

OPERATING INSTRUCTIONS

NATURAL WATER PURIFIERS

SOLAR-CLEAR[®] AND SOLARPUR[®]



• Reduces Chlorine Use by up to 80% • Purifies Any Pool up to 32,000 Gallons
• Solar Powered - No Installation or Plumbing Required

ECO-FRIENDLY • NON-CHEMICAL • NON-TOXIC

www.recwatertec.com

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IMPORTANT SAFETY INSTRUCTIONS READ AND CLOSELY FOLLOW ALL INSTRUCTIONS

***WARNING:** To avoid/reduce risk of injury do not permit children to use this product unless closely supervised by an adult.

***WARNING:** The sole purpose of this product is for swimming pool water purification/ionization as described in this manual. Any modification or other use will void the warranty

***WARNING:** Do not use if the unit is damaged in any way.

***WARNING:** Unit must be floating in swimming pool water when exposed to direct sunlight or warranty is null and void.

***WARNING:** Solar-Clear® and Solar Pür™ natural pool water purifiers are not compatible with/in pools where biguanide sanitizer(s) is/are in use.

CAUTION: If the Solar-Clear®/Solar Pür™ natural pool water purifier does not appear to be working and/or has been dropped or damaged in any way contact RecWaterTec, LLC customer service at info@recwatertec.com

SAVE THESE INSTRUCTIONS

PRELIMINARY ASSEMBLY



Mineral Anode



Protective Screen



Nylon Screw

Unpack all contents from the display carton – be sure to look within the insert for parts. Read all instructions prior to assembly.

1. Once the display carton has been unpacked carefully inspect the solar panel for any apparent imperfections and/or damage that may have been caused in the shipping process. Contact RecWaterTec, LLC customer service if any inconsistencies are noticed.
2. Place the solar panel surface of the unit, face down, on a smooth hard surface.
3. Compress the spring electrode by holding down the spring with one hand in order to more easily attach the mineral anode.
4. Thread either end of the mineral anode clockwise onto the silver metal threaded rod, in the center at the base of the unit, within the spring electrode.
5. Be sure that the mineral anode makes contact with the black rubber seal at the base of the unit. Manually tighten approximately one quarter turn to ensure a tight fit.
6. Place the protective screen over both electrodes and line up the center holes (mineral anode and protective screen).
7. Thread the plastic thumb screw clockwise into the mineral anode and tighten snugly. Do not over tighten as doing so may cause the plastic thumb screw to strip or break.



Unit w/ Spring Electrode



Unit w/ Spring Electrode & Anode



Unit Assembled

NOTES:

- Do not attempt to remove the spring electrode as doing so will cause permanent damage to the unit and will void the warranty.
- Save the original display carton and inserts for convenient off-season storage.
- The protective screen prevents deposits or scale that may form on the electrodes during normal operation from falling into the pool water.

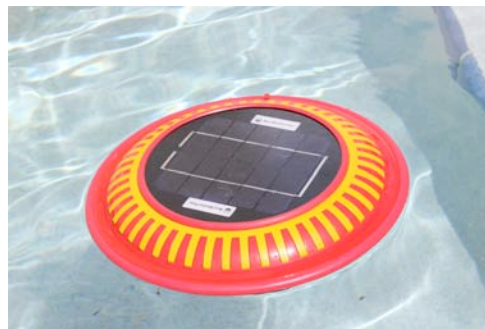
GETTING STARTED

Solar-Clear®/Solar Pür™ natural pool water purifiers help protect your pool against algae and other microorganisms. Solar-Clear®/Solar Pür™ natural pool water purifiers will transform your swimming pool water into a more natural, mineral infused, water that is biologically healthy and algae resistant. Using a safe and effective low power output, Solar-Clear®/Solar Pür™ natural pool water purifiers act as a trickle charger to generate ions from the mineral anode using the solar power of the sun...a process called “solar ionization”. During an initialization period it is imperative to maintain a normal sanitizer level of 1-3 ppm free available chlorine until the ion concentration level has reached the desired level.

1. Test pool water for free available chlorine and pH using a standard pool water test kit or strips. Maintain a free available chlorine level of 1-3 ppm and a pH in the range of 7.2-7.6.
2. Maintain water clarity by “shocking” the pool water using an appropriate dosage of non-chlorine oxidizer.
3. Using the copper ion test strips provided, check for the presence of copper ions in the pool water (see ion testing below). At the outset the expected level of copper ions in the pool water should be 0-.1 ppm. Higher concentrations of copper ions may be detected if a copper based algaecide was previously used and/or if the pool water is acidic and copper pipes are present in the filter circulation system.
4. Place the Solar-Clear®/Solar Pür™ natural pool water purifier in the pool and allow it to float freely. Be sure that the unit is receiving direct sunlight. To ensure that the unit is getting sufficient sunlight it may be necessary to tether it in a suitable area of the pool using a suitable rope or cord.
5. For maximum efficiency the pump and filter system should be operated during the daylight hours, during which time the Solar-Clear®/Solar Pür™ natural pool water purifier is generating mineral ions, to permit optimum mixing and circulation.
6. Whether or not the pump and filter system are operated at night it is not necessary to remove the Solar-Clear®/Solar Pür™ natural pool water purifier from the pool.



**Solar-Clear®
Natural Pool Water Purifier
In Pool**



**Solar Pür
Natural Pool Water Purifier
In Pool**

ION TESTING

While composed of a unique alloy of several metals, the mineral anode is primarily composed of copper. The ion test strips detects and measures the presence and level of copper ions in the pool water. As the ion test strips are very sensitive various factors may affect the readings. Therefore, an initial, base level, test should be made prior to using the Solar-Clear®/Solar Pür™ natural pool water purifier. Ion testing is required only once a week. More frequent testing is not necessary.

1. Refer to and read ion test strip instructions carefully.
2. Perform ion testing on a weekly basis. Test results should show a gradual increase in copper ion levels over time. Reduction of chlorine may begin once the copper ion level has reached .3 ppm.
3. If the copper ion level reaches or exceeds .5 ppm remove the Solar-Clear®/Solar Pür™ natural pool water purifier from the pool water for one week or until such time that the copper ion concentration falls below .3 ppm at which time the unit should be placed back into the pool.
4. Continue ion testing once per week.
5. If the ion concentration level stabilizes at .3 ppm continue/maintain regular floating schedule.

Ion testing is critical to determine that the reduction of chlorine added to the pool is safe. Subsequently, regular ion testing will help in establishing a schedule for the use of the Solar-Clear®/Solar Pür™ natural pool water purifier that is most effective in a given, particular pool to maintain a copper ion residual of .3 ppm. As a general guideline pools with approximately 20,000 gallons of water will typically require continuous, full-time use of the Solar-Clear®/Solar Pür™ natural pool water purifier in order to establish and maintain the desired copper ion concentration level.

Smaller pools may require only part-time use of a Solar-Clear®/Solar Pür™ natural pool water purifier. Actual usage will vary depending on specific conditions including; direct sunlight, bather load, organic contaminants, filtration/circulation system etc. Pools that are located within screened enclosures will generally require full time use of Solar-Clear®/Solar Pür™ natural pool water purifiers as mineral ion output will be approximately 50% of a Solar-Clear®/Solar Pür™ natural pool water purifier unit in direct sunlight.

THE FIRST FEW WEEKS

During the first few weeks of using a Solar-Clear®/Solar Pür™ natural pool water purifier the copper ion concentration should steadily increase to approximately .3 ppm. Use the Solar-Clear®/Solar Pür™ natural pool water purifier on a daily basis. Do not reduce floating time unless the copper ion concentration exceeds .3 ppm. In this case, more is not better; do not surpass the recommended copper ion concentration level. Exceeding .5 ppm may result in the undesired precipitation of minerals collecting on pool surfaces. Be sure to monitor and check the copper ion concentration levels weekly and keep both the spring electrode and mineral anode clean and free of scale buildup (see ELECTRODE CLEANING).

1. Once the copper ion concentration level reaches the recommended level of .3 ppm the chlorine reduction process may commence. Maintain a level of .5 – 1.5

- ppm free available chlorine which is approximately one half of the normal recommended levels.
2. Solar-Clear®/Solar Pür™ natural pool water purifiers function well at the higher end of the recommended pH range of 7.2-7.8 but it is recommended, for general water balance and clarity to maintain the pool water pH in the desired range.
 3. Electrodes should be cleaned on a weekly basis or as required.

ELECTRODE CLEANING

While generating beneficial mineral ions, Solar-Clear®/Solar Pür™ natural pool water purifiers also 'soften' pool water by accumulating undesirable minerals including calcium and iron. The mineral anode is designed to erode over time and scale formation will develop on the mineral anode as a normal part of the erosion process. As a result, the mineral anode will require cleaning on a periodic basis. Additionally, the spring electrode may require cleaning of calcium scale buildup. If the pool water is 'hard' the scale buildup will be more pronounced initially and then decrease over time as the use of the Solar-Clear®/Solar Pür natural pool water purifier 'softens' the pool water over time. The electrodes should be cleaned on a regular basis as scale on either the spring electrode or mineral anode diminishes the solar ionization process.

1. Place the Solar-Clear®/Solar Pür™ natural pool water purifier unit facing down on a hard, flat surface that will not scratch or otherwise damage the solar panel (grass or on cardboard if on a paved surface).
2. Remove the thumb screw and end cap and protective screen.
3. Dislodge any loose material and scale from the electrodes by spraying water from a garden hose nozzle from various directions and angles.
4. Continue until all loose material have been dislodged.
5. Remove any remaining scale using the metal cleaning brush.

The operating efficiency and mineral ion output is directly related. As long as most of any scale buildup has been removed Solar-Clear®/Solar Pür™ natural pool water purifiers will perform as designed.

From time to time the protective screen should be cleaned so that the pool water and ion exchange will flow freely. Given the fine mesh of the screen, water flow may be restricted by buildup/trapping of scale deposits and debris over time. To clean the protective screen:

1. After disassembly remove any loose debris by spraying with a garden hose.
2. Submerge/soak the protective screen in white vinegar until any blue/white scale buildup is no longer present.

Alternatively;

1. In a vessel large enough in which to submerge the protective screen make an acid solution of one part Muriatic Acid and two parts water. Submerge the protective screen into the solution for approximately 30 – 60 seconds during which time the scale buildup will be dissolved.

2. Do not leave the protective screen in the acid solution for more than one minute as doing so may result in the softening of the plastic body of the protective screen.

Notes:

The acid solution (or white vinegar) may also be used to clean the electrodes. Prepare the acid solution in a container that will allow the electrodes to be fully submerged while the Solar-Clear®/Solar Pür™ natural pool water purifier body remains above the acid solution. Submerge the electrodes in the acid solution until any 'bubbling action' stops. Do not allow the electrodes to remain submerged for more than a few (2-3) minutes. Rinse the electrodes using a garden hose and reassemble.

ROUTINE MAINTENANCE

It is important to monitor and maintain the pool water balance and, initially, to clean the Solar-Clear®/Solar Pür™ natural pool water purifier on a weekly basis. Over time it will become apparent what cleaning schedule is appropriate for your particular swimming pool.

Solar-Clear®/Solar Pür™ natural pool water purifiers are designed to work well with low levels of chlorine or other oxidizer. Generally other swimming pool specialty chemical products such as algaecides, conditioner/stabilizer or clarifiers are not required to maintain clean, clear, healthy pool water.

During especially hot periods, heavy bather loads or after prolonged rainfall it may be necessary to add supplemental amounts of chlorine or other oxidizer in order to maintain optimum water clarity. Test your pool on a regular, weekly basis for ion concentration, free available chlorine, pH and total alkalinity. Maintain water balance, sanitizer level and copper ion concentration per previous instructions.

For additional information, maintenance tips and suggestions go to www.recwatertec.com and/or www.askalanaquestion.com.

MINERAL ANODE REPLACEMENT

The Solar-Clear®/Solar Pür™ natural pool water purifier mineral anode is designed to erode over time and, as such, will need to be replaced on a periodic basis, generally once every 12-24 months depending on specific swimming pool conditions. Replace the mineral anode when its diameter has been reduced to approximately 1/8" or, roughly, the size of a large drinking straw.

1. Remove protective screen and end cap and clean these parts.
2. Compress the spring electrode by holding it down with one hand. At the same time turn the mineral anode in a counter clockwise direction to detach it from the Solar-Clear®/Solar Pür™ natural pool water purifier body. Pliers may be used here if additional leverage is required.
3. A replacement mineral anode can be attached by reversing the order above (also see PRELIMINARY ASSEMBLY)

SWIMMING POOL CLOSING & REOPENING

If you chose to close your swimming pool for the winter season or any other extended period of time you can maintain the clarity of your pool water for months with the proper preparation. To maintain pool water clarity during the period of non-use follow the recommendations below:

1. Establish a copper ion level of .3-.5 ppm.
2. Addition of an algaecide is not necessary.
3. If the pool water is cloudy add an appropriate oxidizer and allow 12 hours of circulation time before shutting down the filtration system.
4. Shut down filtration, heating and other equipment pursuant to the specific manufacturer's recommendation.
5. Remove the Solar-Clear®/Solar Pür™ natural pool water purifier from swimming pool.
6. Adjust water level, clear and plug plumbing lines etc. as per pool manufacturer/builder recommendations.
7. Remove the mineral anode from the Solar-Clear®/Solar Pür™ natural pool water purifier, clean and store in an airtight container. Clean spring electrode and other parts, store in a cool dry location until further use is required.

When it is time to re-open the swimming pool the water may be cloudy (if the copper ion level has fallen well below .3 ppm or other extreme conditions have occurred). If so, add chlorine or an oxidizer per manufacturer's instructions to clear cloudy water.

1. Remove plugs, top off pool water and re-start filtration system
2. Test pool water for pH and total alkalinity. Balance accordingly.
3. Test for copper ion level and place the Solar-Clear®/Solar Pür™ natural pool water purifier in the pool to reestablish copper ion level of .3 ppm.
4. Test and maintain pool water pursuant to previous instructions.

OPERATIONAL CHECK

If there is concern that the Solar-Clear®/Solar Pür™ natural pool water purifier is not generating ions (a very unlikely occurrence) a quick visual check can be made.

1. Fill a clear glass or plastic quart sized container, jar or equivalent with tap or pool water.
2. Remove the protective screen and clean the electrodes. Keep screen off.
3. Outside, in direct sunlight, place the Solar-Clear®/Solar Pür™ natural pool water purifier on the rim of the container so that the electrodes are submerged in the water.
4. After a few seconds fine bubbles will begin to appear and form on the spring electrode. The presence of this bubble is an indication that the solar ionization process is functioning properly.
5. If, after several minutes in the direct sunlight no bubbles are observed contact RecWaterTec customer service for assistance.

HELPFUL HINTS

Pool water chemistry, maintenance, a glossary of terms and other helpful information is available, on line at www.recwatertec.com and at www.askalanaquestion.com.

New Solar-Clear®/Solar Pür™ natural pool water purifiers, replacement parts and Pool Prescriptions® specialty chemicals are available at www.recwatertec.com

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