

### DAVEY WATER PRODUCTS GUARANTEE FOR AUSTRALIA & NEW ZEALAND

Your SC Series Chlorinator is covered by a limited 5 year warranty. The Electrolytic Cell is covered by a full 5 years warranty against defects in materials and assembly from the date of purchase plus 30 days to allow for installation. The PowerPack and Controller is covered by a 5 year pro rata warranty from the date of purchase plus 30 days to allow for installation. The pro rata warranty component means 100% of any parts and labour costs will be covered in the first year, 80% of cost in the second year, 60% in the third year, 40% in the fourth year and 20% of the cost in the fifth year.

#### TERMS AND CONDITIONS

1. This guarantee applies to all states and territories of Australia and New Zealand only and is subject to the provisions of the Trade Practices Act (Aust.), the Goods and Consumer Protection Legislation of the various Australian states and the Consumers Guarantee Act 1993 (NZ) as applicable.
2. The guarantee period commences on the date of original purchase of the equipment. Evidence of this date of original purchase must be provided when claiming repairs under guarantee. It is recommended you retain all receipts in a safe place.
3. This guarantee covers parts and workshop labour only. Goods should be forwarded, with proof of date of original purchase, to an Authorised Davey Service Centre freight paid. Any travel and removal/reinstalling charges for goods repaired in field will be to the owners account. Guarantee may be denied on goods not readily accessible for service personnel or mounted on exterior walls above single storey level.
4. This guarantee is subject to due compliance by the original purchaser with all directions and conditions set out in the Installation and Operating Instructions. Failure to comply with these instructions, damage or breakdown caused by fair wear and tear, negligence, misuse, incorrect installation, poor water chemistry, inadequate protection against freezing, rain or other adverse weather conditions, corrosive or abrasive water, lightning or high voltage spikes or through unauthorised persons attempting repairs are not covered under guarantee. The product must only be connected to the voltage shown on the nameplate.
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7. Nothing in this guarantee is intended to have the effect of contracting out of the provisions of the Trade Practices Act (Aust.), the Goods and Consumer Protection Legislation of the various Australian states and Consumers Guarantee Act 1993 (NZ) except to the extent permitted by the various Acts, and this guarantee is to be modified to the extent necessary to give effect to that intention.
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9. On Commercial installations, such as health clubs, motels/hotels and hydrotherapy facilities, parts and in field labour warranty (in capital city metropolitan areas and within a 20 km radius of a Davey Authorised Service Agents) is 12 months from the date of purchase plus 30 days to allow for installation.

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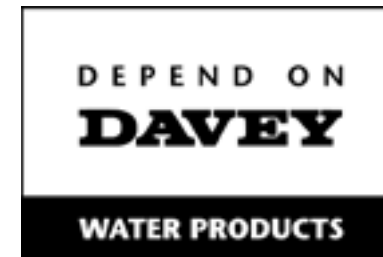
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# Installation and Operating Instructions for SC Series Salt Chlorinator V3 Models



Please pass these instructions on to the operator of this equipment.

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## After Sales Service

For professional after sales service or repair contact your Davey Dealer.  
For assistance in locating your nearest dealer contact the Davey Customer Service Centre on 1300 232 839 or the appropriate branch as listed on the back of this document.



## Troubleshooting

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

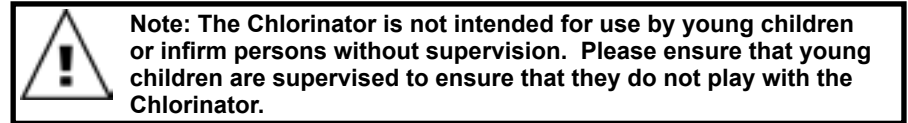
Fault Indication	Potential Cause	Remedy
No Flow	Pump turned off/disconnected or valves closed  Blue wire disconnected from cell	Ensure valves/pump on  Connect blue sensor wire to cell
Low Salt	Salt level in pool has dropped too low  Pool water temperature is low  Cell has calcified  Cell has failed	Refer pg 8  Refer pg 8  Refer pg 9  Call a technician
Display Blank	No power to controller  Fuse blown	Plug in controller and ensure mains power is available  Replace fuse (3 amp slow blow)
Low/No Chlorine Production	Cables not connected to cell  Timer period too short  Chlorine output level too low  Filter needs backwashing  pH too high  Pool stabiliser too low  Salt level too low	Connect cables  Increase timer period  Increase chlorine output  Backwash filter  Get pH level correct  Get stabiliser between 30 and 60ppm  Increase salt to above 4000ppm
Clock loses time when mains power removed	Battery life expired	Call a technician

## General Overview

Congratulations! You have purchased a Davey SC Series Chlorinator. Please read the instructions carefully and your purchase will provide you with years of trouble free use.

Your Davey SC 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 SC 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.

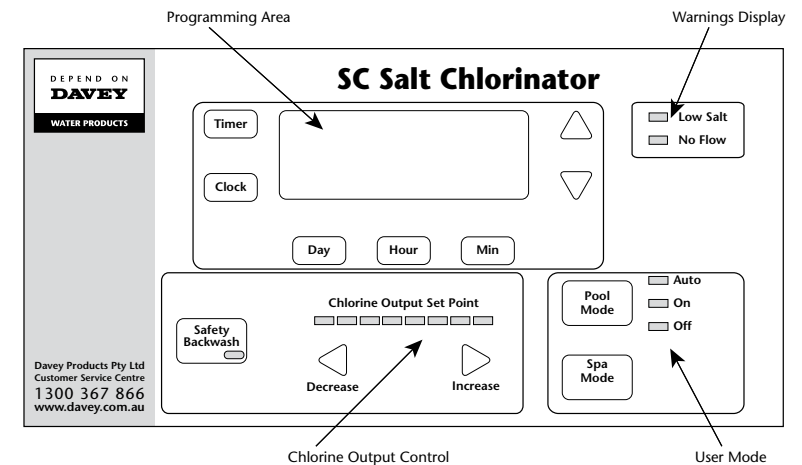


## User Panel

The user panel can be broken down into 4 separate areas :

- **Programming Area** for setting the clock and on periods.
- **Chlorine Output Controls** for setting the chlorine output level. **Chlorine Production Level** indicates the amount of chlorine being produced.
- **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.

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



## Programming

### Setting Current Time/Day

- a) Select POOL MODE On/Off/Auto.
- 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:

- a) Select POOL MODE On/Off/Auto.
- b) Press the TIMER button to step to the timer you want to set.
- c) Press DAY button to step from Mon-Fri to Sat-Sun and visa versa.
- d) 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.
- e) 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.
- f) 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.
- g) Select POOL MODE Auto.

### Programming Recommendations

Davey recommend that you use two timers, one for the morning and one for the evening and typically for periods of 2-5 hours for each. Your chlorinator is most effective if running in the early morning or evening when it is cooler (strong sunlight consumes more chlorine). As a default, the control is set to come on at 08:00 and 16:00 both for periods of 4 hours.



**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.

## Chlorinator Maintenance and Troubleshooting

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

### Cell Maintenance

Your SC Chlorinator has an automatic cleaning feature that under normal conditions, will keep the cell plates clear of deposits of salt and calcium. SC 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 3 pin 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 orings 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. In-correct 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.

## General Operation/Pool Chemistry

### Setting the Right Chlorine Output and Filtration Time

Your SC 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. Davey 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.

### 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.

### pH Level

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

### Total Alkalinity

The ideal range is between 80 and 120ppm.

### 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.

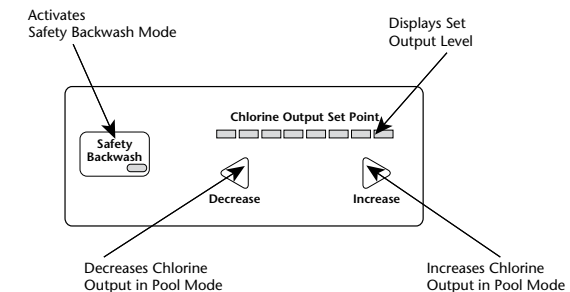
A low salt level warning is indicated on your SC Chlorinator if the salt level drops. If low salt is indicated, check again in 24 hours and then if it is still indicated, add two 25kg bags of salt to the shallow end of your pool. Run the filtration system for approx. 6 hours to help mix the salt in the 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.

## Chlorine Output

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

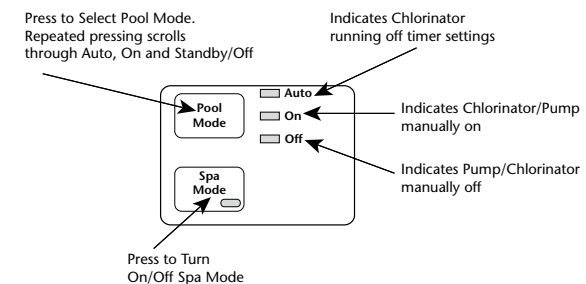
- Increase/Decrease arrows for setting the Chlorine Output Level of the Chlorinator. The Chlorinator output can be set from levels 1 through to 8. This level only applies to Pool Mode. When the Chlorinator is in Spa mode, the chlorine output will be at level 1.
- Chlorine Output display shows the level set.
- The LCD display will also show an output level from 1 to 8 which indicate the performance of the chlorinator compared to the Chlorine Output LED's. Should the LCD output level (1-8) be less than the output, check the salt level in the pool. Should salt level be at 4000 ppm and output more than 2 settings less than the LED display, your cell may need replacing.



## User Mode

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

- POOL MODE:** Sends a message to other Davey 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.
  - OFF** - The Chlorinator/pump will stay off continuously.
- SPA MODE:** Sends a message to other Davey equipment (if fitted) to go to Spa mode and turns the pump on.



## Warnings Display

Apart from messages displayed on the user display, there are two warning indicators:-

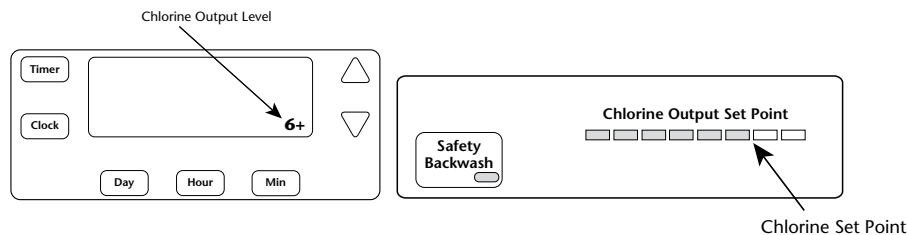
- LOW SALT:** This indicates that the concentration of salt has reduced within you pool. To rectify, add salt at approx. 50kg per 50000 litres of water (refer Salt Level on page 8).
- NO FLOW:** This indicates that the Chlorinator thinks that there is no flow to the cells. Potential problems/solutions are described in the Troubleshooting section on page 10.

## Chlorine Output Level

The LED's on the user panel indicate 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's.

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, output set point is at 8. If only 6 are illuminated, the set point is 6.



Your SC Salt Chlorinator will always attempt to adjust the output so that the actual output level matches set point level. At times when the chlorine output level is lower than the set point, check the salt level in your swimming pool at your local pool shop. Alternatively, you may have a low voltage supply to the Chlorinator (less than 240 volts) or the water may be colder than usual.

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

Water at 27° C  
Voltage at 240V  
Salt Level at 4000 PPM

Refer page 9 for the recommended method of Cell Cleaning.

## Polarity Indicator

The "+" or "-" sign located next to the chlorine output level indicator, displays the polarity of the cell at any given time. The "+" sign is normal operation while the "-" is displayed during the reverse polarity cycle.

## Safety Backwash Feature

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

The safety back wash function allows the pump to turn on without applying power to the chlorinator cell. This prevents the build up of hydrogen gas during the back wash and rinse process. In addition the safety back wash function has set times after which the pump will automatically turn off. This will prevent extended back washing times 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" mode to turn off pump
2. Turn the Multiport Valve to "Back wash" position
3. Press the Safety Back wash 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 four times to turn the pump off
4. After the pump turns off, turn the filter Multiport Valve to "Rinse"
5. Press the Safety Back wash button on the user panel once for a one minute rinse
6. When the pump turns off, move the Multiport Valve back to the filter position
7. Press the Pool Mode button to "Auto" function so that the chlorinator will operate on the time clock settings

## Dry Run Safety

Your Davey SC Chlorinator incorporates a run dry safety cut out for your pump. When the chlorinator turns the filter pump on, it will check for water flow. If no 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 the 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.