinator control panel and confirm the 'Check Salt' light is not showing. If the light remains on, wait 24 hours and repeat the procedure with a further bag of refined salt. The 'Check Salt' light should now be off. If not (the light is still glowing) the cell Electrode should be checked to confirm it is functioning correctly. Please contact your Zodiac service technician or your pool shop to have the Electrode tested.

SOME TIPS ON WATER CHEMISTRY

How to adjust pH.

A pH range of 7.2 – 7.6 is ideal for maximum comfort and maximum chlorine effectiveness.

Always adjust total alkalinity before adjusting pH.

Low pH (acidic water) leads to stinging eyes and corrosion of open metal fittings. Raise the pH by adding sodium bicarbonate or soda ash. Consult your pool professional regarding which chemical is best for your situation and the proper amount to use. Check the pH after 4 hours of circulation, adjusting as necessary to achieve the proper range.

High pH (alkaline water) leads to clouding of the water and reduces the amount of active chlorine. This means algae and germs can grow. Lower the pH by adding muriatic acid to the pool water. The acid demand indicated by your 4-in-1 test kit will show the amount of acid to use.

WARNING: ALWAYS ADD ACID TO WATER, NEVER WATER TO ACID.

If your pH remains inconsistent, check your total alkalinity.

Total alkalinity affects pH

Total alkalinity is a measure of the alkaline chemicals in your pool water (e.g. Bicarbonates, carbonates, and hydroxides). It can be thought of as the buffering system necessary to control pH. Low alkalinity can be compared to weak shock absorbers on a car, allowing pH to fluctuate. The pH will be difficult to maintain and staining of pool surfaces may occur when total alkalinity is too low.

Total alkalinity should be in the range of 100-120 ppm. Total alkalinity is often confused with pH. They are related, however distinct. To raise total alkalinity, add pH buffer (sodium bicarbonate) at the rate shown in the manufacturer's instructions to achieve a reading in the 100 – 120 ppm range. 180 g of sodium bicarbonate raises 10,000 litres of pool water by 10 ppm.

To lower the total alkalinity, use muriatic acid. The acid demand chart in your 4-in-1 test kit will indicate the necessary amount to add. Adjust as needed until the reading (taken at least 24 hours later) is in the 100-120 ppm range. When total alkalinity is correct, you may need to adjust pH.

WARNING: ALWAYS ADD ACID TO WATER, NEVER WATER TO ACID.

Use of algaecides and phosphate removers

Although not normally needed, algaecides and phosphate removers may be used in conjunction with the Zodiac EZ SALT. Consult your pool professional regarding the presence of phosphates in your local area and always follow manufacturer's instructions for treatment.

The chlorine residual level automatically produced by the Zodiac EZ SALT is the best defence against algae and is usually all that is necessary. If algae is observed however, brush spot thoroughly, adjust pH, superchlorinate with the EZ SALT or manually shock pool water with either liquid chlorine (sodium hypochlorite). A chlorine residual should be measurable within 24 hours. If not, repeat shock treatment. After shocking, check to ensure that the EZ SALT is maintaining a residual chlorine level to prevent future algae growth. With extreme algae conditions, manually shocking the pool is the best option.

Note: *Overuse of algaecides can lead to a reduction in chlorine residual because algaecides can negatively react with the chlorine. When using algaecides, always follow manufacturer's instructions and adjust the output of the EZ SALT to maintain a residual chlorine level.*

The addition of certain chemicals can reduce the effectiveness of chlorine. Always make sure that proper residual chlorine levels are maintained to avoid illness.

Use of sequestering agents

In some areas the total hardness of your source water may be unusually high. High total hardness contributes to scale formation in the pool. Sequestering agents will help keep minerals in solution, preventing this from happening. Consult your pool professional about the use of a sequestering agent.

Use of chlorine stabilizer (cyanuric acid) to protect chlorine residual. This chemical acts as a sun-screen for chlorine and prevents chlorine from being too quickly destroyed by the sun. Chlorine stabilizer is essential to prolong the life of chlorine in the pool water. It should be added following the manufacturer's instructions to achieve a level of 30- 100 ppm depending on geographical climate. Refer to the Stabilizer Chart.

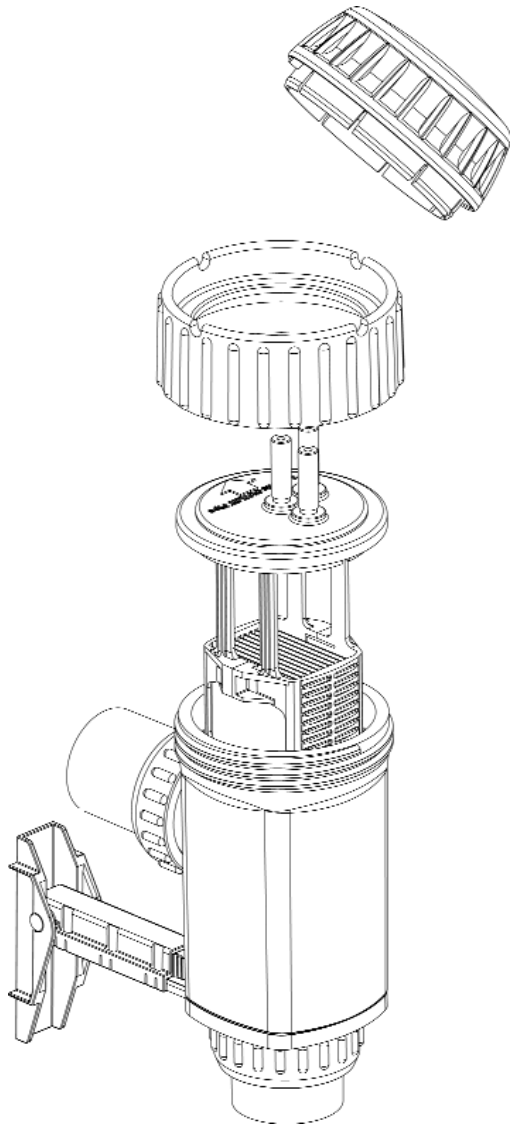
How to clean the cell

When using any corrosive products such as acid **always wear protective clothing**, protective eyewear and appropriate gloves.

Depending on water chemistry, occasional manual electrode cleaning may be necessary.

1. Turn off the power to the EZ SALT and pump by unplugging the EZ SALT from the wall.
Note: Always turn pump off prior to installing or removing the electrode. Your pump/filter system is operated under pressure and pressure must be released before you begin. Open the air relief valve on your pool filter to release the pressure in the system.
2. Unplug the leads from the cell terminals.
3. Unscrew the large ribbed plastic nut on the top of the cell housing, and carefully withdraw the electrode.
4. Direct a fast water jet from the garden hose onto electrode to clean. If ineffective, immerse electrode (but not the terminals) in cleaning mixture. You can purchase cell cleaning solution from a pool shop, or mix your own in a suitable plastic vessel, adding one part of Hydrochloric (muriatic) Acid to 10 parts of water.
5. Immerse the electrodes (but not the terminals) in the cleaning solution for a few minutes until clean. Make up a second batch of the mixture if necessary. Rinse electrodes in clean water and re-install.
6. Replace the electrode in the cell housing and secure it with the large ribbed plastic nut
7. Replace the electrical connectors after drying and smearing lightly with silicone grease.
8. Turn pump and chlorinator on.
9. Check the Chlorine output LED is connected to the power pack.

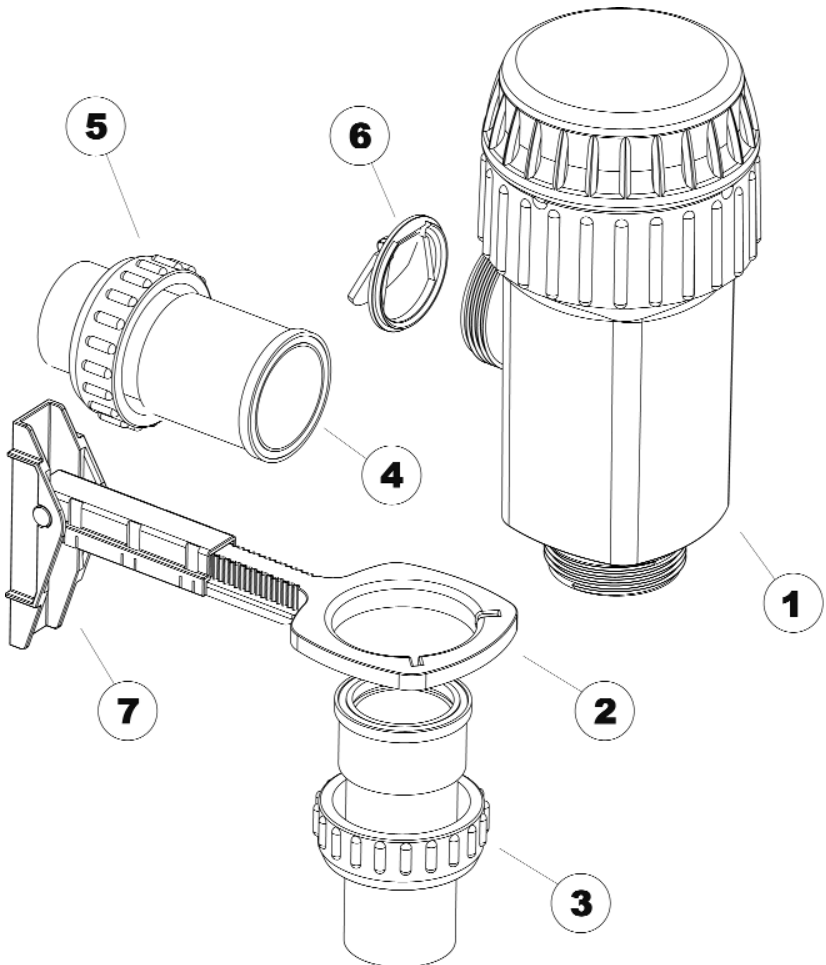
The Zodiac EZ SALT has been designed with an electronic flow switch. This device automatically switches the EZ SALT off when water through the cell stops. To prevent damage and personal injury, do not in any way interfere with this system that has been designed for your protection.



MAINTENANCE

How to replace the cell

1. Fit and glue the adaptor (4) to the pool return fitting ensure the locking ring (5) is in position before glueing.
2. Fit the flapper valve (6) to the cell outlet and secure with nut (5)
3. Glue the barrel union and nut (3) to the cell inlet plumbing
4. Fit locking ring (2) as shown to the inlet of the cell and connect inlet plumbing and secure with nut (3)
5. Position Cell so that it is vertical and click the foot assembly (7) to the Locking Ring



TROUBLESHOOTING

HOW TO CLEAN THE CELL

Note: If the EZ SALT and pump are running it is normal for a cloud of small bubbles to be produced in the cell, indicating chlorine is also being produced.

PROBLEM A: WATER LOOKS CLEAN BUT NO CHLORINE RESIDUAL READING

To test for chlorine residual, switch on the filtration system and adjust the EZ SALT to maximum output. After a few hours, take a water sample from the pool. Test this water with your test kit. Chlorine residual should measure between 1 and 3 ppm.

REMEDY:

- Adjust total alkalinity to 100-120 ppm.
- Adjust the pH within the range 7.2 – 7.6.
- Make sure your cell is clean.
- Check cyanuric acid (stabilizer) level.
- Increase the setting of the output control.
- Increase the running time of the pump, filter and EZ SALT. Make sure that the filter is clean and functioning properly.
- Add salt if indicated by 'Add Salt' light. Do not operate the EZ SALT until all the salt has dissolved as this will cause damage to the unit.⁵

PROBLEM B: POOL IS GREEN AND NO CHLORINE READING

Chlorine is still considered the most effective way of destroying algae and bacteria in your pool water. A chlorine residual of 1 to 3 ppm is considered desirable.

REMEDY:

Superchlorinate or manually shock the pool with sodium hypochlorite. This will raise the chlorine residual to a very high level for a short period of time, and reduce chlorine demand.

To superchlorinate with the EZ SALT:

- i) Backwash the filter.
- ii) Adjust the pH to within the range 7.2 – 7.6. See 'Tips on Water Chemistry'.
- iii) Press the button marked 'Super Chlorinate'. The EZ SALT automatically increases its output and runs for approximately 24 hours of pump runtime.
- iv) After 24 hours, backwash the filter.
- v) Re-adjust the pH to 7.2 – 7.6.
- vi) Check the chlorine reading.
- vii) If there is still no chlorine residual, apply a manual shock as described below. If the chlorine reading is improved but is still too low, repeat steps (iii) to (vi) until the chlorine reading is satisfactory.

To manually shock with chlorine or oxidizing agents:

- i) Backwash the filter.
- ii) Adjust the pH to within the range 7.2 – 7.6 (See 'Tips on Water Chemistry').
- iii) Follow instructions of shock product being employed.
- iv) After shock dosing, re-adjust the pH to within the range of 7.2 – 7.6 and check the chlorine level before using the pool. The chlorine residual should be 1 – 3 ppm.

The Zodiac EZ SALT has been designed with an electronic flow switch. This device automatically switches the EZ SALT off when water through the cell stops. To prevent damage and personal injury, do not in any way interfere with this system that has been designed for your protection.

PROBLEM C: CHLORINE ODOUR

CAUSE: Not enough free chlorine.

Surprisingly, the problem here is not too much chlorine as many imagine. Chloramines form by the bonding of chlorine with amines from sweat and other sources. These chloramines can create a chlorine odour and can also cause eye and skin irritation. Free chlorine does not smell (up to 10 ppm concentration).

REMEDY: Manually shock the pool following the directions in Problem B.

PROBLEM D: SLIMY POOL WALLS

CAUSE: Combined algae and bacteria growth.

REMEDY: Brush down the affected walls and follow remedy for Problem B, manually shocking pool with sodium hypochlorite.

PROBLEM E: EYE AND/OR SKIN IRRITATION

CAUSE: Improper water balance.

REMEDY: Balance the water (See 'Tips on Water Chemistry').

PROBLEM F: SCALE FORMATION ON POOL EQUIPMENT

To clean the deposit (scale) from the cell, see Maintenance section.

CAUSE 1: Incorrect pH causing metals to come out of solution.

REMEDY: Adjust the pH to within the range 7.2 – 7.6 (See 'Tips on Water Chemistry').

CAUSE 2: High total hardness.

REMEDY: Dilute pool with fresh water. Consult your pool professional regarding use of a sequestering agent.

PROBLEM G: CHLORINE OUTPUT WILL NOT ILLUMINATE, BUT ADD SALT LIGHT ON

CAUSE 1: Low incoming voltage.

REMEDY: This unit is factory set at 240 volts. If incoming voltage is low due to location (rural areas for example), raising the salt level will compensate. Do not exceed 5000 ppm of salt as it may contribute to corrosion of the other pool equipment.

CAUSE 2: Salt level below 3000 ppm.

REMEDY: Add salt. (See 'Salt: When and How to Add it').

CAUSE 3: Water temperature is below 18°C (65 °F).

The output of the electrode is determined by water temperature, salt level and mains voltage. In the springtime when the water temperature of the pool is below 18°C (65°F) there may be a reduction in conductivity of the pool water which can cause the 'Add Salt' light to light up and you will not be able to set the output to maximum. There is no need to add salt if the level is already at 4000 ppm. When the water is below 18°C (65°F), there is very little algae growth and it is too cold for swimming so the chlorine does not get used up as much as it would during normal operating conditions.

REMEDY: You can leave the EZ SALT at a lower output setting until the temperature warms up.

WARNING: NEVER ALLOW THE CONCENTRATION OF FREE CHLORINE TO GO BELOW 1.0 PPM. IF THIS IS NOT POSSIBLE WITH THE EZ SALT BECAUSE OF THE TEMPERATURE OF THE WATER, USE A MANUAL APPLICATION OF LIQUID CHLORINE.

CAUSE 4: Cell reversing (cleaning cycle).

REMEDY: If the cell is reversing the blue light on the Chlorine Generation indicator will flash. Wait approximately three minutes and the output should return to normal.

PROBLEM H: NO FLOW LIGHT ON

CAUSE 1: Insufficient water flow through the cell.

REMEDY: Ensure sufficient water flow through EZ SALT cell. Verify that the filter and pump are on. Flow may be restricted if the filter needs backwashing. A pocket of air trapped in the top of the cell confirms low water flow through the cell.

WARNING: Operating the EZ SALT without water flow through the cell can cause a build up of flammable gases which can result in FIRE OR EXPLOSION.

CAUSE 2: Sensor disconnected.

REMEDY: Make sure that the sensor lead from the power pack to the cell is attached at the cell

PROBLEM I: EZ SALT STOPS WORKING, ALL LIGHTS OFF

CAUSE 1: Unit turned off.

REMEDY: Push ON/Off button. A blue light in the 'Chlorine Generation' indicator window is present when the unit is on.

CAUSE 2: Mains power removed or blown fuse.

REMEDY: Check mains power source and fuse.

CAUSE 3: Component failure within the power pack.

REMEDY: Call Zodiac for advice

PROBLEM J: CHLORINE LEVEL IS TOO HIGH

CAUSE 1: EZ SALT is manufacturing too much chlorine.

REMEDY 1: Use the output control to reduce setting. Retest chlorine daily until proper level is attained.

REMEDY 2: Manually turn EZ SALT off using the Control Knob on the power pack.

REMEDY 3: If chlorine output at the lowest setting consistently provides for excessive chlorine levels, decrease daily pump operation time as much as necessary.

Any type of electrical troubleshooting should be handled by a qualified pool professional or certified electrician.

WARRANTY

Zodiac EZ SALT Model Limited Warranty

Zodiac warrants the Zodiac EZ SALT Model against all manufacturing defects and all wear and tear for 2 years. All warranties are effective from the date of purchase. Please consult owner's manual for complete instructions on the installation and operation of your EZ SALT.

This warranty excludes replacement of parts which fail or become defective as a result of improper installation, negligence, misuse, abuse or tampering by unauthorized repair personnel. The costs of field service calls, or freight to send goods back for repair, are not covered by the warranty.

The warranty is offered by Zodiac directly to the EZ SALT end-user and requires that person to deal direct with Zodiac

To register your Zodiac EZ SALT for the 2 year limited warranty please fill out and send in the warranty card within 15 days of purchase.



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