

2015-3415  
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**Genesis  
Automatic Bromine Generator  
For Spa Sanitizing**

REPLACEMENT CELL

for the Automatic Bromine Generator Pioneer H2O Model Genesis

READ THE LABEL AND OPERATION/INSTALLATION MANUAL OF  
THE GENESIS AUTOMATIC BROMINE GENERATOR BEFORE USING.

REGISTRATION NO. 27890 PEST CONTROL PRODUCTS ACT

This cell must only be used on this model of Automatic Bromine Generator.

Hot Tub Solutions Inc. DBA BluWater Technology Inc.  
P.O. Box 2315, Humble, Texas 77347-2315 USA  
CUSTOMER HELP DESK 1-855-447-8772

KEEP OUT OF REACH OF CHILDREN

**Genesis  
Automatic Bromine Generator  
For Spa Sanitizing**

**DOMESTIC**

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A MINIMUM OF 3 PPM BROMINE MUST BE MAINTAINED.  
Maximum output of Hypobromus Acid equivalent to 20 g of bromine per day

AUTOMATIC BROMINE GENERATOR MODEL GENESIS

Controls Bacteria and Algae in Spa Water

One Genesis Automatic Bromine Generator unit can treat a maximum of 1900 Litres of spa water.

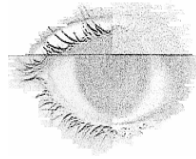
**WARNING:** Operating the Genesis Automatic Bromine Generator without water flow through the cell can cause a build up of flammable gases which can result in FIRE or EXPLOSION.

TESTED AND LISTED TO ANSI/UL - STD. 1081 5TH ED.  
AND CAN/CSA STD. C22.2 NO .0

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# ***GENESIS***

**Automatic Bromine Generator**  
For Spa Sanitizing

## **Installation/Operation Manual** **(Canada)** **DOMESTIC**

Retain this manual for future reference

All statements, technical information and recommendations in this manual and in any guides or related documents are believed reliable, but the accuracy and completeness therefore are not guaranteed or warranted and they are not intended to be nor should they be understood to be representations or warranties concerning the products described.

This **GENESIS** Automatic Bromine Generator has been designed to be used exclusively on residential spas under 1900 liters in noncommercial applications. Pioneer H2O Technologies will not be responsible for any liabilities, product warranties and/or claims that arise as a result of this system being used for a commercial application.

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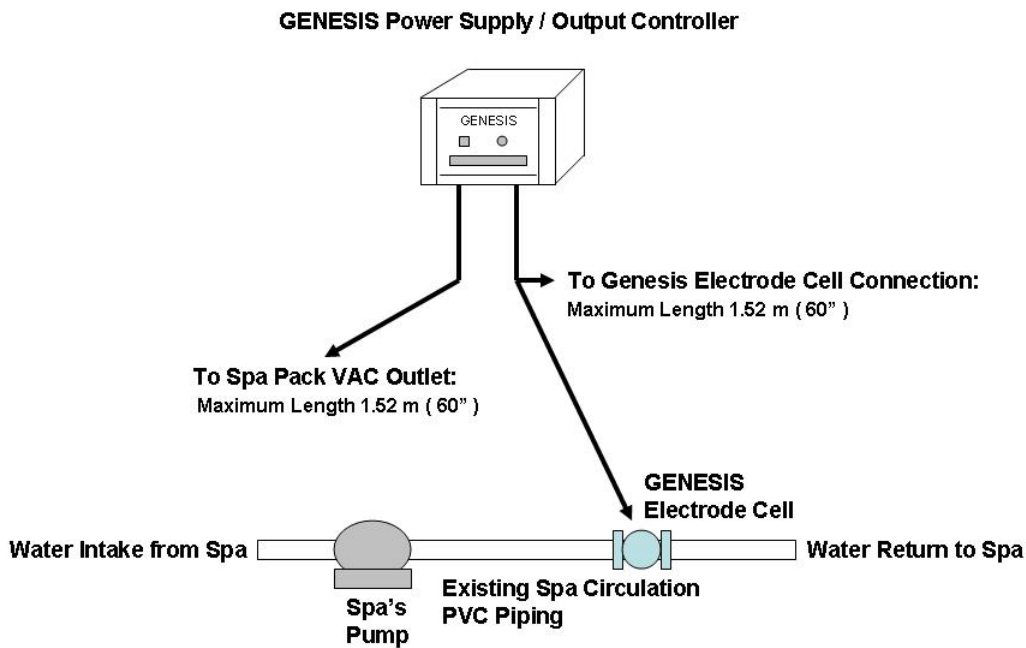
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# 1. PRECAUTIONS

**WHEN INSTALLING AND USING THIS ELECTRICAL APPLIANCE, BASIC SAFETY PRECAUTIONS MUST ALWAYS BE ADHERED TO. IT IS STRONGLY ADVISED THAT A QUALIFIED ELECTRICAL TECHNICIAN PERFORM INSTALLATION OF THIS DEVICE.**

- READ AND FOLLOW ALL INSTRUCTIONS CONTAINED IN THIS MANUAL AND ON THE EQUIPMENT ITSELF.
- TO REDUCE THE RISK OF INJURY, DO NOT PERMIT CHILDREN TO USE THE APPLIANCE.
- WARNING...RISK OF ELECTRICAL SHOCK. CONNECT ONLY TO A GROUNDING TYPE RECEPTACLE PROTECTED BY A GROUND-FAULT CIRCUIT INTERRUPTER (GFCI) OR A DEDICATED CIRCUIT. CONTACT A CERTIFIED ELECTRICIAN IF YOU CANNOT VERIFY THAT THE RECEPTACLE IS PROTECTED BY A GFCI.
- REPLACE ANY DAMAGED ELECTRICAL CORD IMMEDIATELY.
- SHOULD THIS APPLIANCE BECOME INOPERATIVE, DO NOT TRY TO CORRECT THE PROBLEM BY YOURSELF. THERE ARE NO USER-SERVICEABLE PARTS INSIDE. TURN OFF, UNPLUG THE POWER CORD, AND CONTACT YOUR DEALER.

# 2. SYSTEM DIAGRAM/COMPONENTS



## **GENESIS Automatic Bromine Generator - Complete System Includes:**

- 1 -Electronic controller; NEMA 4X enclosure, 10 different power settings, duty cycle control to 97% accuracy, 110/220 switched, automatic polarity reversal for maintenance free electrode cell. 5 year replacement warranty (not pro-rated).
- 1 - Bromine generating electrode cell.
- 1 - 2" -Extended clear view "Tee" and reducer bushings.

### 3. ELECTRICAL CONNECTIONS / LOAD SIDE PLUG-INS

"WARNING: Operating the Genesis Automatic Bromine Generator without water flow through the cell can cause a buildup of flammable gases which can result in FIRE or EXPLOSION."

**\*Never attempt to make wired electrical connections yourself. Always have a licensed professional provide this service. (see "PRECAUTIONS" above)\***

1. Determine input voltage: 120 or 240 V AC. Set switch located on back of circuit board to proper input position (note all units are shipped with a factory preset of 240 VAC). *Improper voltage will damage the controller!*
2. Securely mount the controller to a vertical surface. Make sure there is sufficient cable to accommodate wire connections between the controller, the bromine production cell and the AC power source.
3. The controller must be wired to the load side of the pump or pump timer. This is extremely IMPORTANT: the **GENESIS** was designed to operate and produce bromine only while your pump is circulating water. *Failure to observe usage directions may result in equipment damage.*
4. Use liquid tight flexible conduit between the AC power source and the controller.

### 4. PLUMBING AND PLACEMENT INSTALLATION DIAGRAM

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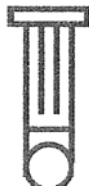
**NOTE: THE "T" FITTING MUST BE GLUED AT THE CONNECTION PRIOR TO INSTALLATION TO AVOID LEAKAGE. TEFLON TAPE SHOULD BE WRAPPED ON THE THREADS OF THE ELECTRODE CAP FOR THE SAME PREVENTATIVE MEASURE.**

INSTALL CHAMBER HORIZONTAL TO THE FLOOR. Installation of the contact cell must be horizontal at 180 degrees. (e.g. pointing to either 3:00 or 9:00 on a clock):



**CORRECT**

**DANGER: NEVER INSTALL IN AN UPRIGHT POSITION.**



**INCORRECT**

**IMPORTANT: THE BROMINE PRODUCTION CELL PRODUCES CONCENTRATED BROMINE. TO AVOID DAMAGE, THE CELL SHOULD ALWAYS BE INSTALLED AFTER THE HEATER.**

**IMPORTANT: THE GENESIS DEVICE SHOULD NEVER RUN OR PROVIDE POWER TO THE PRODUCTION CELL UNLESS THE PUMP IS RUNNING OTHERWISE DAMAGE TO HEATERS MAY OCCUR.**

## 5. STARTING UP THE GENESIS AUTOMATIC BROMINE GENERATOR

It is important that you follow the hot tub manufacturer's instructions on start-up preparations and initial start-up of the hot tub itself. Then you can proceed to the step-by-step **GENESIS** instructions below:

1. Fill your tub with water up to the level recommended by the hot tub manufacturer.
2. Make sure the "DECREASE/INCREASE" dial on the face of the **GENESIS** unit is turned to the "OFF" position.
3. Balance the spa water to the recommended levels:

pH:	7.2 - 7.8
Total alkalinity:	100 - 120 ppm
Calcium hardness:	150 - 200 ppm
4. Make sure that the hot tub's pump is set to high speed.
5. Apply Sodium Bromide evenly over the surface of the water to reach 2200 ppm. Use only Sodium Bromide that is registered or scheduled under the Pest Control Products Act."
6. Turn the "DECREASE/INCREASE" dial to the right until the LED display (to the left of the dial) reads "10". This will initiate the buildup of a bromine bank.
7. Monitor the bromine level until it is between 3 and 5 ppm (This may take a few days, depending on the quality of water used on the initial fill – see \*NOTE below). Once this level has been achieved, turn the "INCREASE/DECREASE" dial down, one setting at a time, until a maintenance setting is achieved. Finding your maintenance setting may also take a few days. Test the bromine level in your water daily and always before using your spa. With monitoring of your spa use, and adjustment of the output level of your Genesis, 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 Genesis to keep your bromine level between 3 and 5 ppm). The appropriate setting for your **GENESIS** unit will depend on how often you use your tub. A tub with a higher-than-average bather load will require a higher setting on the **GENESIS** unit. This simply means that the **GENESIS** needs to produce more bromine to maintain the level between 3 and 5 ppm."

\*NOTE: It can take several days for the bromine level to stabilize because the water that you put into your spa contains impurities that need to be neutralized, thereby using up the initial bromine that is generated. You can expedite this process by "shocking" the water with a non-chlorine product.

## 6. OPERATING THE GENESIS AUTOMATIC BROMINE GENERATOR

- SPA WATER PARAMETER TO MAINTAIN - Maintain daily levels as determined by testing kit:

▪ Free available bromine:	3.0 - 5.0 ppm
▪ pH:	7.2 - 7.8
▪ Total Alkalinity:	100 - 120 ppm
▪ Calcium Hardness:	150 - 200 ppm
- It is important that the recommended sodium bromide level be maintained at all times. Maintaining less than 2500 ppm may result in damage to the bromine conversion cell and may affect its useful lifetime.
- NOTE: Check expiry date of the test kit as test results may be inaccurate if used after that date.
- NOTE: Turn device off before adding sodium bromide and other chemicals, and wait until complete dissolution before turning it on.
- NOTE: Maintaining constantly high levels of salt and bromine above recommended range can contribute to corrosion of the pool equipment. Salt levels exceeding the

recommended concentration can be reduced by diluting the spa water with fresh water.

- Heavy uses of the spa (excessive contamination) may require longer recovery times (a return to a minimum of 3 ppm bromine). Recovery time may be reduced by adding a shock compound to the water.
- Maximum spa water usage temperature is 40°C. Duration in spa water at 40°C should not exceed 15 minutes.
- For proper sanitation, spa must be completely drained periodically. The number of days between COMPLETE SPA DRAINAGE is equal to the volume of spa water in litres, divided by 10 times the maximum number of daily spa users. Refill spa with water and repeat the start-up procedure.
- The electrolytic cell has a life expectancy of 5 years under typical condition of use. When replacing the cell, only use a replacement cell having a label that clearly states that it is a replacement cell for the bromine generating device Genesis Automatic Bromine Generator, REGISTRATION NUMBER: 27890, *Pest Control Products Act.*"

## 7. DETERMINING SODIUM BROMIDE LEVEL

It is important to be able to maintain the appropriate amount of sodium bromide in your spa's water. By following the step-by-step instructions found earlier in this manual, you will be off to a good start. There are several other factors to consider, though. You will normally find that over the weeks and months that you are enjoying the use of your tub, the water level will decrease for several reasons. One is evaporation. The other is a result of water "removal" (splashing, exiting bathers, etc). The first cause of water loss – evaporation – will not reduce the sodium bromide that is available in your tub, because it does not evaporate. The second cause – water removal – will, however, result in loss of some sodium bromide.

Since it is impossible to know how much water loss results from evaporation, and how much from removal, it is necessary to determine your sodium bromide level when adding water to the tub. There are available, through your dealer, sodium bromide test strips. Use of these strips will help you determine how much sodium bromide to add. Consult with your dealer, or call the Pioneer H2O customer service line for instructions on their use.

## 8. MANUFACTURER CONTACT INFORMATION

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P.O. Box 2315, Humble, Texas  
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Customer Help Desk 1-855-447-8772  
<http://www.bluwatertechnology.com>



The GENESIS Device is  
Tested and Listed to:  
ANSI/UL - Std. 1081 5<sup>th</sup> e.

CAN/CSA Std. C22.2 No .0



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