INSTRUCTION MANUAL
SMC20 and SMC30

INTERNATIONAL AWARD WINNERS
TAKING INDUSTRY STANDARDS TO A NEW LEVEL
TM

Purchased from: .....

Purchase date: .....

NOTE: Proof of purchase / installation is required for warranty claims. Please keep your records in the safe place.

Chlorine Generator Operation

1. **Min/Off:** Press to reduce the chlorine output.
   When no lights are lit, the chlorine generator is off.
2. **Max/on:** Press to turn on and increase the chlorine output.
3. **Chlorine Production:** Each light represents 10% of output
   i.e. 5 lights = 50% output.
4. **High Salt:** If light on or flashing see Troubleshooting Guide, page 17
5. **Low Salt:** If light on or flashing see Troubleshooting Guide, page 17
6. **Water Flow:** If light flashes and chlorine generator beeps then no water is flowing through the electrode housing. See Troubleshooting Guide, page 17
7. **Power Status:** When light is on the chlorine generator power supply is operating.
8. **To Access Time Clock:** Pull forward at these points and door will fold down
9. **Pump outlet socket:** The three pin plug supplying power to the pump is connected here

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Chlorine Generator Installation

ELECTRODE HOUSING

The electrode housing may be installed either horizontally or vertically in the return water line to the pool. The water flow through the housing may be in either direction. Plumbing may be either 40mm internal or 50mm external with a 50mm coupling.

HORIZONTAL

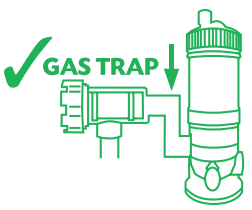
The plumbing connection on the side of the electrode housing must face downwards.

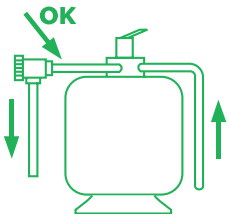
VERTICAL

The plumbing connection on the end of the electrode housing must face downwards and the electrical connections must be protected from the weather. The electrode housing should be installed in a weatherproof, well ventilated pool shed.

GAS TRAP

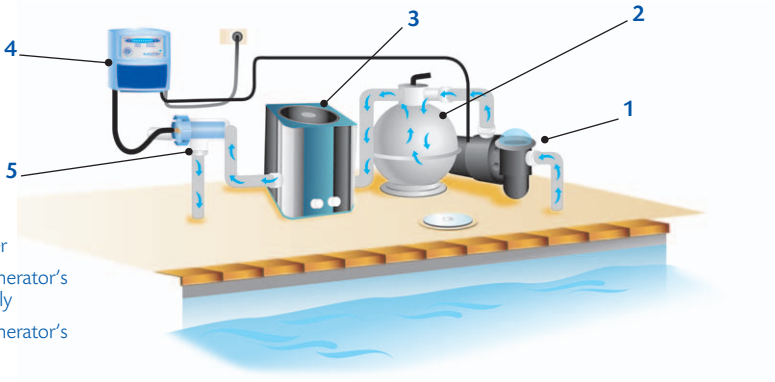
The electrode housing must be installed to form a gas trap as shown below. If water was to stop flowing and the chlorine generator continue running, chlorine gas pressure will build up in the housing and pipe work and cause damage. This can happen if water continues to run back into the electrode housing as the gas escapes.
A gas trap allows the gas to displace water away from the sensor terminal, thus turning off the power supply of chlorine generator and the "water flow" alarm will sound.





Power Supply Unit

The power supply should be installed in a weatherproof, well ventilated area and mounted vertically within 1.5 metres of the electrode. Although the unit has an IP24 rating it can still be susceptible to wind driven rain.



1 – Pump
2 – Filter
3 – Water Heater
4 – Chlorine Generator's Power Supply
5 – Chlorine Generator's Electrode

Installation With Pool Heater

The SMC chlorine generator can be fitted to pools with any type of heating system. It is recommend that the electrode housing be fitted in parallel with the heating inlet and return water flow (after filter), as shown in figures 4(a) or 4(b). This will keep the chlorination and heating processes separated and prevent possible damage to the heater and the chlorine generator's electrode.

It is acceptable but not recommended to install the heater upstream of the chlorine generator in the pool return line, as hot water will shorten the electrode life. Do not install them in reverse as the heavily chlorinated water could damage the heating unit and may negate the heater warranty.

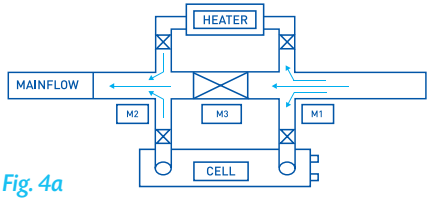


Fig. 4a

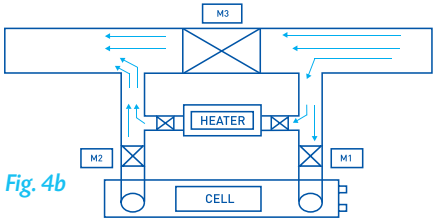


Fig. 4b

Adding Salt To A New Pool

Calculate the water volume of your pool as follows: average length x average width x average depth in **metres**. Multiply this answer by 4.5. The answer is the amount of salt in **kilograms** you need to increase the salinity of your pool from fresh water to 4500ppm as recommended for this chlorine generator.

Turn on the power to the chlorine generator and press **"Min/Off"** button to erase all the green production lights. This will turn the chlorine generator production off and leave the pump running.

Add the calculated quantity of salt (refined NaCl recommended) to the shallow end of the pool. Brush the salt to assist it to dissolve. Undissolved salt may stain your pool's finish.

It is recommended to leave the pump running for 12 – 24 hours, then turn on the chlorine generator production by pushing the **"Max/On"** button and increase the output to maximum.

Your chlorine generator is designed to maintain a sanitizing chlorine level in your pool. It will take a number of days of continuous running to reach this level. Have the water chlorine level tested daily until it reaches 1.5 – 2.0 ppm. At this point you can adjust the running time and production level to suit your requirements.

The most effective method of chlorinating your pool is to run the pump long enough to pass all the pool water through the filter/chlorine generator's cell at least once a day. For example,

Pool size = 60,000 ltrs. Pump flow = 200 ltrs/min.
Pool size / (pump flow x 60 mins.) = 5 hours to filter the water once.

If your chlorine generator does not produce enough chlorine, increase the running time. Chlorine demand and running time will vary and depends on a number of factors such as: bather load, chemical balance, water tempreture, sunlight exposure, type of filtration media etc.

Check the water chemical balance (page 14). A correct chemical balance and chlorine level will ensure optimum pool water quality.

Introduction To The Time Clock

The time clock is accessed by pulling down the top half of the front cover. There are four buttons: "**Clock", "Timer", "Man" and "Auto".**

"Clock" and **"Timer":** Used to enter and exit the timer set up programmes. Once the timing programme is set they are not used again unless you wish to alter the programme times.

"Man": Used to change settings during programming. Used also to manually turn the chlorinator and pump on and off.

"Auto >>": Used to advance to the next setting during programming. Used also to enter the automatic time clock operation.

The time clock has a 24-hour clock face which is divided into 48 segments, each of 30 minutes duration. (fig 1). Each of these segments can be turned ON (darkened) or OFF (not showing) as required, allowing for very flexible operation of your chlorinator and water filtering.

Fig. 1

For your convenience the time clock has two factory programmed ON periods. This programme is recommended for the average pool. These are 8.00am to 12.00midday and 4.00pm to 8.00pm. (fig. 2)

Fig. 2

To have the time clock operate correctly, you will first need to input the correct time of day into the clock. (See ENTERING CORRECT TIME)

The time clock will then, after about an hour with the power applied, maintain the correct time and settings for about 2 weeks with no power connected. This back up function allows the clock to operate during any power outage (e.g. cheaper tariff) and not lose the programmed settings.

Now you have to decide:

1. To use the preset times and do nothing further with the time clock.

2. How long per day you want to run the chlorinator.

3. What times you want the chlorinator to run, bearing in mind the pump noise and the effect this could have on your neighbours. (See PROGRAMMING THE TIMER)

Entering Correct Time

Fig. 3

1. Turn on the power to the chlorine generator. If the unit starts running, press the **"Man"** button to turn it off.
2. Press the **"Clock"** button and the word **CLOCK** will appear on the screen. Remember this is a 24-hour clock.
3. Press and hold down the **"Auto >>"** button until the correct time of day is showing on the screen. Release the button. A short press of the button will advance the time 5 minutes. If you go too far you will have to go forward until you come back to the correct time again.
4. Press the **"Clock"** button to save and exit this program.

Programming The Timer

Fig. 4

All segments between the start and stop times need to be turned ON (darkened) as shown in the above picture.

1. Press the **"Timer"** button, the word **TIMER** will appear on the screen. There will be one dark segment flashing.
2. Change this segment to ON or OFF with the **"Man"** button as required.
3. Advance to the next segment by pressing the **"Auto >>"** button.
4. Continue setting each segment ON or OFF until you have completed the full 24 hours.
5. Press the **"Timer"** button to save and exit this program.

You have now completed the timer set up.

Timer Operation

Automatic operation:

Fig. 5

Press the **"Auto"** button to put the chlorine generator into automatic timed operation. The word AUTO, the time of day and your programmed times will appear on the screen. The chlorine generator and the filter pump will turn on and off at the times you entered during programming.

Manual operation:

Fig. 6

Press the **"Man"** button to either turn the generator off (e.g. for maintenance) if it is running, or turn it on if the generator is not running. To return to auto timer function the **"Auto"** button must be selected.

Fig. 7

Maintenance

Electrode inspection: SMC series generators have a reverse polarity feature which reduces electrode cleaning to the minimum. Regular inspection of the electrode is recommended.

Electrode removal: Ensure the power to the chlorine generator is switched off.

Step 1

Unplug the electrode lead from the electrode.

Step 2

Unscrew (anticlockwise) the large threaded locking nut.

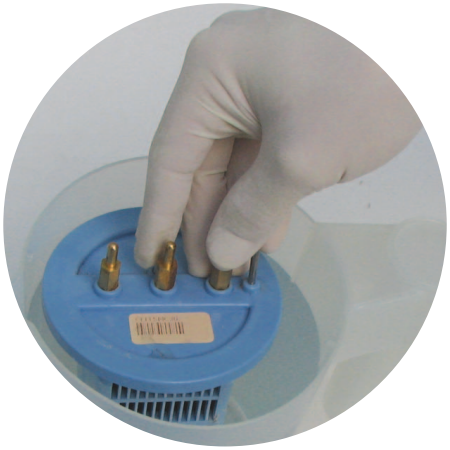
Step 3

Remove the electrode from the housing. Look inside the electrode for signs of calcium build up (a white chalk like substance). If there is calcium build up the electrode will require cleaning. If cleaning is not required reassemble the electrode. Cleaning and reassembly are described below.

Electrode cleaning: Mix up a solution of 1 part hydrochloric acid to 8 parts water. Submerse the electrode in this solution.

CAUTION:

- **When working with acid the use of eye protection and rubber gloves strongly recommended.**
- **When mixing, add acid to water, but NEVER water to acid.**



There will be a reaction as the calcium is dissolved. When the reaction ceases (about 10 minutes) rinse the electrode in clean water, wipe the brass terminals dry and check that all calcium has been dissolved. If not, repeat the process with a new solution.

Electrode reassembly: Ensure the silicon seal is still in place on the inside circumference of the electrode cap. Insert the electrode back into the housing and screw on (clockwise) the locking nut. Plug the electrode lead back on to the electrode terminals and turn on the power to the chlorine generator.

Water chemistry: Have your water tested regularly. Transport the test water in an opaque container and have the test done as soon as possible for the most accurate results. The following is a list of recommended water chemistry levels.

Salt	4500 – 5000 ppm
Total alkalinity	90 – 150 ppm
Chlorine	1.5 – 2.0 ppm
Cyanuric acid	40 - 65 ppm
pH	7.2-7.4

Technical Specifications

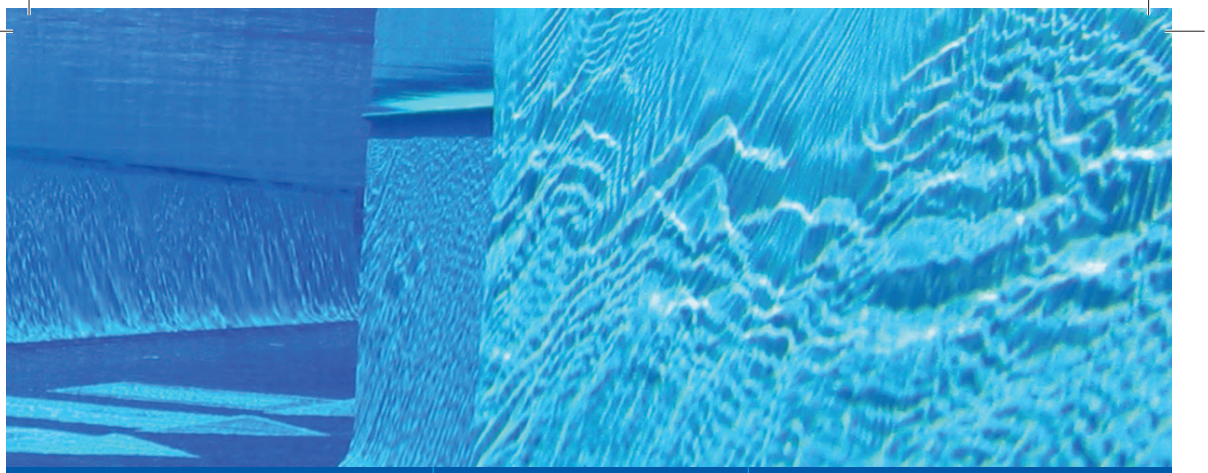
Chlorine output:	SMC20; 22 gms/hr. (grams of chlorine gas equivalent per hour). SMC30; 33 gms/hr.
Input voltage:	190 – 250 volts. 50 – 60 Hz
Input current:	SMC20; 0.8 amps. SMC30; 1.0 amps (Excluding pump)
Output voltage:	15 – 26 volts DC.
Output current:	SMC20; 5 amps. SMC30; 7 amps.
Unit cooling:	Fan forced air flow.
Reverse time:	6 – 12 hours programmable.
No flow protection:	Automatic water flow sensing.
Water flow:	150 – 450 lt/minute. 480 kpa max. pressure
IP rating:	24.
Certification:	Q031143
Salt level:	4500 ppm – 25000 ppm.

Note: 1 gram of chlorine gas equivalent is equal to 10 grams of 10% liquid sodium hypochlorite (liquid pool chlorine).

If the supply cord is damaged, it shall only be replaced by the manufacturer or its service agent or similarly qualified person in order to avoid a hazard.

Troubleshooting Guide

Problem	Reason	Solution
There are no lights on the chlorine generator and the pump is not running	1. There is no mains power 2. The time clock is on Auto and in an OFF period	1. Unplug the chlorine generator from the power and test power outlet with another known working appliance 2. Press the time clock manual button to start the chlorine generator
The power status light is on and the pump is running, but no other lights are on	The chlorine generator production is turned off	Press the **"Max/on"** button
The chlorine generator is not generating enough chlorine	1. Chlorine production is reduced on the chlorine generator. 2. Chlorine generator is not operating long enough 3. Calcified electrode 4. Water chemistry is incorrect	1. Press the **"Max/on"** to increase the chlorine production 2. Increase the time clock running time 3. Clean the electrode (see maintenance) 4. Correct water chemistry



Problem	Reason	Solution
The Water Flow light is flashing and the chlorine generator is beeping	1. The pump is not running, blocked, or air locked	1. A large air bubble in the electrode housing will cause this alarm. Clean out the skimmer box. Check & clear any blockage. Re-prime the pump.
	2. Electrode lead not properly plugged in	2. Check the electrode lead plug is properly plugged onto the electrode
The high salt light is on or flashing	Water salinity is to high or chlorine generator is faulty	Test water and generator by the local pool professional
The low salt light is on or flashing	1. Water salinity is too low	1. Have the salt level tested by pool professional and increase it to 4500 - 5000 ppm if necessary
	2. Electrode is calcified	2. Clean electrode (see maintenance)
	3. Faulty electrode	3. Have the electrode tested and replace if necessary
There is a white powdery material on the pool bottom?	Excessive water hardness	Test the water chemistry and adjust

Warranty

Your **Autochlor**™ chlorine generator is covered by a twenty four (24) months in factory repair warranty, on all parts and labour, from the date of purchase. This warranty applies to the original purchaser and is not transferable.

All chlorine generators are fully tested prior to being packed. If within 24 months of purchase a problem occurs due to faulty workmanship or components, AIS will (at their discretion) repair or replace the chlorine generator.

The manufacturer will not be liable for any consequential loss or damage caused by: operation outside the prescribed limits as outlined in the instruction manual, incorrect installation, connection to an incorrect mains power supply, changes to internal wiring, misuse, abuse, negligence, accidental damage, normal wear and tear, or damage caused by water entry.

Note: This warranty is strictly in factory repair. In the case of failure the complete unit must be returned to the manufacturer or their designated agent. All forward and return costs are the responsibility of the owner.

Contact details: In the unlikely event of a problem with your chlorine generator, please contact:

Australian warranty claims: 1800 676 076

Online warranty www.aiswater.com.au and enter item: support – Online warranty.

Assistance outside of the warranty period +61 7 3396 5222 (extension 3)

International warranty claims: Contact your local dealer

Notes

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