AQUASURE
Quantum UV

WHOLE HOUSE ULTRA VIOLET
(UV) WATER SYSTEM

*AS-UV18HO model shown.

OWNER'S MANUAL

⚠ IMPORTANT!
For optimum performance and protection against contaminants, please thoroughly read this owner's manual before proceeding with the installation.

WELCOME & CONGRATULATIONS

Thank you for choosing Aquasure. This owner's manual will guide you through the necessary steps to install your Aquasure Quantum UV Water System.

For MAXIMUM effectiveness please thoroughly read this manual.

This owner's manual serves as a source of general guidance; nevertheless, it is crucial to emphasize that errors during installation may result in system malfunction and can potentially void the warranty. Therefore, it is strongly recommended to engage the services of a licensed plumber for professional installation. In the event that you need support, our Aquasure technicians are available to answer any questions during hours of operation as listed below.

Telephone:
(800) 661-0680
M-F 8:30AM - 5:30PM

Email:
support@aquasureusa.com

Online Chat:
aquasureusa.com/support

Scan the QR code for support

Get Familiar with the System Before Installation

IMPORTANT! Please read the entire manual and become familiar with the instructions and parts needed before proceeding with the installation. Hiring a professional plumber who will adhere to all local, state and federal guidelines is recommended for a proper installation.

Inspect the System

Please take the system and all the components out of the box. Inspect the system and all the connection fittings carefully, make sure nothing is damaged during shipping. If any part is cracked or broken, please do not proceed with the installation and contact Aquasure or your distributor for an exchange or diagnosis.

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SYSTEM INSPECTION

Please take the system and all the components out of the box. Inspect the system and all the connection fittings carefully, make sure nothing is damaged during shipping. If any part is cracked or broken, please do not proceed with the installation and contact Aquasure or your distributor for an exchange or diagnosis.

IMPORTANT: Leave the lamp and quartz sleeve inside the packaging until ready for installation. Do not touch the glass on the UV quartz sleeve or UV lamp without the use of plastic gloves.

System Components

1. UV Chamber
2. UV Lamp
3. UV Quartz Sleeve
4. Mounting Brackets
5. Ballast
6. Chamber Mounts
7. Install hardware (not pictured)

UV Chamber - AS-UV8S

UV Chamber - AS-UV12S

UV Chamber - AS-UV18HO

UV Quartz Sleeve


UV Lamp

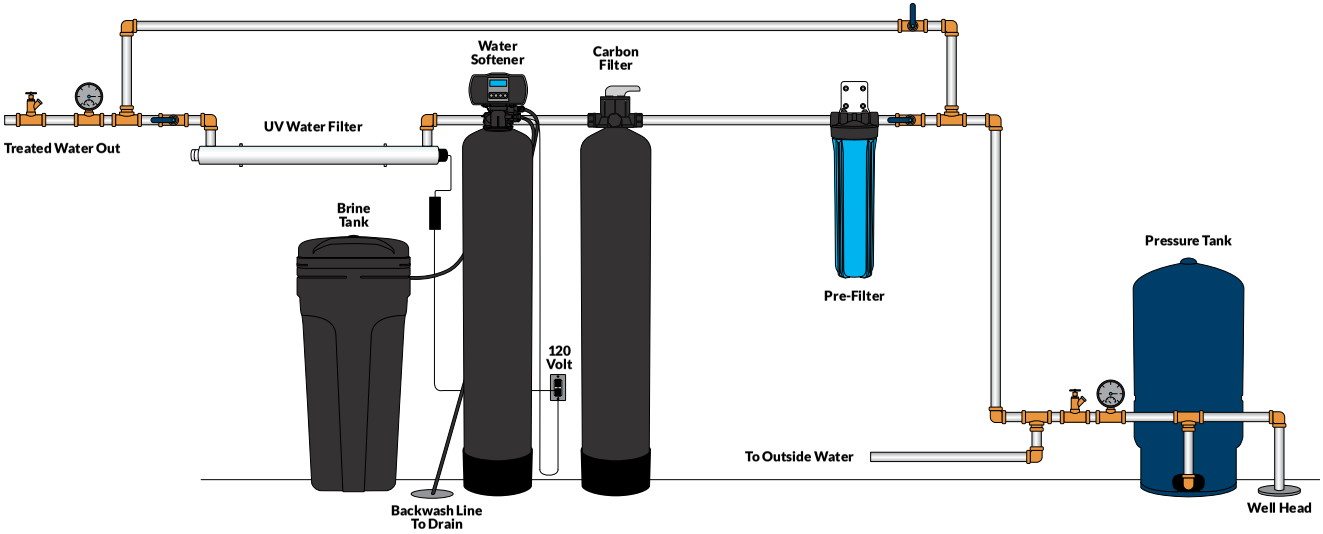

Ballast for AS-UV18HO


Ballast for AS-UV8S and AS-UV12S


Chamber Mounts

INSTALLATION DIAGRAM

Aquasure Quantum model AS-UV12S horizontally mounted shown below.
For reference only. Your installation and water filtration components may vary.



SAFETY INSTRUCTIONS

WARNING - To guard against injury, basic safety precautions should be observed, including the following:

1. **READ AND FOLLOW ALL SAFETY INSTRUCTIONS.**
2. **CAUTION** - Disconnect power before servicing.
3. **DANGER** - To avoid possible electric shock, special care should be taken since water is present near 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 technician.
4. Carefully examine the UV system after installation. It should not be plugged in if there is water on parts not intended to be wet.
5. Do not operate the UV system if it has a damaged cord or plug, if it is malfunctioning or if it is dropped or damaged in any manner.
6. Always disconnect water flow and unplug the UV system before performing cleaning or maintenance activities. Never yank the cord to remove from an outlet; grasp the wall plug and pull to disconnect.
7. 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.
8. Intended for indoor use only. Do not install this UV system where it will be exposed to the weather or to temperatures below freezing. Do not store this UV system where it will be exposed to the weather. Do not store this UV 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.
9. Read and observe all the important notices and warnings on the water UV system.
10. If an extension cord is necessary, a cord with a proper rating should be used. A cord rated for less Amperes or Watts than the UV system rating may overheat. Care should be taken to arrange the cord so that it will not be ripped over or pulled.
11. **SAVE THESE INSTRUCTIONS.**

WARNING: The UV light given off by this unit can cause serious burns to unprotected eyes and skin. Never look directly at an illuminated UV lamp. When performing any work on the UV system always unplug the unit first. Never operate the UV system while the UV lamp is outside of the UV chamber.

Note: *The UV lamp inside of the UV system is rated at an effective life of approximately 9000 hours. To ensure continuous protection, replace the UV lamp annually.*

OPERATION PARAMETER

IMPORTANT: *The following conditions for feed water supply must be met or warranty will be void and the manufacturer assumes no responsibility for damage to system or property.*

1. Water Temperature Parameter
   The system MUST NOT be installed in an area where it is exposed to direct sunlight and must be protected against freezing and extreme heat.
   - Maximum: 100° F (37.8° C)
   - Minimum: 32° F (0° C)

2. Water Pressure Parameter
   The maximum allowable inlet water pressure is 125 psi. If daytime pressure is over 80 psi, night time pressure may exceed the maximum allowed water pressure. Use a pressure reducing valve (PRV) to reduce the pressure if needed.
   - Maximum: 125 PSI (8.78 kg/cm2)
   - Minimum: 25 PSI (1.75 kg/cm2)

3. Water condition tolerance
   Water passed through the unit must fall within the following parameters:
   a) Iron: <0.3 ppm (0.3 mg/L)
   b) Hardness*:<7 ppm (120 mg/L)
   c) Turbidity: < 1 NTU
   d) Manganese: < 0.05 ppm (0.05 mg/L)
   e) Tannins: < 0.1 ppm (0.1 mg/L)
   f) UV Transmittance: > 75% (call factory for recommendations on applications where UVT < 75%)
   * Where total hardness is more than 7 gpg, the water should be softened.

SYSTEM INSTALLATION

STEP 1

1. Shut off the main water supply valve. Locate the main water supply valve of the house and turn off completely by turning the shut-off handle clockwise.

2. Test to see if the water is completely shut off by turning on the closest faucet in the cold water position. If the cold water cannot be shut off, please contact your local plumber to fix the valve before beginning system installation.

STEP 2: Mounting the UV System

1. Remove the UV system components from the shipping carton. For shipping purposes, the UV lamp and quartz sleeve are packed in separate packaging tubes inside the main carton to avoid damage during transit.

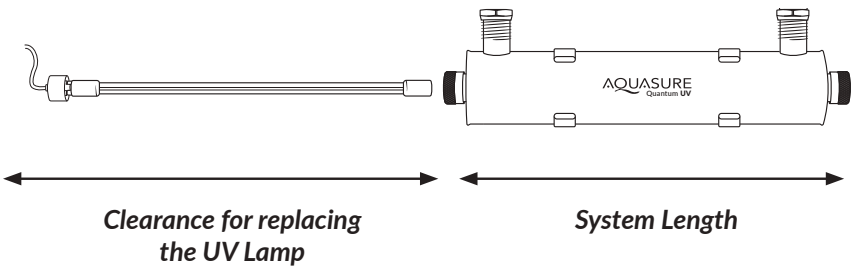
   IMPORTANT: *Leave the lamp and quartz sleeve inside the packaging and set aside for use later in the installation process.*

2. Horizontally or vertically position the UV system to the desired mounting location. Ensure that there is enough clearance for the system and future maintenance and removal of the UV lamp. Ideally the clearance should consider the length of the UV lamp and the ballast prong connector.

   IMPORTANT: *It is recommended that the Quantum UV system be mounted in a vertical position. This ensures optimal contact time for the UV wavelength inside the UV chamber.*

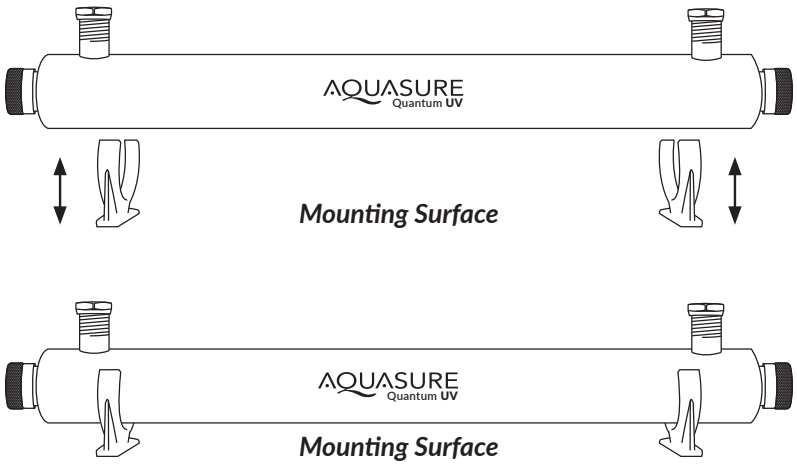
IMPORTANT:
Mounting location should allow adequate space for removing the UV lamp and quartz sleeve components for maintenance.

AS-UV8S Model shown as reference.



3. Fasten the UV chamber system to a suitable mounting surface with the provided system mounting clips.

   IMPORTANT: *Make sure the inlet and outlet ports on the UV chamber are clear from any obstruction and plumbing can be routed to the location of the install.*



4. Before connecting plumbing lines assemble the unit and install the quartz sleeve and UV lamp.

STEP 3: Connecting the UV System

IMPORTANT: *On copper plumbing systems, be sure to install a grounding wire between the inlet and outlet piping to maintain grounding.*

WARNING! *Any solder joints being soldered near the valve must be done before connecting any piping to the system. Always leave at least 6" (152 mm) between the UV system and joints being soldered when soldering pipes that are connected to the UV system. Failure to do this could cause damage to the UV system.*

1. The UV system is equipped with 3/4" male NPT connections (18GPM unit is equipped with 3/4" Female NPT and 1" Male NPT). It is recommended that these connections are made using 6-10 wraps of plumber's tape.

2. The flow of the water can go either direction depending on the location.

3. Connect the inlet and outlet of the UV system using appropriate fittings.

Important! *Make sure the inlet and outlet connection does not interfere with the replacement of the UV lamp and quartz sleeves.*

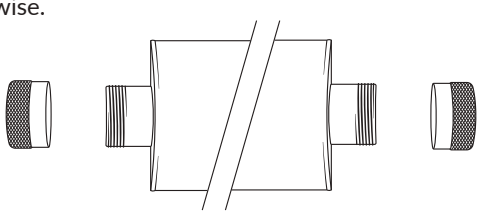
STEP 4: System Assembly

IMPORTANT: *During the assembly and handling of the quartz sleeve and UV lamp it is recommended to wear plastic gloves. DO NOT touch the quartz sleeve or UV lamp with bare hands. Fingerprints can reduce the performance of the UV lamp.*

1. Remove the unit from the mounting surface and place the system on a flat, stable surface to assemble.

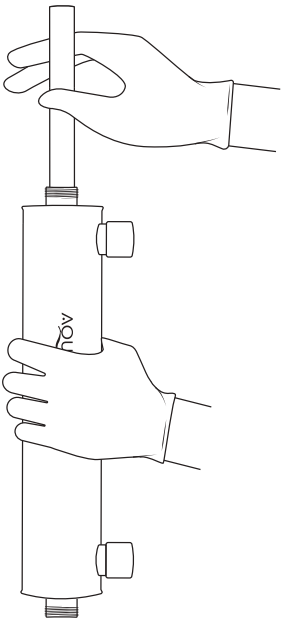
2. Locate and remove quartz sleeve and UV lamp from the packaging. If necessary, wipe all fingerprints from quartz sleeve and lamp with isopropyl alcohol and a dry cotton cloth or paper towel.

3. Locate and remove both end caps from the UV system by unscrewing them counterclockwise.

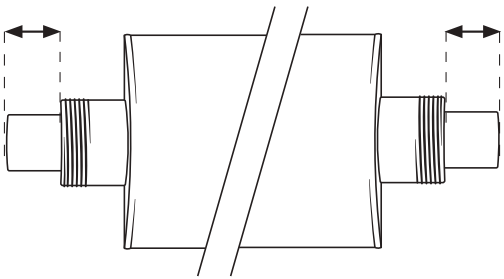


4. Insert the quartz sleeve into the UV chamber.

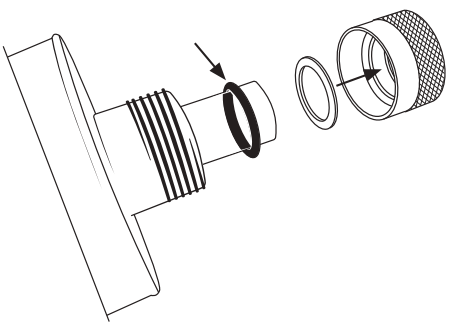
IMPORTANT: *The quartz sleeve is fragile and should be handled with care. Positioning the UV chamber vertically and slowly lowering the quartz sleeve into the UV chamber. This method can avoid the sleeve making contact with the inner surface of the UV chamber.*



IMPORTANT: *Leave equal amount of the quartz sleeve exposed on either end of the chamber.*

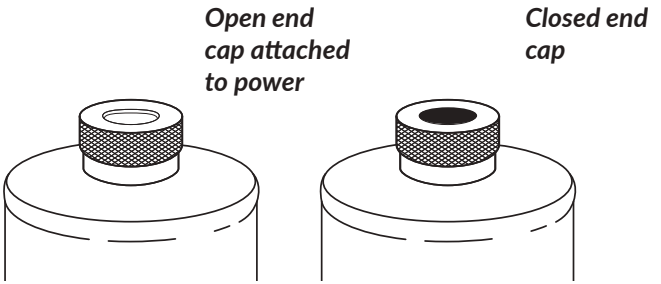


5. Insert and seat the white pressure seal into the innermost position of the end cap. Gently roll on the black o-ring over the end of the quartz sleeve. Do this for both sides of the exposed quartz sleeve and both end caps.



6. Determine which end of the UV system will be on top or will be receiving power and connected to the ballast. Designate and install the open end cap on this side of the UV system.

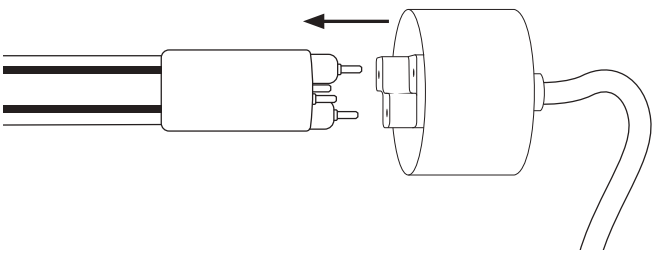
IMPORTANT: *Hand tighten the end caps onto the UV chamber. Overtightening or tightening with the use of tools could result in damage to the quartz sleeve.*



7. Locate the UV lamp and connect the ballast plug to the lamp electrical prongs.

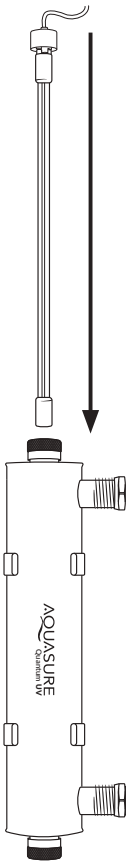
IMPORTANT: *Do not turn on the system at this time and do not plug into a wall outlet. Never expose or look at the UV lamp that is powered on. Doing so can cause damage or loss of vision.*

IMPORTANT: *Handle the UV lamp gently to avoid damage or breaking the glass lamp or quartz sleeve.*



8. With the ballast plug connected to the UV lamp **slowly** and carefully insert the UV lamp into the open end cap and into the quartz sleeve.

   IMPORTANT: *The UV lamp is fragile and should be handled with care. Slowly lower the UV lamp into the end cap and into quartz sleeve can prevent the glass components from making contact with each other and*



   preventing breakage.

9. Attach the ballast plug sleeve over the end cap. Ensure that is fully seated to avoid the lamp from disconnecting .

STEP 5: Flushing and testing the plumbing lines

WARNING! *If the system is leaking at all, turn the unit to the bypass position and shut off main water supply before assessing leak.*

IMPORTANT: *Flushing the system lines is necessary to ensure that all plumbing work has been done correctly, that there is no debris or air trapped in the piping, and that there are no leaks.*

1. Locate the nearest faucet and remove aerator (faucet screen) if there is any. Turn the cold water position on at the nearest faucet and slowly turn on the main water supply. Let the water run for a few minutes or until the system is free of any air or foreign material.

2. Make sure there are no leaks in the plumbing system before proceeding and shut off the nearest faucet when water runs clear.

STEP 6: System Startup

1. Plug the AC adapter into a nearby wall outlet.

2. A LED indicator on the ballast should start to glow green indicating that the lamp is turned on and the system is in operation.

   WARNING! *If the LED indicator on the ballast is not showing any color, check the wall outlet to make sure it has power. Make sure to unplug the power supply anytime if removal of UV lamp is required.*

CONGRATULATIONS!

Your system is ready to use. Please document the system installation date and replace the UV lamp in the suggested replacement time.

Be sure to register your system within 60 days of purchase. Scan the QR code below or go to **aquasureusa.com/warranty** to register your system.

Scan to register your system

OPERATION & MAINTENANCE

Quartz Sleeve Replacement And/Or Cleaning:
If the water contains any hardness minerals (calcium or magnesium), iron or manganese, the quartz sleeve will require periodic cleaning. To remove the quartz sleeve, follow the steps below:

1. Shut off water supply and drain all lines.
2. Drain the UV chamber (use a small bucket under the unit to prevent a spill), using drain port provided.
3. Remove nuts from chamber, checking for the free floating spring inside sleeve at the opposite end to the lamp connection (do not allow quartz sleeve to fall).
4. Carefully remove O-rings from the quartz sleeve. As the O-ring may tend to adhere to the quartz sleeve, it is recommended to replace the O-rings annually.
5. Clean the quartz sleeve with a cloth soaked in ***CLR***, vinegar or some other mild acid and then rinse avoiding the introduction of any water to the inside of the sleeve.
6. Re-assemble the quartz sleeve with spring in the UV chamber allowing the sleeve to protrude an equal distance from chamber.
7. Wet the O-rings and slide onto each end of the quartz sleeve.
8. Reassemble the gland nuts (hand tight is sufficient).
9. Re-tighten all connections, turn on water and check for leaks. Re-install the UV lamp and lamp connector as per prior instructions
10. Reconnect system to power source.

Note: *If the system is put on a temporary hold, bypassed, removed, or if it becomes contaminated after the UV system, It will be necessary to shock the system with household bleach for a full 20 minutes before resuming use of the water.*

UV Lamp Replacement And/Or Cleaning:

WARNING! *Regularly inspect your system unit to ensure the UV light is still glowing. Replace the UV lamp annually to ensure optimal performance.*

IMPORTANT! *During the assembly and handling of the quartz sleeve and or UV Lamp it is recommended to wear plastic gloves. DO NOT touch the quartz or UV lamp with bare hands. Fingerprints can reduce the performance of the UV lamp.*

1. Disconnect the power
2. Shut off water supply and drain all lines.
3. Pull the UV lamp off of the chamber while it is still connected to the ballast line.
4. Disconnect the old UV lamp from the ballast.
5. Connect the ballast plug to the new UV lamp electrical prongs.
6. Reinsert the lamp back into the chamber carefully.
7. Turn on the water supply and check for leaks.
8. Reconnect the power

Note: *If the system is put on a temporary hold, bypassed, removed, or if it becomes contaminated after the UV system, It will be necessary to shock the system with household bleach for a full 20 minutes before resuming use of the water.*

SYSTEM WARNING & TROUBLESHOOT

Lamp Failure System

The audible alarm and indicator lights on the systems continuously monitor the lamp operation. If the lamp does not start at any time, the indicator red light will glow and audible alarm will sound. This alarm indicated the UV lamp is no longer operating and must be corrected. Please refer to Troubleshooting Guide for corrective procedures.

Ultraviolet Monitoring System

The ultraviolet system features a complete warning system for continuous water protection by constantly sensing the UV light operation. The system features a single LED indicator light, which will operate two distinct colors, **GREEN** and **RED**. When the
UV output level changes, the warning system will operate in the following manner:

GREEN 🟢 Indicates that the UV lamp is satisfactory and the unit is in good working order.

RED 🔴 Indicates that the unit needs immediate attention, the audible alarm will automatically sound when the LED monitor light switches to red if the lamp has been in service for a year or more it should be replaced. The quartz sleeve and/or sensor probe may require cleaning. The alarm will continue until the sensor detects adequate UV intensity. When the lamp is replaced it is recommended to clean the quartz sleeve and sensor probe prior to returning the system to service.

THIS ADVANCED WARNING SYSTEM HAS BEEN INSTALLED TO PROVIDE YOU WITH THE OPTIMUM PRECAUTIONS TO ENSURE HIGH EFFICIENCY IN THE PROTECTION AGAINST MICROBIOLOGICAL CONTAMINATION IN YOUR WATER. DO NOT DISREGARD THE WARNING LIGHTS.

THE BEST WAY TO CHECK UV OPERATION IS TO HAVE THE WATER TESTED FOR BACTERIA BY A RECOGNIZED TESTING AGENCY ON A REGULAR BASIS.

WARNING! *When there is no flow, the water in the cell will become warm, as the UV system lamp is always on. To remedy this, run cold water tap anywhere in the house for a minute to flush out the warm water.*

As the system requires time to reach its full operating capacity, please allow the UV system to operate 3-5 minutes prior to using the water from unit. In addition, to clear any air or debris form the system, open the faucet and allow water to run through the UV system for 2-3 minutes.

Troubleshooting Guide

CAUTION: *When performing any work on the UV system unplug the unit first and never look directly at the burning UV lamp.*

SYMPTOM	POSSIBLE CAUSES	REMEDY
PRESSURE DROP	The sediment pre-filter is clogged	Replace filter cartridge with appropriate five micron cartridge. NOTE: Check source of water supply as fluctuations may occur in source pressure
WARM PRODUCT WATER	Common problem caused by infrequent use	Run water
WARM WATER APPEARS "MILKY"	Caused by air in the water lines	Run water until air is purged
UNIT LEAKING WATER	Problem with O-ring seals (on gland nuts and/or sensor probe on monitored units)	Ensure the O-ring is in place, check for cuts or abrasions, clean O-ring, moisten with water and re-install, replace if necessary
	Condensation on reactor chamber caused by excessive humidity	Check location of UV system and control humidity
	Inadequate inlet/outlet port connections	Check thread connections, re-seal with Teflon tape and re-tighten

SYSTEM STATUS			REMARKS
LAMP STATUS (GREEN LED)	*AUDIBLE ALARM*	*UV LAMP*	
ON	**OFF**	**ON**	Correct operating conditions, unit is functioning properly
OFF	**ON**	**OFF**	The UV lamp is spent, requires replacement lamp. UV lamp not connected to power source. Check connection and reconnect lamp. Ballast has switched off. To reset ballast remove power to unit by disconnecting power cord from electrical plug for a minimum of 30 seconds then reapply power. LED indicator burnt out or wire lead broken. Replace LED assembly.
OFF	**OFF**	**ON**	LED indicator burnt out or wire lead broken. Replace LED assembly.

WATER CHEMISTRY

Water quality is extremely important for the optimum performance of your UV system. The following levels are recommended for installation:

- Iron:<0.3 ppm (0.3 mg/L)
- Hardness *:< 7 ppm (120 mg/L)
- Turbidity: < 1 NTU
- Manganese: < 0.05 ppm (0.05 mg/L)
- Tannins: < 0.1 ppm (0.1 mg/L)
- UV Transmittance: > 75%
  (Call factory for recommendations on applications where UVT < 75%)

** Where total hardness is more than 7 gpg, the UV unit should operate efficiently provided the quartz sleeve is cleaned periodically. If total hardness is over 7 gpg, the water should be softened.*

If your water chemistry contains levels in excess of those mentioned above, proper pre-treatment is recommended to correct these water problems prior to the installation of your UV system. These water quality parameters can be tested by your local dealer, or by most private analytical laboratories. Proper pre-treatment is essential for the UV system to operate as intended.

WARRANTY

AQUASURE™ warrants the Quantum Ultraviolet (UV) system's hardware and electrical systems to be free from defects in material and workmanship for a period of **one** (1) year from the date of purchase by the original owner on a pro-rated basis. With an additional **two** (2) years of coverage for products registered with Aquasure™ within 60 days of the original purchase date.

AQUASURE™ warrants the ultraviolet lamps and sensor probes to be free from defects in material and workmanship for a period of **one** (1) year and the reactor chamber for a period of **one** (1) year. The warrantor will at its option and expense, either repair or replace such units subject to the following conditions, exceptions, and exclusions.

Conditions, Exceptions, And Exclusions

The foregoing limited Warranty is subject to the following terms and conditions:

1. Water passed through the unit must fall within the following parameters:
   a) Iron: <0.3 ppm (0.3 mg/L)
   b) Hardness*:<7 ppm (120 mg/L)
   c) Turbidity: < 1 NTU
   d) Manganese: < 0.05 ppm (0.05 mg/L)
   e) Tannins: < 0.1 ppm (0.1 mg/L)
   f) UV Transmittance: > 75% (call factory for recommendations on applications where UVT < 75%)

   ** Where total hardness is more than 7 gpg, the water should be softened.*

   Warranty will be void, if the proper steps are not taken to ensure that these impurities are not present.
2. This limited Warranty shall not apply to any unit which has been repaired or altered by anyone other than the Warrantor or by a person authorized by the Warrantor, nor to any units which have been subject to misuse, neglect, or accident. Do not remove any of the products labels. Warranty will be deemed null and void if any of the products original labels are removed.
3. This limited Warranty runs exclusively to the original Consumer and with respect to the original installation only.
4. **WARRANTOR SHALL NOT BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES.**
5. This limited Warranty excludes the cost of labor in removing any defective unit or installing any replacement unit. This limited Warranty applies only to a unit when returned to the Warrantor at the owner's expense and in accordance with shipping instructions received from the Warrantor.

GET AN ADDITIONAL TWO YEARS OF COVERAGE FOR FREE!

Simply scan the QR code below or go to **aquasureusa.com/warranty** to register your new Aquasure Quantum UV system.

Scan to register your system

NOTES

AquasureUSA.com | 800.661.0680 | support@aquasureusa.com