SALT EXPERT-3 Series
Salt Chlorinator

OPERATING INSTRUCTIONS
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1.0 General Overview

Congratulations! You have purchased an Certikin SALT EXPERT series Chlorinator. Please read the instructions carefully and your purchase will provide you with years of trouble free use.

Your Certikin SALT EXPERT Chlorinator works by converting some of the salt in your pool into chlorine which starts to destroy algae, bacteria and viruses in your pool water thereby sanitising your pool. As part of the process, the chlorine is converted back into salt and hence salt is not consumed.

Your SALT EXPERT Chlorinator control has many features to ensure simple operation of your chlorinator and filtration system. It has a clever Spa mode to ensure that the right level of chlorine is produced whilst you are enjoying a spa.

Note: The Chlorinator is not intended for use by young children or infirm persons without supervision. Please ensure that young children are supervised to ensure that they do not play with the Chlorinator.

2.1 Chlorinator Control Installation

The SALT EXPERT Chlorinator control has a Rating of IP24 enabling it to be installed outdoors. Regulations require that the control is not allowed to be located within 3 metres of the pool water.

The control should be installed in a well ventilated position ideally away from direct sunlight. Ensure that the unit is not located near pool chemicals as fumes may damage the control.

Included in the kit is two green masonry plugs and screws. When installing on a brick or concrete wall, use a 7mm masonry drill. Mounting Screws should be 180mm apart and located at least 1500mm above ground level. A drilling template is provided on page 6.

When installing the control on a post, first attach a flat waterproof panel at least 300mm wide by 500mm long. Make sure the control is located centrally on the panel and sits flat.

Plug the plug into a suitable weatherproof outlet and then plug the pump into the Chlorinator control.

Note: The pump current rating must not exceed 8 amps.

2.2 Cell Installation

The chlorinator cell must be located last in the pipe work just prior to the return to the pool. If valves are installed between the Chlorinator and the pool outlet, it is essential that they cannot deadhead the pump. If the pressure in the cell exceeds 150kPa and/or the water temperature exceeds 40 degrees C, the cell may fail.

WARNING: Never install the cell before the pump or heater

The cell must be installed with the barrel unions underneath and the cell should be horizontal. 50mm fittings have been provided. Make sure that the o’rings are correctly fitted and the unions are done up tightly.
WARNING: It is essential that pipe work and equipment do not allow gases generated from the cell to collect and build up.

Once the cell is located, connect the black multi-core cable to the cell. The blue wire must be connected to the blue terminal. The cable is designed to come from below the cell. Make sure wing nuts are correctly tightened to ensure good contact.

3.0 Pool Preparation

The chlorinator requires at least 3000ppm of salt but we suggest you prepare the pool at 4000ppm therefore add 4kg’s of salt for every 1000 litres of water (a typical pool of around 50,000 litres requires 200kg of salt).

Salt should always be added at the shallow end of the pool and allowed to dissolve. Running the pump will mix the water and speed the dissolving process.

WARNING: Never add salt to the skimmer box!!

NOTE: Plug the pump directly into a power outlet (bypass the Chlorinator) and run for 8-10 hours to ensure the salt is dissolved prior to running the chlorinator.

When the salt is dissolved, connect the pump to the chlorinator and run it on maximum chlorine output. Check that the low salt light is not on. If it is, check again in 24 hours.
3.0 User Panel (T Model)

The user panel can be broken down into 4 separate areas:
- Programming area for setting the clock and on periods (on T models)
- Chlorine Output Controls for setting the chlorine output level and to activate the Safety Backwash Feature.
- Warnings display to indicate that there is no flow to the cell or there is insufficient salt in the pool
- User Mode for manual control of the pump/Chlorinator or to select Spa mode.
- Chlorine Production Level indicates the amount of chlorine being produced.

Once programmed, you will generally only use the User Mode and Chlorine Output control.

3.0 User Panel (S Model)

The user panel can be broken down into 4 separate areas:
1. Display Area
2. Chlorine Output Controls for setting the chlorine output level and to activate the Safety Backwash Feature.
3. Warnings display to indicate that there is no flow to the cell or there is insufficient salt in the pool
4. User Mode for manual control of the pump/Chlorinator or to select Spa mode.
5. Chlorine Production Level indicates the amount of chlorine being produced.

Once programmed, you will generally only use the User Mode and Chlorine Output control.
3.1 Programming (T Model only)

Setting Current Time/Day
(a) Select POOL MODE Standby/Off
(b) Press the CLOCK button
(c) Press DAY to change the current day.
(d) Press HOUR to move the Display cursor to the hour digits and then use the Up and Down arrows to the right of the display to change the current hour
(e) Press MIN to move the Display cursor to the min digits and then use the up and down arrows to the right of the display to change the current minutes
(f) Press the CLOCK button to exit the clock setting mode.

Setting Timers
Your Chlorinator has 4 timers enabling you to set four different periods in which your chlorinator/pump will operate. Different periods can be set for the weekend compared to weekdays. Timers are set by entering a start time, and a period for how long you want to operate (i.e. Mon – Fri T1 On 14:00 and Mon – Fri T1 Period 6:15 will run the chlorinator/pump during weekdays from 14:00 for 6.25 hours). To set timers, do the following:

(g) Select POOL MODE Standby/Off
(h) Press the TIMER button to step to the timer you want to set
(i) Press DAY button to step from Mon-Fri to Sat-Sun and Visa versa
(j) Press HOUR button to set the hour for the timer selected and use the Up/Down arrows to change the time. **NOTE**: Hour digits go from Not Used and then 0 to 23. If you don’t want to use this timer, select Not Used.
(k) Press MIN button to select the minutes for the timer selected and use the Up/Down arrows to change the time. Press the TIMER button to select the Period or another time and set as required.
(l) When finished, press the TIMER button a number of times to scroll through the other times until you return to normal display. This saves your new settings.
(m) Select POOL MODE Auto
3.2 Chlorine Output

The Chlorine Output Control area of the user panel has three main functions:

(a) Increase/Decrease arrows for setting the chlorine output level of the chlorinator. The chlorinator output can be set from levels 1 through to 8. This level only applies to Pool Mode. When the Chlorinator is in Spa mode, the chlorine output will be at level 1.

(b) Chlorine Output display shows the level set.

(c) The LCD display will also show a output level from 1 to 8 which indicates the performance of the chlorinator compared to the Chlorine Output LED’s. Should the LCD output level (1 to 8) be less than the LED output, check salt level in pool. Should salt level be at 4000 ppm and output more than 2 settings less than LED display, you cell may need replacing.

3.3 User Mode (T Model only)

The user mode buttons enable you to select Pool or Spa mode and to manually control the Chlorinator/Pump. Functions are as follows:

(a) **POOL MODE**: Sends a message to other AstralPool equipment (if fitted) to go to Pool mode. There are 3 Pool Modes

   Auto: The Chlorinator/Pump will run according to how you have set the timers

   On: The Chlorinator/Pump will run continuously.

   Standby/Off: The Chlorinator/Pump will stay off continuously.

(b) **SPA MODE**: Sends a message to other Certikin equipment (if fitted) to go to Spa mode and turns the pump on.
3.3 User Mode (S Model only)
The user mode buttons enable you to select Pool or Spa mode and to manually control the Chlorinator/Pump. Functions are as follows:

(c) **POOL MODE**: Sends a message to other Certikin equipment (if fitted) to go to Pool mode.
- **Auto** Not Used
- **On** The Chlorinator/Pump will run continuously.
- **Standby/Off** The Chlorinator/Pump will turn off.

(d) **SPA MODE**: Sends a message to other Certikin equipment (if fitted) to go to Spa mode and turns the pump on

3.4 Warnings Display
Apart from messages displayed on the User display, there are two warning indicators.

(a) **LOW SALT**: This indicates that the concentration of salt has reduced within your pool.
   To rectify, add salt at approx. 50kg per 50000 litres of water (see 3.5 Salt level below)
(b) **NO FLOW**: This indicates that the Chlorinator thinks that there is no flow to the cells.
    Potential problems/solutions are described in the Diagnostics section.
3.5 Chlorine Output Level

The LED lights on the user panel set the desired output level or chlorine level.

As shown below, the bottom right hand corner of the LCD display indicates the actual level as distinct from the set or desired output indicated by the LED lights.

The chlorinator output, or chlorine production, will be affected by water temperature, salt levels and the input voltage of the chlorinator. When the chlorinator is operating at maximum efficiency, the Chlorine Output level should always be approximately the same level as the Set Point. The set point can be checked on the LED display which is divided into 8 sections. If all 8 LED’s are illuminated, out set point is at 8. If only 6 light are illuminated, the set point is 6.

Maximum efficiency will be achieved from you chlorinator at the following levels:

- Water at 27° C
- Voltage at 240V
- Salt Level at 4000 PPM
3.6 Safety Backwash

When backwashing your sand filter, the pool water does not pass through the cell. During the backwash and rinse process, most chlorinators will build up potentially explosive hydrogen gas in the Chlorinator Cell.

The Safety Backwash function allows the pump to turn on without applying power to the Chlorinator Cell. This prevents the build up of hydrogen gas during the backwash and rinse process. In addition, the Safety Backwash function has set run times after which the pump will automatically turn off. This will prevent extended backwashing and potential excessive water loss from the pool.

To Back Wash and Rinse your filter follow these steps:

1. Press the pool mode button to the “off/standby” mode
2. Turn the Multiport Valve to “Backwash” position
3. Press the Safety backwash button on the user panel – the pump will now start without applying power to the chlorinator cell
   a. Press once for one minute pump operation
   b. Press twice for two minute pump operation
   c. Press three times for three minute pump operation
   d. Press a four times to turn pump off
4. After pump turns off turn the filter multiport valve to Rinse
5. Press the Safety backwash button on the use panel once for a one minute rinse
6. When pump turns off, move the multiport valve back to filter position
7. Press the pool mode button to “Auto” function so that chlorinator will operate on time clock settings.

3.7 Run Dry Safety Feature

Your SALT EXPERT Chlorinator incorporates a run dry safety cut out. When the Chlorinator turns the filter pump on, it will check for water flow. If no water flow is detected within 3 minutes, the chlorinator will turn the pump off. This is designed to protect the pump seal and parts from overheating if no water flow is present.

On initial start up, you will need to prime the pump. In some cases, the pump will take more than three minutes to prime and for water flow to be detected by the chlorinator. If this should occur, simply start the pump again by pressing the Pool Mode button to “on”.

If during normal operation, the chlorinator switches the pump off after three minutes, then check the position of all valves, empty skimmer basket and pump basket and clean the filter.

Please see page 12 for the recommended method of Cell Cleaning.
4.0 General Operation/Pool Chemistry

4.1 Setting the Right Chlorine Output and Filtration Time

Your SALT EXPERT Chlorinator must be run every day to ensure that your pool is correctly sanitised. As the sun dissipates chlorine, running times are higher in the summer compared to the winter. Certikin recommend that you initially run your chlorinator at maximum output.

Summer
You should set your Chlorinator to operate for 8 to 10 hours per day. Ideally, run it for 4-5 hours in the morning (say 8-12pm) and 4-5 hours in the evening (say 6.00-11pm). In extremely hot weather it may be necessary to extend the running time if you find that the free chlorine level is too low.

Winter
You should set your Chlorinator to operate for 6 to 8 hours per day. Again, running it in the morning and evening is preferable.

Checking Chlorine Level.
Ideally, check your Chlorine level after the morning operating period. The free chlorine residual level should be somewhere between 1 and 3 part per million. Increase or decrease the output of the Chlorinator to get the right residual chlorine level. It may also be necessary to adjust the operating period if you are running at minimum or maximum output.

4.2 Stabiliser

As previously mentioned, sunlight rapidly dissipates the amount of free chlorine in your pool. Chlorine stabiliser greatly reduces this effect.

Without stabiliser, you may need to run your Chlorinator and filtration system up to 16 hours per day longer!!!

Keep the Stabiliser reading between 30 and 60ppm.

4.3 pH Level
You should keep your pH level between 7.0 and 7.4 for fibreglass pools and 7.2 to 7.6 for other pools.

4.4 Total Alkalinity
The ideal range is between 80 and 120 ppm.

4.5 Salt Level
Although salt is not consumed by the Chlorinator, salt is lost during backwashing, and when your pool overflows due to rain or splashing. The correct salt level is important to cell life and the effective operation of your chlorinator. Salt level should be maintained around 4,000ppm but should never be allowed to fall below 3,000ppm.

A typical pool of around 50,000 litres requires 200kg of salt to initially set-up the pool to 4,000ppm.

A low salt level warning is indicated on your SALT EXPERT Chlorinator if the salt level drops. If Low Salt is indicated, check again in 24 hours and then if it is still indicated, add two
25kg bags of salt to the shallow end of your pool. Run the filtration system for approx. 6 hours to help mix the salt in the pool. It can take up to a day for the salt to fully dissolve.

If the low salt light is still on, then you should get your pool water tested. If the Salinity is above 4000ppm then you may need to have your Chlorinator checked.

**Warning:** Some people recommend that you put salt directly in the skimmer box. This is a very bad practice as it allows very high concentrations of salt to be passed through your filtration and other pool equipment.

### 5.0 Chlorinator Maintenance and Troubleshooting

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

#### 5.1 Cell Maintenance

Your SALT EXPERT Chlorinator has an automatic cleaning feature that under normal conditions, will keep the cell plates clear of deposits of salt and calcium. SALT EXPERT Series cells have a negative charge sensor that monitors the flow and salt levels of the water. This sensor is designed to be fail safe. As it is negative charges deposits of calcium or other debris may be deposited on it and cause it to indicate a low salt or no flow condition. Should a low salt condition be indicated, have your salt level checked at your local pool shop. If the low salt condition persists, or a no flow condition is indicated when the supply pump is operating, you may need to manually clean your chlorinator Cell.

**Cell Cleaning Instructions:**
- close applicable valves
- disconnect the Chlorinator from the Mains by removing the plug
- disconnect the cell wires
- undo the barrel nuts connecting the cell to your filtration system.
- turn the cell upside down (inlet and outlet on top) and fill the cell with a mix of 1 part Hydrochloric acid to 10 parts water and leave standing for a few minutes. As an alternative, you may use an approved commercial Cell cleaning solution
- repeat if necessary and then rinse well in clean water
- re-install the cell ensuring o-rings are correctly located and barrel nuts are tightened to prevent leaks
- re-connect cell wires with wing nuts supplied making sure the blue wire is connected to the blue terminal. Incorrect connection may damage your chlorinator control. Tighten wing-nuts to ensure the electrical connection is sound.
- Return all valves to their normal positions, re connect power to the Chlorinator and turn on at power point.

**WARNING:** Follow safety instructions provided with the Hydrochloric acid or cleaning solution. When handling Hydrochloric Acid, the use of eye protection, mask and gloves are highly recommended. Extreme caution should be taken whenever handling Hydrochloric Acid or Cell Cleaning Solution.
### 5.2 Troubleshooting (T Model)

Your SALT EXPERT Chlorinator has diagnostic and safety features to make it easy to maintain your system. The table below summarises potential faults and their causes.

<table>
<thead>
<tr>
<th>Fault Indication</th>
<th>Potential Cause</th>
<th>Remedy</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Flow</td>
<td>Pump turned off/disconnected or valves closed</td>
<td>Ensure valves/pump on</td>
</tr>
<tr>
<td></td>
<td>Blue wire disconnected from cell</td>
<td>Connect Blue sense wire to cell</td>
</tr>
<tr>
<td>Low salt</td>
<td>Salt level in pool has dropped too low</td>
<td>See section 3.5 above</td>
</tr>
<tr>
<td></td>
<td>Pool water temperature is low</td>
<td>See section 3.5 above</td>
</tr>
<tr>
<td></td>
<td>Cell has calcified</td>
<td>See section 4.1</td>
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<tr>
<td></td>
<td>Cell has failed</td>
<td>Call a technician</td>
</tr>
<tr>
<td>Display blank</td>
<td>No Power to Controller</td>
<td>Plug in controller and ensure mains power available</td>
</tr>
<tr>
<td></td>
<td>Fuse blown</td>
<td>Replace fuse (3 amp slow blow)</td>
</tr>
<tr>
<td>Low/No chlorine production</td>
<td>Cables not connected to cell</td>
<td>Connect cables</td>
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<tr>
<td></td>
<td>Timer period too short</td>
<td>Increase timer period</td>
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<tr>
<td></td>
<td>Chlorine output level too low</td>
<td>Increase chlorine output</td>
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<tr>
<td></td>
<td>Filter needs backwashing</td>
<td>Backwash filter</td>
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<td></td>
<td>Ph too high</td>
<td>Get pH level correct</td>
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<td>Pool stabiliser too low</td>
<td>Get Stabiliser between 30 and 60 ppm</td>
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<td>Increase salt to above 4000ppm</td>
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Your SALT EXPERT Chlorinator has diagnostic and safety features to make it easy to maintain your system. The table below summarises potential faults and their causes.

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5.0 Warranty

5.1. GENERAL ASPECTS
5.1.1. In accordance with these provisions, the seller guarantees that the product corresponding to this Warranty presents no lack of conformity at the time of delivery.
5.1.2. The Total Warranty period for the product is 2 YEARS, calculated as of delivery to the purchaser. The electrode is covered by a 2- YEAR WARRANTY (or 4,000 hours), which is not extendable.
5.1.3. If there were any detect in the product and the purchaser informed the seller within the warranty period, the seller must repair or replace the product at its own cost where it deems fitting, unless this were impossible or disproportionate.
5.1.4. When the product cannot be repaired or replaced, the purchaser may request a proportional reduction in the price, or, if the defect is substantial, the termination of the sales agreement.
5.1.5. Parts replaced or repaired pursuant to this warranty will not extend the term of the warranty of the original Product, while will have its own warranty.
5.1.6. For this warranty to be effective, the purchaser must accredit the date of purchase and delivery of the Product.
5.1.7. When more than six months have elapsed between the delivery of the Product to the purchaser and the latter alleges a defect, the purchaser must substantiate the source and the existence of the alleged defect.
5.1.8. This Warranty Certificate does not limit or prejudge the rights that correspond to the consumers by virtue of obligatory national legislation.

5.2. SPECIAL CONDITIONS
5.2.1. For this warranty to be effective, the purchaser must strictly follow the Manufacturer's indications included in the documentation supplied with the Product, when applicable according to the range and model of the Product.
5.2.2. When a programme is specified for the replacement, maintenance or cleaning of certain parts or product components, the warranty will only be valid when programme has been followed properly.

5.3. LIMITATIONS
5.3.1. This Warranty will only be applicable to sales made to consumers, with “consumer” taken to mean any person that purchases the Product for a purpose outside the sphere of their own professional activity.
5.3.2. No warranty is given regarding normal wear through the use of the product, or with regard to parts, components and and/or perishable materials or consumables (barring the electrode).
5.3.3. The Warranty does not cover cases in which the Product: (i) has been unduly handled or used; (ii) has been inspected, repaired, maintained or handled by an unauthorised person; (iii) has been repaired or maintained with non-original parts or (iv) has been installed or started up incorrectly.
5.3.4. When the Product defect is a consequence of an incorrect installation or start-up, this Warranty will only be effective if the installation or start-up is included in the Product contract of sale and was performed by the seller or under its responsibility.
5.3.5. Damages or faults of the product due to any of the following causes:
   o Operation at salinities below 3 g/l of sodium chloride and/or temperatures lower than 15°C (59°F) or higher than 40°C (104°F).
   o Operation at pH above 7.6.
   o Use of chemical products not explicitly authorised.
   o Exposure to corrosive environments and/or temperatures below 0°C (32°F) or above 50°C (125°F).