

Owners Manual



THIS PRODUCT CONTAINS A BUTTON BATTERY

If swallowed, a lithium button battery can cause severe or fatal injuries within 2 hours. Keep batteries out of reach of children. If you think batteries may have been swallowed or placed inside any part of the body, seek immediate medical attention.

WARNING

This equipment must be installed and serviced by a qualified technician. Improper installation can create electrical hazards which could result in property damage, serious injury or death. Improper installation will void the warranty.

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GENERAL SAFETY RULES

- 1) The equipment mentioned in this manual is specially designed for the sanitizing of water in swimming pools.
- 2) It is designed to work with clean water at a temperature not exceeding 35°C (95°F).
- 3) The installation should be carried out in accordance to the safety instructions of swimming pools especially Standard HD 384.7.702 and AS/NZS 3000:2018 to specific instructions for each facility.
- 4) The rules enforced on accident prevention should be carefully followed.
- 5) Any modification of the chlorinator requires the prior consent of the manufacturer. Original replacement parts and accessories authorized by the manufacturer ensure a high level of safety. The manufacturer accepts no liability for the damage and injuries caused by unauthorized replacement parts and accessories.
- 6) During operation, some parts of the chlorinator are subject to dangerous electric voltage. Work may only be performed on the chlorinator or on the equipment connected to it after disconnecting them and the starting device from the mains power.
- 7) The user should make sure that assembly and maintenance tasks are carried out by qualified authorized persons and that these persons have first carefully read the Service and Installation Instructions.
- 8) The operating safety of the chlorinator is only guaranteed if the Installation and Service instructions are correctly followed.
- 9) The limit values stated in the Technical Specifications should not be exceeded under any circumstance.
- 10) In the event of defective operation or fault, contact the manufacturer's Technical Support Department or its nearest Authorized Agent.
- 11) If the supply cord is damaged, it must be replaced by the manufacturer or its service agent or a similarly qualified person.
- 12) 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.
- 13) The appliance is not intended for use by young children. Young children should be supervised to ensure that they do not play with the appliance.

These chlorinators are approved and conformed to AS3136 Swimming Pool Equipment, as a prescribed article under Australian Registration.

These chlorinators conform to the Australian Electromagnetic Compatibility Standard marked by the C-tick.

WHAT'S IN THE BOX?

- Digichlor Control Unit
- Manual Warranty Booklet

NOTE: If bought as Salt Water Chlorinator unit, the electrolytic cell is provided in a separate carton.

FEATURES

Chlorine Generation

Through the electrolysis process, a saline solution passes over an electrolytic cell, separating into its basic components: chlorine and sodium. The chlorine is instantaneously transformed into Hypochlorous acid; this the chlorine form that kills algae and other harmful organism in the water.

A chlorine generator's main function is to produce chlorine for the pool. This keeps a residual of chlorine in the pool that prevents algae and bacteria from growing. The chlorine then turns back into salt and the system continues as long as the generator is functioning properly.

Consistently maintained sanitizer levels in the pool water will prevent the growth of all common algae and bacteria. A salt-water chlorinated pool requires much less attention than a chlorine pool.

DIGICHLOR

Digichlor consists of a Control Unit (power supply) with a built in digital timer and a electrolytic salt cell (where the chlorine is produced).



Digichlor Control Unit

The Control Unit monitors and regulates chlorine production by regulating the amount of electrical energy supplied to the electrolytic salt cell.

Digital Timer

The Digital Timer controls power to the pump and electrolytic cell. It can be programmed to turn "ON" or "OFF" at any time that suits your lifestyle.



Electrolytic Salt Cell

Waterco's salt cell consists of a series of titanium electrodes with opposite charges. Waterco's clear salt cell housing allows visual inspection of the salt cell plates and enables monitoring of chlorine production.



The cell housing is constructed using clear U.V. stabilized acrylic. Both anode and cathode of the self-clean chlorinator are made from uniquely coated titanium plates for extra durability.

Self-Cleaning

Waterco's Self Clean Salt Cell has the added ability to reverse the polarity of the voltage to clean calcium build up off its electrodes.

The Digichlor Control Unit power up the salt cell (anode and cathode) and hold an electrical potential difference between them for a designated period of time. This difference is reversed after that period of time has expired and then the anode becomes the cathode and the cathode becomes the anode.

The reversing of polarity or electrical potential difference will then start to remove any calcium build-up, which may have been deposited onto the cathode.

This continuous reversing of polarity will keep the cell clean from calcium deposits during its operation, providing the chemical balance and flow of the pool water thru the cell is maintained within normal parameters.

It is recommended that you obtain regular water chemistry tests from your local pool professional to ensure your water balance is within range.

Battery Back Up

To replace the battery, simply unscrew the battery cover at the bottom of the unit to access the battery. Ensure the battery cover is fully fastened when battery is replaced, to prevent access by children, which could pose a hazard.

Use battery: CR-2032

Estimated range: 3 years.

Automatic Pool Cover Link

Digichlor automatically reduces chlorine production to 10% when detects the pool cover is deployed. When the pool is open again the Digichlor returns to the previous chlorine production level.

A harness connector is provided to act as switch during the deployment of the pool cover. The harness is located at the bottom of the Digichlor as shown in the following figure:



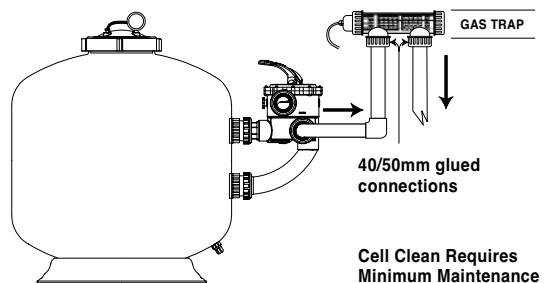
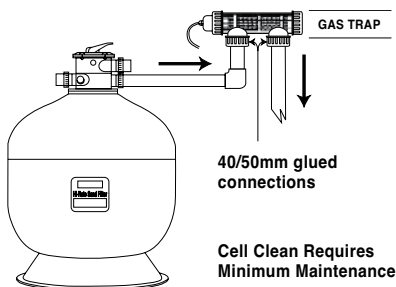
Note: This feature is only available in the Europe model.

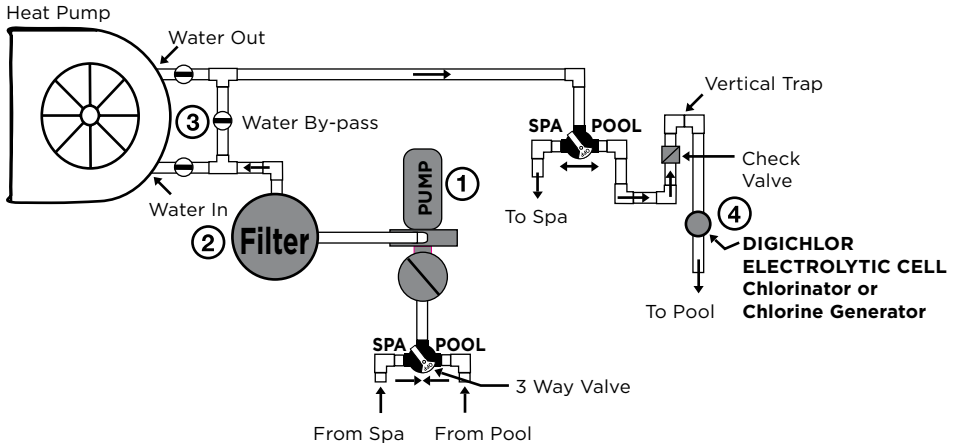
INSTALLATION

These guidelines should be followed to install the Digichlor:

- Ensure that the electrolytic cell is the last piece of equipment installed on the filtration system - this is so the chlorine produced will not damage other equipments such as heaters.
- The electrolytic cell may be installed above or below water level. If it is below water level, please ensure that an isolation valve is installed so the unit can be serviced without losing water from the pool.
- The cell may be mounted on different angles so long as a gas trap is provided.

GAS TRAP: The cell must be positioned in such a way as to provide a gas trap. The bottom of the cell must be above the top surface of the pipe from the previous piece of equipment, as per the below diagram.





PLUMBING DIAGRAM

Installing the Control Unit

Choose a location for the Control Unit close enough to the Cell/Housing and filtration pump so that both may be connected/disconnected easily. The Control Unit should not be mounted in areas where chemicals are stored (e.g. acid and chlorine). Also ensure the Control Unit can be connected to the mains power outlet of the pool area. Note that this outlet must meet the current applicable local standards at the time of installation.

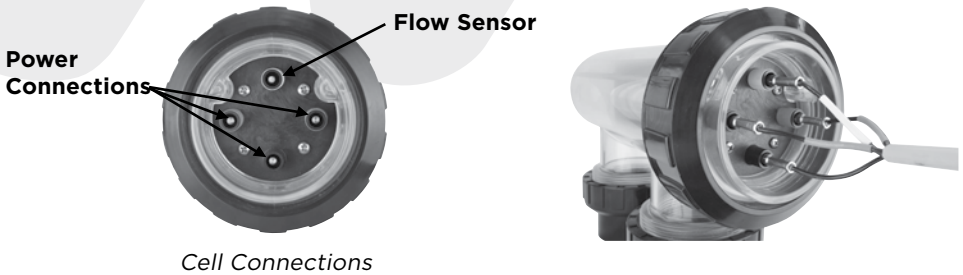
The PUMP socket outlet in the base of the Control Unit is dedicated to the filtration pump only. Do not use a double adaptor to connect another pump as this will overload the system and void warranty.

Installing/Connecting Electrolytic Cell

The Cell/Housing assembly should be plumbed into the pool return line after all other accessories (and prior to any heating take-offs). Note any water flow direction on the Cell/Housing. The Cell will need to be removed from the housing periodically for cleaning – do not place it where its removal can be difficult/obstructed.

The Electrolytic Cell is connected to Control Unit using the cell cable.

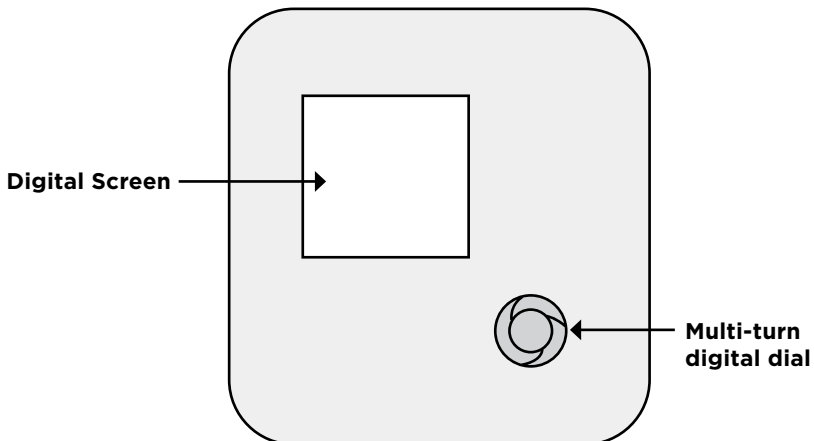
Ensure that the 4 connections (3 for Cell Power and 1 for flow detection) are not loose. A loose connection is likely to cause arcing which may damage the entire system.



NOTE: Connect all plumbing to the Cell Housing taking care **that all joints are glued or tightened** securely to prevent leaking.

Allow 24 hours for glue (solvent) to set before starting the Digichlor.

Digital Timer Functions



ICONS & DEFINITIONS



SET TIMER



EXIT



LOW SALT



SET CLOCK



DIAGNOSTICS



HIGH SALT



AUTO (MODE)



SCREEN COLOUR



CELL A ACTIVE



OFF (MODE)



SERVICE MODE
ON



CELL B ACTIVE



ON (MODE)



SERVICE MODE
OFF



FLOW



SUPER
CHLORINATION



PUMP ON



NO FLOW

OPERATION

Setting the Time

1. To set the clock, turn the dial until you reach 'set clock'.
2. Press on dial to 'enter' function.
3. The hour hand will be highlighted yellow. Turn the dial to set the right hour and push the dial down (enter).
4. The minutes hand will now be highlighted in yellow. Turn the dial to set the right minutes and push the dial down (enter) to set the clock.
5. You will now see the seconds hand in red, which means the clock is now set.

Setting the Timer

There is only one (1) timer mode.

1. To set up timer for when Digichlor will operate, turn the dial until you reach 'set timer'. Press on the dial to 'enter' the function.
2. Press the dial again to highlight the timer hand to yellow and turn the dial to a time you want the Digichlor to operate.
3. To turn operation off during specific hours, press on the dial again and you will see the timer hand turns to red.
4. To save the timer, push and hold the dial.

Super Chlorination Mode

Digichlor will be set to produce chlorine at maximum level for 24 hours non-stop overriding previous programming and the Super Chlorination icon will be displayed on the screen. Pressing the Super CL again when the Super Chlorination icon is displayed on the screen will disable the Super Chlorination and revert to the original programming.

1. To set up Super Chlorination mode, turn the dial until you reach 'Super CL'.
2. Press on the dial to enter Super Chlorination. The timer will be displayed in full yellow colour, and will be set automatically to run for 24 hours. Once Super Chlorination is complete, it will revert to normal settings.

Service On Mode

When this mode is selected the Digichlor disables the chlorine production (salt cell) and the flow sensor. This allows servicing of the pool filter, backwashing and draining the pool.

Diagnostics Mode

Referring to the 'Icons & Definitions' table, this mode will provide more information on the status of connected equipment and issues which needs to be addressed, if there are any detected. Up to 4 icons will be shown on the screen.

Operating Modes

MANUAL ON Mode

This mode overrides the Timer settings.

This is the recommended setting to work in combination with Waterco's Aquamaster or ChemfloPlus.

AUTO Mode

This is the default operation mode. Timers are operational according to programmed settings.

OFF Mode

Digichlor is permanently turned OFF when this is selected and will need to be manually turned on again.



Auto Position



Off Position



Manual Position

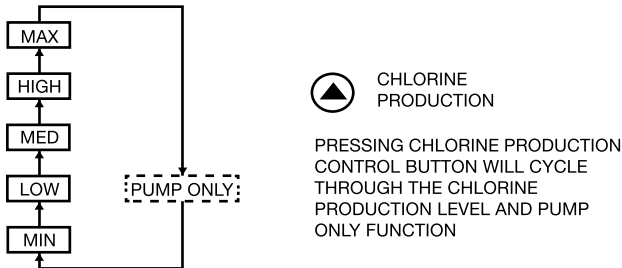
CHLORINE PRODUCTION LEVELS

The output of the chlorinator can be adjusted to reflect the different seasonal requirements in order to maintain satisfactory chlorine sanitizer levels.

The amount of chlorine produced can be adjusted by pressing the CHLORINE PRODUCTION key. Press button to raise production. If production already set at maximum it will turn to zero and each press will raise production by one LED till MAX.

If the pool water is over chlorinated, simply reduce the chlorine production set level.

Pump Only Mode: The Chlorinator can be set to activate the pump only for maintenance purposes (e.g. backwashing the filter). The pump only mode will disable the flow detection and chlorine production in the cell. To set press CHLORINE PRODUCTION key until Pump Only mode LED is lit.



ALARMS

In addition to the 'Diagnostics' mode, Digichlor also includes alarm signals to indicate potential problems associated with its functionality and to protect the control unit/electrolytic cell. The chlorine production LEDs will blink/lit or change the colour to indicate the correspondent situation.

- **Check Salt Level LED blinking:** If the water temperature is below 20C degrees. Please check the salt level. if the salt level falls within the recommended range, the warning can be ignored until summer when the water temperature is above 20C. If the water temperature is above 20C and the warning is flashing, please check salt level and the required quantity. Consult your pool professional how to increase the salt level. This condition may affect the longevity of the cell and void its warranty.
- **High Chlorine Production Level LED blinking:** Salt level is moderately above the maximum operational level. It needs to be reduced below the maximum recommended. Consult your pool professional how to reduce the salt level. This condition may affect the longevity of the cell and void its warranty.
- **Max Chlorine Production Level LED Amber:** Salt level is too high. The control unit will stop the chlorine production until it's reduced below the maximum recommended. Consult your pool professional how to reduce the salt level.
- **No Water Flow:** The flow sensor is not detecting water flowing through the cell housing. Control Unit will stop chlorine production and power to pool pump. Please refer to trouble shooting guide or consult your pool professional.

WATER CHEMISTRY

Salt Level

The Digichlor chlorinators must operate between the salt level ranges listed below.

- MINIMUM = 4000 TDS
- OPTIMUM = 5500 TDS
- MAXIMUM = 6000 TDS

Testing kits are available from the local pool professional and should be used to accurately check the salt level in the pool water.

Water Chemistry

It is important to maintain the correct water chemical balance in the swimming pool; this will help protect the Digichlor chlorinator and its cell.

Consult the local pool professional for the correct water balance according to the swimming pool type. The Digichlor chlorinator will run correctly at the following chemistry levels:

	Range	Suggested
pH.	7.2 - 7.8	7.2 - 7.6
Total alkalinity	60 - 200ppm	80 - 150ppm
Calcium hardness	100 - 500ppm	60 - 250ppm
Stabilizer (Sun screen)	30 - 60ppm	

SALT CELL CLEANING PROCEDURE

- Select the 'OFF' mode.
- Unscrew the barrel unions from the salt cell and disconnect the cables from the salt cell's brass connectors.
- Turn the salt cell housing upside down with both ports facing upwards.
- Pour the Cell Wash cleaning solution into the housing to dissolve the calcium build-up from the salt cell plates. There should be just enough solution to cover the salt cell plates.
- Allow enough time for the solution to dissolve the calcium build-up from the salt cell plates. Approximately 5 to 10 minutes.
- Once the calcium build-up has been removed, pour out the Cell Wash solution into a bucket and lightly rinse-off excess calcium and Cell Wash solution from the salt cell assembly, with fresh water.
- Reconnect the salt cell onto the filter system
- Set the unit back to original "ON" or "AUTO" position to reactivate the Digichlor.

Never use products that are not specifically manufactured to clean the Digichlor MK3's salt cell. Do not use raw acids such as Hydrochloric acid. This will damage the salt cell and severely life and will void warranty. Please consult your local pool professional for advice on salt cell cleaning products.

TROUBLESHOOTING

SYMPTOM	POSSIBLE CAUSE	REMEDY
Low chlorine level in pool	Operating time too short	Increase operating time
	Production control set too low	Set production higher
	Low salt	Add required amount of salt
	Pool chemistry not correct	Have water tested
Unit does not operate	No electrical power Digichlor switch off	Connect power, check thermal resettable switch on Digichlor
Not keeping time	Time clock setting, power outage	Make sure battery have been charged for a least 70hrs to achieve max capacity
	Electrical fault	Return to distributor for repair
All LEDs blinking	Electrical fault	Return to distributor for repair
No chlorine production	Control unit set to pump only	Press Chlorine Production button to set the desired level
	Digichlor is on OFF mode	Set Digichlor to ON or AUTO mode
Pump not working	Pump not connected to pump socket outlet	Plug pump lead to Pump Socket outlet
	No flow detected	Check pool water level Check position of multiport valve Check connection of flow sensor pin
“Check salt level!” flashing	Low salt	Add required amount of salt
	Low water temperature	No action required if the salt level is sufficient. This signal will disappear when water temperature returns to the normal range

WARRANTY

Three Years Warranty:

Digichlor	3 years*
Electrolytic Salt Cell	3 years
Power pack	3 years
Commercial Installations	1 year

*Please refer to Waterco's Warranty terms and conditions

TECHNICAL SPECIFICATIONS

Power Unit

Input	220-240V AC
Frequency	50/60 Hz
Current	0.3 A
Socket Outlet	220-240V AC
Maximum Current Output	10A
Minimum Salt Level	4000 TDS
Maximum Salt Level	6000 TDS
Type of Salt	Standard Pool Salt/Mineral Salt

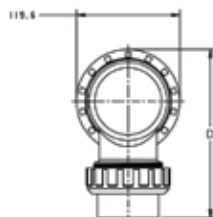
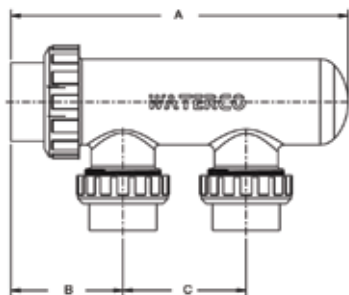
Waterco Salt Cell

Input	20V DC
Maximum Current Output	4A DC

Recommended Pool Sizes

Waterco Salt Cell	Chlorine Production (g/hr)	Max Pool Size/ Climate	
		Temperate	Tropical
Series 2000	20	60,000	48,000
Series 2500	25	80,000	60,000
Series 3000	30	100,000	72,000

Cell Housing dimensions



A (mm)	B (mm)	C (mm)	D (mm)
370.0	136.5	280.0	188.8

Note:

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