SALINE GENERATING SYSTEMS

SG RESIDENTIAL SYSTEMS

MODELS: SG BREEZE - SG 3000 - SG 4000

Owners Manual

LISTED MET US NSF NSF/ANSI-50 SGS

SG 3000 & SG4000 LIMITED RESIDENTIAL WARRANTY

This limited warranty is applicable to all **SALINE GENERATING SYSTEMS SG "SERIES"** Saltwater Chlorination systems installed for residential use. For purposes hereof, the term "residential use" shall be deemed to mean use of the Unit within any pool installed for personal use at a single family home, but only if the Unit is regularly operated for no more than twelve (12) hours per day. **IF ANY UNIT INSTALLED FOR PERSONAL USE AT A SINGLE FAMILY HOME IS REGULARLY OPERATED FOR MORE THAN TWELVE (12) HOURS PER DAY FOR ANY EXTENDED TIME PERIOD (WHICH SHALL INCLUDE WITHOUT LIMITATION ANY USE OF THE UNIT FOR MORE THAN TWELVE (12) HOURS PER DAY FOR ANY PERIOD IN EXCESS OF 14 CONSECUTIVE DAYS), SUCH UNIT SHALL BE DEEMED TO HAVE BEEN INSTALLED FOR COMMERCIAL USE, IN WHICH EVENT THE "SG SERIES LIMITED COMMERCIAL WARRANTY" (ATTACHED) SHALL APPLY TO SUCH PURCHASE AND INSTALLATION AND SHALL SUPERCEDE THE TERMS AND CONDITIONS CONTAINED HEREIN.**

This limited warranty is subject to the following terms, conditions and exclusions:

1. This limited warranty shall only apply to the owner of the residence within which the Unit has been installed, including any successor owner of such residence (referred to herein as the "Customer"), and is not transferable to any other assignee, transferee or other recipient of the Unit.
2. For any Unit installed for residential use, Saline Generating Systems (hereinafter referred to as "SGS"), warrants all parts (with the exception of the O-ring, which is a normal replacement item and excluded from this warranty) to be free from manufacturing defects in materials and workmanship for a period of five years from date of purchase from SGS or an authorized SGS dealer, subject to the Customer's satisfaction of its contribution obligation set forth in Paragraph 3, below (which applies only after the third full year of the five-year warranty period). All warranty claims are subject to the Customer's compliance with all applicable requirements set forth in this limited warranty, including the Customer's obligation to ship the unit (with shipping charges prepaid) to a SGS authorized service representative (as described in Paragraph 9, below).
3. In the first three years of the five-year warranty period, SGS will repair or replace any parts in the Unit that are confirmed to have been defective at no cost to the Customer. In years four and five of the warranty period, SGS will repair or replace any parts in the Unit that are confirmed to have been defective, provided the Customer shall be required to pay a portion, equal to the Applicable Percentage (as determined below for each applicable year) of the Manufacturer's Suggested Retail Price (MSRP) for the defective part being repaired or replaced, as a condition precedent to SGS' obligation to repair or replace such defective part. The Applicable Percentage shall be determined as follows:

Fourth Year of Five-Year Warranty Period:	Forty Percent (40%) of MSRP
Fifth Year of Five-Year Warranty Period:	Sixty Percent (60%) of MSRP

4. This limited warranty is solely for the replacement of defective parts as hereafter provided. SGS reserves the right to replace defective parts with new or refurbished parts at its sole discretion. All warranty replacement parts furnished by SGS will carry a warranty against manufacturing defects for the greater of: (i) 90 days from the date of installation, or (ii) the balance of the original five-year warranty period on the part replaced. Failed parts must be returned to SGS for examination and replacement at purchaser's sole cost and expense, to determine whether failure is due to manufacturer defect or other cause.
5. This limited warranty is applicable only if the unit is installed, operated and maintained in accordance with the procedures outlined in the SGS Owner's Manual. Failure to do so will void this limited warranty.
6. Pool water must be tested regularly in order to properly maintain its chemical balance. Problems or equipment failures resulting from the failure to maintain pool water chemistry in accordance with guidelines set forth in the Owner's Manual will void the warranty. Customer releases SGS and holds SGS harmless from any and all claims attributable in whole or in part to their failure to comply with the foregoing guidelines concerning maintenance of pool chemistry.
7. Without limiting the generality of any of the waivers contained within this limited warranty, this limited warranty applies only to equipment failures due to manufacturing defects and explicitly does not apply to any injury, loss, damage, defect, or malfunction of the unit or failure to function caused by, or attributable to, among other things, any of the following: low salinity, copper chemical damage, improper handling, improper storage, abuse, unauthorized or improper installation, unsuitable application of the unit, lack of reasonable and necessary maintenance, winter freezing, operation not in accordance with the Owner's Manual, failure to follow all safety instructions or precautions, improper valve locations, excessive pressure, repairs made or attempted by anybody other than SGS or one of its authorized representatives, or Acts of God. The determination of the cause of any failure shall be made solely by SGS.
8. This limited warranty shall be void if Customer modifies the Unit in any respect including, but not limited to the use of parts other than genuine SGS parts.
9. SGS' authorized representative will repair or replace, at its option, a Unit or part proved to be defective within the warranty periods and under the conditions of this limited warranty. This limited warranty is void if the Control Center has been tampered with (there are no user serviceable parts inside). The Customer must arrange prepaid shipping for servicing of the warranted items or under SGS' instruction after proper authorization (call 1-866-972-SALT). No packages will be accepted without a SGS issued Returned Merchandise Authorization (RMA).
10. SGS is not responsible for (i) the removal of the Unit, (ii) damages due to such removal, (iii) any other expenses incurred in transporting the Unit (or parts of the Unit) to or from an authorized SGS service center, nor (iv) the reinstallation of the repaired or replacement Unit or parts at Customer's location. All such costs shall be the sole responsibility of the Customer.
11. In no event shall SGS be liable for incidental or consequential damages of any nature or kind from damages to persons or property, including any damage resulting from the use of the SG "SERIES" system with a substandard or improperly installed pool circulation system.
12. THIS LIMITED WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING THE WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, AND ALL SUCH OTHER WARRANTIES ARE DISCLAIMED EXCEPT TO THE EXTENT OF ANY IMPLIED WARRANTY IMPOSED BY STATE CONSUMER LAW WHICH MAY NOT BE WIAVED UNDER THE TERMS OF AN EXPRESS LIMITED WARRANTY. TO THE FULLEST EXTENT PERMITTED BY LAW, ANY SUCH IMPLIED WARRANTY IMPOSED BY STATE CONSUMER LAW SHALL BE LIMITED IN DURATION TO ONE (1) YEAR FROM DATE OF PURCHASE.
13. Some states do not allow limitations on how long an implied warranty lasts, prohibit the exclusion or limitation of incidental or consequential damages, or impose limitations on the scope of implied or express warranties (and the waivers therein) that may be inconsistent with the express limitations set forth in this warranty. In such states, the above limitations may not apply to you, or their application to you may be limited. This limited warranty shall be enforceable to the fullest extent permitted by applicable federal, state and local law. This limited warranty is valid only in the United States of America and Canada, and does not apply to SG "Series" systems sold or installed in any other country.

SG BREEZE LIMITED RESIDENTIAL WARRANTY

This limited warranty is applicable to the **SALINE GENERATING SYSTEMS SG BREEZE** Saltwater Chlorination system installed for residential use. For purposes hereof, the term "residential use" shall be deemed to mean use of the Unit within any pool installed for personal use at a single family home, but only if the Unit is regularly operated for no more than twelve (12) hours per day. **IF ANY UNIT INSTALLED FOR PERSONAL USE AT A SINGLE FAMILY HOME IS REGULARLY OPERATED FOR MORE THAN TWELVE (12) HOURS PER DAY FOR ANY EXTENDED TIME PERIOD (WHICH SHALL INCLUDE WITHOUT LIMITATION ANY USE OF THE UNIT FOR MORE THAN TWELVE (12) HOURS PER DAY FOR ANY PERIOD IN EXCESS OF 14 CONSECUTIVE DAYS), SUCH UNIT SHALL BE DEEMED TO HAVE BEEN INSTALLED FOR COMMERCIAL USE, IN WHICH EVENT THE "SG SERIES LIMITED COMMERCIAL WARRANTY" SHALL APPLY TO SUCH PURCHASE AND INSTALLATION AND SHALL SUPERCEDE THE TERMS AND CONDITIONS CONTAINED HEREIN.**

This limited warranty is subject to the following terms, conditions and exclusions:

1. This limited warranty shall only apply to the owner of the residence within which the Unit has been installed, including any successor owner of such residence (referred to herein as the "Customer"), and is not transferable to any other assignee, transferee or other recipient of the Unit.
2. For any Breeze system installed for residential use, Saline Generating Systems (hereinafter referred to as "SGS"), warrants all parts (with the exception of the O-ring, which is a normal replacement item and excluded from this warranty) to be free from manufacturing defects in materials and workmanship for a period of three years from date of purchase from SGS or an authorized SGS dealer. All warranty claims are subject to the Customer's compliance with all applicable requirements set forth in this limited warranty, including the Customer's obligation to ship the unit (with shipping charges prepaid) to a SGS authorized service representative (as described in Paragraph 8, below).
3. This limited warranty is solely for the replacement of defective parts as hereafter provided. SGS reserves the right to replace defective parts with new or refurbished parts at its sole discretion. All warranty replacement parts furnished by SGS will carry a warranty against manufacturing defects for the greater of: (i) 90 days from the date of installation, or (ii) the balance of the original one year warranty period on the part replaced. Failed parts must be returned to SGS for examination and replacement at purchaser's sole cost and expense, to determine whether failure is due to manufacturer defect or other cause.
4. This limited warranty is applicable only if the unit is installed, operated and maintained in accordance with the procedures outlined in the SGS Owner's Manual. Failure to do so will void this limited warranty.
5. Pool water must be tested regularly in order to properly maintain its chemical balance. Problems or equipment failures resulting from the failure to maintain pool water chemistry in accordance with guidelines set forth in the Owner's Manual will void the warranty. Customer releases SGS and holds SGS harmless from any and all claims attributable in whole or in part to their failure to comply with the foregoing guidelines concerning maintenance of pool chemistry.
6. Without limiting the generality of any of the waivers contained within this limited warranty, this limited warranty applies only to equipment failures due to manufacturing defects and explicitly does not apply to any injury, loss, damage, defect, or malfunction of the unit or failure to function caused by, or attributable to, among other things, any of the following: low salinity, copper chemical damage, improper handling, improper storage, abuse, unauthorized or improper installation, unsuitable application of the unit, lack of reasonable and necessary maintenance, winter freezing, operation not in accordance with the Owner's Manual, failure to follow all safety instructions or precautions, improper valve locations, excessive pressure, repairs made or attempted by anybody other than SGS or one of its authorized representatives, or Acts of God. The determination of the cause of any failure shall be made solely by SGS.
7. This limited warranty shall be void if Customer modifies the Unit in any respect including, but not limited to the use of parts other than genuine SGS parts.
8. SGS' authorized representative will repair or replace, at its option, a Unit or part proved to be defective within the warranty periods and under the conditions of this limited warranty. This limited warranty is void if the Control Center has been tampered with (there are no user serviceable parts inside). The Customer must arrange prepaid shipping for servicing of the warranted items or under SGS' instruction after proper authorization (call 1-866-972-SALT). No packages will be accepted without a SGS issued Returned Merchandise Authorization (RMA).
9. SGS is not responsible for (i) the removal of the Unit, (ii) damages due to such removal, (iii) any other expenses incurred in transporting the Unit (or parts of the Unit) to or from an authorized SGS service center, nor (iv) the reinstallation of the repaired or replacement Unit or parts at Customer's location. All such costs shall be the sole responsibility of the Customer.
10. In no event shall SGS be liable for incidental or consequential damages of any nature or kind from damages to persons or property, including any damage resulting from the use of the SG BREEZE system with a substandard or improperly installed pool circulation system.
11. THIS LIMITED WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING THE WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, AND ALL SUCH OTHER WARRANTIES ARE DISCLAIMED EXCEPT TO THE EXTENT OF ANY IMPLIED WARRANTY IMPOSED BY STATE CONSUMER LAW WHICH MAY NOT BE WIAVED UNDER THE TERMS OF AN EXPRESS LIMITED WARRANTY. TO THE FULLEST EXTENT PERMITTED BY LAW, ANY SUCH IMPLIED WARRANTY IMPOSED BY STATE CONSUMER LAW SHALL BE LIMITED IN DURATION TO ONE (1) YEAR FROM DATE OF PURCHASE.
12. Some states do not allow limitations on how long an implied warranty lasts, prohibit the exclusion or limitation of incidental or consequential damages, or impose limitations on the scope of implied or express warranties (and the waivers therein) that may be inconsistent with the express limitations set forth in this warranty. In such states, the above limitations may not apply to you, or their application to you may be limited. This limited warranty shall be enforceable to the fullest extent permitted by applicable federal, state and local law. This limited warranty is valid only in the United States of America and Canada, and does not apply to SG "Series" systems sold or installed in any other country.

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SAFETY INSTRUCTIONS & PRECAUTIONS

Congratulations on your purchase of an SG "Series" Saltwater Chlorinator. You have made a wise decision and will benefit from your chlorinator for many years to come. Please take a moment to read through the entire manual before installing your new unit. Your chlorinator must be installed and operated as specified.

IMPORTANT SAFETY INSTRUCTIONS.

1. READ AND FOLLOW ALL INSTRUCTIONS.

2. WARNING – To reduce the risk of injury, do not permit children to use this product unless they are closely supervised at all times.

3. WARNING – Risk of Electric Shock. Connect only to a grounding type receptacle protected by a ground-fault circuit-interrupter (GFCI). Contact a qualified electrician if you cannot verify the receptacle is protected by a GFCI

4. Do not bury cord. Locate cord to minimize abuse from lawn mowers, hedge trimmers, and other equipment.

5. WARNING – To reduce the risk of electric shock, replace damaged cord immediately.

6. WARNING – To reduce the risk of electric shock, do not use extension cord to connect unit to electric supply; provide a properly located outlet.

7. [For swimming pool pumps with or without a maximum 3-foot (0.91-m) cord] **CAUTION –** This [chlorinator] is for use with permanently installed pools and may also be used with hot tubs and spas if so marked. Do not use with storable pools. A permanently-installed pool is constructed in or on the ground or in a building such that it cannot be readily disassembled for storage and reassembled to its original integrity.

8. CAUTION- This product can form hazardous gas if not installed or operated correctly.

SAVE THESE INSTRUCTIONS

ELECTRICAL HAZARD

- To reduce risk of electrical shock make sure all power to pool equipment area is off prior to any installation or removal of SG "Series" components.
- Immediately replace damaged Control Center cord.
- Do not bury cord. Locate cord to minimize abuse from lawn mowers, hedge trimmers and other equipment.
- Severe shock or injury will likely occur as a result of drill or drill cord coming in contact with water. Never allow electric drill or cord to come in contact with water. Only plug drill into a Class A (5 Millampere Trip) protected Ground Fault Circuit Interrupter (GFCI) in accordance with the National Electrical Code Section 680 (USA ONLY). Please see your drill owner's manual for further safety precautions.
- Install the Control Center at least 10 feet from the inside walls of a pool to prevent any possibility of the unit coming in contact with water.
- The SG "Series" Chlorinator has been designed with an internal electronic flow sensing tab. This device automatically switches the power to the electrolytic cell "OFF" when the water through the cell stops. To prevent cell damage and/or personal injury, do not in any way interfere with this system which has been designed for your protection.

CHEMICAL USE HAZARD

- To avoid personal injury when working with pool chemicals, always wear rubber gloves and eye protection, and work in a well-ventilated area. Use caution when choosing a location to open and use chemicals as they may damage any surface to which they come in contact.
- The addition of certain chemicals can reduce the effectiveness of chlorine. Always make sure that proper residual chlorine levels are maintained to avoid personal injury.
- This product produces chlorine. Individuals with any type of chlorine sensitivity should take the appropriate precautions to avoid injury or illness.

Important Notice: Attention Installer: This manual contains important information about the installation, operation and safe use of this product. Before installing this product, read and follow all warning notices and instructions which are included. This information should be given to the owner and/or operator of this equipment.

WARNING: IMPORTANT SAFETY INSTRUCTIONS PERTAINING TO RISK OF FIRE, ELECTRIC SHOCK, OR INJURY TO PERSONS. READ AND FOLLOW ALL INSTRUCTIONS. Failure to follow safety warnings and instructions can result in severe injury, death, or property damage. Call 1-866-972-SALT or go to www.sgshclorinators.com for additional free copies of these instructions.

WARNING: To reduce the risk of injury, installation and service should be done by a qualified Pool Service Professional, certified electrician or authorized SGS representative.

WARNING – In order to comply with UL1081 Section 53.5 and UL1795 (Hydro-massage bathtubs) Sections 21.1, 59.5 and 63.1 and some local electrical codes; "connect only to a circuit that is protected by a ground fault circuit-interrupter (GFCI)." Such a GFCI should be provided by the installer and should be tested on a routine basis. To test the GFCI, push the test button. The GFCI should interrupt power. Push the reset button. Power should be restored. If the GFCI fails to operate in this manner, there is a ground current flowing, indicating the possibility of an electric shock. Do not use the system. Disconnect the unit and contact a qualified service representative before using.

PREVENT CHILD INJURY AND DROWNING To reduce the risk of injury, do not permit children to operate this product. Do not let anyone, especially small children, sit, step, lean, or climb on any equipment installed as part of your pool's operational system. Unless otherwise stated, ALL components of your pool's operational system should be located at least 3 feet from the pool so children cannot use the equipment to gain access and be injured or drown.

EQUIPMENT WATER PRESSURE HAZARD Always turn pump off prior to installing or removing the Electrolytic cell. Your pump/filter is operated under pressure and the pressure must be released before you begin work. Please see your pump/filter owner's manual for further instructions. To avoid cell damage, water pressure in the cell must not exceed 75 PSI. Do not operate electrolytic cell without proper flow or water circulation. A build-up of flammable gases will result in hazardous conditions.

CAUTION – FAILURE TO HEED THE FOLLOWING COULD CAUSE DAMAGE TO POOL EQUIPMENT OR PERSONAL INJURY

- The SG "Series" Chlorinator must be installed and operated as specified in the owner's manual.
- Power to the SG "Series" should be turned off **before** unplugging the Electrolytic cell from the cell housing, or power supply, to prevent cell damage and low voltage sparks. Scratching or bending plates in the cell housing will reduce cell life.
- It is not necessary to use any type of lubricant on the O-ring. It is, however, imperative that the O-ring (and the channel it seats into) be kept clean, in order to make a strong seal.
- High water temperatures above 104 degrees (40 degrees c) or direct sunlight can cause the cell housing exterior plastic to discolor.
- Follow installation instructions on page 13 for location and mounting of the Control Center.
- Visibly inspect the cell frequently to check and prevent the accumulation of pool debris that (for any reason) may have bypassed the pool filter.

HOW THE SG "SERIES" CHLORINATOR WORKS

Common salt (sodium chloride) is made up of two elements, sodium and chloride. When your SG "Series" is installed, a measured quantity of salt is dissolved in the pool water to create a mild saline solution. As part of the daily filtration cycle, the pool water is passed through the SG "Series" electrolytic cell to produce chlorine which is dissolved instantly into the water. Your SG "Series" also produces ozone in the cell as a by-product.

In simple, non-technical terms, the chlorine instantly starts to destroy bacteria, viruses and algae, and in doing this reverts back into dissolved salt. This cycle continues with more new chlorine being produced from the salt water in the electrolytic cell, sanitizing the pool and changing once more back to dissolved salt. Every day, when the SG "Series" unit and the filtration system are switched on, dust and debris are trapped by the filter and the SG "Series" sanitizes the water to make it safe and sparkling clean.

WATER PREPARATION AND TIPS ON WATER CHEMISTRY

Pool water must be tested regularly in order to properly maintain its chemical balance. In accordance with the Pool & Spa Professionals (APSP) standards, we recommend the following water balance conditions be maintained on an ongoing basis to protect the pool finish and equipment, and ensure a pleasing appearance of the water. The SG "Series" systems are warranted to operate properly only if these conditions are met.

Free Chlorine	1.0 - 3.0 PPM	Chlorine levels above 3.0 may cause corrosion of pool metals
pH	7.2 - 7.6	High pH reduces sanitizer efficiency
Total Alkalinity (TA)	80 - 120 PPM	The harder the water, the lower TA should be kept
Cyanuric Acid (CYA) -- Chlorine Stabilizer	40 - 90 PPM	Minimizes destruction of chlorine residual by sunlight
Calcium Hardness	200 - 400 PPM	Excess calcium may need to drain pool and add water
Metals, Phosphates and Nitrates	None	Deplete chlorine in your pool.
Salt Residual	3500-4500 PPM	

How to adjust pH

A pH range of 7.2 – 7.6 is ideal for maximum comfort and minimum chlorine demand. **Always adjust total alkalinity before adjusting pH.**

Low pH (acidic water) leads to stinging eyes and corrosion of open metal fittings. Raise the pH by adding sodium bicarbonate or soda ash. Consult your pool professional regarding which chemical is best for

your situation and the proper amount to use. Check the pH after 4 hours of circulation, adjusting as necessary to achieve the proper range

High pH (alkaline water) leads to clouding of the water and reduces the amount of active chlorine. This means algae and germs can grow. Lower the pH by adding muriatic acid to the pool water. The acid demand indicated by your 4-in-1 test kit will show the amount of acid to use. If your pH remains inconsistent, check your total alkalinity.

Total alkalinity affects pH

Total alkalinity is a measure of the alkaline chemicals in your pool water (e.g. Bicarbonates, carbonates, and hydroxides). It can be thought of as the buffering system necessary to control pH. Low alkalinity can be compared to weak shock absorbers on a car, allowing pH to fluctuate. If total alkalinity is too low the pH will be difficult to maintain and may cause of staining of pool surfaces.

Total alkalinity should be in the range of 80 – 120 PPM. Total alkalinity is often confused with pH, which it affects.

To raise total alkalinity, add pH buffer (sodium bicarbonate) at the rate shown in the manufacturer's instructions to achieve a reading in the 80 – 120 PPM range. 1.5 lbs. of sodium bicarbonate raises 10,000 gallons of pool water by 10 PPM.

To lower the total alkalinity, use muriatic acid. The acid demand chart in your 4-in-1 test kit will indicate the necessary amount to add. Adjust as needed until the reading (taken at least 24 hours later) is in the 80 – 120 PPM range. When total alkalinity is correct, you may need to adjust pH.

Use Chlorine Stabilizer to Protect Chlorine Residual

This chemical acts as a sun-screen for chlorine and minimizes it from being destroyed too quickly by the sun. Chlorine stabilizer is essential to prolong the life of chlorine in the pool water and should be added following the manufacturer's instructions to achieve a level of 40-90 PPM, depending on the geographical climate. Refer to **Table 2** on page 10.

Salt Requirements

It is important that with typical pools, a salt residual of 3,500 to 4,500 PPM be maintained at all times for peak efficiency. The SG "Series" can also handle special application salt levels of up to 35,000 PPM without any adverse effects to the unit. **NOTE:** HIGH salt level may cause corrosion problems with metallic fixtures, light rings, ladders and handrails. Maintain the salt level in the recommended range for best results.

The amount of salt required depends on the size of the pool and the present salt level. As the salt is being added, we recommend running the circulation pump continually for 24 hours with the bottom main drain opened. Brushing the salt into the bottom main drain will assist in the dissolve rate and prevent possible staining with certain types of salt. We recommend the use of a pool salt, which can be purchased at most hardware outlets.

Granular salt, table salt, solar salt or water conditioner pellets can also be used but will have different dissolve rates. Do not use salt that contains iodine or yps. Ensure that the salt you use contains a minimum purity of 99% Sodium Chloride. **NOTE: Do not use rock salt due to its high levels of impurities.**

SALT: WHEN & HOW TO ADD IT

When to add salt

Test the salt level at start-up, and verify that your reading is between 3,500 PPM and 4,500 PPM; add as needed during your monthly checks to maintain salt levels. The salt level should never be allowed to fall below 3,000 PPM, AS THIS WILL CAUSE DAMAGE TO THE ELECTROLYTIC CELL. Salt is not lost through evaporation. Salt is lost through water splashed out of the pool or during backwash. Adding fresh water or rainfall to the pool dilutes the salt concentration. Adding salt may be needed from time to time to maintain an optimum salt level.

NOTE: The SG "Series" chlorinator will adjust to cold water, low salt, and high water temperatures. Should there be any variances, in these characteristics, the System Operations Service light will activate, and the Status light will blink rapidly (see illustration 5 on page 14 and Troubleshooting section).

Use a salt test strip or test meter (SGS Instruments Manufactures instruments for pool water testing, see your local pool professional for more information) to determine the salt level in pool water prior to adding any salt. Previous regular usage of sodium hypochlorite (liquid chlorine) creates residual salt within the pool and may bring your salt level close to the required 3,500 PPM to 4,500 PPM concentration. We recommend using pool salt, which can be purchased at hardware outlets. Avoid using salt with iodine or the anti-caking additive, yellow prostate of soda is recommended. Iodine and yps can cause a localized tint to the water or yellow staining on the cementations finish if allowed to rest un-dissolved on the finish for extended periods of time. **Note: Do not use Rock Salt due to its high levels of impurities.** Add enough salt to obtain the proper concentration, per the reference chart on page 10.

CAUTION: Do not operate the SG "Series" with newly poured pool plaster. Check with your pool builder or remodeler for specifics on their products before you operate the SG "Series" chlorinator.

IMPORTANT: To avoid damage to the SG "Series" system, never allow salt level to exceed 8,000 PPM. Other components of your pool equipment may be damaged if the salt level is kept above 7,000 PPM. Refer to the pool equipment manufacturer's operation manual for warranty exclusions.

How to Add Salt to the Pool

1. Determine salt level as discussed above. Use Table 1 (on the next page) to calculate the amount of salt needed.
2. Switch on the pump to circulate the pool water.
3. Slowly pour in the salt around the outer perimeter of the pool for quick and even distribution. **To avoid clogging the filter or damaging the Control Center and pump, do not add salt through the skimmer or surge tank.**
4. Brush the pool bottom to distribute the salt evenly and allow water to circulate for 24 hours to dissolve salt completely. After 24 hours, confirm salt level reading.
5. Switch on the SG "Series" system and set to desired Sanitizer Output level (see Basic Operation Section on page 15)

Table 1 Approximate Amount of Salt Needed to Obtain 4,000 PPM in Pool

Salt Concentration Before Addition	Pool Size (Gallons)										
	10,000	12,000	14,000	16,000	18,000	20,000	22,000	24,000	26,000	28,000	30,000
0 PPM	250 lbs	300 lbs	350 lbs	400 lbs	450 lbs	500 lbs	550 lbs	600 lbs	650 lbs	700 lbs	750 lbs
250 PPM	230 lbs	280 lbs	320 lbs	370 lbs	415 lbs	460 lbs	510 lbs	550 lbs	600 lbs	645 lbs	690 lbs
500 PPM	210 lbs	250 lbs	295 lbs	340 lbs	380 lbs	420 lbs	460 lbs	505 lbs	545 lbs	590 lbs	630 lbs
750 PPM	190 lbs	230 lbs	270 lbs	300 lbs	340 lbs	380 lbs	420 lbs	460 lbs	495 lbs	530 lbs	570 lbs
1000 PPM	165 lbs	200 lbs	230 lbs	265 lbs	300 lbs	330 lbs	360 lbs	400 lbs	430 lbs	460 lbs	495 lbs
1250 PPM	145 lbs	175 lbs	200 lbs	230 lbs	260 lbs	290 lbs	320 lbs	350 lbs	380 lbs	410 lbs	435 lbs
1500 PPM	125 lbs	150 lbs	175 lbs	200 lbs	225 lbs	250 lbs	275 lbs	300 lbs	325 lbs	350 lbs	375 lbs
1750 PPM	105 lbs	130 lbs	150 lbs	170 lbs	190 lbs	210 lbs	230 lbs	250 lbs	275 lbs	295 lbs	315 lbs
2000 PPM	85 lbs	100 lbs	120 lbs	140 lbs	150 lbs	170 lbs	190 lbs	205 lbs	220 lbs	240 lbs	255 lbs
2250 PPM	60 lbs	70 lbs	85 lbs	100 lbs	110 lbs	120 lbs	130 lbs	145 lbs	160 lbs	168 lbs	180 lbs
2500 PPM	40 lbs	50 lbs	60 lbs	65 lbs	70 lbs	80 lbs	90 lbs	100 lbs	105 lbs	110 lbs	120 lbs
2700 PPM	20 lbs	25 lbs	30 lbs	30 lbs	40 lbs	40 lbs	45 lbs	50 lbs	50 lbs	60 lbs	60 lbs

NOTE: Add salt as required to maintain 3,500 to 4,500 PPM concentration.

Table 2 Approximate Amount of Chlorine Stabilizer (Cyanuric Acid) to Obtain 75 PPM

Stabilizer Level Before Addition	Pool Size (Gallons)										
	10,000	12,000	14,000	16,000	18,000	20,000	22,000	24,000	26,000	28,000	30,000
0 PPM	6.25 lbs	7.5 lbs	8.75 lbs	10.0 lbs	11.25 lbs	12.5 lbs	13.75 lbs	15.0 lbs	16.3 lbs	17.5 lbs	18.75 lbs
10 PPM	5.4 lbs	6.5 lbs	7.6 lbs	8.6 lbs	9.75 lbs	10.8 lbs	11.9 lbs	12.9 lbs	14.0 lbs	15.2 lbs	16.25 lbs
20 PPM	4.6 lbs	5.5 lbs	6.4 lbs	7.3 lbs	8.25 lbs	9.2 lbs	10.0 lbs	10.9 lbs	11.9 lbs	12.8 lbs	13.75 lbs
30 PPM	3.75 lbs	4.5 lbs	5.25 lbs	6.0 lbs	6.75 lbs	7.5 lbs	8.25 lbs	9.0 lbs	9.75 lbs	10.5 lbs	11.75 lbs
40 PPM	2.9 lbs	3.5 lbs	4.0 lbs	4.6 lbs	5.25 lbs	5.8 lbs	6.4 lbs	6.9 lbs	7.58 lbs	8.2 lbs	8.75 lbs
50 PPM	2.0 lbs	2.5 lbs	2.9 lbs	3.3 lbs	3.75 lbs	4.1 lbs	4.6 lbs	4.9 lbs	5.4 lbs	5.8 lbs	6.25 lbs
60 PPM	1.25 lbs	1.5 lbs	1.75 lbs	2.0 lbs	2.25 lbs	2.5 lbs	2.75 lbs	3.0 lbs	3.25 lbs	3.5 lbs	3.75 lbs
70 PPM	0.4 lbs	0.5 lbs	0.6 lbs	0.66 lbs	0.75 lbs	0.8 lbs	0.9 lbs	1.0 lbs	1.1 lbs	1.2 lbs	1.25 lbs
75 PPM	0.0 lbs	0.0 lbs	0.0 lbs	0.0 lbs	0.0 lbs	0.0 lbs	0.0 lbs	0.0 lbs	0.0 lbs	0.0 lbs	0.0 lbs

NOTE: Add 1.25 lbs of Chlorine Stabilizer every time 50 lbs of Salt is added to the pool. The Stabilizer reading should be maintained at 75 PPM.

SG "SERIES" CHLORINATOR INSTALLATION

SG "SERIES" Chlorinators (SG 3000, SG 4000, and SG Breeze) must be installed by a qualified professional or certified electrician. If you have any questions or need assistance in finding a qualified installer, please contact our tech support hotline at 1-866-972-SALT (7258) or via E-Mail at service@sgschlorinators.com.

Your SG "Series" Chlorinator includes the following:

1 Control Center
1 Cell Housing
1 O-Ring
1 Electrolytic Cell with cord, and Cap
1 Mounting Bracket
1 Cleaning Stick –Acid Replacement Device
1 Owner's Manual with Pull-Out Installation Guide

The following tools will be required to install Chlorinator:

- Screwdriver
- Level
- Hacksaw / or PVC cutter
- Wire Stripping Tool
- Electric Drill

INSTALLING THE CONTROL CENTER WARNING! When using electrical products, basic precautions should always be followed: **be sure to read and follow safety instructions on pages 4 though 6.**

DANGER: Risk of electric shock, which can result in serious injury or death. Before attempting installation or service, make sure that all power to the circuit supplying power to the system is disconnected / turned off at the circuit breaker. Connect only to a circuit protected by a ground fault circuit-interrupter (GFCI).

Installation Preparation

The **SG "Series" cell MUST** be installed horizontally, with the ports down, as the last piece of pool equipment in line, on the return to the pool, after the heater. (The design of the cell forms a natural gas trap. Even though the SG "Series" unit has an internal flow sensor, this installation provides a secondary

safety feature to prevent gas build-up within the system.) **Note:** The inlet is labeled on the cell housing with an arrow pointing up. The cell housing should be located 6 inches above the height of the heater: in the event there is no heater, the cell should be located above the height of the filter inlet and outlets. Any standard PVC cement may be used. Always use PVC cleaner to prep all glue joints. Allow adequate drying time before turning on the pump. All of the fittings are 2 inch PVC, and if necessary can be reduced to 1½ inch PVC. The cell has a 15 foot power cord and cannot be modified; use caution to place the cell housing within reach of the cell cord.

The **SG "Series" Control Center** is shipped wired for 220 VAC. The control center can be wired for 110V in the field; call 1-866-972-7258 for instructions from a technician at the factory. The system is designed to come on only when the primary pump is operating and should be wired to the load side of the time clock. It must be grounded with an 8AWG bonding wire from the lug (see illustration # 2 below) on the bottom of the Control Center to a grounding rod (this is necessary to protect the integrity of the electronic systems). Note: Saline Generating Systems LLC does not recommend installing a salt water chlorinator on a pool using a stainless steel filter, or stainless steel liner.

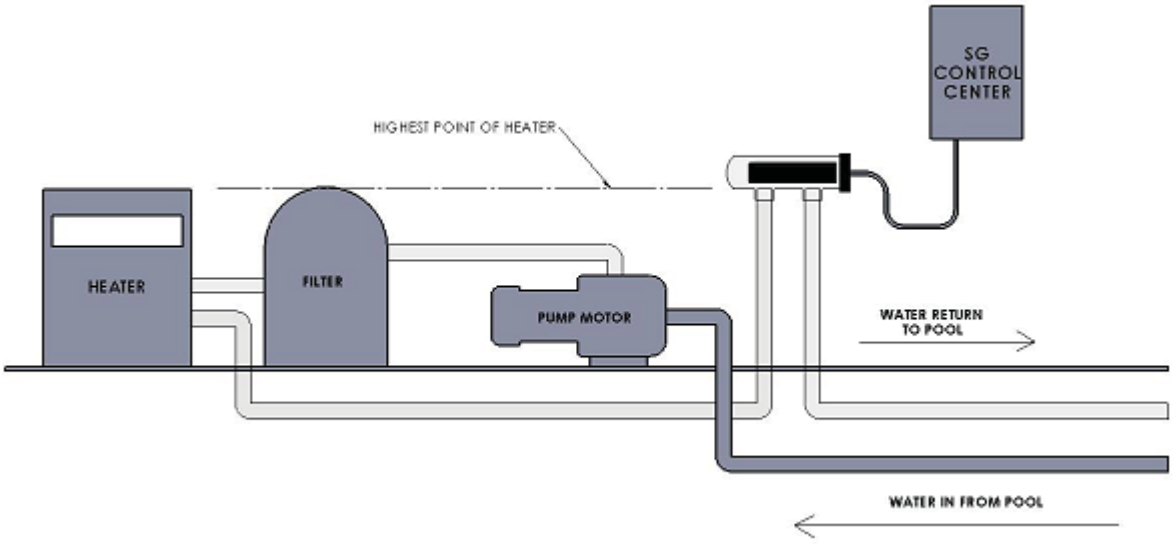


Illustration 1

PROCEDURES FOR INSTALLATION

Electrolytic Cell

1. Locate pool return line after the heater or filter as shown in illustration # 1 above. This is the proper location for the Cell housing.
2. Determine height necessary to bring cell above either heater or filter.
3. Cut and glue the risers from the main plumbing into place. Install the cell housing to the top of the risers, making sure the cell housing is installed level.
4. Install the O-ring into the receiving channel, and then slide the cell into the cell housing making sure the key ways on the black plastic base align with the matching key in the cell housing.
5. Put the main cap into place and hand tighten only; be sure not to strip the threads.

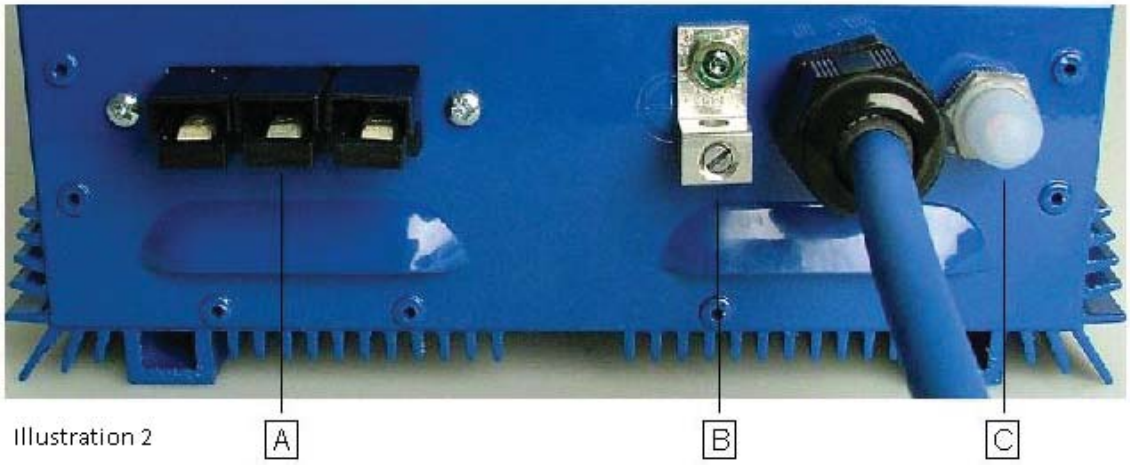


Illustration 2

Control Center -- The Control Center can be mounted on a wall or posts.

1. Using the end of the cell chord as a guide, locate a suitable location for the mounting of the Control Center. The Control Center must be mounted on a noncombustible surface.
2. The wall mounting bracket should be fastened to the wall at a height comfortable for operation. Screws or anchors are not included. Make sure that the bracket is fastened directly onto concrete with the proper anchoring device or into a stud in a noncombustible wall surface. Mount the bracket by installing the one screw, and then leveling the bracket, and installing the other screw, being sure to have the bracket level. .
3. If mounting the Control Center on a post, it must be centered on a flat panel of waterproof and non combustible material at least 10" x 20". Do not enclose the Control Center in any box.
4. The SG "Series" Control Center has the two mounting pins at the top back of the unit, simply place the head of the pins in the keyhole slots on the wall bracket, and allow the unit to hang freely. Your SG "Series" Control Center is now mounted.
5. The Control Center is wired from the factory at 220 VAC single-phase only. The system is shipped with a plug (NEMA 6-15P for 230V/15A, Hubbell Part #HBL566C; weather proof boots are available at your local electrical wholesale house). In the event that your system is ordered from the factory at 120V, the plug is also provided (NEMA 5-15 for 115VAC/15A, Hubbell Part #HBL5266C; weather proof boots are available from your local electrical wholesale house). It is recommended that an electrician mount an outlet box within 3 feet of the unit, which will allow plenty of room for hook up.
6. Connect 8AWG bonding wire (not included) between the grounding rod and the grounding lug (Part B in illustration 2 on page 14) on the bottom of the Control Center.

Connecting the cell cord to the Control Center

Align the three pins of the cell cord plug with the socket on the Control Center bottom (Part A in illustration 2 on page 14) and insert the connector until it clicks in place. There is a clip located on either side of the plug, make sure to the bottom half of the plug in place with them.

Special Situations

Flooded Plumbing Installation -- This exists when the water level of the pool is above the height of the pool equipment. Some pool systems may have valves that will isolate the equipment. If not, one ball valve should be installed on the inlet side of the cell and a one-way check valve should be installed on

the outlet side of the cell. This will eliminate the possibility of having a gas build-up (which could cause possible cell damage) and allow the cell to be removed for cleaning when necessary.

Multiple Installations – If more than one unit is necessary (for heavier sanitizer needs) the **SG "Series"** may be plumbed in either series or parallel. The header or manifold must be balanced, providing equal flow to each chlorinator. It is also suggested that provisions be made in the header to isolate and remove individual cells if necessary without shutting down the entire system.

START UP PROCEDURES

1. Balance your water chemistry according to the Water Chemistry Parameters shown on page 7. Add the proper amount of salt and circulate 24 hours before starting your SG "Series" Chlorinator.
2. The Sanitizer Output is set at the 60% level from the factory; start system at this level and operate normally. For the first two weeks, test the water every 2-3 days for proper chlorine residual levels. Raise or lower the sanitizer output by pressing the output control arrows as needed (see operating instructions below), according to your test results.
3. If sanitizer output percentage setting is 80% or higher, and chlorine residuals are still below the 1-3 PPM range, increase the run time of the system. The basic run time formula is 1 hour of operation for every 10 degrees of ambient temperature (i.e. 90 degrees would equal 9 hours of run time).
4. Once your Sanitizer output percentage setting has been established, you should only need to adjust the output level because of increased bather usage or heavy rainfalls that can accelerate consumption of chlorine.

SYSTEM OPERATION

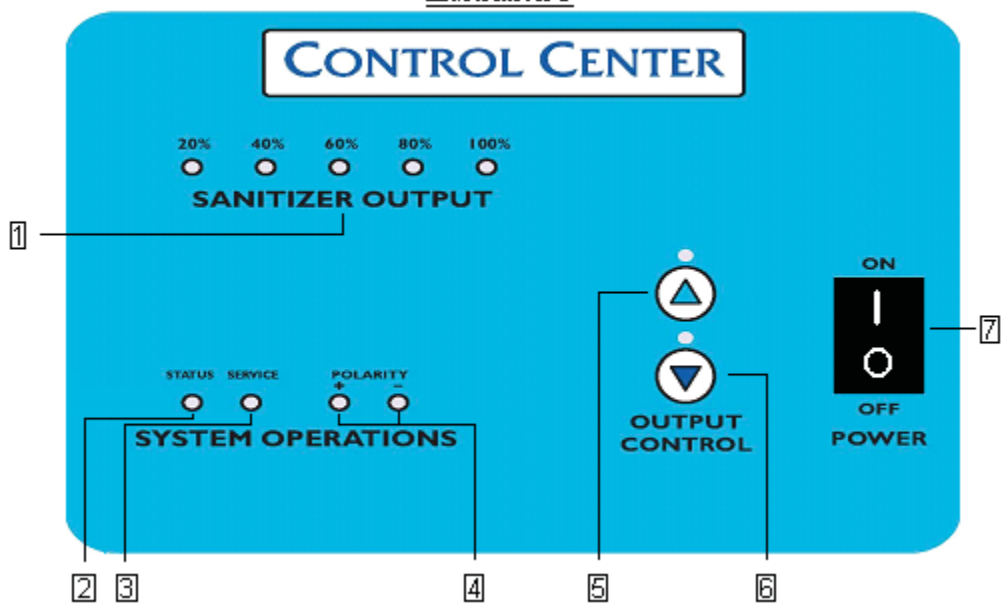
Easy Operation

The SG "Series" Chlorinator was designed to make your pool sanitation as easy as possible. The SG "Series" will reduce the need to add chlorine and decrease spikes in your chlorine readings literally at the touch of a button, while you relax and enjoy crystal clear water. The system begins to operate at its full potential immediately. The reversing of polarity aids in the minimization of maintenance, as well as increasing the life of the electrolytic cell, by minimizing calcium bridging between the cell blades. Chlorine production and residual buildup are easily monitored through the SG clear cell housing.

Control Center Functions

1 **Sanitizer Output Lights** shows level of chlorine output as a percentage of system capacity
2 **Systems Operations Status** solid light that indicates the system is operating correctly
3 **Systems Operations Service** if lit indicates a system warning; see Troubleshooting section
4 **Polarity + /-** indicates direction of current; changes every 6 hrs. of operation automatically
5 **Output Control Up** press once to increase system output to next level
6 **Output Control Down** press once to decrease system output to next level
7 **On / Off Switch** controls main power to system

Illustration 5



Basic Operation

Engage Power switch (#7 on Illustration #5) by pressing to "On" position. The System Status light (#2) will remain solid; the Sanitizer Output lights (# 1) will display the desired chlorine output level. One of the Polarity lights (# 4) will also illuminate, indicating the direction of current. Every six hours of system operation, the polarity will change automatically; this prolongs the life of the cell and minimizes build up between the cell blades. If the power is interrupted (either by the Pump turning off or by putting the Power switch into the off position), the system will automatically reset.

Once the system is in normal operation mode, you can adjust output by pressing button #5 to increase or #6 to decrease output one increment. Each adjustment will be accompanied by illumination of the light above the arrow, which indicates activation of the control system; you will then see the associated change in the Sanitizer Output level. **TIP: Check chlorine level on a regular basis and adjust output of the SG "Series" chlorinator accordingly.**

The SG "Series" chlorinator is designed to supply a sufficient amount of chlorine to sanitize pool water on a daily basis. If operated 24 hours a day at 100% (Super Chlorination mode), more chlorine would be generated than would be needed by most pools (1-3 PPM). The 100 % or super chlorinate level (with the red 100% light illuminated) will automatically run for 72 hours, and then reduce to the 80% level. The 100% or super chlorinate function should be used to offset conditions of weather, or extremely high bather load. Unlike other chlorinators, the SG "Series" has the ability to produce chlorine at all settings on the Sanitizer Output scale for the entire run time. Adjusting the Output control from 80% down to 60% means that your unit is producing 60% of its capacity, for the entire run of the system. This has a positive impact on cell longevity, as well as the amount of chlorine being produced by your system.

CAUTION: Before operating the SG "Series" Chlorinator for the first time, refer to "Safety Instructions & Precautions" (pages 5-6) and "Pool Water Preparation" (page 7-8). Do not run the system until it is

certain that salt has been dissolved in the pool. Operating without adequate salt will result in damage to the electrolytic cell and will void your warranty.

The Association of Pool and Spa Professionals (APSP) recommends that all water in a residential pool pass through the filtration system at least once every 12 hours (referred to as pool water turnover). As discussed in "Startup Procedures" (pages 13-14), the general rule of thumb for the SG "Series" Chlorinator is to operate the system 1 hour for every 10 degrees Fahrenheit of ambient air temperature. It may take a few days to achieve the correct amount of pool pump operating time (run time). **Results will vary greatly from one pool installation to the next, so this should be discussed with either the pool builder or your pool professional.**

The key points are:

- Operate the pool pump at least 1 hour for every 10 degrees of ambient air temperature.
- Be sure to follow the guide line set forth by The Association of Pool and Spas Professionals for water chemistry
- The pool pump timer can reduce energy consumption; make sure to consult your local electrical company for off peak operating times and program your timer within their guide lines

Cold weather operation: in cold water conditions (below 60^{o}F), sanitizer demand is reduced significantly. The SG "Series" reduces its output automatically with water temperatures of 59^{o} F and below. If the water temperature continues to drop, the system will eventually stop producing chlorine. This feature extends the life of the Electrolytic cell. For colder climate regions with sustained low or freezing temperatures, it is recommended that your equipment be properly drained and winterized by a qualified pool professional.

SG "SERIES" MAINTENANCE

Cell Maintenance -- How and When to Clean Your Cell

Although the SG "Series" is a low maintenance system, occasional manual cleaning of the low maintenance Electrolytic cell will be required to remove scale and calcium build up. How often this cleaning is needed is a function of several factors, including the hardness of the water and how you maintain your pool water chemistry, among other things. Although cleaning once every one to three months is fairly normal, periodic inspections of the Electrolytic cell through the clear housing (while the system is operating) is the best way to determine if the cell needs cleaning. **NOTE: ALWAYS TURN OFF THE PUMP PRIOR TO CLEANING THE CELL. THE PUMP AND FILTER SYSTEM IS OPERATED UNDER PRESSURE, AND THE PRESSURE MUST BE RELIEVED BEFORE YOU WILL BE ABLE TO REMOVE THE CELL.**

1. Remove the cell cap (the large black cap at the end of the clear cell housing) by turning it counter clock-wise.
2. Gently pull the cell electrodes out of the housing, being careful not to damage the O-Ring.
3. Once the cell is removed from the housing, slide the cleaning stick (the SGS ARD) between the blades to remove any calcium buildup (see Illustration 3 below). Make sure to clean the legs of the electrodes as well (see illustration 4 below). **NOTE: DO NOT USE ACID FOR THIS PROCESS AS IT REDUCES THE LIFE OF THE ELECTRODES.**
4. Take the O-Ring out of the cell housing, and remove material or debris from it. Once you have cleaned the O-Ring, use a towel to wipe out the channel in the cell housing that the O-Ring seats into.
5. Return the O-Ring to its channel in the cell housing (DO NOT USE LUBRICANT).
6. Install the electrodes into the cell housing, making sure not to disturb the O-Ring. Seat the tab on the top of the cell base into the indentation on the cell housing. If this is done correctly, the sensor located at the electrode base will be facing up.
7. Return the black cap to the cell housing and hand tighten in the clockwise direction. Be careful not to over tighten.
8. Re-start your pump; any loosened calcium will probably be brushed off with the water flow.

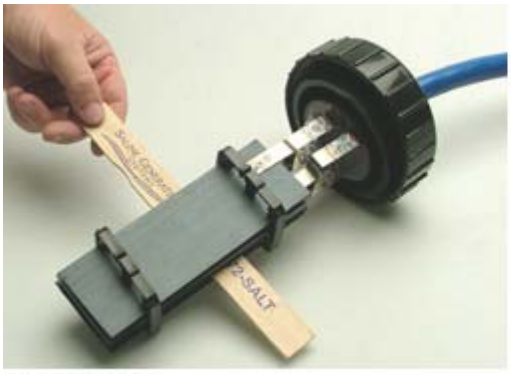


Illustration 3

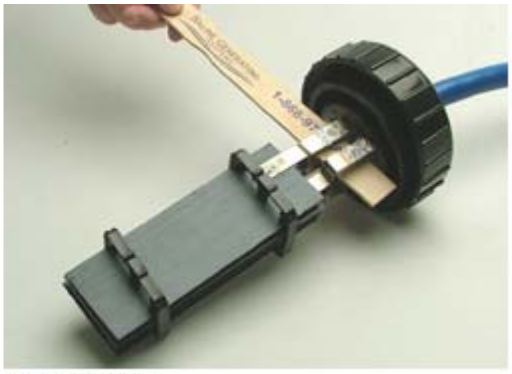


Illustration 4

Maintenance Parameters

Weekly Service

Chlorine Test: Test pool water chlorine level with a reliable test kit. Maintain ideal range by adjusting SG "Series" Sanitizer Output level (see Basic Operation on page 16). **Note:** Chlorine residual above 3.0 PPM may cause corrosion of pool metals and possible damage to associated pool equipment. It is recommended that chlorine test samples be taken from two places, one at the pool return line, the other well away from the pool return line. Compare the samples. A higher level should be found at the pool return line, which confirms that the SG "Series" system is producing chlorine.

pH Level Test: Test the pH level of your pool with a test kit. If necessary, adjust according to your pool professional's recommendations. A pH level of 7.2 - 7.6 is recommended. **Note:** Never use dry acid to adjust pH in arid geographic areas with excessive evaporation and minimal dilution of pool water with fresh water. A build-up of byproducts can damage the electrolytic cell.

Monthly Service

To ensure that the correct chemical balance is maintained in your pool, it is important to perform the following recommended pool water test every month. **Take a water sample from your pool to a local pool store or your pool professional for testing.**

1. **Salt Level Test:** Make sure salt level is within acceptable range (3,500-4,500 PPM). If salt level is low, see table 1 on page 10 for the amount of salt to add.(SGS Instruments manufactures accurate salinity, and TDS testing equipment, please contact your pool professional for purchasing information)
2. **Total Alkalinity Test**: Adjust according to your pool professional's recommendations. 80-120 PPM APSP Standard
3. **Stabilizer (Cyanuric Acid):** Maintain ideal range of 40-90 PPM. Follow your pool professional's recommendations.
4. **Calcium Hardness:** If necessary, adjust according to your pool professional's recommendations. APSP standard of 200-400 PPM is recommended.
5. **Metals Test:** It is recommended that the pool water be tested periodically for the presence of metals such as copper, iron, and manganese. These metals should not be present in the pool water. If those metals are present, contact your pool professional immediately.

CHLORINE: During peak sanitizer demand (heavy rain, high bather usage, and/or high heat) it may be necessary to increase the sanitizer level by increasing your sanitizer output setting and/or pump runtime. Conversely, with low sanitizer demand, you can decrease the output level to a lower setting. For extremely heavy sanitizer demand or to increase your sanitizer levels, you can run the system at 100% or supplement with a Potassium Monopersulfate based shock. **CAUTION: Excessive chlorine levels can cause premature cell failure and corrosion damage to other metallic pool equipment. Avoid over saturation of chlorine levels.**

pH: When your pH falls below the accepted range, your sanitizer is used up very quickly and can be damaging to your equipment. For pH levels higher than the accepted range, your sanitizer becomes much less effective and will work harder to keep your pool sanitized.

CALCIUM HARDNESS AND TOTAL ALKALINITY: The SG "Series" provides 100% pure sodium hypochlorite and does not affect the calcium hardness or total alkalinity levels. Maintain and balance only as needed.

CYANURIC ACID (STABILIZER/CONDITIONER): This chemical (CYA or Cyanuric Acid) allows your chlorine residual to last longer by protecting it from the UV degradation of the sun. With low or no CYA it is possible for the chlorine being produced to be used up as fast as it enters the pool. High CYA levels will also negatively impact maintaining the chlorine residual in your pool. Check and maintain your CYA at the same time as your salt level, as these tend to deplete at the same rate (if you have to add CYA, see Table 2 on page 10 for amounts). **NOTE: For indoor pools, it is not necessary to add stabilizer.**

SALT RESIDUAL: The SG "Series" works most efficiently with salt levels between 3,500 – 4,500 PPM. In a low salt condition, the Status light will remain sold, and the service light will also remain on solid. (see illustration #5 on page 16). **REFER TO TROUBLESHOOTING BELOW. CAUTION:** Splash out water can leave a high salt concentration on decking as the water evaporates. To prevent any potential salt damage, periodically hose off the deck, rails and fixtures to dilute the salt concentration.

TROUBLESHOOTING

Situation	Possible Cause	Corrective Action
Low or no chlorine residual In pool	Low stabilizer (Cyanuric acid level in pool water)	Add stabilizer to maintain 50-75 PPM per pool professional's recommendations (see Stabilizer Chart on page 10).
	Insufficient run time	Increase daily run time. Recommend 1 hour of run time per 10 degrees ambient temp.
	Chlorine Output percentage set too low	Increase the Sanitizer Output Level (see page 15)
	Recent increases in weather temperature without increasing the Sanitizer Output of the system	Increase the Sanitizer Output Level (see page 15)
	Temporary loss of chlorine due to heavy rain, leaves, fertilizer or heavy bather load, recent party, or pets using pool.	Set Sanitizer Output to 100 % (Super Chlorinate) for 24 hours. Recheck--if still too low, super-chlorinate with outside source. (Take pool water sample to pool professional)
Low or no chlorine	Low salt level (less than 3000 PPM). System Status light will is solid/ service light solid.	Increase Salt level by adding salt according to chart on Page 10
	High nitrate level.	Contact Pool Professional.
	Metals present in pool water.	Contact Pool Professional.
	New pool water, or not shocked properly upon startup.	Super-chlorinate pool with outside source.
	Clogged or dirty cell	Remove cell from housing to clean (see "Cell Maintenance," page 16)
Status light is blinking and/or service light is on.	Pool water needs salt. Cell is clogged or dirty. Water temperature is low Insufficient water flow Insufficient water flow—dirty filter Sensor tab (top of cell) issues	Test salt level of water. Add salt (page 10) if necessary. Check and clean cell (pp 16-17) Check water temp (if below 60 degrees, turn system off) Make sure pump is running. Check and correct all valve alignments Follow filter cleaning procedures Clean off any calcium on sensor tab. Make sure there is not an air bubble at point of sensor tab in cell housing – if there is, contact your pool professional or

		our tech hotline: 1 866 972-SALT
Unable to increase chlorine production	Insufficient water flow. Cell is plugged with debris, cold water, low salt level	Check cell and clean (if necessary), check salt level, check water temperature.
SG "Series "unit does not have green status light on.	Problem with power to Control Center	Check to make sure On/OFF Switch is on. Make sure pump is on. Check Circuit Breaker (Part C on Illustration 2, page 12) on bottom of Control Center; if tripped, press rubber cover to reset
	No AC power to Control Center	Verify time clock is providing 220 VAC to Control Center when active (TO BE DONE BY CERTIFIED POOL PROFESSIONAL, OR ELECTRICAN)
System Status light solid	System is operating normally	No solution, everything is fine. Enjoy your pool!

Parts List

Item Number	SGS Order Number	Description	Quantity
1	PC113-O-Q	Transformer	1
2	PC120-D2-4-7	Secondary Terminal Block	1
3	PC112-D1-1-11	PC Board Complete Assembly	1
4	UP101-E2-1-6	Plug Assembly	6
5	PC131-D1-7	Grounding Lug	1
6	PC130-D1-10	Strain Relief	1
7	PC122-D-2-4	Boot For Breaker	1
8	PC114-D2-10	Circuit Breaker	1
9	PC123-D-2-1	Control Center Label	1
10	PC133-D1-10	Primary Terminal Block	1
11	PC104-C3-2	Acrylic Cover	1
12	PC105-C3-5	On/Off Switch	1
13	PK6101-D0322/24	Magic Wand	1
14	CEL11-C1-1-11	Cell Clips	4
15	SG3000/SG4000/SG5000	Cell Assembly Complete	1
16	CE120-UWKSD	Cell Cap	1
17	CE112-UVRSP	Cell Housing	1
18	CE107-C3-6	O-Ring	1
19	PC141-C2-7	Lexan Protective Shield	1
20	CE112-VVRSP2	Cell Base	1
21	CE112-VVRSA3	Lexan Sleeve	1

SG Series System Sizing

SG Breeze produces up to .78 pounds of Free Chlorine per day to maintain residential pools up to 20,000 gallons*.

SG 3000 produces up to 1.35 pounds of Free Chlorine per day to maintain residential pools up to 40,000 gallons*.

SG 4000 produces up to 1.88 pounds of Free Chlorine per day to maintain residential pools up to 60,000 gallons*.

***Where heightened chlorine demand exists due to warmer climates, humidity, high bather load, water features and other environmental factors, the maximum pool size should be reduced by 30%.**

When modifying any plumbing system, it is important to evaluate the total head loss, and any impact that head loss may have on the design of an existing plumbing system. The following chart will give specific head loss for the SG Series Cell. If you have any questions, please contact our customer service department for support.

DESIGNED FLOW RATE	GPM	ACTUAL HEAD LOSS
20%	20	.20 FT H2O
40%	40	.41 Ft H2O
60%	60	1.54 FT H2O
80%	80	2.28 FT H2O
100%	100	3.71 FT H2O

GENERAL PRODUCT INFORMATION

SG "Series"

Pure Pool Water the Easy Way

By Saline Generating systems

Record the Following Information & Keep for Your Records

Installer:	_____	System Purchased From:	_____
Installation Date:	_____	Control Center Serial #:	_____
Model Number:	_____	Cell Serial #:	_____

Factory Direct Customer Assistance

Tech Support Hotline: 1 866 972-SALT (7258) or 1 480 385-3052

FAX: 1 480 557-0099

Email to: customersupport@sgschlorinators.com

Register your warranty online: http://sgschlorinators.com/warranty.html

Visit us on the Internet: www.sgschlorinators.com

Manufactured by
Saline Generating Systems LLC
1436 W. 12th Place Tempe, Arizona 85281