

COMPLETE SANITATION SYSTEM

Natural Pool Water Treatment

CSS 12 — Ozone/Salt Chlorinator

Prozone has combined ozone and salt together in one Complete Sanitation System for your pool



T-O₃ NATURAL TECHNOLOGY

Reduces Chemical Usage,
Improves Sanitation, Eliminates Odors
Produces Crystal Clear Water

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CSS 12

IMPORTANT SAFETY INSTRUCTIONS

Read and Follow All Safety Instructions

- Read and be familiar with this manual before installing, operating, or performing maintenance on the CSS 12.
- The CSS 12 is a universal voltage system.
- The CSS 12 must be installed in accordance with the installation instructions and diagrams provided in this manual.
- The CSS 12 power supply must be mounted vertically on a flat surface and a minimum of 5 feet from the pool.
- Use only the power cord provided with the CSS 12.
- Canada and some other regional codes mandate the use of GFCI protected circuits. If installation is completed by a licensed electrician or pool equipment installer, they will be required to verify this requirement for your area and comply during installation



WARNING: Disconnect all power to pool equipment prior to installation, maintenance, or removal of the CSS 12.



WARNING: Do not permit children to operate this product



WARNING: To avoid risk of electric shock, fire, or injury, service should only be performed by a qualified pool service professional.



WARNING: Installation must be performed in accordance with the National Electric Code and any applicable local or state installation codes.



WARNING: When mixing acid with water, ALWAYS ADD ACID TO WATER, NEVER WATER TO ACID.

SAVE THESE INSTRUCTIONS

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Record The Following Information and Save For Future Use

Installer:	Date of Installation:
Control Box Model Number: CSS 12	Control Box Serial Number:
Cell Model Number	Cell Serial Number:

Manufactured by
Prozone Water Products
3004 11th Ave.
Huntsville, AL 35805

Visit us on the Web
www.prozoneint.com

1.2 Introduction

Congratulations! You have purchased one of the most technologically advanced Pool Sanitation Systems in the world. The CSS 12 Ozone/Salt Chlorine Generator (Advanced Oxidation Processor™) is the most powerful solution for Sanitation and Oxidation requirements in your pool, the benefits of which will be evident from the very first time you use it and for many years to come.

1.3 Customer Responsibilities

Record the Following Information at Initial Installation of your CSS 12 Unit

Start-Up Water Analysis	
Date _____	Levels
pH	
Alkalinity	
TDS (Total Dissolved Solids)	
Cyanuric Acid (Stabilizer)	
Salt Levels	
Free Chlorine	
Calcium Hardness	
Metals	
Nitrates / Phosphates	
Saturation Index	

Proper Water Chemistry is Important to Protect Your Valuable Investment

The above information will be required for Technical Support conversations.
This information must be provided in the event a warranty claim is requested.

- ◇ Complete and mail in your warranty page included in this manual. Your warranty is not valid until this product is registered, and must be completed within 30 days of installation. You may register your unit by e-mail to, CSSTECHNICALSUPPORT@PROZONEINT.COM. Type Product Warranty in the subject box, and include in the body of your e-mail: 1. Name 2. Complete Address 3. Phone Number 4. Product Model number and Serial number, 5. Date of Installation. Keep your original sales receipt in case product needs to be serviced.
- ◇ Proper water balance must be maintained to protect your valuable investment.
- ◇ Ensure that your CSS 12 unit has been properly installed
- ◇ Check the Chlorine Generator Cell often; follow Cell Maintenance instructions in this manual located in Section 5
- ◇ Increase Chlorine Production percentage as warm temperatures increase.
(Hot weather conditions make it more difficult to maintain proper chlorine levels)
- ◇ Refer to our website for information on Basic Pool Chemistry at: www.prozoneint.com/manuals.php

△ **WARNING:** Failure to follow these maintenance instructions, and all other specified operating procedures might void the warranty of this product.

The Table below summarizes the levels that are recommended by The Association of Pool and Spa Professionals (APSP). It is important to maintain these levels in order to prevent corrosion or scaling and to ensure maximum enjoyment of the pool. Test your water periodically. Take a water sample in to be professionally tested by a Pool and Spa Professional at least once a month. Be sure to tell your local Pool Store that you are using a Complete Sanitation System, Ozone/Salt Chlorine Generator Combination System.

pH	7.2 to 7.6
Alkalinity	80 – 120 ppm
TDS	Less than 1,000 Excluding Salt
Cyanuric Acid	30 – 70 ppm
Salt Levels	2500 to 3000 ppm
Free Chlorine	.5 to 1.5 ppm
Calcium Hardness	60 to 400 ppm
Metals	0 ppm
Nitrates / Phosphates	<30 ppm

1D How Does it Work

Description:

Your CSS 12 System produces both ozone and chlorine. The Ozone Generator produces ozone with light energy, the way the sun does. Therefore, it is only emitting pure O₃ ozone that has no harmful by-products, unlike other ozone generators that use corona technology which produce nitrous acid compounds and other harmful byproducts. Ozone is a molecule of oxygen that is formed when three atoms of oxygen are bound together instead of the normal two atoms. The extra oxygen atom makes ozone the most powerful, naturally occurring oxidizer and sanitizer readily available. Pioneers of the original ozone generator cartridge, produced the first Ultraviolet Ozone Generating cartridge in 1977 for the swimming pool and spa industry.

The O₃, naturally produced ozone, generated by the CSS 12 System serves as the primary sanitizer and oxidizer, however, a small residual of free available chlorine is required at all times to control algae growth and provide a residual sanitizer requirement.

The CSS 12 System provides the necessary chlorine residual for your pool. A measured amount of pool salt is dissolved in the pool water. The Chlorine is made by passing a very low voltage electric current through the salt water as it flows through the Cell and back in to the pool.

The CSS 12 System (Advanced Oxidation Processor™) produces and combines ozone and chlorine. These super oxide compounds, even stronger oxidizers than ozone or chlorine alone, are injected in to the pool water through a patented Venturi Bypass Installation process.

While the initial costs of the system may seem sizable, the savings begin immediately. Using your CSS 12, you will eliminate almost all chlorine purchases. You will produce chlorine in your own backyard for pennies a gallon. In addition to the cost savings, you have eliminated the need to transport and store potent chlorine oxidizers and sanitizers. In most parts of the country, the costs are recovered in three to four seasons.

Specifications:

CSS 12	
Power Requirements	Dual Voltage 90 - 270VAC/50/60Hz
Operating Temperature	Air: 25°F to 140°F Water: 59°F to 110°F
Ozone Specifications	.4g/hr @ 110°F @ 60% RH
Salinity PPM	1500 to 4000 PPM 2500 PPM nominal
Chlorinator Production	20 g/hr = 1 lb/day
Pool Capacity	30,000 Gallons
Water Flow Rate	1 to 12 gpm
Dimension Specifications	15" X 10" X 6.5" 20 lbs.

Section 2

Product Installation

2.1 Installation Guidelines

- ◇ The CSS 12 must be correctly installed or your system may not work properly and the warranty will be voided.
- ◇ The CSS 12 should be installed on residential pools only.
- ◇ A qualified swimming pool professional and certified electrician must install the CSS 12.

2.2 Verify Contents

Verify that you have the following parts prior to starting installation. (For assistance, contact Prozone Customer Service at 256-539-4570)

Z43 Installation Kit (For new pool installation)

Refer to this list when ordering replacement parts

Description	Part Number	Quantity
Strainer	20975	1
Fitting, PVC, 3/4" MPT x 3/4" MHT	20580	2
Close Nipple 3/4"	20247	1
Metal Clamp 1-1/4"	20067	7
Polybraid Hose 3/4"	201641	120"
Fitting, PVC, 3/4" FHT x 1/2" SL, swivel	201605	5
Fitting, PVC, 3/4" SP x 3/4" HB	201140	7
Clear Hose 3/4"	20264	36"
Ball Valve, 3/4"	201159	1
Flow Meter w/1/4" CVT, 0-10 SCFH	600192	1
Fitting, PVC, 2"SP x 1-1/2"SL	201114	4
Tee, PVC, 2"SL x 3/4"FPT	201095	2

Z36 Installation Kit (For existing pool installation)

Refer to this list when ordering replacement parts

Description	Part Number	Quantity
Strainer	20975	1
Fitting, PVC, 3/4" MPT x 1/2" SL	201660	1
Fitting, PVC, 3/4" MPT x 3/4" MHT	20580	1
Fitting, PVC, 3/4" MHT x 1/2" SL	202153	1
Fitting, PVC, 3/4" FHT x 1/2" SL, swivel	201605	5
Fitting, PVC, 3/4" SP x 3/4" HB	201140	7
PVC Pipe 1/2" x 3"	20314	2
Metal Clamp 1-1/4"	20067	7
Flow Meter w/1/4" CVT, 0-10 SCFH	600192	1
Polybraid Hose 3/4"	201641	120"
Clear Hose 3/4"	20264	36"
Ball Valve, 3/4"	201159	1
Saddle Clamp, Outer Top	201155-4	2
Saddle Clamp, Outer Bottom	201155	2
Saddle Clamp, Inner Top	201155-2	2
Saddle Clamp, Inner Bottom	201155-3	2
Saddle Clamp Gasket	400076	2
Saddle Clamp Bushing	201155-5	2
Screw #14 x 1-1/2" PPMS	201863	4
Nut 1/4-20	20703	4

2.3 Quick Start Installation Guide

Before installing this product, turn pump off

CSS 12 Mounting Instructions

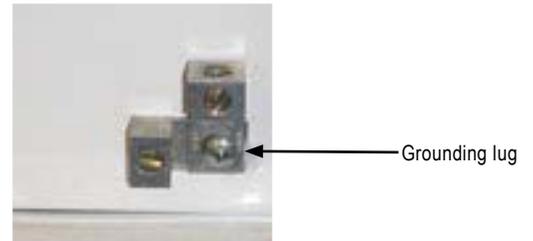
- Your CSS 12 can be mounted outside near the pump and filter, or inside a pool equipment house or basement
- There is a mounting bracket at the top of the Control Box.
- Use appropriate mounting screws and hardware (not included) for the type of material you will be mounting to, (brick, siding, concrete, etc.).
- Make sure the Control Box is mounted in the vertical position, level, with no obstruction of airflow.
- Control Box should be at least 4 feet above ground, preferably higher than filter.

Electrical System Connection *(Must be installed by a qualified electrician)*

- Your CSS 12 is a universal voltage system. It is preferable that this unit be wired so that it comes on when your circulation pump is running and off when pump is off.
- Your CSS 12 unit comes completely assembled, with the chlorine and ozone generators connected.

Grounding/bonding lug

The grounding/bonding lug on the bottom of the unit MUST be connected using a 6AWG solid copper conductor (not included) to the equipotential bonding grid (common ground point) of the swimming pool, along with any/all other pool equipment. Generally, this equipotential bonding grid can be the structural reinforcing steel of a concrete pool, the wall of a bolted/welded metal pool, or similar assembly. It is highly recommended to install a sacrificial anode, somewhere in the pool, (usually attached to the ladder).



New Pool Installation

- Do not add salt to the pool for at least 2 weeks, allow your pool surface to completely cure and harden.
- You may turn on your Control Box and allow water to flow through the cell, (This will not damage the cell).
- Run your CSS 12 while the pump is running so your new Ozone System can oxidize and purify your pool water.
- It may be necessary to add chlorine to pool water during this process. After pool surface is completely cured, refer to manual and add appropriate amount of salt.

2.4 Saddle Clamp Installation (for existing pools)

1. Turn pool pump OFF.
2. Locate section of existing plumbing in which you choose to install the entrance leg of the bypass.
Location should be in any accessible area after the pump, before the filter. The vertical pipe coming from the pump outlet is recommended.
3. Using a saddle clamp top as a guide, mark this spot. Remove the saddle clamp top and drill a 7/8" hole at this location through one wall of the pipe.

CAUTION: Do not drill too deep to avoid penetrating the opposite side in the plumbing.

4. Locate section of existing plumbing in which you choose to install the exit leg of the bypass.
Location should be in any accessible area after the filter, (and heater if equipped).

CAUTION: The bypass exit should ALWAYS be after the heater or damage may occur to the heater.

5. Using a saddle clamp top as a guide, mark this spot. Remove the saddle clamp top and drill a 7/8" hole at this location through one wall of the pipe.
6. Mount Saddle Clamp assemblies on both Entrance and Exit bypass locations using components listed. (See Figures 1 through 4 below).

For bypass Entrance, (before Filter)

Using **1-1/2" pipe**, Assemble:

Pre-filter Assembly

Saddle Clamp Top & Bottom

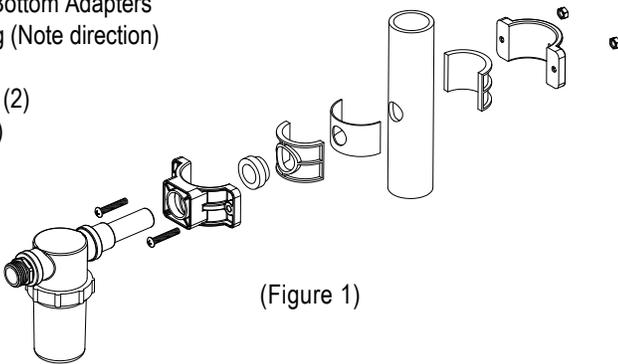
Top & Bottom Adapters

Bushing (Note direction)

Gasket

Screws (2)

Nuts (2)



(Figure 1)

For bypass Exit, (after Filter/Heater)

Using **1-1/2" pipe**, Assemble:

PVC Pipe with fitting

Saddle Clamp Top & Bottom

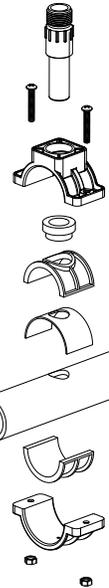
Top & Bottom Adapters

Bushing (Note direction)

Gasket

Screws (2)

Nuts (2)



(Figure 2)

For bypass Entrance, (before Filter)

Using **2" pipe**, Assemble:

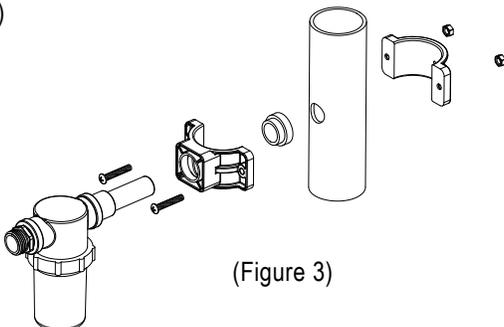
Pre-filter Assembly

Saddle Clamp Top & Bottom

Bushing (Note direction)

Screws (2)

Nuts (2)



(Figure 3)

For bypass Exit, (after Filter/Heater)

Using **2" pipe**, Assemble:

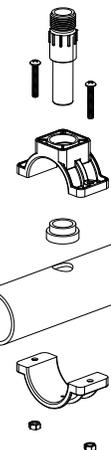
PVC Pipe with fitting

Saddle Clamp Top & Bottom

Bushing (Note direction)

Screws (2)

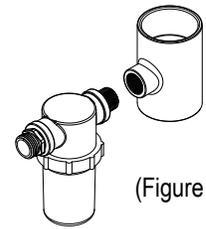
Nuts (2)



(Figure 4)

2.5 Installation for new pools (factory installation)

1. Verify pool pump is turned off.
2. First 2" PVC Tee should be installed after the pump but before the filter. 2" to 1-1/2" adapters are supplied if using 1-1/2" pipe. This pipe is usually a vertical pipe coming out of the pump outlet.
3. Second 2" PVC Tee should be installed after the filter, (and heater if equipped).
4. Locate the Pre-Filter assembly and apply teflon tape to the threads of the 3/4" MNPT close nipple. Screw this assembly into the first 2" tee, (after the pump, before the filter). Note arrow showing water flow direction. Pre-Filter strainer should be at the bottom as shown in figure 5.
5. Locate the 3/4" MNPT by 3/4" MHT fitting. Apply teflon tape to the threads of the 3/4" MNPT. Screw this fitting into the second 2" tee, (after the filter, (and heater if equipped)). See figure 6.



(Figure 5)



(Figure 6)

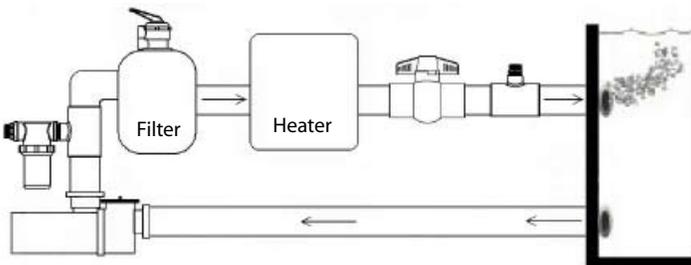
2.6 Connecting the bypass hoses

1. Connection method is the same for a new pool installation or an existing pool installation using saddle clamps.
2. Measure and cut a length of 3/4" hose to reach from the top of the chlorine cell, looping over the control box, to the bypass exit point.
3. Route this hose through the clamps on the left side of the control box, allowing approximately 22" above the box.
4. Install a 3/4" FHT by 3/4" Barb fitting in each end of this hose, and secure with metal hose clamps.
5. Connect one end to the top of the chlorine cell, and the other end to the 3/4" MHT fitting on the exit point of the bypass.
6. Measure and cut a length of 3/4" hose to reach from the bottom of the chlorine cell to the pre-filter.
7. Install a 3/4" FHT by 3/4" Barb fitting in each end of this hose, and secure with metal hose clamps.
8. Connect one end to the bottom of the chlorine cell, and the other end to the 3/4" MHT fitting on the pre-filter.

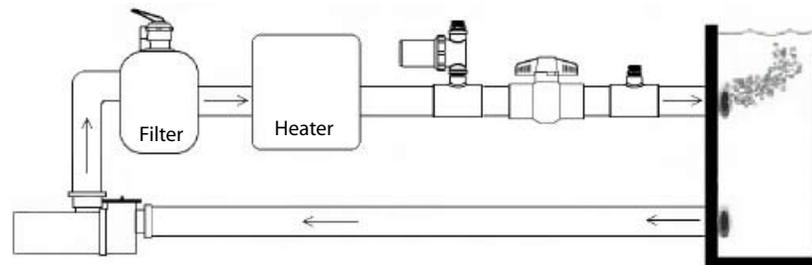
WARNING! Bypass hoses MUST be installed and supported in such a manner as to not kink.

2.7 Alternate installation methods

Standard bypass installation is illustrated on page 11. If sufficient air flow cannot be achieved using this method, a ball valve may be purchased and installed after the filter, (and heater if equipped), using one of the methods shown. Ball valve must always be installed before the bypass exit point. Air flow requirements are discussed in greater detail in section 3 of this manual.

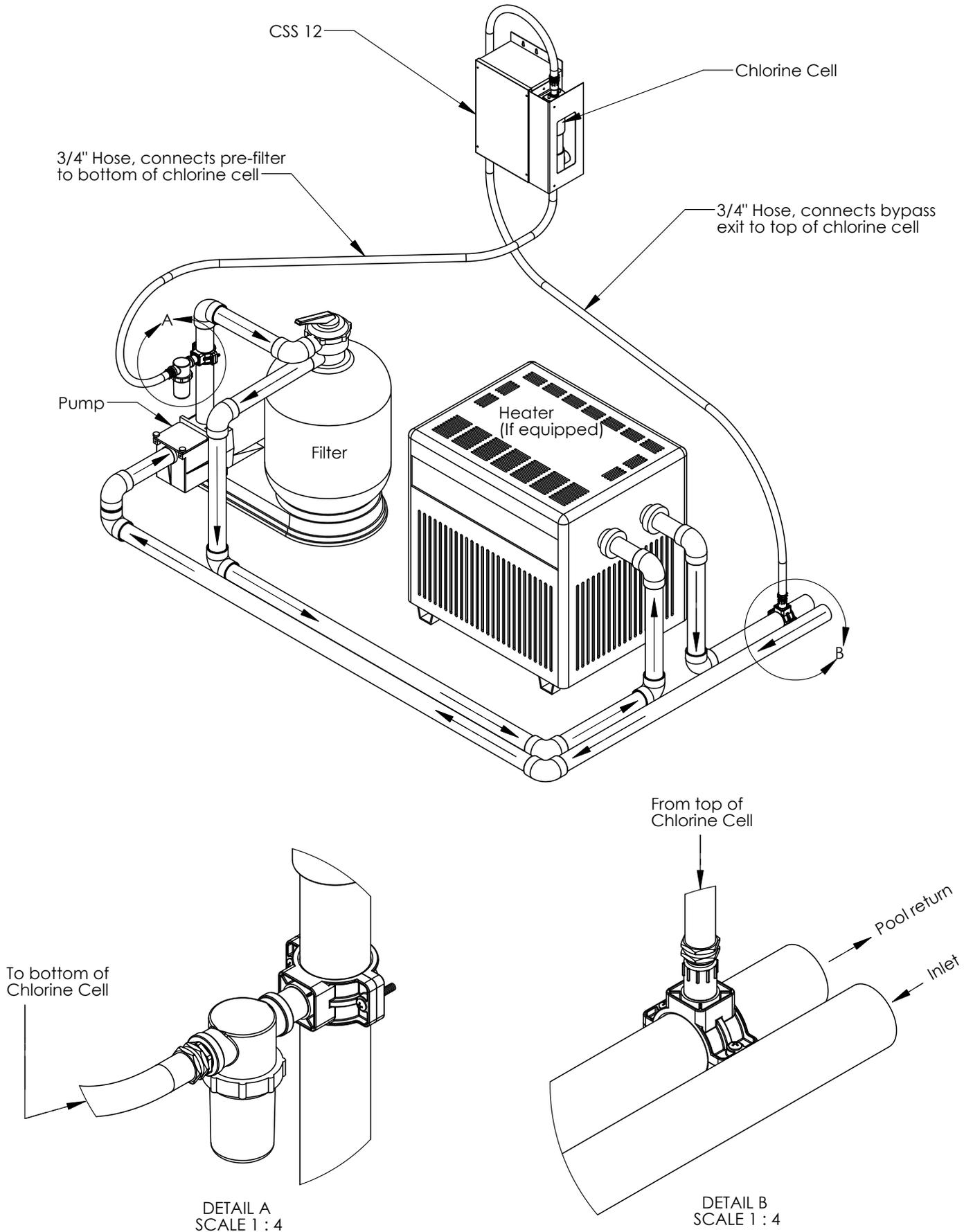


Alternative Installation Method # 1



Alternative Installation Method # 2

2.8 Standard Bypass Installation



3.0 Air Flow Setup

Your CSS 12 System comes supplied with a 0-10 SCFH air flow meter. This meter is used to properly setup the CSS system to guarantee sufficient air and water flow through the bypass. To test your system for air flow, verify CSS 12 is turned off. Turn pool pump on. Disconnect 1/4" hose from Injector port # 1. Injector is located on top of chlorine cell on the right side of the control unit. Connect the 1/4" hose, on the air flow meter, to injector port # 1. Holding meter in a vertical position, you should get a reading between 2 SCFH and 10 SCFH. If flow is lower than 2 SCFH, a ball valve will need to be installed in the plumbing as shown in alternative installation methods on page 10. This may require moving bypass entrance and exit locations. If a ball valve is added to the system, it will need to be adjusted to maintain the required air flow. This is done by first starting with the ball valve in the fully open position. With the air flow meter attached to injector port # 1, slowly close ball valve until the meter reads 2 SCFH to 10 SCFH, (5 SCFH is the best air flow). Never turn the ball valve more than half-way closed. The air flow should never be greater than 10 SCFH. Once air flow is set as required, remove 1/4" meter hose from injector and reconnect 1/4" system hose to injector port # 1. System can be operated at this point but will not generate chlorine until proper amount of salt is added to the pool.

3.1 Water Testing

Establishing Water Balance

While the CSS 12 systems are designed to reduce the amount of chemical care — **it does not eliminate the need for water balance!**

Understanding how the unit fits into overall pool care is extremely important. Before starting your new sanitation system, you will need to take a water sample to your local pool dealer for a full analysis. There are two stages to clean, clear, safe water.

1. **Backyard Testing:** Your pool water should be checked one to two times per week for pH, Chlorine, and salinity (salt).
 - a. pH should be between 7.2 and 7.6. Any readings outside of this range needs to be corrected immediately.
 - b. Free chlorine should be between .5 and 1.5 ppm (parts per million). Chlorine levels that are too high may require an output adjustment on your system. Chlorine levels that are too low may require salt addition or adjustment of the system.
 - c. Salinity should be between 2500 ppm and 3000 ppm. Levels that are too low will result in inadequate chlorine production. Levels that are too high, (>3,300 ppm), will result in CSS system shutting down.

Professional Testing: A water sample needs to be brought to your Professional Pool dealer once a month to have the overall water balance checked.

- a. In addition to verifying your readings, the dealer will also test for Alkalinity, Calcium, Stabilizer, and the presence of any unwanted minerals like iron and copper. Electronic salinity testing is critical to CSS system performance.

Δ **WARNING:** Failing to properly balance your water may result in damage to the CSS 12 unit as well as the pool surface and equipment. Bathers will experience discomfort. Note: This and all related product warranties do not cover failure or damage caused by improper pool water balance.

3.2 Preparing Your Pool

Test and balance the pool water. Pool water must be at the proper salinity level, and chemically balanced before operating the CSS 12. Refer to Table on page 6 for required levels. Pool should be balanced in this order:

- 1) Balance pH to 7.2 - 7.6
- 2) Shock pool with Chlorine to 20 PPM
- 3) Brush pool
- 4) Vacuum and back flush to dump
- 5) Add required salt
- 6) Wait 4 hours for pool to equalize
- 7) Balance pH
- 8) Run circulation/CSS system for 48 hours and check chemical levels
- 9) Check Filter

3.3 Adding Salt

Test the salt level of your pool before calculating the salt requirement, particularly if a salt chlorine generator has been used, or sodium chloride has been previously added to the pool water. It is best to use an electronic measuring device rather than test strips for accurate measurement. If pool has excessive salt or salt is not properly mixed, system may eventually shut down and must be re-started by turning power switch off and on again. Salt should be thoroughly dissolved before turning system on. When adding salt after pool has had initial bank, it is best to dissolve salt prior to adding it to the pool. Salt should be added per the following formula to meet concentration requirements, providing the pool water has not already had any salt added to it.

21 pounds of salt for every 1,000 gallons of pool water

Pool size in gallons can be determined from the following formulas:

- Rectangular – Length x Width x Average Depth x 7.5 (for gallons) or x 1000 for liters.
- Round – Diameter x Diameter x Average Depth x 5.9 (for gallons) or x 785 for liters.
- Oval – Length x Width x Average Depth x 6.7 (for gallons) or x 893 for liters.

3.4 Balance Pool Chemicals

- ◇ Add Cyanuric acid (chlorine stabilizer) at the same time you add salt. Cyanuric acid helps maintain chlorine levels and it is required to maintain chlorine levels during hot weather. A pH buffer can also be added at this time. The appropriated concentration of Cyanuric acid is from 30 to 70 ppm.
- ◇ Before turning on the CSS 12, add Chlorine Shock to pool to reach 20 ppm for initial start up. Run the pool pump and Chlorine Generator for a minimum of 12 hours a day. The actual run time will be affected by the chlorine demand from the environment or bathers.
- ◇ The initial set up percentage of chlorine should be set at 50% for the first 3 to 5 days. Test and adjust the chlorine percentage until the chlorine requirement stabilizes and maintains 0.5 to 1.5 ppm of free chlorine.
- ◇ If the CSS 12 is being installed on a new plaster pool, do not add salt for 2 to 3 weeks after pool has been filled to help protect plaster, and to allow time for the plaster to cure. Follow your pool builder's suggestions on cure time allowance.

You may run your new CSS 12 system without salt in the pool. It will not harm the system, but will not generate chlorine until salt has been added. The patented Venturi Bypass Installation allows Ozone to flow in to the pool water. Ozone helps in the hardening process for plaster and gunite pools.

3.5 Pool Circulation

In order for your system to produce chlorine and effectively inject ozone in to the water, the circulation system must operate at optimum levels. Poor water flow, or short operating cycles will hamper the ability of the CSS 12 to work properly. Below are some of the guidelines for system operation:

- The pool circulation/CSS system should operate a minimum of 12 hours per day. Running the system during daylight hours is best. Minimum of 8 hours continuously during the day; 4 more hours at night.
- The filter should be cleaned or backwashed as described in the equipment manufacturer's manual. Filters that become clogged with debris will not allow proper water flow and may damage pool equipment including the CSS 12 chlorine generator.
- Skimmer and Pump baskets MUST be emptied regularly to keep the circulation system operating and prevent blockage.
- Debris should be removed quickly from the pool to prevent chlorine demand situations.
- Periodic brushing of pool surfaces prevents algae from growing and diminishing the effectiveness of the pools filtration and sanitation systems.

3.6 Pool Preparation Warnings

△ **WARNING:** Do not use Copper or Bromine based algaecide products in your pool when the CSS 12 is installed

△ **WARNING:** Always disconnect automatic pool cleaners before adding salt. Salt must be completely dissolved before turning on the pool cleaner.

△ **WARNING:** Baquacil (Biguanide) pools must be drained and refilled with fresh water prior to using the CSS 12.

△ **WARNING:** Use swimming pool grade salt ONLY (low mineral content sodium chloride)

△ **WARNING:** Do not attempt to add salt via the skimmer, this could damage the filter and pump.

4.1 System Operation

The recommended run time to generate adequate amounts of chlorine is 12 hours per day. 8 hours continuously during the day; 4 more hours at night. Increased run times are recommended for highly loaded pools. The system will generate chlorine and ozone ONLY when the pool pump is running. After break point chlorination and as chlorine levels off at 1 ppm, run system for 48 hours or until the chlorine level stabilizes at 1 ppm. Since your CSS system also generates ozone, (the primary sanitizer/oxidizer), 0.5 free chlorine is all that is necessary when running the unit for 12 hours per day.

The CSS System is designed to produce a low level of chlorine that ensures the pool has adequate disinfection. This quantity of chlorine can be as much as 90 percent less than what is required in a chlorine-only pool with no ozonator.

Normal test kits measure chlorine residual (combined chlorine, which is chlorine combined with bather load). Since ozone will normally keep bather load at very low levels, combined chlorines will be at very low levels, making detection difficult. For water testing, DPD liquid test kits work the best, as opposed to test strips. To get an accurate chlorine reading, a water sample should be taken to your pool/spa dealer for testing (test strips will not be accurate enough for this). Water should be tested every week to maintain maximum water quality and enjoyment.

Salt chlorine generators may naturally increase the pH of the spa. Monitor pH regularly and adjust if it is not between 7.2 and 7.6.

NOTE: The pH value is a very important factor for ensuring maximum chlorine readings. As pH increases above 8.0, chlorine readings will decrease rapidly. pH MUST be kept between 7.2 and 7.6. Test weekly!

Water with high calcium levels will result in scaling of the Chlorine Generator Cell plates (high pH will worsen the effect of high calcium).

Break-point chlorination is required periodically (normally about every 30-60 days) using dichloride. DO NOT use non-chlorine shock or calcium hypo-chloride. Lightly shocking the pool is not necessary, and not recommended.

Salt level should be checked weekly, using an electronic meter, by taking a water sample to your pool/spa dealer and maintained between 2,500 ppm and 3,000 ppm.. Salt should be pre-dissolved prior to adding to the pool and system should be turned off. Brush pool thoroughly before restarting system. If salt level is higher then 3,300 ppm, drain pool a few inches and replenish with fresh water until proper level is reached.

Brush pool thoroughly at least once a week.

Chlorine Generator Cell should be checked periodically for blockages or obstructions and cleaned as necessary.

4.2 Chlorine Adjustment

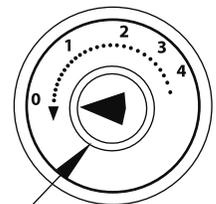


Power Indicator Light

Cell Power Light

Chlorine Output Dial

Adjust chlorine output dial as needed to maintain chlorine level between 0.5 ppm and 1.5 ppm. Higher bather load and/or elevated ambient temperature may require chlorine output to be increased.



Chlorine Output Dial

5.1 Cell Maintenance

Inspect the Cell plates at least once a week to ensure that they are clear of foreign matter and other debris.

NOTE: A filtration problem exists (contaminated water is by-passing the filter) if debris is found to have built up around the electrodes and plates of the Cell and should immediately be corrected.

5.2 Calcium Deposits

If calcium deposits form on the electrodes and plates, it may be caused by one of the following:

- a) Low Water Flow through the Cell – Check the hoses and the injector for blockage of water flow, and/or kinking.
- b) Poor water Quality - High calcium content, High pH levels, clean cells (see below).
- c) Aged Cell – After 3-5 years loss of plate coatings may decrease the effectiveness of the self-cleaning process. Replace cell.

5.3 Cleaning the Chlorine Generator Cell

**WARNING: FOR QUALIFIED POOL PROFESSIONALS ONLY
DO NOT ATTEMPT THIS PROCEDURE WITHOUT PROPER TRAINING AND PROPER VENTILATION**

**CAUTION: USE PROTECTIVE EYE WEAR, RUBBER GLOVES, AND PROTECTIVE CLOTHING
USE ONLY APPROVED CHLORINE CELL CLEANING SOLUTION OR CALCIUM-DISSOLVING SOLUTION SUCH AS CLR[®]**

1. Turn CSS 12 System and pool pump OFF and allow water to drain back out of the cell and bypass system.
2. Disconnect the 3/4" system hose from the bottom of the chlorine generator cell.
3. Disconnect the 3/4" system hose from the bypass exit point. Screw cap on exit point if necessary.
4. Your CSS 12 System comes supplied with a 3/4" by 36" clear drain hose for the cell cleaning process.
5. Connect this clear drain hose to the bottom of the cell. Verify the small ball valve on the end of the hose is fully open.
6. Holding the clear drain hose as high as possible, fill the cell with chlorine generator cell cleaning solution through the clear hose until the solution fills the cell completely.
7. Close the small ball valve at the end of the hose.
8. Allow cleaning solution to soak in the cell for 60 minutes.
9. Open the small ball valve and drain the solution into a waste bucket or approved container.
10. Connect a garden hose to the 3/4" system hose, that is connected to the top of the cell.
11. Keeping the drain hose end down in the waste container, slowly turn the water on to flush the cell.
12. Turn water off and disconnect the garden hose from the 3/4" system hose.
13. Disconnect the clear drain hose from the bottom of the cell.
14. Reconnect the 3/4" system hoses to bottom of cell and bypass exit point.
15. Restart pool pump and turn CSS 12 System on.
16. Dispose of the cleaning solution waste according to the instructions on the cleaning solution container.

Section 6

Winterization and Spring Start -UP

WINTERIZATION

Freezing water may damage the Cell's internal components and may cause cracks in the casing, voiding the Warranty. If severe, or extended periods of freezing temperatures are possible, drain all the water from the pump, filter, chlorine generator cell, supply and return lines before freezing occurs.

SPRING START-UP

Balance your pool and perform start-up as listed in this manual.

PROZONE® Advanced Oxidation Purification Products LIMITED WARRANTY

Warranty is offered on this unit for a period of 24 months from date of purchase, and extends only to the original purchaser. If this unit becomes unserviceable due to defects in materials or workmanship within 24 months from date of purchase, it will be repaired or replaced without charge. Warranty does not apply to breakage due to obvious misuse. Warranty period for a repaired or replaced unit applies to the original date of purchase of the unit. Manufacturer will repair or replace based on evaluation of returned unit.

In order to receive warranty service, a Returned Goods Authorization (RGA) number must be obtained from Prozone before returning the product. The RGA number must be issued prior to end of warranty period. Product must be returned within 30 days of issuance of the RGA number. If the product is not received by Prozone within 30 days of RGA number issuance, another RGA number must be obtained; RGA number must be obtained before warranty period expires. Manufacturer will replace or repair after evaluation of unit.

This warranty along with the sales receipt must accompany the unit when it is returned. The RGA number must be printed prominently on the bottom left corner of the address side of the return packaging. To obtain an RGA number, or for any questions regarding warranty service, please contact:

PROZONE WATER PRODUCTS	email: sales@prozoneint.com
3004 11th Ave.	Tel: (256) 539-4570
Huntsville, AL 35805	Fax: (256) 539-4225

This warranty is void if the unit has been opened, or if the product identification label has been removed or altered. This warranty does not cover damage resulting from misuse, abuse, accident, fire, flood, lightning or other acts of nature, lack of reasonable care, or subjecting the product to any but the specified voltage.

Under the terms of the warranty, manufacturer assumes no responsibility for any injury, loss or damage (direct, indirect, or consequential) arising out of the use of or inability to use the product. Manufacturer assumes no responsibility for labor involved in removal of defective part, shipping or installation of new part. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state. This warranty is in lieu of all other warranties, express or implied.

RETURNS WITHOUT AN RGA NUMBER WILL BE REJECTED.

The Following Invalidates the Warranty:

1. Incorrect installation
2. Misuse or abuse
3. Failure to inspect the cell on a regular basis
4. Cell is used for any other purpose than described herein.
5. Operating the Cell at a pressures exceeding 30 psig
6. Operating the cell at salt levels lower or higher than recommended
7. Failure to winterize system

PLEASE COMPLETE THIS WARRANTY ON THE DAY OF INSTALLATION AND RETURN TO

PROZONE WATER PRODUCTS INC.
3004 11TH AVE
HUNTSVILLE, AL. 35805

Failure to return this warranty information will void this warranty.

Date of purchase: _____

Purchased from: _____

Model Number: _____

Supplier Telephone No.: _____

Date of installation: _____

Installed by: _____

Name of purchaser: _____

Address: _____

City: _____ State: _____ Zip: _____

Telephone No.: _____

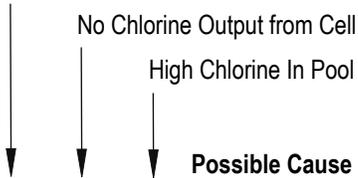
FAX number: _____

E-mail: _____

Residential application:

8.0 Trouble Shooting Guide

Low Chlorine In Pool



			Possible Cause	Possible Remedy
X			Low Salt	Test salt levels, add salt if required
X	X		Chlorine Generator Cell Dirty	Visually check cell, refer to manual for cleaning procedures
X			Poor Water Flow	Filter dirty / Bypass obstruction / Leaves in basket
X			System Operation Time Too Short	Increase running time for pump and CSS unit
X			pH Range Too High	Add acid (hydrochloric or dry acid) refer to manual
X			Low Chlorine Stabilizer	Refer to manual, consult local pool professional
X			Chlorine Output % Set Too Low	Refer to manual for proper setting to get maximum chlorine output
X			Pool Filter Dirty	Refer to Filter owners manual for proper cleaning procedures
X	X		Pool Water Circulation Inadequate	Increase run time for pool pump, refer to pump manual
X	X		Pump Problems	Refer to pump owners manual
X	X		Excessive Air In Chlorine Generator Cell	Check flow through Bypass
X	X		Unit Not Turned On	At bottom of unit, switch toggle to "On" position
		X	High Salt	Dump pool water to skimmer, add fresh water / Retest salt levels

If pool has excessive salt or if salt is not properly mixed, system may eventually shut down and must be restarted by turning off the power switch, (located on the bottom of the unit), and turning it back on again.

If system shuts down due to excessive salt, a water sample should be taken to your pool/spa dealer for an accurate, (electronic), salt reading.

Once salt level exceeds 3,000 ppm, the CSS system automatically lowers power, therefore chlorine production.

If salt exceeds 4,000 ppm, system may shut down and will require a power restart. Dilute pool water to adjust.

If power indicator light does not come on when system is powered up:

Verify system switch is in the "On" position.

Check for water flow through the bypass, ensuring there are no kinks in the hoses.

Verify ozone optic indicator light is on.

If chlorine reading is low or non-existent:

Check for debris in cell.

Run system longer

Reset power switch

Perform "bucket test" to verify chlorine cell is working, by first turning off pool pump. Disconnect 3/4" hose from bypass exit. Screw supplied cap onto exit point fitting. Turn pool pump on and fill a 5-gallon bucket with the water coming out of the 3/4" bypass hose. Turn pump off. Take a sample of the water in the bucket. Dilute 10:1 with distilled water and test. Perform this test twice, once with the chlorine dial at 100% and again with the chlorine dial at 20%. Remove cap and reconnect 3/4" hose to bypass exit point fitting before restarting pool pump.

If you still get no chlorine reading, contact a Prozone customer representative.