



TRI-XO

CROSS OVER

CHLORINATOR USE WITH SALT AND MINERAL SALTS



Important Safety Instructions

READ AND FOLLOW ALL INSTRUCTIONS

All electrical work must be performed in accordance with AS/NZ 3000. When installing and using this electrical equipment, basic safety precautions should always be followed, including the following:

DANGER

To reduce the risk of severe injury or death, do not remove the suction fittings of your spa or hot tub. Never operate a spa or hot tub if the suction fittings are broken or missing. Never replace a suction fitting with one rated less than the flow rate marked on the equipment assembly.

WARNING

Prolonged immersion in hot water may induce hyperthermia. Hyperthermia occurs when the internal temperature of the body reaches a level several degrees above the normal body temperature of 37°C. The symptoms of hyperthermia include dizziness, fainting, drowsiness, lethargy, and an increase in the internal temperature of the body. The effects of hyperthermia include: 1) unawareness of impending danger; 2) failure to perceive heat; 3) failure to recognize the need to exit spa; 4) physical inability to exit spa; 5) fetal damage in pregnant women; 6) unconsciousness resulting in a danger of drowning. The use of alcohol, drugs, or medication can greatly increase the risk of fatal hyperthermia.

WARNING

Risk of electric shock which could result in severe injury or death - Install the controller at least 3.5 metres from the inside wall of the pool and/or hot tub using non-metallic plumbing.

Children should not use spas or hot tubs without adult supervision.

Do not use spas or hot tubs unless all suction guards are installed to prevent body and hair entrapment.

People using medications and/or having an adverse medical history should consult a physician before using a spa or hot tub.

WARNING

To avoid injury ensure that you use this control system to control only packaged pool/spa heaters which have built-in operating and high limit controls to limit water temperature for pool/spa applications. This device should not be relied upon as a safety limit control.

 **WARNING**

To Reduce the Risk of Injury -

- a) The water in a spa should never exceed 40°C. Water temperatures between 38°C and 40°C are considered safe for a healthy adult. Lower water temperatures are recommended for young children and when spa use exceeds 10 minutes.
- b) Since excessive water temperatures have a high potential for causing fetal damage during the early months of pregnancy, pregnant or possibly pregnant women should limit spa water temperatures to 38°C.
- c) Before entering a spa or hot tub, the user should measure the water temperature with an accurate thermometer since the tolerance of water temperature-regulating devices varies.
- d) The use of alcohol, drugs, or medication before or during spa or hot tub use may lead to unconsciousness with the possibility of drowning.
- e) Obese persons and persons with a history of heart disease, low or high blood pressure, circulatory system problems, or diabetes should consult a physician before using a spa.
- f) Persons using medication should consult a physician before using a spa or hot tub since some medication may induce drowsiness while other medication may affect heart rate, blood pressure, and circulation.

People with infectious diseases should not use a spa or hot tub.

To avoid injury, exercise care when entering or exiting the spa or hot tub.

Do not use drugs or alcohol before or during the use of a spa or hot tub to avoid unconsciousness and possible drowning.

Pregnant or possibly pregnant women should consult a physician before using a spa or hot tub.

Water temperature in excess of 38°C may be injurious to your health.

Before entering a spa or hot tub, measure the water temperature with an accurate thermometer.

Do not use a spa or hot tub immediately following strenuous exercise.

Prolonged immersion in a spa or hot tub may be injurious to your health.

Do not permit any electric appliance (such as a light, telephone, radio, or television) within 1.52m of a spa or hot tub.

The use of alcohol, drugs or medication can greatly increase the risk of fatal hypothermia in hot tubs and spas.

SAVE THESE INSTRUCTIONS

WELCOME TO ZODIAC

Congratulations on your purchase of the Zodiac TRi-XO CrossOver Chlorinator.

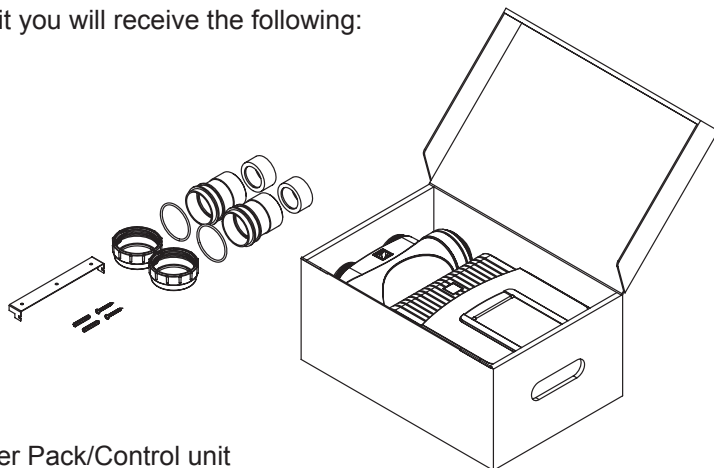


TRi-XO allows users to select between using normal pool salt or mineral salt blends. Simply select the type of salt you are using from the start up screen to program it into the software.

Zodiac recommends using Element™ mineral salts if you want to have a more luxurious feeling pool. Zodiac Element™ mineral salts include magnesium chloride which has been used for centuries in mineral spa resorts across the world. Magnesium has been associated with helping with relaxation and may also be considered as an element which may benefit the skin.

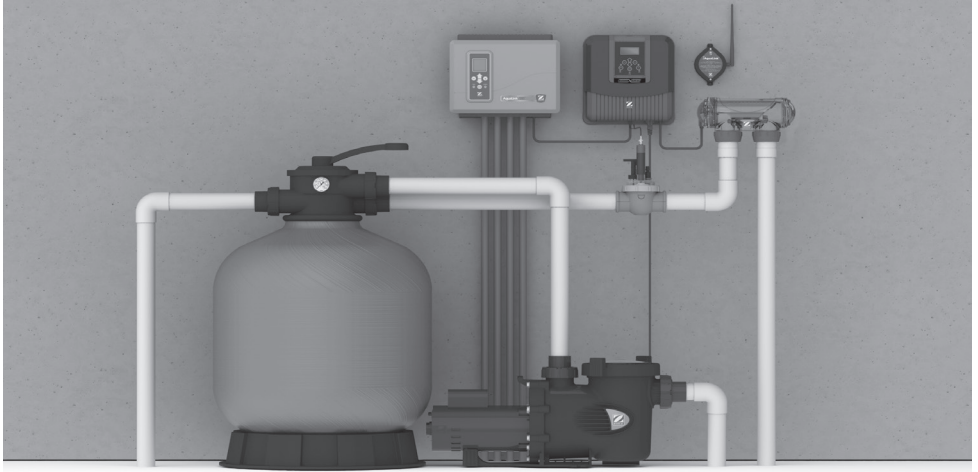


In this Kit you will receive the following:



- 1 x Power Pack/Control unit
- 1 x Electrolytic Cell
- 1 x Owners Manual
- 1 x Mounting bracket with wall plugs and screws set
- 1 x Set couplings, unions and reducers to suit 40mm/50mm piping

INSTALLATION GUIDE



POSITIONING THE POWER PACK

1. Locate a suitable space for the power pack bracket. It should be installed no further than 1.8 metres away from the cell - ideally in a filtration shed or close to the filtration equipment.

PLEASE NOTE: If fixing to a post it must have a waterproof panel fitted (behind the unit), at least 450mm wide and 470 mm high.

2. The power pack must be installed a minimum of 3.5m from the inside wall of the pool and/or hot tub. Any additional local installation codes must also be adhered to.
3. Ensure the power pack is protected from pressurized water spray such as that from irrigation sprinklers, mechanical impacts and/or damage, and inaccessible to children.
4. Using screws provided, fasten the bracket securely to the wall and position the power pack on the bracket. Plug into power point, but don't turn on the power.

POSITIONING THE CHLORINE GENERATING CELL

PLEASE NOTE: The cell should always be the last device placed on the water pipe (In the return line to the pool).

5. Ensure the cell is placed horizontally, with the Inlet pipe connecting to the fitting closest to the cell lead.
6. Using screw barrel fittings (supplied), attach the cell to the pipe. If using 40mm pipe, you will need to fit the cell using the reducing bushes (also supplied).
7. When connecting the lead from the power pack to the cell match up the

NAVIGATION BUTTONS

corresponding colours and pins, then fit the end cap.

(Note: Either RED wire can be connected to either RED pin on the electrode.)

8. Plug your pool pump into the outlet socket in the bottom of the TRi-XO (this will allow the TRi-XO timer to control the filtration times)
9. Once all connections are together press the mains power switch to ON.

Use the following UI buttons to access and select all menus and commands:



ON/OFF

Turn Chlorinator on/off.



UP/DOWN

Scroll up/down within current menu to highlight a specific menu command.



MENU/BACK

Enters into the main menu, and used to go back to previous menu.



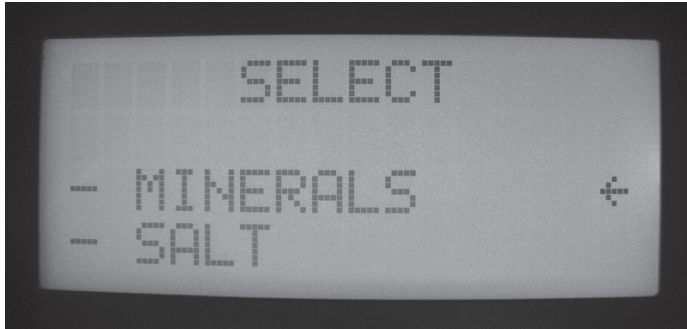
SELECT/ENTER


Select/enters current highlighted menu command.


Display the next related command or activate the selected function

SELECTING THE RIGHT SALT TYPE



At start up it is necessary to select the correct salt type being used in the pool. If using salt or using a mineral blended salt simply select the correct type as shown on the screen once the unit is powered up.



1. Use  /  to scroll to the right selection

2. Press  to set the software to your preference











Note: If the choice selected is wrong or you wish to change at any future time you can reset the software and start again. This will clear all settings, time, timers etc...

To reset the software hold  /  at the same time then release, you should now see the start up screen. The software has been reset.


USING THE BUILD-IN CLOCK AND TIMERS

When it comes to chlorination, every pool is different. To get what's right for you, you will need to set the unit's clock and timers.

SETTING THE CLOCK

1. Press the  button to enter the MAIN MENU.
2. Use  /  buttons and scroll to SET CLOCK.
3. Press .
4. Use  /  buttons to set the hours.
5. Press  to save the hours.
6. Use the  /  buttons to set the minutes.
7. Press  to save the minutes.

TRi-XO will then return to the MAIN MENU.

8. Press  to return to the operating screen.

NOTE: The time is displayed in 24 Hour format

USING THE BUILT-IN CLOCK AND TIMERS

TURNING CHLORINE GENERATION ON

The chlorine generation of the TRi-XO can be controlled in a number of ways:

1. Manually set to an output level, with the operating times determined by an external timer.
2. Using the in-built timers on the TRi-XO unit (refer to 'The Timers')
3. Using a connection to an external controller (refer to 'Connecting to a controller').

To turn the chlorine generation on manually, press the ON/OFF button. The output level can be set as described in 'Setting the Chlorine Output.'

NOTE: For safety reasons, the TRi-XO chlorine generator will continually dose chlorine for a maximum of 30 hours if left running with no 'OFF' time – unless connected to an external controller. After this time the TRi-XO will switch to 'OFF'.

THE TIMERS



















- The Zodiac TRi-XO chlorine generator comes with two inbuilt timers that switch the filtration and chlorination system on and off as required.
- During swimming season, consider running the system for around 8 hours a day. This can be increased to 10 hours during periods of very hot weather.
- In winter, it may only be necessary to run your pool's filtration system for 4 hours a day. These shorter periods of activity will lengthen the life of the unit's electrode.
- For best year round results, set the unit to operate during the cooler hours of the early morning, evening or when swimmers are using the pool.

PROGRAMMING THE TIMERS

- To activate the timer, you will need to enter both an ON and OFF time. If no OFF time is entered, the chlorine generator will switch off at the default time of 12:00am (0:00).
- You will know that a valid time has been entered when a "T" Symbol is displayed in the top right hand corner of the LCD display when the unit is displaying the 'operating screen'.

USING THE BUILD-IN CLOCK AND TIMERS

To program the timer:








1. Press the  button.
2. Press  button to move arrow to 'SET TIMERS'.
3. Press  to enter the 'SET TIMERS' menu.
4. Press  /  to select the timer you wish to set. (Timer 1 or Timer 2)
5. Press .
6. Press  /  to set the hours (on time).
7. Press  to save the hours.
8. Press  /  to set the minutes (on time).
9. Press  to save the minutes.
10. Press  /  to set the hours (off time).
11. Press  to save the hours.
12. Press  /  to set the minutes (off time).
13. Press  to save the minutes.

TRi-XO will return to the 'SET TIMERS' menu.

USING THE BUILD-IN CLOCK AND TIMERS

CLEARING THE TIMERS

To clear the timer:


1. Press the  button.
2. Press  /  button to scroll to 'SET TIMERS'.
3. Press  to enter the 'SET TIMERS' menu.
4. Press  /  to scroll to 'CLEAR TIMERS'.
5. Press .

A confirmation message will appear on the screen.

EXTERNAL TIME CLOCK

- At times, it may be desirable to control chlorine generation using an external time switch. If the chlorine generator is turned ON, and the external timer fails to switch the mains power off within 30 hours, the Zodiac TRI-XO will automatically stop chlorinating in order to prevent over chlorination.

To set the chlorine generator to run from an external clock:

1. Clear the Timer by following the procedure outlined in 'Clearing the Timers'.
2. Press the  button to turn the chlorine generator on.




CHLORINE OUTPUT LEVELS

SETTING THE CHLORINE OUTPUT

- The amount of chlorine required by your pool is dependent on a number of factors including the size of the pool, the number of users and the climate.
- Output will appear as a percentage on the screen readout. Monitoring the pool's chlorine level over time and then adjusting the output percentage accordingly will ensure optimum sanitation.



To set Chlorine Output levels:

1. Press the  button to turn the chlorine generator on.
2. Press the  /  buttons to set the desired output level.

PLEASE NOTE: If using a pool cover you will need to reduce the chlorine production substantially, please use LOW mode if you use a cover. Simply press LOW button.

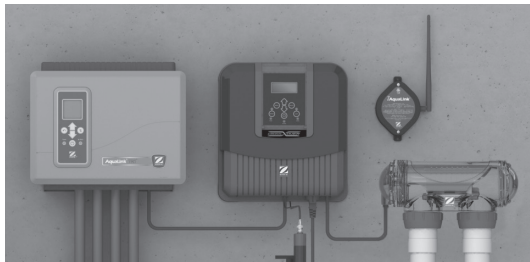
CORRECT SETTINGS FOR YOUR POOL

CORRECT SETTINGS FOR YOUR POOL

	Free Chlorine (ppm)	pH	Total Alkalinity (ppm)	Calcium Hardness (ppm)	Cyanuric Acid (ppm)	Salt Level (ppm)	Sensors
Australian Standard	1 – 3	7.2 – 7.8	80 – 300	90 – 300	30 – 50	4000 – 7000	
Ideal reading/range	1 – 3	7.5	80 – 140	90 – 300	50	4000 ppm at 27°C	
To increase	Add chlorine or increase output of equipment	Add buffer or soda ash (sodium carbonate)	Add sodium bicarbonate	Add calcium chloride	Add Cyanuric acid	Add Salt	
To decrease		Add muriatic acid	Add muriatic acid or dry acid	Partially drain & refill pool	Partially drain & refill pool	Partially drain & refill pool	
Frequency of testing (in peak season)	Weekly	Weekly	Weekly	Weekly	Weekly	Monthly	Quarterly








CONNECTING TO A CONTROLLER

You must set the controller type on the TRi-XO before making the wiring connection.



SETTING THE CONTROLLER

(To be done before making a wiring connection)

1. Switch power to the TRi-XO unit on.
2. Wait for the start-up sequence to complete.
3. Press the  button.
4. Press the  button to scroll down to 'CONTROLLER'.
5. Press  to enter the controller menu.
6. Press  /  to highlight the controller being used.
7. Press  to save the controller setting.
8. TRi-XO will return to the main menu.
9. Press  to return to the operating screen.

ATTENTION JANDY 'REV L' OR LATER USERS

It is critical that the controller setting be set to the correct Zodiac or Jandy controller designation. There are a number of different revisions locked into the TRi-XO software. Please see the controller user manual to determine the model and/or revision you are using. If the incorrect setting is selected, damage can be caused to the Aqualink Control Unit.

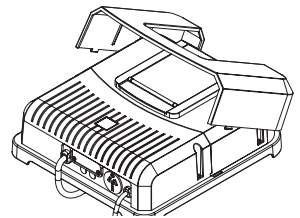
IMPORTANT WARNING

- Wiring of the controller should be completed by an authorised pool equipment installer.
- Before any wiring connections/disconnections ensure mains power is removed from both the controller and the Zodiac TRi-XO unit.
- When connected to a controller, the TRi-XO Chlorine generator acts as the 'slave' - responding to requests. This means timer settings are ignored and the output settings cannot be changed, although all other 'menu' functions are still accessible, except for LOW and BOOST modes.

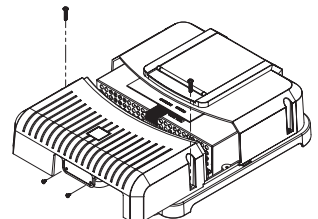
WIRING TO A CONTROLLER

The following instructions should be read in conjunction with the installation guide provided with the Controller.

1. Remove black 'dress' cover by pressing in at the sides

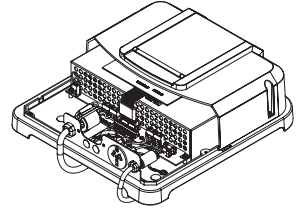


2. Remove the screws which attach the lower cover to the main unit:

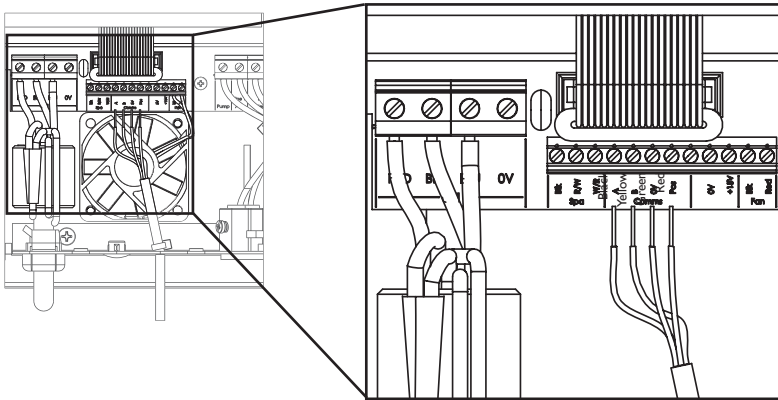


CONNECTING TO A CONTROLLER

3. Remove the lower cover from the TRi-XO unit.



4. Remove the small white bung closest to the centre of the lower panel of the TRi-XO unit.
5. Thread the controller cable through the hole (a grommet may be necessary depending on the size of the cable being used).
6. Attach a cable tie to the controller cable as shown in the diagram. The wiring colour codes are outlined below:



Depending on the make of the Controller, make the following wiring connections:

Polaris EOS / Jandy / Zodiac Aqualink / Aqualink TRi

- Green wire (0V) to '0V' terminal on the TRi-XO
- Red wire to the (+V) 'POS' terminal on the TRi-XO
- Yellow/White (B) wire to 'B' terminal on TRi-XO
- Black wire (A) to 'A' terminal on TRi-XO

CONNECTING TO A CONTROLLER

TESTING THE WIRING CONNECTION

Once a connection has been made between the Controller and the Chlorine generator, it will need to be tested.

1. Turn on the power to the Controller and the Zodiac TRi.-XO
2. If successful, a 'F' symbol will appear in the top right hand corner of the screen after about 20 seconds.
3. If the controller does not connect, turn power off to both the devices and try again.

VERIFY THE WIRING CONNECTIONS

To verify the connection:

1. Switch the TRi-XO unit on and check the controller setting (follow instructions under 'SETTING CONTROLLER').

2. Re-test the connection.

Note: For safety reasons, the Zodiac TRi-XO reverts to the OFF setting if the communication connection is lost.


CONNECTION TO CONTROLLER FOR POOL/SPA COMBINATIONS

- To connect a Zodiac TRi-XO unit to Pool or Spa Valves, you will need to make a "splice" into the control lines from the Controller, located inside the controller itself.
- For further information, consult the installation manual of the Controller being used.

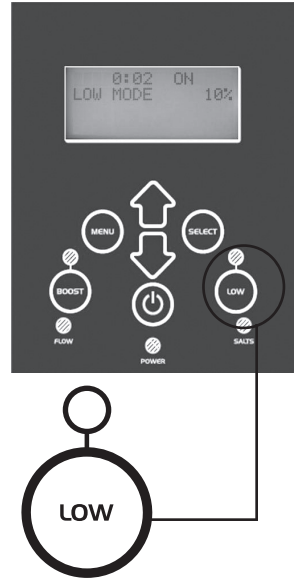
SETTING THE MODE TO LOW: IMPORTANT IF USING A POOL COVER

- If your pool has a cover, you should set the output level to “low”. This is also known as “winter” mode.
- Reducing your chlorine output will help prevent damage to your pool’s cover and other equipment.

MANUAL SETTING

1. To select Low mode press . This will drop the chlorine output to around 10%.
2. ‘Low’ will appear on the screen.

Note: Low or Winter mode cannot be selected when TRi is being controlled by an external controller.



AUTOMATIC SETTING

- The Zodiac TRi-XO can be connected to the valves of an automatic pool/spa system.
- When the input from the valves is set to ‘Low’ the TRi-XO will automatically revert to ‘Low’ mode and the output will be locked at 10%
- Details of the wiring connection are outlined in the “Connection to Automatic Pool/Spa Valve” section of this manual.

THE BOOST SETTING

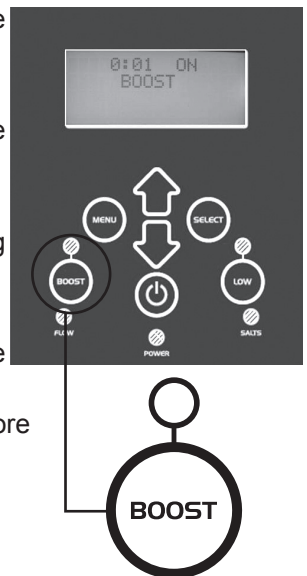
- At times your pool may require a larger than normal application of chlorine. The Boost function is used to rapidly add chlorine.
- In 'BOOST' or "Superchlorinate" mode, output settings are temporarily overridden and the chlorine generator runs for 24 hours at 100% Chlorine Production.
- In 'TIMER' mode, the circulation pump will run for 24 hours, before automatically reverting to previous output / timer settings.
- In 'MANUAL' mode, the chlorine generator will run at 100% for a cumulative total of 24 hours before reverting to the previous output setting.

NOTE: The 'BOOST' mode cannot be engaged under the following circumstances:

1. If the TRi-XO is in the 'OFF' operating mode. The chlorinator must be 'ON' for BOOST to be engaged.
2. Or from the front panel when the TRi-XO is being controlled by an external controller.

In most cases a BOOST function can be set from the controller menu.

Consult your third party controller manual for more information.



SETTING THE BOOST MODE

To activate the BOOST setting:








Press the  button.

'BOOST' will be displayed on the screen and chlorine generation will commence.

HELP AND TROUBLESHOOTING


The Zodiac TRi-XO chlorine generator automatically provides a number of inbuilt warnings that can help identify problems and offer solutions.

To access the HELP menu:

1. Press the  button.
2. Using the  /  buttons, scroll to the 'HELP/DIAG' menu.
3. Press  to enter the 'HELP/DIAG' menu.
4. Once in the 'HELP/DIAG' menu, use the  /  buttons to scroll to the error/warning that has been displayed.
5. Press .

A number of suggested solutions are momentarily displayed, in order of priority.

After displaying, the TRi-XO automatically reverts back to the 'HELP/DIAG' menu.

6. To exit to the default operating screen press the  button. Or it will automatically exit after one minute.

MAINTENANCE

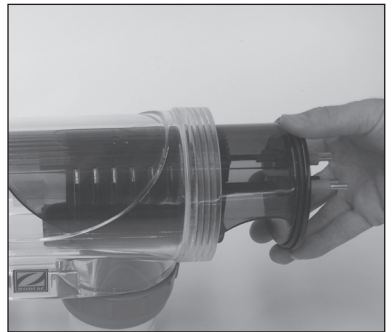
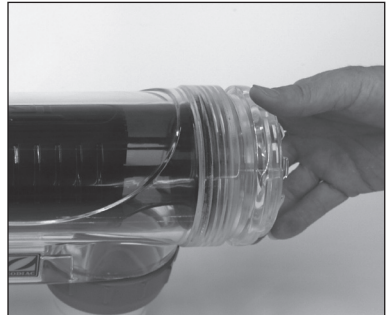
To keep your TRi-XO Unit in the best possible condition it is recommended regular maintenance should be performed.

INSPECTING AND CLEANING THE ELECTRODE

- In areas that experience calcium hardness the TRi-XO electrode will benefit from cleaning.

To clean your electrode:

1. Switch off the filter pump and chlorine generator, close necessary valves and unplug the cell terminal cap.
2. Unscrew the retaining ring and remove the electrode. If calcium buildup is present, immerse the electrode in cell cleaning solution without immersing the terminals.
3. We recommend using Zodiac Salt Chlorinator Cell Cleaner to clean the electrode. However you can mix your own by carefully adding one (1) part of Hydrochloric (Muriatic) acid to ten (10) parts water. Stronger solutions will shorten terminal life.
4. Allow the cleaning solution to dissolve the calcium deposits for about 10 minutes. Dispose of the cleaning solution at an approved Council Depot and never into storm water or sewage drains.
6. Rinse the electrode in clean water and re-fit the electrode in the cell housing.
7. Replace the cell head and plug assembly and reset valves and switches. Turn pump and TRi-XO on.
8. Confirm chlorine output and settings on the power pack. Timer settings will be automatically retained.



MESSAGES AND WARNINGS. WHAT THEY MEAN.

Messages	Meaning	Solution
Check Salt Check Minerals	Your salinity level may be low	Take a water sample to the pool shop to see if your salt or mineral levels need topping up. Please note that this can be affected by low water temperatures. If the water temp is below 21°C it is imperative that you check the salinity before adding extra salt/minerals
Check Cell	Cell may be approaching end of life	Contact your local pool care professional to ask about a replacement cell
Check Pump	Pumps output is off due to pump protection being activated	Check to see if there is water flow through the cell housing, if there is no flow or very low flow there may be a problem with the pump, or the pump is disconnected. Ensure all electrical connections are in place and there is no blockage in the pipe. Manually turn the chlorinator on to clear the warning
No Flow	Too little or no flow of water through the cell housing. Chlorine production is halted when this warning is displayed	Check to see if there is water flow through the cell housing, if there is no flow or very low flow there may be a problem with the pump, or the pump is disconnected. Ensure all electrical connections are in place and there is no blockage in the pipe
Check Pwr Supply	Power pack has over heated or encountered a problem	This warning may appear when the power supply has over heated and needs time to cool down. It could be triggered due to very high ambient temperatures or there may be a heat source nearby (remove the heat source if possible). If the problem persists you may need seek help from a pool care professional
Cell Cleaning	Cell has gone into reversing mode to clean	This represents the cell is going through its normal cleaning cycle. There is no need to do anything when this message is displayed
Boost	Cell is in 100% production mode	This message represents that the unit is at 100% output for a 24 hour period
Low	Cell is in 10% production mode	This message represents that the unit is at 10% output

NOTES



ZODIAC



For full warranty terms and conditions and to register your warranty , simply visit www.zodiac.com.au/warranty and complete your details. Or scan the QR code and be taken directly to the registration page

Record your Equipment details here for quick reference:

Model No.: _____

Serial No.: _____



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