

2022-0823
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H03433 ENG - Warning Label

WARNING

To avoid injury or property damage from chlorinated water, run pool pump for several minutes, turn off pump, then add Tri-Chlor tablets slowly to avoid splashing. Review owner's manual for important safety and first aid instructions.

Nature2 Fusion 130

This Carton Contains One
Zodiac® Nature2® Replacement Cartridge for the Fusion System.
Part # 50002000

This Nature2 Fusion cartridge is compatible with the following systems:
Nature2 Fusion Soft, Reg. No. 30481 P.C.P.A.
Nature2 Fusion Inground, Reg. No. 30479 P.C.P.A

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READ LABEL AND REFER TO OWNER'S MANUAL BEFORE USING.

KEEP OUT OF REACH OF CHILDREN.

The Fusion system consists of Nature2® Technology used in conjunction with a chlorine generating device. The mineral cartridge augments the bactericidal and algicidal activity of the primary disinfectant, chlorine.

WARNING: Staining of pool surfaces may occur due to deposits of copper salts. Excessive levels of copper will increase the probability of this occurrence.

PRECAUTIONS: Hazards to Humans and Domestic Animals. In the unlikely event that a cartridge breaks, the mineral media is harmful or fatal if swallowed.

FIRST AID:

If swallowed: Call Poison Control Center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a poison control centre or doctor. Do not give anything by mouth to an unconscious person.

If on skin or clothing: Take off contaminated clothing. Rinse skin immediately with water for 15-20 minutes. Call a poison control centre or doctor for treatment advice.

If in eyes: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first five minutes, then continue rinsing eye. Call a poison control centre or doctor for treatment advice.

Take container, label or product name and Pest Control Registration Number with you when seeking medical attention.

DISPOSAL: After six months of use, discard cartridge in household trash.

Change this cartridge every six months.

Fusion mineral cartridge

The Fusion complete pool sanitizing system effectively sanitizes your pool.

NET CONTENTS: ONE CARTRIDGE

algae control

Minerals and chlorine
unite for enhanced water
quality and algae control.

increased chlorine effectiveness

Nature²[®] delivers minerals to
provide improved pool water quality and allows you to use less chlorine.

six month guarantee

- controls algae
- won't stain

ZODIAC® NATURE2® FUSION 130 MINERAL CARTRIDGE

DOMESTIC Replacement Cartridge for pool device Nature2 Fusion Inground REGISTRATION NO. 30479, PEST CONTROL PRODUCTS ACT and Nature2 Fusion Soft REGISTRATION NO. 30481, PEST CONTROL PRODUCTS ACT

To be used with Nature2 Fusion Systems. READ LABEL AND REFER TO OWNER'S MANUAL BEFORE USING. KEEP OUT OF REACH OF CHILDREN. The Nature2 Fusion consists of Nature2 Technology used in conjunction with a chlorine generating device. The Mineral Cartridge augments the bactericidal and algicidal activity of the primary disinfectant, chlorine.

CAUTION: Staining of pool surfaces may occur due to deposits of copper salts. Excessive levels of copper will increase the probability of this occurrence.

PRECAUTIONS: Hazards to Humans and Domestic Animals. In the unlikely event that a cartridge breaks, the mineral media is harmful or fatal if swallowed.

FIRST AID: If swallowed: Call Poison Control Center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a poison control centre or doctor. Do not give anything by mouth to an unconscious person. If on skin or clothing: Take off contaminated clothing. Rinse skin immediately with water for 15-20 minutes. Call a poison control centre or doctor for treatment advice. If in eyes: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first five minutes, then continue rinsing eye. Call a poison control centre or doctor for treatment advice. Take container, label or product name and Pest Control Registration Number with you when seeking medical attention.

**Zodiac Owner's Manual
English**

**Nature² Fusion 130
Mineral Purifier Cartridge**

CARTRIDGE CAPACITY

Nature² Fusion Inground - Up to 130,000 L (34,300 Gal.)

Nature² Fusion Soft - Up to 113,600 L (30,000 Gal.)

IMPORTANT: Read the label, Installation and Operator's Manual, as well as this cartridge manual before using.

Keep all manuals for future reference.

The Nature² Fusion System consists of the patented Nature² Cartridge used in conjunction with the tablet erosion feeder device or an electrolytic generator. The Nature² Cartridge augments the bactericidal and algicidal activity of the primary disinfectant, chlorine.

IMPORTANT SAFETY INSTRUCTIONS – Please read prior to installation

The Nature² Fusion cartridge has been designed to sanitize swimming pools up to 130,000 litres (34,300 Gal) with Nature² Fusion Inground, and up to 113,600 litres (30,000 Gal) when used in Nature² Fusion Soft device.

ATTENTION – Failure to heed the following can result in permanent injury or drowning.

KEEP OUT OF REACH OF CHILDREN

EQUIPMENT UNDER PRESSURE: Always turn pump off prior to installing or changing Nature² cartridge. 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.

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.

LOW CHLORINE RECIPE: Refer to the operational manual.

DOMESTIC

Nature² Fusion Inground REGISTRATION NUMBER 30479

Pest Control Products Act

NATURE² FUSION SOFT REGISTRATION NUMBER 30481

Pest Control Products Act

PRECAUTIONS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

In the unlikely event that a cartridge breaks, the mineral media is harmful or fatal if swallowed.

FIRST AID

If swallowed: Call a poison control centre or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a poison control centre or doctor. Do not give anything by mouth to an unconscious person.

If on skin or clothing: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control centre or doctor for treatment advice.

If in eyes: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control centre or doctor for treatment advice.

Take container, label or product name and Pest Control Product Registration Number with you when seeking medical attention.

We ask you to take the time to get familiar with this manual.

Thank you for purchasing Nature² Fusion. We believe the more you know, the more enjoyable your family's swimming experience will be – and the more you will reduce the time, effort and cost of maintaining your pool. Every pool has its own characteristics of water chemistry, amount of sunlight, etc. Discuss with your dealer the right "recipe" of water management to fit the particular circumstances of your pool and geographic climate. Also, get familiar with your Nature² Fusion Installation and Operator's Manual as it also contains plenty of helpful information not found in this manual. Remember, your Nature² dealer can provide advice and service.

| TABLE OF CONTENTS | PAGE |
|--|-------------|
| Safety Instructions | 1 |
| Nature ² Fusion Compatibility | 3 |
| Balance the Water | 4 |
| Start Up | 5 |
| Follow the Low-Chlorine Recipe | 5 |
| Provide Filtration/Circulation | 6 |
| Nature ² Fusion Cartridge Replacement | 6 |
| Nature ² Cartridge Warranty | 7 |

Nature² Fusion Compatibility

Nature² Fusion Systems can be used with all types of pool chemical treatments available **except biguanide products and copper based algaecides.**

Do not use this device with bromide products.

Important: When converting either a biguanide or bromine treated pool to the Nature² Fusion System, the pool must be completely drained and refilled.

Balance the Water

Before starting up a new Nature² Fusion cartridge, clean debris and algae out of the pool and pool equipment.

Important: Do not install the new cartridge until the pool water is clean and chemically balanced.

To find out if your pool water is balanced:

- take a water sample to your dealer to be tested regularly, or
- ask your dealer to recommend a pool test kit for water balance.

Total Alkalinity
Range: 100-120
ppm

If it's too low: It provides no buffer so that you constantly get fluctuating pH readings, which can damage equipment and pool surfaces.

How to fix: Use an alkalinity increaser.

If it's too high: White deposits ("scale") form on the tile line. The plaster on pool surface becomes rough or discolored. The water becomes cloudy or milky white.

How to fix: Add acid to bring alkalinity down.

pH
Range: 7.2-7.8

If it's too low: The surface of your pool can become etched. Metal parts in the pump and plumbing will corrode.

How to fix: Add pH increaser.

If it's too high: "Scale" forms on the surface of your pool. The water can become cloudy. "Scale" forms on your pool equipment.

How to fix: Add pH decreaser.

Calcium
Hardness
Range: 200-300
ppm

If it's too low: Water is less stable. In plaster pools, the calcium is taken out of the plaster, causing the surface to deteriorate.

How to fix: Add calcium hardness increaser.

If it's too high: Rough, discolored deposits ("scale") will form on the pool surface and inside pool equipment.

How to fix: Drain or dilute the pool water. Consult your dealer.

Start-Up

- 1 Install the cartridge** after water is balanced. Refer to your Nature² Fusion vessel operating manual for additional instructions regarding your particular model's installation.
- 2 Shock the pool water** with chlorine according to manufacturer's instructions to burn off contaminants and activate the cartridge.
- 3 Run the circulating pump** either:
 - 24 hours a day for 4 days, maintaining 1-3 ppm free chlorine throughout, or
 - 6 hours a day for 14 days, maintaining 1-3 ppm free chlorine throughout.
- 4 Let chlorine dissipate** to 0.6 ppm once start up period is completed.
 - Do not enter the pool if the free available chlorine residual is over 3 ppm or less than 0.6 ppm.

Follow the Low-Chlorine Recipe

The following recipe will help you maintain well-balanced swimming pool water.

Ingredients:

- Nature² Fusion Cartridge
- The chlorine produced by the Nature² Fusion vessel.
- pH and total alkalinity adjusting chemicals
- Calcium hardness increaser, if needed
- Cyanuric acid (Stabilizer) (for outdoor pools)
- Pure refined salt, if using Nature² Fusion Inground
- Water test kit

| When: | What to do: |
|------------------|---|
| Every day | Balance alkalinity and pH. Check chlorine residual; adjust Nature ² Fusion output to maintain a range of 0.6-3.0 ppm. Test the salt concentration, if using Nature ² Fusion Soft. Maintain between 3000-3500 ppm. Test the calcium hardness. Maintain between 200-300 ppm. |

Once a month Test the stabilizer reading. Maintain between 30-100 ppm.

As needed If water is hazy, use the superchlorinate feature or shock the pool with chlorine. Superchlorinate or shock the pool following rainstorms or heavy bather load.

Provide Filtration/Circulation

To manage: You need to:

Circulation Follow the manufacturer's directions for keeping the circulating pump in good working order and operate it at least six (6) hours a day. Consult your dealer for optimum run times.

Filtration Check the pool's filter periodically and clean it as recommended by the manufacturer.

Nature² Fusion Cartridge Replacement

Warm Climate

A cartridge lasts six (6) months from the date of installation under normal operating conditions.

Cold Climate

In cold climates where the pool is closed for the winter, the cartridge must be replaced at the beginning of each spring. Even if the cartridge is only used for three (3) months during the previous year, the cartridge must be replaced the next spring.

WARNING:

If the cartridge is not replaced promptly, the pool cannot be kept at a minimum of 0.6 ppm. The level of free available chlorine required is 1 - 3 ppm.

Always turn pump off prior to installing or changing a Nature² Fusion cartridge. Your pump/filter 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.

Disposal

Discard the old cartridge with household trash.

Nature²® Cartridge Warranty

The limited warranties contained within this document are the only warranties given with your Nature² Cartridge and supersede any prior warranties. All other warranties, expressed or implied, including the implied warranty of merchantability or the implied warranty of fitness for a particular purpose are hereby disclaimed. Our sole obligation under this warranty, and the purchaser's sole remedy, is limited to repair or replacement of the Nature² Cartridge. The Nature² Cartridge warranty applies to the original owner only.

Nature² Cartridges are warranted to be free of defects in materials and to perform satisfactorily for a period of six (6) months from the date of purchase. Nature² Cartridges are warranted not to

cause copper staining in your pool. This limited warranty requires that you exercise reasonable care of your pool and keep water in balance at all times and not use a copper-based algaecide. This limited warranty does not cover discoloration to chromium fittings. This warranty does not cover cartridges used with any biguanide products.

If the cartridge is defective and does not perform satisfactorily for the entire six (6) months, we will make a prorata rebate based on your actual period of use. Please read this manual and the Installation and Operator's Manual and follow the directions for proper use.

EXCLUSIONS FROM WARRANTY

Nature2 Cartridges are designed for use in pools up to 130,000 L (34,300 Gal) with Nature2 Fusion Inground, and up to 113,600 (30,000 Gal) when used in Nature2 Fusion Soft device. If it is used in any other application, the warranty is void, and the purchaser and/or pool owner releases the manufacturer from any and all claims related to the use of the Nature2 Fusion System.

This warranty does not cover problems arising in whole or in part from purchaser's negligence, misuse or abuse, improper maintenance or storage, accident, improper installation, improper application, failure to follow all appropriate safety precautions, Acts of God, abnormal weather conditions, damage from plants or animals, and improper use of chemicals.

This warranty specifically excludes all incidental or consequential damages, except where law requires them to be paid. This warranty gives you specific rights. You may have other rights that vary from province to province.

Only the original purchaser may submit a claim under this limited warranty. All claims must be accompanied by an original purchase receipt.

Zodiac Pool Systems LLC

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Nature2 Fusion Inground

All-in-One Chlorine Generator and

Mineral Pool Purifying System
Controls Bacteria and Algae in Swimming Pool Waters
DOMESTIC

A maximum of 1300,000 L of water can be treated with one Nature 2 Fusion Inground unit.
Maximum output of hypochlorous acid equivalent to 600 g of free available chlorine per day

For swimming pools, the recommended level of free available chlorine is 1-3 ppm. This level may be lowered to 0.6 ppm, but not below, with the use of Nature2 cartridges.

Inground pools

MINERALS + SALT WATER UNITE

= Algae Control

= Total Mineral Solution

= Enhanced Water Quality

easy to use

Quick installation with low maintenance and the convenience of automatic sanitizer generation.

compatible

Works with virtually all swimming pool filtration systems

the total mineral solution

The Nature2® Fusion Inground is an all-in-one salt water chlorinator and mineral dispenser to keep your pool sparkling clean

| | |
|--------------------------|------------|
| Nature2® Fusion inground | |
| Pool Size | Model No. |
| up to 1300,000 Litres | FSOFT1400C |

READ THE LABEL AND OPERATING MANUAL BEFORE USING
KEEP OUT OF REACH OF CHILDREN
REGISTRATION NO. 30479 PEST CONTROL PRODUCT ACT

WARNING: operating Nature 2 Fusion Inground without water flow through the cell can cause a build up of flammable gases which can result in FIRE OR EXPLOSION.

-salt water chlorinator with exclusive AquaPure® technology

Using ordinary salt that is added to the pool water, it creates chlorine year round.

-Nature2 130 mineral cartridge

Nature2 is an effective pool purifying solution. It uses mineral technology to provide superior pool water quality.

-convenient universal union connectors

Connects easily to any 2" or 2½" pipe, and is the perfect complement to the Zodiac® Versa Plumb® system.

-tool-free drain plug

Simplify the winterizing process in just seconds.

-commercial-grade durability

Engineered with the highest quality materials.

-chlorine adjustment

-Control chlorine output with easy-to-read adjustment handle.

-Nature2 uses mineral technology to help maintain superior pool water quality.

-Do not use Nature2 Fusion 130 Cartridge with copper-based algaecides or Biguanides.

-THE SIX MONTH CARTRIDGE GUARANTEE

-Controls Algae

-Reduces Maintenance

-Won't Stain

-Get six months of guaranteed effectiveness every time you replace the Zodiac Nature2 130 mineral cartridge.

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WARNING

CHEMICAL REACTION RISK

USE SLOW DISSOLVING TRI-CHLOR TABLETS ONLY

- To avoid the risk of property damage, serious injury or death, read all labels and installation and operation manual completely before attempting to operate.
- Be sure pool return line valve is open except when servicing unit to avoid a buildup of gas which can result in FIRE or EXPLOSION.

Operating Nature² Fusion Inground without water flow through the cell can cause a buildup of flammable gases which can result in FIRE or EXPLOSION.

ATTENTION:

Replace mineral cartridge every 6 months!

Zodiac Pool Systems LLC
2882 Whiptail Loop East #100
Carlsbad, CA 92010

DOMESTIC

REGISTRATION NO. 30479 PEST CONTROL PRODUCTS ACT

Max operating pressure: 345 kPa / 50 PSI

Minimum flow rate:

114 LPM / 30 GPM

Chlorine output rate:

22 GPH (grams per hour / grammes par heure)

A maximum of 1300,000L of water can be treated with one Nature² Fusion Inground unit.
Maximum output of hypochlorous acid equivalent to 600g of free available chlorine per day.

For swimming pools, the recommended level of free available chlorine is 1-3 ppm. This level may be lowered to 0.6 ppm, but not below, with the use of Nature² cartridges.

Zodiac Installation and Operation Manual English

Nature² Fusion Inground

WARNING

FOR YOUR SAFETY - This product must be installed and 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 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.

Nature² Fusion Inground

CHLORINE GENERATOR CONTROLS BACTERIA AND ALGAE IN SWIMMING POOL WATER.
A MAXIMUM OF 130,000 LITRES OF WATER CAN BE TREATED WITH ONE NATURE²
FUSION INGROUND UNIT.

MAXIMUM OUTPUT OF HYPOCHLOROUS ACID EQUIVALENT TO 600 GRAMS OF FREE
AVAILABLE CHLORINE PER DAY.

FOR SWIMMING POOLS, MAINTAIN A LEVEL OF FREE AVAILABLE CHLORINE OF 1-3 PPM.
THIS MAY BE LOWERED TO 0.6 PPM WITH THE USE OF A NATURE² CARTRIDGE.
NATURE² FUSION INGROUND IS FOR USE IN SWIMMING POOLS, INCLUDING POOLS
WITH A BUILT-IN SPA.

READ THE LABEL AND INSTALLATION & OPERATION MANUAL BEFORE USING.

KEEP OUT OF REACH OF CHILDREN.

DO NOT USE THIS DEVICE WITH BROMIDE PRODUCTS.

DOMESTIC

REGISTRATION NO. 30479.

PEST CONTROL ACT.

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Table of Contents

| | |
|--|-----------|
| Section 1. Important Safety Instructions | 5 |
| Section 2. System Description | 7 |
| 2.1 Product Description..... | 7 |
| 2.2 Nature ² Fusion Inground Components..... | 7 |
| 2.3 Product Specifications | 8 |
| 2.4 Electrical Specifications | 9 |
| Section 3. Installation Instructions | 10 |
| 3.1 Materials and Tools..... | 10 |
| 3.2 Installation Requirements | 10 |
| 3.3 Anchoring the Vessel to the Equipment Pad..... | 11 |
| 3.4 Installation of the Vessel | 12 |
| 3.5 Bypass Installation | 13 |
| 3.6 Split-Return Installation..... | 15 |
| 3.7 Installing the FUSIONM or AquaLink® RS PureLink™..... | 16 |
| 3.8 Grounding and Bonding | 17 |
| 3.9 Installation of the Chlorine Generator Device User Interface on an AquaLink® RS or PDA Bezel..... | 17 |
| 3.10 Connecting the Nature ² Fusion Inground Vessel and Flow/Temperature/Salinity Sensor | 18 |
| 3.11 Connection to the AquaLink® RS Control System | 22 |
| 3.11.1 Wiring Nature ² Fusion Inground Power Pack to a Zodiac AquaLink RS..... | 22 |
| 3.11.2 Connection of PureLink™ Chlorine Generator Electronics to a Zodiac AquaLink® RS | 23 |
| 3.12 Operation of External Control/ORP Control Board | 24 |
| Section 4. Pool Water Preparation | 25 |
| 4.1 Determining Pool Size (Litres of Water in Your Pool) | 25 |
| 4.2 Determining Pool Size (Gallons of Water in Your Pool) | 25 |
| 4.3 Chemistry You Need to Know | 25 |
| 4.4 Optimum Pool Water Conditions | 26 |
| 4.5 Salt (NaCl Sodium Chloride)..... | 27 |

| | | |
|---|---|-----------|
| 4.5.1 | When to Add Salt | 27 |
| 4.5.2 | What Type of Salt to Use | 27 |
| 4.5.3 | How Much Salt to Use..... | 27 |
| 4.5.4 | Adding Salt to the Pool..... | 28 |
| Section 5. Operating Instructions | | 31 |
| 5.1 | User Interface Controls | 31 |
| 5.2 | Reading the Display | 32 |
| 5.3 | Operation | 34 |
| 5.4 | Startup | 35 |
| 5.4.1 | Shocking | 35 |
| 5.4.2 | Apply Power | 35 |
| 5.5 | Operating in Winter | 36 |
| 5.6 | Recommendations | 36 |
| Section 6. User Maintenance Instructions | | 37 |
| 6.1 | Daily | 37 |
| 6.2 | Monthly..... | 37 |
| 6.3 | Every Six (6) Months (Or once every pool season whichever is shorter) | 38 |
| 6.3.1 | Nature ² Mineral Cartridge Replacement..... | 38 |
| 6.4 | Electrolytic Cell Cleaning - As Needed..... | 38 |
| 6.5 | Flow/Temp/Salinity Sensor Cleaning | 39 |
| 6.6 | Winterizing | 40 |
| Section 7. Troubleshooting | | 41 |
| 7.1 | Problems and Corrective Action | 41 |
| 7.2 | Service Codes..... | 44 |
| 7.3 | Level 2 Service Codes | 45 |
| 7.4 | Additional Letter Codes..... | 45 |
| Section 8. Temperature Conversion | | 46 |
| Section 9. Head Loss Curve | | 47 |
| 9.1 | Head Loss Curve | 47 |
| Section 10. Nature² Fusion Inground and PureLink™ Exploded Views and Replacement Kits | | 48 |
| 10.1 | Nature ² FUSIONM and PureLink Control/Power Pack Replacement Parts..... | 48 |
| 10.2 | Nature ² Fusion Inground Replacement Parts..... | 50 |

Figures

| | | |
|-------------|--|----|
| Figure 1. | Nature ² Fusion Inground Components .. | 7 |
| Figure 2. | Anchor Bracket Installation | 11 |
| Figure 3. | Pipe Cutout..... | 12 |
| Figure 4. | Example of Nature ² Fusion Inground Installation With Options | 13 |
| Figure 5. | Example of Bypass Installation..... | 14 |
| Figure 6. | Nature ² Fusion Inground Split-Return Installation | 15 |
| Figure 7. | Power Pack Installation | 16 |
| Figure 8. | Installation of the User Interface | 17 |
| Figure 9. | Vessel Installation and Flow/Temp/Salinity Sensor..... | 18 |
| Figure 10. | Wiring Diagram for the Power Pack..... | 19 |
| Figure 11. | 240 VAC Wiring Diagram for the AquaLink® RS PureLink™ System | 20 |
| Figure 12. | 120 VAC Wiring Diagram for the AquaLink® RS PureLink™ System | 21 |
| Figure 13. | Power connection between AquaLink RS enclosure and Nature ² Fusion Inground enclosure | 22 |
| Figure 14. | Wiring Nature ² Fusion Inground Control Center to an AquaLink RS Control System | 22 |
| Figure 15a. | Wiring a PureLink Control System Network | 23 |
| Figure 15b. | Wiring a PDA Control System Network . | 23 |
| Figure 16. | Movable ORP Jumper J14 | 24 |
| Figure 17. | User Interface | 31 |
| Figure 18. | Electrolytic Cell Cleaning | 39 |
| Figure 19. | Head Loss Curve..... | 47 |
| Figure 20a. | Nature ² Fusion Inground Power Pack | 48 |
| Figure 20b. | AquaLink® RS PureLink™ Power Center, 6614AP | 49 |

2022-0823
2022-03-31

Figure 20c. AquaLink RS PureLink

| | |
|--|----|
| Power Center, 6613AP | 49 |
| Figure 21. Nature ² Fusion Inground Vessel Exploded View | 50 |

Tables

| | |
|---|----|
| Table 1. Approximate Pounds and Kilograms of Salt Needed to Obtain 3.0 gpl (3,000 ppm)..... | 30 |
| Table 2. Approximate Pounds and Kilograms of Stabilizer Needed to Obtain 50 ppm | 31 |

Section 1. Important Safety Instructions

READ AND FOLLOW ALL INSTRUCTIONS

All electrical work must be performed by a licensed electrician and conform to all national, provincial, and local codes. Follow all aspects of the local and National Electrical Codes(s) when installing Nature² Fusion Inground. When installing this equipment, basic safety precautions should always be followed, including the following:

WARNING

EQUIPMENT UNDER PRESSURE: Always turn pump off prior to installing or changing any Nature² vessel or cartridge or chlorine 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.

DANGER

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.

WARNING

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

WARNING

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

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 one (1) metre (3 ft) from the pool so children cannot use the equipment to access the pool and be injured or drown.

WARNING

To Reduce the Risk of Injury -

- 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. Bathing in spa water at 40°C (104°F) should not exceed 15 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

To reduce the risk of injury, do not permit children to operate this device. 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

- 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 1.52 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

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; and/or
- Unconsciousness resulting in a danger of drowning.

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.).

As such, Zodiac Pool Systems LLC does not warrant or guarantee that the chlorinated water generated by the Nature² Fusion 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:

- 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.

WARNING

Hazard to humans and domestic animals. In the unlikely event that a cartridge breaks, the mineral media is harmful or fatal if swallowed.

If swallowed: Call a poison control centre or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a poison control centre or doctor. Do not give anything by mouth to an unconscious person.

If on skin or clothing: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control centre or doctor for treatment advice.

If in eyes: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control centre or doctor for treatment advice.

Take container, label or product name and Pest Control Product Registration Number with you when seeking medical attention.

SAVE THESE INSTRUCTIONS

Section 2. System Description

Figure 1. Nature² Fusion Inground Components

2.1 Product Description

The Nature² Fusion Inground is an all-in-one, sanitizing system that includes Nature² technology and saltwater chlorination technologies in one housing that can be interfaced with a centralized pool control system.

The Nature² Fusion Inground uses a dual approach to treat your pool water. The first process is Zodiac's patented Nature² technology which delivers controlled trace amounts of minerals to help maintain an algae-free pool. The mineral cartridge reduces the amount of chlorine your pool requires, which improves the water quality and extends the life of the electrolytic cell. The second process is known as electrolysis which produces chlorine from a low concentration of salt added to the pool water. Chlorine kills bacteria, oxidizes organic material, and kills algae then reverts back to salt. The Nature² Fusion Inground then reuses the salt to repeat the process again.

2.2 Nature² Fusion Inground Components

The Nature² Fusion Inground system is comprised of the following components:

Nature² FUSIONM Power Pack (for stand alone systems, sold separately)

The Nature² FUSIONM power pack converts AC power into low voltage DC current which is required by the cell to perform the electrolysis.

The LCD display offers monitoring of chlorine production, cell modes, salinity level, temperature, water flow and diagnostics.

The power pack is connected with the pool circulation pump electrical source so that the electrolytic cell can only operate when the pool pump is on. The flow portion of the flow/temp/salinity sensor is a backup device only.

AquaLink[®] RS PureLink[™] Power Center (For centralized pool control system, sold separately)

The PureLink system is an all-in-one saltwater chlorinator control system powercenter for use with AquaLink RS PDA, All Button, Pool Link, OneTouch[™], or AquaLink[®] Touch controllers.

The AquaLink RS PureLink power center converts AC power into low voltage DC current which is required by the cell to perform the electrolysis.

The LCD display offers monitoring of chlorine production, cell modes, salinity level, temperature, water flow and diagnostics.

The chlorine generator electronics are connected with the pool circulation pump electrical source so that the electrolytic cell only operates when the pool pump is on. The flow portion of the flow/temp/salinity sensor is a backup device only.

Nature2 Fusion Sanitizing Vessel

The sanitizing vessel uses a combination of an electrolytic cell and a mineral cartridge. The electrolytic cell contains bipolar electrodes which perform the electrolysis and produce chlorine when energized with DC current. Chlorine is generated as pool water containing salt passes through the cell. The chlorine production can be varied by either adjusting the Chlorine Production Level on the power center or by varying the number of hours the Nature2 Fusion Inground is on each day. ***The Nature² Fusion Inground automatically cleans the electrodes once every three (3) hours by reversing polarity. This does not interrupt the production of chlorine.*** The mineral cartridge delivers controlled trace amount of minerals that work in conjunction with the chlorine to maintain an algae-free pool.

Flow/Temperature/Salinity/Sensor

The flow portion of the flow/temp/salinity sensor helps detect if there is adequate water flow through the vessel.

The salinity portion of the flow/temp/salinity sensor detects the level of salt in the pool water. This salt level is displayed in grams per litre (GPL)* on the liquid crystal display (LCD) whenever the salinity button is pressed. This eliminates the need for manual pool water salinity testing.

Pool temperature is displayed by pressing the temperature button.

*1 gram per litre (GPL) = 1000 ppm (parts per million)

2.3 Product Specifications

| | Nature ² Fusion Inground |
|----------------------------------|--|
| Model Number | FSOFT1400C |
| Capacity | Up to 113,600 L. (30,000 gal) |
| Maximum operating pressure | 345 kPa (50 psi) |
| Minimum flow rate | 114 lpm (30 gpm) |
| Maximum flow rate | 455 lpm (120 gpm) |
| Salt Level Requirement * | 3,000 - 3,500 ppm |
| Recommended Salt Level * | 3,000 ppm |
| Vessel Dimensions | 42 cm x 40 cm x 37 cm (16.5" L x 16" H x 14.5" D) |
| Power Pack Dimensions | 37 cm x 25 cm x 17 cm (14.5" L x 10" H x 6.5" D) |
| Vessel Weight | 5 kg (11 lbs) |
| Power Pack Weight | 11.3 kg (25 lbs) |
| * Do not exceed 3,500 ppm | |

The life expectancy of the electrolytic cell is 10,000 hours under normal use. When replacing the cell, only use replacement cells that clearly state that it is a replacement cell for the Nature² Fusion Inground, Registration Number 30479, PEST CONTROL PRODUCTS ACT.

2.4 Electrical Specifications

Circuit Protection If only the Nature² Fusion Inground is connected to the circuit breaker, use a 5 AMP fuse. If more devices are connected to the circuit breaker use a 20 AMP fuse at the electrical panel.

| | Nature² Fusion Inground 1400C Connected to FUSIONM |
|--|--|
| Input | 120 VAC, 50/60 Hz, 2.5 AMPS 240 VAC, 50/60 Hz, 1.25 AMPS |
| Output | 22-30 VDC @ 6 AMPS maximum |
| Chlorine | 600 gm / day (1.32 lb / day) |
| External Control Option | ORP/External Control Connector AquaLink RS485 Connector |

CAUTION

The FUSIONM saltwater chlorinator electronics are factory wired for 240 VAC service. If the available electrical service is 120 VAC, then the power supply wiring must be changed to operate on 120 VAC as shown in Figures 10 and 12. The chlorinator electronics are powered from the LOAD SIDE of the pool circulation pump relay; therefore, if the available electrical service is 120 VAC, then the pump must also be wired for 120 VAC.

Section 3. Installation Instructions

WARNING

FOR YOUR SAFETY: This product must be installed and 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.

WARNING

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

- **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.
- Grounding is required. The unit should be installed by a qualified service representative and should be properly grounded and bonded. (See Section 3.8, Grounding and Bonding).
- Install to permit access for servicing.
- Read Section 1, Safety Information.

Before attempting any electrical wiring, be sure to read and follow Safety Instructions. Wiring should only be attempted by a qualified professional.

3.1 Materials and Tools

NOTE Salt not included. See Section 4, Pool Water Preparation.

| Materials Furnished for Installation |
|---|
| <p>Nature² Fusion Inground</p> <p>Vessel with 5 - 6.3 cm (2"-2½") Universal Unions Sensor with 4.88 m (16 ft) Cable and O-ring Universal Union Nut (to secure sensor) 4.88 m (16 ft) DC Power Cord Installation and Operation with Warranty Information</p> <p>FUSIONM Power Pack (Sold separately)</p> <p>Power Pack Housing with User Interface Control Two (2) Wire Nuts Installation Template</p> <p>PureLink™ with Power Center (Optional - Sold separately)</p> <p>AquaLink® RS PureLink power center (Standard or Breaker) Two (2) Wire Nuts Installation Template</p> |
| Tools Needed for Installation |
| <p>Tape Measure Phillips & Flathead Screwdrivers Pliers Hacksaw Voltmeter to determine line voltage of AC wiring to power supply Electric Drill Motor and 0.6 cm (1/4") masonry drill bit for mounting power supply on block or stucco wall An NSF® approved All Purpose Cleaner Primer An NSF approved All Purpose Cement (such as Weld-On 794, 793)</p> |

3.2 Installation Requirements

Decide where to install the Nature² Fusion Inground.

- The vessel must be installed on a 43 cm (17") length of pipe.
- The vessel must be installed on the existing pad or a concrete slab to support the weight.
- The vessel must be installed as the last piece of equipment in the circulation plumbing system just before the pool with the Nature² side as the inlet and the salt chlorinator side as the outlet. The inlet and outlet are clearly marked on the vessel.
- The vessel must be installed downstream from the heater or heater damage will occur.
- If the vessel is installed below the pool water level, it must be installed with a check valve. The check valve will isolate the vessel and prevent pool draining during installation, cell change or cartridge change.
- If plumbing size is greater than 5 cm (2") diameter or if flow rates are greater than 455 lpm (120 gpm), the vessel must be installed in a bypass configuration (see Section 3.5).
- If the vessel is used with water feature line system, it must be installed in a split-return configuration or vessel damage may occur (see Section 3.6).
- Never install the Nature² Fusion directly into copper plumbing as pipe damage may occur. If brass or bronze backwash valves, or other sensitive metallic components are installed, consult your dealer for recommendations on your particular system.

3.3 Anchoring the Vessel to the Equipment Pad

In some areas building codes require that all appliances be securely fastened to the equipment pad in order to withstand high wind pressures created by hurricanes. Please follow all local codes and standards.

NOTE Anchor screws and washers for securing the vessel to the equipment pad are not included with the vessel. Zodiac Pool Systems LLC ("Zodiac") recommends that a 5.7 cm X 0.6 cm (2¼" X ¼") long stainless steel concrete screw and stainless steel flat washer are used to mount each of the two (2) anchors in the base to the equipment pad.

1. Manually snap on the two (2) clip-type anchor brackets onto the side feet of the vessel as shown in Figure 2. Make sure these anchor brackets are attached firmly to the feet of the vessel.
2. Place the vessel on the pad and mark the location of each hole of the anchor brackets on the concrete pad.
3. Drill a 0.5 cm (5/32") hole in the concrete at each of the two (2) hole locations of the anchor brackets. The correct size concrete drill bit should be obtained when the concrete screws are purchased.
4. Install the screws and washers into each of the two (2) holes to secure the vessel to the equipment pad. Do not over-torque the screws.

Figure 2. Anchor Bracket Installation

3.4 Installation of the Vessel

1. Make sure the pool pump is turned off.
2. Install the Nature² cartridge.
3. Locate a suitable section of pipe to install the vessel, approximately 43 cm (17") long, that conforms to the installation requirements outlined in Section 3.2.
4. Cut out a 35 cm (13⁷/₈") section of the 5 cm (2") pipe to insert the vessel (see Figure 3).
5. Connect the outlet from the filter or heater to the vessel inlet port with the appropriate Schedule 40 PVC pipe; secure the connection with a pipe glue that is compatible with PVC.
NOTE Reducer bushings can be used to accommodate 3.8 cm (1.5") plumbing with no effect on the operation of the Nature² Fusion Inground.
6. Connect the vessel outlet port to the pool return line with the same type of PVC pipe and secure the connection with pipe glue. Allow sufficient time for the glue to dry.
7. Hand tighten all unions, sensors, and collars.

CAUTION

Be careful not to get a finger caught between inlet union and plug when tightening as this may cause an injury.

8. Start the pump and check for leaks.

Figure 3. Pipe Cutout

Figure 4. Example of Nature² Fusion Inground Installation With Options

3.5 Bypass Installation

If plumbing size is greater than 5 cm (2") diameter or if flow rates are greater than 450 lpm (120 gpm), the vessel **MUST** be plumbed on by-pass (see Figure 5). It is recommended that 5 cm (2") PVC Schedule 40 pipe is used to plumb the by-pass line. A control valve must be installed to regulate the flow through the vessel. It can be installed on the inlet side of the vessel or between the inlet and discharge side of the bypass piping.

1. Make sure the pool pump is turned off.
2. Install the Nature² cartridge.
3. Locate a suitable section of pipe in the by-pass line to install the vessel, approximately 43 cm (17") long, that conforms to the installation requirements outlined in Section 3.2.
4. Cut out a 35 cm (13⁷/₈") section of the 5 cm (2") pipe to insert the vessel (see Figure 3).
5. Install tees in the return line to allow water to be diverted to the Nature² Fusion Inground vessel.
6. Connect the bypass line from the first tee to the inlet of the vessel and from the outlet of the vessel to the second tee.
7. Install a control valve in the return line between the first and second tee or prior to the vessel inlet on the bypass line to control the water flow through the bypass.
8. Hand tighten all unions, sensors, and collars.

CAUTION

Be careful not to get finger caught between inlet union and plug when tightening as this may cause an injury.

Figure 5. Example of Bypass Installation

9. Fully open any closed valves including the control valve, and start the pump diverting water through the new bypass.
10. Check the vessel and system for leaks.
11. Adjust control valve so that flow rate through the vessel is between a minimum of 114 lpm (30 gpm) and a maximum of 455 lpm (120 gpm).

3.6 Split-Return Installation

If the vessel is used with a water feature line system, it must be installed in a split-return configuration or vessel damage may occur.

1. Make sure the pool pump is turned off.
2. Install the Nature² cartridge..
3. Locate a suitable section of pipe to install the vessel that conforms to the installation requirements outlined in Section 3.2.
4. Install a 3-way valve in the return line to allow water to be diverted/restricted to the Nature² Fusion Inground and water feature line.
5. Fully open any closed valves, including the 3-way, to allow unrestricted flow to the Nature² Fusion Inground and water feature line.
6. Hand tighten all unions, sensors, and collars.

CAUTION

Be careful not to get finger caught between inlet union and plug when tightening as this may cause an injury.

7. Start the pump and allow water to pass through the newly plumbed system. Check for any leaks.
8. Make sure the flow rate to the Nature² Fusion Inground does not drop below 114 lpm (30 gpm).

Figure 6. Nature² Fusion Inground Split-Return Installation

3.7 Installing the FUSIONM or AquaLink® RS PureLink™

CAUTION

The power center is required to have the appropriate means of disconnection, circuit isolation, and/or branch circuit protection installed *upstream* of the power center.

NOTE The control/power center should be located at or near the equipment pad.

1. Locate the control/power center at least 1.52 m (5 ft) or more away from pool/spa and 1.52 m (5 ft) off the ground. All national, provincial, territorial and local codes are applicable.
2. The control/power center comes with two (2) full length, heavy duty mounting brackets *fastened* to the back of the power center during shipping. Remove the four (4) screws that are holding the two (2) brackets and the cardboard shipping cover in place (see Figure 7). Remove and discard the cardboard.
3. Using the top mounting bracket as a guide, mark three (3) holes on the mounting surface where the power center will be installed. Drill the holes in the mounting surface.

NOTE The three (3) mounting holes are 10 cm (4") apart center to center.

NOTE Use heavyweight screws. The power center with all available components installed weighs approximately 14 kg (30 pounds).

4. Reinstall the mounting brackets to the top and bottom of the back of the control/power center using the four (4) screws that were removed in *Step 2*. Ensure that the brackets are rotated from the original shipping position.
5. Hang the power pack on the surface using the three (3) holes drilled in *Step 3*. With the control/power center in place, mark three (3) holes for the bottom bracket mounting.

NOTE As with the top brackets, the bottom bracket requires three (3) mounting holes. The three (3) mounting holes are 10 cm (4") apart center to center.

6. Drill the holes and install the screws.
7. Level the control/power center and tighten all screws, ensuring that the control/power center is securely fastened to the mounting surface.
8. Check source voltage. (All units are factory wired for 240 VAC). ***In order to use on 120 VAC, the internal factory wiring of the power center must be changed. (See Figures 10 and 12).***

Figure 7. Power Pack Installation

3.8 Grounding and Bonding

A solid, copper # 6 awg (13.3 mm²) wire is *recommended* for connecting the control/power center to a permanent earth ground connection that is acceptable to the local inspection authority. Refer to your local codes for the acceptable grounding wire gauge.

The Canadian Electric Code (CEC) requires pool equipment to be bonded to each other. 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 # 6 AWG (13.3 mm²) wire is recommended, per the CEC, for bonding the power pack to a permanent bonding connection that is acceptable to the local AHJ. Refer to your locally enforced codes for the acceptable bonding wire gauge. Attach the bonding point located on the bottom of the chassis backplate to a common earth bonding point. Do not use the power pack as the common bonding point. Each piece of non-related pool equipment requiring a ground should also be bonded to the common, approved earth bonding point. Never ground a pool pump to the chassis backplate.

3.9 Installation of the Chlorine Generator Device User Interface on an AquaLink® RS or PDA Bezel

1. On the chlorine generator user interface board, connect one end of the ribbon cable to the 16-pin J1 connector as shown in Figure 8.
2. Connect the other end of the ribbon cable to the power interface 16-pin J1 connector.
3. Attach the chlorine generator user interface board to the bezel using the four (4) screws provided.

3.10 Connecting the Nature² Fusion Inground Vessel and Flow/Temperature/Salinity Sensor

WARNING

ATTENTION INSTALLER: If the flow/temp/salinity sensor is not installed properly, it may allow the vessel to operate without water flow. This would cause a buildup of flammable gases resulting in FIRE or EXPLOSION.

- Mount as shown in Figure 9. This will result in the most reliable operation.
- **IMPORTANT!** Anytime the flow/temp/salinity sensor is connected or disconnected and reconnected, the AC power to the unit must be turned off and back on (Cycle Power). If power is not cycled, unreliable operation of the flow/temp/salinity sensor will result.

Figure 8. Installation of the User Interface

1. Be sure pool pump is turned off.
2. Install the flow/temp/salinity sensor into the vessel (see Figure 9).
3. Install the strain relief provided with the vessel kit into the low voltage knock out at the power pack. Feed the connector end of the flow/temp/salinity sensor cable through the DC cord strain relief fitting. **Be certain the connector is clean and dry**, then plug the cable into the connector on the power center printed circuit board as shown in Figures 10, 11 and 12. **(Do not pull flow/temp/salinity sensor cable too tight, allow some slack).**
4. Plug the DC cord into the cell stud terminals protruding from the cell top at the Nature² Fusion Inground vessel. The DC cord can be plugged into the cell in either direction.
5. Connect the DC cord to the power center. Feed the DC cord through the same strain relief fitting as the flow/temp/salinity sensor at the power pack. Plug the DC cord into the two (2) spade connectors of the wiring harness located in the low voltage raceway of the control/power center, see Figures 10, 11 and 12. This wiring harness establishes the connection between the cell and the power interface board.

CAUTION

To avoid risk of damage to the equipment and possible injury, it is important to make sure the DC cable connector is fully seated on the cell electrolytic stud terminals.

6. Tighten strain relief fitting screws for the flow/temp/salinity sensor and the DC cord. ***Do not pull flow/temp/salinity sensor cable or DC cord too tight. Allow some slack cable inside of power pack enclosure.***
7. Prior to reattaching the front cover, check the wiring. Be sure the flow/temp/salinity sensor is plugged in. The DC cord should be plugged in. Also, check the AC wiring.
8. If the ribbon cable connecting the user interface to the power interface board was disconnected during installation then reconnect before reattaching cover (see Figures 10, 11 and 12).

WARNING

Do not operate the electrolytic cell without water circulation. A buildup of flammable gases will result in FIRE or EXPLOSION.

Figure 9. Vessel Installation and Flow/Temp/Salinity Sensor

Figure 10. Wiring Diagram for the Power Pack

Figure 11. 240 VAC Wiring Diagram for the AquaLink® RS PureLink™ System

Figure 12. 120 VAC Wiring Diagram for the AquaLink® RS PureLink™ System

3.11 Connection to the AquaLink® RS Control System

CAUTION

Do not over-tighten the strain relief fitting. Over-tightening can cause damage to the flow/temp/salinity sensor cable.

The AquaLink RS is a multi-function pool controller that can fully control the function of the Nature² Fusion Inground chlorine generator. The chlorine generator user interface will display “JA” when any of its buttons are pressed while the AquaLink RS is in control. Adjustment of the chlorine production rate or Boost mode can be controlled from the main menu of the AquaLink RS controller (All Button, OneTouch™, or PDA). Boost mode can also be activated from the chlorine generator user interface while the AquaLink RS is online. Refer to the *AquaLink RS Operation Manual* (or *AquaLink RS PDA Operation Manual*) for more information. The chlorine generator’s user interface will display temperature, salinity, service codes, and LED indicators as normal.

NOTE The Nature² Fusion Inground and PureLink™ electronics will communicate with AquaLink RS using firmware versions JJ or later.

3.11.1 Wiring Nature² Fusion Inground Power Pack to a Zodiac AquaLink RS

In the AquaLink RS power center enclosure, wire the Nature² Fusion Inground power pack input power ***directly*** to the LOAD SIDE of the filter pump relay (see Figure 13).

The AquaLink RS and Nature² Fusion Inground use a four (4) wire connection to communicate and can be wired up to 150 m (500 ft) apart. Any outdoor rated four (4) conductor cable, minimum 22 AWG (0.326 mm²), can be used. Locate the appropriate screw terminals on the circuit board according to Figure 14. Wire the Nature² Fusion Inground from the red 4-pin terminal bar to the AquaLink RS red 4-pin terminal bar.

Figure 13. Power connection between AquaLink RS enclosure and Nature² Fusion Inground enclosure

Figure 14. Wiring Nature² Fusion Inground Control Center to an AquaLink RS Control System

3.11.2 Connection of PureLink™ Chlorine Generator Electronics to a Zodiac AquaLink® RS

The chlorine generator electronics in the PureLink power center and the AquaLink RS controller require a four (4) wire connection to communicate. Any outdoor rated four (4) conductor cable, minimum 22 AWG (0.326 mm²), can be used. Locate the appropriate screw terminals on the circuit board according to Figures 15a and 15b. Wire the chlorine generator power interface board from the red 4-pin terminal bar to the AquaLink RS red 4-pin terminal bar. See Figure 15a.

Wire the PureLink power center transformer to the load side of the filter pump relay. See Figures 11 and 12.

3.12 Operation of External Control/ORP Control Board

An external device such as an ORP (Oxidation Reduction Potential) controller supplying 24 Volts AC can be used to control the output of the chlorinator. The chlorinator control board can be set up in the field to operate in two (2) different modes. The mode of operation is determined by the position of a movable jumper J14. See Figure 16 for location.

POS-1 Wait at least one (1) minute after applying power. See note 1.

With J14 jumper set to POS-1 and no voltage applied to the ORP 24 VAC connector J15, the chlorinator works normally displaying the production rate of 0% to 100% on the front of the power supply.

Figure 15a. Wiring a PureLink Control System Network

Figure 15b. Wiring a PDA Control System Network

When 24 Volts AC is applied to the ORP 24 VAC inputs, chlorine production will be disabled.

The front panel of the power supply will then flash “EC” (external control). Once the 24 Volts AC input is removed the chlorine generator will return to normal operation. The “EC” will be replaced with the current production setting of 0% to 100%.

POS-2 Wait at least one (1) minute after applying power. See note 1.

Placing the jumper in POS-2 allows the chlorinator to operate in the opposite way to POS-1. With 24 Volts AC applied to the ORP 24 VAC inputs, chlorine production will be enabled. The front panel of the power supply will display a production rate of 0% to 100%. When the 24 Volts AC is removed the chlorine generator will flash “EC” every few seconds and chlorine production is disabled.

SUMMARY

| POSITION OF J14 | 24 VAC | 0 VAC |
|-----------------|----------------------------------|----------------------------------|
| POS-1 (default) | Unit OFF , displays EC | Unit ON , displays 0-100% |
| POS-2 | Unit ON , displays 0-100% | Unit OFF , displays EC |

Note 1 The unit samples the external control/ORP settings at the instant power is applied to the chlorinator and will not respond to any changes during the first minute of operation. The unit may appear to be STUCK IN or STUCK OUT of “EC” mode. Wait several minutes until the unit has warmed up to verify the changes made to external control set-up.

Note 2 Unlike the previous production models with ORP control, multiple chlorinators can be linked together to be controlled with one ORP controller without the use of external relays and transformers. Contact the factory for more information.

Figure 16. Movable ORP Jumper J14

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.

WARNING

Heavy pool usage and higher temperatures may require higher chlorine output to maintain proper free chlorine residuals.

High Water Temperatures: Because chlorine demand increases with the rise of water temperature, adjustments must be made in order to keep up with chlorine demand. In hot summer months, where the water temperature rises above 30°C (85°F), you must increase the pump run time and increase the chlorine production (%).

Heavy Bather Loads: Because of heavy bather loads, it may be necessary to use a dichlor product registered or scheduled under the Pest Control Products Act (PCPA) to maintain an appropriate chlorine residual in the water.

4.3 Chemistry You Need to Know

- **Chlorine Stabilizer for Outdoor Pools** (cyanuric acid) is needed to maintain proper levels of chlorine. Most unstable chlorine is destroyed by the UV radiation from the sun within two (2) hours. Chlorine stabilizer should be maintained between 30-100 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 qualified service representative can test for nitrates. Make sure nitrates are not present in your pool.
- **Metals** (some metals) can cause loss of chlorine. Also, metals can stain your pool. Have your local qualified service representative 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. This frees the chlorine for sanitizing. When experiencing heavy swimming loads or heavy rainfall, use the Boost mode to maximize chlorine production.
- **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 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 using a dichlor product registered or scheduled under the Pest Control Products Act (PCPA).

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 the saltwater 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 that uses this type of chlorination system tends to stabilize at approximately 7.8. If the pool pH rises above 7.8 have a qualified service representative 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. This undesirable matter could interfere with the saltwater chlorinator's ability to sanitize properly. Make sure the water is tested by a qualified service representative and properly balanced before turning on the chlorinator system. New plaster pools have a constant acid demand for six (6) months. Regular testing and correcting of the pH will reduce the need for manual cleaning of the cell.
- **Sequestering Agents** may be used in some areas where the total hardness of your source water may be unusually high. High total hardness can contribute to scale formation in the pool. Sequestering agents will help keep minerals in solution and under some conditions can prevent this from happening. Consult a qualified service representative about the use of a sequestering agent.

4.4 Optimum Pool Water Conditions

As part of daily maintenance, we recommend the following water balance conditions be maintained on an on-going basis to protect the pool finish and equipment and ensure the pleasing appearance of the water. The Nature² Fusion Inground is warranted to operate properly only if these conditions are met.

| | |
|--|---|
| Free Chlorine | 0.6 - 3.0 ppm. Continuous exposure to levels above 3.0 ppm may cause corrosion of pool metals. Refer to Section 6.2 for Chlorine Testing. |
| Combined Chlorine (Chloramines) | None (Super chlorinate to remove all chloramines) |
| pH | 7.2 - 7.8 (Use muriatic acid to lower pH and soda ash to raise pH). |
| Chlorine Stabilizer (Cyanuric Acid) | 30 - 100 ppm |
| Total Alkalinity | 100 - 120 ppm |

| | |
|---------------------------------|---------------|
| Calcium Hardness | 200 - 300 ppm |
| Metals (Iron, Manganese) | None |
| Nitrates | None |
| Phosphates | None |

4.5 Salt (NaCl Sodium Chloride)

4.5.1 When to Add Salt

Add salt to the pool if the salt is too low (see Table 1). 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 manufacturer's guidelines for your particular pool. For vinyl and fiberglass pools, salt can be added at start up.

4.5.2 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 ideal salt is an evaporated, granulated, food quality, non-iodized salt. Consult your local pool professional.
- 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 (insoluble impurities mixed with the rock salt can shorten the life of the unit).
- **Do not** use this device with bromide products.

4.5.3 How Much Salt to Use

Use Table 1 to determine how much salt will be needed. Most pools contain some salt depending on the water source and chemicals used for sanitizing. If the saltwater chlorinator has not been wired and turned on yet, a salt test strip or a hand held meter calibrated for NaCl (salt) can be used to determine the existing salt concentration of the water. If the unit is wired (connected), use it to determine the salinity. Water temperature can affect the salinity readout, always test salinity at the equipment locations.

Set chlorine production to 00%. Operating the unit above 00% production without salt will damage the electrolytic cell. The **Salinity** button **C** on the sanitizer user interface keypad can be used to determine salinity in the case of a new pool installation, or a complete water change so long as the chlorine production is set to 00%. See *Section 5.4.2, step 2*.

- 3,000 - 3,500 ppm of salt is recommended for optimum water conditions.
- Low salt concentration below 2,000 ppm will cause premature cell failure.

2022-0823
2022-03-31

- High salt concentration above 4,000 ppm may damage the power center.

- High salt concentration above 6,000 ppm may cause corrosion damage to pool fixtures.

NOTE Should too much salt be inadvertently added to the pool see *Section 7, Troubleshooting*.

4.5.4 Adding Salt to the Pool

1. Turn on pump to circulate pool water.

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.

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.).

As such, Zodiac Pool Systems LLC does not warrant or guarantee that the chlorinated water generated by the Nature² Fusion Inground/PureLink™ 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:

- 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.

IMPORTANT Turn the chlorine production off by pressing the arrow button A and setting CHLORINE PRODUCTION rate to 00%.

2. Test the water for salinity level using test strips, electronic meter, or by your local qualified service representative.
3. 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.
4. 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.
5. After 24 hours, verify correct salt reading.

6. Turn on the system and set to desired chlorine production rate (pressing the arrow buttons **A** or **B**).

Table 1. Approximate Pounds and Kilograms of Salt Needed to Obtain 3.0 gpl (3,000 ppm)

| Salt Conc. Before Addition ppm | Pool Size Litres (US Gallons) | | | | | | | | | | |
|--------------------------------|-------------------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|----------------------|----------------------|
| | 38,000 L (10,000 g) | 45,000 L (12,000 g) | 53,000 L (14,000 g) | 60,000 L (16,000 g) | 68,000 L (18,000 g) | 76,000 L (20,000 g) | 83,000 L (22,000 g) | 91,000 L (24,000 g) | 98,000 L (26,000 g) | 106,000 L (28,000 g) | 113,000 L (30,000 g) |
| 000 | 113 kgs (250 lbs) | 136 kgs (300 lbs) | 159 kgs (350 lbs) | 181 kgs (400 lbs) | 204 kgs (450 lbs) | 227 kgs (500 lbs) | 249 kgs (550 lbs) | 272 kgs (600 lbs) | 295 kgs (650 lbs) | 318 kgs (700 lbs) | 340 kgs (750 lbs) |
| 250 | 104 kgs (230 lbs) | 127 kgs (280 lbs) | 145 kgs (320 lbs) | 168 kgs (370 lbs) | 188 kgs (415 lbs) | 209 kgs (460 lbs) | 231 kgs (510 lbs) | 249 kgs (550 lbs) | 272 kgs (600 lbs) | 293 kgs (645 lbs) | 313 kgs (690 lbs) |
| 500 | 95 kgs (210 lbs) | 113 kgs (250 lbs) | 134 kgs (295 lbs) | 154 kgs (340 lbs) | 172 kgs (380 lbs) | 191 kgs (420 lbs) | 209 kgs (460 lbs) | 229 kgs (505 lbs) | 247 kgs (545 lbs) | 268 kgs (590 lbs) | 286 kgs (630 lbs) |
| 750 | 86 kgs (190 lbs) | 104 kgs (230 lbs) | 122 kgs (270 lbs) | 136 kgs (300 lbs) | 154 kgs (340 lbs) | 172 kgs (380 lbs) | 191 kgs (420 lbs) | 209 kgs (460 lbs) | 225 kgs (495 lbs) | 240 kgs (530 lbs) | 259 kgs (570 lbs) |
| 1000 | 75 kgs (165 lbs) | 91 kgs (200 lbs) | 104 kgs (230 lbs) | 120 kgs (265 lbs) | 136 kgs (300 lbs) | 150 kgs (330 lbs) | 163 kgs (360 lbs) | 181 kgs (400 lbs) | 195 kgs (430 lbs) | 209 kgs (460 lbs) | 225 kgs (495 lbs) |
| 1250 | 66 kgs (145 lbs) | 79 kgs (175 lbs) | 91 kgs (200 lbs) | 104 kgs (230 lbs) | 118 kgs (260 lbs) | 132 kgs (290 lbs) | 145 kgs (320 lbs) | 159 kgs (350 lbs) | 172 kgs (380 lbs) | 186 kgs (410 lbs) | 197 kgs (435 lbs) |
| 1500 | 57 kgs (125 lbs) | 68 kgs (150 lbs) | 79 kgs (175 lbs) | 91 kgs (200 lbs) | 102 kgs (225 lbs) | 113 kgs (250 lbs) | 125 kgs (275 lbs) | 136 kgs (300 lbs) | 147 kgs (325 lbs) | 159 kgs (350 lbs) | 170 kgs (375 lbs) |
| 1750 | 48 kgs (105 lbs) | 59 kgs (130 lbs) | 68 kgs (150 lbs) | 77 kgs (170 lbs) | 86 kgs (190 lbs) | 95 kgs (210 lbs) | 104 kgs (230 lbs) | 113 kgs (250 lbs) | 125 kgs (275 lbs) | 134 kgs (295 lbs) | 143 kgs (315 lbs) |
| 2000 | 39 kgs (85 lbs) | 45 kgs (100 lbs) | 54 kgs (120 lbs) | 63 kgs (140 lbs) | 68 kgs (150 lbs) | 77 kgs (170 lbs) | 86 kgs (190 lbs) | 93 kgs (205 lbs) | 45 kgs (100 lbs) | 109 kgs (240 lbs) | 116 kgs (255 lbs) |
| 2250 | 27 kgs (60 lbs) | 32 kgs (70 lbs) | 39 kgs (85 lbs) | 45 kgs (100 lbs) | 50 kgs (110 lbs) | 54 kgs (120 lbs) | 59 kgs (130 lbs) | 66 kgs (145 lbs) | 73 kgs (160 lbs) | 76 kgs (168 lbs) | 82 kgs (180 lbs) |
| 2500 | 18 kgs (40 lbs) | 23 kgs (50 lbs) | 27 kgs (60 lbs) | 29 kgs (65 lbs) | 32 kgs (70 lbs) | 36 kgs (80 lbs) | 41 kgs (90 lbs) | 45 kgs (100 lbs) | 48 kgs (105 lbs) | 50 kgs (110 lbs) | 54 kgs (120 lbs) |
| 2750 | 9 kgs (20 lbs) | 11 kgs (25 lbs) | 14 kgs (30 lbs) | 14 kgs (30 lbs) | 18 kgs (40 lbs) | 18 kgs (40 lbs) | 20 kgs (45 lbs) | 23 kgs (50 lbs) | 23 kgs (50 lbs) | 27 kgs (60 lbs) | 27 kgs (60 lbs) |

NOTE Add salt as required to maintain 3.0 gpl concentration.

Table 2. Approximate Pounds and Kilograms of Stabilizer Needed to Obtain 50 ppm for Outdoor Pools

| Current Cyanuric Acid Level - ppm | Litres and (Gallons) of Pool/Spa Water | | | | |
|-----------------------------------|--|--------------------------|--------------------------|-----------------------|---------------------------|
| | 38,000 L (10,000 gal) | 57,000 L (15,000 gal) | 76,000 L (20,000 gal) | 95,000 L (25,000 gal) | 113,000 L (30,000 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) |
| 10 | 1.5 kgs (3.4 lbs) | 2.3 kgs (5.1 lbs) | 3.1 kg (6.7 lbs) | 3.8 kgs (8.4 lbs) | 4.6 kgs (10.1 lbs) |
| 20 | 1.1 kgs (2.5 lbs) | 1.7 kgs (3.8 lbs) | 2.3 kg (5.1 lbs) | 2.9 kgs (6.3 lbs) | 3.4 kg (7.6 lbs) |
| 30 | 0.8 kg (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) |
| 40 | 0.4 kg (0.8 lbs) | 0.6 kg (1.3 lbs) | 0.8 kg (1.7 lbs) | 1.0 kg (2.1 lbs) | 1.2 kgs (2.5 lbs) |

NOTE The above chart is for general reference only. The recommended stabilizer reading is between 30 - 100 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 qualified service representative 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

NOTE The user interface is located inside the control/power center. To access the control panel, open the door to the control/power center.
See Figure 17.

Figure 17. User Interface

5.1 User Interface Controls

Chlorine Production Rate Adjustment Pressing the down arrow button **A** or the up arrow button **B** will change the **CHLORINE PRODUCTION RATE** in 5% increments. Generally, adjustments to production should be made in 10% increments.

In the PureLink™ system,

adjustments to the chlorine production rate can be made from either the AquaLink® RS control panel or from the power center user interface.

Salinity Press the **SALINITY** button **C** to check the salinity of the water in pool.

Boost Press and hold the **POOL TEMP - BOOST**- button **D** for 10 seconds to enter the **Boost** mode (Note 'bo' will flash intermittently). **Boost** can be used to set chlorine production to maximum (100%) for 24 hours of operation. After 24 hours of chlorinator run time, chlorine production will return to previous setting. To clear the **Boost** mode, press and hold the **POOL TEMP - BOOST**- button **D** again for 10 seconds.

NOTE When a pool pump timer is used to limit chlorinator run time, the 24 hours will only count down when the chlorinator is on.

Temperature Press the **POOL TEMP -BOOST**- button **D** to check the pool water temperature. Temperature measurements can be displayed in either Fahrenheit or Celsius. For more information, see *Section 8, Temperature Conversion*.

Operating User Interface Controls when AquaLink® RS Control System is Online

Chlorine Production Rate Adjustment

The user interface can be used to adjust the output production

**with
AquaLink
RS Online**

rate (%) when the saltwater chlorinator system is controlled by the AquaLink RS only when the AquaLink RS is placed into service mode. When the down arrow button **A** or the up arrow button **B** is pressed, a **JA** in the display indicates that the AquaLink RS is controlling the entire system, including the output production rates.

The AquaLink RS Control System must be set to Service Mode before you can change the chlorine production rate from the control/power center user interface.

NOTE The Boost button at the user interface will start Boost cycle whether the AquaLink RS is online or offline.

**AquaLink
RS Control
System**

Press the Mode Select button to move the AquaLink RS from Auto Mode into Service Mode. The Service indicator light will turn ON.

Press the Valve Select button to choose either Pool Mode to change pool chlorine production, or Spa Mode to change spa chlorine production.

Press the Filter Pump button to turn on the pump and apply power to the sanitizing system.

**Control/Pow
er Center**

Press the down arrow button **A** or the up arrow button **B** to

User Interface change the chlorine production rate in 5% increments. Generally, adjustments to production should be made in 10% increments.

AquaLink RS Control System Press the Mode Select button to put the AquaLink RS in the Time Out mode.

Press the Mode Select button again to place it back into Auto mode.

NOTE The AquaLink RS control system must be in pool mode to change the pool chlorine production rate setting; and it must be in spa mode to change the spa chlorine production rate setting. Use the valve select button to switch between the two (2) modes. The system must be cycled through SERVICE, TIME OUT, then back to AUTO to accept the Pool Setting versus the Spa Setting.

5.2 Reading the Display

| | |
|---------------------|---|
| CELL ON | The CELL ON indicator shows that the cell has been turned on. Some reasons for the CELL ON indicator not being on during normal operation, are: CHLORINE PRODUCTION RATE set to 00%, CHLORINE PRODUCTION RATE set to less than 100% and CELL RESTING appears during cell rest period, NO FLOW condition, two (2)minutes before automatic cleaning cycle, low temperature cut off has been activated, or a service related problem such as a salinity level below 2.0 gpl or salinity level too high. |
| CELL RESTING | During the normal chlorine production cycle when the unit is set for less than 100%, the cell will periodically rest; that is, the unit will not make chlorine. The CELL RESTING indicator shows that |

| | |
|--|--|
| | the cell has been turned off by the control power center. |
| FLOW or NO FLOW Indication | When the control/power center determines that water is flowing past the flow/temp/salinity sensor, the FLOW indicator is displayed. When no flow is detected, NO FLOW is displayed on the LCD and the cell is turned off. |
| CELL REVERSING | The automatic cleaning cycle is in progress. The cleaning cycle is factory set and cannot be adjusted. Cell Reversing does not interrupt the production of chlorine. |
| SALINITY | Salinity is displayed along with the gpl (grams per litre) indicator, when the SALINITY button (C) is depressed. If a reading of HH appears, the salinity is above 4.5 to 6.5 gpl (depending on pool temperature) and is too high to measure correctly (at normal temperatures). Maintain salinity between 3.0 and 3.5 gpl. See <i>Section 4</i> . |
| ADD SALT | The ADD SALT indicator comes on when the flow/temp/salinity sensor determines that the salinity level of the pool water is too low. Maintain Salinity between 3.0 and 3.5 gpl. |
| SERVICE and Service Code | The SERVICE indicator will turn on whenever the control system detects a problem that requires attention. The SERVICE indicator is accompanied by a service code displayed on the front panel, displayed as a three (3) digit code. The service code(s) are displayed twice per minute with an audible alarm. |
| NOTE See <i>Section 7.2, Service Codes</i> . Problems can | |

| | |
|--|---|
| range from insufficient salinity to the DC cord not connected. | |
| Audible Alarm | An audible alarm (beep) sounds once per hour, and only for the first service code, when a SERVICE condition is detected. The alarm can be cleared by pressing and holding the SALINITY button (C) for five (5) seconds. The audible alarm can be cleared for 24 hours or until the power to the unit is turned off and back on whichever comes first. However, the audible alarm will return if a new problem is detected. |

NOTE The audible alarm can be permanently disabled by removing the jumper from J2 on the control/power center power interface board.

| | |
|-------------------------------------|---|
| Audible Alarm Volume Control | <p>Audible alarm operation and volume control can be adjusted. To adjust volume control, press and hold the TEMPERATURE button (D) for 15 seconds. The system will beep once when pressed, once after 10 seconds and once after 15 seconds. Release the key after the third beep. Press the SALINITY button (C) within five (5) seconds to enter the temperature change screen.</p> <p>NOTE The boost cycle is normally activated after 10 seconds, however, if the key is held down until after the third beep at 15 seconds, the Boost mode will not be changed.</p> <p>The system will display a '1' followed by 'C' or 'F'. Press the TEMPERATURE button (D) to move to the second parameter screen.</p> |
|-------------------------------------|---|

| | |
|--|--|
| | <p>The screen will display a 0, and the alarm volume will be fully reduced. The system will occasionally show a '2' to display the screen number. Press the arrow button B to increase the volume and the arrow button A to reduce the volume. The volume increments from 0 to 100 in 20 steps. After each press of the arrow buttons, the alarm will activate to demonstrate the current volume level. When the alarm volume has been adjusted to the desired setting, press the SALINITY button (C) to confirm the new alarm volume setting. The change will be stored in permanent memory. If you do not wish to keep the change, wait five (5) seconds, and the change screen will 'time out' and return to normal operation without keeping any changes to the system. Any changes made to the alarm volume will NOT be saved if this occurs.</p> |
|--|--|

5.3 Operation

CAUTION

Before attempting to operate the device, refer to *Section 4, Pool Water Preparation*. Also, do not adjust Chlorine production above 00% until it is certain that salt has been dissolved in pool. Operating without salt will damage the Electrolytic Cell.

Use of an external pool pump timer is not required with the saltwater chlorinator power/power pack. The chlorinator is designed to supply a sufficient amount of chlorine to sanitize pool water on a daily basis. If the system is operated for 24 hours a day at a 100% production rate, more chlorine would be generated than would be needed by most pools (0.6 - 3.0 ppm). The chlorinator control system has an internal timer which cycles the electrolytic cell on and off depending on what percent is set for the Chlorine Production Rate. For instance, at 100% the cell is on at all times while the pump is running. When the system is set at 90%, the cell will rest 10% of the time which helps prolong the cell life. In order to fine tune the chlorine production for any size pool just increase or decrease the Chlorine Production Rate from 00% to 100% until the chlorine level in the pool stabilizes between 0.6 - 3.0 ppm while the pump is running (see Section 5.4.2, "Apply Power" steps 1-5).

NOTE The chlorinating system only operates when the pump is running. During hot weather months you may need to increase pump run time to allow sufficient chlorine production.

If you are connected to the AquaLink® RS control system or use a Pool Pump Timer. The Association of Pool & Spa Professionals (APSP) recommends that all water in a residential pool pass through the filtration system at least once every 12 hours (referred to as pool water turnover). However, many factors have an effect on actual pump and filter system run times. Pool size, source of water, direct sun light, indoor/outdoor, screened/unscreened, filtration system, cold or hot weather, swimmer load, rain, organic debris, algae, etc., are all factors which contribute to either more or less pool pump and filter system run times. Because of these differences, it is extremely difficult to set an initial run time (starting point) for the pool pump and chlorinating system.

Try initially setting the pool pump run-time to 12 hours per day. It will take a few days to get just the right pool pump operating time. Adjust accordingly using the steps listed in Section 5.4.2, Apply Power, steps 1-5. ***When the Nature² Fusion Inground is wired with a pool pump timer the results will vary greatly from one pool installation to the next, so this should be discussed with either the pool builder or the local qualified service representative.***

The key points are:

- Check Chlorine Level on a regular basis and adjust the chlorine production rate (%) accordingly.
- Operate pool pump at least the minimum time needed for good filtration.
- The Pool Pump Timer reduces energy consumption.

NOTE Chlorine Production can be adjusted in 5% increments at the User Interface or through the AquaLink RS control system.

NOTE Exception - For Cold Weather Operation: If the saltwater chlorinator is set to run 24 hours a day through the winter, extremely cold water temperatures can contribute to a reduction in the operating life of the electrolytic cell. Sometimes it will be necessary to run the chlorinator at a very low production rate (10 - 20%) or to turn the unit off. See *Section 6.7, Winterizing*.

5.4 Startup

5.4.1 Shocking

Shock (superoxidation) the pool water from an alternate source at the time of pool startup to burn off contaminants. During normal operating conditions the chlorinator is capable of generating a sufficient level of chlorine for sanitation within several hours. However, if the pool water has a high chlorine demand due to startup conditions then the chlorinator will not be able to produce enough chlorine to reach break-point chlorination. Shocking involves the manual addition of chemicals 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. Wait until the chlorine level has returned to 0.6 - 3.0 ppm before turning on the Nature² Fusion Inground.

5.4.2 Apply Power

1. Turn on the pool pump. When the chlorinator is first turned on (cold), the unit will beep. Next it will self-calibrate the flow/temp/salinity sensor. After going through an internal test and calibration, the LCD will display the current setting for chlorine production (00% to 100%). During the calibration period "Wait" will appear. "Wait" means the unit is self-calibrating and doing internal testing. This process usually takes less than six (6) minutes.
2. Check salinity level by pressing the **SALINITY** button (**C**). It should read between 3.0 gpl and 3.5 gpl. If it does not, then press the **SALINITY** button (**C**) two (2) or three (3) more times until the salinity reading stabilizes.

NOTE If still less than 3.0 gpl refer to pages 30 through 31 and adjust salt concentration level. (Maintain the Recommended Salinity Level of 3.0 to 3.5 gpl). If salinity is below 2.0 gpl the system will automatically turn the electrolytic cell off until the salinity is raised above 2.0 gpl. Operating with a low salt concentration will damage the electrolytic cell. Likewise, if salinity is above the range of measurement the system will automatically turn the electrolytic cell off until the salinity is lowered to a measurable level. Operating with high salt will damage the power center. If salinity is greater than 3.5 gpl, see *Section 7, Troubleshooting*.

3. Adjust the chlorine production to 50% by pressing the arrow buttons (**A**) or (**B**).
4. After 24 hours, use a reliable test kit to measure the pool water for free active chlorine. The ideal range to maintain is 0.6 - 3.0 ppm. If the chlorine content of the pool water is **too low, increase chlorine production by pressing the up arrow button (B)**. If the chlorine content of the water is **too high, decrease chlorine production by pressing the down arrow button (A)**. Adjust in 10% increments initially then in smaller increments (5%) as the correct chlorine level is approached.
5. Due to a varying chlorine demand of pool water, it may take a few days to determine the correct pool pump operating time and chlorine production percentage setting for

your pool. Continue adjusting as necessary, allowing 24 hours between adjustments until the chlorine content of the pool water has stabilized at 0.6 - 3.0 ppm.

5.5 Operating in Winter

See *Section 6.7, Winterizing*.

5.6 Recommendations

DO List

- Read and keep your manual in a safe place.
- Replace the Nature2 cartridge every six (6) months.
- Increase chlorine production rate before a large number of bathers enter the pool and return to normal afterwards.
- Increase chlorine production rate when temperature goes up.
- Increase chlorine production rate when the number of bathers goes up.
- For outdoor pools, chlorine residuals can be protected from destruction by sunlight by addition of stabilizer (cyanuric acid).
- Mount power center in shade or out of the direct sunlight whenever possible.
- Decrease production rate when temperature goes down (for example, in the Fall and Winter seasons).
- Take pool water sample to a qualified service representative once per month.

DON'T List

- Do not get fertilizer in your pool. Fertilizers contain nitrates which cause a high chlorine demand on pool water.
- 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.
- Do not add chemicals or salt to the pool unless the chlorinator is turned off.
- For outdoor pools only, do not let chlorine stabilizer (cyanuric acid) drop below 30 ppm.
- Do not add salt without first checking the pool salinity level. Too much salt can disable and possibly damage the chlorinator.
- DO NOT add pool or spa chemical directly into skimmer. This may damage the cell.

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.

Check the expiry date of any test kit as test results may be inaccurate if used after that date.

6.1 Daily

1. **Filtration and Circulation.** Follow the manufacturer's directions for keeping the circulating pump in good working order and operate it at least six (6) hours a day. Consult your Nature² dealer for optimum run times. Check pool filter periodically, clean as recommended by manufacturer.
2. **Chlorine Test.** Maintain ideal range by adjusting the Nature² Fusion Inground chlorine production rate using *Section 5.4, Startup*. Recommended Free Chlorine is 0.6 - 3.0 ppm.

Use a home test kit or ask your qualified service representative to test your water. 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 saltwater chlorinator system is producing chlorine.
 - a. At the pool return line.
 - b. 46 cm (18") below the surface and well away from the pool return line.
3. **pH Level Test.** Test the pH level of your pool with a test kit. If necessary, adjust according to your qualified service representative's recommendations.

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.

4. **Salt Level Test.** Test pool water salt level by depressing the **Salinity** button **C** and reading the LCD located on the power centre 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*.
5. **Total Alkalinity Test.** Test pool water for total alkalinity with a test kit. Adjust according to your qualified service representative's recommendations.
6. **Calcium Hardness.** Test pool water for calcium hardness level using test kit or by having a water sample tested by a qualified service representative. If necessary, adjust according to your qualified service representative's recommendations. 200-300 ppm is recommended.

6.2 Monthly

1. **Pool Water Sample.** Take water sample to local pool store for testing.
2. **Stabilizer (Cyanuric Acid).** Test pool water stabilizer (cyanuric acid) level using a test kit or by having a water sample tested by a qualified service representative. Maintain ideal range of 30 - 100 ppm. Follow your qualified service representative's recommendations. Stabilizer is not necessary for indoor pool use.
3. **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 the local qualified servicerepresentative.

6.3 Every Six (6) Months (Or once every pool season whichever is shorter)

6.3.1 Nature² Mineral Cartridge Replacement

The Nature² Fusion cartridge lasts six (6) months or one pool season (whichever is the shorter length of time).

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.

1. Shut off the pool pump and filter.
2. Close valves between filter and pool to prevent pool draining.
3. Turn large collar counterclockwise to remove and lift off cap.
4. Remove old cartridge and discard in household trash. Insert the new cartridge (see Section 4.3)
5. Position cap flat on the vessel housing.

IMPORTANT Make sure the o-ring is secure in the groove on the vessel top, not on the underside of the cap. Turn large collar clockwise until it locks into place, do not over tighten.

6. Open any valves that were closed to isolate the Nature² Fusion Inground.

6.4 Electrolytic Cell Cleaning - As Needed

Depending upon water chemistry, occasional manual cell cleaning may be necessary.

1. Switch off the filter pump and chlorinator, close necessary valves.

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. Unplug the yellow connector from the vessel.
3. Unscrew the electrolytic cell retaining ring and remove the electrolytic cell.
4. Look down into the electrolytic cell to see if there is scale on the plates.

WARNING

To avoid personal injury when working with pool chemicals, always wear rubber gloves and eye protection, cover exposed skin, and work in a well ventilated area. Use caution when choosing a location to open and use chemicals as they may damage any surface into which they come in contact. If any chemical gets on your skin, rinse the area immediately with water. If any chemical gets on your clothing, immediately remove the piece of clothing and rinse with water.

5. Mix cleaning solution in a suitable plastic container by adding one (1) part of hydrochloric (muriatic) acid to ten (10) parts water. Note: To avoid splash, always ADD MURIATIC ACID TO WATER rather than water to muriatic acid. Solutions stronger than 1:10 will damage the electrolytic cell and void warranty. Submerge only the plates of the electrolytic cell in the cleaning solution. See Figure 18. Allow the cleaning solution to dissolve the calcium deposits for approximately five (5) minutes.
6. Repeat the procedure if necessary. Take care to avoid splashing the electrolytic cell terminals and other equipment with the acidic cleaning solution. Wash down any spills with plenty of fresh water. To neutralize acid cleaning solution, add baking soda (foaming will occur).
7. Rinse the electrolytic cell in clean water and reinstall into the vessel. Insure the O-ring is seated properly and coated lightly with silicone lubricant. Hand tighten collar.
8. Replace the yellow plug after drying and smearing lightly with silicone grease.
9. Reset valves and switches. Turn pump and sanitizer on.
10. Confirm chlorine output and settings on the user interface.

6.5 Flow/Temp/Salinity Sensor Cleaning

One (1) 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 vessel.
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.**

Figure 18. Electrolytic Cell Cleaning

6.6 Winterizing

Very little chlorine is needed in cold water. Below 11°C (51°F), 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 vessel. 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.

It is also recommended to remove the vessel and store indoors. Use expansion plugs for the pipe openings, or an optional Spool Piece (sold separately) is available to replace the vessel during winterizing or vessel maintenance, which enables the pool pump to circulate water with the vessel out the of line.

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 0.6 - 3.0 ppm.

NOTE A chlorine level above 3.0 ppm may cause corrosion of pool metals and possibly cause damage to associated pool equipment.

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. Open the air relief valve on your pool filter to release the pressure in the system.

7.1 Problems and Corrective Action

| Problem | Possible Cause | Corrective Action |
|---------------------|---|--|
| Low or no chlorine. | Low stabilizer (cyanuric acid) level in pool water. Insufficient operating hours of the unit (for outdoor pools only). | Add stabilizer to maintain 30 - 100 ppm. |
| | CHLORINE PRODUCTION percentage set too low or off at 00%. | Increase chlorine production by pressing the Chlorine Production Rate Adjustment button (arrow button B). See Section 5, Operating Instructions. |
| | Recent increases in weather temperature without increasing the chlorine production of your unit. | Increase chlorine production by pressing the Chlorine Production Rate Adjustment button (arrow button B). See Section 5, Operating Instructions. |
| | Temporary loss of chlorine due to heavy organic load - rain, leaves, fertilizer or heavy bather load. Pets using pool. | Set "Boost" mode and allow to run for 24 hours. Recheck. If still too low, Super Chlorinate with outside source. (Take pool water sample |

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| | | to a qualified service representative.) See Section 5, Operating Instructions. |
| | Low (less than 2.5) gpl salt level in pool water. | Test salinity by pressing the Test Salinity button. See Section 4, Table. |
| | High nitrate level. | Contact a qualified service representative. |
| | Metals present in pool water. | Contact a qualified service representative. |
| | New pool water. Not shocked properly upon startup. | Super Chlorinate Pool. See Section 5.4, Startup. |
| | Clogged or dirty cell. | Remove cell for inspection. Clean if necessary. See Section 6, User Maintenance Instructions. |
| No display on LCD (<i>Screen is blank</i>). | No Power to Unit. | Check power. Turn on pump. 1. Defective automatic timer or pump switch. 2. Loose connection at automatic timer or pump switch. |
| | Loose ribbon cable between front and back PC board. | Check that ribbon cable is fully inserted into connector. |
| | Incorrectly wired. Unit not wired for 240 VAC. | Check that unit is correctly wired for 240 VAC and connected to 240 VAC. |
| | Loose or bad connection at white connector between transformer and PC board. | Check connector at white plug to insure proper connection. If burnt connector contact a qualified service representative. |

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| <p>“Cell On” indicator does not come on.</p> | <p>Chlorine Production set to 00%.</p> | <p>Adjust CHLORINE PRODUCTION to desired Percentage.</p> |
| <p><i>If No Flow also....</i></p> | <p>Insufficient water flow. Cell is plugged with debris, pump has lost prime.</p> | <p>Remove obstruction and/or clean cell. See <i>Section 6.4, Electrolytic Cell Cleaning</i>. Prime pump if necessary.</p> |
| <p><i>If No Flow also....</i></p> | <p>Flow/temp/salinity sensor not plugged in.</p> | <p>Plug in flow/temp/salinity sensor. See Section 3, Figures 10, 11, and 12.</p> |
| | <p>Salt level below 2.0 gpl (2000 ppm).</p> | <p>Add salt as described in <i>Section 4.5</i>.</p> |
| <p>“No Flow” indicator stays on continuously.</p> | <p>Pump fails to provide sufficient water flow.</p> | <p>Check for correct operation of the pump. Ensure there is no loss of pump prime or clogged strainer baskets.</p> |
| | <p>Improperly set valves or closed valves.</p> | <p>Check and correct all valve alignments.</p> |
| | <p>Clogged basket or dirty filter.</p> | <p>Follow filter cleaning procedures.</p> |
| | <p>Obstruction in the Nature² Fusion Inground cell.</p> | <p>Remove cell for inspection. Follow cleaning procedures. See <i>Section 6.4, Electrolytic Cell Cleaning</i>.</p> |
| | <p>Flow/temp/salinity sensor not installed properly.</p> | <p>Ensure that the flow/temp/salinity sensor is installed according to <i>Section 3, Figure 9</i>. If not, contact a qualified service representative.</p> |
| | <p>Flow/temp/salinity sensor not plugged in.</p> | <p>Plug flow/temp/salinity sensor into connector on power center printed circuit board. Turn power to unit off and back on (Cycle Power). See wiring diagram in Figures 10, 11, and 12. See also, <i>Section 6.5, Flow/Temp/Salinity Sensor Cleaning, Step 4</i>.</p> |

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| | Flow/temp/salinity sensor elements covered with PVC glue, taped over, or covered with other debris. | Remove and clean flow/temp/salinity sensor and reinstall. See <i>Sections 3.10 and 6.5</i> . |
| | Defective flow/temp/salinity sensor. | Contact a qualified service representative. |
| 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 3.0 gpl to 3.5 gpl. |
| Chlorine level too high. | Electrolytic cell is manufacturing too much chlorine. | Decrease the chlorine production rate adjustment button (arrow button A). See Section 5, Operating Instructions. If chlorine output at the lowest setting consistently provides for excessive chlorine levels, decrease daily pump operation time as much as necessary. If chlorine output at lowest setting is still excessive the Nature ² Fusion Inground system is oversized for the pool. |
| “Service” indicator on. | Low salt level in pool water. | Test salinity. Add salt as described in Section 4.5. |
| | Cell requires cleaning. | Refer to Maintenance Procedure for acid wash cleaning. See Section 6.4. |
| | Cell not working properly after cleaning. | Contact a qualified service representative. |
| | DC power cord not properly connected to the cell. | Check connection. Check for dirt or corrosion around DC cord contacts at cell. Check Cell studs for same. |

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| | Flow/temp/salinity sensor not plugged in. | Plug flow/temp/salinity sensor into connector on power center printed circuit board (Cycle Power). |
| | Water temperature too low. | Winterize your pool. See Section 6.6, Winterizing. |
| | All the above have been checked and indicator light is still on. | Contact a qualified service representative. |
| Salt level too low. | Not enough salt added on start up. | Add salt to pool, 3.0 gpl to 3.5 gpl. See Section 4.5. |
| | Heavy rainfall. | Add salt to pool, 3.0 gpl to 3.5 gpl. See Section 4.5. |
| | Leak in pool. | Repair pool. |
| | Dirty flow/temp/salinity sensor contacts or faulty flow sensor. | Remove and clean flow/temp/salinity sensor contacts. Check flow/temp/salinity sensor cable for damage. See Section 6.5. Verify salinity with Myron "L" meter calibrated for NaCl, titration test units, or other salt meters. Please be aware that salt test strips have a large variance in readings (400 - 800 ppm). |
| Chlorine odor. | Presence of excess chloramines (combined chlorine). | Manually shock the pool following the directions in Section 5.4.1 Shocking. |
| Cloudy water, slimy walls of pool. | It has been six (6) months since present cartridge was installed. | Brush pool, manually shock, adjust pH, replace cartridge. Run filtration system for 24 hours. |
| | Combined algae and bacteria growth. | Brush down the affected walls and follow the directions in Section 5.4.1 Shocking. |

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| Eye and/or skin irritation. | Improper water balance. | Balance the water to recommended levels in Section 4.4. |
| Scale formation on pool equipment. NOTE: To clean the deposit (scale) on the electrolytic cell plates, see Section 6.5. | Incorrect pH causing metals to come out of solution. | Adjust total alkalinity to 100 - 120 ppm. Then adjust pH to within the range 7.2 - 7.8. See Section 4.4. |
| | High total hardness. | Dilute pool with fresh water. Contact a qualified service representative regarding use of a sequestering agent. |

7.2 Service Codes

| Code Number | Possible Cause | Corrective Action |
|-------------|---|---|
| 120 | Low current in forward direction to cell. | 1. Clean cell if necessary (see Section 6.4). 2. Check DC Cord. |
| 121 | Low current in reverse direction to cell. | 1. Clean cell if necessary (see Section 6.4). 2. Check DC Cord. |
| 123 | Extremely low current to cell. | 1. Clean or replace cell if necessary (see Section 6.4). 2. Check DC Cord. |
| 124 | Higher than normal current to cell. | Contact a qualified service representative. |
| 125 | Cell needs to be cleaned. | Clean cell if necessary (see Section 6.4). |
| 126 | Low current in forward direction and VAC input voltage below 100/200 VAC. | Contact a qualified service representative. |
| 127 | Low current in reverse direction and VAC input voltage below 100/200 VAC. | Contact a qualified service representative. |

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| 144 | Low salinity (below 2.0 gpl). | Add salt to pool to achieve 3.0 gpl (see Section 4.5). |
| 145 | High salinity (above 4.0 gpl). | Backwash filter if a DE filter is installed. Partially drain pool and dilute with fresh water until salinity returns to 3.0 to 3.5 gpl. |
| 170 | Possible front board service condition or unit not correctly wired to 120 VAC. | Contact a qualified service representative. |
| 171 | Possible backboard service condition. | Contact a qualified service representative. |
| 172 | Flow sensor service condition or flow sensor is unplugged. | Contact a qualified service representative. |
| 173 | Low VAC input voltage and on board power supply is not regulated or unit not correctly wired. | Unit wired to improper AC voltage. Contact a qualified service representative. |
| 174 | Pool temperature is too high for operation of Nature ² Fusion Inground. | Flow/Salinity Sensor indicates water temperature at sensor above 42°C (108°F). Reduce water temperature. |
| 175 | Flow sensor air lock condition or very low salinity. | Verify proper flow/temp/salinity sensor installation (see Section 3, Figure 10). Check salinity with Myron “L” meter calibrated for NaCl or test strips. Add salt as necessary (see Section 4.5). |

7.3 Level 2 Service Codes

If you encounter a Level 2 Service Code, contact a qualified service representative.

| Code Number | Possible Cause | Corrective Action |
|-------------|--|---|
| 180 | Heated sensor element not heating. (Generates 172 code) | Contact a qualified service representative. |
| 181 | Flow sensor temperature sensor failure. (Generates 172 code - flow sensor service) | Contact a qualified service representative. |
| 182 | Salinity Sensor sees less than 0.2 gpl of salt, no salt in pool or sensor air locked. (Generates 175 code – flow sensor air lock) | Contact a qualified service representative. |

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| 183-186 | Flow salinity sensor temperature probe error codes. (They will all generate 172 codes which indicate flow sensor service is required) | Contact a qualified service representative. |
| 187 | Power supply either too low or too high. (Generates 173 - Low input voltage code if Level 2 code 188 is present) (Generates 170 code if 188 is not present) | Contact a qualified service representative. |
| 188 | VAC input voltage is too low. (Generates 173 code if Level II code 187 is present) | Contact a qualified service representative. |
| 189 | Relay not conducting in the forward direction. (Generates 171 code - Backboard service) | Contact a qualified service representative. |
| 190 | Relay not conducting in the reverse direction. (Generates 171 code - Backboard service) | Contact a qualified service representative. |
| 191 | High cell current (at upper limit of A/D converter) and cell voltage below 19V. (Generates 170 code front board service) | Contact a qualified service representative. |
| 192 | High cell current and cell voltage below 19V. (Generates 171 code – Backboard service) | Contact a qualified service representative. |
| 193 | Measured significant cell current when SCRs were turned off. (Generates 170 code – front board service) | Contact a qualified service representative. |
| 194 | Cell Current is 85% lower than desired and cell voltage above 19V. (Generates 125 code - Cell dirty or needs replacement) | Contact a qualified service representative. |
| 195 | Salinity invalid due to out of range measurements caused by power board error. (Generates 170 code – front board service) | Contact a qualified service representative. |

7.4 Additional Letter Codes

| Code | Condition | Reason |
|------|-------------------------------|--|
| EC | External Control | ORP unit or external controller has shut off chlorine production. |
| Lo | Low Temperature Cutoff | Temperature of Pool is < 10°C (50°F). Chlorine production stopped. |
| bo | Boost | In “Boost” mode unit will operate at 100% production for 24 run time hours. |
| HH | High-High | Input has exceeded Maximum Range. |
| JA | AquaLink® RS Online | AquaLink RS is controlling the Nature ² Fusion Inground and desired output percentages. |
| Jb | Boost (AquaLink RS Interface) | AquaLink RS is controlling the Nature ² Fusion Inground and “Boost” is active. |

Section 8. Temperature Conversion

To display Celsius or Fahrenheit on the digital display.

1. Press and hold button Pool Temp. -Boost- or D for 15 seconds (third beep).
2. Within five (5) seconds, momentarily press Salinity or C to enter the Fahrenheit/Celsius change mode.
3. To toggle between Celsius and Fahrenheit, press Rate J or Rate t, or A or B.
4. Confirm by momentarily pressing Salinity or C. The change will be stored in permanent memory.

NOTE: The Boost mode will normally be activated if the Boost button **D** is depressed for 10 seconds. However, if button **D** is held down an additional five (5) seconds (for the third beep), the state of the Boost mode will not be changed.

Section 9. Head Loss Curve

9.1 Head Loss Curve

Figure 19. Head Loss Curve

Section 10. Nature² Fusion Inground and PureLink™ Exploded Views and Replacement Kits

10.1 Nature² FUSIONM and PureLink Control/Power Pack Replacement Parts

| Dwg. # | Kit # | Description | Qty. |
|--------|----------|--|----------------------------|
| 1 | R0467400 | User Interface Board Screws | 1 4 |
| 2 | R0467700 | Bezel Cover Plate, PureLink Power Center Bezel Support Plate, PureLink Power Center Battery Cover, PureLink Power Center Screws, Bezel Cover Plate Screws, Bezel Support Plate Screw, Battery Cover | 1 1 1 2 2 1 |
| 3 | R0447300 | Battery Door, PureLink Power Center Screw, Battery Cover | 1 1 |
| 4 | R0467800 | Screws, User Interface, PureLink Screws, Power Interface Assy Screws, Bezel Cover Plate Screws, Bezel Support Plate Screw, Battery Cover | 4 2 2 2 1 |
| Dwg. # | Kit # | Description | Qty. |
| 5 | R0447500 | Wiring Harness, PureLink Back PCB to DC Cord | 1 |
| 6 | R0467600 | Power Interface Board Assembly Screws, Power Interface | 1 2 |

| | | | |
|---|----------|-----------------------------------|---|
| 7 | R0503400 | Face Plate, Control Center | 1 |
| | | Mounting Bracket, User Interface, | 1 |
| | | Screws, User Interface | 4 |
| | | Mounting Bracket and Face Plate | 1 |
| | | Battery Door, Control Center | 1 |
| | | Screw, Battery Cove | |
| 8 | R0503300 | Battery Door, Control Center | 1 |
| | | Screw, Battery Cover | 1 |
| | | | |

Figure 20a. Nature² Fusion Inground Power Pack
Figure 20b. AquaLink[®] RS PureLink[™] Power Center, 6614AP
Figure 20c. AquaLink RS PureLink Power Center, 6613AP

10.2 Nature² Fusion Inground Replacement Parts

| Dwg. # | Kit # | Description | Qty |
|--------|----------|---|------------------|
| 1 | R0452100 | Universal Union/Tailpiece/Plug Includes: Nut, Union Universal O-Ring, #2-231 Tailpiece, 2" X 2 1/2" Plug, Port (not shown) | 3 3 2 1 |
| 2 | W28004 | DuoClear [®] 130 or Nature ² Fusion replacement cartridge | 1pk |
| 3 | R0502100 | Vessel w/ Flow Management System, Nature Fusion Inground Includes: Vessel Plug, Drain O-Ring, Drain Plug Anchor Bracket | 1 1 1 |

| | | | |
|----|----------|---|-----------------------|
| | | | 2 |
| 4 | R0502200 | Anchor Bracket Kit | 2 |
| 5 | R0446000 | Drain Plug w/ O-Ring | 1 |
| 6 | R0502300 | Large Collar w/ O-Ring | 1 |
| 7 | R0502400 | Small Collar w/ O-Ring | 1 |
| 8 | R0502500 | Nature ² Fusion O-Ring Kit Includes: O-Ring, Large Collar O-Ring, Small Collar O-Ring, Unions & Port Plug O-Ring, Feeder Shaft O-Ring, Drain Plug | 1 1 3 2 1 |
| 9 | R0503000 | Nature ² Fusion Inground 1400 Cell Kit Includes: Electrolytic Cell O-Ring | 1 1 |
| 10 | R0402800 | 4.88m (16') Cable, DC | 1 |
| 11 | R0476300 | 7,6m (25') Cable, DC | 1 |
| 12 | R0452500 | Port Sensor 4.88m (16') w/O-Ring | 1 |
| 13 | R0476400 | Port Sensor 7,6m (25') w/O-Ring | 1 |

Figure 21. Nature² Fusion Inground Vessel Exploded View

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