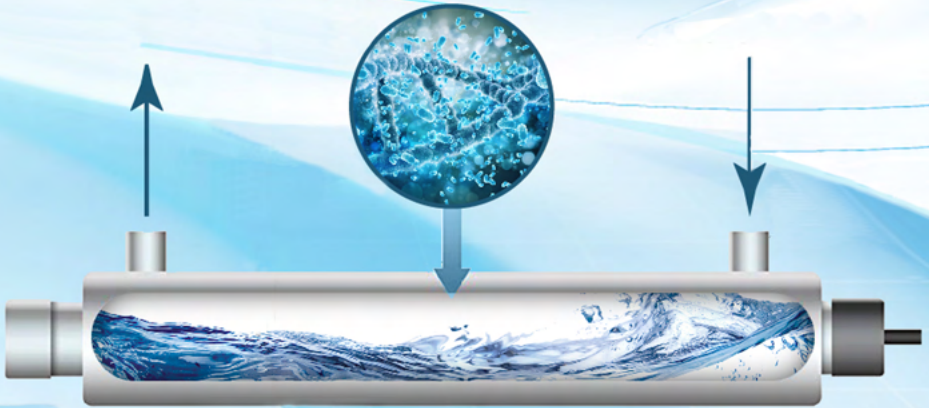


BLUONICS

THE PURE WATER EFFECT



55W - 12GPM

110W - 24GPM

UV WATER FILTER

INSTALLATION MANUAL

www.bluonics.com

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BEFORE YOU START THE INSTALLATION

Congratulations on the purchase of your Bluonics™ ultraviolet (UV) water disinfection system! This system uses the most advanced UV technology and is designed to provide you with years of trouble-free operation with minimal maintenance required to protect your drinking water from microbiological contaminants.

SAFTY INSTRUCTION

Please read this entire manual before operating this equipment. Pay attention to all safety tips, warning, and caution statements in this manual. Failure to do so could result in serious personal injury or damage to the equipment.

Make sure that the protection provided by this equipment is not impaired. DO NOT use or install this equipment in any manner other than that specified in the installation manual.


















The information and recommendations contained in this publication are based upon data collected by Emonyx LLC and Bluonics trademark, and are believed to be correct. However, no guarantee or warranty of any kind, expressed or implied, is made with respect to the information contained herein. Specifications and information are subject to change without notice.

SAFETY WARNING

POTENTIAL HAZARDS

Read all labels and tags attached to the system. Personal injury or damage to the system could occur if not observed.

CAUTION: Lamp and quartz sleeve are easily damaged. Exercise care when handling.

	Waste electrical and electronic equipment (WEEE). This symbol indicates that you should not discard wasted electrical or electronic equipment (WEEE) in the trash. For proper disposal, contact your local recycling/reuse or hazardous waste center.		This symbol indicates not to store any combustible or flammable material close to the system.
	This symbol indicates there is Mercury present.		This symbol indicates that the contents of the transport package are fragile and the package should be handled with care.
	This is the safety alert symbol. Obey all safety messages that follow this symbol to avoid potential injury. When on the equipment, refer to the Operational and Maintenance manual for additional safety information.		This symbol indicates safety glasses with side protection is required for protection against UV exposure.
	This symbol indicates a risk of electrical shock and/or electrocution exists.		This symbol indicates gloves must be worn.
	This symbol indicates the marked equipment may contain a component that can eject forcibly. Obey all procedures to safely depressurize.		This symbol indicates safety boots must be worn.
	This symbol indicates the system is under pressure.		This symbol indicates the operator must read all available documentation to perform required procedures.
	This symbol indicates there is a potential UV hazard. Proper protection must be worn.		This symbol indicates the plumber must use copper piping.
	This symbol indicates the marked item could be hot and should not be touched without care.		This symbol indicates that the system should only be connected to a properly grounded, grounding-type controller receptacle that is protected by a Ground Fault Circuit Interrupter (GFCI).
	This symbol indicates there is a potential for VERY hot water when flow is started.		

Warning: This product may contain chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

SAFETY WARNING

DANGER

Failure to follow these instructions will result in serious injury or death.



Electric Shock: To avoid possible electric shock, special care should be taken since water is present near the electrical equipment. Unless a situation is encountered that is explicitly addressed by the provided maintenance and troubleshooting sections, **DO NOT** attempt repairs yourself, refer to an authorized service facility.



UV light is not visible to human eye, but harmful to eyes and skin. Never look directly at the light tube while device is in operation. Do not remove the UV Lamp from the Reactor Chamber when applying electrical power. Wear **SAFETY GOGGLES** if you need to look necessary.



DO NOT operate the UV system if it has a damaged cord or plug, if it is malfunctioning or if it has been dropped or damaged in any manner.



DO NOT use this UV system for other than intended use (potable water applications). The use of attachments not recommended or sold by the manufacturer / distributor may cause an unsafe condition.



DO NOT store this disinfection system where it will be exposed to temperatures below freezing unless all water has been drained from it and the water supply has been disconnected.



DO NOT touch the UV lamp directly in case of burning. A pair of gloves would be better when taking off it.

WARNING

- During extended periods of no water flow, the water in your chamber can become very hot (Approx. 140°F) and potentially lead to scalding. It is recommended to run your water until this hot water has been purged from your chamber. Do not allow water to contact your skin during this time. To eliminate this condition, a temperature management valve can be installed at the outlet of your UV system.
- This system contains a UV Lamp. Do not operate the UV Lamp when it is removed from the chamber. Unintended use or damage of the system may result in the exposure of dangerous UV radiation. UV radiation may, even in little doses, cause harm to the eyes and skin.
- Changes or modifications made to this system without the consent of the manufacturer could render the system unsafe for operation and may void the manufacturer's warranty.

SAFETY WARNING

CAUTION

Failure to follow these instructions could result in minor or moderate injury.



Carefully examine the disinfection system after installation. It should not be plugged in if there is water on parts not intended to be wet such as, the controller or lamp connector.



Due to thermal expansion concerns and potential material degradation due to UV exposure, it is recommended to use metal fittings and at least 10" of copper pipe on the outlet of your UV chamber.



Hg EXPOSURE: The UV lamp contains mercury. If the lamp breaks, then avoid inhalation or ingestion of the debris and avoid exposure to eyes and skin. Never use a vacuum cleaner to clean up a broken lamp as this may scatter the spilled mercury. Obey local regulations and guidelines for the removal and disposal of mercury waste.

NOTICE

- The UV system is not to be used or played with by children. Persons with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, are also not to handle the UV system unless they have been given supervision or instruction.
- This system is intended to be permanently connected to the water lines and it is not intended to be used in or above water or outdoors or used in swimming pools when persons are in the pool.
- **EXTENSION CORDS:** If an extension cord is necessary, use only 3-wire extension cords that have 3-prong grounding-type plugs and 3-pole cord connectors that accept the plug from this system. Use only extension cords having an electrical rating not less than the rating of the system. A cord rated for less amperes or watts than this system rating may overheat. **DO NOT** use damaged extension cords. Examine extension cord before using and replace if damaged. Always disconnect the extension cord from the receptacle before disconnecting this system from the extension cord.
- **SYSTEM PROTECTION:** To protect your Controller, a UL1449 certified (or equivalent) transient voltage surge suppressor is strongly recommended.
- The UV lamp in this system conforms to the applicable provisions of the Code of Federal Regulations (CFR) requirements including, Title 21, Chapter 1 Subchapter J, Radiological Health.

SAFETY WARNING

PRODUCT APPLICATION

- The water purifier is designed to mount horizontally or vertically.
- The water purifier's dual chamber heads are removable and may be rotated independently, which aids in the installation, maintenance or the retrofitting of an existing system.
- The water purifier's chamber and chamber head are passivated and electro polished type 304 Stainless Steel.
- Our end caps allow for quick and easy lamp change, without disconnecting from the water supply or draining the purifier. No tools are required.

PRINCIPLE OF OPERATION

The Bluonics™ Ultraviolet System has been carefully conceived to provide adequate germicidal dosage throughout the disinfection chamber. The dosage, as it applies to ultraviolet disinfection, is a function of time and the intensity of ultraviolet radiation to which the water is exposed. The exposure time, in seconds, is the total time it takes the water to flow through the disinfection chamber exposing it to the germicidal lamp. Exposure time is related to the flow rate; the higher the flow rate, the lower the exposure time or the lower the flow rate, the higher the exposure time. The ultraviolet intensity is the amount of energy, per unit time, emitted by the germicidal lamp. The dosage is the product of ultraviolet intensity and the exposure time. The operation of this UV system is as follows:

- Water enters the purifier and flows into the annular space between the quartz sleeve and the chamber wall.
- Suspended microorganisms are exposed to the ultraviolet rays emitted by the germicidal lamp.
- Water leaving the purifier is instantly ready for use, no further contact time is required.

LIMITATION OF USE

The water purifier is intended for the use with visually clear water, not colored, cloudy or turbid. See "Water Quality" section.

The water purifier is NOT intended for the treatment of water that has an obvious contamination or intentional source, such as raw sewage; nor is the unit intended to convert wastewater to microbiologically safe drinking water.

PRINCIPLE OF OPERATION

304 Stainless Steel Ultraviolet Water Disinfection System

Lamp Model No	UVT5-455	Quartz Model No	QT5-940
Lamp Power	55W - 110W	Ballast Model	EB-G55
Lamp Current	0.425A	Max Water pressure	125 psi (8.6 bar)
Flow rate	12GPM - 24GPM	Inlet & Outlet	3/4" NPT - 1" NPT
Voltage	110V 60Hz	Ambient Temperature	35° F - 100° F

Function: Disinfect bacteria, viruses, molds and algae in water.

Water Quality

Water quality plays a major role in the transmission of germicidal ultraviolet rays. It is recommended that the water does not exceed the following maximum concentration levels:

Maximum Concentration Levels	
Turbidity < 1 NTU Total Suspended Solids 10 mg /1 Color: None Iron 0.3 mg /1 UV Transmission > 85 % per cm*	Manganese 0.05 mg / 1 pH: 6.5 - 9.5 Hardness 6 GPG or 102.6 PPM Tannins: < 0.1 ppm (0.1 mg / l)

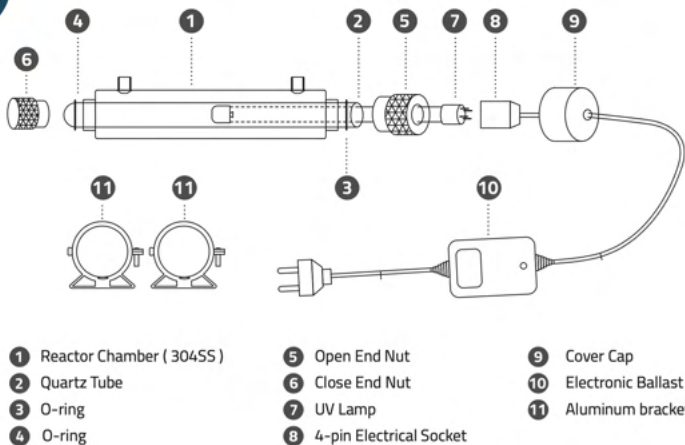
Effectively treating water with higher concentration levels than listed above can be accomplished, but may require added measures to improve water quality to treatable levels. If, for any reason, it is believed the ultraviolet transmission is not satisfactory, contact the supplier.

CAUTION:

As with any water handling device, the water purifier should be located in an area where any possible condensation or leakage from the water purifier, any purifier accessory and/or plumbing will not result in damage to the area surrounding the water purifier. For added protection, it is recommended that a suitable drain pan be installed under the purifier. The drain pan must be plumbed to an adequate, free

STEP 1

WHAT IS INCLUDED



1. The water purifier is intended for indoor use only. The water purifier should be protected from the elements and from temperatures below freezing. The ambient temperature, in the area surrounding the water purifier, should be between 35°F and 100°F.

2. Electrical power supplied to the water purifier **MUST** match power requirements listed on the water purifier. Use of a voltage surge protector is recommended.

3. **CAUTION:** Install water purifier within 48" of a known good ground. Water Purifier will need to be installed into approved ground fault circuit interrupt (GFCI) receptacle. Where a 2-prong or unprotected 3-prong receptacle is encountered, it must be replaced by a properly grounded Ground Fault Circuit Interrupt (GFCI) receptacle. Installation must be in accordance with the National Electrical Code and any local codes and ordinances by a qualified electrician.

4. The water purifier should be located in a dry, well-lit area, which provides enough room to perform routine maintenance. This includes a minimum distance of one chamber length from the chamber end, to allow for cleaning and/or the changing of the lamp and quartz sleeve as well as a minimum of 6" on the opposite end of the water purifier. Minimum clearance to floor 18"

5. The water purifier should always be located closest to the point of use. This reduces the chance of the purified water being re-contaminated by bacteria in the water distribution system after the water purifier.

6. The water purifier should be located after all other water devices, such as De-ionizers, Water Softeners, Carbon Filters, Pre-Filters, Reverse Osmosis, Pressure Tanks, and Pumps. This reduces the chance of the purified water being re-contaminated by bacteria in any of these units.

STEP 2

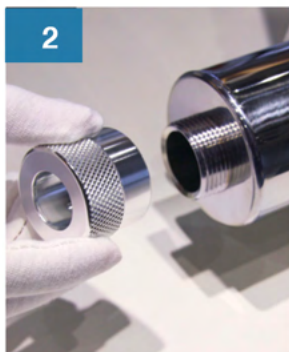
SYSTEM INSTALLATION

Reactor Chamber, UV Lamp, Quartz Tube, O-rings, Electronic Ballast.

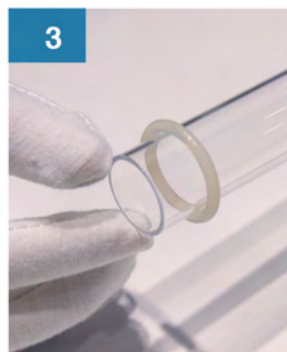
Make sure the Quartz Tube and UV Lamp are clean before installation (clean with alcohol or mild detergent). Wear soft non-abrasive gloves to keep any finger marks away from them



Remove the closed end nut from reactor chamber closed end



Remove the open end nut from reactor chamber open end.



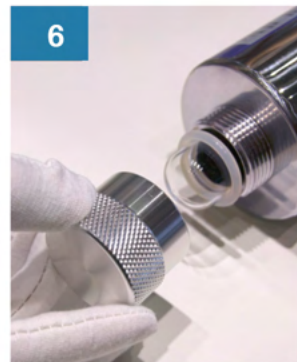
Install o-ring onto the open end of quartz tube (~0.5inch from the edge).



Insert the Quartz Tube into the Reactor Chamber.



Install o-ring onto the closed end of quartz tube.



Hand-screw closed end nut on the reactor chamber closed end of quartz tube) to protect the o-ring, do not over tighten.

STEP 2

SYSTEM INSTALLATION



Connect the 4-pin electrical socket with UV lamp pins tightly.



Carefully insert the UV lamp into the quartz tube through open end nut.



Install the cover cap and hand-tighten onto open end nut .

10

Select a readily accessible and well lit location to fix the system. The system should always be located closest to the point of use and can either be installed horizontally or vertically.

11

When all plumbing connections are finished, slowly turn on the water supply and check for leaks.

12

Allow the water to run for a few minutes to clear any air or dust that may be in the Reactor Chamber. Connect the power for starting up



An LED indicator light, located on the ballast, provides visual indication of germicidal lamp operation. This provides an indication of lamp operation and does not indicate the level of ultraviolet intensity or transmission through the water. Ballasts have a built-in audio alarm which will indicate lamp failure.

SYSTEM MAINTENANCE

NEW : You can Subscribe & Save to receive your bulb replacements every year or every 8,000 hour of use.

Or just simply scan this QR code with the camera on your phone, and subscribe for replacements.



A Test the system monthly or before each use

B The UV lamp inside the disinfection system is rated at an effective life of approximately 8,000 hours. approximately 12 month of continuous service
To ensure continuous protection,

C Clean the quartz sleeve once every 3-6 months with alcohol or a mild detergent.

Note:

Note: To save the energy, turn off the power and water supply if you do not use the equipment for a long time.

ADDITIONAL GUIDELINE

Recheck the installation before plug the sterilizer into power.

Do not proceed to install the equipment when UV Lamp or Sleeve Tube is broken, buy one again and continue.

Bluonics™ Ultraviolet System is designed for continuous operation and frequent switching will reduce Ultraviolet radiation and service life.

If this unit falls into the water, turn main power off and then retrieve it. Do not attempt to use this sterilizer if it has been submerged.

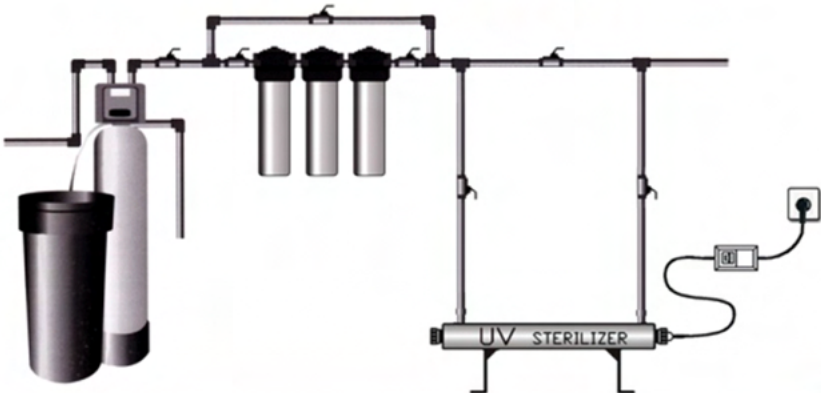
Do not operate this unit if it has a damaged cord or plug, if it is malfunctioning or if it has been dropped or been damaged in any manner.

The UV system should be installed after the filter on the return line. Always disconnect the water supply and completely drain the water purifier if it will be subjected to temperatures below freezing for extended periods of

CAUTION:

To reduce possible hydrostatic damage and leaks, make sure both Silicon O-rings are correctly installed and in place.

TYPICAL INSTALLATION



INSPECTION

1. Regularly inspect the water purifier to ensure that the germicidal lamp is still in operation.

- An LED indicator light, located on the ballast, provides visual indication of germicidal lamp operation. This provides an indication of lamp operation and does not indicate the level of ultraviolet intensity or transmission through the water.
- Some ballasts have a built-in audio alarm which will indicate lamp failure.

2. To ensure proper operation of the water purifier, regular biological testing should be performed on a schedule recommended by local public health authorities, or at minimum; at installation, quarterly for the first year of service and annually, at lamp replacement, for the life of the water purifier.

3. Additional testing should be performed whenever modifications, change or additions are made to plumbing system, pumps, well source water etc. to ensure adequate disinfection under new condition.

4. As with any water purifier installation, routine maintenance is necessary to ensure your equipment is operating correctly. Regular inspection must also include the inspection of the ground to ensure grounding wires are secure to both the water purifier and grounding point as originally installed. Regular inspection must also include confirmation that approved ground fault circuit interrupt (GFCI) receptacle is still operational and that water purifier is plugged into this GFCI. Any components which are damaged, or broken should be replaced.

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Scan this QR code with your phone
camera for your filter replacement

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