

INSTALLATION AND OPERATING MANUAL

IMPORTANT SAFETY INSTRUCTIONS

When using this electrical equipment, basic safety precautions should always be followed, including the following:

READ AND FOLLOW ALL INSTRUCTIONS

WARNING – To reduce the risk of injury, do not permit children to use this product unless they are closely supervised at all times.

The control unit must be connected to a circuit protected by a GFIC.

A terminal marked Earth/Ground, or the \perp is located inside the supply terminal box or compartment. To reduce the risk of electric shock, this terminal must be connected to the grounding means provided in the electric supply service panel with a continuous copper wire equivalent in size to the circuit conductors supplying this equipment.

Parts containing live parts, except parts supplied with safety extra-low voltage not exceeding 12 volts, must be inaccessible to a person in the bath.

Earthed/Grounded appliances must be permanently connected to fixed wiring.

Parts incorporating electrical components, except remote control devices, must be located or fixed so that they cannot fall into the bath.

The appliance should be supplied through a Residual Current Device (RCD) having a rated residual operating current not exceeding 30 mA.

The unit shall be attached with screws. Make sure that the screws do not contact internal circuitry. Make sure that the screws do not allow the ingress of liquid.

If the supply cord is damaged, it must be replaced by the manufacturer, its service agent, or similarly qualified persons in order to avoid a hazard.

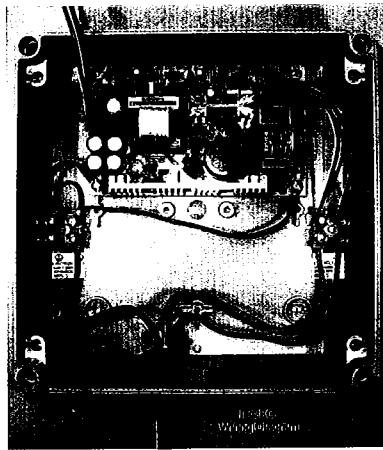
SAVE THESE INSTRUCTIONS

CAUTION: READ THE INSTRUCTION MANUAL
LIRE LA NOTICE TECHNIQUE

INSTALLATION INSTRUCTIONS

WARNING: DISCONNECT THE ELECTRIC POWER BEFORE SERVICING
AVERTISSEMENT: DÉCONNECTER DU CIRCUIT D'ALIMENTATION ÉLECTRIQUE AVANT L'ENTRETIEN

USE COPPER CONDUCTORS ONLY
EMPLOYER UNIQUEMENT DES CONDUCTEURS DE CUIVRE



1. Loosen the four screws at the four corners of the case cover (top.)
2. Insert the flexible type SW, SWT, SJ, or SJT copper power wiring through the liquid tight compression connector on the case. Refer to the appropriate wiring diagram above. The opposite end of the power wiring should be connected to the spa power supply and the connection should include a GFIC. If the spa is not connected to a GFIC, one must be provided.
3. Tighten the nut on the liquid tight compression connector until a good seal is made against the outside insulation of the wire.
4. Strip the insulation back on the white, black, and Green wires 3/8 inch.
5. Insert the Green wire into one of the Earth/Ground \perp terminals. Refer to the appropriate wiring diagram above. Tighten the terminal screw.
6. Insert the White and Black wires in the Line Voltage terminals (L1, L2.) The polarity of the Line Voltage terminals is not significant. Refer to the appropriate wiring diagram above. Tighten the terminal screws
7. Replace the case cover. Make sure that the cover screws are sufficiently tight to prevent liquid infiltration.

ISIS SYSTEM COMPONENTS

Unit Features:

Control Centre with adjustable bromine output (12 settings plus "BOOST")
Digital Design, Accuracy, and Reliability Automatic polarity reversal (every 2 minutes)
Patent pending (maintenance free) Graphitic Electrode Cell
Acceptable voltage range of 110 to 240 volts AC (50-60 Cycle)
Power Consumption: Isis = 20 Watts, 34 VA Maximum
 ISIS-S = 32 Watts, 55 VA Maximum
 ISIS-LC = 20 Watts, 34 VA Maximum

5 Year Electronic Warranty
3 Year Cell Replacement Warranty – not pro rated.

ISIS Bromine Generator - Complete System Includes:

1 -Electronic controller; NEMA 4X/IP65 enclosure, 12 different power settings plus "BOOST", duty cycle control to 97% accuracy, 110 to 240 volts AC input line voltage, automatic polarity reversal ensures maintenance free electrode cell operation.

1 - Bromine generating electrode cell. Two Bromine generating electrode cells for the ISIS

1 - 2" -Extended "Tee" and two 1 ½ "reducer bushings (times 2 for the ISIS.)

START-UP/OPERATING INSTRUCTIONS

1. Fill your tub with water to the level recommended by the hot tub manufacturer.

2. Test water for its "TDS" (*Total Dissolved Solid- various organic and inorganic matter present in your water*) content. This can be done by your spa dealer or with purchased test strips. The ideal range for your start-up TDS is between 50 and 300 ppm. If your starting TDS is above 500 (or water is from a well, or non-municipal source) a metal remover or Carbon block spa pre-filter should be used to reduce TDS. **DO NOT FILL SPA WITH WATER FROM A "WATER SOFTENER".**

3. Balance the spa water to the recommended levels:

- o pH: 7.2 - 7.8
- o Total alkalinity: 80 - 120 ppm
- o Calcium hardness: 150 - 200 ppm
- o Phosphate level less than 125 ppb (see note*)

*NOTE: Test that the **phosphate** level in your spa water is within acceptable parameters using a paper test strip or by taking a water sample to your spa product supplier.

****Allow water to stabilize for at least 12 hours after treatment with metal and/or phosphate removers before proceeding to step "4".**

4. Oxidize any pre-existing contaminants with 125g Tru Ox. Make sure that the hot tub's pump is set to high speed
5. Ensure the spa filters are clean after the above treatments.

6. With the jets running on high speed, add **one litre Tru Blu sodium bromide per 190L (50 US gal)** of spa water. Example: If your spa has a volume of **1710 litres (450 US gal)** at start-up you will require **9 litres of Tru Blu** (1710 divided by 190 = 9). Pour the contents of the bottles evenly over the surface of the water.

NOTE: If using a TDS (Total Dissolved Solids) meter, total TDS should equal start-up TDS plus approximately 2,000 (Does not have to be exact – 1,900-2,200 is acceptable) For example, if your start-up TDS was 300 and you added 9 litres of sodium bromide to your 450 gallon spa, your TDS count will now be 2,300 (2,000 plus 300). You can verify this with a sodium bromide test strip if desired, but it is NOT required.

It is important to note that sodium bromide is only one contributor to the TDS count in your water. Over time, the TDS count in your water will rise (from such things as residuals from other chemicals, minerals, and unfilterable material). It is advisable for you to test the TDS every few months to make certain it stays in check. **Regardless of what water testing facilities suggest, when utilizing a ISIS system, draining your water is not required prior to water reaching a TDS count of 3,500 ppm.**

NOTE: "tdS" will appear on the ISIS controller display when the TDS are too high. If this reading appears at or near start up of your system, please consult with your spa dealer. If, however, this reading appears after an extended period of operation, a 25% water drain & refill can be performed in order to reduce TDS. If this action does not result in "tdS" disappearing from the display, please consult with your spa dealer for a comprehensive water analysis and recommended course of action.

7. NOTE: *Your spa pump must be "ON" during the following step:*

The controller should be factory preset to display "0", OFF. Depress the "INCREASE" key until "10" appears in the display (although, your ISIS controller can be set to "12", it is not recommended to begin production at a setting higher than "10"). If using a two-speed pump system, set the daily circulation time to a minimum of 8 hours per day. (NOTE: ISIS will only produce bromine during low speed circulation on a two-speed system. The display on the GENESIS II Controller will only appear during low speed circulation. If using a 24 hour circulation pump, the unit will produce bromine 24 hours/day).

NOTE: If the ISIS controller detects an inadequate connection to the electrode cell, "OE" (Open Element) will appear in the display. If this happens, please consult with your spa dealer.

NOTE: If the ISIS controller detects excessive current flow through the electrode cell, "SE" (Shorted Element) will appear in the display. If this happens, please consult with your spa dealer.

8. Keep the ISIS controller at a setting at "10" unless your bromine level rises above 5 ppm. If your bromine level exceeds 5 ppm depress the "DECREASE" key **once** to reach a setting of "9", then test the bromine level after 24 hrs. If still too high, repeat the process (turn down one setting, test after 24 hrs) until your "maintenance" setting is achieved. **Lowering more than one setting at a time can result in a dramatic drop in the bromine level.**

If your bromine level is lower than desired, depress the "INCREASE" key **once**, then test the bromine level after 24 hrs. If still too low, repeat the process (turn up one setting, test after 24 hrs) until your "maintenance" setting is achieved. **Increasing more than one setting at a time can result in a dramatic increase in the bromine level.**

NOTE: Your ISIS controller is equipped with a bromine "BOOST" key on the front panel. Depressing this key once will increase the bromine production to twice that of the last Bromine production setting for the next *accumulated eight hours of pump circulation time*. "BOOST" will produce a maximum output of 143% of that achieved at the power setting of 10. (If the pump is cycled "OFF" before the accumulated pump circulation time of eight hours is complete, the "BOOST" cycle will resume once the pump cycles "ON" again and will remain active until a full eight hours of pump circulation time with "BOOST" has elapsed). You will know that "BOOST" is activated if your display shows "bSt". The "BOOST" mode may be terminated at any time by pressing the "BOOST" key until the display no longer shows "bSt".

9. Oxidize with 125g Tru Ox daily, weekly, or as required based on water quality and bather load (*If you find that your desired bromine residual is not being maintained, this is a good indication that more frequent shocking is required*).

*** It can take several days for the bromine level to stabilize**

*** With monitoring of your spa use, and adjustment of the output level of your ISIS, you will be able to determine your maintenance setting. You will have arrived at your maintenance setting when, after a period of normal use of your spa; you no longer have to adjust the output level on your ISIS to keep your bromine level between 3 and 5 ppm.**

*** The appropriate setting for your ISIS unit will depend on how often you use your spa. A spa with a higher-than-average bather load will require a higher setting on the ISIS unit. This simply means that the ISIS needs to produce more bromine to maintain the level between 3 and 5 ppm."**

***For the occasional heavy bather load press the "BOOST" key instead of adjusting the setting.**

*** It is good spa management to test the bromine level in spa water daily and always before spa use.**

NOTES ABOUT TDS: TDS (Total Dissolved Solids) is a combination of metals, minerals and other organic material. ISIS requires that the TDS from the fill water be in the low range of 0-500 ppm. Municipal water sources in most cases are typically in the acceptable range. Well water is typically high in TDS (500 – 1200 ppm). **Before filling from a high-TDS source, a carbon block pre-filter is highly recommended.** A metal remover can sometimes reduce TDS sufficiently. **NOTE:** Do not fill spa with water from a salt water softener!

NON-USE of Spa: If spa will not be in use for an extended period of time, turn down the ISIS power setting to ½ the normal maintenance setting to prevent elevated bromine residual.

The ISIS only creates bromine when the circulation pump is "ON".

The ISIS controller's display is only visible during low speed circulation on a two-speed system, but the display will be visible continually with a single speed 24-hour circulation system.