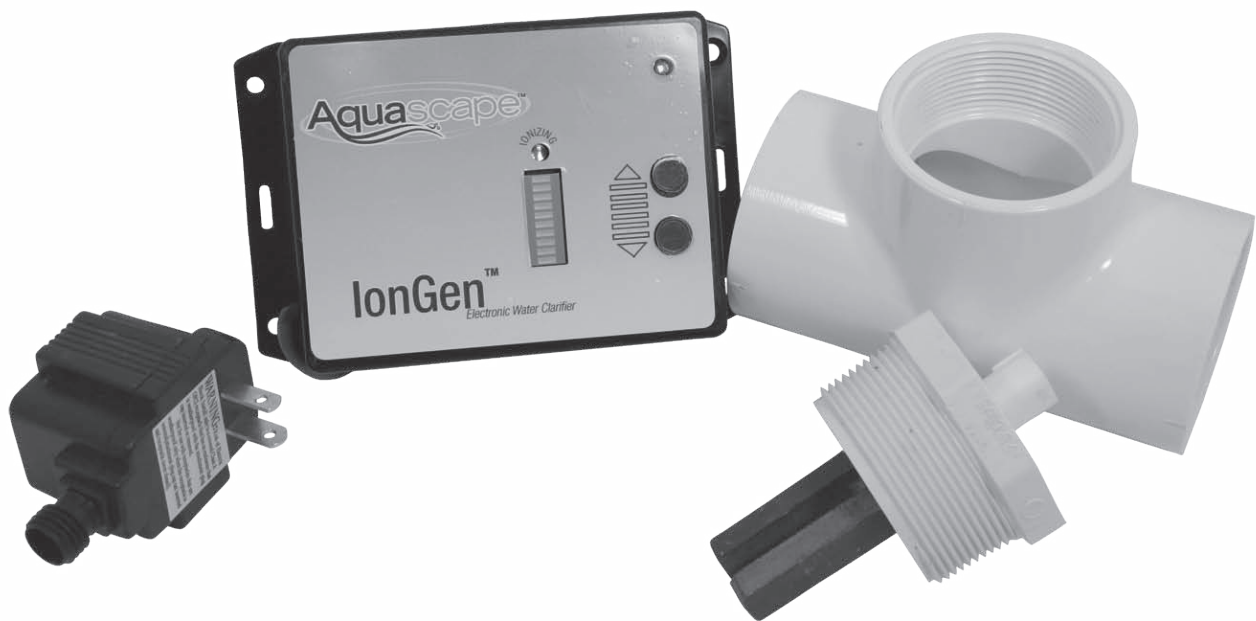




# IonGen<sup>TM</sup>

## Installation Instructions & Maintenance Owner's Manual

- Electronic Clarifier for Ponds and Pondless® Waterfall Systems



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# IonGen™

## Electronic Clarifier for Ponds and Pondless® Waterfall Systems

### Installation Instructions & Maintenance Owner's Manual

*Congratulations on your purchase of the AquaScape IonGen™.*

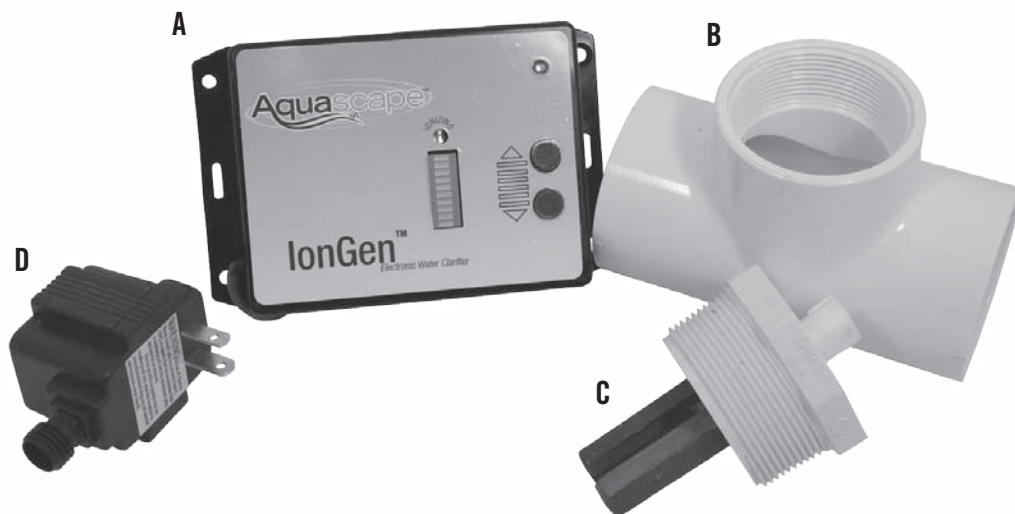
The AquaScape IonGen™ is a water clarifier solution for ponds, Pondless® Waterfalls, and other decorative water features. The IonGen™ drastically reduces pond maintenance and provides crystal clear water without the use of

chemicals. A microprocessor inside the IonGen™ Control Panel causes the outermost atoms of copper, silver, and zinc to lose an electron, creating a positive ion. The positive ion attempts to flow from one of the Probe's bars to the other and

is swept away by the flow of water where the ion can begin to treat the water. The IonGen™ Probe is self cleaning, using reverse polarity to prevent scale and debris build-up on the Probe's bars. The metal alloys in the Probe are scientifically

blended and tested to produce maximum results. The IonGen™, when used according to the manufacturer's guidelines, is safe for fish and plants and is not toxic to any animals that may drink from the pond.

- A) IonGen™ Control Panel (replacement #98943)
- B) 2" PVC Flow Chamber (replacement #30120)
- C) Replaceable IonGen™ Probe (replacement #98881)
- D) Plug-in Transformer (replacement #98375)
- E) Copper Test Kit – not pictured (#98952)
- F) Ph/Total Alkalinity Test Kit – not included, sold separately (#98953)



Want to know more about our products and the water gardening lifestyle?



Download a QR scanner app for your smartphone, then scan this Quick-Response code.

## Safety Instructions

- Read the Installation Instruction & Maintenance Owner's Manual before installing.
- Follow all local codes for installation.
- To reduce the risk of electric shock, connect only to a properly grounded, ground fault interrupter (GFI).
- Do not immerse the Control Box in water.

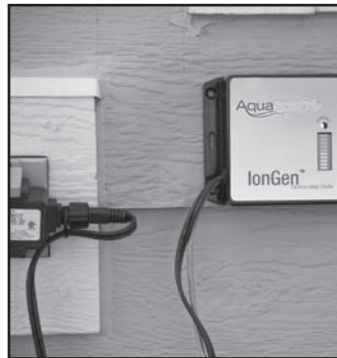
**IMPORTANT:** Before starting the lonGen™ system on existing water features it is recommended to thoroughly clean the pond of as much debris as possible. This will maximize the

ion's effectiveness, and speed to achieve desired results. The more debris and dirtier the water feature, the longer it will take for the lonGen™ to provide noticeable results.

## Step-by-Step Installation for the lonGen™

### 1. Mount the lonGen™ Control Panel

Mount the lonGen™ Control Panel in the desired location, making sure the electrical cord reaches the GFI outlet. The Control Panel is weather resistant, but steps to protect it from the elements, such as mounting the panel above the ground, are recommended to maximize its lifespan. (See Fig. 1)



**Fig. 1** Mount the lonGen™ Control Panel in the desired location.

### 2. Install the Flow Chamber

The PVC Flow Chamber for the lonGen™ can be located in several areas within the water feature. The Flow Chamber is most effective when plumbed directly into the water feature's recirculating system. The Flow Chamber can also be submerged in a region of the water feature with a good water flow, such as in a skimmer box or the edge

of a stream/waterfall. Make sure the electrical cord for the Probe reaches the Flow Chamber location. Follow the step-by-step installation instructions for the method you select.

**Note:** The PVC Flow Chamber is a standard 2-inch schd 40 PVC slip connection and can be made using PVC glue. Other fittings (not included) can be used to convert the Flow Chamber to fit the specific application requirements.

### Flow Chamber Option A:

#### Plumb directly into recirculating system

Cut and insert the PVC Flow Chamber into the water feature's recirculating system. The Flow Chamber should be positioned after the water feature's pump and in a

region of the plumbing line that will drain for servicing the replaceable Probe and overwintering the fitting. It is recommended to use a pre-filter, such as a skimmer, prior to the Flow Chamber in order to remove solids and debris that may interfere with the Probe. A small valve box may

be used for easy access during maintenance. (See Fig. 2)

- Glue the PVC Flow Chamber into position using PVC glue (not included). Follow the glue manufacturer's directions for proper steps. (See Fig. 3)
- Install the Probe into the top of Flow Chamber. Use Teflon tape

or a bead of silicone (not included) over the threads of the Probe fitting to ensure a water tight seal. The threads on the probe are tapered and are not designed to thread completely down into the Flow Chamber. Install the probe into the Flow Chamber hand tight and then one or two additional turns with a wrench.



**Fig. 2**



**Fig. 3**



**Fig. 4**



**Fig. 5**



**Fig. 6**



Note: The red dot on the top of the probe fitting indicates proper orientation of the probe when installed into the Flow Chamber. Make sure the red dot is lined up with the direction of the water flow through the Flow Chamber. Proper orientation of the probe will maximize the IonGen's™ performance. (See Fig. 4-7)

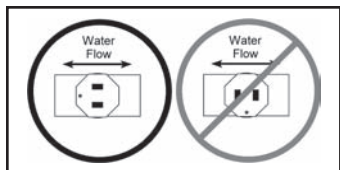


Fig. 7

- Plug in the waterproof connector from the Control Panel into the top of the Probe fitting. (See Fig. 8)



Fig. 8

### Flow Chamber Option B: Skimmer or in-stream installation

The Flow Chamber can be submerged in a region of the water feature with a good flow of water, such as in a skimmer box or the edge of a stream/waterfall. The Flow Chamber must be completely submerged and have sufficient water flow in order to function properly. The Flow Chamber can be camouflaged into the edge of the stream using small rocks. Failure to provide sufficient water flow across probe will affect the IonGen's™ performance. See troubleshooting Table for more information. **Note:** Completely remove Probe from water when connecting or disconnecting the waterproof electrical plug. (See Fig. 9 and 10)



Fig. 9-10

## Operating the IonGen™

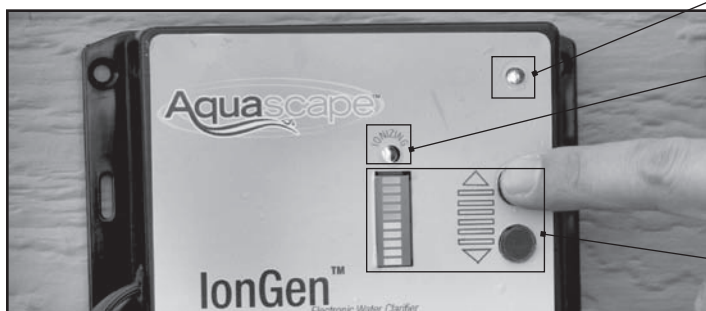


Fig. 11

**Power Indicator** – The Power indicator light will be illuminated when the Control Panel is receiving power.

**Ionizing Indicator** – The Ionizing indicator light will be SOLID GREEN when the generator is properly ionizing. The ionizing indicator light will be FLASHING GREEN when the generator has reached its maximum output. See Troubleshooting Table for more information on how to increase the generator's output. The ionizing light will flash RED when the Probe is exhausted or the Control Panel indicates a problem. See Troubleshooting Table for more information on the RED Ionizing light.

**Choosing Desired Ionization Level** – The amount of ions being generated can be controlled using the up and down button. The lighted ionizing indicator bar will display the output level of the generator.

## Operating Instructions

- Before using the IonGen™, please note the following:

- If the total alkalinity of the water is less than 100 ppm you'll need to increase the level of alkalinity.
- Alkalinity (not hardness) can be determined using the pH/Total Alkalinity Test Kit sold separately (part #98953). Alkalinity levels outside of the recommended parameters will reduce the effectiveness of the IonGen™. See Targeted Water Parameters section for more information.

- Start-up of System

- Turn on the pump.
- Plug in the IonGen™ and set to full power.
- Perform the copper test per the test kit instructions over a period of days to ensure that the copper levels DO NOT rise above .25 ppm. Debris, poor water conditions, as well as the volume of water feature are all factors that affect

the speed at which the IonGen™ will achieve desired results and the level of copper in the water feature. *Please note that it may take several weeks before the copper level begins to be detectable.*

- The IonGen's™ ionization level can be reduced to show 1 or 2 bars on the Ionizing Indicator Display once desired results are achieved with the appearance of the water conditions in the water feature or the copper test strips indicate the maximum level of .25 ppm. If alkalinity is more than 250 ppm it can be typically reduced by conducting a partial water change.

- Operating the IonGen™ at a low level and only raising the ionization level based on the appearance of the water conditions will prolong the life of the probe, as well as help make sure copper levels don't become too elevated.

**Note:** It is not unusual to have low copper level readings on the test strips, no matter how high the IonGen's™ ionization level setting. This is due to the copper being used within the water feature. Periodic copper testing will ensure that the levels stay below .25 ppm.

- If the level of copper is allowed to go above .25 ppm reduce the IonGen™ down to one bar on the Ionizing Indicator Display or

unplug the IonGen™ until the copper levels fall below .25 ppm. A water change can also be conducted if the copper levels are significantly above .25 ppm. (See Fig. 11).

- In the case of a power failure the IonGen™ Control Panel's internal memory will reset itself to the last setting before the power failure.



Fig. 11

## Maintenance

- The Replaceable IonGen™ Probe will typically last 1 -3 seasons depending on the usage, quantity of

water and water parameters of the water feature. The Ionizing Indicator, which is normally lit GREEN when ionizing, will begin to flash RED. The flashing RED ionizing light indicates

when the Probe is exhausted or there is a problem with the IonGen™. See Troubleshooting Guide for more information on the RED Ionizing light.

## Replacing the Probe

Disconnect the waterproof connector at the top of the Flow Chamber and remove and inspect the lonGen™ Probe for significant deterioration. Replace if necessary. (See Fig. 12 and 13)

**Note:** It is good practice once a year or at the beginning of the water garden season to manually inspect the lonGen™ Probe.

Clean off any debris or scale build-up during inspection.



Fig. 12

Example of a deteriorated probe.

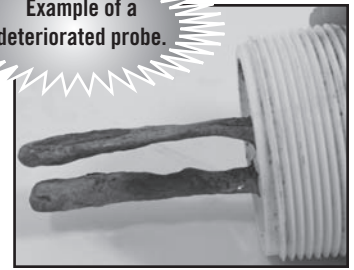


Fig. 13

## Winterization

- It is recommended to shut down the lonGen™ System in regions that have climates that experience cold-freezing temperatures. This will help save the life of the probe for the warmer months.
- The Control Panel is weather resistant, but steps to protect it from the elements, such as mounting the panel above the ground, are recommended to maximize its lifespan.
- The Flow Chamber, when plumbed directly into the recirculating system, needs to be located in a region that will drain for servicing the replaceable lonGen™ Probe, as well as allowing the Flow Chamber fitting to over-winter.
- If shutting down the water feature during the winter, make sure the plumbing line is drained free of water. Failure to do this may cause water remaining in the plumbing line to freeze, potentially cracking the Flow Chamber.
- The Flow Chamber, when set in the skimmer or inside the pond, should be removed and stored inside.
- Prior to restarting the lonGen™ it is a good idea to remove and inspect the Probe to make sure it is free of debris and scale build-up and not close to being exhausted. Scrape away any scale build-up from the Probe's bars. Replace Probe if it appears to be close to exhausted. (See Fig. 13)

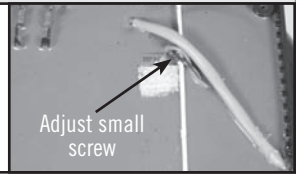
## Troubleshooting Guide

**IMPORTANT:** Before starting the lonGen™ on existing water features, it is recommended to thoroughly clean the pond of as much debris as possible. This will maximize the ion's effectiveness, speed to achieve desired results and ability to raise the ions up to the proper level. The more debris and dirtier the water feature, the longer it will take for the lonGen™ to provide noticeable results.

Problem	Cause	Solution
1. Power Light Not Illuminated	No AC power	Check GFI and incoming power
	Debris stuck on Probe	Remove Probe and clean debris and any scale build-up off bars
	Controller failure	Contact Dealer or Installer
2. Ionizing Light Illuminated Red	Probe exhausted	Inspect and replace Probe if exhausted
3. Ionization light flashing green or not able to raise ionization level to maximum bars	Insufficient water flow through flow chamber	Make sure the Probe is receiving enough water flow. Make sure red dot on top of Probe fitting is in line with the direction of the water flow through the flow chamber. Move Probe to area of greater water flow. Plumbing into the water feature's recirculating system is the most effective method. If the Flow Chamber is set in the skimmer or pump vault you can remove the probe fitting from the Flow Chamber and submerge the bare Probe into skimmer or pump vault. This will further improve flow across the Probe's bars. The red dot on the top of the Probe fitting indicates proper orientation of the Probe when installed into the Flow Chamber. Make sure the red dot is lined up with the direction of the water flow through the Flow Chamber. Proper orientation of the Probe will maximize the lonGen's™ performance. (See Fig. 7 on page 4)
	Debris stuck on Probe	Remove Probe and clean debris and any scale build-up off bars
4. Continued Scale Build-up on Probe Bars	Insufficient water flow across Probe	See #3 Ionization light flashing green or not able to raise ionization level to maximum bars.
5. Low Copper Level	Ionizing level set too low	Raise Ionizing level
	Insufficient flow through Flow Chamber	Increase pump run time or move Flow Chamber to higher flow location
	Probe exhausted	Inspect and replace Probe if exhausted
6. High Copper Level	Ionizing level set too high	Reduce ionizing indicator to 1 bar or unplug Control Panel until copper level is below 0.25 ppm. A partial water change can also be conducted for quicker copper level decrease.
7. Cloudy Water/Excessive Debris	Low copper level	Raise ionization level
	Insufficient flow through Flow Chamber	Increase pump run time or move Flow Chamber to higher flow location
	Debris stuck on Probe	Remove Probe and clean debris and any scale build-up off bars
	Outside of targeted water parameters	See Targeted Water Parameters table

Continued on page 6

Problem	Cause	Solution
8. Water flow reduction	Debris stuck on Probe	Remove Probe and clean debris and scale build-up off bars
9. Not able to raise ionizing indicator to maximum bars  (NOTE: For serial numbered models 0005774 and below only. Serial Number or S/N is located on white label on cord.)	Manufacture setting in Control Panel needs to be adjusted	Remove back panel of Control Panel and turn the blue potentiometer screw clockwise until maximum bars are able to be reached using the Control Panel touch pad.



## Targeted Water Parameters for Optimal Performance

To achieve the best results with the IonGen™ it is recommended that the water feature's water is within the water parameters listed in the table below. The water feature's water parameters can change during the season, especially in features

that experience high evaporation. Many times a simple water change can help reset the water feature's water parameters. Alkalinity is an important parameter for the proper function of the IonGen™. One easy way to raise low alkalinity is to use ordinary baking soda. Adding ¼ cup (0.15 pounds) per 1,000 gallons will typically raise the alkalinity by 10

Copper	Less than 0.25
Alkalinity	100 – 250 ppm

mg/L (ppm). Raising the alkalinity should not be done all at once, but over a period of days. One easy way to lower alkalinity is performing a water change. **Note:** It is not unusual to have low copper level readings

on the test strips, no matter how high the IonGen's™ ionization level setting. This is due to the copper being used within the water feature. Periodic copper testing will ensure that the levels stay below .25 ppm.

## IonGen™ Specifications

- Input Voltage: 120 Volts
- Input Frequency: 60 Hz
- Output Voltage: 12 V
- Output Current: 0.5A
- Plug-in Transformer: UL Listed, CSA Listed Rainproof Class 2
- Flow Chamber: PVC TEE 2" slip x 2" slip x 2" fpt
- Probe Material: Optimum ratio of 99% pure Copper, Silver, Zinc
- Capacity: Up to 25,000 gallon water features

The IonGen™ is warranted against defective materials and workmanship for a period of 12 months from the date of purchase by the user. Contact the installer or place of purchase if the IonGen™ should fail within the warranty period. Warranty does not include deteriorated probe. Warranty shall be totally null and void in the event the IonGen™ is abused, misused, or used for a purpose other than for which the product is intended. Failure to use as directed may result in loss or injury to aquatic life. Aquascape, Inc is not responsible for any loss of fish or aquatic life.

# 1 YEAR WARRANTY

## DISCLAIMER

Except as stated below, there are no other representatives or warranties related to the product or its use. THE USER SHALL DETERMINE THE SUITABILITY OF THE PRODUCT FOR THE USER'S INTENDED USE, AND THE USER ASSUMES ALL RISKS AND LIABILITIES WHATSOEVER IN CONNECTION THEREWITH. Seller and manufacturer's only obligation is the repair and or replacement of the IonGen™ as stated below. ALL IMPLIED WARRANTIES ARE HEREBY EXCLUDED, INCLUDING, BUT NOT LIMITED TO ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Neither seller nor the manufacturer shall be liable for any injury, loss, or damage whether direct, incidental, or consequential arising out of the use or inability to use the product.

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