



# Sunshine Pool Products, LLC

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## POOL SUNSHINE IONIZER MODELS SPD, SPD2 AND SPS INSTALLATION INSTRUCTIONS

Thank you for purchasing the Sunshine Ionizer, the world's best ionizer, and best ionizer value.

1. Before installing the Sunshine Ionizer the pool should be clean, sanitized, pH balanced, free of algae, and the filter cleaned.
2. Turn off the power to the pool equipment.
3. Install the 2" tee after the filter. If this is not possible then before the filter is OK. See FIG. 1. The electrode cell must be at the bottom or side so that no air will be trapped in the cell. Make sure there is clearance to remove the electrodes before installing tee. See FIG. 2. Cut a 2 3/4" section of pipe out where the electrode cell will be installed if your existing pipe is 2" PVC. Cut a 3 1/2" section out if your existing pipe is 1 1/2" PVC. Glue the 1 1/2" x 2" bushings into the 2" tee using PVC glue if your existing pipe is 1 1/2". Do not use the bushings if your existing pipe is 2" PVC. If you ordered your system for 2" plumbing you will not have the reducing bushings. Glue the tee in place using PVC glue making sure it is installed so no air will be trapped in the cell. See FIG. 3. If you are not sure how to install the cell you should have a swimming pool contractor do it for you.
4. Mount the controller on a wall or vertical surface where the cord will reach the cell. See FIG. 1. It is best to install the controller where it is protected from the sun and weather. Fasten the controller to a vertical surface with the 4 #6 x 3/4" screws provided. Do not mount any other way. The cords must be located at the bottom of the controller and not at the top or side.
5. The controller power supply should be connected to the power to the pump so it is on only when the pump is running. It is auto sensing and can be connected to either 120 or 240 volts AC. If you cut the plug off the power cord, the AC power is connected to the power cord as follows: the black or brown wire is the hot wire; the white or blue wire is the neutral wire if 120 volt or the other hot if 240 volt; the green or green and yellow wire is the ground. A licensed electrician should perform the wiring if you are not sure how to wire the AC power.
6. Turn on the power to the pool equipment.

See the Drawing on the Next Page.

SUNSHINE POOL PRODUCTS  
 DELUXE SUNSHINE IONIZER MODEL SPD  
 INSTALLATION DIAGRAMS

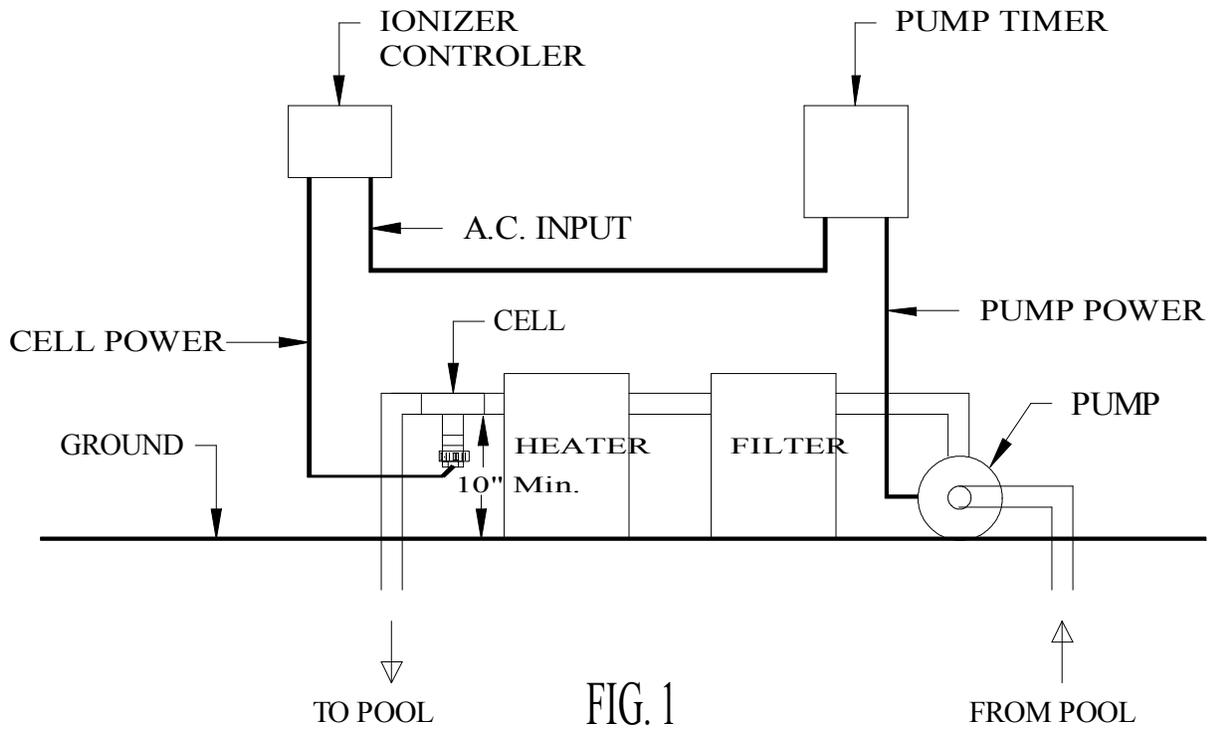


FIG. 1

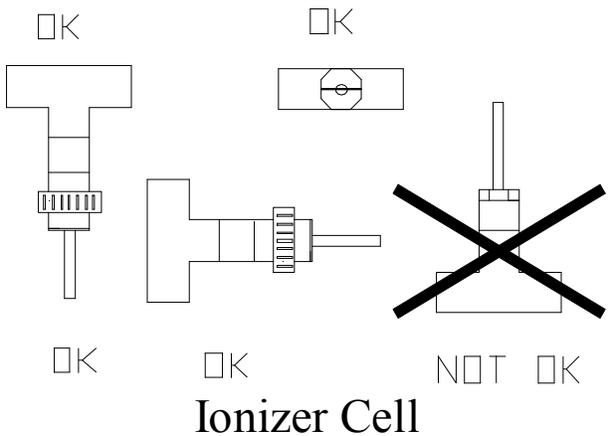


FIG. 2

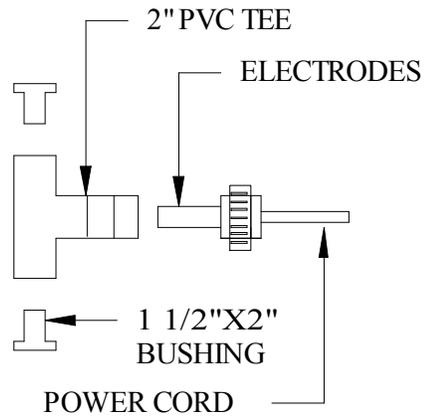


FIG. 3

## SUNSHINE IONIZER OPERATION

1. Turn on the pool pump.
2. Test the pool water and make sure the water is properly balanced and sanitized. Test the pool water with the copper test kit to see if there is copper already present in the pool. If copper is already present it may be from a copper based algaecide or from a previous pH problem.
3. Warning: If your pool has been using Bacquacil or any similar sanitizer make sure your pool water has been properly changed back to a chlorine pool before proceeding.
4. Add the Instant Ions to your pool according to the directions on the label. Do not add Instant Ions until the pool water is sanitized and balanced so that it is not used up.
5. Turn the controller output to MAX. The CURRENT Light and the OUTPUT light will come on. The OUTPUT light will change color equally every five minutes as the polarity to the cell is reversed to indicate the cleaning circuit is operating properly. The OUTPUT light will stay off for 5 seconds each time the polarity is reversed while changing the color of the light. Turning the control towards MAX increases the on time to the cell. For example, if the control is set at 5 the output power to the cell will be on 50% of the time and the OUTPUT light will be on only while the output is on.
6. The CURRENT light will flash to indicate the current to the electrodes. Low Current = 3 rapid Flashes. Normal Current = 1 Flash per 100 ma. 1 Amp = On. High Current = 10 Rapid Flashes. Output off = 1 flash every 5 seconds. The CURRENT light only indicates the current while the OUTPUT light is on.
7. With the control set on MAX note the flashes of the CURRENT light. If it indicates low current, add 20 pounds of salt per 10,000 gallons of pool water to your pool. Use pure salt with no additives. Pool salt is recommended. Low current indicates that the pool water is fresh and needs some salt added to the pool water to increase the current, or the electrodes need replaced. If the current is low with the control set on MAX after being in service for months, check the electrodes for wear.
8. Turn the pump timer off and make sure the ionizer controller power is turned off also. Turn the pump timer back on and make sure the ionizer controller power is on.
9. Now you can stop using heavy sanitizer levels! Maintain a constant chlorine level as low as .2 ppm with chlorine tablets or other types of chlorine. Chlorine tablets are recommended. Do NOT use Calcium Hypochlorite chlorine to shock your pool or to maintain a chlorine level as it hardens the water and will cause scaling problems. It has been proven that maintaining .2 ppm chlorine and .2 ppm copper is more effective sanitation than using only chlorine at 2 ppm. Your water will now be safe, clean, clear, and algae free with a very low level of chlorine. You can use bromine or ozone as the sanitizer if the proper levels are maintained, but we recommend chlorine. You cannot stop using chlorine or other sanitizers when using an ionizer.
10. Test the pH and chlorine level weekly using a test kit that uses liquid drops that will detect low levels of chlorine. Some kits will only detect down to .5 ppm but you can still estimate .2 ppm if the color is about half the color as at .5 ppm.
11. Test the copper level with the copper test strips provided at least once a week until you have found the proper setting for your pool. Now you should only need to test the copper level once or twice a month because the copper level does not dissipate like sanitizers.
12. Do not over ionize your pool. When the level reaches .3 ppm turn the control down and adjust as necessary to maintain .3 ppm. If the copper level reaches .5 ppm turn the ionizer to MIN until the level drops to .3 ppm. If algae are ever present in the pool, shock the pool to 5 to 10 ppm, add a non-copper algaecide, and maintain 3 ppm of chlorine until all algae are gone. We recommend maintaining a non-copper algaecide level in your water during the hot summer months.
13. Maintain the pH at 7.2 to 7.6. Failure to maintain your pH could result in staining if the pH is allowed to drift above 8.0.
14. At least once a year remove the electrodes and inspect the electrodes. It is normal for the electrodes to have a bluish green coating on them but they should not be clogged with a buildup between the electrodes. If you have a union, hand tighten the cell fitting when installing.
15. When operating in the winter in mild climates, or in spring or fall in cold climates, when the water is cooler than normal, you will need to set the output control to a lower setting to maintain .3 ppm copper. Continue

to maintain pool chemistry until your water temperature drops to 50 degrees. When operating in freezing climates winterize your pool water and pool equipment as normal by making sure the pH and copper level are at the proper level then give the water a chlorine shock to 5 ppm. Run the pool circulating pump for at least 1 hour. Turn off power to pool equipment. Remove the cell from the tee fitting and drain all water from the cell. Clean the electrodes if needed. Replace the electrodes leaving the cell loose enough to allow water to leak out if it gets in the cell. Tighten the cell before operating the pool equipment in the spring.

16. Keep these instructions in a safe place.

IF YOU HAVE ANY PROBLEMS, PLEASE REED THE THROUBLESHOOTING GUIDE BELOW

## TROUBLESHOOTING GUIDE

**Please read this guide before calling your dealer or the manufacturer.**

PROBLEM	CAUSE	SOLUTION
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1. Low Copper Level	Output Control setting to low  Insufficient Chlorine level  Insufficient pump run time  Did not add Instant Ions  Worn Out Electrodes  Equipment Failure	Increase Output Control setting  Shock water with chlorine and test for at least 5 ppm after 30 minutes  Pump should run at least 8 hours every day  Add Instant Ions following instructions on bottle  Check electrodes for wear. If they have worn to small stubs, they need replaced.  Check OUTPUT light with control set at MAX. It should always be on. Check Current light. It should indicate at least one flash.
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2. High copper level	Output Control setting to high  Too much Instant Ions added to pool	Set control to MIN until copper level is below .3 ppm. This may take a few weeks.  Set control to MIN until copper level is below .3 ppm. This may take a few weeks.
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3. Cloudy Water	Insufficient Chlorine Level  Insufficient pump run time  Dirty filter  Low copper level	Shock water with chlorine and test for at least 5 ppm after 30 minutes. Shock if ever the water just begins to cloud.  Pump should run at least 8 hours every day  Check and clean filter  See # 1
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PROBLEM	CAUSE	SOLUTION
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4. Algae in water or on pool surfaces	Low copper level  Insufficient Chlorine Level	See # 1  See # 3
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	Need to treat water for algae	Treat water with a non-copper based algaecide, and shock water with chlorine daily until all algae are gone.
6. OUTPUT light not illuminated	No AC power Control is cycled off Cannot see light in direct sunlight Shorted Electrodes Controller Failure	Check incoming AC power Turn control to MAX Check in low light Clean and check electrodes for a short using a meter Contact Dealer for repair
7. Low Current	Low TDS causing low output Worn out electrodes	Add 20 lb of rock or granular salt per 10,000 gallons of pool water. Electrodes that have eroded to small stubs will cause low current and the electrodes need to be replaced.
9. Scale Build-up on Electrodes	Controller cleaning cycle failure Electrodes need manual cleaning	Observe CELL POWER light to see that the color is changing from red to green equally every five minutes. Control will need to be set at MAX temporarily to observe light. A blue scale on electrodes is normal. If there is a heavy scale build-up between the electrodes, then clean electrodes.
10. Blue or copper colored stains on pool surface  Note: With proper operation and proper pool chemistry your ionizer will not stain your pool.	Copper level to high pH to high Insufficient Chlorine Level Improper application of granular chlorine Other high mineral levels in water such as iron	Set control to MIN until copper level is below .3 ppm. This may take a few weeks. Add acid to lower pH. The pH should always be tested weekly and maintained at 7.2 to 7.6 Shock water with chlorine and test for at least 5 ppm after 30 minutes Granular chlorine should be pre-dissolved before adding to pool water. Never use Calcium Hypo-chlorite as it adds scale and hardens the water. See # 11
11. Black or brown stains on pool surface	Insufficient Chlorine Level Other high mineral levels in water such as iron	Shock water with chlorine and test after 30 minutes for at least 5 ppm. Because of the low level of chlorine in an ionized pool a few stains may occur from minerals or dirt in the water. This is not from the ionizer minerals. Treat water with a stain remover. Your ionizer will need to be turned off for at least a week and Instant Ions may need to be added to the water after treatment. Maintain 3 ppm of chlorine during treatment.

**Do not call your Ionizer Dealer or Sunshine Pool Products with pool chemistry problems.**

**SUNSHINE IONIZER LIFETIME WARRANTY**

Sunshine Pool Products, LLC warrants SUNSHINE IONIZER for life from date of purchase with the following limitations. Labor and parts are fully covered for one year. Parts are covered at 50% off of suggested retail for year two. Parts are covered at 20% off of suggested retail for all years after year two. For warranty service return SUNSHINE IONIZER with a copy of your sales receipt, transportation prepaid, to the dealer you purchased it from, if available, or to Sunshine Pool Products, LLC. Return shipping is free the first year for USA shipping only.

### **Warranty Exclusions**

This warranty does not apply to damage resulting from tampering, accident, abuse, negligence, fire, flood, freezing, improper operation, maintenance, or storage. This warranty does not apply to normal wear to the ionizer electrodes, which are designed to erode over time.

### **Total Obligations**

The forgoing constitutes the entire liability of Sunshine Pool Products to the original purchaser of SUNSHINE IONIZER. Sunshine Pool Products makes no other warranty of any kind, whatsoever, expressed or implied. In no event will Sunshine Pool Products be liable to the owner for direct, indirect, incidental or consequential loss, damage or economic injury to any person or property arising out of or relating to the use of SUNSHINE IONIZER except as expressly set forth herein.

This warranty gives you specific legal rights and you may also have other rights, which vary from state to state.