

OWNER'S MANUAL

American Swimming Pool System, LLC - "ASPS"

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Models SCC-25 / PSC-1

WELCOME

Congratulations on the purchase of your new Natural Chlorine Generator. Your purchase will minimize the efforts needed to maintain your pool and maximize your enjoyment for many years. Before attempting installation or operation, please read these instructions carefully. This manual contains easy to follow step-by-step procedures to properly install and operate your system. A little time spent understanding your system and its parts will assure successful, trouble-free installation and usage. When working around your pool, please take care to avoid hazards such as electrical wires and chemicals. CAUTION! Safety comes first!

WARNING — SAFETY FIRST

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

- DO NOT OPEN THE GENERATOR BOX – NOT A SERVICABLE UNIT
- READ AND FOLLOW ALL INSTRUCTIONS.
- Always adhere to all local and national regulatory installation requirements.
- Disconnect all AC power before installation.
- WARNING – To reduce the risk of injury, do not permit children to use this product.
- The Control Box must be mounted vertically on a flat surface and a minimum of 5 ft (1.5m) horizontal distance (or more, if local codes require) from the pool/spa.
- In order to comply with UL codes and some local electrical codes connect the Ground Green wire to the main Ground lug.
- In Canada and some other regions, local codes require the unit be connected only to a circuit that is protected by a ground-fault circuit-interrupter (GFCI). The installer should provide this GFCI requirement. The GFCI should be tested on a regular basis by pushing the test button. If the GFCI fails to operate correctly, there is ground current flowing indicating the possibility of an electric shock. Do not use this unit. Disconnect unit and have a qualified professional correct the problem before using.
- The power cable must be hardwired to the time clock so that the system cannot operate without the pump.
- The Flow Sensor must be installed between the last piece of apparatus and the Cell. (See page 11).
- ALWAYS ADD ACID TO WATER, NEVER WATER TO ACID.
- A build-up of flammable fumes can result in a hazardous condition if the Cell is allowed to operate without flow. This machine must be operated only with an approved in-line flow sensor .
- SAVE THESE INSTRUCTIONS.

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GENERAL

The product is an automatic Natural Chlorine Generator for pool and/or spa sanitation. It is the workhorse of the chlorine generators. The system uses a very low concentration of salt, less than the concentration in a human teardrop, and converts it into chlorine that kills algae and bacteria in your pool. After killing the algae and bacteria, the chlorine reverts back into sodium chloride. This process of purification continues, making the need to add extra sanitizing chemicals to your pool virtually unnecessary. The level of necessary chlorine in the pool is affected by a number of factors such as sunlight, bather load, debris and water temperature, all of which destroy chlorine.

Your generator has little effect on pH or total alkalinity. Both of these must still be monitored and adjusted to allow the chlorine to have its greatest effect. If you use a good quality pool test kit and follow the simple instructions outlined in this manual, your Natural Chlorine Generator will help you maintain a sparkling clean, trouble-free pool for many years with minimal effort.

WATER BASICS

Filtration

It is important to remember that unless all the water is filtered, it is impossible to get clean water. It is customarily required that all the water in the pool pass through the filter at least one and a half (1 ½) times per day. The longer the filtration cycle, the clearer the pool water will be.

→ **Inadequate filtration:** Inadequate filtration reduces water clarity and makes more work for the generator.

Chlorination

Ordinarily, the chlorine level in the pool should be maintained at 1 to 3 parts per million (ppm) of free chlorine. This level of free chlorine is comfortable to swim in with no unpleasant smells and it maintains proper sanitizing power.

Free Chlorine v. Combined Chlorine: The unpleasant smells and side effects often associated with chlorine are actually caused by chloramines (i.e. combined chlorine). Chloramines or combined chlorine is a chlorine molecule that attacked a noxious particle in the water but has been unable to destroy that noxious particle. This chlorine particle remains attached to the noxious particle until one of the two is killed off; hence the term “combined chlorine” (a.k.a. chloramines). To burn off the noxious particle and free up the chlorine again, pool owners have had to shock the pool periodically, but with the Natural Chlorine Generator, the noxious particles are burned off within the generator’s Cell and the combined chlorine is continuously converted back to free chlorine.

As the pool water passes through the electrolytic Cell, high levels of chlorine within the Cell immediately oxidize the noxious particles that are missed by the filtration system and free up combined chlorine (i.e. super chlorination). Low levels of remaining free chlorine (the clean chlorine) are then circulated to the pool as residual sanitizer preventing the growth of algae and bacteria in the pool. The pool water continuously passes through the Cell of the system where it is evenly and consistently super chlorinated, which eliminates the need for pool shock. The pool water, therefore, may be maintained at a constant healthy level of free chlorine without drastic fluctuations in the chemical levels and chloramines that cause strong chlorine smells, red and painful eyes, itchy skin, and faded swimsuits.

Note that:

1. A high-level setting on the Natural Chlorine Generator cannot compensate for short filtration runs.
2. Long filtration running times cannot compensate for a low output setting on the Natural Chlorine Generator.
3. The clarity of the water is a function of the filtration. The sanitary level of the pool relies on the Natural Chlorine Generator.

Understanding the Chemicals

The following table shows the recommended chemical levels. Maintaining these levels will prevent corrosion and scaling and will ensure maximum enjoyment of the pool. You should test your water periodically. If the water chemistry needs adjusted, your authorized dealer or most pool stores can supply you with the appropriate chemicals and procedures. We recommend you either take a copy of the chemical balance table to the pool store or notify the pool store that you are using a salt chlorine generator.

CHEMICAL BALANCE TABLE

CHEMICAL	IDEAL LEVELS
Salt	3000 to 4000 ppm
Free Chlorine	1 to 3 ppm
PH	7.2 to 7.8
Total Alkalinity	110 to 180 ppm
Stabilizer (Cyanuric Acid)	60 - 80 ppm
Nitrates	0 ppm
Metals	0 ppm
Phosphates	0 ppm
Calcium Hardness	Determine per pool finish
Saturation Index	-0.3 to 0.3 (0 is ideal)

Salt

Salt is the power source of the Natural Chlorine Generator. To ensure maximum benefits with the use of the system, the ideal salt level is 4000 ppm (parts per million). A concentration of salt below 3000ppm could cause premature cell failure. A concentration of salt above 6000 ppm may cause corrosion damage to the pool fixtures. See the Adding Salt section below for more information.

Total Dissolved Solids (TDS) are different from the salt level of the pool, although TDS levels rise by adding salt to pool water. This does not harm the pool water chemistry or clarity, but the pool water professional that is testing for TDS must be aware that salt has been added for the chlorine generator system. The pool professional doing the TDS test will get the accurate TDS level by subtracting the salinity level.

Free Chlorine: See “Chlorination” above.

pH is a measure of how acidic or basic a solution is. A scale of 0 to 14 is used to measure pH. Pure water has a pH of 7 (neutral), acid solutions have a pH of less than 7, and basic (alkali) solutions have a pH of more than 7. The recommended range is 7.2 to 7.8; chlorine is more effective within this range and the water is most comfortable for bathers. Water with very high pH levels can cause scaling in the pool, on the walls and in pipes. Low pH levels cause the water to be aggressive to the pool walls, equipment, and bathers.

To lower pH, add muriatic acid or dry acid, and to raise pH, add soda ash (sodium carbonate). Be sure to read and follow the respective manufacturer’s instructions.

Total Alkalinity mitigates changes in pH. It is often referred to as the “big brother of pH.” Keeping proper levels of total alkalinity will help reduce unwanted fluctuations in pH levels. Total alkalinity is also used to offset high or low levels of calcium hardness (see Saturation Index below). Add muriatic acid or dry acid to lower total alkalinity and add baking soda (sodium bicarbonate) to raise total alkalinity. Be sure to read and follow the respective manufacturer’s instructions.

Stabilizer (cyanuric acid) is necessary in most outdoor pools to maintain appropriate levels of chlorine. Chlorine stabilizer helps give an appropriate residual chlorine reading of the pool water. Without stabilizer, UV radiation from the sun destroys most chlorine within 2 hours, but excessive amounts of stabilizer can decrease the effectiveness of chlorine. Chlorine stabilizer should be maintained at 40 ppm to offset the harmful effect of the sun while maintaining the effectiveness of the chlorine.

Nitrates, generally associated with fertilizer thrown on nearby grass, can put very high demands on chlorine; most often nitrates will bring the chlorine level down to zero (0). You can have your water tested for Nitrates by the local pool professional. **No Nitrates should be in your pool.**

Metals (certain metals) can cause loss of chlorine and can stain your pool. If a water test reveals the presence of metals, refer to your local pool professional for recommended methods of removal.

New Pool Water in recently filled or newly refinished pools may contain undesirable matter. The ability of the Natural Chlorine Generator to purify your pool could be hindered by this matter so it is best to balance the pool chemicals first.

Calcium Hardness, like pH and alkalinity, affects the water’s tendency to be aggressive or scale forming. Lower levels of calcium hardness improve the chlorine generator’s performance and provide softer silkier water for the swimmers.

Saturation Index determines whether the pool water is balanced, aggressive, or scale forming by comprehensively taking into account all the relevant factors, including pH level, alkalinity level, calcium hardness, and temperature. These factors should be tested then plugged into the worksheet below to verify the proper balance of the pool and make adjustments as necessary.

SATURATION INDEX

Test the water for pH, Alkalinity, Calcium Hardness, and Temperature, then follow the following steps:

1. Write your pool's pH level here: _____ → _____ (pH)

2. Find your Alkalinity level in the chart below, and write the corresponding Alkalinity Factor here: _____ → _____ (Alkalinity Factor)

Pool Alkalinity	5	25	50	75	100	150	200	300	400
Factor	0.7	1.4	1.7	1.9	2.0	2.2	2.3	2.5	2.6

3. Find your Calcium level in the chart below, and write the corresponding Calcium Factor here: _____ → _____ (Calcium Factor)

Pool Calcium (CaCO ₃)	5	25	50	75	100	150	200	300	400
Factor	0.3	1.0	1.3	1.5	1.6	1.8	1.9	2.1	2.2

4. Find your pool temperature in the chart below, and write the corresponding Temperature Factor here: _____ → _____ (Temperature Factor)

Pool Temp	32	37	46	53	60	66	76	84	94	105
Factor	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9

5. Add the results from steps 1 through 4 above and write the result here: _____ (Total of above)

- 12.2

6. Subtract 12.2 from step 5 and write the result here: _____ → _____ (Saturation Index)

- If the Saturation Index above is between -0.3 and +0.3, the water is well balanced.
- If the Index is more than 0.3, the water will tend to cause scaling or get cloudy. Alkalinity and pH should be reduced accordingly, but maintained within recommended levels.
- If the Index is less than -0.3, the water will tend to be aggressive toward the pool surface, equipment, and bathers. Alkalinity and pH should be increased accordingly, but maintained within recommended levels.

ADDING SALT

Before Adding the Salt

- Balance the chemicals. For existing pools, add 1 quart of metal remover and 1 quart of non-copper based algaecide to the pool, according to the manufacturers instructions. This will guarantee that the transition to the Natural Chlorine Generator system will be quick and trouble-free.
- Measure existing salt in your pool. Years of liquid chlorine use may cause the salt reading to be higher due to residual salt.

ACCEPTABLE SALTS

GOOD	BAD – do NOT to use:
The best salt is an evaporated, granulated, food quality salt.	Iodized salt.
Water softener salt pellets may be used but will take longer to dissolve.	Salts with anti-caking agents of more than 1% (i.e. yellow prussiate of soda or sodium ferrocyanide) because they have iron and will yellow the fittings.
“99.9%” pure salt.	Rock salt because of the dirt mixed with the rock salt.
“Solar” salt.	Calcium chloride; it is not a salt. Use only sodium chloride.

➔ **NEW POOLS:** Wait 10-14 days for plaster to cure before adding salt or operating the Natural Chlorine Generator.

Adding the salt:

1. Turn the generator OFF using the Power Switch located on the underside of the Control Box. Failure to do so will cause the fuse to blow.
2. Keep the pump on to circulate the water.
3. Distribute the determined amount of salt evenly around the pool. To avoid clogging the filter or damaging the Control Box and pump, do not add salt through the skimmer or surge tank. Brush the bottom to dissolve the salt. Since salt water is heavier than fresh water, you should allow water to circulate using the suction coming from the main drain (use pool vac if there is no main drain) for 8 hours to disperse the salt evenly in the water.
4. Once the salt has fully dissolved, adjust your chlorinator to your normal setting.

Calculating the Amount of Salt Needed

➔ **Salt Help:** If consulting your local pool store for the amount of salt needed, be sure to notify them that your Natural Chlorine Generator requires between 3000 and 4000 ppm of salt. You’ll need to know how many gallons of water your pool holds; use the appropriate equation below if you are unsure of the pool size.

POOL SIZE CALCULATION TABLE

	Gallons (pool size in ft)	Liters (pool size in meters)
Rectangular	Length x Width x Average Depth x 7.5	Length x Width x Average Depth x 1000
Round	Diameter x Diameter x Average Depth x 5.9	Diameter x Diameter x Average Depth x 785
Oval	Length x Width x Average Depth x 6.7	Length x Width x Average Depth x 893

Once the capacity of the pool is established, consult the Salt Requirement Chart below to obtain the required amount of salt. Be sure to measure existing salt in the pool. Years of chlorine chemical use may have already increased the salt level. Locate the current salt concentration (e.g. 1000) at the top of the chart. Then locate the size of your pool on the left. Run these figures down and across until they meet. That number will be the number of pounds of salt required for your pool.

SALINITY DEMAND TABLE

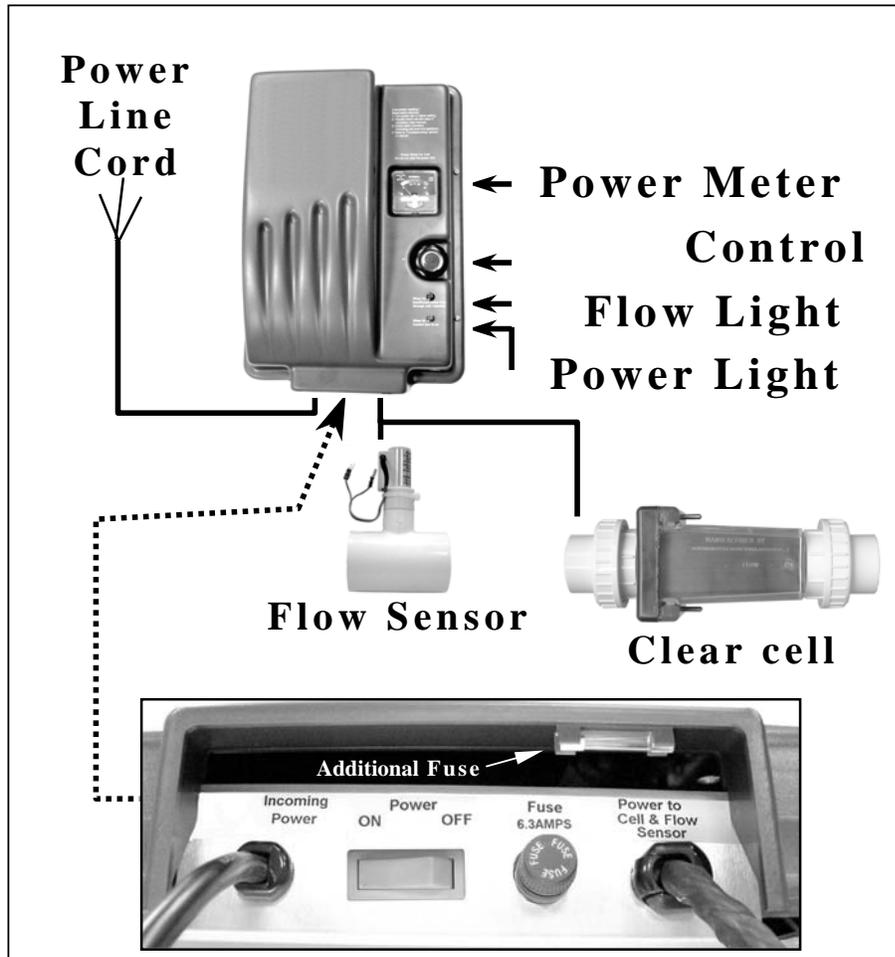
**NUMBER OF POUNDS OF SALT
NEEDED FOR: 3500 PPM**

Pool Volume in Gallons	Salt Level Before Addition								
	0	500	1000	1500	2000	2500	3000	3500	4500
4000	117	100	83	67	50	33	17	0	OK
6000	175	150	125	100	75	50	25	0	OK
8000	234	200	167	133	100	67	33	0	OK
10000	292	250	209	167	125	83	42	0	OK
12000	350	300	250	200	150	100	50	0	OK
14000	409	350	292	234	175	117	58	0	OK
16000	467	400	334	267	200	133	67	0	OK
18000	525	450	375	300	225	150	75	0	OK
20000	584	500	417	334	250	167	83	0	OK
22000	642	550	459	367	275	183	92	0	OK
24000	701	600	500	400	300	200	100	0	OK
26000	759	651	542	434	325	217	108	0	OK
28000	817	701	584	467	350	234	117	0	OK
30000	876	751	626	500	375	250	125	0	OK
32000	934	801	667	534	400	267	133	0	OK
34000	992	851	709	567	425	284	142	0	OK
36000	1051	901	751	600	450	300	150	0	OK
38000	1109	951	792	634	475	317	158	0	OK
40000	1168	1001	834	667	500	334	167	0	OK
42000	1226	1051	876	701	525	350	175	0	OK
44000	1284	1101	917	734	550	367	183	0	OK
46000	1343	1151	959	767	575	384	192	0	OK
48000	1401	1201	1001	801	600	400	200	0	OK
50000	1460	1251	1043	834	626	417	209	0	OK

→ **BIGUANIDE POOLS:** If installing on a Biguanide pool, all Biguanides must be removed.

OPERATING INSTRUCTIONS

CONTROLS



Power Meter – Needle indicates the Cell's chlorine output and when there may be low salt or a dirty Cell. The needle may fluctuate for the first few minutes after the pump is turned on until sufficient flow is reached.

The Control Knob – Turn Knob up to increase chlorine production. Turn Knob down to decrease. **The Control Knob** is the **only** button you will have to adjust on your generator. This simple design allows for quick and easy control of chlorine output and maximizes time spent enjoying your pool.

Power Switch – The Power Switch is located at the bottom of the Control Box and is used to completely shut down the unit when adding salt or performing maintenance.

Flow Light – Red light should NOT be illuminated during proper operation; a constant red light signifies insufficient flow. When first turning on the system, the red light will flicker until the air is pushed out of the pump lines and sufficient water flow is achieved. This is normal and is to ensure that the generator automatically shuts off if the pump fails to prime or a blockage occurs. See trouble-shooting section if red light remains on.

Power Light – When the system is turned on and the pump is operating, the green light should be illuminated indicating power is reaching the Control Box. See trouble-shooting section if green light is OFF.

OPERATION

Assuming that the water is clean and balanced, three factors affect chlorine production.

1. Daily filter hours
2. Generator setting
3. Salt level

The pump timer should be set to allow for all the pool water to pass through the filter one and a half (1 ½) times each day. During heavy usage, the filter and chlorinator should run continuously. The chlorine residual needs to be maintained at 1-3 ppm. This may be tested using a standard kit or by your local pool store. To obtain the optimal residual build up of chlorine, the best time to run your filter is from 4:00 pm and on when there is less UV to destroy the chlorine produced, leaving chlorine in the pool to oxidize the unwanted foreign matter.

Increased temperatures create increased demands for chlorine. To generate more chlorine:

1. Turn the Control Knob to a higher setting as necessary, but not to surpass 25).
2. Make sure pool jets are pointed down and to the side.
3. Ensure sufficient run time (at least 8 hours / 1 ½ turnovers).
4. Make sure salt level is correct and the Cell is clean.

Cooler Weather

Decreased temperatures decrease demands for chlorine. To decrease chlorine:

1. Turn the Control Knob to a lower setting as necessary to keep from over chlorinating.
2. Decrease run time as necessary.

Winterizing

Just like the pool plumbing, freezing may damage the system's Cell and Flow Sensor. If severe or extended periods of freezing temperatures are possible, drain all water from the pump, filter, and supply and return lines before any freezing conditions occur.

Spring Start-up

DO NOT turn on the system until the pool water chemistry has been brought to required levels. Refer to page 5 for required levels.

SUPER CHLORINATION

Under normal conditions, algae are not an issue. If algae are present it may be necessary to Super Chlorinate your pool by running your generator system and filter 24-hours a day on a setting of 15 to 20, as indicated on the Power Meter, raising the chlorine level significantly until the algae problem is resolved.

MAINTENANCE

Maintaining your Natural Chlorine Generator requires minimal work but will maximize the performance and life of the system.

➔ **POOL WATER TESTING:** Pool water should be tested at least once per month.

Cell Maintenance

Our Clear Cell allows for easy regular inspections for calcium build up. Check the Cell visually 4 times a year and clean as necessary (1 to 2 times a year). Although the system uses the most advanced self-cleaning technologies, including reverse polarization, and stays cleaner than other self-cleaning cells, biannual cleanings are required

Cell Cleaning

1. Undo the electrical connection from the Cell.
2. Undo the two-barrel unions and remove the Cell from the line.
3. Remove the black o-rings on the ends of the Cell.

If you have a Cell Cleaning Cap 4. Attach the Cell Cleaning Cap to one end of cell. 5. Pour into cell, either undiluted white distilled vinegar, or solution of diluted muriatic acid (5 parts water to 1 part acid)	If you do not have a Cell Cleaning Cap 4. Soak entire cell either in undiluted white distilled vinegar or in a solution of diluted muriatic acid. (5 parts water to 1 part acid)
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Always add acid to water, NOT water to acid

Wait for foaming to stop (5-10 minutes)

If muriatic acid was used, safely dispose of it by pouring it into your pool.

Rinse cell with water hose.

Put the O-ring back in place and re-install the Cell in the line

Optional

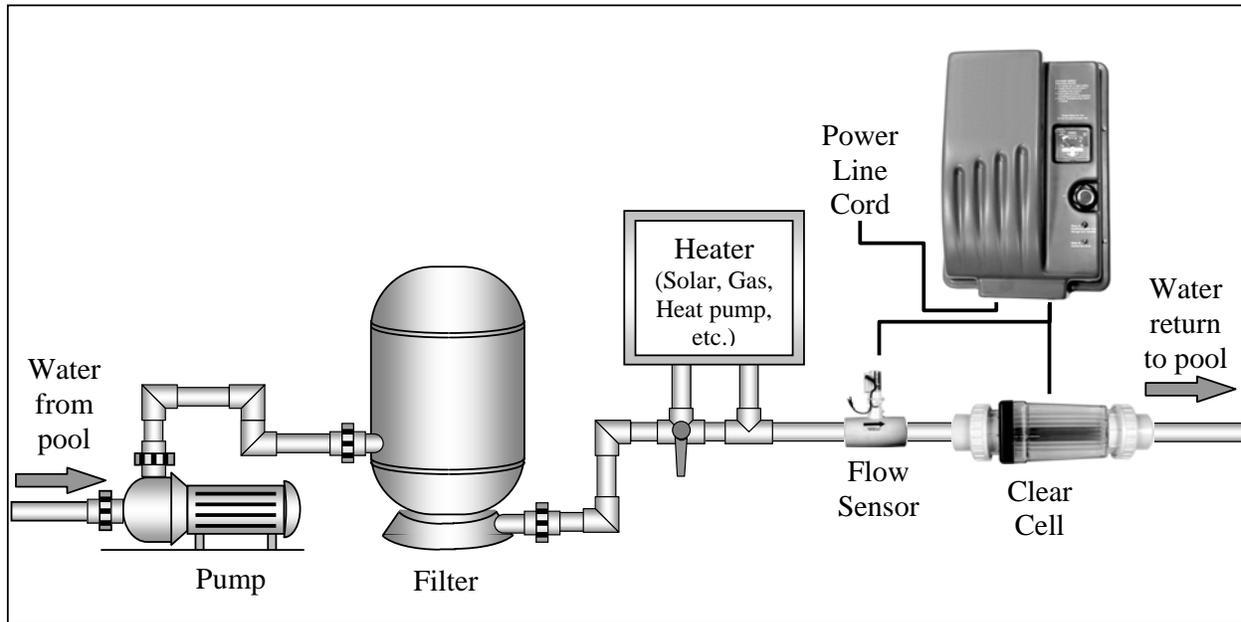
1. Lubricating the o-rings with a rubber lubricant (e.g. silicone) helps improve the seal of the fittings, but be sure not to use silicone glue, vasoline, or other agents that could deteriorate the o-rings.
2. Before reconnecting the wires to the Cell, spray the two metal studs on the outside of the Cell with lubricant (i.e. WD-40).

Reconnect the electrical wires, being sure to tighten the screws on the electrical wires firmly.

Control Box Maintenance

There is no regular maintenance required on the Control Box other than checking that the wiring between the Control Box and Cell is securely in place. Where possible, it is beneficial to keep the Control Box clean, dry and out of the sun. The Power Meter should read between 0 and 20, as necessary.

INSTALLATION INSTRUCTIONS



➔ **MODEL CONFIRMATION:** Confirm you have the correct model for your pool size by checking the model number on the Cell:

- SCC-25 < 25,000 gallons (94,640 liters)
- SCC-40 < 40,000 gallons (151,200 liters)

The system comes in three sections, the Control Box, Cell and Flow Sensor. They are manufactured from the latest corrosion resistant materials to give you years of trouble free use. Installing them in the most sheltered position will protect them from extreme weather conditions.

Safety Measures

1. Only operate the system with an approved flow sensor.
2. Hardwire the power cable of the generator in parallel to the pump (load side).
3. See safety measures and warnings on page 2 of this manual.

Additional Materials Required

1. Small cans of PVC solvent cement and priming fluid
2. Hacksaw or pipe cutters
3. Screwdrivers
4. Drill
5. Teflon Tape (a.k.a. Plumber's Tape)
6. WD-40
7. Silicone Sealant (NOT silicone glue)
8. Pipe adaptors (if needed for systems with 1 ½ inch plumbing)

Install the Cell

➔**CONFIRM LAYOUT:** Lay out equipment pieces to be sure there is enough pipe space between the last piece of apparatus and the tees in the return line to fit the Flow Sensor and the Cell.

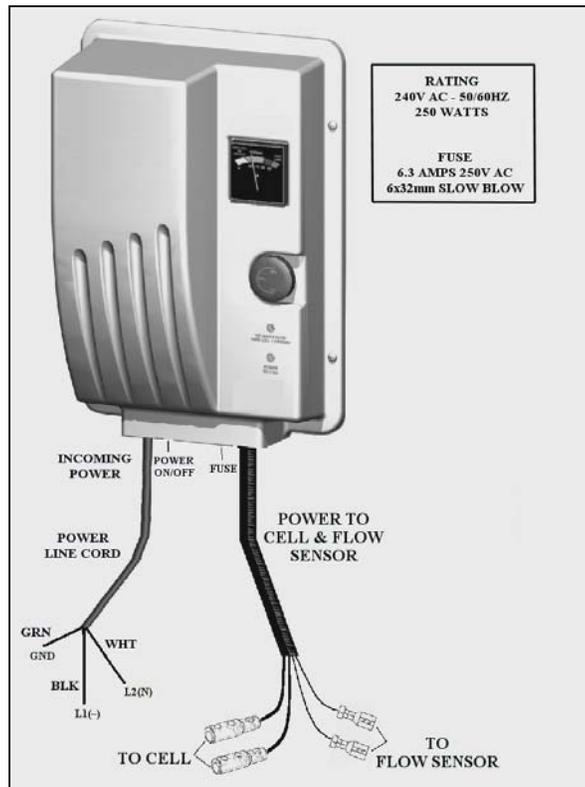
1. Cell must be installed after the filter or any heating device but before any tees in the return line. Installing Cell horizontally is recommended but it can be vertical as necessary.
2. Approximately 15 inches (~380 mm) of available pipe length will be needed. Mark on the pipe two lines 11 3/4 inches (300mm) apart and before any tees in the return line and cut out using hacksaw or pipe cutters.
3. Unscrew and remove the barrel union nuts and tails from either end of the Cell and clean the inside face of the tails with PVC priming fluid. Do the same to the outside of the pipe ends.
4. Clean both insides of the barrel unions and apply the glue to the tail and pipe. Push the two together and hold for 30 seconds. Repeat for the other end of the pipe.
5. Be sure the black o-rings are firmly in place on the ends of the Cell.
6. Place the Cell with the o-rings into the opening between the two ends of the pipe and tighten making sure that the Cell is installed with the arrow pointing in the same direction as the flow.

Install the Flow Sensor

1. Install between the last piece of apparatus and the Cell (if installed after the Cell, damage to the sensor may result). When possible, install on a horizontal pipe.
2. Mark two lines on the pipe 1 1/4 inches (~30.5 mm) apart and cut with a hacksaw or pipe cutters.
3. Clean with priming fluid one end of the pipe and the inside of the “T” connector (included).
4. Apply glue to the end of the pipe and to the inside of the “T” connector, making sure that the threaded end is on the topside of the pipe.
5. Wrap several layers of the Teflon tape (“plumber’s tape”) around the threads of the Flow Sensor.
6. After the glue on the “T” connector is fully dried, fully thread the Flow Sensor into the “T” connector. Be sure the arrow on the top of the Flow Sensor is pointing in the direction of flow, and that no glue touches the paddle inside the detector as it may cause it to jam.

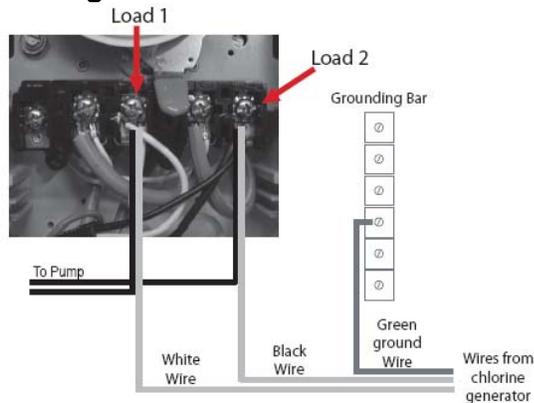
➔**CAUTION:** Do not handle the small tube extending from the Flow Sensor, as it is fragile. Use channel locks at the bottom of the Flow Sensor to fully thread it in.

Mount the Control Box (PSC-1 Control Box works with SCC-25 and SCC-40 Cells)



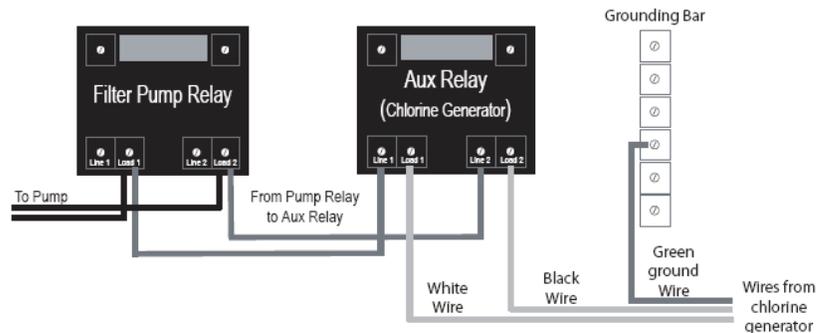
1. The Control Box must be mounted vertically on a flat surface and a minimum of 5 ft (1.5m) horizontal distance (or more, if local codes require) from the pool/spa.
2. Locate a position for your Control Box within 10 ft (1½ meters) of where the Cell will be installed and within 2 ft of the power supply to ensure enough wire is available.
3. Because the box acts as a heat sink dispersing heat from inside the box, do not block the four sides of the Control Box. **Do Not** mount the system inside a panel or tight enclosed area.
4. Secure the hanging rack on the wall using the enclosed screws and anchors. 1/4" (#8) drill bit should be used for the anchor holes.
5. Hang the Control Box on the mounted hanging rack.
6. Hardwire the power cable (230 Volt) to the time clock as indicated in the instructions below.
7. Do not extend the cell cable.

Wiring to Standard Timer



For installing the chlorine generator system, hardwire the power cable (230 Volt) to the time clock along with the pump's power so that the generator cannot operate without the pump operating. First, connect the white (or red) wire from the chlorine generator to Load 1 of the time clock. Next, connect the black wire from the chlorine generator to Load 2 of the time clock. Finally, it is very important to attach the green ground wire to the grounding bar or grounding screw.

Wiring to Automated System



For installing the chlorine generator system to an automated system, connect jumper wires from the Load 1 & 2 connectors of the Pump Relay to the Line 1 & 2 connectors of the Aux Relay. Then connect the white (or red) and black wires from the chlorine generator to the Load 1 & 2 connectors of the Aux Relay. Finally, it is very important to attach the green ground wire to the grounding bar or grounding screw.

Set the chlorine generator to the desired running level, and program the Aux Relay to run the chlorine generator as needed. (i.e. 100%, 50%, 25% of the time that the pump is running)

Bonding

Bonding is recommended. A bonding screw may be found on the bottom of the Control Box.

Cell Wiring

Locate the two metal studs on the sides of the Cell, Connect the two black wires from the Control Box to these studs and tighten firmly by hand. To avoid damage to the screws, **DO NOT** use a power screwdriver. Note that the wires may be connected to either stud.

Flow Sensor Wiring

Find the two 18 AWG wires with the ¼" Quick connect terminals from the Cell cable and push them on their respective connectors on the Flow Sensor.

TROUBLESHOOTING

➤ Evaluating the possible causes for each problem from top to bottom (first to last) will avoid any extra labor.

PROBLEM	POSSIBLE CAUSES	WHAT TO DO
1. Chlorine level low or no chlorine.	➤ System is turned off.	➤ Turn on Power Switch located on the underside of the unit.
	➤ Control Knob is set too low in relation to chlorination demand (i.e. higher number of bathers, warmer weather, increased debris in pool).	➤ Turn Control Knob higher (clockwise) and/or increase pump operation time.
	➤ Low Salinity.	➤ Turn Control Knob higher (clockwise). If needle remains below 15, do a salt test. If salt reading is low, see Troubleshooting section "Salinity Low".
	➤ Low Stabilizer (Cyanuric Acid).	➤ Check water chemistry; stabilizer should be at 40 ppm. If low, add stabilizer. (See Chemical Balance Table)
	➤ Pump operation time too short.	➤ Run pump at least 8 hours per day (1.5 turnovers of all the pool water).
	➤ Chemical imbalance.	➤ Check water chemistry. Balance chemicals. (See Chemical Balance Table)
2. Green pool water.	➤ Chlorine level too low. Control Knob set too low.	➤ Turn Control Knob higher (clockwise) and see Troubleshooting section "Chlorine level low".
	➤ Chemical imbalance.	➤ Check water chemistry. Balance chemicals and pay special attention to pH and Stabilizer levels. (See Chemical Balance Table)
3. Green Power Light is OFF – No power.	➤ System is turned off.	➤ Turn on Power Switch located on the underside of the unit.
	➤ Main fuse blew.	➤ Check main fuse on bottom of Control Box and replace if necessary with a 6.3 Amps 250VAC 6x32mm Slow Blow fuse.
	➤ Power wires cut, disconnected, or incorrectly wired.	➤ Check for correct wiring, i.e. system to be wired for 230 VAC not 115 VAC, consult your authorized service representative for all electrical work.
	➤ Other malfunction in Power Pack.	➤ Call Warranty hotline.
4. Needle on meter is in RED area.	➤ Control Knob is turned too high.	➤ Turn Control Knob down, counterclockwise.
5. Needle stays in YELLOW after turning Control Knob to higher setting.	➤ Salinity low.	➤ Refer to Troubleshooting section "Salinity Low".
	➤ Dirty Cell.	➤ Check Cell for white buildup, if present, refer to maintenance section "Cell Cleaning"
6. Red Flow Light is OFF.		➤ This is normal.
7. Red Flow Light is flickering.		➤ This is normal at initial start-up or if air bubbles are in pipes. If continuous, see Troubleshooting section "Red Flow Light is On".

8. Red Flow Light is ON – insufficient or no water flow to Cell.	➤ Insufficient water flow from pump to Flow Sensor and Cell.	➤ Clean Filter and Strainer ➤ Check for closed valves, faulty pump, etc.
	➤ There is obstruction or scale buildup in Cell .	➤ Clean Cell according to instruction manual.
	➤ The Flow Sensor was not installed in the correct direction.	➤ Turn Flow Sensor so arrow faces direction of water flow.
	➤ Flow Sensor is not fully threaded into the “T” connector.	➤ Fully thread the Flow Sensor into the T connector being careful not to damage the wires or sensors.
	➤ Cut wires or insufficient wire connections.	➤ Check the connection to ensure proper wires contact.
	➤ Flow Sensor is out of order.	➤ Contact your authorized service representative.
	➤ Too much salt has been added.	➤ Simply turn Control Knob down to bring needle to desired position.
9. Salinity High	➤ System is turned off.	➤ Turn on Power Switch located on the underside of the unit.
10. Salinity Low	➤ Control Knob set too low. (Needle in yellow.)	➤ Turn Control Knob higher (clockwise). If needle remains below 15, do a salt test. Add salt as necessary according to Salt Requirement Table.
	➤ Not enough salt due to heavy rain, initial miscalculation, etc.	➤ Check salinity using Salt Tester. If low, add salt according to Salt Requirement Table.
	➤ Dirty Cell.	➤ Check Cell for white buildup, if present, refer to maintenance section “Cell Cleaning”
	➤ Dirty or faulty Flow Sensor.	➤ Check Flow Sensor. Clean if necessary.
	➤ Standard use over several months.	➤ See Cell Maintenance section in manual for cleaning instructions.
11. Scale build-up inside Cell	➤ Chemical imbalance.	➤ Balance chemicals using Chemical Balance Table. See Langlier Saturation Index Table.
	➤ Excessive calcium hardness. Should stop after a few days.	➤ Check chemical balance and Saturation Index. Adjust as needed. (See Chemical Balance Table and Saturation Index worksheet)
12. White flakes in the water	➤	➤

Our contact information is found on the front cover of this manual. For additional information, please visit our website or contact us directly with any questions or comments. For warranty service, please call (407) 831-6154. Technicians are available from 9:00 AM to 5:00 PM Eastern Standard Time, Monday through Friday. Please have the following information ready:

1. Model and Serial # of Control Box and Cell
2. Date of installation
3. Installing company or dealer
4. Current salt level and chemical levels
5. Proof of Purchase (bill of sale, cancelled check, or some other appropriate payment record)

Seven (7) Year Limited Warranty

Models: SCC-25, SCC-40, and PSC-1

WARRANTY

This warranty applies to all SCC-25, SCC-40, and PSC-1 chlorine generators and their factory-supplied components (the "System") when purchased from an authorized dealer and used for residential swimming pools or spas. American Swimming Pool Systems, LLC ("American SPS") and Plastic Magen ("PM") warrant the System to be free from defects in materials and workmanship in the manufacturing process for a period of seven (7) years from the purchase date, when properly installed and operated in accordance with the relevant manuals. For three (3) years after the System's original purchase date, should the System exhibit a manufacturing defect, American SPS will install comparable replacement parts **without charge for parts or labor**. For the subsequent 4 years, if a part with a manufacturing defect is delivered freight prepaid to American SPS, a comparable replacement part will be sent back for a charge of 60% of the latest list price plus the cost of shipping.

EXCEPTIONS & LIABILITY LIMITATIONS

This warranty is not transferable. Labor coverage is applicable only for installations within a 50-mile radius of an authorized dealer. American SPS, PM, and their suppliers, dealers, and distributors SHALL NOT BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES; DAMAGE OF ANY SORT OR NATURE RESULTING FROM ABUSE, MISUSE, NEGLIGENCE, LIGHTNING, ABNORMAL WEATHER CONDITIONS, OR ACT OF GOD; OR DAMAGE CAUSED BY IMPROPER OR UNAUTHORIZED INSTALLATION OR REPAIR. This warranty applies only to components supplied by the factory and only where such components have been installed and maintained in compliance with the respective installation and operation manuals and instructions and applicable ordinances and codes. In no event shall the liability exceed the purchase price of the product. THE CONSUMER SHALL BE LIABLE AT STANDARD RATES FOR ANY SERVICE VISIT WHERE NO MANUFACTURING DEFECT WAS PRESENT AND FOR ALL SERVICE VISITS REQUESTED AFTER THE THIRD YEAR FOLLOWING THE ORIGINAL PURCHASE DATE.

PROOF OF PURCHASE

The consumer is responsible for establishing the original purchase date and the purchaser's identity for warranty purposes. We recommend that a bill of sale, canceled check, or some other appropriate payment record be kept for that purpose.

The express warranty above constitutes the sole and complete warranty and takes precedence over all other warranties, whether expressed or implied, including a warranty for fitness for a particular purpose. No sales representative, dealer, distributor, or other person is authorized to give any warranty on behalf of PM or American SPS.

Cell Serial # _____ Control Box Serial # _____ (On the side of the control box mounted to the wall)



OWNER'S REGISTRATION FORM

7-YEAR LIMITED WARRANTY

Owner's Name _____ Signature _____

Street Address _____ City _____

State _____ Zip _____ Phone # _____ Date of Purchase ____/____/____

Authorized Dealer _____ Sales Rep _____ City _____

State _____ Zip _____ Cell Serial # _____ Control Box Serial # _____

*On the side of the control box mounted to the wall.

How did you hear about our product? (Please check all that apply)

Pool Store Employees Pool Builder Pool Service Direct Mail In-Store Display Friend/Relative

Magazine Newspaper Radio TV Catalog Other: _____

Comments: _____

* If more space is necessary, please utilize the back of this form.

**IN ORDER TO ACTIVATE YOUR WARRANTY
PLEASE RETURN THIS PORTION TO:**

AMERICAN SWIMMING POOL SYSTEMS, LLC
927 Fern Street, Suite 1500 • Altamonte Springs, Florida 32701