CHLOROMATIC®

Salt Water Chlorinator

Owner's Handbook

A OPERATION OF CHLORINATOR SYSTEM

The Chlorine Indicator has two sections – silver and red – to coincide with the model of the Electrolytic Cell. You will find the model number on a label attached to the plastic head where the electrical cord joins the Cell. Always ensure your unit is operating in the appropriate silver section. Prolonged operation in the overload section will cause damage to the Cell and the Power Supply Box which may not be covered by warranty.

If your salt content in the pool is correct, you should be able to use your Chlorine Control and dial up the maximum reading on the Chlorine Indicator without going into the red overload section. For a new pool installation that has not been chlorinated, add sufficient chlorine (liquid or granular) to achieve a reading of 2ppm (with a test kit), or run it continuously for at least 24 hours or until a reading of 200m is reached.

In some cases you may find your chlorine level to be too high. To determine if this is the case, run your filter/chlorinator for the suggested times/chlorine production level and test your pool water on the morning after operation. If your chlorine test shows a high level of chlorine, the running times can be reduced slightly. Then test your chlorine level the following morning at around the same time. If your chlorine level is still high, repeat the above process until a correct level is attained.

B DAY TO DAY OPERATION

Two prime rules must be observed if you want your unit to give the best possible service:

1. All instructions in this booklet are based on the use of pool stabiliser. This is vital, because if not used, it could prove to be costly (refer Page 4, section A).
2. The salt level MUST NEVER BE LESS THAN 4000ppm. Operating the unit with too little salt in the pool will cause damage to your Cell (refer Page 4, section C).
3. If you run your chlorinator for 24hrs a day, or for long periods, this will reduce your cell life dramatically.

The Chloromatic must be run daily to generate sufficient chlorine to sanitise the pool. During summer this is approximately eight hours per day, preferably in two periods – between 5:00 and 11:00p.m. and between 6:00 and 8:00a.m. Night time is preferable because chlorine dissipates rapidly in direct sunlight. If these running times are

observed, and the Cell is functioning close to maximum, your pool will have sufficient chlorine when tested in the morning. If the level is too low, then either longer running times are required or the Chlorine Control needs to be adjusted to increase the output (if not already at the maximum on the Chlorine Indicator). Difficult local conditions such as traffic pollution or windborne dust and sand may require different running times, in which case, seek advice from your pool shop.
During winter approximately 4 to 6 hours a day should provide enough chlorine. Without sufficient filtration/chlorination, your pool will never function correctly. ALWAYS RUN THE FILTER WHEN SWIMMING IN THE POOL. In extremely hot weather or during periods of heavy bathing loads, the running time may need to be extended to 10-14 hours per day (refer Page 3 section B).

ELECTRONICALLY REGULATED POWER SUPPLIES

C SR OPTION (Self Regulating)

Your Power Supply Box is fitted with an electronic control and warning system. This regulates the output of the unit up to the pre-set maximum.
Small variations can sometimes occur – this is simply the control doing its job. The warning system consists of an L.E.D. and a buzzer. It warns of possible faults with the unit or damaging operating conditions. When the unit is turned on, the L.E.D. will be green but no output will be seen for approximately 30 seconds. This is to allow the pump/filter and Cell to prime. After this start-up delay, the unit will show an output on the Chlorine Indicator. At this point the L.E.D. should be green; if not, then there is a problem (see the table below).

L.E.D.	Buzzer	Chlorine Indicator	Reason/Action
Green	Off	No Output	Start-up operating
Green	Off	Output at or near set level	Unit operating correctly
Red	On	No Output	1. Gas detected – check pump or pipes for damage. 2. Cell not connected correctly, check Cell 3. Gas Sensor Clip Not connected, Check Clip and Wire. 4. Control Turned to Low or Off, Check Control Knob.
Red	On	Low Output	1. Cell is coated with scale, Clean the Cell. 2. Salinity is low – add salt at the rate of 50kg per 50,00 ltrs. Dissolve and mix it. 3. Cell is failing – check the Cell.

A SC OPTION (Self Cleaning System) (Refer diagram inside back cover).

1. This unit is designed to run between 5,000 and 6,000 ppm salt minimum.
2. Running times must be set for periods of 2 hour increments – e.g. 2hr-4hr-6hr. This is necessary for the cell cleaning process to be effective.
3. Water flowing to cell must be filtered (no debris permitted). If debris collects on the cell plates, the self cleaning operation will cease.

UNDER NO CIRCUMSTANCES ARE FOREIGN OBJECTS TO BE INSERTED BETWEEN THE CELL PLATES – THIS WILL VOID THE WARRANTY.

4. The Low Salt/Overload alarms are set for operation at 100% output. If the output is decreased the Low Salt alarm will come on at a higher salt level and the Overload alarm will come on at a lower salt level. If you wish to reduce the chlorine output simply reduce the operating hours.
5. The SC Unit has an indicator on the front panel (LED) to warn of problems. It will include the following, (in sequence at start-up).

Green Flashing –
Unit is in start-up mode. No chlorine production for approximately 30 seconds.

Green –
Unit is now on and preparing to produce chlorine. This may take up to 20 seconds.

Green/Red Flashing –
Pool salt level is low – add salt. Check cell for debris or damage if the addition of salt has no effect. Add salt at the rate of 50kg per 50,000 litres, dissolve and mix it.
Note: This indicator may come on for a few seconds when the unit starts and each time the unit cycles (approx. every hour).

Red –
Salt level is too high. This will not damage the unit, but will lead to less efficient operation of the cell, i.e. Less chlorine production. Dilute the pool with fresh water.

6. When the unit is powered, it will not manufacture chlorine for approximately 1 minute. This is to allow the pool system to prime and settle into operation.

UNDER NO CIRCUMSTANCES SHOULD THE ELECTRONIC CONTROL BOARD BE ADJUSTED.

B TIMER OPERATION (OPTIONAL)
NEVER TURN THE CLOCK FACE ANIT-CLOCKWISE – IT WILL CAUSE DAMAGE TO THE TIMER WHICH IS NOT COVERED BY WARRANTY! INSECT INFESTATION IS ALSO NOT COVERED!

Your timer is a 24 hour clock. To set the times that you wish your filter and chlorinator to run, push the pins inward between these times, keeping in mind the afternoon and evening hours are from 12 to 24.
Note: Operation of the pins is intentionally stiff to prevent accidentally changing set times; it may be necessary to use the tip of a screwdriver or other flat tool to position correctly. After times have been set, turn the timer face CLOCK-WISE until the arrow points to the correct time of day.

The rotary switch (ON/OFF/AUTO) must be turned to the "AUTO" position in order for the pump and chlorinator to operate automatically.

ALWAYS operate the switch from the central (OFF) position. One turn to the right for automatic operation. For manual operation, return to central position, then one turn to the left. NEVER turn switch all the way round.

REMEMBER – in case of power failure you will need to reset your timer.

C SAFETY DEVICE

Hydrogen Gas is a by-product of the chlorine producing process. A gas sensor has been incorporated into the unit and will switch off the chlorination if gas is detected in the cell housing or the wire attached to the cell is accidentally removed.

The units are also fitted with a thermal cut-out to prevent overheating. If the temperature rises too high, power is automatically disconnected. The unit will resume operation when it cools down.

D MAINTENANCE OF POWER SUPPLY

Little or no maintenance is normally required with the exception of replacing blown fuses. If correct fuse cannot be found locally, contact your State Distributor. However, it is essential that the wall or post to which the box is installed be sprayed (not the box itself) with a good surface type insect repellent periodically since penetration by insects may cause damage which is not covered by your Warranty.

The back of the box has been designed as a heat sink; don't be alarmed if this area reaches high temperatures – this is quite normal.

A MAINTENANCE OF ELECTROLYTIC CELL

The cell is composed of extremely expensive materials, and although proper maintenance can prolong its life to the maximum, eventually the process of electrolysis will wear away its delicate coasting, at which time it gradually ceases to produce chlorine.

Mineral salts and calcium (scale) are deposited on the outer mesh and the inner tube as electrolysis takes place, this build-up will interfere with the flow of the current in the cell and thus lowers chlorine production. If allowed to build up unchecked, it will engulf the coating of the centre mesh causing the Power Supply to overload, this will damage the Cell and the Power Supply. Because of this, *It is essential to inspect the cell regularly and clean when necessary*. The rate at which deposits will form on the mesh differs with each pool and can be influenced by the following:

- Calcium hardness of the water
- Water temperature
- pH control
- Water which has been chlorinated with calcium hypochlorite for an extended period
- Calcium in the plaster surfaces of a concrete pool

Because these conditions vary so much, check the cell at least weekly to begin with to see when either scale or a blue/green soapy substance appears on the mesh. Thus you will be able to determine the cleaning cycle necessary for your pool (obviously more in summer). The intervals between cleaning could get longer to the point where cleaning is only necessary a few times each year. One exception is the use of bore water – in those cases cleaning may always need to be as frequent as once a week. If the cell clogs frequently with a white crystalline substance, increase the salt level, but never more than 0.7% (7000 ppm). If this is done, the Chlorine Control should be adjusted anti-clockwise to prevent the unit from running on overload.

To clean the cell, unscrew the threaded nut and withdraw the cell from its housing.

METHOD 1
Add 1 part HYDROCHLORIC ACID to 5 parts WATER is a suitable container and immerse the cell in this solution. It should not take longer than a few minutes to clean, if it does the cell should be cleaned more frequently. If the build-up is not excessive it may be possible to clean the mesh with a jet of running water, but take care not to move any of the spacers placed around the central tube. Return the Cell to its housing and screw the threaded nut back again.

METHOD 2
As an alternative, an approved commercial cell cleaning solution can be used. The same solution can be used a number of times effectively, but remember – as with any other chemical, store it carefully.

If you have any doubts about cleaning the cell, CONTACT YOUR STATE DISTRIBUTOR.

B FILTER OPERATION
The graph below is a guide to approximate operating times for domestic pools. Filtering time can vary from as little as 4 hours daily in winter to 12 hours or more in summer, depending on bather load, temperature and other factors.

C MAINTENANCE OF CHEMICALS – SALT
Salt is the essential element by which your unit operates. Not enough salt means not enough chlorine – this simple rule governs the total operation of your Chloromatic, and insufficient salt will damage your Cell.

Salt is NOT used up in the process of producing chlorine or by evaporation. Salt is only lost by back-washing, splash-out, overflow or by leakage from the pool or plumbing.

Winter rains can dilute the salt solution in your pool; therefore salt levels should be checked during that season. In colder water, more salt will be needed to maintain correct cell function.

Low salt levels will destroy the coating on the Anode mesh and will void all Warranty. For current models the salt level should be maintained at or above 0.4% (4000 ppm) and for models manufactured prior to 1991 it should be 0.7% (7000 ppm). Do not exceed 7000 ppm on any new models. If too much salt has been added to your pool, the reading on the Chlorine Indicator will be in the red overload area, it is very important to turn the Chlorine Control knob anti-clockwise until the reading is back in the silver area on the Indicator. On the other hand, if a maximum safe reading cannot be reached then it is time to add salt. When adding salt to your pool, the chlorinator should be turned down or off, until after the first vacuum has been completed. If an automatic pool cleaner is used, always make sure that all the salt is dissolved and mixed before turning the Chlorine Control to its normal setting; if this is not done you will almost certainly blow a fuse. Mixing can be done by vacuuming the pool after the salt is dissolved (or by running your pool cleaner 1-2 hours). If you pool is fitted

with an auto cleaning system, the chlorinator should stay off until you have complete 2 cleaning cycles before turning the chlorinator back on, or manually vacuum the pool. If you have an electronically regulated system you do not need to worry about turning the unit off or adjusting the control knob to its low setting when adding salt to the pool. (refer Pages 1C &2A).

A TROUBLE SHOOTING

No Chlorine Production – Check for

1. Main power outlet switched off
2. Chlorinator not plugged into main outlet
3. Pump not plugged into Chlorinator
4. Manual/Automatic switch in OFF position
5. Chlorine control turned to low position
6. Chlorinator 3 amp fuse blown
7. Dirty Cell
8. Dirty Sensor Bolthead (located inside cellhousing beneath red Sensor Lead connection.
9. Filter needs backwashing
10. Sensor wire not connected
11. Timer settings incorrect for recommended running times
12. Main housing fuse blown
13. Pump motor faulty

Low chlorine Production – Check For

1. Dirty Cell – clean if required
2. Filter needs backwashing
3. Meter reading not at correct level
4. Pool stabiliser too low
5. pH too high
6. Salt level too low
7. Chloromatic running time inadequate (refer Page 3 section B).

INSTALLATION INSTRUCTIONS
FOR
SELF CLEANING SYSTEM

INSTALLING THE POWER SUPPLY: Select a convenient well ventilated location within 1 metre of filter equipment and mount the power supply vertically onto a post or wall 1.5 metres above ground level. SAA (AS 3000 6 1.2) requires that the power supply shall not be located within 3 metres of the pool water. Plug power supply into a suitable weather proof outlet and plug pump into power outlet of the power supply unit. The unit must be kept away from acid and other chemical storage areas. Acid and chemical vapours will corrode the electronics inside the unit. It must also be kept away from heat sources. Good ventilation is necessary for correct operation.

INSTALLATION INSTRUCTION

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power supply shall not be located within 3 metres of the pool water. Plug power supply into a suitable weather proof outlet and plug pump into power outlet of the power supply unit.

CONNECTING THE ELECTROLYTIC CELL TO THE POWER SUPPLY: The cell is fitted with a two core flex and must be connected to junction box located at lower front of chlorinator unit. Connect BROWN wire to BROWN wire and BLUE wire to BLUE wire. Connect red sensor wire from Power Supply Box to clip on Cell Housing. The power outlet on the bottom of the Power Supply Box is dedicated to the POOL PUMP ONLY. Do not use a double adaptor or connect more than one appliance – it can cause overload to the system and could void your warranty.

CHARGING THE POOL WITH SALT: Load salt into deep end of pool at the rate of 40kg per 10,000 litres (.4%) and turn chlorine control anti-clockwise to lowest point, then switch power supply on. Connect vacuum system and slowly vacuum until salt dispersal is complete. Place vacuum head into deepest end of pool and allow vacuum can be adjusted clockwise until correct chlorine production level is indicated. Add sufficient chlorine or run for 24 hours or until a chlorine reading of 2ppm is reached, then commence normal filter cycle (see Page 1).

POOL STABILISER: It is essential that pool stabiliser be added and maintained at the rate of 30-50 mg/l (30-50ppm) at all times. DO NOT EXCEED 100 ppm. (see Page 4A)