

HYDROCHLOR TS®

Owners Manual



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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.



WATERCO

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WATERCO

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What's In the Box?

- Hydrochlor TS® Power Pack
- Hydrochlor TS® Self Cleaning Cell and Housing
- 40/50 Bushes
- Cables to connect the Self Cleaning Cell
- Manual
- Waterco's Warranty Terms and Conditions.

FEATURES

Chlorine Generation

Through the process of electrolysis, a saline solution pass over an electrolytic cell, then the saline solution is separated 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 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. A salt-water chlorinated pool requires much less attention than a chlorine pool.

HYDROCHLOR TS®

Hydrochlor TS® consists of a Power Pack with a built in timer (to supply power to the cell) and Salt Cell (where the chlorine is produced).

Hydrochlor TS® Power Pack

The Power Pack monitors and controls chlorine production by regulating the amount of electrical energy supplied to the salt cell.



Time Switch

Programme the chlorinator timer to turn on or off at any time that suits your lifestyle.

The Time Switch controls power to the Chlorinator controller.



Electrolytic Salt Cell

The Hydrochlor TS®'s salt cell consists of a series of titanium electrodes with opposite charges. Hydrochlor TS®'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

Hydrochlor TS® Self Clean Salt Cell has the added ability to reverse the polarity of the voltage to clean calcium build up off its electrodes.

The **Hydrochlor TS®**s electrodes, the 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 Backup

The Time Switch comes with a super capacitor incorporated to save your settings in the event of a power failure. The super capacitor requires 70 hours of continuous power supply to achieving a full charge.

The time switch specifications are the following:

Super Capacitor Charge Time: 70 hours.

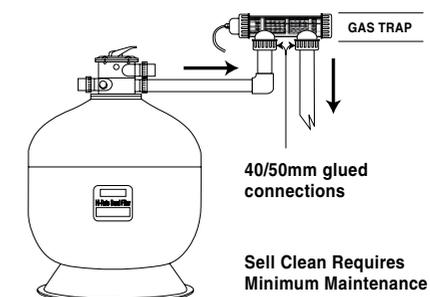
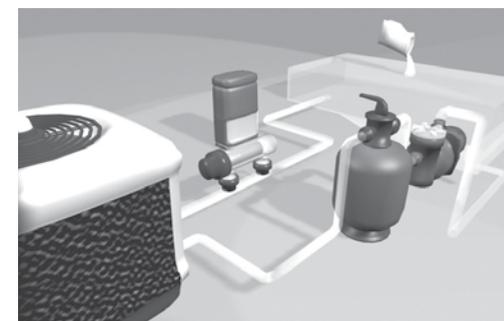
Super Capacitor Power Reserve: 150 hours.

INSTALLATION

These guidelines should be followed to install the Hydrochlor TS®:

- Ensure that the chlorinator 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 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.



Installing the Power Pack

Choose a location for the Hydrochlor TS® Power Pack close enough to the Cell/Housing and filtration pump so that both may be connected/disconnected easily. The Hydrochlor TS® Power Pack should not be mounted in areas where chemicals are stored (e.g. acid and chlorine). Also ensure that the Hydrochlor TS® Power Pack 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 Hydrochlor TS®'s Power Pack 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.

NOTE: For installations running on off-peak electricity supply, like Queensland Tariff 33, it is required to connect the Power pack to power supply for a period of at least 24 hours to fully charge the back-up battery of the timer.

Installing/Connecting the Hydrochlor TS® Self Cleaning 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 Cell Cable is connected to the Cell Connector under the Hydrochlor TS® Power Pack cover.

Ensure that the 3 connections (2 for Cell Power and 1 for Gas Sensing) are not loose. A loose connection is likely to cause arcing which may damage the entire system.

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

Allow 24 hours for glue (solvent) to set before starting the Hydrochlor TS®.



TIME SWITCH OPERATION

Setting the time

To set current time, rotate minute hand until arrow-head aligns with correct time. The clock operates in a 24 hour time sequence

Setting Filtration and Chlorinator Operation Time.

To set ON/OFF times, move all tappets between ON and OFF times required to outer position.

I.E. to set ON at 7.30 a.m. and OFF at 10.30 a.m. move all tappets between 7.30 and 10.30 to outer position (see fig. 1).

Tappets in OFF position

Tappets in ON position

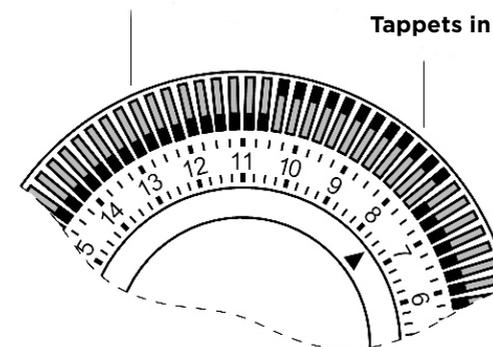


Figure 1

Manual Override switch (see fig. 2)

ON Position:

the time switch is permanently ON irrespective of tappet positions. This is the recommended setting to work in combination with Waterco's Aquamaster or ChemfloPlus.

AUTO Position:

the time switch is operating on timed control as determined by tappet positions. This the automatic operation position.

OFF Position:

the time switch is permanently OFF irrespective of tappet positions.

Figure 2



"ON" Position

"AUTO" Position

"OFF" 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 CONTROL** 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.

WATER CHEMISTRY

Salt Level

The Hydrochlor TS® chlorinators must operate between the salt level ranges listed below.

• MINIMUM = 4000 ppm • OPTIMUM = 5500 ppm • MAXIMUM = 6000 ppm

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

Note: When the LED lights flash it is an indication of:

- Low salt level
- Low temperature or
- Cell plates wearing

If you don't know what your salt level is or how to test it, consult your local pool care specialist.

Water Chemistry

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

Consult the local pool professional for the correct water balance according to the swimming pool type.

The Hydrochlor 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

- Press the MODE key until OFF on the power pack, then turn the pump and Hydrochlor to standby 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
- Press the **MODE** button to AUTO or ON on the power pack to reactivate the Hydrochlor.



Never use products that are not specifically manufactured to clean the Hydrochlor TS®'s salt cell. Do not use raw acids such as Hydrochloric acid. This will damage the salt cell and severely shortens its 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 Hydrochlor TS® switch off	Connect power, check fuse, switch on Hydrochlor TS®
Not keeping time	Time clock setting, power outage and power drained	Make sure battery has been charged for a least 70hr to achieve max capacity
	Electrical fault	Return to distributor for repair

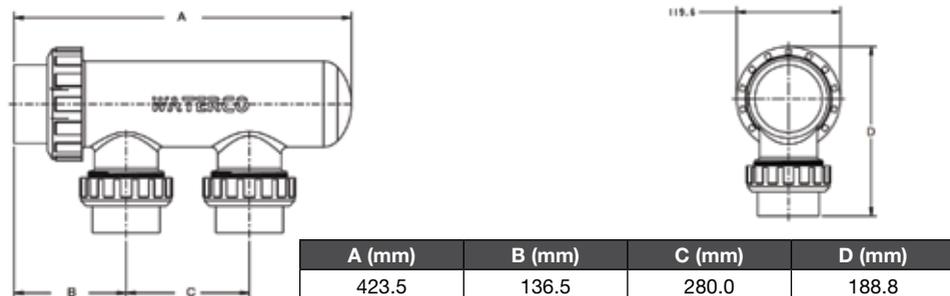
TECHNICAL SPECIFICATIONS

Model	Input Watt (kW) max	Output current DC (A) max	Chlorine Production (g/hr)	Max Pool Capacity (L) Climate	
				Temperate	Tropical
20 SC	290	20	20	80,000	48,000
25 SC	330	25	25	100,000	60,000
30 SC	380	30	30	120,000	72,000

Model	20 SC	25 SC	30 SC
Primary Input (Volts)/ Frequency (Hz)	220-240/50-60	220-240/50-60	220-240/50-60
Input Power (W)	290	330	380
Maximum Total Current (A)	10	10	10
Cell Voltage (V)	6 - 8	6 - 8	6 - 8
Degree of Protection	IP23	IP23	IP23

* Protection to weather is required for installation outdoor.
Indoor use only.

Cell Housing dimensions



GENERAL SAFETY RULES

- The equipment mentioned in this manual is specially designed for the sanitizing of water in swimming pools.
- It is designed to work with clean water at a temperature not exceeding 35°C (95°F).
- The installation should be carried out in accordance to the safety instructions of swimming pools especially Standard HD 384.7702 and the specific instructions for each facility.
- The rules enforced on accident prevention should be carefully followed.
- 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.
- 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.
- 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.
- The operating safety of the chlorinator is only guaranteed if the Installation and Service instructions are correctly followed.
- The limit values stated in the Technical Specifications should not be exceeded under any circumstance.
- In the event of defective operation or fault, contact the manufacturer's Technical Support Department or its nearest Authorized Agent.
- If the supply cord is damaged, it must be replaced by the manufacturer or its service agent or a similarly qualified person.
- 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.
- 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.

WARRANTY

Two Years Warranty:

Hydrochlor TS® Chlorinator	2 years*
Titanium cell	2 years
Power pack	2 years
Commercial Installations	1 year

*Please refer to Waterco's Warranty terms and conditions