



IONGEN™ SYSTEM_{G2}

Electronic algae controller for ponds, Pondless® Waterfall systems and decorative water features

Helps reduce unsightly string algae and reduce pond maintenance in ponds, Pondless® Waterfalls systems and other decorative water features.



*Probe excluded from warranty

IonGen™ Probe

Active Ingredient

Copper (as metallic).....99.99%

Other Ingredients:.....0.01%

Total:100.00%

EPA Registration Number 83739-1
EPA Est. No. 89457-CHN-001

NET WEIGHT: 3.3 LBS.

Keep Out of Reach of Children

CAUTION

Refer to the product manual for complete directions for use and installation instructions.

Manufactured For:
AquaScape, Inc.
901 Aqualand Way
St. Charles, IL 60174-5303

Storage and Disposal

Do not contaminate food or feed by storage and disposal.

Pesticide Storage

Store this product in a cool, dry place away from children.

Pesticide Disposal and Container Handling

Dispose of recycling or put in trash.

See IonGen™ Probe packaging for additional Precautionary Statements and Directions For Use.



IONGEN™ SYSTEM_{G2}

Thank you for choosing the **Aquascape IonGen™ System**. At Aquascape, our goal is to supply our customers with the best valued products in water gardening. We hope you enjoy your purchase and thank you for choosing Aquascape. *Your Paradise. Our Passion.®*



3 Year Warranty*

The Aquascape IonGen™ System is guaranteed for three years from date of purchase. Proof of purchase required. Warranty does not cover damage resulting from negligent handling, misuse or lack of reasonable maintenance or care. Warranty is valid against defects due to material and the company's workmanship only. The sole obligation shall be to replace the defective unit with a suitable replacement. Units should be checked for proper operation, prior to returning as defective. No liability for loss or damage of any nature or kind, whether arising out of or from the use of the product, whether defective or not defective, is assumed by Aquascape, Inc. or its affiliates. **Warranty does not include deteriorated IonGen™ Probe.** Contact your local dealer to purchase IonGen™ System Replacement Probe.

Contact Us

For more information about our company or products please visit our website at www.aquascapeinc.com or call (US) 1-866-877-6637 (CAN) 1-866-766-3426.



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*Probe excluded from warranty

Directions for use

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

Introduction

The IonGen™ Probe fits inside the IonGen™ System and is an electronic algae controller for ponds, Pondless® Waterfalls, and other decorative water features. The IonGen™ System reduces unsightly string algae and helps reduce pond maintenance without the use of chemicals. A microprocessor inside the IonGen™ System's Control Panel causes the outermost atoms of the metal IonGen™ Probe to lose an electron, creating a positive ion. The positive ion attempts to flow from one probe bar to the other, and is then

swept away by the flow of water where the ion can begin to treat the water and reduce algae. The IonGen™ Probe uses reverse polarity to reduce scale and debris build-up on the IonGen™ Probe's bars. The metal alloys in the IonGen™ Probe are tested to produce maximum results. The IonGen™ System may be used for algae control in ponds or fountains containing fish as long as the copper concentration is carefully monitored and the concentration is not allowed to exceed 0.25 ppm.

Contents

- 1 Aquascape IonGen™ System Control Panel G2
- 2 Flow Chamber G2
- 3 Replaceable IonGen™ Probe G2
(Also sold separately as Item #95016)
- 4 (2) 2" PVC Slip Fitting
- 5 (2) Multi-hose Adaptors (1", 1 ¼", 1 ½")
- 6 Plug-in Transformer
- 7 Probe Holder

Includes (not pictured)

- 1", 1.25", 1.5" Multi-Hose Adapter
- 2" PVC Adapter
- Cu/Copper Test Kit
Also sold separately as Item #96020
- KH/Alkalinity Test Kit
Also sold separately as Item #96019

Also Available (not included)

- 25' Extension Cable with Quick Connects
Sold separately as Item #98998



Safety Precautions

- Read the Installation Instruction and 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 IonGen™ System Control Panel in water.



GROUNDING INSTRUCTIONS: This appliance must be grounded. In the event of a malfunction or breakdown, grounding will reduce the risk of electric shock by providing a path of least resistance for electric current. This appliance is equipped with a cord having an appliance-grounding conductor and a grounding plug. The plug must be plugged into an appropriate outlet that is installed and grounded in accordance with all local codes and ordinances.

WARNING: Improper connection of the appliance-grounding conductor can result in a risk of electric shock. Check with a qualified electrician or service representative if you are in doubt whether the appliance is properly grounded. Do not modify the plug provided with the appliance; if it will not fit the outlet, have a proper outlet installed by a qualified technician.

IonGen™ System 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: Injection Molded Plastic
- Probe Material: 99% Copper
- Capacity: Up to 25,000 gallon water features

Installation for the Aquascape IonGen™ System



IMPORTANT: Before installing the IonGen™ System in existing water features it is recommended to thoroughly clean the pond of as much algae and debris as possible. This will maximize the ions' effectiveness and speed to achieve desired results. The more algae and debris in the water feature, the longer it will take the Aquascape IonGen™ System to provide noticeable results.

1. Mount the IonGen™ System Control Panel

Mount the IonGen™ System Control Panel in the desired location; making sure the power cord reaches the GFI outlet and the IonGen™ Probe cord reaches



the desired location of the IonGen™ Probe. A 25' Extension Cable with Quick Connects (sold separately) is available, if needed. The IonGen™ System Control Panel is weather-resistant, but in order to maximize the lifespan of your unit, we suggest mounting the panel above ground in a location protected from the elements.

2. Install the Flow Chamber

The Flow Chamber for the IonGen™ System 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 IonGen™ Probe can also be installed without the Flow Chamber by submerging it in a filter, such as in a skimmer or Pondless® Waterfall filter. Follow the step-by-step installation instructions for the method you select.

Installation Option A:

Flow Chamber Installed into Recirculating System

- Cut and insert the 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 drains by gravity. This enables you to easily service the IonGen™ Probe and allows for overwintering the Flow Chamber and fittings. 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 IonGen™ Probe. A small valve box may be used for easy access during maintenance.



- Select the fittings needed for the application. The PVC slip fitting is designed to be used with Schd 40 PVC pipe (Rigid or Flex) and PVC glue. The multi-hose adapter fitting is designed to be used with kink-free pipe and hose clamps. Refer to page 3 for adapters and fittings.



- Hand thread the selected fitting into the Flow Chamber. *(Do not use tools to install the fittings into the Flow Chamber. Fittings need to be hand-tight only.)*

- If using a diameter pipe larger than the smaller hose tails, cut off the hose tails not being used with a hack saw in order to maximize the water flow through the plumbing.

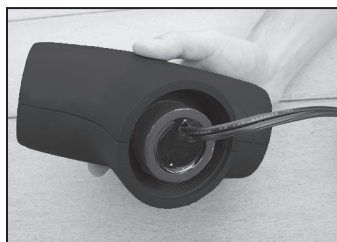
- When using the Barbed Multi-Hose Fitting, use a metal hose clamp to secure pipe to fitting.



- When using PVC, glue pipe into Slip Fitting using PVC glue (not included). Follow the glue manufacturer's directions for proper plumbing steps.



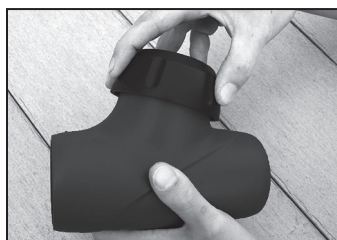
- Install the IonGen™ Probe into the top of Flow Chamber.



- Insert IonGen™ Probe cord through the IonGen™ Probe collar.



- Hand-tighten the IonGen™ Probe collar into position.

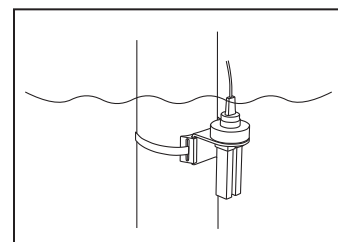
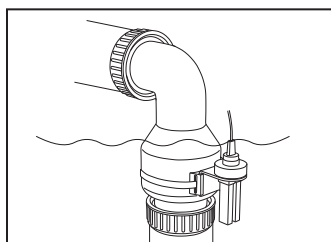


- Plug the connector from the Control Panel into the IonGen™ Probe fitting connector.

Installation Option B: IonGen™ Probe only using IonGen™ Probe Holder

The IonGen™ Probe can also be submerged in a filter by using the IonGen™ Probe Holder.

1. Position the probe holder bracket in the desired location on check valve or plumbing.
2. Pull the buckle securely fastening the probe holder in place.
3. Trim away remaining or excess strap if necessary.
4. Position the IonGen™ Probe into the probe holder.



PLEASE NOTE: The IonGen Probe must be fully submersed in water at all times to function properly. Failure to provide sufficient water flow across IonGen™ Probe will affect the IonGen™ System's performance.

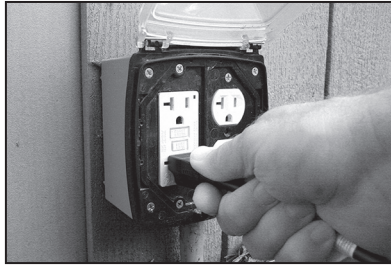
See troubleshooting Table for more information.

Operating Instructions

- Before using the IonGen™ System, please note the following:
 - The IonGen™ System may be used for algae control in ponds or fountains containing fish as long as the copper concentration is carefully monitored and the concentration is not allowed to exceed 0.25 ppm.
 - If the total alkalinity of the water is less than 100 ppm, you'll need to increase the level of alkalinity. Do not operate the IonGen™ System on water features with fish if the alkalinity levels are below 100 ppm.
 - If the total alkalinity of the water is above 250 ppm you will need to decrease the level of alkalinity. If alkalinity is more than 250 ppm it can be typically reduced by conducting a partial water change. Check to make sure your tap water is within the target water parameters.
 - Alkalinity (not hardness) can be determined using the KH/Alkalinity Test Kit (part #96019). Alkalinity levels outside of the recommended parameters will significantly reduce and possibly eliminate the effectiveness of the IonGen™ System to control the algae. *See Targeted Water Parameters section for more information.*

• **Setting the IonGen™ System's Level**

- Turn on the pump and plug in the IonGen™ System.
- **Adjusting the IonGen™ System's Level** – Depress the “+” or “-“ button for 3 seconds to enter the setting mode. Once in the setting mode the ionization level can be adjusted. The setting mode will exit automatically
- **Operating the IonGen™ System on a new water feature or a water feature with good water quality and little to no algae** – Set the IonGen™ System to level 1 or 2. Follow the next step if algae growth begins to increase.



IMPORTANT: Operate the IonGen™ System at a low level and only raise the ionization level if the algae attached to rocks and gravel becomes excessive. Maintaining the IonGen™ System on the low level will make sure the copper levels don't become too elevated, and also prolong the life of the IonGen™ Probe.

NOTE: It is not unusual to have low, or even no copper level readings on the test kit, no matter how high the IonGen™ System's ionization level setting. This is due to the copper being used within the water feature. Periodic copper testing will ensure that the levels are below the maximum level of .25 ppm.

Operating the IonGen™ System on an existing water feature with algae present

Set the IonGen™ System to the highest ionization level possible if there are significant levels of algae present in the water feature. In some water feature applications you may find that you are not able to raise the ionization level to the higher power setting (levels 7-10). This is typically due to the water chemistry of the water feature or the water flow rate across the IonGen™ Probe. In most cases, the IonGen™ System will still produce sufficient quantity of ions to kill the algae. Be patient, as it may take several days to a few weeks for noticeable results to occur. Using the included copper test kit, test the water over a period of days to ensure that the copper levels DO NOT rise above .25 ppm.



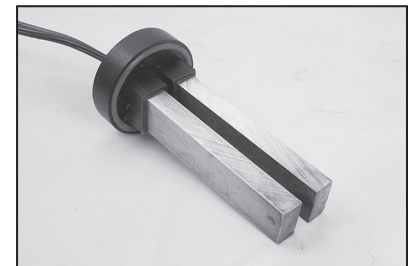
The ionization level can be lowered once the algae levels have decreased or the copper test kit indicates a maximum level of .25 ppm.

- Pre-existing algae levels, poor water conditions, as well as the volume of water in the water feature are all factors that affect the speed at which the IonGen™ System will achieve desired results.
- If the level of copper rises above .25 ppm, reduce the IonGen™ System down to level one or unplug the IonGen™ System until the copper levels fall below .25 ppm. A water change can also be conducted if the copper levels are significantly above .25 ppm.
- In the case of a power failure the IonGen™ System Control Panel's internal memory will reset itself to the last setting before the power failure.

Maintenance

IonGen™ Probe Maintenance

- The replaceable IonGen™ Probe will typically last 1 or more seasons, depending on the usage, quantity of water and water chemistry of the water feature. The IonGen™ System Control Panel display will read “00” when the IonGen™ Probe is completely exhausted or there is a fault in the operation of the system.
- It is recommended to visually inspect the bars on the IonGen™ Probe from time to time, and replace the IonGen™ Probe if the bars are significantly worn.
- The Aquascape IonGen™ System does contain a built-in, self-cleaning mechanism that reduces the build-up of oxidation scale on the bars, but requires sufficient water flow to work properly. An excessive build-up of scale on the bars is an indicator that there may not be sufficient water flow. Significant oxidation scale on the bars will decrease the distribution of ions being released into the water, as well as affect the ability to raise and lower the Control Panel's ionization level. Scale build-up can easily be brushed or scraped off the bars, immediately improving IonGen™ Probe performance. If you notice repeated scale build-up, you may want to move the IonGen™ Probe to a location with higher water flow, such as plumbing it directly into the main recirculating system.
- Starting out each year with a new IonGen™ Probe is recommended and will significantly boost the performance of the IonGen™ System.



Winterization Maintenance

- It is recommended to shut down the IonGen™ System in regions that have climates that experience cold temperatures. This will prevent elevated copper levels during

the time of the year when there is no algae growth, and will prolong the life of the IonGen™ Probe.

- The IonGen™ System's 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 IonGen™ 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 so may cause water remaining in the plumbing line to freeze, potentially cracking the Flow Chamber and voiding the warranty.
- Prior to restarting the IonGen™ System in the spring, it is a good idea to remove and inspect the IonGen™ Probe to ensure it is free of debris and scale build-up, and not exhausted or worn. Scrape away any scale build-up from the IonGen™ Probe's bars. Replace worn IonGen™ Probes. *See section above on IonGen™ Probe Maintenance for more information.*

Troubleshooting Guide



IMPORTANT: Before installing the IonGen™ System on an existing water feature, it is recommended to thoroughly clean the pond of as much algae and debris as possible. This will maximize the ion's effectiveness and speed to achieve desired results. The more algae and debris present in the water feature, the longer it will take for the IonGen™ System to provide noticeable results.

| Problem | Cause | Solution |
|---|--|--|
| 1. Power Light not Illuminated | No AC power | Check GFI and incoming power |
| | Controller failure | Contact Dealer or Installer |
| 2. Ionizing Indicator Display reads "00" | IonGen™ Probe exhausted | Inspect and replace IonGen™ Probe if exhausted Check to make sure all of the IonGen™ Probe cable connectors are properly installed and the cables have not been accidentally damaged or cut |
| 3. Ionization level not able to be raised to full power | Insufficient water flow through Flow Chamber | In most of these cases the IonGen™ System will still produce a sufficient quantity of ions to kill the algae. If algae levels are not being controlled move IonGen™ Probe to area of greater water flow. Plumbing into the water feature's recirculating system is the most effective method. |
| | Scale build-up or debris suffocating IonGen™ Probe | An excessive build-up of scale on the bars is an indicator that there may not be sufficient water flow. The scale will decrease the distribution of ions being released into the water, as well as affect the ability to raise and lower the Control Panel's ionization level. The scale can be easily brushed or scraped off the bars which will improve the IonGen™ Probe's performance immediately. If you notice the scale repeatedly building up then you may want to move the IonGen™ Probe to a location with higher water flow, such as plumbed directly into the main recirculating system. |
| | Water chemistry make-up | Water chemistry also plays a role in the ability of the ionization level to be raised or lowered, as well as the effectiveness of the copper ions in the water. <i>See Targeted Water Parameters section below the troubleshooting table.</i> |

Troubleshooting Guide *continued...*

| Problem | Cause | Solution |
|---|--|---|
| 4. Continued scale build-up on IonGen™ Probe Bars | Insufficient water flow across IonGen™ Probe | See #3 solutions |
| 5. Low copper level | Copper being used | It is not unusual to have low or even no copper level readings on the test kit, no matter how high the IonGen™ System ionization level setting. This is due to the copper being used within the water feature. Use visual indicators, such as the quantity of algae in the water feature to determine if the ionization is working. Periodic copper testing will ensure that the levels are below the maximum level of .25 ppm. |
| 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. Algae levels remain high after prolonged use | Low copper level | Raise ionization level |
| | Insufficient flow through Flow Chamber | See #3 solution |
| | Scale build-up or debris suffocating IonGen™ Probe | See #3 solution |
| | Water chemistry outside of targeted water parameters | See Targeted Water Parameters section below the troubleshooting table |
| | Algae type | The IonGen™ System is very effective at controlling filamentous string algae. Some types of algae are less affected by copper ions than others. In these cases you may not have as noticeable results with the IonGen™ System. |

Targeted Water Parameters for Optimal Performance

To achieve the best results with the IonGen™ System 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™ System.

One easy way to raise low alkalinity levels is to use ordinary baking soda. Adding ¼ cup (0.15 pounds) per 1,000 gallons will typically raise the alkalinity by 10 mg/L (ppm). Raising the alkalinity should not be done all at once, but over a period of days. One easy way to lower high alkalinity is performing a water change.

Copper: Less than 0.25 ppm

Alkalinity: 100 - 250 ppm



For more information

For more information about our company or products, please visit our website at www.aquascapeinc.com or call us at (US) 1-866-877-6637 (CAN) 1-866-766-3426

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