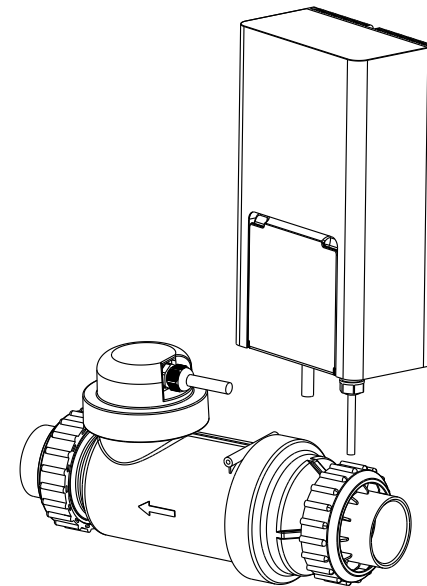


SALT CHLORINATOR

FC SERIES

- FC150/FC150A
- FC200/FC200A
- FC250/FC250A
- FC300/FC300A
- FC400/FC400A
- FC500/FC500A



* First of all, we express our most sincere gratitude to you choosing our products.

* Please be sure to carefully read this manual before using.

* Please put the instructions in the position easy to get and please keep it properly.

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Important Warning

Warning:

First of all, thank you for choosing our salt chlorinator. For your best experience of the product, prevent the occurrence of accidents, please read carefully the whole content of this manual before installing and using this product. Please strictly follow the manual for your own safety and operation of the salt chlorinator. Neglecting the safety warning may cause serious consequences such as: grievous injury, property loss and may even cause life safety threatening consequences.

Warning:

01. The installation and maintenance must be done by a licensed electrician. Or else there would be risk of electrocution, grievous injury, property loss and may even case life safety threatening consequences.
02. Before any maintenance or operation, ensure that the salt chlorinator is power unplugged, all machinery are turned off and power source is turned off.
03. Installation personnel must carefully read this manual before installation. If any improper or mistaken operation occurs, please contact the nearest authorized dealer or contact technical support department.
04. When parts are damaged, please prioritize the purchase of the replacement part at the manufacture or authorized dealer.
05. Salt is an inherently corrosive substance. However, compared to seawater and other salts, the LC series salt chlorinators require relatively low salt content for normal operation. Solution: Placing any amount of salt in the swimming pool increases the likelihood of corrosion or other deterioration of the pool equipment and any surfaces used in and around the pool. Metal parts (including metal pools) and some natural and artificial surfaces are particularly prone to corrosion and deterioration when used in and around brine pool.

Consult experienced swimming pool professionals, who should be able to provide suggestions on the correct selection of materials, installation technology of these materials, and the correct use, care and maintenance of these materials for your specific swimming pool type and location, so as to minimize the inherent corrosion and deterioration of the brine pool and its surroundings.

Warning:

1. To reduce the risk of injury, do not allow children to use this product.
2. To reduce the risk of injury, service person should only be qualified pool service professionals.
3. This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved. Children shall not play with the appliance. Cleaning and user maintenance shall not be made by children without supervision.
4. If the supply cord is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard.

Electrical safety

Here are the key electrical precautions to consider:

1. Qualified electrician:

It is strongly recommended to hire a qualified electrician to take care of any electrical work related to the installation of the salt chlorine. They have the expertise to handle electrical connections safely and in compliance with local electrical codes.

2. GFCI protection:

Ensure chlorinator and associated electrical connections are protected by ground fault circuit breakers (GFCI). (GFCI) is an essential safety device that protects against electric shocks in humid environments such as swimming pools.

3. Voltage and wiring:

Use the correct voltage and wiring recommended by the chlorinator manufacturer. Ensure that the power supply meets the requirements specified in the chlorinator manual.

4. Weatherproof:

All electrical components, including connections and sockets, should be weatherproof. This prevents water intake and minimizes the risk of electrical hazards.

5. Distance from water source:

Install electrical components, receptacles and connections at a safe distance from water sources to prevent accidental contact with water.

6. Isolation and closure:

Install an easily accessible shut-off switch or circuit breaker near the chlorinator. This allows for quick isolation of the power supply during maintenance or emergency situations.

7. Check regularly:

Check electrical components regularly for signs of wear, damage, or corrosion. Make sure wires and connections are kept secure.

8. Strictly follow the installation instructions and electrical connection recommendations of the chlorinator. This ensures proper installation and safe operation.

9. Safety precautions:

Use appropriate personal protective equipment (PPE) for electrical connection work. Avoid handling electrical components in wet areas to reduce the risk of electric shock.

Electrical safety is of Paramount importance in any pool installation that involves electrical equipment such as chlorinator.

By following these precautions and seeking professional help if needed, you can ensure that your chlorinator is installed safely and correctly.

Product Summary

This series of salt chlorinator uses the most advanced microcomputer technology. Chlorine is produced through electrolysis, and the chlorine is immediately dissolved into the solution, and Hypochlorite (a disinfectant for swimming pools and spas) is produced from the low concentration salt added to the pool water. Hypochlorite kills bacteria, oxidizes organic matter, kills algae, and then returns to salt. It is both multi-functional and easy to operate. It contains functions such as self-cleaning and malfunction alarm. You can set the chlorine production to match your need, to achieve the goal of efficiency and environmental friendliness.

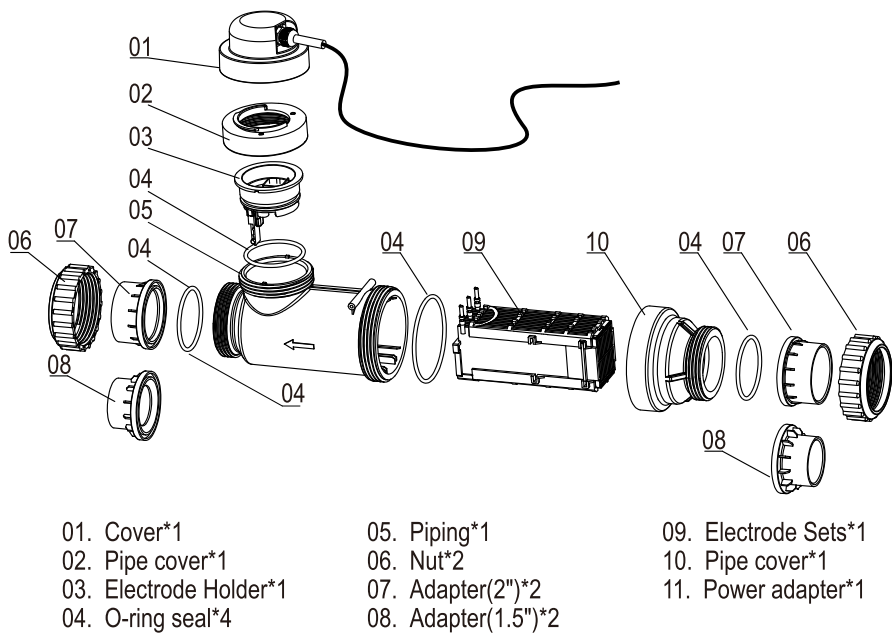
Feature

01. Water inlet and output are designed on the same axis to decrease the need for pipe arrangement.
02. Overall waterproof design for safer and more reassuring use.
03. The electrode plate is made of titanium metal substrate and coated with precious metal ruthenium oxide
04. Designed with movable structure, for easy clean, installation and maintenance.
05. The panel design is simple, easy to understand and operate.
06. With WI-FI module inside, can be controlled and monitored by APP on the mobile.
07. With water flow protection function, which effectively prolong the service lifetime.
08. Low salt alarm, when the salinity is too low, it will alarm to ensure the effective disinfection.
09. Water temperature monitoring function, when the water temperature exceeds the range of 10°C-45°C, it will alarm and effectively prolonging the service lifetime.
10. Self-clean function of the titanium plate effectively prolongs the service life of the cell.
11. Voltage and current monitoring function, when the set value is exceeded, it will alarm.
12. Electrode abnormality monitoring function, when the circuit board failure occurs, it will alarm.
13. Memory function. We could setting data and save it for next time using.

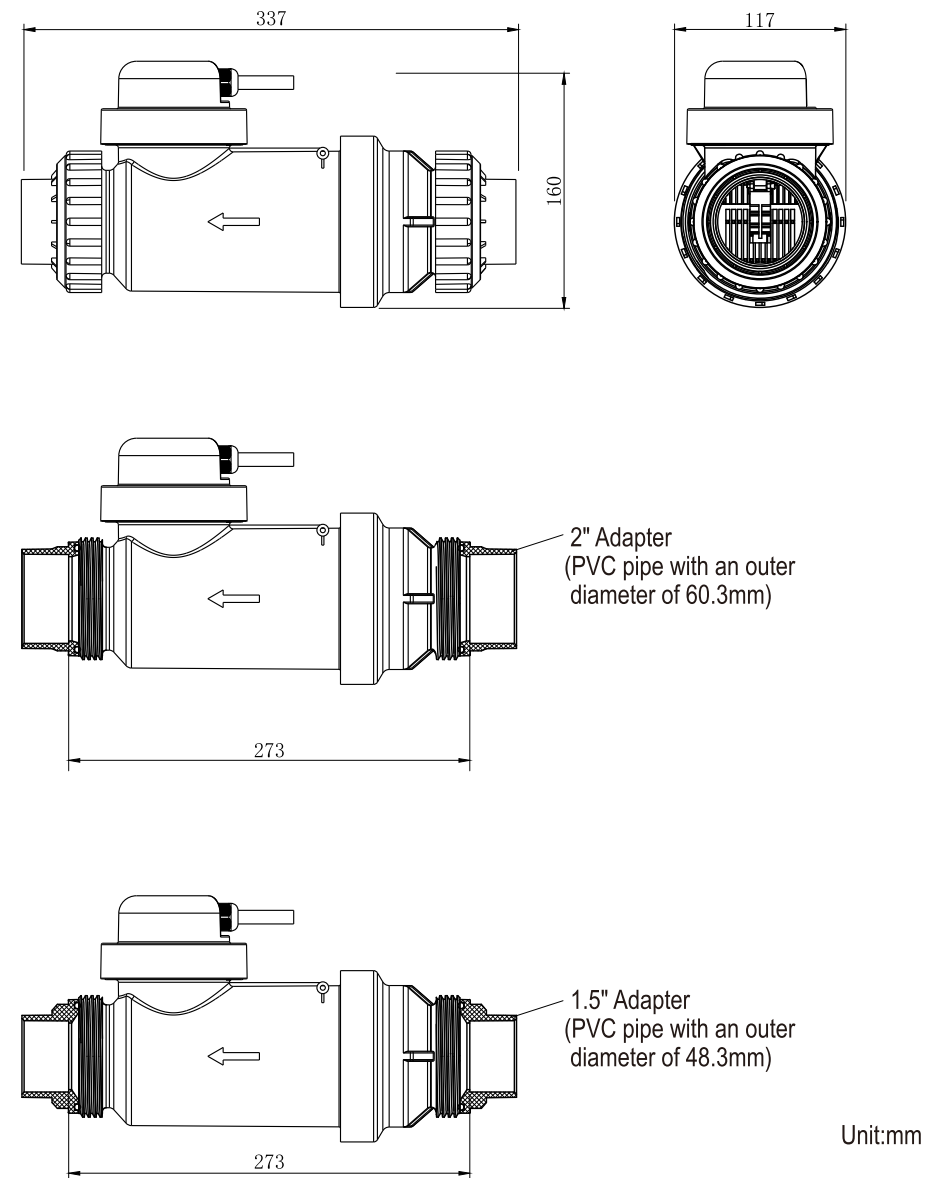
Model Chart

Working conditions and technical data					
Rated voltage	AC110V-120V/AC220V-240V 50/60Hz		Insulation resistance	>20MΩ	
Water flow switch activated flow	Horizontal ampere 60L/MIN, Vertical installation 90L/MIN		Waterproof rating	IPX4	
Model	Specifications	Chlorine output	Rated power	Recommended Salinity	Recommended pool volume(gallons)
FC150/FC150A	DC24V	15g/h	70W	3000-4500ppm	< 15K
FC200/FC200A	DC30V	20g/h	120W		10-25K
FC250/FC250A	DC30V	25g/h	150W		15-30K
FC300/FC300A	DC30V	30g/h	180W		25-40K
FC400/FC400A	DC30V	40g/h	210W		30-50K
FC500/FC500A	DC30V	50g/h	240W		40-60K

Structure Diagram



Dimensional drawing

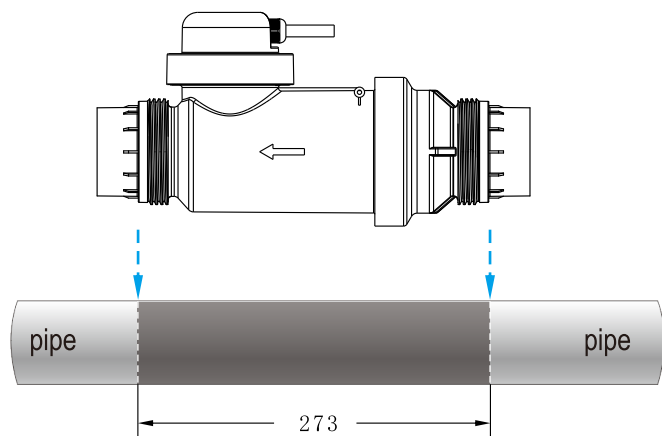


Installation Instructions

Before use, please ensure that the dimension of the pipe for installation is the same as that of the salt chlorinator.

We provide two kinds of connectors(2"and 1.5"), please select appropriate connector in accordance with the outer diameter of the PVC pipe. Please connect in accordance with the following steps:

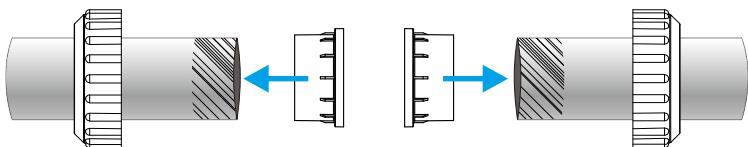
1. Cut the PVC pipe as per dimension of length 273mm .



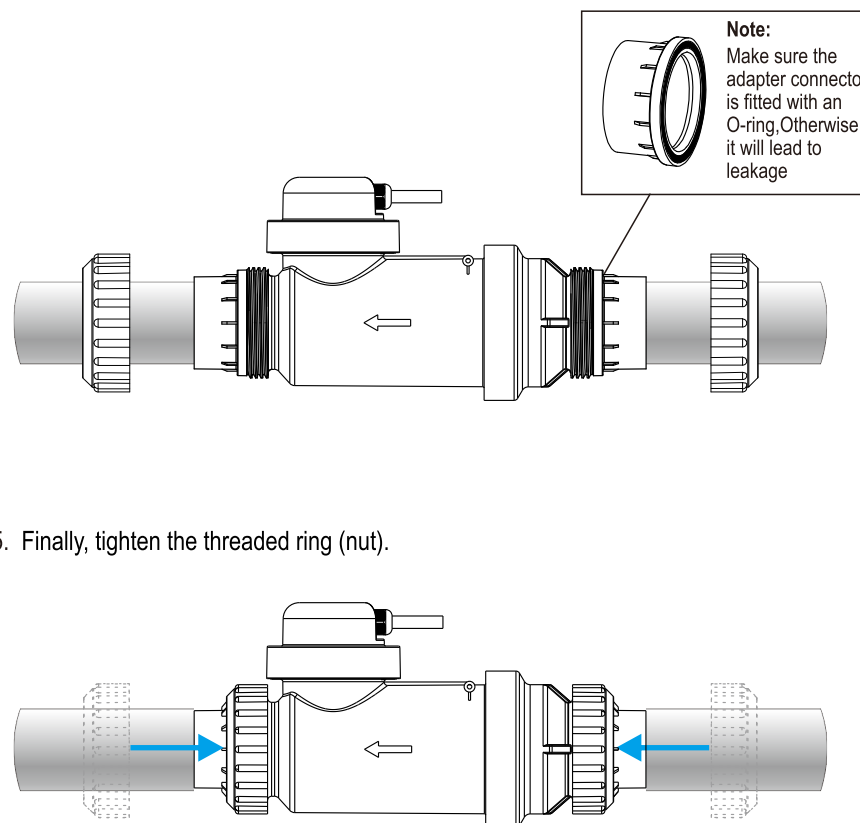
2. Insert the threaded ring (nut) into the PVC pipe as shown.



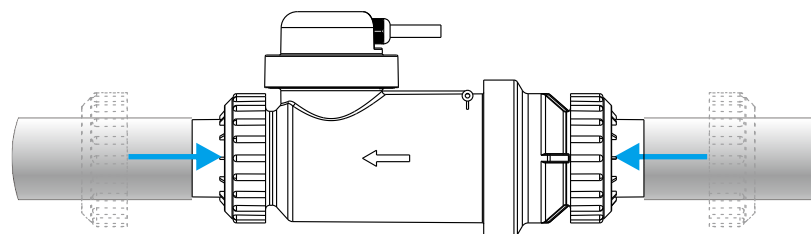
3. Apply glue to the surface of the pipeline and put the adaptor into the PVC pipe.



4. Align the salt and chlorine machine with both sides of the adaptor, and pay attention to putting a sealing ring in the inner measuring groove of the adaptor.



5. Finally, tighten the threaded ring (nut).

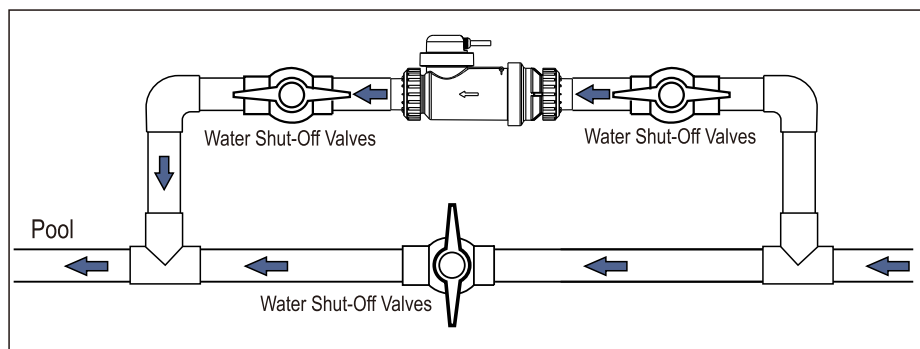


We recommend that you read the installation instructions carefully and install the chlorinator according to the instructions; If you cannot install it by yourself, seek professional help to avoid improper installation.

One important note:

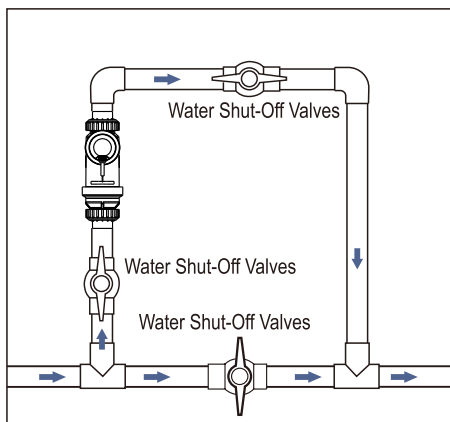
There may be other components in your pool circulation system such as filters, heating systems, etc. Please note that the chlorinator must be installed in the last element of the loop and the water flow direction must be consistent with the water flow indicator on the chlorinator.

Use PVC adhesive to glue the connectors between pipes, and wait for the glue to dry completely according to the drying time indicated on the glue parameter label, and then perform a water leakage test to ensure that there is no water leakage before use.

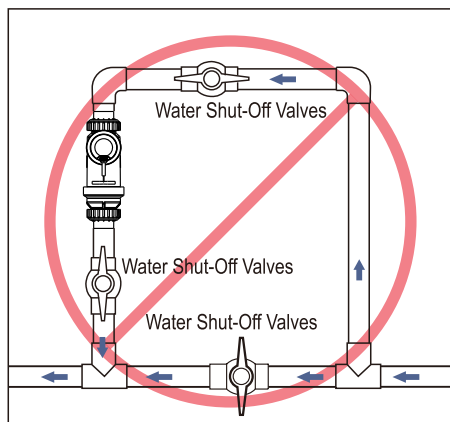


Horizontal Installation Diagram

It is recommended that you use horizontal installation, and use bypass circuit installation, and install Water Shut-Off Valves at both ends of the chlorinator, when it is necessary to clean the electrolyzer. You only need to open the main Water Shut-Off Valves and close the Water Shut-Off Valves at both ends of the chlorinator, and then remove the chlorinator without shutting down the circulating pump.



Vertical installation Diagram

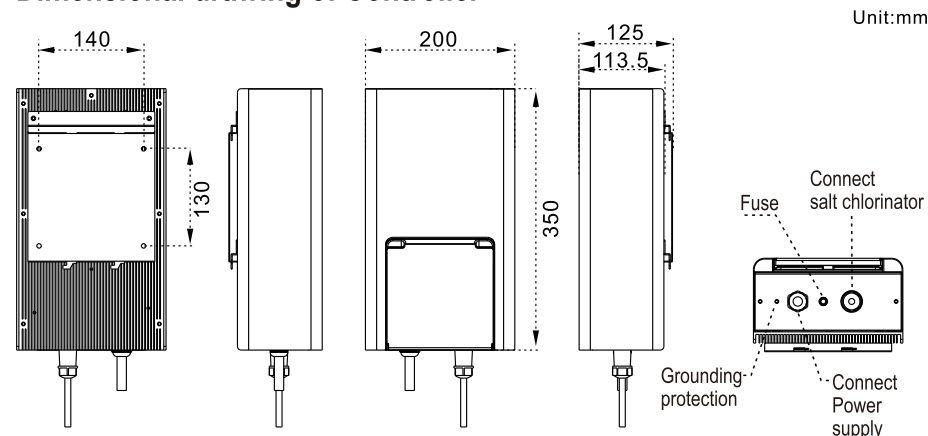


Wrong installation

If horizontal installation is not available and vertical installation is selected, follow the installation method shown in the figure and keep the water flow indicator on the chlorinator upward. The water flow direction of the pipe must also be upward. Do not install a chlorinator with water flowing downwards.

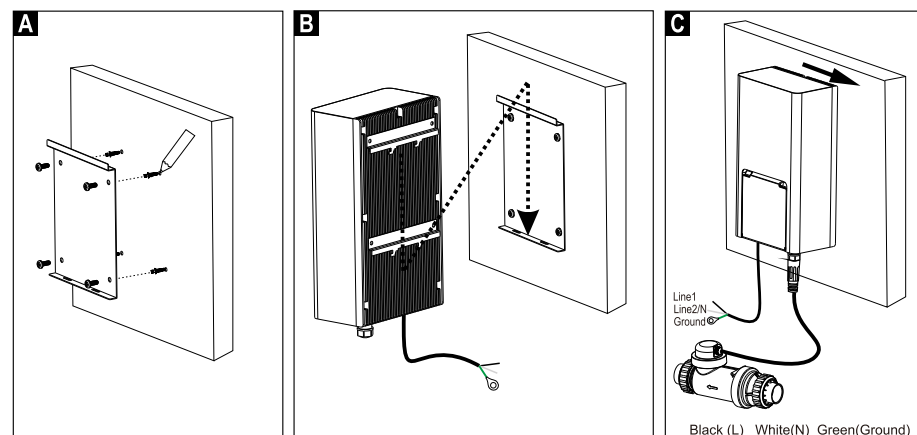
You can check out our installation guide video on YouTube at <https://www.youtube.com/watch?app=desktop&v=pPm9J-YbUnk> if necessary

Dimensional drawing of Controller



Install the controller

1. For safety reasons, do not install adapters within 10 feet of the edge of the pool and comply with all applicable specifications.
2. Use screws to secure the adapter mounting bracket to a proper position on a wall or vertical support at least 3 feet from the ground, and hang the adapter on the support.



- A. Mark the hole position with a pen, insert the expansion rubber plug, and fasten the mounting bracket with screws.
- B. Hang the adapter from top to bottom to the bracket, making sure that the four hooks hang into the four holes in the bracket.
- C. Push the adapter to the right to lock, then connect the cell and power supply.

CAUTION:

Power must be shut off at the circuit breaker before performing any wiring. Be sure to follow local and NEC/CEC electrical codes. The system has been designed to easily wire into typical in-ground pool systems. To provide safe operation, the unit must be properly grounded and bonded.

For operation, the Power supply box may be wired in to the pump's power source so that both turn on and off together, or energized continuously for use with variable speed pumps (The system operation is controlled by a water flow switch.)

Bonding:

A lug used for attaching a bonding ground is located on the bottom of the Power supply Box. The Power supply Box must be bonded with an 8 AWG bare copper wire to the pool bonding system.

Power Protection Mechanisms:

The Power supply Box has two power protection mechanisms, an external Fuse Reset button (located on underside of unit); and an internal, replaceable ATO "blade-type" fuse (located inside the unit). If the Control Module has input power, but displays no power, press the external Fuse Reset button. If power is not restored, replace the internal ATO fuse.

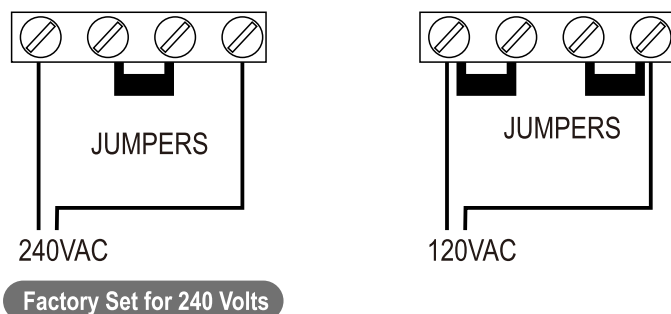
Voltage conversion

Always double-check the voltage of your power source. Connecting to an improper voltage can:

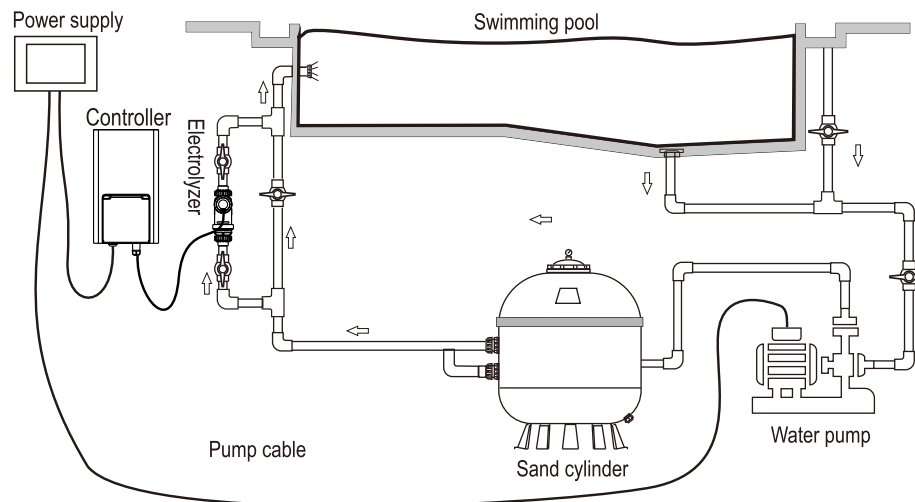
1. cause serious damage/hazard,
2. cause the system to not work.

All service should only be attempted by a person with appropriate electrical skills, with all equipment disconnected from power.

The Series is shipped from the factory with a 240 VAC configuration unless specially ordered. If 120VAC is needed, move the internal jumpers as shown below. If unsure, seek professional advice.



Installation schematic diagram:



Preparations before use

01. Ensure that the salt concentration of the pool water is within the normal working range (3000-4000PPM). Please refer to the mixing and maintenance of water and salt in this manual to adjust the salt concentration.
02. When the device is installed and connected, open the valve connecting with the salt chlorine generator and close the valve on the main pipeline. Turn on the leakage protection switch.
03. Start the pump, ensure that there is water flowing through the salt chlorine generator, and there is no water leakage at each joint, and the water flow switch is closed. (The water flow must meet the following conditions: $2.5\text{m}^3/\text{h} \leq \text{water flow} \leq 15\text{m}^3/\text{h}$)
04. The adapter of the device has been connected to the power supply, and the power supply has been turned on.

⚠ Warning:

In order to ensure the safe use of power, it is very important to avoid rain. When the external adapter installed outdoor, the following measures should be taken to prevent the impact of rain on the external adapter.

01. Choose the right installation position: try to install the external adapter in a place that protects from rain, such as under the outdoor ceiling or the groove of the wall, to avoid rain pouring directly on the adapter. This can effectively reduce the direct impact of rain on the external adapter.
02. Use waterproof sockets: high quality waterproof sockets is necessary, because it has smaller safety risk when used in outdoor humid weather. Waterproof sockets provide additional protection against moisture intrusion, more safe.

Control panel



	Turbo key	Pressing the key to enable/disable TURBO mode
	Turbo indicator	Always on: enabled Off: disabled
	Winter key	Pressing the key to enable/disable WINTER mode
	Winter indicator	Always on: enabled Off: disabled
	LED indicator	Always on: Reminder to check if the plates need to be cleaned Off: cleaning conditions have not been met
	Salinity indicator	Always on in white: normal salinity Blink in red: low salinity
	Flow indicator	Blink: flow switch is off Always on: flow switch is on
	Generate indicator	Off / Blink: chlorine production stops Always on: chlorine is being produced
	Polarity indicator	Off: normal polarity Always on: polarity is switched

	Connect indicator	Off: no Wi-Fi function Continuous fast blink: pairing state Blink twice every five seconds: Not connected/not provisioned Always on: Wi-Fi has been configured and connected to the router. At this time, the device can be controlled via LAN
	Abnormal temperature indicator	Blink: E1 fault Off: Normal state
		Pressing the key to decrease 5% of the level
		Pressing the key to increase 5% of the level
	Setting key	Pressing the key to set parameters
	Power key and indicator	Pressing the key to turn the device on/off

After the control panel cover is opened, the display and the backlight are turned on at the same time, and after 90 seconds of no operation, the display will automatically reduce its brightness, and the display can be woken up by pressing any button. After reducing the brightness for 90 seconds, the content in the middle part of the display will automatically turn off, the button backlight will turn off, and press any button to wake up the display and backlight. The display and backlight are turned off when the control panel covers are closed, and the indicators at the top and bottom of the display remain low-bright.

Operational guideline

01. Power on/off

Pressing the " " key to turn on/off the device. The indicator lights up green after the device is turned on, and the indicator lights up red after the device is turned off.

02. Level setting

Pressing the " " / " " key to increase or decrease the level by 5%, and the range of setting is 50%-100%. The " % " icon is always on, and the display screen displays 50 to 100.

03. Set the runtime

Press the " " key continuously until the elapsed time is displayed (format: -XXH, e.g. -24H), press the " " / " " key to increase or decrease by 1 hour, set the range: 4 to 24. If you set 4 hours, you will run for 4 hours, stop for 20 hours, and so on. The default value is 24 hours.

04. Water temperature

Pressing the " " key continuously until the " " icon lights up and the temperature value (for example, 28 or 82) is displayed on the left side of the display screen. Pressing the " " / " " key to switch the temperature unit between °C/°F. The default unit is °C. The device will automatically exit and the display screen will display the default contents in case of no operation for 30s. When an E1 fault occurs, the device turns off the output, and the output resumes after the water temperature returns to the normal range.

05. Current salinity

Pressing the "  " key continuously until the display screen shows the current salinity (for example, 3,500) and the "PPM" icon lights up. The device will automatically exit and the display screen will display the default contents in case of no operation for 30s.

Salinity readings are for reference only, salinity concentration difference is around ± 500 PPM. The following conditions may result in reduced accuracy:

- (a) There is debris on the cell after used for long time without clean
- (b) no enough water flow inside cell container when power of water pump is low.
- (c) water scale on the cell.
- (d) Water temperature is too low or too high (water temperature range of 15°C to 30°C (59 °F to 86°F), which helps to maintain the normal working condition of the equipment and ensure proper dissolution and release of salt. Salt chlorinator working at too low or too high temperature may affect the performance of the device and the rate at which the salt dissolves).

06. Pairing mode

Pressing the "  " key continuously until the display screen shows "  ", and then pressing the "  " / "  " key again to enter the distribution network mode. This mode is used for distribution network of the device. It indicates that distribution network mode is enabled when the "  " icon blinks quickly. The device will automatically exit and the display screen will display the default contents in case of no operation for 90s.

07. Clean prompts

It is indicated that the device has been used for more than 500 hours when the "  " icon lights up. Users are advised to clean the electrolytic bath in time, and follow the following instructions to eliminate the cleaning prompt.

Pressing the "  " key continuously until "  " is displayed on the display screen, after that, the device will enter the cleaning prompt elimination state. Keeping a short pressing of the "  " / "  " key to check the current accumulated service time (for example, 20H, and then display "  " after 3s). Keeping a long pressing of the "  " key to eliminate the cleaning prompt and clear the accumulated time ("  " goes out). Please make sure to clean the electrolytic bath before this operation. The device will automatically exit and the display screen will display the default contents in case of no operation for 30s.

08. Checking electrical parameters

Pressing the "  " key continuously until the display screen shows "  ", and the device will enter the state of checking electrical parameters. Keeping a short pressing of the "  " / "  " key to switch the reading. Reading sequence: power supply voltage ("  " icon is on), plate voltage ("  " icon is on) and current ("  " icon is on). "  " will be re-displayed in case of no operation for 10s, and the device will automatically exit and the display screen will display the default contents in case of no operation for 40s.

09. Turbo mode

Pressing the "  " key to enable/disable turbo mode. "  " will light up and the device will run at 100% power for 24 hours after this mode is enabled, after that, this mode will be automatically disabled. After opening, the level cannot be adjusted, press the "  " / "  " button and the icon  flashes 3 times.

10. Winter mode

Pressing the "  " key to enable/disable the WINTER mode, and "  " will light up and the device will run at 50% power after this mode is enabled.

11. Flow prompt

When the flow detection function is enabled, it is indicated that there is flow when "  " is always on and the device is powered on; it is indicated that there is no flow when "  " blinks;

12. Salinity prompt

Normal salinity is indicated when the device is turned on and "  " is always on; low salinity is indicated when the iron blinks in red; The ideal concentration range is 3,000PPM~4,500PPM.

13. Generation prompt

It is indicated that chlorine is being produced when the device is turned on and "  " is on; it is indicated that chlorine production is stopped when the icon is off or blink.

14. Polarity prompt

Reverse direction is indicated when the device is turned on and "  " is on; forward direction is indicated when the icon is off.

15. Connection prompt

It is indicated that this device has no built-in Wi-Fi mode when the device is turned on and "  " is off;

Continuous fast blink indicates pairing state;

Blink twice every five seconds that Wi-Fi is configured but not connected (Quick blink twice → turns off for 5 seconds → quick blink twice) .

Always on means that Wi-Fi has been configured and connected to the router. At this time, the device can be controlled via LAN.

16. Automatic polarity switch

The polarity switch will be automatically switched once after cumulative operation of 8 hours, users do not need to set.

17. Fault code

Pressing button "  " continuously until "  " is displayed on the display window. Pressing button "  " / "  " to check whether error code (for example, E1) occurs. If no fault, 0 is displayed.

Mobile APP (Smart Life)

1. Optional Wi-Fi version can realize the Internet of Things through Smart Life app. Search for **"Smart Life"** in major application markets, and download and install the **"Smart Life"** app.



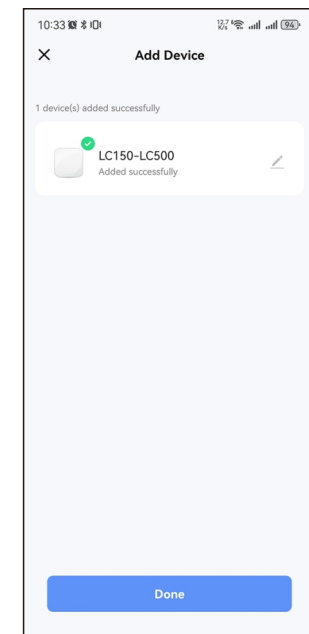
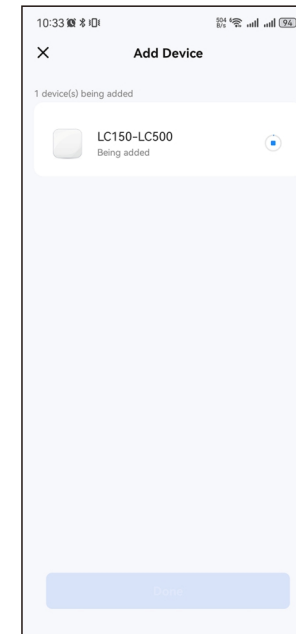
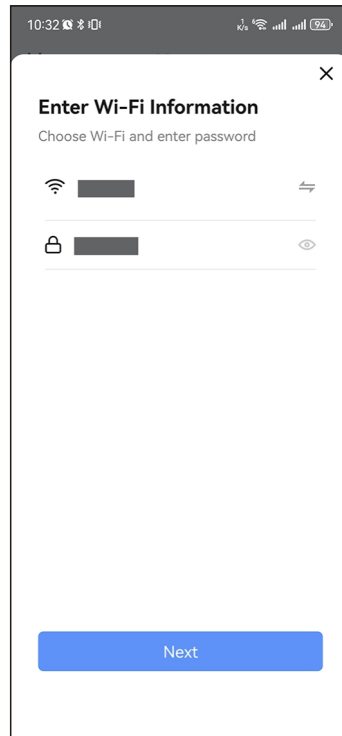
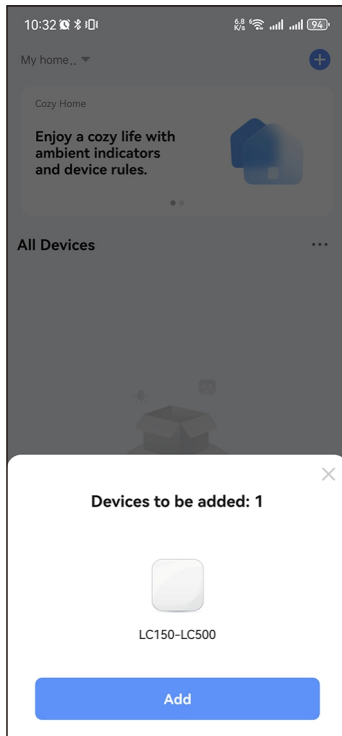
2. Pairing mode

Pressing the "  " key continuously until the display screen shows "  ", and then pressing the "  " / "  " key again to enter the distribution network mode. It indicates that distribution network mode is enabled when the "  " icon blinks quickly.

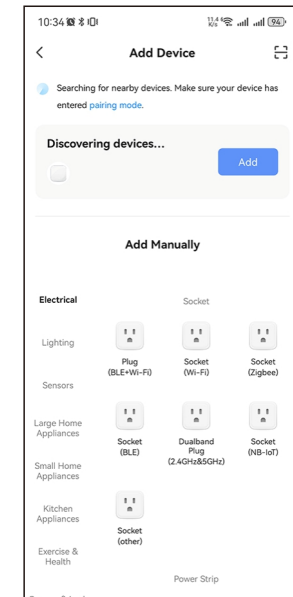
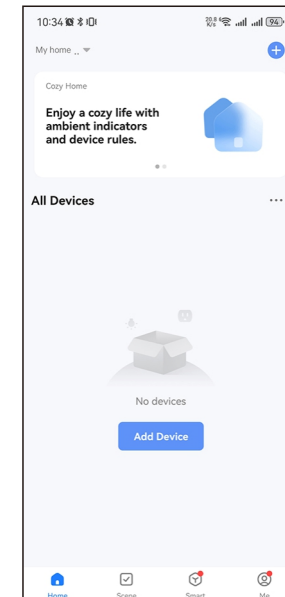
3. Turn on the **"Wi-Fi"** switch and the **"Bluetooth"** switch of the mobile phone to ensure that there is a Wi-Fi signal in the environment where the mobile phone and device are located, and the mobile phone needs to be connected with Wi-Fi.

4. Open the **"Smart Life"** app, the app will automatically pop up the **"Discover Devices"** window, click **"Add"**, and then enter the Wi-Fi password on the distribution network page to complete distribution network.

Attention: Please select Wi Fi in the 2.4GHz frequency band when connecting.

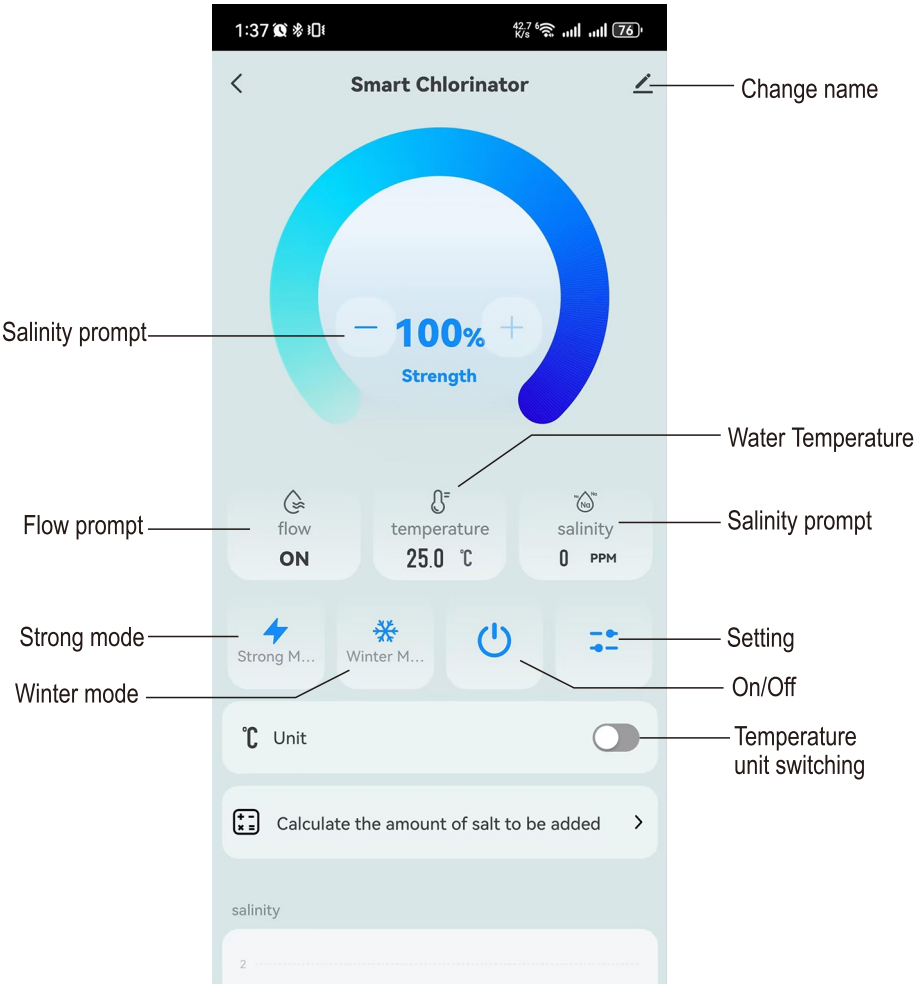


If the app does not pop up automatically, click the "  " key in the upper right corner of the homepage→ **"Add Device"** to check that whether the device indicator is flashing, otherwise, make the device re-enter the distribution network mode in accordance with the steps shown above.



5. After successful addition, the indicator "📶" of the device is always on in white to indicate that the Wi-Fi connection is successful, and the white indicator blinks twice every 5 seconds to indicate disconnection. see **16. Connection** Tips for details.

6. Introduction to Interface



Guide of troubleshooting

Fault code	Fault cause	Treatment method
E1	The water temperature exceeds the normal range The normal operating temperature range is 10°C-45°C(50°F-113°F)	Please ensure that the water temperature is within the normal working range.
E2	Low salt concentration	1. First, use a salinometer to check the salt concentration in the pool. If the salinity of the pool water is low, add salt to the pool to make the salinity reach the recommended salinity range; 2. If the salinity is normal, check whether the installation meets the requirements to ensure that the flow switch will not be switched on when there is no water in the pipeline; 3. Check whether the water passes through the pipe normally; 4. Turn on the circulating pump to make the pool water fully mixed and pressing the power ON/OFF button.
E4	The supplied power supply voltage is too high or too low	Please check that whether the power adapter is suitable.
E7	The system detects circuit faults	Please turn off the power supply and restart it. The chlorinator shall be turned on normally. If this happens for times, please contact the supplier to repair or replace the controller.

Suggestions on Chlorinator Parameter Setting

1. The chlorinator automatically determines the opening/closing time in accordance with the set level (50%~100%).
2. If the power supply of the chlorinator is connected to a mechanical timer, we suggest setting the level to 100%, and the mechanical timer will decide the opening/closing time of the chlorinator.
3. Please choose an appropriate chlorinator model in accordance with the gallons of your swimming pool. Please set the level to 50% for the first use, and test the residual chlorine after 24 hours. If the residual chlorine value is appropriate, keep these settings and run the chlorinator. If the residual chlorine is low, increase the level, and if it is high, please reduce the level. After 24 hours, the residual chlorine shall be tested again to ensure that the residual chlorine content meets the standard (0.3~0.5mg/L, depending on the local national standard).
4. When the swimming pool is used frequently in summer, it is suggested to disinfect the swimming pool vigorously once a week, and turn on the "TURBO" mode on the chlorinator panel, this mode will be automatically turned off after 24 hours of operation and returned to the normal mode.
5. It is recommended to turn on "WINTER" mode in winter.

Ideal salt content and pool size:

For salt pools, the ideal salt content is usually measured in parts per million (ppm), usually in the range of 3,000 to 4,000 ppm(or 3.0 to 4.0 grams per liter), which is considered the optimal range for chlorinator operation.

Regular salt testing with a dedicated salt pool testing tool is essential to ensure that salt levels remain within recommended limits.

If the level is too high or too low, it can be adjusted by adding salt or diluting the water.

How do I determine the number of gallons in a pool?

Calculated gallons (size in feet)

Calculating the pool's capacity requires measuring its dimensions, and then using those measurements in formulas specific to the pool's shape.

Rectangular or square pool:

Length x width x average depth x 7.5 = total gallons
Measure length and width at the longest and widest points.
Measure the depth from the waterline to the deepest point.
If the pool has different depths, take the average depth.

Round pool:

$\pi(3.14) \times \text{radius} \times \text{radius} \times \text{average depth} \times 7.5 = \text{total gallons}$
Measure the radius at the widest point of the circle (half the diameter).
Measure the depth from the waterline to the deepest point.
If the pool has different depths, take the average depth.

More irregularly shaped pools:

Divide the pool into parts of a known shape (rectangle, circle, etc.).
Calculate the volume of each part separately with the appropriate formula.
Add the volumes of all the parts together to get the total volume.
A multiplier of 7.5 is used to convert the volume of cubic feet into gallons.
Adjustments may need to be made depending on the unit of measurement used (for example, if the unit of measurement is meters, it must be converted to feet).

How much salt to add?

Important: Before adding salt, be sure to perform an independent water test to measure the current salinity.

↓ The current salinity of your pool water (PPM)

	↓ The current salinity of your pool water (PPM)						
	0	500	1000	1500	2000	2500	3000
10,000	292 lb	250 lb	209 lb	167 lb	125 lb	83 lb	42 lb
	132 kg	114 kg	95 kg	76 kg	57 kg	38 kg	19 kg
12,000	351 lb	300 lb	250 lb	200 lb	150 lb	100 lb	50 lb
	159 kg	136 kg	114 kg	91 kg	68 kg	45 kg	23 kg
14,000	409 lb	351 lb	292 lb	234 lb	175 lb	117 lb	58 lb
	185 kg	159 kg	132 kg	106 kg	79 kg	53 kg	26 kg
16,000	467 lb	401 lb	334 lb	267 lb	200 lb	134 lb	67 lb
	212 kg	182 kg	151 kg	121 kg	91 kg	61 kg	30 kg
18,000	526 lb	451 lb	376 lb	300 lb	225 lb	150 lb	75 lb
	238 kg	204 kg	170 kg	136 kg	102 kg	68 kg	34 kg
20,000	584 lb	501 lb	417 lb	334 lb	250 lb	167 lb	83 lb
	265 kg	227 kg	189 kg	151 kg	114 kg	76 kg	38 kg
22,000	643 lb	551 lb	459 lb	367 lb	275 lb	184 lb	92 lb
	291 kg	250 kg	208 kg	167 kg	125 kg	83 kg	42 kg
24,000	701 lb	601 lb	501 lb	401 lb	300 lb	200 lb	100 lb
	318 kg	273 kg	227 kg	182 kg	136 kg	91 kg	45 kg
26,000	759 lb	651 lb	542 lb	434 lb	325 lb	217 lb	108 lb
	344 kg	295 kg	246 kg	197 kg	148 kg	98 kg	49 kg
28,000	818 lb	701 lb	584 lb	467 lb	351 lb	234 lb	117 lb
	371 kg	318 kg	265 kg	212 kg	159 kg	106 kg	53 kg
30,000	876 lb	751 lb	626 lb	501 lb	376 lb	250 lb	125 lb
	397 kg	341 kg	284 kg	227 kg	170 kg	114 kg	57 kg
32,000	935 lb	801 lb	668 lb	534 lb	401 lb	267 lb	134 lb
	424 kg	363 kg	303 kg	242 kg	182 kg	121 kg	61 kg
34,000	993 lb	851 lb	709 lb	567 lb	426 lb	284 lb	142 lb
	450 kg	386 kg	322 kg	257 kg	193 kg	129 kg	64 kg
36,000	1052 lb	901 lb	751 lb	601 lb	451 lb	300 lb	150 lb
	477 kg	409 kg	341 kg	273 kg	204 kg	136 kg	68 kg
38,000	1110 lb	951 lb	793 lb	634 lb	476 lb	317 lb	159 lb
	503 kg	432 kg	360 kg	288 kg	216 kg	144 kg	72 kg
40,000	1168 lb	1001 lb	835 lb	668 lb	501 lb	334 lb	167 lb
	530 kg	454 kg	379 kg	303 kg	227 kg	151 kg	76 kg
42,000	1227 lb	1052 lb	876 lb	701 lb	526 lb	351 lb	175 lb
	556 kg	477 kg	397 kg	318 kg	238 kg	159 kg	79 kg
44,000	1285 lb	1102 lb	918 lb	734 lb	551 lb	367 lb	184 lb
	583 kg	500 kg	416 kg	333 kg	250 kg	167 kg	83 kg
46,000	1344 lb	1152 lb	960 lb	768 lb	576 lb	384 lb	192 lb
	609 kg	522 kg	435 kg	348 kg	261 kg	174 kg	87 kg
48,000	1402 lb	1202 lb	1001 lb	801 lb	601 lb	401 lb	200 lb
	636 kg	545 kg	454 kg	363 kg	273 kg	182 kg	91 kg
50,000	1460 lb	1252 lb	1043 lb	835 lb	626 lb	417 lb	209 lb
	662 kg	568 kg	473 kg	379 kg	284 kg	189 kg	95 kg

After measuring the existing salt content in the pool, add salt according to the table above. With this chart, you can cross-reference existing salt content and pool size to estimate the number of

pounds of salt needed to reach 3500ppm. Without the right amount of salt, it can lead to reduced efficiency and low chlorine production. In addition, operating at low salt levels will shorten the life of the cell.

When adding salt to the pool, it is best to pour the required salt into the shallow end of the pool and run the filter and pump simultaneously to circulate the water and dissolve the salt. Do not throw the salt bag into the water, as the chemicals and ink on the salt bag can disturb the water balance. It may take 24-48 hours for the salt to dissolve in summer and longer in winter. Finer salt particles dissolve faster than compressed particles.

Salt in pools is constantly recycled and usually doesn't need to be replenished as often. Salt loss throughout the swimming season should be minimal, mainly due to the addition of additional water to replace water lost through splashing, backwashing, and drainage. Salt is not lost by evaporation.

Use only evaporated granular non-iodized salt (sodium chloride). The higher the purity of the salt (at least 99%), the longer of the life and performance of the cell. Water softener salts (also known as water conditioning pellets) are an economical way to buy large amounts of salt. However, only NaCl salts with a purity of at least 99% can be used. The particles are a compressed form of evaporated salt and may take longer to dissolve. Avoid using salts that contain anti-caking agents (sodium ferrocyanide, also known as YPS or sodium yellow Prussia), which may cause discoloration of fittings and surface finish in the pool. Do not use calcium chloride as a salt source. Do not use rock salt; Insoluble impurities in rock salt will shorten the service life of the cell.

Recommended water chemistry level

Maintaining proper water chemistry is the key to a clean and safe swimming pool. Here are the recommended levels of pool water:

1. pH value:

Keep it between 7.2 and 7.8. This range ensures the swimmer's comfort and helps other chemicals work efficiently.

2. Residual chlorine:

Residual chlorine levels in pools should generally be kept between 1.0 and 3.0 ppm (per million parts). This helps keep the water clean and hygienic, disinfect it effectively, prevent the growth of bacteria and microorganisms, and protect the health of swimmers. To ensure water quality safety and compliance, it is best to use specialized water quality testing tools to monitor residual chlorine levels and adjust them as needed.

3. Total alkalinity (TA):

Keep it between 80 and 120 ppm. TA helps to stabilize pH and prevent rapid pH changes.

4. Calcium hardness:

The ideal is between 200 and 400ppm. This helps prevent plaster damage and corrosion of pool equipment.

5. Triuric acid (CYA):

The recommended level is between 30 and 50 ppm. CYA helps stabilize chlorine and prevents it from being degraded by sunlight.

6. Total dissolved Solids (TDS):

Keep it below 1500ppm. High TDS levels can make the water cloudy and affect the chemical balance.

Regularly test the pool water with a reliable testing tool to ensure that these levels are within the recommended range. Factors such as weather, usage, and pool size can all affect these levels, so it's important to monitor and adjust as needed.

How to maintain the PH of the pool water

Adjusting the pH of the pool water is essential to maintaining the balance of the water and ensuring the comfort of swimmers.

High PH (over 7.8) : Water with a high PH may cause swimmers to have red eyes, tingling, or a tingling sensation on their skin. It may also reduce the effectiveness of chlorine disinfection and may cause the water to become cloudy.

Low PH (below 7.2) : Low PH may cause eye and skin irritation, causing stinging or dryness. It may cause corrosion of metal equipment, increase the consumption of chlorine, and reduce the availability of chlorine.

Here's how to adjust the pH:

1. Test the water:

Accurately measure pH with a reliable pool water test kit.
The ideal range is between 7.2 and 7.8.

2. PH increase dose (pH rise):

If the pH is too low (below 7.2), you can raise it by adding a pH booster (sodium carbonate or soda ash).

3. pH reducer (pH reduction):

If the pH is too high (above 7.8), you need to lower it by adding a pH reducer (usually hydrochloric acid or sodium sulfite).

How to use:

Dilute the necessary pH enhancer or depressant in a bucket of water and then distribute it evenly over the surface of the pool. Avoid adding chemicals directly to the skimmer.

You need to be very careful when using hydrochloric acid because it is a very corrosive and strong acid.

⚠ **Here are some considerations:**

- a. Wear safety equipment: Appropriate personal protective equipment such as goggles, chemical protective gloves, long-sleeved clothing, and long pants must be worn to prevent hydrochloric acid from splashing on the skin or eyes.
- b. Well-ventilated environment: Use hydrochloric acid in a well-ventilated area to avoid inhaling corrosive vapors. It is best to operate outside or in a well-ventilated area.
- c. Avoid mixing with other chemicals: Do not mix hydrochloric acid with other chemicals, especially ammonia compounds, as this may produce toxic gases.
- d. Careful operation: Be careful when using hydrochloric acid. When pouring into water, slowly add the hydrochloric acid to the water instead of pouring the water into the hydrochloric acid. This is done to avoid splashing or violent reactions.
- e. Stay away from flammable materials: Hydrochloric acid may react with certain substances and release hydrogen, which may cause a fire or explosion when in contact with flammable materials.
- f. Proper storage and disposal: Store hydrochloric acid in an airtight container and keep it out of the reach of children and pets. When disposing of waste, proper treatment and disposal should be carried out in accordance with local regulations.

4. Wait and retest:

Let the water cycle for a few hours or overnight before retesting the pH. It may take some time for the chemicals to be fully mixed and the pH level adjusted.

5. Repeat as necessary:

If the pH is still out of the recommended range after the first use, repeat the process. However, it is important not to overadjust the pH. Adjust and retest gradually before adding more chemicals.

Keep in mind that fluctuations in pH can be affected by a variety of factors, such as rainfall, pool usage, and other chemical treatments.

Regular monitoring and adjustment of pH levels will help maintain a balanced and comfortable swimming environment.

How to achieve energy saving and improve the service life of the salt machine

1. Optimize chlorine generator Settings:

Adjust the chlorinator Settings according to the use of the pool. For details, refer to the "Chlorinator Parameter Setting Suggestions" section.

2. Regular maintenance:

Keep chlorinator clean and in good condition. The electrolyzer is inspected and cleaned regularly to remove scale buildup, which can hinder chlorine production and increase energy consumption.

3. Efficient pump operation:

Operate pumps during off-peak hours when electricity costs are lower. Also, make sure the pump is the right size for your pool and set to run at optimal speed for effective filtration and circulation.

4. Monitor water chemistry:

Regularly test and maintain proper water chemistry. The balanced water reduces the workload of the chlorinator, reduces energy consumption, and extends the life of the salt pond.

5. Professional Services:

Arrange regular maintenance and maintenance by pool professionals. They can detect problems early, ensure effective operation of the chlorinator and extend its service life.

By implementing these strategies, you can optimize the energy efficiency of your pool chlorinator, reduce energy costs, and extend the life of your equipment.

Daily maintenance of chlorinator

Maintaining chlorinators, especially in saltwater pools, is essential for effective chlorine production and overall pool health.

Maintenance Guide:

1. Check regularly:

Check the chlorinator system regularly for any signs of wear, leakage, or damage. Observe plates and connections for scaling or buildup.

2. Cleaning the cell:

Scale buildup on the cell can reduce the production of chlorine, please clean the cell regularly. This usually involves using a diluted acid solution (hydrochloric acid or a specific cell cleaning solution) to remove scale deposits.

3. Check the salt content:

Keep the salt content within the recommended range for your specific chlorinator system. Test the salt content regularly using a saline test kit and add salt as needed.

4. Maintain water chemistry:

Ensure proper water chemical balance, including pH, alkalinity and stabilizer (cyanuric acid) levels. Balanced water chemistry increases the efficiency of the chlorine generator.

5. Monitoring output:

Pay attention to the chlorine output, please regularly use a professional residual chlorine test tool to test the residual chlorine in the pool, if there is not enough chlorine in the pool, although the salt level is appropriate and the equipment is operating properly, there may be problems with the chlorinator or plate that need to be resolved.

6. Winter maintenance:

If you live in an area with cold winters, give the chlorinator proper winter treatment to prevent freezing temperature damage. Follow the instructions in "Winter Maintenance" for winter maintenance.

7. Professional maintenance:

Consider annual maintenance or repair by a pool professional to ensure the chlorinator functions optimously. They can effectively check, clean up and troubleshoot any problems.

Regular maintenance and care will extend the life of the chlorinator and ensure that the disinfection tank is maintained at all times.

Winter maintenance:

In winter, especially in cold climates, maintaining your chlorine sterilizer is essential to prevent damage and make sure it works properly when season returns.

Here's how to maintain it:

1. System cold protection:

Properly winterize the chlorinator system before the temperature drops below freezing. Drain equipment and pipes to prevent freezing and potential damage.

2. Disconnect and save:

Disconnect the chlorinator from the system if possible. Store it indoors in a dry and protected place. This prevents exposure to freezing temperatures and potential damage.

3. Check regularly:

Check the chlorinator system regularly throughout the winter, especially during heavy snow or extreme weather. Make sure it stays dry and intact.

4. Avoid chemicals:

In winter, do not add chemicals or salt to the pool, as the chlorinator may be inactive. This prevents any unnecessary build-up or damage to the system.

5. Professional Services:

Consider scheduling a professional inspection or service before winter sets in. They can properly winterize the system and make sure it is in good condition during the off-season.

6. Keep records:

Keep records of any winterization measures taken during the winter and any problems noticed for future reference.

7. Spring starting plan:

When winter is over and you are ready to reopen the pool, it is recommended to restart and re-adjust the chlorinator Settings as instructed in the section "Recommendations for Chlorinator Parameter Settings".

By properly winterizing and protecting your chlorinator, you can prevent potential damage from freezing temperatures and make sure it's ready to operate efficiently when it returns during pool season.

Electrolytic cell cleaning guide

Cleaning the electrolytic cell (cell) of the chlorinator is essential to maintain its efficiency. If you need help, check out our dismantling and cleaning guide video on YouTube at <https://www.youtube.com/watch?v=pPm9J-YbUnk>

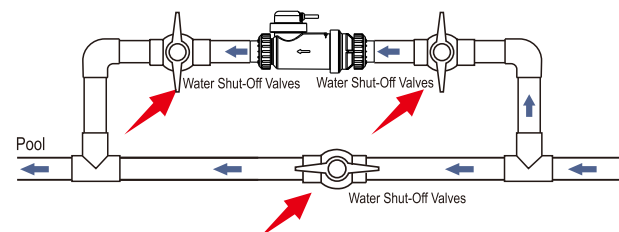
Here's a guide on how to clean it:

1. Turn off the power:

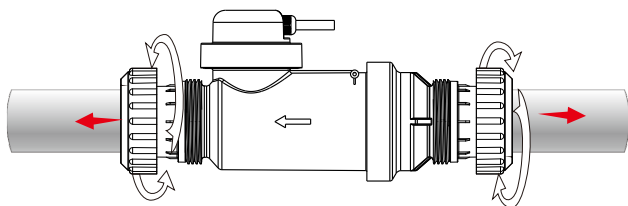
Before cleaning the cell, turn off the power to the chlorinator or the circuit breaker to prevent any electrical hazards.

2. Disassembly of Chlorinator (checking the "Structure drawing" section of the manual first):

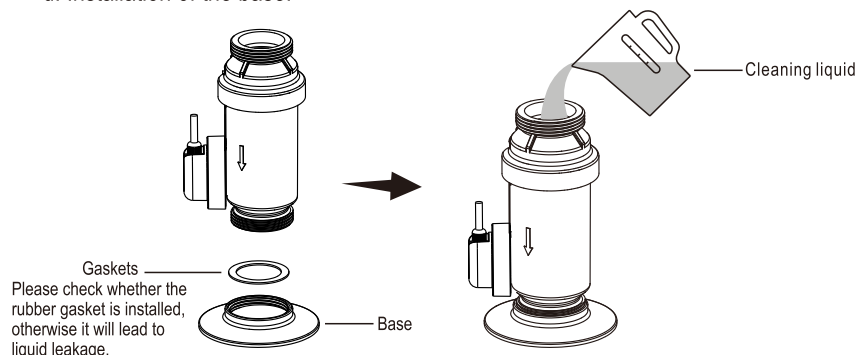
- Turning off the power of the chlorinator and unplugging the power cord.
- Cutting off the water supply through the chlorinator. (If you use the bypass installation method recommended in the manual, firstly, opening the "Water Shut-Off Valves" on the main route and closing the "Water Shut-Off Valves" at both ends of the chlorinator. If you do not use bypass installation, you need to turn off the circulating pump)



- Unscrewing the nuts at both ends of the chlorinator, taking out the chlorinator and ensuring that all the water flows out.



d. Installation of the base.



3. Check the accumulation:

Check whether there is any water scale, mineral deposits or debris buildup on the cell. The buildup of scale will hinder the production of chlorine and reduce the efficiency of the cell.

4. Prepare a cleaning solution:

Usually, a diluted hydrochloric acid solution (usually a mixture of water and acid in a specific ratio) is used for cleaning, with hydrochloric acid and water diluted in a ratio of 1:10 or 1:5.

We also recommend adding "Acid Magic" to your solution, which can reduce corrosion, reduce the risk of skin irritation or burns, reduce smoke by 90%, and maintain or improve cleaning results. There is no need to dilute Acid Magic, just add the right amount according to the instructions on the label on the bottle.

Before preparing your cleaning solution, read the product label, manufacturer's instructions, and safety data sheet on the bottle for specific instructions on how to use "Acid Magic" and "Muriatic Acid" together to ensure safety and effectiveness.

5. Soaking :

Leading the cleaning liquid into the chlorinator. The soaking time is suggested to be 5-15 minutes, however, excessive soaking shall be avoided, so as not to affect the material and performance of the electrode sheet. By this way, acid solution can dissolve and remove scale.

6. Thorough washing:

After soaking, pouring the cleaning solution back into the swimming pool, and then, rinsing it thoroughly with water to remove any residual cleaning solution or debris.

7. Installation again :

Reinstalling the chlorinator to ensure that there is no water leakage in the connection.

8. Restart the system:

Turn the power back on and restart the chlorinator system. Monitor the system to ensure it is functioning properly and producing chlorine efficiently.

9. Regular maintenance:

Regular maintenance and cleaning, which helps prevent excessive scale buildup and maintains the efficiency of the chlorinator.

Follow safety precautions, such as wearing protective gear when handling chemicals, to ensure safe and effective cleaning.

If the disinfecting effect of the salt chlorinator is not optimal, here are the steps to troubleshoot and improve its performance:

1. Check chlorine output:

If these items are normal, it is recommended to test the residual chlorine content in the water every few hours to every day after the chlorinator is running. If you are not sure how to operate, consult a professional for more specific advice. If the residual chlorine is low this may indicate a pole plate failure or power supply problem.

2. Check the electrolytic cell:

Check the electrolytic cell for fouling or scaling. Use an appropriate cleaning solution to remove any deposits that may hinder chlorine production.

3. Salt content:

Make sure the salt content in the pool is within the recommended range (usually 3,000 to 4,000 ppm). Low salt levels affect the efficiency of the chlorinator.

4. Water Chemistry:

Unbalanced hydration can affect chlorine production. Check and balance pH, alkalinity, and stabilizer levels to ensure they are within the recommended range.

5. Check circulation and filtration:

Inadequate water circulation or filtration can affect the distribution of chlorine. Ensure that the pump and filter are functioning properly and that the water is fully circulated.

6. Check for system errors:

Check the chlorinator control panel or display error codes or alerts. Refer to the manual for troubleshooting steps for specific error codes.

7. Pole film life:

The cell in the chlorinator may degrade and lose efficiency after used for years. If it is end of service life, you could consider replacing it.

8. Professional inspection:

If troubleshooting does not solve the problem, consider contacting a pool professional or the manufacturer's service department for further diagnosis and repair.