

AQuasphere™

Long life pool enjoyment

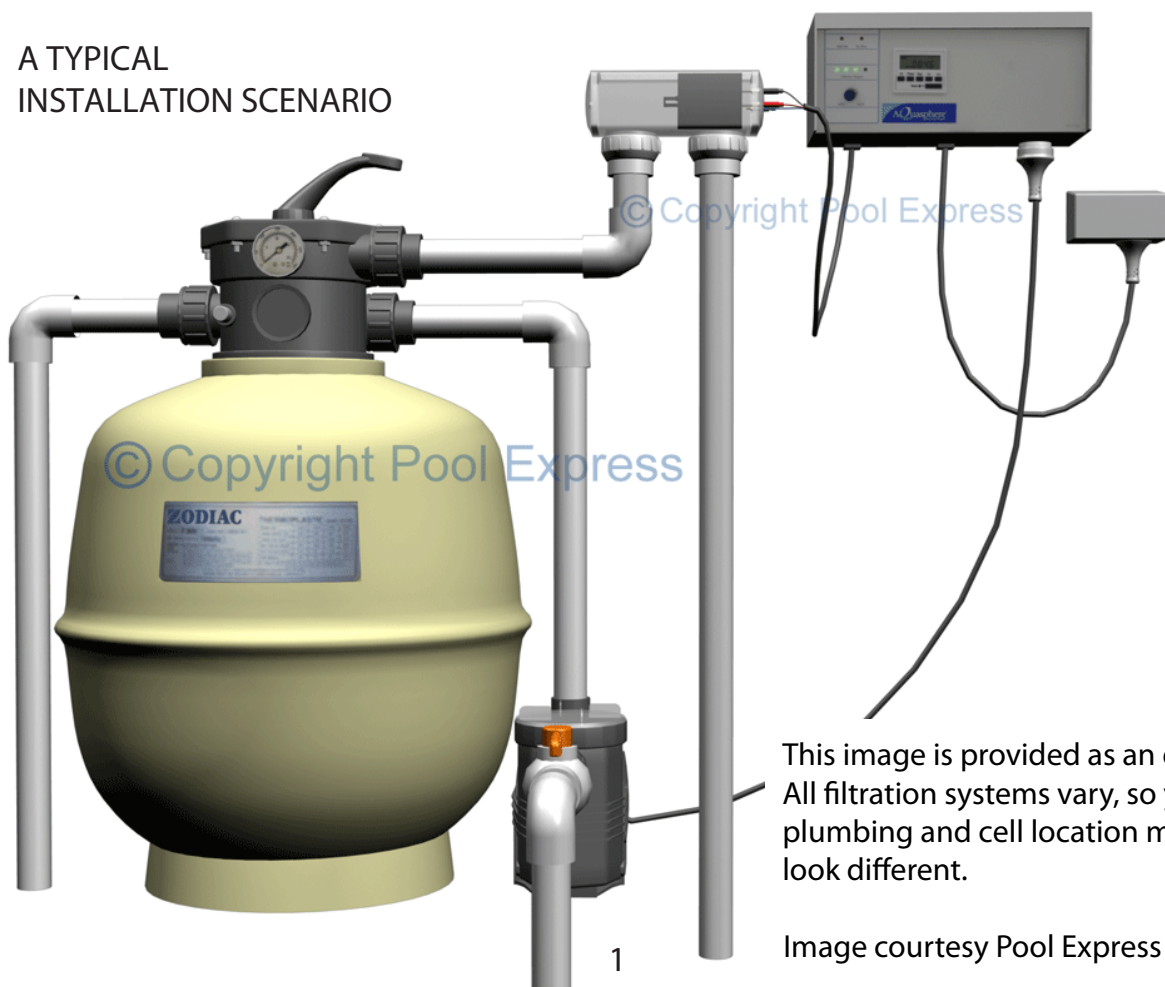
Instruction Manual



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A TYPICAL INSTALLATION SCENARIO



This image is provided as an example.
All filtration systems vary, so your
plumbing and cell location may well
look different.

Image courtesy Pool Express P/L

IMPORTANT SAFETY INSTRUCTIONS

When installing and using this electrical equipment , basic safety precautions should always be followed, including the following:

- 1) READ AND FOLLOW ALL INSTRUCTIONS
- 2) WARNING –To reduce the risk of injury, do not permit children to use this product unless they are closely supervised at all times.
- 3) Do not bury cord. Locate cord to minimise abuse from lawn mowers, hedge trimmers and other equipment.
4. WARNING –To reduce the risk of electrical shock, replace damaged cord immediately.
- 5) SAVE THESE INSTRUCTIONS

HOW YOUR AQUASPHERE CHLORINATOR WORKS

Common salt (sodium chloride) is made up of two elements, sodium and chlorine. When your Aquasphere Chlorinator is installed, a measured quantity of salt is dissolved in the pool water to make it slightly salty. As part of the daily filtration cycle, the pool water is passed through the electrolysis cell to produce chlorine which is dissolved instantly into the water.

Your Chlorinator also produces ozone in the cell as a by-product. In simple, non-technical terms, the chlorine instantly starts to destroy bacteria, viruses and algae, and in doing this reverts to dissolved salt. This cycle continues with more new chlorine being produced from the salt water in the electrolysis cell, sanitising the pool, and changing once more back to dissolved salt.

Everyday, when the Aquasphere Chlorinator and the filtration system are switched on, dust and debris are trapped by the filter and the chlorinator sanitises the water to make it safe and sparkling clean.

IMPORTANT

To ensure your Chlorinator works at maximum efficiency, regularly check and maintain the chemistry of your pool.

PREFERRED WATER CHEMISTRY READING

Salt concentration	4,000 ppm @ 27°C
pH	7.2 to 7.6
Chlorine stabiliser (Cyanuric acid)	40 to 80 ppm (up to 100ppm in hotter climates)
Total alkalinity	80 to 120 ppm
Total hardness	less than 400 ppm
Free chlorine	1 to 3 ppm
Phosphates	0

AQUASPHERE CHLORINATOR OPERATION

The chlorine production of the Aquasphere Saltwater Chlorinator is controlled by the number of hours the chlorinator and the filtration system is ON as well as the setting of the output control.

For convenience your Chlorinator and filtration system can be operated automatically through the time - switch. Your chlorinator is also fitted with indicator lights that monitor the operation of the chlorinator and the concentration of salt in the pool.

The chlorinator is designed to require minimum operator maintenance and uses reverse polarity technology to minimise the scaling of the cell.

CONTROL PANEL FUNCTIONS

Output control

The chlorine output is set by the Chlorine Output Control located on the front panel and the chlorine output is indicated by a row of four indicator lights.

On / Off Button (Large button on the Timeswitch)

This button overrides any automatic internal timeswitch setting and switches your Chlorinator and filtration system ON and OFF.

The function is helpful for checking and/or altering the chlorine output settings and other maintenance tasks. Operation of the ON/OFF button will not change the timeswitch settings. In fact the Chlorinator is so smart, it will switch itself back to automatic for you.

AUTOMATIC OPERATION

The Timeswitch display may be blank initially. Once mains power is applied, the internal backup battery will only take a short time to charge enough for the display to turn on. All the timeswitch settings can be cancelled by pressing the Reset button using a pointed object such as a pen. This will leave the clock display flashing. Pressing the Clock button will stop the display flashing and the following procedure for setting the clock can then be followed.

Setting the Clock

1. Push and HOLD the Clock button (marked with a clock face).
2. Press the m+ button to increment the minutes.
3. Press the h+ button to increment the hours. Note the hours are displayed in 24 Hour format.
4. Press the Day button to increment the day.
5. When you have finished setting the clock release the Clock button.

Setting the Timer for automatic operation

To set the ON/OFF time

IMPORTANT: If you use more than one ON time per day it is important to set the ON times to the same length to ensure the longest cell life, e.g. If you use 3 hours in the morning, use 3 hours in the evening.

1. Press the Timer button to step through to the timer setting you wish to set, 1 ON, 1 OFF, 2 ON ... 6 OFF . You must set an OFF time for each ON time.
2. Press the m+ button to set the minutes.
3. Press the h+ button to set the hours.

Note: If the "Day" display is not showing, the times will be the same for all days and you need not continue further. If you wish to set the time – switch for different times on different days then continue on.

DO NOT OPERATE THE AQUASPHERE CHLORINATOR CONTINUOUSLY (ie; 24 HOURS A DAY), AS THIS WILL PREVENT THE SELF-CLEANING FEATURE FROM OPERATING.

AUTOMATIC OPERATION

4. Press the Day button to step through the days.

MO,TU,WE ... SU – to set a different times on each day of the week.

"MO,TU,WE,TH, FR" – to set the same times from Monday to Friday.

"SA, SU" – to set the same times on Saturday and Sunday.

"MO,TU,WE,TH, FR, SA" – to set the same times from Monday to Saturday.

The next press of the Day button will turn off the MO,TU,WE,TH,FR, SA,SU display (no day display showing), in this mode the timer operates at the same times on every day. This is the normal setting.

Pressing the Clock button will get you out of timeswitch set mode, or after a few minutes the timeswitch will automatically revert back to the clock mode. It is not necessary to use all 6 on/off timeswitch settings. If you do not wish to use separate settings for individual days, check to ensure that the on/off settings are clear to avoid unwanted on/off times.

Chlorine Output Setting

Chlorine production is controlled by both the number of hours of ON time set on the timeswitch and by adjusting the chlorine output via the Chlorine Output Control.

Use of the ON/OFF control on the clock overrides the timeswitch settings to switch the chlorinator and the connected pump ON or OFF. This function is helpful for checking and altering the chlorine production settings, and other maintenance tasks. The normal timeswitch settings are not changed by this process and will resume at the pre-set time.

Backup Battery

The Aquasphere is fitted with a rechargeable battery. If the power is removed, the chlorinator will retain the timeswitch setting

INDICATOR LIGHTS: WHAT THEY MEAN

Chlorine Output

A series of four lights indicate the chlorine output of the Aquasphere chlorinator, more lights equals greater chlorine production.

Note: This setting does not show the actual chlorine reading in the pool, use of a test kit is required to confirm the Free Chlorine reading of the pool water.

Add Salt – Light ON

With the chlorinator running, the Add Salt light will come on if the salt level drops to below 3000 ppm. Very cold water temperature during winter, or a low Mains Supply Voltage may also cause the Add Salt Light to come on even with a salt level of 4000 ppm. This is not a fault but a precaution to ensure the salt level is never too low.

Note: Operating the Aquasphere chlorinator at reduced salt levels may shorten the life of the cell. Salt is not lost through evaporation. Salt is lost with the water splashed out of the pool or during backwash. Adding fresh water to the pool (rainfall) dilutes the salt concentration. A top-up of salt is needed from time to time, just before and just after summer are the best times. For a home pool of about 50,000 litres, the addition of one 25Kg bag of salt will increase the salt concentration by 500 ppm.

No Flow – Light ON

This indicates insufficient water flow in cell, usually caused by the pump not running. The chlorine output will also turn off at this time.

All Lights OFF

All lights OFF indicate the chlorinator is turned off. Check if the time clock indicates ON or OFF or the mains power is disconnected. Check the mains power circuit breaker.

CHLORINATOR MAINTENANCE

How to clean your cell

Global experience has shown that on rare occasions in some places as a result of very 'hard' water (bore water etc.), the self cleaning electrodes may benefit from occasional manual cleaning of any calcium buildup on the plates.

1. Switch off the filter pump and chlorinator, close necessary valves.
2. Unplug the leads from the cell terminals.
3. Undo the two barrel unions joining the cell housing to the pool filtration system and carefully remove the cell housing. Lay the housing upside down on a flat surface with the inlet ports on top.
Note: The use of eye protection and gloves is recommended when working with pool chemicals.
4. Pour the cleaning mixture into the upturned cell housing until the electrodes are completely covered. You can purchase cell cleaning solution from a pool shop, or mix your own in a suitable plastic vessel by adding one (1) part of Hydrochloric (Muriatic) acid to ten (10) parts water. Allow the cleaning solution to dissolve the calcium deposits for about 10 minutes. When the electrodes are clean, pour the cleaning solution and the calcium residue out of the cell housing into a bucket of water, this can now be disposed of down a drain. Note that the solution is now near neutral pH and is environmentally friendly.
5. Repeat the procedure if necessary. Take care to avoid splashing the cell terminals and other equipment with the acidic cleaning solution. Wash down any spills with plenty of fresh water.
6. Rinse the electrodes in clean water and refit the cell and housing to the filtration system. Tighten the barrel union connections to prevent leaks.
7. Replace the electrical connectors after drying and smearing lightly with silicone grease.
8. Reset valves and switches. Turn pump and chlorinator on.
9. Confirm chlorine output and settings to the powerpack. Timer settings are automatically retained.

CHLORINATOR MAINTENANCE

The cell normally self cleans at the start of each running period, normally once a day, but if this cleaning is insufficient, because of very poor water quality, try running the unit twice a day with two shorter time periods, this will give you twice the cell cleaning.

Damage caused by insects.

The case of the power pack has small vents to allow internal components to remain cool in hot weather. Sometimes small insects may enter the case of the power pack, and this can cause damage to the internal electrical components. To avoid this, spray some insect repellent on surfaces around the power pack.

OPERATING HINTS

A. Filtration and chlorination system operating periods.

Run your filtration and chlorination system for at least 6 to 8 hours per day. For best efficiency, operate the system in the cool hours of the evening, or the early morning. During very hot weather it might be necessary to run the system for around 10 hours per day, but in winter, it is only necessary to run the filtration system for around 4 hours per day. Shorter periods will help to lengthen the life of the cell electrodes. The Aquasphere chlorinator has an inbuilt timeswitch to automatically switch the chlorinator and filtration system ON and OFF, up to six times a day.

B. Chlorine output settings.

For best results the chlorinator should be operated at maximum output and the "Add Salt light" should be off. Add salt to the pool if the 'Add Salt' light is showing.

C. Free (residual) chlorine reading.

The free chlorine residual in the pool should be around 1 - 3 ppm. Increasing the daily operating period of the system increases the free chlorine reading, and a shorter operating period reduces the chlorine reading. Likewise, operating the chlorinator at maximum output will produce a higher chlorine reading than operating the chlorinator at a lower setting of say, 50%.

D. Chlorine stabiliser (Cyanuric acid) level.

Make sure that the water has a satisfactory chlorine stabiliser (Cyanuric acid) reading which is within the band of 40 - 80 ppm. Chlorine stabiliser helps to keep a satisfactory free chlorine reading in hot sunny climates.

E. pH readings.

It is ABSOLUTELY ESSENTIAL that the pH of the pool be maintained in the range of 7.2 - 7.6 (for fibreglass pools, as low as 7.0). The effectiveness of chlorine as a sanitiser is significantly reduced as the pH rises. At a pH of 8.0, nearly all of the chlorine being added to the pool is wasted, and it will be almost impossible to maintain a satisfactory free chlorine reading.

OPERATING HINTS

F. Regular maintenance checks.

Weekly:

- Visually check the cell electrodes. Remove any debris that may have passed through the filter and lodged in the cell housing. Take care not to scratch or bend the cell plates. (see 'Chlorinator maintenance').
- Check the free chlorine.
- Check the pH of the water. Adjust if necessary.
- Check the pressure gauge on the filter to see if backwashing is necessary.

Monthly:

- Check the salt concentration of the pool (see 'Salt: When And How To Add It').
- Check the total alkalinity. Adjust if necessary.
- Check the chlorine stabiliser reading. Adjust if necessary.

CAUTION

Failure to observe the following could invalidate your warranty and damage pool equipment.

1. Chlorinator must be installed and operated as specified.
2. Your salt chlorinator has been fitted with an electronic flow switch. This device automatically switches the chlorinator 'OFF' when the water through the cell stops. Do not in any way interfere with this system which has been fitted for your protection.
3. Do not scratch or bend the plates in the cell housing.
4. Power to the chlorinator should be turned off before unplugging the cell connectors.
5. Keep the cell terminals protected with a light smear of silicone grease, use of other than silicone grease may damage the terminal seals and 'O' rings. Do not immerse these terminals in acid wash solution, and avoid accidental contact with salt water.
6. Water above the temperature of 40 degrees Celsius must not flow through the cell.
7. Water pressure in the cell must not exceed 200kPa.
8. Check the cell frequently to prevent the accumulation of pool debris that for any reason may have by-passed the pool filter, particularly after back-washing.
9. Power pack must not be installed directly above any other heat source such as filter pump or heater. It must be at least 300mm from the ground to allow free circulation of air around it. It must not be enclosed in a closed box. If the powerpack is to be installed on a post then it must be centrally positioned on a flat panel of suitable waterproof material at least 350mm wide and 250mm high. As for all electronic equipment the power pack life will be increased if it is mounted in a shady spot and not in direct sunlight.
10. Never plug more than one pump at a time into the 3-pin socket (where fitted) in the base of the power supply.

Your Self-Cleaning Chlorinator has been manufactured with the greatest of care and from the best available materials. The warranty period begins on the date of the manufacture according to the serial number on the product, unless proof of purchase date is supplied. Refer also to the section titled "Cautions" in the Owner's Manual.

This warranty will be void should the end user not observe the important usage instructions referred to in this manual.

As all chlorinators, this unit has a fixed maximum chlorine output. The owner must take this into account when both selecting this unit for their pool volume (and location) and when determining appropriate running times and settings.

Failure to observe the above and its consequences is not covered under this warranty.

This warranty will be void if parts other than approved parts are used for repairs.

Chlorinator Control Box Warranty

The manufacturer warrants for a period of 2 years from the date of purchase, defects found to be due solely to faulty materials or workmanship. It will repair or replace at its option such faulty materials or parts free of charge.

Cell Electrode Warranty

The cell electrodes and their special coatings are covered by a 2-year full warranty.

The cost of field service calls, or of freight back for repairs are not covered by the warranty. This chlorinator warranty is transferable and protects the original purchaser and subsequent owners of the product. Proof of purchase must be provided by the owner to support any warranty claim.

The warranty applicable to commercial application is limited to 12 months from the date of purchase.

* This Warranty is not valid outside of Australia and New Zealand.