SOFT CHLOR AC

“SOFTWATER” CHLORINE GENERATION SYSTEM

The “Natural Solution”
for Pool Sanitation

Owner’s Guide

SOFTWATER POOLS, Inc.

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www.softchlor.com*Soft Chlor* Owner's Guide

CONGRATULATIONS! You have just purchased the finest in-line "softwater" chlorine generation system. If properly cared for, it will provide many years of healthful, sanitized water, with a minimum of fuss. We encourage you to call us if you have any questions about the operation of your ***Soft Chlor*** system.

This Owner's Guide has been produced to ensure that your *Soft Chlor* salt water purification system functions correctly and efficiently, with a minimum of maintenance. Failure to follow the procedures outlined in this guide may lead to unnecessary service calls and expense and may void the manufacturer's Warranty.

Please keep in mind your *Soft Chlor* only eliminates the routine addition of chemical chlorine to your pool. You will still need to perform all of the other normal maintenance required by your pool and equipment.

Daily Operation

Your ***Soft Chlor*** will operate along with the filter, which must be run for the times recommended by the filter supplier. During summer months most pools require 6 - 8 hours of filtering time per day, and less in winter. If insufficient sanitizer is being produced by the ***Soft Chlor*** with the Output Control and indicator lights at maximum, the filtering time must be increased. If too much sanitizer is being produced by ***Soft Chlor***, either turn down the Output Control, or reduce the daily filtering time (making sure not to go below the recommended filtering times). The filter should also be operating during periods of heavy bather loads in the pool.

Operation of Soft Chlor

Having ensured that any recent addition of salt to the pool has had time to dissolve (allow 48 hours filtering) and with the pump still running, turn Soft Chlor on at the white switch and turn the Chlorine Output Control knob clockwise to maximum. Check the percentage output on the indicator. The green output indicator lights will light up in succession. The chlorinator works at full efficiency at 100%. If the knob is maxed out and the indicator lights are below 100%, add more salt if a higher chlorine level in the pool is required (see also 'Troubleshootiong' - page 8) . If the chlorine level in the pool is too high, adjust the output knob to, say 80 % or until the correct level is achieved.

For best results at the time of installation, total alkalinity, calcium hardness, pH, and chlorine conditioner/stabilizer (cyanuric acid) should be at recommended levels.

Monitor Lights

1. ***SALT HIGHER THAN NECESSARY - NO ACTION REQUIRED.***
   This indicator is simply to alert the owner that no further salt addition to the pool is needed to operate the chlorinator at maximum output. The excess salt will in no way harm the unit.

2. ***STEADY - CELL OFF -*** Chlorinator turned off - unit on standby.
   FLASHING - Salt low - Add Salt and/or clean cell. If this indicator lights up, the first step is to ensure that the **cell is clean**. If the cell is clean, add salt. ***Please note:*** If the salt level in the pool is very low (below 1500 PPM) the chlorinator will shut down automatically and a warning buzzer will be activated. The buzzer alerts the owner that the chlorinator has shut down to avoid premature cell failure. Turn chlorinator off at white switch, add required amount of salt to bring to 5000 PPM and turn chlorinator back on.

3. ***Steady - Power On.*** Indicates electric power has been provided to the chlorinator.
   Flashing - No Water Flow - Chlorinator On Standby. - There is no water in the cell housing and the chlorinator has automatically shut down. The buzzer will again alert the owner to check the water flow problem and correct it.
4. ***Overload - Check Cell For Short Circuit.***
   This facility protects the chlorinator from possible overload associated with an electrical short circuit (e.g. metal strand from a wire brush lodged in the cell). If this indicator is lit, turn the chlorinator off at the white switch, check the cell for any foreign objects possibly causing the short circuit and turn the unit back on for normal running.

Maintenance

The ***Power Pack*** unit should require little, if any, maintenance. It should be reasonably protected from excessive water entry (e.g. direct hosing or splashing). Damage caused by water is not covered by the warranty.

The ***Electrolytic Cell*** will require periodic cleaning. Mineral salts and calcium (scale) will accumulate on the ***Cell*** and will, in time, reduce its effectiveness. The ***Cell*** should be cleaned when build-up on the plates occurs. If this build-up is allowed to go unchecked, the deposits may damage the ***Cell*** **AND WILL VOID THE WARRANTY.** The rate at which build-up on the ***Cell*** occurs will vary from pool to pool and is influenced by the water chemistry, including the level of dissolved minerals in the water, hardness, water temperature, (sufficient) salt concentration and amount of chlorine output dialed up on the indicator.

Your ***Soft Chlor*** will produce pure, effective sanitizer for the water at a rate depending upon 1) the time that it is operated, 2) the setting on the Output Control. The rate of production will reduce as the ***"Cell"*** becomes dirty, or if the salt level decreases. **Refer to Maintenance / Cleaning the *Cell*, and Checking Salt Level, below.**

Chlorine level Control

Set the Output Control according to your Test Kit readings. The pure sanitizer level will be indicated by carrying out the "chlorine" test as you would have done prior to the installation of the chlorinator. If the reading is too high, turn the ***Soft Chlor*** down, and vice versa. It is best to test the water soon after completion of the filter pump cycle. Make the necessary adjustment to the Output Control and/or pumping times and re-test every 3 days (at the same time of day) until you have the ***Soft Chlor*** set where it's rate of production suits your pool.

Cleaning the Cell

As part of the ***Soft Chlor's*** electrolytic process, a blue-green or gray-white scale will accumulate on the plates of the cell. This causes a reduction in chlorine production. If allowed to go unchecked, this build-up may damage the cell and/or the power supply beyond repair **AND WILL VOID THE WARRANTY. IT IS ESSENTIAL THAT THE CELL BE CLEANED** when necessary, as indicated by visual inspection (when build-up exceeds thickness of the plates) or a drop in the Chlorine Control Indicator. The ***Cell*** can be very easily cleaned by high pressure hose and/or immersing in a weak acid/water solution, as follows:

1. Switch the filter pump OFF and close the lines leading to and from the cell (if located below the level of the pool). Disconnect the red and two black cell leads from the terminals. Remove the cell by unscrewing the large gray nut and extracting the cell from its clear plastic housing. **DO NOT INSERT ANY LEVER BETWEEN THE CONNECTION TERMINALS.**

2. Clean with a high pressure hose. If this does not remove the build-up of scale use appropriate hand and eye protection to make a solution of 1 part water to 1 part muriatic acid (always add the acid to the water, not the water to the acid). Immerse the Cell into the solution for as short a time as necessary for the scale to dissolve off the Cell. **DO NOT USE METAL OBJECTS TO REMOVE SCALE.** Rinse off with tap water.

3. Re-insert the Cell into the cell housing making sure the gray rubber "O" ring is in place. Hand-tighten the large round gray nut.

4. Reconnect cell leads observing polarity; Red to Red, Black to Black and small black wire to the silver stud.

5. Run pump and chlorinator to check for leaks and normal operation of **SOFT CHLOR.**

PLEASE DO NOT HESITATE TO CALL SOFTWATER POOLS FOR ANY ASSISTANCE REGARDING CELL CLEANING.

Maintenance of the Water

You should be sure that the pool water is checked for the following, and that the various levels are maintained in the correct ranges. Whoever is looking after your pool should already be checking and adjusting the water chemistry for the following additives and appropriate levels. If necessary you can take a sample of the pool water to your local pool store for testing.

Stabilizer: It is important to add stabilizer (or *Conditioner*) to the water (especially in hot, sunny areas). Ideal level - 50 PPM. If the stabilizer level is too low it may be difficult to maintain an adequate sanitizer level; if too high, you may produce too much.

pH Level: pH should be maintained within the range 7.2 - 7.6 (max. 7.8). If you have difficulty in keeping the pH in this range, the probable cause is incorrect Total Alkalinity.

Note: If the pH level is allowed to rise above 7.8, the sanitizer in the water becomes less efficient and will have difficulty killing the unwanted bacteria, algae, etc. in the water.

Total Alkalinity: This determines the speed and ease of pH change. The ideal range is 80 - 120 PPM for plaster pools and 125 - 175 PPM for fiberglass pools. Your pool man or local pool shop can easily test (and suggest) for Total Alkalinity.

Calcium Hardness: should be 175 - 200 PPM.

Salt: 5000 - 6000 PPM

TDS (Totally Dissolved Solids): Maximum 2,000 PPM (excluding the ***Soft Chlor*** salt). Please note, the optimum salt level in your pool will give a high TDS reading. Ask your pool service or shop to make allowances for this when analyzing your sample.

THESE LEVELS ARE EASILY CONTROLLED. ASK YOUR POOL SERVICE PERSON OR YOUR LOCAL POOL STORE FOR ASSISTANCE.

Note: You should not need to add chlorine or algaecides to your pool. Check the Trouble-Shooting guide if you see signs of algae. Your Soft Chlor will be able to handle the situation. Never add copper-based algaecides, as these will cause copper to accumulate on the Cell, reducing its efficiency.

Maintaining Proper Salt Levels

It is ***important*** to have sufficient salt dissolved in the water. The ***Soft Chlor*** is designed to operate at salt concentrations above 5000 parts per million (0.5%) in summer and above 6000 parts per million (0.6%) in winter. Low salt concentrations reduce the amount of chlorine produced, increase the frequency at which the cell needs cleaning, dramatically reduces the life of the cell, may damage the power supply **AND WILL VOID THE WARRANTY.** Too much salt is not a problem - but should never be greater than 1.0%.

Salt level can be checked as follows...

With the ***Cell*** clean and the **water at no more than 70° F**, turn the Output Control knob all the way up (clockwise) to Maximum. If the indicator lights remain below 100%, start by adding 2 x 50lb bags of salt to the pool water and allow 48 hours to dissolve. The addition of salt should allow the indicator lights to continue up to 100% output. If the addition of salt makes no difference, the cell may be 'dying' (see 'Troubleshooting' - page 8). Please contact your nearest dealer. **IF THE WATER IS ABOVE 70° F**, salt concentration should be tested by using '**Aquachek**'™ salt (sodium chloride) test strips, available through your local pool shop.

How Much Salt to Add

Salt should only be required periodically, depending upon how much water is lost from the pool (typically through splash out and back-flush). The ***Soft Chlor*** process does not consume the salt, nor does evaporation take salt from the pool. Salt is typically lost through back-flushing the filter, leakage, overflow due to rain, or splash-out.

The pool water should have approx. 370 lb. of salt per 10,000 gallons of water (37 lb. per 1,000 gallons). When "topping up" the salt level, we suggest the following procedure:

1. Be sure to turn OFF the ***Soft Chlor*** power supply unit before adding salt (failure to do so may momentarily upset ***Soft Chlor's*** logic circuit).

2. Use ordinary water-softening type salt (course grade) usually available at hardware stores such as Orchard Supply or Home Depot in 50 lb. bags.

3. Add salt at the rate of 1 bag (50 lb.) per 10,000 gallons of water by tipping into the shallow end of the pool.

4. Dissolve the salt by leaving the filter pump running and sweeping it towards the deep end drain and/or by vacuuming or using the automatic pool sweep.

5. After the salt is completely dissolved, turn the ***Soft Chlor*** back on and re-check salinity using the Output Control procedure previously outlined. Repeat if necessary.

When Heating Your Pool

When operating your pool heater for extended periods, be sure to turn your ***Soft Chlor*** down (or OFF) - so that it does not over-produce sanitizer.

<u>IMPORTANT!</u> TURN HEATER <u>OFF</u> 20 MINUTES BEFORE FILTER PUMP SHUTS DOWN (OR HAVE 'FIREMAN'S SWITCH' FITTED). FAILURE TO DO SO MAY DAMAGE THE CELL AND/OR HOUSING AND WILL <u>VOID THE WARRANTY</u>.

Start-up Procedure

Step 1

<u>Leave your Soft Chlor OFF until the salt is properly dissolved</u>

To dissolve the salt properly, it is best to set the pool suction to the main floor drain, so the filter pump is drawing water from the floor of the pool (rather than the surface skimmer). **Leave the filter and any automatic cleaner "on" for at least 12 hours (it may take 48 hours) to thoroughly dissolve the salt.**

Step 2

If not already added, bring chlorine stabilizer/conditioner (cyanuric acid) level in pool to at least 50 PPM.

Step 3

<u>When the salt is properly dissolved, you can begin making chlorine.</u>

Turn the ON/OFF switch (on the front panel) to "ON" and then slowly turn the Output Control knob "up" (clockwise) until the indicator lights show at least 80%.

Leave the filter pump and chlorinator running until a chlorine reading of 1 - 3 PPM is achieved on your test kit.

Step 4

Return to regular pumping cycle (start with 6 - 8 hours in Summer, 3 - 4 hours in winter).

Step 5

After 3 days check the level of chlorine in the pool, using your test kit. It is best to check the water soon after the completion of the pumping cycle, and to make subsequent checks at the same time of day. Depending on the chlorine reading, adjust the chlorine Output Control and/or pumping times to achieve the optimum chlorine reading of 1 - 3 PPM.

Step 6

'Balance' the pool for correct water chemistry if not already done (see page 3 - Maintenance of Water).

TROUBLESHOOTING

While the ***Soft Chlor*** is an extremely reliable system, any system may fail. If you are having any difficulty in operating your ***Soft Chlor***, we encourage you to call. **We provide unlimited free telephone support. We provide prompt warranty service and will replace defective parts for 2 years after installation with no charge for parts or labor. The electrolytic cell is warranted for an additional year on a pro-rata basis (see warranty for details).**

As an owner you are expected to provide the minimal but necessary maintenance of the unit. The most critical issues: **Make sure there is enough salt in the water, and always avoid allowing excessive mineral build-up on the cell. Failure to do so may damage the system and void your warranty.**

To avoid unnecessary non-warranty charges and before calling for service, please review the following check list:

1. Output Control is at correct setting for your pool.
2. Power Pack circuit-breaker is reset.
3. ***Soft Chlor*** cell is clean.
4. Filter pump running times are appropriate for the season.
5. Filter is clean.
6. pH level is between 7.2 and 7.8.
7. Pool stabilizer is at least 50 PPM.
8. Small black sensor Wire is connected to cell.
9. Salt concentration is at correct level.

Please refer to the trouble shooting hints on this and the next page before calling for in-field service. Most service calls and charges can be avoided by reviewing through following Trouble Shooting Tips.

TROUBLESHOOTING TIPS

Before troubleshooting your sanitizer system please be aware that the following conditions may affect <u>any</u> of the water chemistry in your pool:

1. **LEAF BLOWERS**
2. **LANDSCAPING**
3. **BUILDING MATERIALS (up to a block away)**
4. **FERTILIZERS**
5. **ANIMALS SWIMMING IN POOL**
6. **PAINTING YOUR HOUSE**
7. **UNUSUALLY HEAVY BATHER LOADS**
8. **UNUSUALLY HOT WEATHER**
9. **MOWING THE LAWN**
10. **ANY SPECIALTY CHEMICAL ADDED TO POOL**
11. **BRUSH FIRES**
12. **HEAVY RAIN**
13. **WINDSTORMS**

TROUBLESHOOTING continued.....

Indicator lights will not reach 100%

1. Pool water below 60°F (no action necessary unless SALT LOW alarm is on)
2. Clean cell (see pages 2/3 CLEANING THE CELL)
3. Add salt (see pages 4/5 MAINTAINING SALT LEVELS)
4. Cell ‘dying’.

Flakes of calcium in pool.

Clean cell more frequently (see pages 2/3: CLEANING THE CELL)

No sanitizer production (no reading on your Test Kit), check the following:

1. Main power OFF
2. ***Soft Chlor*** switched OFF
3. Output Control set too low
4. Circuit-breaker is not reset on the rear of the ***Soft Chlor*** power pack.
5. Small black sensor wire not connected to ***Cell.***
6. Dirty ***Cell***. Cell needs cleaning.
7. Insufficient chlorine conditioner/stabilizer (cyanuric acid). Should be 50 PPM
8. Nitrates/phosphates in water causing high chlorine demand.
9. Insufficient filtering time.
10 Dirty filter - clean filter.

Low sanitizer level (too low a reading on your Test Kit), check the ***following...***

1. ***Cell*** dirty
2. Output Control set too low
3. Insufficient filtering time (hours per day)
4. Low salt level
5. Filter dirty, flow rate low (clean filter)
6. Insufficient chlorine conditioner/stabilizer (cyanuric acid). Should be 50 PPM

Sanitizer level OK, but water cloudy, murky - check the following

1. pH too high. Adjust to 7.2 - 7.8 range
2. Stabilizer level too low
3. Filter dirty, poor circulation or insufficient filtration
4. Filter pump faulty
5. Filter unable to trap fine particles. Add water clarifier to pool to bind particles together.
6. Water ‘tired’ - drain all or part of pool and refill.

Sanitizer being produced but pool water has turned a clear green color.....

This normally occurs when chemicals react with the minerals in brand-new fill water. Use a **Mineral and Stain removing (sequestering/chelating) agent** in the pool water. This should be available at your local pool shop or the pool section of major hardware chains.

LIMITED WARRANTY

1. Materials and Workmanship. SOFTWATER POOLS, INC. warrants that the SOFT CHLOR will be free from defects in material and workmanship for two (2) years from the date of installation.

2. Extended Cell Pro-Rated Warranty. After the expiration of two (2) years from the date of installation, SOFTWATER POOLS, INC. warrants the SOFT CHLOR electrolytic cell for a further one (1) year on a pro-rated basis. This pro-rated schedule is as follows:

Beginning with the first day of the 25th month and ending on the last day of the 36th month the pro-rated charge for a replacement cell will be calculated using the following formula:

Current Retail Price ÷ Length of original warranty (36 months) x Number of months since date of installation = Pro-rated charge for new cell.

3. Original Owner. This limited warranty extends only to the original Buyer and is not transferable to subsequent purchasers of the property or pool equipment without the prior consent of SOFTWATER POOLS, INC.

4. Repair or Replacement. If a defect in materials or workmanship covered by this warranty occurs, SOFTWATER POOLS, INC, will, with reasonable promptness during normal working hours, remedy the defect or replace the Chlorinator system at no expense to Buyer provided Buyer notifies SOFTWATER POOLS, INC. in writing of the defect within thirty days.

5. Exclusive Remedy. BUYER'S RIGHT TO REPAIR AND REPLACEMENT OF THE SYSTEM ARE THE EXCLUSIVE REMEDIES PROVIDED BY THIS LIMITED WARRANTY AND SOFTWATER POOLS, INC SHALL NOT BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING FROM ANY DEFECTS IN MATERIAL OR WORKMANSHIP OF THE SYSTEM OR ANY DELAY IN REMEDYING A DEFECT IN THE SYSTEM.

6. Performance. To obtain warranty performance, notify SOFTWATER POOLS, INC. in writing of any defect or claim at the address listed on the Sales Agreement within thirty days.

7. Limitations. SOFTWATER POOLS, INC. is not responsible for the following which are excluded from the coverage of this limited warranty: **(i) defects and failures resulting from abuse, lack of reasonable care or maintenance, neglect, failure to follow operating or installation instructions,** vandalism, acts of God or normal wear; or (ii) replacement of water in the pool or salt or chemicals used in treating such water including 'balancing' and discoloration correction; or (iii) energy used to heat such water as the result of performing any installation or repair.

8. Implied Warranties. This limited warranty is the only express warranty ***Softwater Pools, Inc.*** gives. If any other warranties exist, including but not limited to implied warranties of merchantability and fitness for a particular purpose, such warranties will last only as long as the term of this written warranty.
THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS, AND YOU MAY ALSO HAVE OTHER RIGHTS WHICH VARY FROM STATE TO STATE.

Chain of Warranty

Warranty service is the responsibility of SOFTWATER POOLS, INC, Inc. However, your ***Soft Chlor*** is backed by a warranty and service commitment that extends from the local distributors to the manufacturer.

For all warranty and service work, contact your local distributor:

SOFTWATER POOLS, INC.
236 West Portal Ave # 837
San Francisco, CA. 94127

Phone/Fax (415) 566-9012

Contact: Kevin Morgan

If for any reason your local distributor is unable to resolve your warranty or service problems, contact the manufacturer:

AIS Enterprises
11 Mungala Street,
Wynnum, QLD. 4178
AUSTRALIA

Phone: 011 61 7 3396-5222 Fax: 011 61 7 3393-3441

Contact: Kerry Gosse

SOFT CHLOR
Product Registration

Complete customer satisfaction and service is a top priority at SOFTWATER POOLS, INC To enable us to provide you with the service you deserve, be sure to register your ***Soft Chlor*** system promptly. Please detach and send in this registration page to:

Customer Service Department
Softwater Pools, Inc
236 West Portal Ave # 837
San Francisco, CA. 94127

Name:_____

Company:_____

Address:_____

City/State/Zip:_____

Home Phone:_____Day Time Phone:_____

Soft Chlor Model #: (AC15/20/30 etc)_____

Date Installed:_____

Purchased From:_____

Do you use a pool service: Yes_____No_____

If you use a pool service may we schedule a ***Soft Chlor*** orientation with your service

representative?_____

Service Company:_____

Representative:_____

Phone:_____

Would you like us to call you to schedule a courtesy call on the use of your ***Soft Chlor***?

Yes_____No_____