

## Section 6. User Maintenance Instructions

The following information describes how to care for your sanitizing system.

Important: Always test the chlorine levels of your pool before each use.

### 6.1 Daily

1. **Chlorine Test.** Test pool water chlorine level with a reliable test kit. Maintain ideal range by adjusting the chlorine production rate using *Section 5.4, Startup*. Recommended free chlorine is 1 - 3 ppm. This level can be as low as 0.6 PPM with the use of a Nature2® mineral cartridge that is within its normal operating life. (Nature2 systems and cartridges are sold separately)

**NOTE** It is recommended that chlorine test samples be taken from two (2) places, one at the pool return line, the other well away from the pool return line. Compare the samples. A higher level should be found at the pool return line. The higher level at the pool return line indicates the system is producing chlorine.

2. **pH Level Test.** Test the pH level of your pool with a test kit. If necessary, adjust to maintain a pH level of 7.4 - 7.6.

### ⚠ CAUTION

Never use dry acid to adjust pH in arid geographic areas with excessive evaporation and minimal dilution of pool water with fresh water. A build up of by products can damage the electrolytic cell.

3. **Total Alkalinity Test.** Test pool water for total alkalinity with a test kit. Take steps necessary to maintain an alkalinity of 80 - 120 ppm.
4. **Calcium Hardness.** Test pool water for calcium hardness level using test kit or by having a water sample tested by a pool professional. Adjust as necessary to maintain a calcium hardness of 175 - 400 ppm.

### 6.2 Monthly

1. **Salt Level Test.** Test pool water salt level by depressing the **SALINITY** button (**C**) and reading the LCD located on the control/power center user interface. Maintain the ideal range of 3.0 - 3.5 gpl for optimum performance. If additional salt is required, follow the procedures and charts described in *Section 4*. If salt level does not rise after 24 hours, see *Section 7, Troubleshooting*.
2. **Pool Water Sample.** Take water sample to local pool store for testing.
3. **Stabilizer (Cyanuric Acid).** Test pool water stabilizer (*cyanuric acid*) level using a test kit or by having a water sample tested by a pool professional. Maintain ideal range of 50 - 75 PPM. Follow your pool professional's recommendations.
4. **Metals Test.** It is recommended that the pool water be tested periodically for the presence of metals such as copper, iron, and manganese. These metals should not be present in the pool water. If those metals are present, contact your local pool professional.

### 6.3 Electrolytic Cell Cleaning - As Needed

1. **Automatic Cleaning.** The chlorinator control system has an automatic cleaning feature (Cell Reversing) that removes scale deposits from the electrolytic cell.

**NOTE** Automatic Cleaning does not interrupt Chlorine Production.

“Scale” is a white crusty deposit that forms in excessively hard water or from pool water that is out of balance and in a scaling condition. Following the installation of the salt water chlorinator system, check the cell once a month for several months. If the cell is clean, replace and re-check at the end of each swimming season. If the cell shows excessive scaling, go on to Step 2, Acid Wash Cleaning.

## ⚠ WARNING

Always turn pump off prior to installing or removing any components from the pool's plumbing. Your pump/filter system is operated under pressure and pressure must be released before you begin to avoid system damage or personal injury. Open the air relief valve on your pool filter to release the pressure in the system.

2. **Acid Wash Cleaning.** If the electrolytic cell has a tendency to scale, it is recommended that every two (2) months the cell be removed and inspected for scale formation and/or debris. Some filters allow debris to pass through to the cell which could lodge between the plates in the cell. A small amount of scale formation is normal. If by looking through the cell it is observed that there is excessive scale formation between the plates or debris is present, the cell must be cleaned as follows:
  - a. Use a high pressure jet of water from a garden hose. If the cell cannot be reasonably cleaned in this manner, acid cleaning is necessary.
  - b. Remove the cell from the plumbing. If necessary, replace the cell with the spool piece (sold separately). Remove the sensor from the port.
  - c. To acid clean the cell, plug the two (2) adjacent ports. Mix one (1) pint of muriatic acid with two (2) quarts of tap water in a plastic bucket. **Use the appropriate port plugs on the ports. Do not use the sensor as damage can result.**

## ⚠ WARNING

Inhalation of muriatic acid vapor or contact with skin or eyes can cause serious injury or death. Wear goggles and rubber gloves, and perform cleaning in a well-ventilated area. Add acid to the water, do not add water to the acid as splashing could result.

- d. Pour the acid/water mixture inside the cell. A foaming action will begin, which is caused by scale (calcium carbonate) being dissolved from the plates. If rigorous foaming action does not begin, the cell does not need to be cleaned (**STOP THE CLEANING PROCESS - go on to next step "e"**). Otherwise, allow the cell to remain in the solution until the foaming has stopped. **However, do not leave in acid for more than 1/2 hour. IMPORTANT NOTE: Excessive acid washing will damage electrolytic cell.**
- e. Rinse the cell thoroughly with clean tap water and inspect. If deposits are still visible, repeat the cleaning procedure. Additional acid may need to be added to the solution.
- f. Rinse the cell again with clean tap water and inspect. If clean, replace the cell and resume normal operation.
- g. If the acid wash procedure is necessary, it is recommended that a sample of pool water be analyzed by an authorized Zodiac service representative for excessive hardness and/or improper water balance.
- h. If no scale or debris deposits are observed in the cell after two (2) bimonthly inspections, it is not necessary to continue bimonthly inspections. However, due to possible changes in pool water chemistry and filtering effectiveness, it is recommended that the cell be removed for inspection at least twice a year.

### 6.4 Flow/Temp/Salinity Sensor Cleaning

**One time per year or as needed.** It is rare but scale formations on the flow/temp/salinity sensor sometimes occur and will affect the accuracy of the salinity test.

1. Remove flow/temp/salinity sensor from the 3-port cell.
2. Brush with a mildly abrasive green fiber household cleaning pad. Contacts should be clean and bright.
3. Thoroughly rinse the flow/temp/salinity sensor with clean tap water. Replace and resume normal operation.
4. ***Turn power off and back on in order to recalibrate and reset Flow/Temp/Salinity Sensor. Reset anytime Flow/Temp/Salinity Sensor is unplugged.***

## 6.5 Winterizing

Very little chlorine is needed in cold water. Below 51°F (11°C), chlorine production is not permitted; operating the chlorinator in cold water might result in over-chlorinated pool water. If more chlorine is needed, ***activating the “Boost” mode will override this cold water feature allowing chlorine production for 24 hours of operation.*** See Section 5.1, User Interface Controls.

If preventative measures are not taken, freezing water may cause severe damage to the cell and flow/temp/salinity sensor. Prevent freeze damage to the cell and flow/temp/salinity sensor by running pump continuously or winterize pool by draining water from pump, filter, and all intake and return lines. Remove the cell, clean and store it. Disconnect the flow/temp/salinity sensor from the power center, then remove it from the 3-port cell. Wrap flow/temp/salinity sensor in a plastic bag or protective covering and coil flow/temp/salinity sensor and DC power cord cables around the power center for storage.

An optional Spool Piece (sold separately) is available to replace the cell during winterizing or cell maintenance. This will enable pool pump to circulate water with the cell out the of line. See Figure 19.

When a FREEZE CONTROLLER is used on pump equipment and the chlorinator is run through the winter, turn the CHLORINE PRODUCTION down to 10 - 20%. Otherwise, chlorine production will exceed the recommended level of 1 - 3 ppm.

**NOTE** A chlorine level above 3 ppm may cause corrosion of pool metals and possibly cause damage to associated pool equipment.

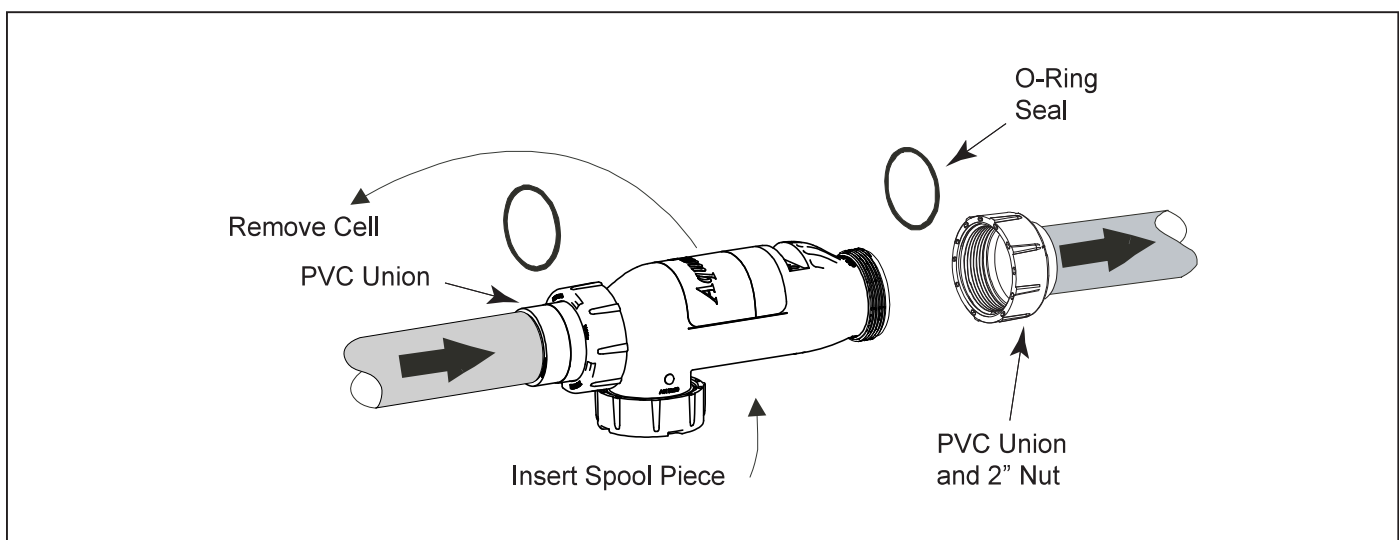


Figure 19. Spool Piece Location