

Installation and Operation Manual

Zodiac Aquapure Ei Series APURE35PLGC

by Zodiac Pool Systems, Inc

2620 Commerce Way

Vista, California, 92081 USA

In US: (800) 822-7933 • In Canada (888) 647-4004

www.ZodiacPoolSystems.com.

Swimming pool algicide/bactericide

Chlorine Generating Device

For Residential Pools

DOMESTIC

REGISTRATION NO. 30233 PEST CONTROL PRODUCTS ACT

Installation and Operation Manual

READ THE LABEL AND OPERATION MANUAL BEFORE USING

KEEP OUT OF REACH OF CHILDREN

Use Copper Conductors Only

Disconnect Power before Opening Service Cover

For Outdoor or Indoor Use

Electrical Requirements: 120 VAC 50/60 Hz 3 WIRE, 1.3 AMP

Maximum Output of Hypochlorous Acid is Equivalent to 420 g

of Free Available Chlorine Per Day

4,000 parts per million of salt

The maximum volume of water that can be treated with

one unit of APURE35PLGC is 132,000 litres

(35,000 gallons) (132.0 m³).

For swimming pools, a range of 1-3 ppm of free available

chlorine must be maintained.

Controls bacteria and algae in swimming pool water.

BUILDER/INSTALLER: Please leave this manual with the pool owner.

POOL OWNER: Please save this manual.

WARNING

FOR YOUR SAFETY - For anything other than the routine cleaning and maintenance described in this manual, this product must be serviced by a contractor who is licensed and qualified in pool equipment by the jurisdiction in which the product will be installed where such local requirements exist. In the event no such local requirement exists, the installer or maintainer must be a professional with sufficient experience in pool equipment installation and maintenance so that all of the instructions in this manual can be followed exactly. Before installing this product, read and follow all warning notices and instructions that accompany this product. Failure to follow warning notices and instructions may result in property damage, personal injury, or death. Improper installation and/or operation will void the warranty.

Improper installation and/or operation can create unwanted electrical hazard which can cause serious injury, property damage, or death.

Operating AquaPure model APURE35PLGC without water flow through the cell can cause a buildup of flammable gases which can result in FIRE OR EXPLOSION.

KEEP OUT OF REACH OF CHILDREN

Notice to User

This pest control product is to be used only in accordance with the directions on the label. It is an offence under the *Pest Control Products Act* to use this product in a way that is inconsistent with the directions on the label. The user assumes the risk to persons or property that arises from any such use of this product.



Intertek

ETL Listed

Conforms To

UL STD 1081

Certified to

CAN/CSA C22 NO.218.1

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Section 1. Important Safety Instructions

READ AND FOLLOW ALL INSTRUCTIONS

This device can only be used in swimming pools and swimming pools with a built-in spa. It cannot be used in stand-alone spas.

All electrical work must be performed by a licensed electrician and conform to all national, provincial, and local codes. When installing and using this electrical equipment, basic safety precautions should always be followed, including the following:

WARNING

EQUIPMENT UNDER PRESSURE: Always turn pump off prior to installing or servicing the power pack, pod, or cell. Your pump/filter system is operated under pressure and the pressure must be released before you begin work. Please see your pump/filter owner's manual for further instructions.

WARNING

To reduce the risk of electric shock, fire or injury, service should only be attempted by a qualified pool service professional.

WARNING.

Zodiac AquaPure Ei Series APURE35PLGC chlorine generating devices are designed for domestic (residential) swimming pool use only. Contrary use could affect performance, void warranty, and may result in property damage, serious injury, or death.

- Heavy pool (or spa) usage and higher temperatures may require higher chlorine output to maintain proper free available chlorine/bromine residuals.
- Operating a chlorine generator without water flowing through the cell may cause a build up of flammable gases, resulting in fire or explosion.
- To reduce the risk of injury, do not permit children to operate this device.
- Do not use if supply cord is damaged.
- A damaged supply cord should only be replaced by the manufacturer, service agent or electrician.
- When installing and using this electrical equipment, always follow basic safety precautions.
- Before performing installation, disconnect all power.
- Connect to a circuit that is protected by a ground fault circuit interrupter (GFCI).
- Do not install within an outer enclosure or beneath the skirt of a hot tub or spa.

WARNING

Installation must be done in accordance with the Canadian Electrical Code ("CEC" or C22.1), and/or any other local and national installation codes.

RISK OF ELECTRIC SHOCK, FIRE, PERSONAL INJURY, OR DEATH. Connect only to a branch circuit that is protected by a ground-fault circuit-interrupter (GFCI). Contact a qualified electrician if you cannot verify that the circuit is protected by a GFCI. Make sure such a GFCI should be provided by the installer and should be tested on a routine basis. To test the GFCI, push the test button. The GFCI should interrupt power. Push the reset button. Power should be restored. If the GFCI fails to operate in this manner, the GFCI is defective. If the GFCI interrupts power to the pump without the test button being pushed, a ground current is flowing, indicating the possibility of electrical shock. Do not use the device. Disconnect the device and have the problem corrected by a qualified service representative before using. It is required that the water flow pod is installed in the same piping as the electrolytic cell, without any valves or diverters between them (see Section 3.2, Figure 3).

The flow pod must be mounted as in Section 3.2, Figure 3.

WARNING

- The power pack must be installed at least 1.5 m (5 ft.) vertically off the ground.
- The power pack must be installed at least 3 m (10 ft.) from the inside wall of your swimming pool or built-in spa.

WARNING

Should a lack of water be detected, the unit's electronic flow switch is designed to turn off the system. Interfering with the electronic flow switch could result in personal injury and/or damage to the cell

WARNING

Operating the Zodiac AquaPure Ei Series APURE35PLGC chlorine generating device without water flow through the electrolytic cell can cause a buildup of flammable gasses which can result in FIRE OR EXPLOSION.

WARNING

This appliance is not intended for use by persons with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.

WARNING

PREVENT CHILD DROWNING: Do not let anyone, especially small children, sit, step, lean or climb on any equipment installed as part of your pool's operational system. Locate the components of your operational system at least 1 m (3 ft.) from the pool so children cannot use the equipment to access the pool and be injured or drown.

WARNING

People with a medical condition should consult a physician before entering pool or spa water. Prolonged immersion in hot water may induce hyperthermia. Hyperthermia occurs when the internal temperature of the body reaches a level several degrees above the normal body temperature of 37°C (98.6°F). The symptoms of hyperthermia include dizziness, fainting, drowsiness, lethargy, and an increase in the internal temperature of the body. The effects of hyperthermia include:

- Unawareness of impending danger
- Failure to perceive heat
- Failure to recognize the need to exit spa
- Physical inability to exit spa
- Fetal damage in pregnant women
- Unconsciousness resulting in a danger of drowning

WARNING

To Reduce the Risk of Injury -

- Maximum spa water usage temperature is 40°C. Bathing in spa water at 40°C should not exceed 15 minutes.
- The water in a spa should never exceed 40°C (104°F). Water temperatures between 38°C (100°F) and 40°C (104°F) are considered safe for a healthy adult. Lower water temperatures are recommended for young children and when spa use exceeds 10 minutes.
- Since excessive water temperatures have a high potential for causing fetal damage during the early months of pregnancy, pregnant or possibly pregnant women should limit spa water temperatures to 38°C (100°F).
- Before entering a spa or hot tub, the user should measure the water temperature with an accurate thermometer since the tolerance of water temperature-regulating devices varies.
- The use of alcohol, drugs, or medication before or during spa or hot tub use may lead to unconsciousness with the possibility of drowning.
- Obese persons and persons with a history of heart disease, low or high blood pressure, circulatory system problems, or diabetes should consult a physician before using a spa.

•Persons using medication should consult a physician before using a spa or hot tub since some medication may induce drowsiness while other medication may affect heart rate, blood pressure, and circulation.

WARNING

- For proper sanitation, spas must be completely drained periodically. The number of days between COMPLETE SPA DRAINAGE is equal to the volume of spa water in litres, divided by 10 times the maximum number of daily spa users. Refill spa with water and repeat DIRECTIONS FOR USE of the device
- People with infectious diseases should not use a spa or hot tub.
- To avoid injury, exercise care when entering or exiting the spa or hot tub.
- Do not use drugs or alcohol before or during the use of a spa or hot tub to avoid unconsciousness and possible drowning.
- Pregnant or possibly pregnant women should consult a physician before using a spa or hot tub.
- Water temperature in excess of 38°C (100°F) may be injurious to your health.
- Before entering a spa or hot tub measure the water temperature with an accurate thermometer.
- Do not use a spa or hot tub immediately following strenuous exercise.
- Prolonged immersion in a spa or hot tub may be injurious to your health.
- Do not permit any electric appliance (such as a light, telephone, radio, or television) within 1.5 m (5 ft.) of a spa or hot tub.
- The use of alcohol, drugs or medication can greatly increase the risk of fatal hyperthermia in hot tubs and spas.
- Water temperature in excess of 38°C (100°F) may be hazardous to your health.

WARNING

To reduce the risk of injury, do not remove the suction fittings of your spa or hot tub. Never operate a spa or hot tub if the suction fittings are broken or missing. Never replace a suction fitting with one rated less than the flow rate marked on the equipment assembly.

CAUTION

This device is intended for use with permanent swimming pools and swimming pools with a built-in spa. It cannot be used in stand-alone spas. Do not use with storable pools. A permanently-installed pool is constructed in or on the ground or in a building such that it cannot be readily disassembled for storage. A storable pool is constructed so that it is capable of being readily disassembled for storage and reassembled to its original integrity.

CAUTION

It is important to note that certain materials used in and around swimming pools and spas may not be compatible with chemicals commonly used to purify pool and spa water (e.g. acids, chlorine, salt, stabilizers, etc.).

Zodiac Pool Systems, Inc. does not warrant or guarantee that the chlorinated water generated by the Zodiac AquaPure Ei Series APURE35PLGC chlorine generating device will not damage or destroy certain types of plants, decking, coping and other materials in and around your pool and/or spa. Before selecting materials to be used in and around your pool and/or spa, please discuss all options with your contractor to assess the compatibility of such materials and chemicals.

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

Some helpful considerations may include:

- Maintaining high salt and chlorine/bromine levels above recommended range can contribute to corrosion of pool or spa equipment.
- Choosing plants that can withstand splash out of pool water containing chlorine and/or salt and other water purification chemicals.
- All metal components used in and around a pool should be of a high grade, quality stainless steel.

- Careful selection of masonry products. The porosity and hardness of natural stones varies greatly. Therefore we recommend you consult with your builder or stone contractor on the best choice for stone materials around your pool or spa.
- Sealing all masonry products. Professionals in the stone industry specify that even natural stone, especially when used outdoors, be sealed to prevent weathering, staining, and premature degradation. Consult with your stone or deck contractor for the proper sealer for the masonry products you have selected to use around your pool or spa.
- For the optimal results, sealers should be reapplied on a regular basis. Reapply the protective sealer on a schedule per the manufacturer's instructions.
- Use of chemicals other than those recommended may be hazardous. Follow the chemical manufacturers instructions.

SAVE THESE INSTRUCTIONS

Section 2. System Description

2.1 Product Specifications

| | |
|---|--|
| Maximum Operating Pressure: 50 psi | Output Voltage: 25V DC (max) |
| Minimum Flow Rate: 152 L/min (40 gpm) | Output Current: 5A DC |
| Maximum Flow Rate: 348 L/min (92 gpm) | Dimensions: Power Pack (L x W x H): 25.4 cm x 11.4 cm x 33 cm (10 in. x 4.5 in. x 13 in.) Electrolytic Cell (L x W x H): 16.5 cm x 14 cm x 30.5 cm (6.5 in. x 5.5 in. x 12 in.) Pod (L x W x H): 16.5 cm x 14 cm x 15.3 cm (6.5 in. x 5.5 in. x 6 in.) |
| Maximum water volume treated: 132,000 L (35,000 gal.) | |
| Chlorine Output: 0.42 kg (0.93 lbs.) per day | |
| Required Salt Level: 4,000 ppm (4.0 gpl) | |
| Input Voltage: 120 V | |
| Input Current @ 120 VAC: ~1.3 A | Weight: Power Pack: 3.2 kg (7 lbs.) Electrolytic Cell: 0.9 kg (2 lbs.) Pod: 0.7 kg (1.5 lbs.) |
| Input Freq: 47~63 Hz | |

2.2 Product Contents

| ITEM | DESCRIPTION | QTY |
|------|--|-----|
| A | Power Pack | 1 |
| B | Cell | 1 |
| C | Power Pack Bracket | 1 |
| D | Pipe Spacer - 40 mm (1½ in.) pipe only | 2 |
| E | Screw Set (includes wall plugs) | 1 |
| F | Installation and Operation Manual | 1 |
| G | Hole Saw | 1 |
| H | Locking Ring Tool | 1 |
| I | Pod | 1 |
| J | Winterizing Cap | 2 |
| K | Bonding Wire | 1 |

Section 3. Installation Instructions

WARNING

FOR YOUR SAFETY: This product must be serviced by a professional pool/spa service technician as described on the front cover of this manual. The procedures in this manual must be followed exactly. Failure to follow warning notices and instructions may result in property damage, serious injury, or death. Improper installation and/or operation will void the warranty.

EQUIPMENT UNDER PRESSURE: Always turn pump off prior to installing or servicing the Zodiac AquaPure Ei Series APURE35PLGC chlorine generating device. Your pump/filter system is operated under pressure and the pressure must be released before you begin work. Please see your pump/filter owner's manual for further instructions.

Before you begin your installation, please check that you have the right tools and a suitable location to install the power pack and cell. Please ensure that you have read and understood the Important Safety Instructions section.

3.1 Materials and Tools

| Installation Materials Furnished | Tools Needed for Installation |
|---|--|
| <ul style="list-style-type: none"> • Pipe Spacer - for 40 mm (1½ in.) pipe • Bonding Wire • Hole Saw • Screw Set (includes wall plugs) • Installation and Operation Manual | <ul style="list-style-type: none"> • Cordless Drill (or Power Drill) • 6 mm (15/64 in.) Hammer Drill Bit (only necessary to drill into brick or concrete) • Pencil or Marking Pen • Phillips Head Screwdriver or Phillips Head Drill Bit |

3.2 Installation Requirements

WARNING

The Zodiac AquaPure Ei Series APURE35PLGC chlorine generating device must be installed horizontally with the cell above the pipe to avoid buildup of flammable gases which can result in FIRE OR EXPLOSION.

It is required that the water flow pod is installed in the same piping as the electrolytic cell, without any valves or diverters between them (see Figure 3). The flow pod must be mounted as shown in Figure 3.

The installation requirements for the Zodiac AquaPure Ei Series APURE35PLGC chlorine generating device are as follows:

- The power pack must be installed at least 1.5 m (5 ft.) vertically off the ground.
- The power pack must be installed at least 3 m (10 ft.) from the inside wall of your swimming pool or built-in spa.
- The cell must be installed on a 0.8 m (2 ½ ft.) horizontal length of pipe after the heaters, pumps, and filters, as the last piece of equipment in the plumbing system (see Figure 3).
- The cell and pod must be installed no more than 4.6 m (15 ft.) from the power pack (see Figure 3).
- The power pack must be installed no more than 1 m (3 ft.) from an electrical outlet.
- The pod must be installed upstream from the cell. It is recommended that the pod and cell be installed 0.25 m (10 in.) apart.

- It is recommended that the pod and cell be installed 0.25 m (10 in.) from any 90° elbow.

3.3 Install the Power Pack, Cell, and Pod

WARNING


If you are installing a Zodiac AquaPure Ei Series APURE35PLGC to Goldline adaptor, it is necessary to disconnect the power to the Goldline controller.

Zodiac recommends that any procedure requiring potential contact with live electrical wiring and/or parts other than cords and plugs connected to electrical outlets be completed by a contractor who is licensed and qualified in pool equipment as described on the front cover of this manual. Failure to follow warning notices and instructions may result in property damage, serious injury, or death.

WARNING

The Canadian Electrical Code (CEC) requires that pool equipment be bonded to each other. Make sure to check your local codes to determine if the CEC, and/or other local installation codes are enforced by the Authority Having Jurisdiction (AHJ). A solid copper bonding wire 13.3 mm² (6 AWG) is included with this product for bonding the power pack to a permanent bonding connection. Refer to your locally enforced codes for the acceptable bonding wire gauge.

To avoid property damage, serious injury or death, NEVER use the chassis backplate of the power pack to ground any other equipment.

1. Ensure correct placement of the cell and the power pack will meet all the installation requirements outlined in Section 3.2.
 2. Screw the power pack bracket into position on a wall surface where it will mount securely, while ensuring it is no more than 4.6 m (15 ft.) from the cell (see Figure 4 and 5).
 3. Position the power pack in place by aligning the bracket with the corresponding thru-holes (see Figure 5).
 4. Unscrew the locking ring from the cell and the pod in order to extract them from the lower clamp (see Figure 6).
 5. Press the two (2) push-buttons on either side of the upper clamp to separate the upper clamp from the lower clamp (see Figure 6).
 6. Invert the lower clamps and place on the pipe. Mark the pipe for drilling the feeder holes (see Figure 7).
 7. Drill the feeder holes using the hole saw provided. Ensure holes are clean and smooth (see Figure 8).
 8. Use the pipe spacer as shown if mounting on a 40 mm (1½ in.) pipe (see Figure 9).
- NOTE** The pipe spacer is required for 40 mm (1 ½ in.) diameter pipe only. The spacer is not required on 50 mm (2 in.) pipe.
9. Verify the gasket is attached to the upper clamp. The curved side of the gasket must be pointing down so that it will create a seal with the pipe.
 10. Secure the clamps, pipe spacer, and gasket around the pipe as shown (see Figure 10) **making sure the flow arrows on the clamp point in the direction of the water flow** (see Figures 11 and 12). Make sure the two (2) clips on the sides of the clamp are snapped into place.
 11. Insert the o-ring into the channel on each of the clamps (see Figure 12).
 12. Install the cell and the pod making sure the pod is installed upstream from the cell. When installing the pod, make sure the flow switch is inserted into the inlet port on the clamp (see Figure 13).
 13.  (see Figure 14).

14. Screw down the locking ring to the threaded clamp using the locking ring tool (see Figure 15).

NOTE Ensure the locking ring is level when engaging the threading housing (see Figure 16).

15. Securely connect the cell leads to the like coloured terminals (see Figure 17).
16. Attach the terminal cap.
17. Plug the pod connector into the power pack (see Figure 18).
18. Attach one end of the bonding wire to the bonding lug located on the bottom of the chassis backplate on the power pack (see Figures 19 and 20). Attach the second end to a common bonding point such as the pool pump or heater. Make sure to refer to the pump or heater manual for the location of the bonding lug connection prior to making this connection. See Figure 21 for examples of bonding lug locations. Do not use the power pack as the common bonding point. There should only be one bonding connection to the power pack. Each piece of non-related pool equipment requiring a ground should also be bonded to the common, approved bonding point.
19. Plug the power pack into the electrical outlet. Turn the power pack on.

3.4 Bypass Plumbing Instructions: If Flow Rate Exceeds 348 L/min (92 GPM)

WARNING

If flow rate exceeds 348 L/min (92 gpm), the cell must be plumbed on bypass otherwise it may result in property damage, personal injury, or death.

NOTE Pool pumps greater than 2 HP may produce flow rates exceeding 348 L/min (92 gpm). If you are unsure of the flow rate of your pool pump, contact your dealer for assistance.

The maximum flow rate for the cell is 348 L/min (92 gpm). If flow rate exceeds 348 L/min (92 gpm), the cell **MUST** be plumbed on bypass (see Figure 22). A control valve must be installed to regulate the flow through the cell. It can be installed on the inlet side of the cell or between the inlet and discharge side of the bypass piping. The proper flow will be achieved by adjusting the handle of the valve until the red “No Flow” light has turned off and all large air bubbles are cleared from the cell.

3.5 Split Return Plumbing Instructions: For Infloor Cleaning Systems

If the chlorinator is used with an in-floor cleaning system, it must be installed in a separate dedicated return line or damage to the chlorinator will occur.

NOTE Do not install the chlorinator on in-floor systems that do not have a dedicated pool return as shown in Figure 23.

3.6 Alternative Installation (When Pipe is Obstructed)

If the only suitable length of pipe is obstructed, such as on a multiport valve often found on a sand filter, it is acceptable to ‘lean’ the cell over, up to a maximum of 45 degrees (see Figure 24). Mark the feeder holes in the same angle that the cell will be leaning to ensure that you drill in the right position.

3.7 Connection to an AquaLink™ RS Control System or PDA (Optional)

WARNING

FOR YOUR SAFETY: This procedure must be performed by a professional pool/spa service technician as described on the front cover of this manual. The procedures in this manual must be followed exactly. Failure to follow warning notices and instructions may result in property damage, serious injury, or death. Improper installation and/or operation will void the warranty.

When using electrical products, basic precautions should always be followed, including the following:

- **DANGER: RISK OF ELECTRIC SHOCK WHICH CAN RESULT IN SERIOUS INJURY OR DEATH.** Before attempting installation or service, ensure that all power to the device is disconnected/turned off at the circuit breaker. Connect only to a circuit protected by a ground-fault circuit-interrupter (GFCI).
- Grounding is required. The unit should be serviced by a qualified service representative and should be properly grounded and bonded.
- Install to permit access for servicing.
- Please read all cautions and safety instructions in the Important Safety Instructions section. **Before attempting any electrical wiring, be sure to read and follow safety instructions. Wiring should only be attempted by a qualified professional.**

The Jandy™ AquaLink RS or PDA is a multi-function™ pool controller which can fully control the function of the Zodiac AquaPure Ei Series APURE35PLGC chlorine generating device. Adjustment of the chlorine production rate can be controlled from the main menu of the Jandy AquaLink RS or PDA. The AquaLink RS or PDA offers individual pool and spa settings for output percentage. Refer to the AquaLink RS or PDA Owner's Manual for more information.

NOTE The Zodiac AquaPure Ei Series APURE35PLGC chlorine generating device will communicate with all AquaLink models Rev. K or later.

3.7.1 Verify the Controller Type on the Power Pack is Set Correctly

Before wiring to an AquaLink RS Control System, the controller type must be set to JANDY L/M to allow communication between the power pack and the AquaLink RS Control System. The default controller type setting on the power pack is Jandy L/M. Follow the instructions below to verify the controller type is set correctly.

NOTE The controller type must be set correctly before making the wiring connection between the power pack and the AquaLink, otherwise the power pack may be locked out of the AquaLink.

To verify the controller type is set correctly:

1. Apply power to the power pack.
2. Wait for the start-up sequence to complete.
3. Press and hold the OUTPUT button for approximately four (4) seconds. After four (4) seconds, a controller type will be displayed on the screen.
4. Verify that the JANDY L/M controller type appears on the display. If the controller type is not set to JANDY L/M, keep the OUTPUT button pressed to toggle through the list of controllers. Each controller will be displayed on the screen for two (2) seconds. Release the OUTPUT button when JANDY L/M appears on the display.

3.7.2 Wiring to the AquaLink RS Control System or PDA

1. Ensure that all power to the power pack and the controller is disconnected/turned off at the circuit breaker.
2. Remove the screws attaching the cover to the back plate and prop the cover up to expose the terminals (see Figure 25).

NOTE Be carefully not to pull the ribbon cable that is connected to the Power Supply and the Cover.

3. Remove the white cap covering the comms hole (see Figure 25).
4. Thread the controller cable through the hole. A grommet may be necessary depending on the size of the cable being used.
5. Attach a cable tie to the controller cable as shown (see Figure 25).

6. The Jandy™ AquaLink™ RS or PDA and power pack use a four (4) wire connection to communicate and can be wired up to 152.4 m (500 ft) apart. Any outdoor rated four conductor cable, minimum 0.33 mm² (22 AWG), can be used. Locate the appropriate screw terminals on the circuit board and wire the power pack to the AquaLink RS or PDA red 4-pin terminal bar (see Figure 26).

NOTE The screw terminals on the AquaLink RS or PDA are removable to aid in installation.

3.7.3 Testing the Connection

Once the power pack has been wired to the AquaLink RS Control System or PDA, follow these steps to test the connection:

1. Apply power to the power pack and the AquaLink RS Control System or PDA.
2. Wait about 20 seconds. If the connection was successful, a **T** symbol will appear in the top right corner of the power pack display.

NOTE: If the power pack does not connect to the controller, turn the power off to both devices and repeat steps 1 and 2. If the power pack still does not connect to the controller, re-check the wiring connections (see Section 3.7.2) and the controller setting on the power pack (see Section 3.7.1).

Section 4. Pool Water Preparation

4.1 Determining Pool Size (Litres of Water in Your Pool)

- **Rectangular Pools**

Average length (metres) x average width (metres) x average depth (metres) x 1000 = litres capacity.

- **Circular Pools**

Diameter (metres) x diameter (metres) x average depth (metres) x 785 = litres capacity.

- **Oval Pools**

Long diameter (metres) x short diameter (metres) x average depth (metres) x 785 = litres capacity.

- **Sloping Sides**

Multiply total litres by 0.85 = litres capacity.

4.2 Determining Pool Size (Gallons of Water in Your Pool)

- **Rectangular Pools**

Average length (feet) x average width (feet) x average depth (feet) x 7.5 = gallon capacity.

- **Circular Pools**

Diameter (feet) x diameter (feet) x average depth (feet) x 5.9 = gallon capacity.

- **Oval Pools**

Long diameter (feet) x short diameter (feet) x average depth (feet) x 5.9 = gallon capacity.

- **Sloping Sides**

Multiply total gallons by 0.85 = gallon capacity.

4.3 Chemistry You Need to Know

- **Chlorine Stabilizer** (cyanuric acid) is needed to maintain proper levels of chlorine. Most non-stabilized chlorine is destroyed by the UV radiation from the sun within two (2) hours. Chlorine stabilizer should be maintained between 10 - 50 ppm. For indoor pools, it is not necessary to add chlorine stabilizer to the swimming pool water.
- **Nitrates** can cause extremely high chlorine demands and will deplete chlorine from your swimming pool. In some cases nitrates may even lower your chlorine levels to zero. Your local pool professional can test for nitrates. Make sure nitrates are not present in your pool.
- **Metals** (some metals) can cause loss of chlorine stain your pool. Have your local pool professional check for metals and recommend methods of removal.
- **Chloramines** should not be present in pool water. When organic materials combine with free chlorine, chloramines are formed. This ties up the free chlorine in your pool and does not allow the chlorine in your pool to disinfect. Chloramines also cloud pool water and burn the eyes. Shock to remove chloramines at the initial startup of the pool.
- **Super Chlorination** burns out the organic material that has combined with chlorine which frees the chlorine for sanitizing. This is accomplished by raising the chlorine level quickly and dramatically. To super chlorinate the pool using the Zodiac AquaPure Ei Series APURE35PLGC chlorine generating device, set the chlorine production to 100% and then set the pump and the cell to run for 24 hours.
- **Shocking** (Superoxidation) is also a means of burning out the organic material that has combined with chlorine. This method involves the manual addition of chemicals (use a registered or scheduled source of sodium dichlor, calcium

hypochlorite, liquid chlorine or trichlor) to quickly raise the level of chlorine. When the chlorine level is quickly raised to 5 - 15 ppm the pool water is said to have been shocked.

NOTE On initial startup of a pool, it is best to shock from either a shock treatment or a registered or scheduled source of sodium dichlor, calcium hypochlorite, liquid chlorine or trichlor available at your local pool supplier..

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 buildup of by-products can damage the electrolytic cell.

- The **pH** condition resulting from the operation of a salt water chlorination system is close to neutral. However, other factors usually cause the pH of the pool water to rise. Therefore, the pH in a pool chlorinated by a salt water system tends to stabilize at approximately 7.6. If the pool pH rises above 7.6 have a pool professional test to see if other factors such as high calcium hardness or total alkalinity are the cause and then balance accordingly.
- **Total Dissolved Solids (TDS)** Adding salt to pool water will raise the TDS level. While this does not adversely affect the pool water chemistry or clarity, the pool water professional testing for TDS must be made aware salt has been added for the sanitizing system. The individual performing the TDS test will then subtract the salinity level to arrive at the correct TDS level.
- **New pool water** in a recently filled or newly refinished pool may contain undesirable matter which could interfere with the salt water chlorinator's ability to sanitize properly. Make sure the water is tested by a pool professional and properly balanced before turning on the chlorinator system. New plaster pools have a constant acid demand for six (6) months. Test often and maintain a proper pH to avoid excess scaling of the cell.
- **Sequestering Agents** can be used to compensate for source water which may have unusually high calcium hardness. High calcium hardness can contribute to scale formation in the pool. Sequestering agents will help keep minerals in solution and under some conditions can prevent scaling from happening. Consult your pool professional about the use of a sequestering agent.

4.4 Optimum Pool Water Conditions

In accordance with Association of Pool and Spa Professionals (APSP) standards, we recommend the following water balance conditions be maintained on an on-going basis to protect the pool finish and the equipment and to ensure the pleasing appearance of the water. The Zodiac AquaPure Ei Series APURE35PLGC is warranted to operate properly only if the following conditions are met:

| | |
|--------------------------------|--------------------------------------|
| Free Available Chlorine | 1.0 - 3.0 ppm. |
| pH | 7.2 - 7.6 |
| Total Alkalinity | 100 - 120 ppm |
| Calcium Hardness | 200 - 300 ppm |
| Salt | 4000-4500 ppm |
| Cyanuric Acid | 10 - 50 ppm (for outdoor pools only) |

4.5 Chlorine Testing

Use a home test kit or ask your pool professional to test your water. Check the expiry date of the test kit as test results may be inaccurate if used after that date. It is recommended that chlorine test samples be taken from two (2) places, described below. Compare the two (2) samples. A higher level should be found at the pool return line. The higher level at the pool return line indicates the salt water chlorinator system is producing chlorine. If additional chlorine is required due to heavy bather loads, use sodium dichlor, calcium hypochlorite, liquid chlorine or trichlor to maintain an appropriate chlorine/bromine residual in the water.

1. At the pool return line.
2. 46 cm (18 in.) below the surface and well away from the pool return line.

4.6 Salt (NaCl Sodium Chloride)

4.6.1 When to Add Salt

Add salt to the pool if the salt is too low (see Table 1) or if salt indicator light turns on. For a new pool or newly resurfaced pool it is recommended to wait at least 30 days (surface should be completely cured) before adding salt. Do not run the chlorinator at this time. Manually chlorinate the pool. Contact your dealer for recommendations. Follow the pool surface manufacturer's guidelines for your particular pool. For vinyl and fiberglass pools, salt can be added at start up.

4.6.2 What Type of Salt to Use

- The purer the salt, the better the life and performance of the electrolytic cell. Use a salt that is at least 99.8% pure NaCl. The salt is an evaporated, granulated, food quality, non-iodized salt. Consult your salt supplier.
- Avoid using salt with anti-caking agents (sodium ferrocyanide, also known as YPS or yellow prussiate of soda) that could cause some discoloration of fittings and surface finishes in pool.
- Water conditioning salt pellets are compressed forms of evaporated salt and may be used but will take longer to dissolve.
- **Do not** use calcium chloride as a source of salt. Use sodium chloride only.
- **Do not** use rock salt because insoluble impurities mixed with the rock salt can shorten the life of the unit.

4.6.3 How Much Salt to Use

Use salinity test strips, a TDS/salinity meter, or another reliable method to test the salinity of the pool water. Once the existing salinity has been established, use Table 1 to determine the amount of salt to add to reach the desired level. Be conservative when adding salt as it is easier to add more if needed than it is to dilute if there is too much salt.

- 4,000 ppm of salt is recommended for optimum water conditions.

NOTE In cooler water conditions (less than 18°C [65°F]), it may be necessary to add more than 4,500 ppm of salt to keep the "Check Salt" alarm from appearing on the power pack.

- Low salt concentration below 3,000 ppm will cause premature cell failure.
- High salt concentration above 6,000 ppm may cause corrosion damage to pool fixtures.

CAUTION

It is important to note that certain materials used in and around swimming pools and spas may not be compatible with chemicals commonly used to purify pool and spa water (e.g. acids, chlorine, salt, stabilizers, etc.).

Zodiac Pool Systems, Inc. does not warrant or guarantee that the chlorinated water generated by the Zodiac AquaPure Ei Series APURE35PLGC chlorine generating device will not damage or destroy certain types of plants, decking, coping and other materials in and around your pool and/or spa. Before selecting materials to be used in and around your pool and/or spa, please discuss all options with your contractor to assess the compatibility of such materials and chemicals.

Some helpful considerations may include:

- Maintaining high salt and chlorine/bromine levels above recommended range can contribute to corrosion of pool or spa equipment."
- Choosing plants that can withstand splash out of pool water containing chlorine and/or salt and other water purification chemicals.

- All metal components used in and around a pool should be of a high grade, quality stainless steel.
- Careful selection of masonry products. The porosity and hardness of natural stones varies greatly. Therefore we recommend you consult with your builder or stone contractor on the best choice for stone materials around your pool or spa.
- Sealing all masonry products. Professionals in the stone industry specify that even natural stone, especially when used outdoors, be sealed to prevent weathering, staining, and premature degradation. Consult with your stone or deck contractor for the proper sealer for the masonry products you have selected to use around your pool or spa.
- For optimal results, sealers should be reapplied on a regular basis. Reapply the protective sealer on a schedule per the manufacturer's instructions.
- Use of chemicals other than those recommended may be hazardous. Follow the chemical manufacturers instructions.

4.6.4 How to Add Salt to the Pool

1. Turn on pump to circulate pool water.
2. **IMPORTANT - Turn the power pack off by pressing the ON/Off button (OFF will be displayed on the screen).**
3. Test the water for salinity level using test strips, electronic meter, or by your local pool professional.
4. Use the Table 1 to determine the amount of salt to add. Be conservative when adding salt as it is easier to add more if needed than it is to dilute if there is too much salt.
5. Broadcast salt into pool. Do not add through skimmer, main drain, or surge tank. Brush the salt around the pool to facilitate dissolving. Circulate filter system for 24 hours to ensure even distribution.
6. After 24 hours, verify correct salt reading by testing the water salinity level using test strips, electronic meter, or by your local pool professional.
7. When the salinity level is correct, turn the power pack on. Press the OUTPUT button to set the desired production rate.

NOTE For a new pool or newly resurfaced pool it is recommended to wait at least 30 days (surface should be completely cured) before adding salt. Follow the pool surface manufacturers guidelines for your particular pool. For vinyl and fiberglass pools, salt can be added at start up.

Table 1. Approximate Kilograms (Pounds) of Salt Needed to Obtain 4,000 ppm (4.0 gpl)

| Current Salt Level ppm | Pool/Spa Size - Litres (US Gallons) | | | | | |
|------------------------|-------------------------------------|-----------------------|-----------------------|-----------------------|------------------------|------------------------|
| | 38,000 L (10,000 gal) | 57,000 L (15,000 gal) | 76,000 L (20,000 gal) | 95,000 L (25,000 gal) | 114,000 L (30,000 gal) | 132,000 L (35,000 gal) |
| 0 | 151 kgs (334 lbs) | 227 kgs (501 lbs) | 303 kgs (668 lbs) | 379 kgs (835 lbs) | 454 kgs (1001 lbs) | 530 kgs (1168 lbs) |
| 250 | 142 kgs (313 lbs) | 213 kgs (469 lbs) | 284 kgs (626 lbs) | 355 kgs (782 lbs) | 426 kgs (939 lbs) | 497 kgs (1095 lbs) |
| 500 | 132 kgs (292 lbs) | 199 kgs (438 lbs) | 265 kgs (584 lbs) | 331 kgs (730 lbs) | 397 kgs (876 lbs) | 464 kgs (1022 lbs) |
| 750 | 123 kgs (271 lbs) | 185 kgs (407 lbs) | 246 kgs (542 lbs) | 308 kgs (678 lbs) | 369 kgs (814 lbs) | 431 kgs (949 lbs) |
| 1000 | 114 kgs (250 lbs) | 170 kgs (376 lbs) | 227 kgs (501 lbs) | 284 kgs (626 lbs) | 341 kgs (751 lbs) | 397 kgs (876 lbs) |
| 1250 | 104 kgs (229 lbs) | 156 kgs (344 lbs) | 208 kgs (459 lbs) | 260 kgs (574 lbs) | 312 kgs (688 lbs) | 364 kgs (803 lbs) |
| 1500 | 95 kgs (209 lbs) | 142 kgs (313 lbs) | 189 kgs (417 lbs) | 237 kgs (522 lbs) | 284 kgs (626 lbs) | 331 kgs (730 lbs) |
| 1750 | 85 kgs (188 lbs) | 128 kgs (282 lbs) | 170 kgs (376 lbs) | 213 kgs (469 lbs) | 256 kgs (563 lbs) | 298 kgs (657 lbs) |
| 2000 | 76 kgs (167 lbs) | 114 kgs (250 lbs) | 151 kgs (334 lbs) | 189 kgs (417 lbs) | 227 kgs (501 lbs) | 265 kgs (584 lbs) |
| 2250 | 66 kgs (146 lbs) | 99 kgs (219 lbs) | 132 kgs (292 lbs) | 166 kgs (365 lbs) | 199 kgs (438 lbs) | 232 kgs (511 lbs) |
| 2500 | 57 kgs (125 lbs) | 85 kgs (188 lbs) | 114 kgs (250 lbs) | 142 kgs (313 lbs) | 170 kgs (376 lbs) | 199 kgs (438 lbs) |
| 2750 | 47 kgs (104 lbs) | 71 kgs (156 lbs) | 95 kgs (209 lbs) | 118 kgs (261 lbs) | 142 kgs (313 lbs) | 166 kgs (365 lbs) |
| 3000 | 38 kgs (83 lbs) | 57 kgs (125 lbs) | 76 kgs (167 lbs) | 95 kgs (209 lbs) | 114 kgs (250 lbs) | 132 kgs (292 lbs) |
| 3250 | 28 kgs (63 lbs) | 43 kgs (94 lbs) | 57 kgs (125 lbs) | 71 kgs (156 lbs) | 85 kgs (188 lbs) | 99 kgs (219 lbs) |
| 3500 | 19 kgs (42 lbs) | 28 kgs (63 lbs) | 38 kgs (83 lbs) | 47 kgs (104 lbs) | 57 kgs (125 lbs) | 66 kgs (146 lbs) |
| 3750 | 9 kgs (21 lbs) | 14 kgs (31 lbs) | 19 kgs (42 lbs) | 24 kgs (52 lbs) | 28 kgs (63 lbs) | 33 kgs (73 lbs) |
| 4000 | Optimum | Optimum | Optimum | Optimum | Optimum | Optimum |

Table 2. Approximate Kilograms (Pounds) of Stabilizer Needed to Obtain 50 ppm

| Current Cyanuric Acid Level - ppm | Pool/Spa Size Litres (US Gallons) | | | | | |
|-----------------------------------|-----------------------------------|-----------------------|-----------------------|-----------------------|------------------------|------------------------|
| | 38,000 L (10,000 gal) | 57,000 L (15,000 gal) | 76,000 L (20,000 gal) | 95,000 L (25,000 gal) | 114,000 L (30,000 gal) | 132,000 L (35,000 gal) |
| 0 | 1.9 kgs (4.2 lbs) | 2.9 kgs (6.3 lbs) | 3.8 kgs (8.4 lbs) | 4.8 kgs (10.5 lbs) | 5.7 kgs (12.6 lbs) | 6.7 kgs (14.8 lbs) |
| 10 | 1.5 kgs (3.4 lbs) | 2.3 kgs (5.1 lbs) | 3.1 kgs (6.7 lbs) | 3.8 kgs (8.4 lbs) | 4.6 kgs (10.1 lbs) | 5.4 kgs (11.8 lbs) |
| 20 | 1.1 kgs (2.5 lbs) | 1.7 kgs (3.8 lbs) | 2.3 kgs (5.1 lbs) | 2.9 kgs (6.3 lbs) | 3.4 kgs (7.6 lbs) | 4.0 kgs (8.9 lbs) |
| 30 | 0.8 kgs (1.7 lbs) | 1.2 kgs (2.5 lbs) | 1.5 kgs (3.4 lbs) | 1.9 kgs (4.2 lbs) | 2.3 kgs (5.1 lbs) | 2.7 kgs (5.9 lbs) |

| | | | | | | |
|----|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 40 | 0.4 kgs (0.8 lbs) | 0.6 kgs (1.3 lbs) | 0.8 kgs (1.7 lbs) | 1.0 kgs (2.1 lbs) | 1.2 kgs (2.5 lbs) | 1.3 kgs (3.0 lbs) |
|----|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|

NOTE The above chart is for general reference only. The recommended stabilizer reading is between 10 - 50 ppm and will vary dependent on geographic climate. Warm, sunny climates will require a stabilizer reading at the higher end of the given range. Consult your local pool professional for your optimum level. Always add stabilizer according to manufacturer's instructions. For indoor pools, it is not necessary to add chlorine stabilizer to the swimming pool water.

Section 5. Operating Instructions

WARNING

To avoid property damage, serious injury or death, do not operate the electrolytic cell without water circulation. A buildup of flammable gasses which can result in FIRE OR EXPLOSION

5.1 Control Panel

5.2 Turning Power Pack On/Off (Manually)

To turn the Zodiac AquaPure Ei Series APURE35PLGC chlorine generating device on or off press the button.

NOTE The power pack will only turn on and the cell will only produce chlorine when water flow is detected by the flow switch.

5.3 Setting the Chlorine Output Level

When setting the chlorine output level you must consider the size of the pool, the amount of use the pool will be receiving and how hot the weather is. All these factors weigh greatly on the level of output needed. To adjust the output level, follow these steps:

1. Turn the power pack on by pressing the button.
2. Press the button to reach the desired output level. The minimum setting is 20% (one amber light). The output can be adjusted in increments of 20% up to 100%. If the OUTPUT button is pressed beyond 100%, the output level setting will drop back to 20%.

5.4 Connection to an AquaLink™ RS / PDA Control System

The Zodiac AquaPure Ei Series APURE35PLGC chlorine generating device can be connected to an AquaLink RS or PDA Control System (see Section 3.5 and 3.6). For detailed instructions for the AquaLink RS or PDA Control System, see the respective manuals.

5.5 Polarity Reversal

The Zodiac AquaPure Ei Series APURE35PLGC chlorine generating device is a reversible polarity cell which means that for every five (5) hours of operation the cell will switch its polarity to help prevent any build up of calcium on the cell plates. This is sometimes referred to as the automated cell cleaning feature. During the transition between changing its polarity there is a five (5) minute wait time when the cell will not produce any chlorine. Once it has changed polarity it will continue to make chlorine.

NOTE 'CLEANING' will be displayed on the screen during the five (5) minute 'WAIT' period. The output level indicator will remain as set during the cleaning period.

5.6 Backup Battery

The power pack is fitted with a rechargeable battery which can last in excess of 500 hours without the power being connected. In the event of a power failure the battery will retain ALL settings.

In the event of the battery losing its charge, the microprocessor in the unit will retain the following settings permanently:

- Operating hours
- Cell hours

- Controller setting

Section 6. Maintenance Instructions

Before servicing the Zodiac AquaPure Ei Series APURE35PLGC chlorine generating device please ensure you have read and understood the Important Safety Instructions section.

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. Check the expiry date of the test kit as test results may be inaccurate if used after that date. Maintain ideal range by adjusting the chlorine output level on the power pack (see Section 5.3). Recommended free chlorine level is 1 - 3 ppm.

NOTE It is recommended that chlorine test samples be taken from two (2) places, one (1) at the pool return line, the other well away from the pool return line. Compare the two (2) 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 (see Section 4.3).

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 100 - 120 ppm (see Section 4.3).
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 200 - 300 ppm (see Section 4.3).

6.2 Monthly

1. **Check the cell.** It is recommended that every month the cell be removed and inspected for scale formation and/or debris. If cell needs to be cleaned, see Section 6.3 for instructions.
2. **Salt Level Test.** Use salinity test strips, a TDS/salinity meter, or another reliable method to test the salinity of the pool water. Once the existing salinity has been established, use Table 1 to determine the amount of salt to add to reach the desired level. Be conservative when adding salt as it is easier to add more if needed than it is to dilute if there is too much salt. If the salinity level in the pool is correct and the salt LED does not go out, see Section 7: Troubleshooting.
3. **Pool Water Sample.** Take water sample to local pool store for testing.
4. **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 10 - 50 ppm. Follow your pool professional's recommendations. For indoor pools, it is not necessary to add chlorine stabilizer to the swimming pool water.
5. **Metals Test.** It is recommended that the pool water be tested periodically for the presence of metals such as iron, and manganese. These metals should not be present in the pool water. If those metals are present, contact your local pool professional.

NOTE DO NOT add pool or spa chemicals directly to the skimmer. This may damage the cell.

6.3 Cleaning the Cell

The power pack has an automatic cell cleaning feature (polarity reversing) that removes scale deposits from the cell (see Section 5.5).

Scale will form in excessively hard water or from pool water that is out of balance and in a scaling condition. Following the installation of the Zodiac AquaPure Ei Series APURE35PLGC chlorine generating device, check the cell once a month for signs of scale.

If the cell has a tendency to scale, it is recommended that every month 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:

1. Ensure that all power to the power pack and the controller is disconnected/turned off at the circuit breaker.
2. Before removing the cell for cleaning, shut off any necessary valves to prevent any water loss.
3. Open the air relief valve to release any pressure in the pool system.
4. Remove the terminal cap and cell leads.
5. Undo the locking ring. If required, use the locking ring tool provided (see Figure 28).
6. Remove the cell (see Figure 29).
7. Refit the cap on the cell and invert (see Figure 30).
8. With protective glasses and gloves on, add one (1) part muriatic acid to ten (10) parts water and mix.
9. Fill the cell to the top of the electrode plates with the acid solution. 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 to the step 10). Otherwise allow the cell to remain in the solution until the foaming has stopped (approximately 5 - 10 minutes).
10. After the cell has been cleaned, dispose of the solution by pouring it into the pool water or dispose of according to local regulations.
11. Rinse the cell thoroughly with clean tap water and inspect. If deposits are still visible on the electrolytic cell, repeat step 9.

NOTE Excessive acid washing will damage the electrolytic cell. **Do not leave in acid for more than 30 minutes.**

12. If the cell is clean, reattach the cell as described in Section 3.3.

The life expectancy of the electrolytic cell is 10,000 hours under normal use conditions. When replacing the cell, use only replacement cells having a label that clearly states that it is a replacement cell for the chlorine generating device Zodiac AquaPure Ei Series APURE35PLGC, REGISTRATION NUMBER 30233, *PEST CONTROL PRODUCTS ACT*.

6.4 Winterizing

NOTE Do not use Ethylene Glycol (anti-freeze) in the system.

Very little chlorine is needed in cold water. Operating the chlorinator below 11°C (51°F) is not recommended. Operating the chlorinator in cold water can shorten the life of the cell

If preventative measures are not taken, freezing water may cause severe damage to the cell. Prevent freeze damage to the cell 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 indoors. Coil the cell leads, wrap in plastic and tape to the power pack.

Winterizing caps are included with this product to replace the cell during winterizing or cell maintenance. This will enable pool pump to circulate water with the cell out of the line.

During the cold season, if you are using a FREEZE CONTROLLER on pump equipment and you choose to keep the chlorinator installed, turn the CHLORINE PRODUCTION down to 20%, otherwise, chlorine production will exceed the recommended level of 1 - 3 ppm.

6.4.1 Winterizing Procedure

1. Ensure that all power to the power pack and the controller is disconnected/turned off at the circuit breaker.
2. Shut off any necessary valves to prevent any water loss.
3. Open the air relief valve to release any pressure in the pool system.
4. Remove the terminal cap and cell leads.
5. Undo the locking ring. If required, use the locking ring tool provided (see Figure 28).
6. Remove the cell (see Figure 29).
7. Attach the winterizing cap (see Figure 31).
8. Position the locking ring in proper alignment, making sure the bump aligns with the top thread.
9. Screw down the locking ring to the threaded clamp using the locking ring tool.

NOTE Ensure the locking ring is level when engaging the threading housing (see Figure 32).

Section 7. Troubleshooting

WARNING

Always turn pump off prior to attempting service or repair. Your pump and filter system is operated under pressure and pressure must be released before you begin to avoid system damage or personal injury. Follow the manufacturer's instructions to properly release the air in the pool filter.

7.1 Problems and Corrective Action

| Problem | Possible Cause | Corrective Action |
|---------------------|--|---|
| Low or no chlorine. | Low stabilizer (cyanuric acid) level in pool water (outdoor pools only). | Add stabilizer to maintain 30 - 50 ppm (see Table 2). |
| | Insufficient operating hours of the unit. | Increase the system operating time per day. |
| | Chlorine Output percentage set too low. | Increase chlorine production by pressing the Output button (see Section 5.3). |
| | Recent increases in weather temperature without increasing the chlorine | Increase chlorine production by pressing the Output button (see Section 5.3). |

| | | |
|----------------|--|---|
| | production of your unit. | |
| | Temporary loss of chlorine due to heavy organic load - rain, leaves, fertilizer or heavy bather load. Pets using pool. | Set chlorine production to 100% and set the pump and the cell to run for 24 hours. After 24 hours, recheck chlorine levels. If still too low, super chlorinate with alternate source. |
| | Low (less than 3,500 ppm) salt level in pool water. | Use salinity test strips, a TDS/salinity meter, or another reliable method to test the salinity of the pool water. Once the existing salinity has been established, use Table 1 in section 4.6.4 to determine the amount of salt to add to reach the desired level. Maintain a salinity level of 4,000 ppm - 4,500 ppm. |
| | High nitrate level. | Contact a pool professional. |
| | Metals present in pool water. | Contact a pool professional. |
| | New pool water. Not shocked properly upon startup. | Super chlorinate the pool. |
| | Clogged or dirty cell. | Remove cell for inspection and clean if necessary (see Section 6.3). |
| Problem | Possible Cause | Corrective Action |

Chlorine level too high. Chlorine output percentage set too high. Decrease the chlorine production rate by pressing the Output button (see Section 5.3).

Power pack and cell turned on too long. If chlorine output is set at the lowest setting and it consistently provides excessive chlorine levels, decrease operation time as much as necessary.

| Problem | Possible Cause | Corrective Action |
|----------------|-----------------------|--------------------------|
|----------------|-----------------------|--------------------------|

| | | |
|--------------------------------------|-------------------|---|
| No display on LCD (screen is blank). | No power to unit. | Check the connection to the pump timer (see Section 3.4). Check if GFCI tripped. |
|--------------------------------------|-------------------|---|

| Problem | Possible Cause | Corrective Action |
|---|--|--|
| <p>Flow light is on (Display says “No Flow”). Caused by insufficient water flow through the pod and cell.</p> <p>NOTE When the Flow light is on, the chlorine output will be turned off.</p> | <p>The pump or skimmer baskets are filled with debris preventing sufficient water flow through the system.</p> | <p>Check and clean the pump and skimmer baskets.</p> |
| | <p>Dirty filter.</p> | <p>Clean the filter.</p> |
| | <p>Closed valves.</p> | <p>Check and correct all valve alignments.</p> |
| | <p>Pump fails to provide sufficient water flow.</p> | <p>Check for correct operation of the pump. Make sure pump is sized properly for required flow rate.</p> |
| | <p>Flow switch connection loose.</p> | <p>Check that the flow switch is properly connected to the power pack.</p> |
| | <p>Flow switch failure.</p> | <p>Replace the flow switch.</p> |
| Problem | Possible Cause | Corrective Action |
| <p>Salt light is on and the display says “Check Salt or Low Temperature”.</p> <p>NOTE The Salt light will turn on when the salt level drops well below 3,000 ppm and it will remain on until the salt level is raised above 4,000 ppm.</p> <p>* If and AquaLink™ RS or PDA is installed, when the salt level is low, the AquaLink RS or PDA will display, “Salt 2900 PPM, Check AquaPure®, (Low Salt)”.</p> | <p>Salt level is well below 3,000 ppm, depending on water temperature.</p> | <p>Maintain a salinity level of 4,000 ppm - 4,500 ppm (see Section 4.6 or contact your local pool professional).</p> |

| | | |
|---|--|---|
| | Cell life expired. | Replace the cell. |
| Problem | Possible Cause | Corrective Action |
| Display says “Check Salt or Low Temperature” (Salt light is off). | A combination of low water temperature (2°-18°C [35°-65°F]) and lower salt levels (3,500 - 4,000 ppm). | Check salt level in pool water. If level is between 4,000 - 4,500 ppm, no action is necessary. If salt levels are lower than 4,000 ppm, raise the salinity level to 4,000 - 4,500 ppm (see Section 4.6). NOTE Salt levels above 6,000 ppm may cause corrosion damage. |
| Problem | Possible Cause | Corrective Action |
| “Output Fault” appears on the screen. | Power supply. | Turn the power off to the power pack and consult your local pool care professional. |
| Problem | Possible Cause | Corrective Action |
| Salt level too high. | Too much salt has been added to pool. | Backwash or partially drain pool and dilute with fresh water until salinity returns to 4,000 ppm - 4,500 ppm. |
| Problem | Possible Cause | Corrective Action |
| Salt level too low. | Not enough salt added to the pool. | Add salt to pool until salinity returns to 4,000 ppm - 4,500 ppm (see Section 4.6). |
| | Heavy rainfall diluted the pool water. | Add salt to pool, until salinity returns to 4,000 ppm - 4,500 ppm (see Section 4.6). |
| | Leak in pool. | Repair pool. |
| Problem | Possible Cause | Corrective Action |

| | | |
|--|--|---|
| Chlorine odor. | Presence of excess chloramines (combined chlorine). | Manually shock the pool (see Section 4.3). |
| Problem | Possible Cause | Corrective Action |
| Cloudy water, slimy walls of pool. | Combined algae and bacteria growth. | Brush down the affected walls and then manually shock the pool (see Section 4.3). |
| Problem | Possible Cause | Corrective Action |
| Eye and/or skin irritation. | Improper water balance. | Balance the water to recommended levels in Section 4.4. |
| Problem | Possible Cause | Corrective Action |
| Scale formation on pool equipment. NOTE To clean the deposit (scale) on the cell, see Section 6.3. | Incorrect pH causing minerals to come out of solution. | Adjust total alkalinity to 100 - 120 ppm. Then adjust pH to within the range 7.4 - 7.6 (see Section 4.4). |
| | High total hardness. | Dilute pool with fresh water. Consult your pool professional regarding use of a sequestering agent. |

Section 8. Replacement Parts and Exploded Views

8.1 Parts List

| Key No. | Description | Order Part No. |
|---------------|---|----------------|
| Cell | | |
| 1 | R-Kit, Terminal Cap, APURE Ei™ | R0511200 |
| 2* | R-Kit, Locking Ring | R0511300 |
| 3* | R-Kit, Electrode, APURE Ei 35 | R0511400 |
| 4* | R-Kit, O-Ring, Electrode Housing | R0511600 |
| 5* | R-Kit, Saddle Clamp Assy, APURE Ei | R0511700 |
| Pod | | |
| 6 | R-Kit, Plugs, APURE Ei Pod | R0511800 |
| 7 | R-Kit, Flow Switch, APURE Ei Pod | R0511900 |
| 8 | R-Kit, Pod Housing, APURE Ei Pod | R0512000 |
| Power Pack | | |
| 9 | R-Kit, Power Supply, 120/240V Plug-In Version | R0511100 |
| Miscellaneous | | |
| 10 | R-Kit Locking Ring Tool | R0512600 |
| 11* | R-Kit, Winterizing Kit | R0512700 |

* Replacement o-ring supplied in this kit

8.2 Exploded Views

Zodiac Pool Systems, Inc.

2620 Commerce Way, Vista, CA 92081

1.800.822.7933 | www.ZodiacPoolSystems.com

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AQUAPURE
Ei Series
 Salt chlorination made easy



Intertek
 ETL Listed

Conforms To UL STD 1081

Certified to CAN/CSA Std. CSA C22 NO.218.1

Patent Pending

Made in Australia

Zodiac AquaPure Ei Series APURE35PLGC (Power supply only) DOMESTIC Chlorine generating device for swimming pools. Read all labels and installation and operation manual completely before attempting to operate.

Maximum overcurrent protection - 15A

Use copper conductors only. Disconnect power before opening service cover. For outdoor or indoor use.

WARNING: Operating the AquaPure Model Zodiac AquaPure Ei Series APURE35PLGC without water flow through the cell can cause a build up of flammable gases which can result in FIRE OR EXPLOSION. KEEP OUT OF REACH OF CHILDREN.

The maximum volume of water that can be treated with one unit of model Zodiac AquaPure Ei Series APURE35PLGC is 132,000 litres (132 m³). For swimming pools, a range of 1-3 ppm of free available chlorine must be maintained. Maximum output of hypochlorous acid equivalent to 420g of free available chlorine per day. Controls bacteria and algae in swimming pool water.

NOTICE TO USER: This pest control product is to be used only in accordance with the directions on the label. It is an offence under the *Pest Control Products Act* to use this product in a way that is inconsistent with the directions on the label. The user assumes the risk to persons or property that arises from any such use of this product.

Chlorine Production Zodiac AquaPure Ei Series APURE35PLGC 17.5 g/hr

Electrical Requirements:

120 / 240 V~ 50/60 Hz, 3 Wire, 1.3 / 1 AMP

4.0 to 4.5 grams per litre of salt

REGISTRATION NO.30233

PEST CONTROL PRODUCTS ACT

READ THE LABEL AND OPERATION MANUAL BEFORE USING

Electrode, APURE Ei 35

Replacement Cell for chlorine generating device Zodiac AquaPure Ei Series APURE35PLGC REGISTRATION NUMBERS 30233, PEST CONTROL PRODUCTS ACT. This cell must be only used on this model of chlorine generating device.

Read the label, Installation and Operating Manual of the chlorine generating device Zodiac AquaPure Ei Series APURE35PLGC before using.

This label transcript service is offered by the Pest Management Regulatory Agency to provide efficient searching for label information. This service and this information do not replace the official hard-copy label. The PMRA does not provide any guarantee or assurance that the information obtained through this service is accurate, current or correct, and is therefore not liable for any loss resulting, directly or indirectly, from reliance upon this service.