



Swimming Pool
Saltwater Chlorination
BY JOY POOL SYSTEMS

OWNERS HANDBOOK & WARRANTY DOCUMENT

**ELITE Wi-Fi
25RP & 35RP**

Self-Cleaning Chlorinator
4000-5000 PPM Salt Level

Manufactured by:

JOY POOL SYSTEMS

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PREFACE

JOY POOL SYSTEMS is a Sydney based, Australian company which has been involved in the manufacture and distribution of Saltwater Swimming Pool Chlorinators for over 30 years. Up until this period the sanitization of swimming pools was achieved by manually dosing domestic swimming pools with powder or liquid type chlorine. Today's market sees around 90% of new pools throughout Australia fitted with the automatic Saltwater Chlorinator.

Important Safety Matters are indicated by



SAFETY

FOR YOUR SAFETY AND THE SAFETY OF OTHERS PLEASE READ BEFORE YOU OPERATE THIS CHLORINATOR

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.

Do not operate the chlorinator unless you have read all WARNINGS and INSTRUCTIONS and understand all safety and operational procedures contained in this manual. Ensure that the chlorinator (Power Pack, Plumbing and Cell) has been installed by competent person to the instructions contained in this manual.

The Power Pack is to be installed according to AS/NA 3000:2000 and located outside pool Zone 2 area, not in direct sunlight, or in an area where the ambient temperature can reach above 40 degrees Celsius or directly onto metal fences or metal sheds. If installing on these surfaces, make sure a timber backing of 400mm x 250mm x 8mm is between the metal surface and the chlorinator to avoid overheating and damage to internal components.

Servicing should only be attempted by trained Technicians. Dangerous voltages are present inside the chlorinator enclosure. Untrained personnel should not attempt to remove the cover of the power pack. Return to Joy Pool Systems for repair.

For any unresolved problems, please contact your dealer or **JOY POOL SYSTEMS**.

Keep this manual in a safe, convenient location and refer to it if any doubt exists over operational or safety matters.



SAFETY – TO PREVENT RISK OR INJURY TO YOURSELF AND OTHERS PLEASE OBSERVE THE FOLLOWING SAFETY INSTRUCTIONS.

Understand all safety and operational procedures contained in this manual and check the condition of the chlorinator and cell before use. Again, if in doubt contact your dealer before proceeding. DO NOT attempt to modify the chlorinator or installation in any way.

The chlorinator should not be operated by personnel (E.g. Operating time clock switches, adjusting the time clock, safety cut out, cleaning cells etc.) when the surrounding area is damp. In addition, personnel should not operate the unit with bare feet or wet hands. This will minimise the risk of electrocution in the event of a fault developing either in the chlorinator or the electric power wiring to the unit.



SAFETY – CELL CLEANING USES HYDROCHLORIC ACID. EXTREME CARE IS REQUIRED.

Cell cleaning maybe required. The use of Hydrochloric Acid or Cell Cleaning Solution, which is a highly corrosive chemical that needs to be handled with extreme care. Personnel performing cleaning should be equipped with safety goggles and acid resistant gloves as precaution.

Any spills should be immediately flushed with water. When diluting the acid, *ALWAYS ADD ACID TO WATER FIRST. NEVER THE REVERSE!* Doing so will cause a very violent chemical reaction. Take care when immersing the cell in the diluted acid solution or Cell Cleaning Solution to ensure that no acid / Cell Cleaning Solution splashes or spills occur. When finished, wash gloves and used containers in water.

Please note that the edges of the cell electrodes can be extremely sharp. Avoid contact when cleaning as lacerations can occur.



SAFETY – IF IN ANY DOUBT ABOUT THE SAFETY OF THE UNIT OR IF THE UNIT MALFUNCTIONS, THEN PLEASE FOLLOW THE FOLLOWING SAFETY INSTRUCTIONS.

Turn off the power to the unit at the power point, disconnect the power cord and call for service. Please note that dangerous voltages are always present inside the unit, irrespective of the setting of the front panel controls or timer settings.



SAFETY – STORAGE OF CHEMICALS

NEVER STORE CHLORINE & HYDROCHLORIC ACID IN THE SAME AREA!

They are both very active chemicals and can react if accidentally mixed - with explosive results!



SAFETY – ASPECTS TO BE CONSIDERED FOR SERVICING.

Servicing should only be attempted by trained Technicians. Dangerous voltages are present inside the chlorinator enclosure. Untrained personnel should not attempt to remove the cover of the power pack.

Servicing should be carried out with the power switched off and the chlorinator disconnected from the power point. Where it is absolutely necessary to power the unit for service then it shall be powered from the unearthed secondary of a safety isolation transformer or by means of an approved earth leakage detection unit.

The chlorinator is a prescribed item under LAW AND CANNOT BE MODIFIED IN ANY WAY.

As part of servicing, the following safety checks need to be performed on the chlorinator:

- The interior of the unit has not been modified or tampered with in any way.
- There is adequate separation between mains and extra low voltage parts.
- All insulating panels are in place and terminal connections are tight.
- Earth pin of power cord to all external metal parts of the chlorinator to have a resistance value not exceeding 0.1ohm.
- Megger power cord active and neutral at 500 V D.C. to all external metal work and output cell terminals in turn. Resistance value not to be less than 2 meg ohms.
- Visually ensure that all parts of the unit are in good condition.
- Insulation on power cords in good condition and any corrosion on the pins of the power cord plug to be rectified.

Place a sticker on the underside of the unit identifying the company that carried out the service, date of service, safety check carried out and the signature of the service technician that carried out the work.

IDENTIFYING YOUR CHLORINATOR PARTS

POWER PACK

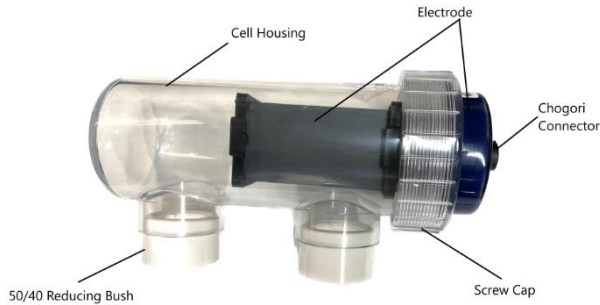
FRONT



BASE



CELL & CELL PLUG



LOCATION AND INSTALLATION

To ensure compliance with regulations, safety in operation and long-term reliability please observe the following:

- Unit to be installed by qualified personnel.
- Power Pack to be installed according to AS/NZ 3000:2000 and located outside pool Zone 2 area.
- Warranty is void if unit is installed in direct sunlight or enclosed in a hot area with inadequate ventilation provided around the Power Pack. In locations where ambient temperature can reach above 40°C Degrees are not suitable unless there is very good ventilation. If this is not provided damage to internal components may occur. **THIS DAMAGE WILL NOT COVER BY WARRANTY.**
- Protection to be provided from inclement weather.
- Pool Chemicals (i.e., Salt, Acid, Buffer, Chlorine, Stabilizer) are not to be stored in the same enclosed area as the Chlorinator Power Pack (i.e., Filter Boxes, Garden Sheds). Fumes from these products will damage the unit and is not covered under warranty.

POOL WATER PREPARATION

- Measure the pool size in litres to determine salt level requirements.
- Refer to salt requirements chart (refer page 17). Add 4 kgs. of **refined Pool Salt** per 1000 litres of water in shallow end of pool.
- Set the “Cell” switch to the off position. Connect vacuum hose and place vacuum head in deepest part of pool and run for 24 hours to dissolve in salt. **THE SALT MUST BE DISSOLVED COMPLETELY BEFORE THE CHLORINATOR IS TURNED ON.** This should take (24 hours in summer – 72 hours in winter).
 - a. After the salt has mixed in turn the “Cell” switch back to the on position and set your desired output via the “Power” knob.

MOUNTING THE POWER PACK

- Screw the mounting bracket to wall or post with fingers facing upwards, a minimum 1.2 meters off the ground & within 1.2 meters of the power outlet and within 1.2 meters of the filter's return to Pool Line
- Place the back of Power Pack to mounting bracket and line the bracket fingers to the holes of the rear of the case.

NOTE: DO NOT MOUNT IN DIRECT SUNLIGHT or DIRECTLY ONTO METAL FENCE OR METAL SHED. IF THIS IS THE ONLY PLACE AVAILABLE, A PIECE OF TIMBER BOARD 400MM x 250MM x 8MM SHOULD BE MOUNTED TO THE METAL AND THEN MOUNT POWER PACK TO THE TIMBER. FAILURE TO DO THIS MAY VOID WARRANTY OF UNIT.

INSTALLATION OF THE CELL

Determine Filter Return to Pool Line.

- Cell Housing must be in a horizontal position with inlet and outlet sockets facing downwards as per diagram (refer page 10).
- Cell must be installed after the heater (where fitted) and Solar Systems (refer page 10). Pool cleaner pump motors that draw water from the return to pool line should be fitted after the Cell for correct pool chlorination. **CAUTION:** It is very important that no gas generated from the Cell can find its way back into the Filter, Pump, Heater, Solar Systems or Spa Blowers.
- When position of the Cell Housing has been decided, turn off the Pump/Filter and CLOSE OFF VALVES if required.
- If the Return to pool line is 40mm pipe, use 50-40mm reducing bushes provided. If it is 50mm pipe, glue pipe directly into the inlet & outlet ports on the cell housing.
- The Cell is supplied ready to connect to the Power Pack. The cell cable and electrode use an IP67 Rated "Chogori" connector. Line the white arrows on each connector and push together. The outer blue locking ring will click into place when the connectors are pushed together correctly. To test, pull on grey cell lead and plug should not come out. To disconnect cell twist outer blue locking ring in the direction of the arrow and pull at the same time, the cell will disconnect.

NOTE: THE UNIT MAY MALFUNCTION AND CAUSE MAJOR DAMAGE IF THE CELL PLUG IS INCORRECTLY PLUGGED IN AND WILL VOID ALL WARRANTY OF CELL & POWER PACK.

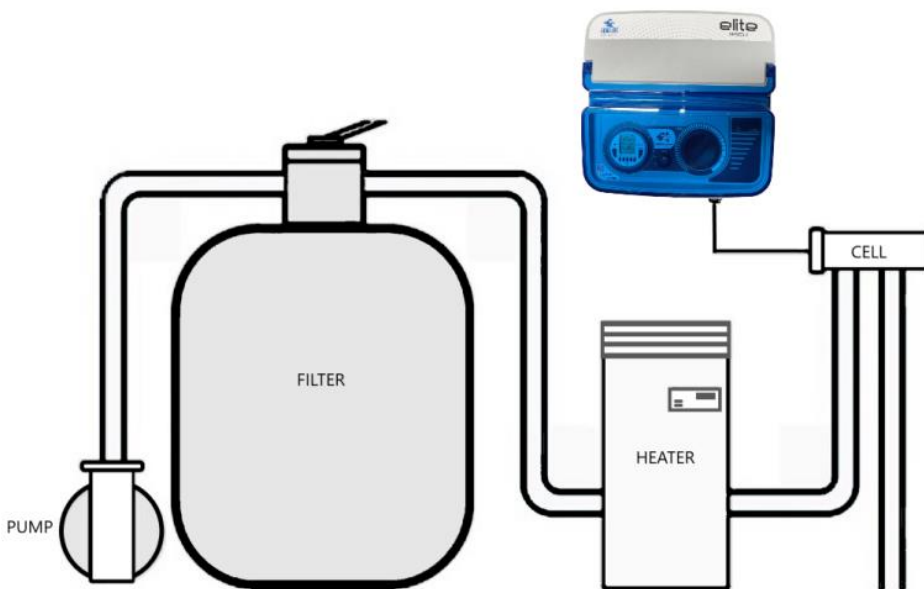
PUMP / CHLORINATOR LEAD CONNECTION

Insert only one Pump Plug into 3 pin power socket underneath the Power Pack.

Make sure Power switch on the unit is in the “OFF” position first then insert Chlorinator Power Lead into a power point.

NOTE: THE UNIT HAS A 10 AMP PUMP SOCKET SO **DO NOT PLUG MORE THAN ONE PUMP INTO SOCKET.** THE USE OF SOLAR CONTROLLERS, POWER BOARDS & DOUBLE ADAPTORS THROUGH THE UNIT MAY DRAW MORE THAN UNITS RATING. THIS CAN CAUSE MAJOR DAMAGE TO THE PUMP SOCKET AND INTERNAL WIRING. EXCEEDING THE POWER PACK ELECTRICAL RATING WILL NOT BE COVERED BY WARRANTY.

INSTALLATION



NOTE: WATER MAY FLOW EITHER WAY THROUGH INLET/OUTLET PORTS ON THE CELL HOUSING. GAS AND ELECTRIC HEATERS REQUIRE CELL INSTALLED MINIMUM OF 1 METRE FROM HEATER OUTLET.

CHECK LIST BEFORE TURNING ON.

- Pool Salt must be dissolved. (>4000ppm)
- Allow solvent cement to set before applying pressure (allow 24 hours).
- Electrode is in Cell Housing with Locking Ring tight.
- Suction Pool Cleaners are disconnected (For first Start Up only)
- Skimmer Box & Pump baskets clean
- Valves reopened.

OPERATION / START UP PROCEDURE

- Turn on Mains Power supply.
- Set Time Clock and operating times.
- Set "Timer" Switch to "On" position.
- Allow the pump to run for at least 30 seconds and Adjust "Power" clockwise to the desired output. The output will increase slowly and be displayed by increasing LED's to the right of the "Power" knob.

SETTING THE TIMER

The Elite Wi-Fi power pack has an upgraded Aquajoy Digital Timer from Frontier. The Digital Timer has 16 programmable timer options, power monitoring and mobile phone support for both Apple and Android style mobile phone connectivity. The fastest way to configure the timer is via the "Smart@IOT" phone app. The phone app will sync time with your phone automatically and is much easier to program than the timer buttons.

The following instructions will explain the phone app setup, followed by direct setup via the timer face.

Set up timer via phone app

Ensure your phone is connected to the local Wi-Fi network. You will need a fair to good Wi-Fi signal to ensure a reliable connection to your timer. The timer requires a 2.4G WiFi system to connect to.

Install the Smart Phone App.

Download and install "Smart@IOT" from the "App Store" for Apple IOS, or the "Play Store" for Android. Follow the instructions to register. Once registered you will have options to pair your phone to the timer. Use the following QR codes to find your software.

Smart@IoT App Installation:



ios



Android

Wi-Fi Pairing



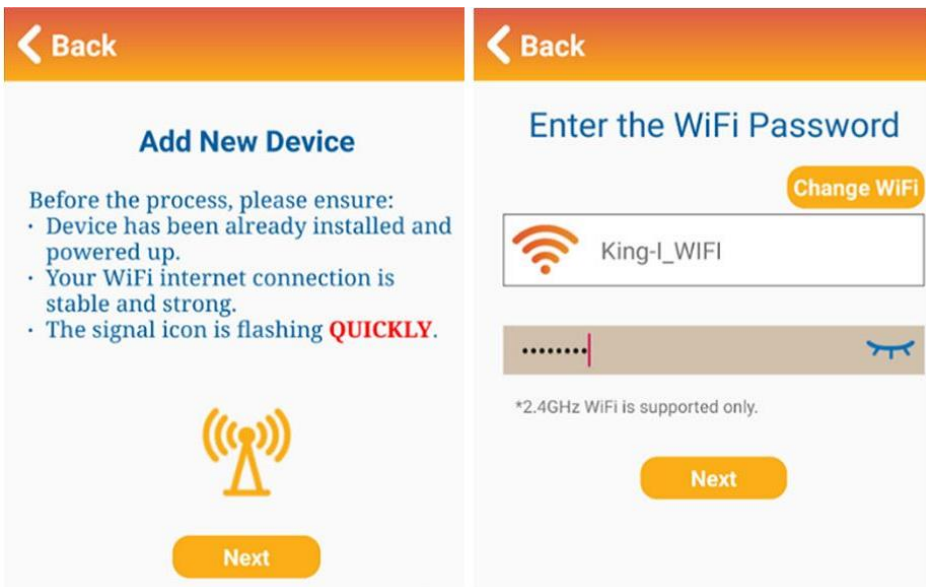
Turn the timer on by pressing the "Mode" button until you see the red "ON" light is illuminated. Ensure the Wi-Fi icon is flashing (as shown circled on the screen). If the Wi-Fi icon isn't flashing, press and hold the "Day" and "Manual" buttons down for 5 seconds to reset the connection.

When the Wi-Fi icon is flashing, open the "Smart@IOT" phone app and press the "Add Device" icon on the screen....



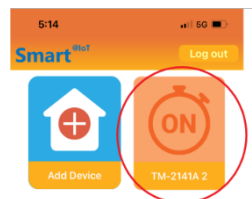
Follow the on-screen instructions to connect to your timer. You will need to have your Wi-Fi password ready to enter.

Press the "Next" button to search for your timer. Be sure to hold your phone next to the timer for the pairing process. Please wait while the software scans the area for your timer.

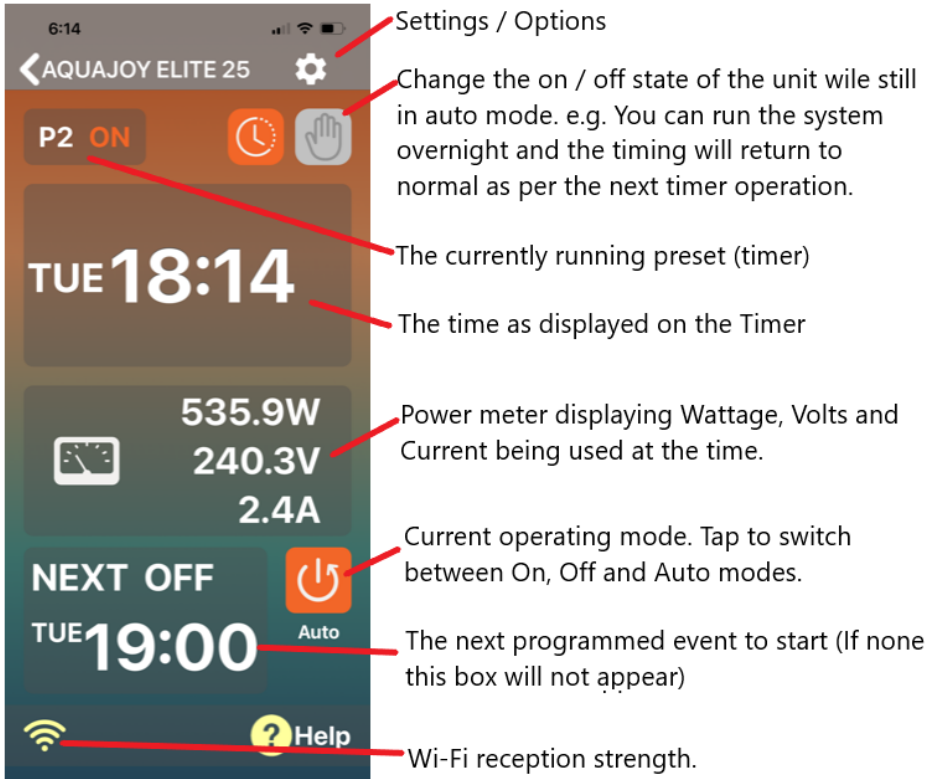


Once the pairing is complete you will be returned to the main App screen. The phone App will synchronise the timer with your current phone time and you will be able to access your timer anywhere you have access to the internet.

Select your timer to continue setup. When you select your timer you will have the ability to name your device and set up the timers and much more (if you wish). There are many features available.

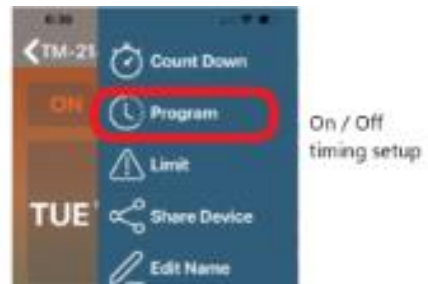
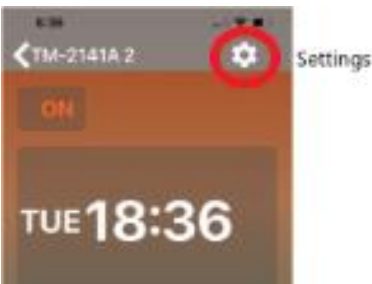


Main Display



Setting up activation times (On / Off periods).

Tap on the Cog icon at the top right hand corner of the display and the blue settings menu will open. Tap the "Program" option to gain access to the timing periods display.



This screen gives you a quick view of your set operating times. Tap on the Cog icon again in the top right hand corner to edit the running times.



Edit times

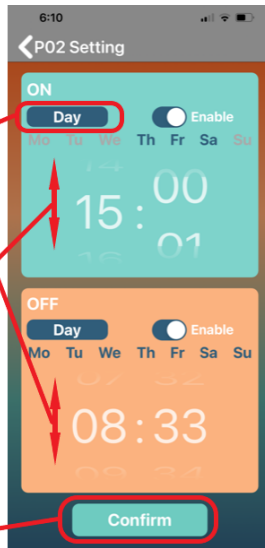
There are 16 program options available. These can be configured for each day or for many. Tap on each line to configure.



Tap "Days" to select the days each week you would like the times to run.

Scroll numbers up and down to set start and finish times

Press "Confirm" to save the changes.



Set up timer via clock face

Setting the time.

Ensure you are in the clock mode by pressing the "Clock" button once (and releasing). Press and hold down the "Clock" button and press either "Day", "Hour" or "Min" buttons to change the desired setting. When the time and day are set correctly release the "Clock" button.



Press and hold | Press each button you would like to change

Setting on - off periods.

When in normal "Clock" mode, press the "Timer" button to toggle through the timer setting numbers (16 options in total). Each time you press you will toggle between "On" and "OFF" times between each program number. When programming the start time you will see the top (ON) section flashing. Press the "Day" button to toggle through different day / week configurations. You will have the option to pick every day of the week or set different combinations. Keep pressing the "DAY" button to toggle through the options. Some options are shown below....



MoTuWeThFrSaSu	Running every day	MoTuWeThFr	Business days only
Tu	Running on a single day	SaSu	Weekends only

To set the desired time, press the "Hour" or "Minute" button.

To set the finish time, press the "TIMER" button once and the bottom section marked with "OFF" will flash. Repeat the same process as above to pick days and finish time for the timer.

CHLORINE MONITOR

The Chlorine Monitor presents a visual indication of the chlorine production of your

Aqua Joy Chlorinator. The

Elite series chlorinator

internally adjusts output

automatically to keep to

your desired chlorine

production. i.e., If your

setting is about 80%, and

you add salt to the pool,

the output will remain at

the same level of output.

If you are having difficulty

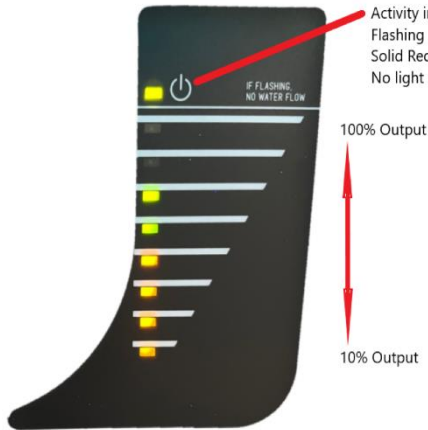
achieving 100% output it is

likely there is either too

little salt in your pool, or

your electrode is wearing out, and you should contact your pool professional or our service

support line ASAP to ensure you have uninterrupted sanitisation in your pool.



Allow at least 7 DAYS for the pool chemicals and cell to "settle in" before placing reliance on the monitor, as certain slow chemical changes take place in the initial salt or mineral charging.

There will be some variance in output between Summer and Winter months due to water temperature. Saltwater increases in conductivity as the temperature of the water increases. You may find a 4000 Salt level achieves 100% in Summer (approx. 22 Deg C water temp) but, in the cold winter months (approx. 10 Deg C water temp), your output

may only achieve 80% - 90%. If there is a concern about chlorine production, have your water tested and ask for your Salt level to be tested via a conductivity meter. You should always keep your Salt level above 4000 via a conductivity meter to ensure you achieve the expected cell life. Results of 3500 or less will likely reduce your cell / electrode life and will not be covered under warranty.

Your chlorinator will compensate and adjust as much as possible to adhere to your selected output level but you should always be able to achieve 100% output when you set the output to Max.

The Aquajoy Elite 25RP chlorinator is suitable for pools up to a Maximum of 70,000L Capacity. Each pool however is different. Some have more vegetation falling into the water, some have higher calcium demands than others. Many factors can affect the performance of the Chlorinator. We recommend using a chlorinator well within the maximum sizing to ensure both quality as well as longevity of service. A 70,000 litre pool may take 12 hours per day to sanitise your pool. Running the chlorinator for 12 hours per day is both costly in electricity usage and will reduce the life expectancy of your electrode. **CELL / ELETRODE LIFE EXPECTANCY.**

The Elite series Chlorinator is fitted with an electrode to generate chlorine. The electrode is made from Denora Anode plate. The Anode plate has a life expectancy of 10,000 hours when operated under normal conditions. Normal conditions are considered as follows;

Salt: 4000 - 5000

pH: 7 - 7.6

Chlorine: 0 - 5

Stabiliser 30 - 50

Maintaining these levels, and running your chlorinator for 8 hours in the summer months and 4 hours per day in winter will most likely exceed a minimum of 4.5 years of chlorine production. Reducing your daily running hours as much as possible will extend your electrode life. As an example, if you were to reduce your winter running cycle from 4 hours per day to 2 hours per day you will increase your Cell / Electrode life to 5.4 years (as per following calculation)....

Option 1.

$8(\text{h/day summer}) + 4(\text{h/day winter}) = 6\text{h/day (Daily average per year)}$.

$10,000 \text{ hours (Anode life expectancy)} \div 6\text{h/day}$

=1666 Days of operation.

$1666 \text{ Days} \div 365 (\text{Days / year}) = 4.5 \text{ Years expected life.}$

Option 2.

$8(\text{h/day summer}) + 2(\text{h/day winter}) = 5\text{h/day (Daily average per year)}$.

$10,000 \text{ hours (Anode life expectancy)} \div 5\text{h/day}$

=2000 Days of operation.

$2000 \text{ Days} \div 365 (\text{Days / year}) = 5.4 \text{ Years expected life.}$

SAVE POWER.

Your pool pump will be the most power consuming product for your pool. Even the most energy efficient pumps will use significantly more power than your Chlorinator.

GENERAL INFORMATION ON WATER CARE

A basic knowledge of pool-care fundamentals will allow some insight in to the function of the various pieces of equipment and chemicals used in and around your pool.

The four fundamental requirements in maintaining a pool or any body of water are:

Adequate Filtration

Sufficient Chlorination

Proper pH control.

Chlorine Stabiliser i.e. Isocyanuric Acid (Except Indoor Pools)

FILTRATION

It is necessary to pass water through a filter to remove the debris accumulated in the pool. . To achieve good filtration, you should filter at least 2.5 x the capacity of your pool each day. With good 50mm plumbing, as few bends as possible and your filtration installed within approximately 5 meters of the pool, a standard 1100-Watt Pool Pump should be able to get close to passing to 280 liters per minute through a correctly sized Sand / Glass media filter.

In Australia, most pools are between 30,000 and 50,000 liters. If you have a 50,000 liter pool with a standard single speed (280 l/m) pool pump, you should aim to run your pool for at least 3 hours per day.

CHLORINATION

Chlorine is required to react with the debris, removing stains by oxidation and sterilising the water of harmful bacteria. Free Chlorine, or reserve, is required depending on bather loading. Good clear Pool water is achieved only with Good Filtration, Chlorination & Correct Water Chemistry i.e. pH balance (7.2 – 7.6).

The Elite 25G RP Chlorinator can produce up to 25g/hour. In summer, a correctly balanced 50,000 litre pool will generally require approximately 140g of pure chlorine* to stay sanitised. The Elite 25G RP Chlorinator with all lights showing on the LED display will produce 140g of pure chlorine* within a 6-hour period.

Winter and Summer conditions will significantly change the sanitisation requirements of your pool. Temperature, sunlight and vegetation changes will require changes in running times. The best way to save power and ensure longevity of your system is to get regular water tests at your pool shop. Adjust your running times to keep your Chlorine levels and adjust your running times to suit.

Most unheated 50,000 litre pools with good water balance run for 3 Hours / day in winter and 7 Hours /day in summer.

Pure Chlorine* is described as not mixed. Mixed Chlorine is essential for retail sale and can be found in the form of Calcium Hypochlorite, Sodium Hypochlorite, sodium dichloroisocyanurate or sodium trichloroisocyanurate. These forms are less concentrated.

PH

The pH of your pool is very important. PH is the scale to measure how acidic or alkaline your pool is. A pH of 14 is alkaline, 0 is acid and 7 is neutral. The ideal pH for a swimming pool is between 7.2 and 7.6. Chlorine becomes inefficient when a pool's pH climbs above 7.8. Bathers will experience sore eyes and some forms of Algae will become increasingly difficult to control. A low pH (7.0 or lower) is corrosive and can cause damage to your pool surface. A very high pH of 8 or more will increase the likelihood of scale forming on your pool and pool equipment.

The Langelier Index calculation table (below) can be used to check the water balance of a pool. Readings of pH, water temperature (TF), calcium hardness (HF) and total alkalinity (AF) are needed. These readings are used to obtain the corresponding factor readings from the table (below) and then, to perform the Langelier Index calculation.

For example, if pool water had the following values; pH 7.4, temperature 24°C, calcium hardness 100 ppm, and total alkalinity 200 ppm, then the Langelier Index calculation would be worked out as follows:

Start with pH	+7.4
Add TF	+0.6
Add HF	+1.6
Add AF	+2.3
Subtract (K=12.1)	-12.1
Langelier Index =	0.2

If the result is between -0.2 and +0.2, then the pool water is in balance.

If the result is lower than -0.2, then the pool water is corrosive.

If the result is higher than +0.2, then the pool water is scale-forming

LANGELIER INDEX CALCULATION TABLE					
Pool Water Temperature	emp Factor	Calcium Hardness	Hardness Factor	Total Alkalinity	Alkalinity Factor
(°C)	(TF)	CaCO ₃	HF	CO ₃	AF
0	0	5	0.3	5	0.7
3	0.1	25	1	25	1.4
8	0.2	50	1.3	50	1.7
12	0.3	75	1.5	75	1.9
15	0.4	100	1.6	100	2
19	0.5	150	1.8	150	2.2
24	0.6	200	1.9	200	2.3
29	0.7	300	2.1	300	2.5
34	0.8	400	2.2	400	2.6
40	0.9	800	2.5	800	2.9

The pool water passing over the cell should always be in balance relating to the Langlier Index for a pH of 7.2 to 7.6.

NOTE: CONTINUAL RUNNING OF THE UNIT WITH A PH HIGHER THAN 7.8 AND FREE CHLORINE OF >5PPM WILL CASUE CELL DAMAGE AND VOID ALL CELL WARRANTY.

CONCLUSIONS

Maintaining a clear and safe swimming pool requires adequate filtration, circulation, Chlorination and maintaining your pH between 7.2 and 7.6 through the use supplementary chemicals. Regular testing at your local pool shop will simplify this greatly and most likely save you money.

Summer and winter seasons will change the requirements of your chlorination and filtration system. Using Chlorine Stabiliser (Isocyanuric Acid) in hot weather is essential to keep a residual level of Chlorine in your pool.

Regularly check your skimmer and pump baskets. Blocked baskets will reduce the water flow through your electrode. If you have a variable speed pump we recommend NOT running any lower than medium speed (2500 RPM). Slow water flow, high pH can reduce the self-cleaning properties of the chlorinator. If water flow is too slow, gasses can build up within the cell housing. Your Chlorinator is fitted with a safety sensor to deactivate the electrode if gasses are accumulating and not flushing out with pool water. These gasses are primarily Chlorine and Hydrogen.

If you are experiencing difficulties with your pool the following is a good process to follow:

- Clean Skimmer Box & Pump Baskets.
- Backwash Pool.
- Adjust Variable Pump Speed to increase water flow.
- Set the chlorine power level to 100%– refer page 12.
- Take a water sample to a pool shop for testing.
- Minimise the frequency of adjustments of the chlorine level.
- If you need to add chlorine during peak bathing periods or high-water temperatures, use liquid chlorine only.

MAINTENANCE

POWER PACK

Provided the power pack is installed as instructed, no maintenance is required. However, the power pack should be kept clean and inspected regularly for insects / spiders etc.

CELL

Good quality electrodes can be as expensive as the power pack. Electrodes are like batteries and have a limited life span. All cells manufactured by **JOY POOL SYSTEMS** use only the highest quality De Nora electrode material, Manufactured in U.S.A. Only run your chlorinator as long as you need to and keep your pool chemistry in check. Just these two steps can extend your electrode life by more than a year.

At the beginning of each summer and at the end of the swimming season you should inspect the electrode. If there is a build-up of calcium in the cell, remove the Electrode from cell housing and clean the build-up from the plates.

Pools with high Calcium levels.

If higher than normal calcium levels are present in the pool water, electrodes may require manual cleaning on occasions.

MANUALY CLEANING AN ELECTRODE

- Switch off the filtration and Chlorinator and close valves.
- Unscrew Cell nut in an anti-clockwise direction.
- Remove electrode from Cell housing and soak electrodes in hot water with detergent. Be sure to not immerse the electrode connection socket. If the socket gets wet, rinse with fresh water and allow to dry completely before reconnection.
- If cleaning as above is ineffective, mix one part of Hydrochloric Acid to 15 parts of water. (Add acid to water) or Cell Cleaning Solution. Be sure to only immerse electrode plates into solution. Immersing the connector in cell cleaning solution will damage the connector and will not be covered under warranty. Only leave the electrode in as long as it takes to remove the calcium from the plates. Leaving the electrode in acid solution for extended periods will damage the electrode plates. Rinse in fresh water after cleaning before returning to housing.
- If you are having to clean your cell more frequently than every 3 months your water balance may not be correct. Your Aqua Joy Chlorinator cell life may be reduced from frequent cleaning and is not covered under warranty.
- Insert electrode back into Cell housing, ensuring the locating lug is at top of cell and the O-ring is in place. Tighten screw cap in a clockwise direction hand tight only. Use of tightening tools may crack the locking ring.
- Lubricate O-ring using only silicon grease if required. **DO NOT USE VASELINE.** Vaseline is a petroleum based product and will cause the O-ring to stretch, preventing a watertight seal.
- Open valves turn on filtration and chlorinator.

ADDING SALT

Only add salt to a pool if you have performed a water test and have balanced your pool. Use only refined pool salt. The Chlorinator is designed to run between 4,000 ppm and

5000 ppm of Salt. Levels of Salt lower than 3,500ppm and higher than 6000ppm will cause problems with your chlorinator and may void electrode warranty.

- Determine salt requirements.
- Ensure that the Chlorine Control knob is turned to the minimum – OFF – position fully, anticlockwise.
- Add salt into the shallow end of the pool.
- Brush in salt to dissolve.
- Re-adjust the Chlorine “Power” knob to desired level.

For best results, test your pool water weekly with a home test kit. Every 4-6 weeks take a water sample to a pool shop and verify your results.

Keeping your pool water balanced will save you considerably over the life span of your chlorinator. Depending on weather conditions, you may find that it will require a bag of Salt every 2nd Pool Shop water Test. In a typical year, a 50000L Swimming Pool will use 5 to 7, 20kg Bags of Salt.

The correct method for testing salt levels in a swimming pool is via a conductivity meter. A conductivity meter will take into account all forms of salt in your pool. Other forms of salt can include Calcium Chloride, Magnesium Chloride, Potassium Chloride etc. Using a conductivity meter will ensure you have the correct conductivity needed by your chlorinator (4000 – 5000). Be sure to “Err” on the positive side of tests. Conductivity testing machines can have a variance of +/- 500ppm.

SALT CHART

Parts per million Salt

	500	1000	1500	2000	2500	3000	3500	4000	4500	5000	5500
5000	2.5	5	7.5	10	12.5	15	17.5	20	22.5	25	27.5
10,000	5	10	15	20	25	30	35	40	45	50	55
15,000	7.5	15	22.5	30	37.5	45	52.5	60	67.5	75	82.5
20,000	10	20	30	40	50	60	70	80	90	100	110
25,000	12.5	25	37.5	50	62.5	75	87.5	100	112.5	125	137.5
30,000	15	30	45	60	75	90	105	120	135	150	165
40,000	20	40	60	80	100	120	140	160	180	200	220
45,000	22.5	45	67.5	90	112.5	135	157.5	180	202.5	225	247.5
50,000	25	50	75	100	125	150	175	200	225	250	275
*60,000	30	60	90	120	150	180	210	240	270	300	330
65,000	32.5	65	97.5	130	162.5	195	227.5	260	292.5	325	357.5
70,000	35	70	105	140	175	210	245	280	315	350	385
75,000	37.5	75	112.5	150	187.5	225	262.5	300	337.5	375	412.5
80,000	40	80	120	160	200	240	280	320	360	400	460

Kilograms of Salt

WARRANTY

For a period of 24 months from the date of purchase **JOY POOL SYSTEMS** warrants to the original purchaser that the AQUAJoy CHLORINATION UNIT shall be free from defects in materials and workmanship. This warranty covers DOMESTIC USE ONLY.

The Cell carries an additional 24 month *pro rata replacement period. Commercial installations are for 12 months ONLY on Power Pack and Cell with no pro rata provision on the Cell.

The Warranty shall be void if the unit's case or cabinet be opened or altered or modified during this period. If a defect should occur the unit must be returned to **JOY POOL SYSTEMS** and PROOF OF PURCHASE presented.

Purchases sole and exclusively remedy in the event of defect is expressly limited to correction of the defect by adjustment, repair or replacement at JOY POOL SYSTEMS election and sole expense, except there shall be no obligation to repair items which by their nature are expendable. Such items include electrodes and rectifier devices.

JOY POOL SYSTEMS shall not be liable for loss of profits or benefits, indirect, special, consequential or other similar damages arising out of any breach of warranty of otherwise.

PLEASE NOTE: Labour and or service calls are not included in this warranty. No replacement parts will be supplied prior to the return of any faulty parts. Freight on returns is the responsibility of the purchaser.

If a Warranty claim is lodged for a replacement cell in the first two years, before a cell can be supplied, the old cell must be returned to **JOY POOL SYSTEMS** with a minimum of 8 water tests over a 12-month period. There must be no greater than 2 months between tests. If this cannot be provided a cell can be purchased at the 25 months pro rata price.

WARRANTIES SHALL BE VOID IF THE FOLLOWING ARE DEEMED TO APPLY OR HAVE NOT BEEN ADHERED TO:

- Damage Due to freight.
- No warranty is applicable without proof of purchase.
- If correct installation is not adhered to as outlined in the installation procedures.
- Only one pool pump must be plugged into Power Pack, not exceeding the power rating as displayed.
- Cell Lead is Plugged in incorrectly. It is the owner's responsibility to ensure correct plugging at the time of installation.
- Water balance of pool water falls outside the guidelines set out Owner's Manual.
- Cell exhibits signs of excessive acid exposure, improper cleaning with overly strong acid concentrations, or failure to fully rinse off cleaning solutions, including from the O-rings and plastic components.
- Cell anode electrodes are engulfed in deposits and the owner fails to remove such deposits.
- The pool size exceeds the rated Cell size or salt levels are less than 3500 p.p.m.
- Acts of God (i.e. storms, lighting strikes, floods, etc)
- Damage by foreign objects (i.e. insects, frogs, spiders, etc)
- The manufacturer reserves the right to refuse a warranty claim if in its opinion the claim cannot be justified.

AT THE TIME OF INSTALATION PLEASE RECORD THE FOLLOW:

NAME OF PURCHASER: _____

ADDRESS OF INSTALL: _____

DATE OF INSTALL: DAY _____, MONTH _____, YEAR _____

SIZE OF POOL: _____ LITERS

NAME / COMPANY OF INSTALLER: _____

SERVICE – CHECK LIST

Remember

BEFORE PICKING UP THE TELEPHONE

HAVE YOU COMPLETED THE FOLLOWING CHECK LIST?

- Is my pH correct? **(7.2 – 7.6)**
- Is my salt level correct? **(4000 – 5000ppm)**
- Are my electrodes clean (Cell)?
- Am I running the chlorinator long enough?
- Have I added stabilizer? **(40 -80ppm)**
- Have I read my Aqua Joy instructions correctly?

Should your Pump or other equipment problems prevent your chlorinator from working, Sodium Hypo chlorite (liquid chlorine) may be added to keep the pool sterile until the malfunction is corrected.

NOTE:

Unit must be returned for service to:

JOY POOL SYSTEMS

ACN 141 035 172

ABN 66 141 035 172

Unit 21/2 Richard Close, North Rocks NSW 2151 Australia

Telephone: +61 2 9630 5011 Fax: +61 2 9683 4750

Email: sales@aquajoy.com.au Website: www.aquajoy.com.au