



# **Operation & Installation** Instructions

## AQ-UV-C Series

Welcome to the Aquasana experience. You are about to enjoy clean, clear water and the peace of mind that comes from knowing award winning filter technology is working for you.

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AQUASANA - Standard Systems	
System	Rated Flow
AQ-UV-10C	10 gpm
AQ-UV-15C	15 gpm

Congratulations on purchasing this ultraviolet disinfection system. By purchasing a Aquasana UV Disinfection system you are receiving not only a high quality product but also peace of mind. Protecting your water supply with a UV system gives you reassurance that your family will have access to safe drinking water throughout your entire home with no chance of microbiological contamination. This is a chemical free process which is simple in its concept and effective in its abilities to inactivate microorganisms present in the water supply.

## Safety Considerations

Although your UV system has been manufactured to the highest safety standards, care must be followed when operating and/or maintaining your system.

1. Before servicing the system, disconnect the power cord from the electrical outlet.
2. **Energy given off by the UV lamp is harmful to your eyes and skin.** NEVER look directly at an illuminated UV lamp without adequate eye protection and always protect your skin from direct exposure to the UV light.
3. For complete disinfection, use ONLY genuine replacement parts.
4. Do not operate the unit if it has any damaged or missing components.
5. To avoid possible electrical shock, use the unit only with a properly grounded electrical outlet.
6. Never perform any maintenance to the system unless you are comfortable in doing so. Contact the manufacturer for service instructions if required.
7. Do not use this system for any purpose other than what it was intended for. Misuse of this system could potentially cause harm to the user or others.
8. Your system is intended to be installed indoors and away from leaking plumbing. DO NOT plug the unit in if the system or any of the components are wet.
9. The disinfection system should be directly installed into a ground fault circuit interrupter (GFCI). If the use of an extension cord is required, the cord must be manufactured with a minimum of 16 gauge wire and care should be taken to avoid potential tripping hazards.
10. We recommend that a licensed plumber or certified technician install the system. The warranty does not cover systems that were not installed in compliance with the instructions by a licensed plumber or that have been abused or operated incorrectly (see page 15).

## Before You Begin

The following will be needed for installing the UV system:

### Tools

- Pipe cutter, hacksaw or other specialized tools required to cut into your existing plumbing (e.g. if you have PEX piping)
- Wrench (for tightening fittings)

### Other Materials

- Inlet/outlet connections
- Plumber's tape

## Water Quality Parameters

UV disinfection is extremely effective against microorganisms but only if the UV light can pass through the water it needs to treat. This means that the quality of your water is very important in order to ensure complete disinfection.

Treated water should be tested for at the least the parameters listed below. If the water exceeds the listed parameters Aquasana strongly recommends that appropriate pretreatment equipment be installed (equipment required will depend on parameters being treated):

**Hardness:** <7 gpg (120 mg/L) – if hardness level is 7 gpg or slightly below the quartz sleeve must be cleaned periodically in order to ensure efficient UV penetration; if above the water must be softened.

**Iron (Fe):** <0.3 ppm (0.3 mg/L)

**Manganese (Mn):** <0.05 ppm (0.05 mg/L)

**Turbidity:** < 1 NTU

**Tannins (organics):** <0.1 ppm (0.1 mg/L)

**UVT (transmittance):** >85%

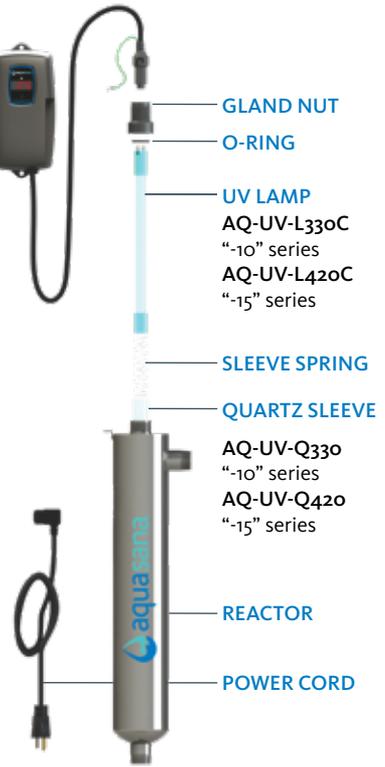
You can have your water tested at a private analytical laboratory or by your local dealer. It is always recommended to install pre-filtration of at least 5 microns prior to an Aquasana UV disinfection system.

## Assembly

Unpack the system and ensure all the components are included with the system. Your system is shipped with the following components:

**CONTROLLER**  
AQ-UV-C SYSTEMS  
AQ-UV-CC  
(fits all units)

## Aquasana-HO (High output lamp systems)



## Location

For Point of Entry (POE) systems, choose a location where the main cold water line is accessible. Install the system after other water treatment equipment (softener or filters), but before any branches (See Figure 1). For Point of Use (POU) systems, install the unit just before the faucet. Aquasana recommends that a 5 micron filter be installed **before** the UV system for a final polishing step before the water is disinfected.

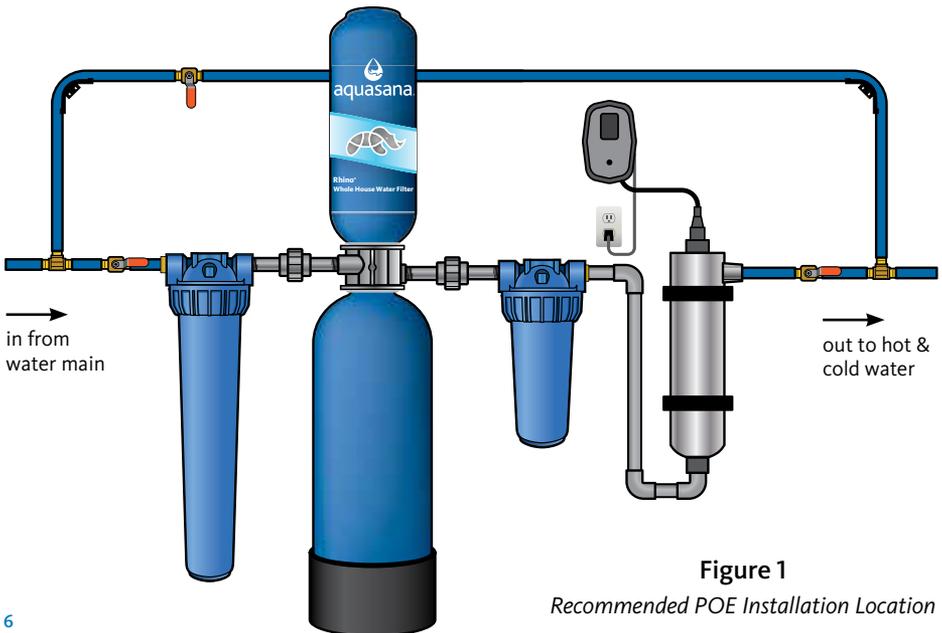


Figure 1

Recommended POE Installation Location

To facilitate lamp removal, ensure there is enough space at the lamp connector end to safely remove the UV lamp and/or quartz sleeve (See Figure 2). The controller will require a ground fault circuit interrupter (GFCI or GFI) outlet and should be mounted beside or above the reactor. **PLEASE NOTE:** All Aquasana UV disinfection systems are intended for indoor use only as they should not be exposed to the elements.

## Installation

**Step 1:** The reactor can be installed either horizontally or vertically using the clamps provided. Vertical installation is the preferred method with the inlet at the bottom (lamp connection at the top) as it allows any air that may be in the lines to be easily purged from the system.

**Step 2:** The use of a by-pass assembly is recommended as it will allow you to isolate the UV reactor. This will allow for easier access in case maintenance is required (See Figure 3).

**Step 3:** Use the supplied fasteners to mount the UV reactor to wood or drywall. If mounting to an alternate material you will need to purchase the proper corresponding fasteners.

**Step 4:** For water supplies where the maximum flow rate is unknown, a flow restrictor is recommended so that the rated flow of your particular Aquasana system is not exceeded. The flow restrictor should be installed on the outlet port of the reactor.

**Step 5:** It is recommended to have a licensed plumber connect the UV reactor to the water supply and may be a requirement depending on where you are located.



Figure 2

Lamp Removal Spacing

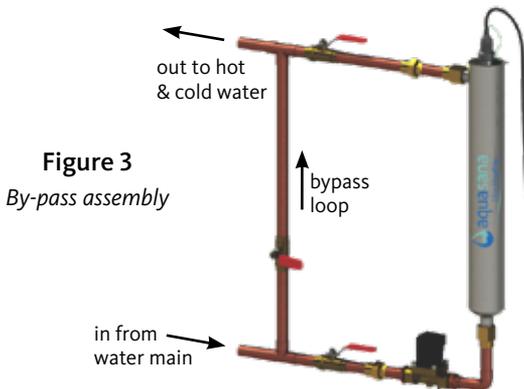


Figure 3

By-pass assembly

**Note:** Installation of your Aquasana disinfection systems shall comply with applicable provincial/ state & local regulations.

**Step 6:** Once the system has been plumbed in, gently remove the quartz sleeve from its packaging being careful not to touch the length with your hands. The use of cotton gloves is recommended for this procedure as oils from the hands can leave residue on the sleeve and lamp which can ultimately block the UV light from getting to the water.



**Figure 4**  
*Quartz Sleeve  
Installation*

Carefully slide the sleeve into the reactor until you can feel it hit the opposite end of the reactor. Align the sleeve so its centered along the length of the reactor, then gently push it in to lock it into the internal centering springs in the far side of the reactor. **CAUTION:** Pushing too hard when the sleeve is not aligned can damage the centering springs. Slide the o-ring onto the sleeve until it is butted up against the reactor. (See figure 4.)

**Step 7:** Hand tighten the provided gland nut over the quartz sleeve onto the threaded end of the reactor. It has a positive stop to prevent over-tightening. A firm force may be required to fully tighten the gland nut, but **DO NOT USE TOOLS** for this step. Insert the provided stainless steel compression spring into the quartz sleeve. The spring works with the lamp and lamp connector to create the proper lamp alignment. **PLEASE NOTE:** DO NOT install a UV lamp inside the quartz sleeve without the sleeve spring in place.

**Step 8:** The reactor is now ready for water flow. When all plumbing connections have been completed, slowly turn on the water supply and check for leaks. Make sure the by-pass valves are functioning properly and that the water is flowing through the reactor. The most common leak is from the o-ring not making a proper seal on the reactor. For new installations, review steps 6 and 7. For older systems drain the reactor, remove the o-ring, dry it and reapply silicon grease. Reinstall the o-ring ensuring that it is properly sealed against the reactor and check again for leaks.

**Step 9:** Mount the controller to the wall so it is above or beside the reactor to ensure that no moisture can deposit on any of the connections (see Figure 1). Always mount the controller vertically. For monitored systems, insert the sensor connector into the IEP port located on the right side of the controller. For the sensor to be recognized by the controller, the controller power must be plugged in last. **Do not plug the controller power cord in before the last step.**

**Step 10:** Always hold UV lamps by their ceramic ends, not by the lamp quartz. Remove the lamp from its packaging. Again, the use of cotton gloves is recommended. Be careful to not touch the key's exposed contacts. Insert the UV lamp into the reactor, being careful not to drop it.



**Figure 5**

*High Output UV Lamp Connection*

**Step 11:** Plug the lamp connector into the lamp. Note the keying for proper alignment (see Figure 5). Insert the lamp connector into the gland nut and turn the connector approximately  $\frac{1}{4}$  turn to lock the connector to the gland nut as in Figure 6.

**Figure 6**  
*Lamp Connector*



**Figure 7**

*Ground Screw Connection*

**Step 12:** Tighten the captive ground screw to the ground lug on the UV reactor to ensure proper grounding as shown in Figure 7.

**Step 13:** Your system is now ready to be plugged into the appropriate GFCI protected outlet. Refer to the following *System Disinfection* section before any water is allowed to flow through the system.

## System Disinfection

With a new installation, or any time the UV system is shut down for service, without power, or is inoperative for any other reason, the lines in the home or facility could be contaminated. Use the following steps to fully disinfect the lines throughout the entire home or facility.

**Step 1:** Check for and remove any “dead ends” in the lines throughout the home as these can harbor bacteria. Plug in the UV system and wait until it is ready for operation.

**Step 2:** Remove the filter cartridge from the last sump and fill it with 1-2 cups of household bleach (most are 5.25% chlorine). Replace the sump and slowly turn on the water supply.

**Step 3:** At a water outlet, run the water until bleach can be smelled. Repeat this for all faucets, toilets, shower heads, refrigerators, outdoor taps, the washing machine, dishwasher, etc. at the home or facility. Once finished, wait a minimum of 30 minutes before continuing.

**Step 4:** Reinstall the filter cartridge into the sump and flush the chlorine solution by opening all faucets until chlorine can no longer be detected. Your home has now been completely disinfected with your Aquasana UV system ready to inactivate any microorganisms that enter the home.

## Cleaning the Quartz Sleeve

Depending on the water quality, the quartz sleeve may require periodic cleaning. At a minimum, the quartz sleeve should be cleaned on an annual basis. The following steps outline a basic cleaning procedure.

**Step 1:** If a by-pass assembly is installed, shut the inlet valve off to prevent water flow through the system. Otherwise, turn off main water inlet valve (and/or turn off the water pump).

**Step 2:** Disconnect power cord of UV system from electrical outlet.

**Step 3:** Release water pressure by opening a downstream faucet and then close the outlet shut-off valve (if one is installed). If there is no outlet shut-off valve, expect water to drain from the system as the head pressure in the system will cause the water to flow back down.

**Step 4:** Remove the captive ground screw from the ground lug on the UV reactor.

**Step 5:** Remove the lamp connector from the reactor (gland nut) by pushing the lamp connector in and turning it ¼ turn counter-clockwise. Disconnect the lamp connector from the lamp. CAUTION: the lamp may be hot!

**Step 6:** Being careful to touch only the ceramic ends, carefully remove the lamp out of the reactor.

**Step 7:** Unscrew the gland nut from the reactor exposing the end of the quartz sleeve.

**Step 8:** Remove the quartz sleeve and o-ring by **gently twisting and pulling** the sleeve.

**Step 9:** Using a soft, lint-free cloth or towel wipe the sleeve down using a commercial scale cleaner (i.e. CLR® or LIME-A-WAY®). This removes scaling or iron deposits that may be on the outside of the quartz sleeve. Be careful not to get any moisture or liquids inside of the sleeve.

**Step 10:** Dry the sleeve with separate cloth.

**Step 11:** Replace the o-ring and slide the sleeve back into the reactor following step 6 and 7 from the installation section of the manual.

## Operation

Aquasana systems come with a feature laden controller that incorporates both the lamp driver (ballast) and control features in one water-tight case. All systems feature a power factor corrected, constant current lamp driver with a universal power input.

Please Note: While the LED is red and the buzzer is sounding the water from the system should NOT be consumed. If any water does pass through the system during this period, please follow the disinfection procedure as outlined in this manual before the water is consumed. Even though the UV system has a visual and audible warning built into the controller, a green LED does not necessarily indicate that the water coming from this system is in fact potable (safe to drink). These systems do not measure the level of disinfection; they simply measure the “on-off” status of the lamp. Please have your water checked for microbiological contaminants on a regular basis.

## AQ-UV-C Controllers



**AQ-UV-C  
Series**

Simplistic in operation, these systems feature a tri-color LED that indicates system status and a 4-digit display to indicate lamp life remaining. Pressing the button will change the display to indicate total running time. When the UV lamp is on and within its operating age, the LED will be green. When the UV lamp is not on or the lamp life has expired, the LED will be illuminated red and an audible buzzer will be sounding. To remedy this condition, the UV lamp must be replaced with a new genuine Aquasana UV lamp.

## Lamp Countdown Sequence

The system counts down the number of days until a lamp change is required.

**AQ-UV**



At thirty days remaining, the LED will change to a yellow caution indicator. At seven days remaining, the system will additionally repeat an audible chirp. Past the zero day threshold, the LED changes to solid red with a continuous buzzer.

**AQ-UV**



At any point during this sequence, the audible chirp or alarm can be deferred for seven days by holding the controller button down for a period of five seconds. The number of deferrals used will be displayed as below. Once the deferral expires, the alarm will sound once again. The deferral can be repeated up to three times. PLEASE NOTE: At any point after lamp expiration, the water may be unsafe for consumption and should not be consumed without another form of disinfection.



## Lamp Replacement

After the lamp is expired, it must be replaced with the same part number as indicated by the label on the reactor. Replace the lamp by unplugging the power for the controller, then refer to *Installation*, starting with step 10 (page 8) for instructions on installing the new lamp. To reset the timer in the controller, firmly hold down the button on the controller for 10 seconds. The controller will read “rSt3”, “rSt2”, “rSt1” and then beep. The button can now be released, the lamp countdown timer has been reset.

## System Troubleshooting

**Hard Alarms:** The following give a constant audible alarm.

System Display	Problem	Resolution
	The system has detected a problem with the lamp.	Reset lamp protection circuit -unplug unit for 10 seconds. Replace the lamp with the part as indicated on the silver label on the reactor.
	Although the lamp is illuminated, due to its age the UV output is insufficient for proper disinfection.	Replace the lamp with the part as indicated on the silver label on the reactor.

**Warning:** After any hard alarm, the home or facility should be disinfected. Follow the steps under the “System Disinfection” heading.

**Boil Water Advisory:** If any failure occurs on a Aquasana UV system, the water must not be used for human consumption until the system is returned to a safe operational mode. If the water is used for human consumption during this period, the water must be boiled (minimum 20 minutes at a full boil) prior to consumption.

# Aquasana-HO High Output System Specifications

	EQUIPMENT SPECIFICATIONS	
	Residential Crossover systems (high output lamps)	
MODEL	AQ-UV-10C	AQ-UV-15C
Flow Rate 30MJ/CM <sup>2</sup> @ 95% UVT	10 GPM	15 GPM
	38 LPM	56.8 LPM
	2.3 M <sup>3</sup> /HR	3.4 M <sup>3</sup> /HR
Flow Rate 40MJ/CM <sup>2</sup> @ 95% UVT	7.0 GPM	12 GPM
	26 LPM	45.4 LPM
	1.6 M <sup>3</sup> /HR	2.7 M <sup>3</sup> /HR
Port Size	1"MNPT	1"MNPT
Electrical	90-265V/50-60HZ. 1.5A MAX.	
Plug Type	American: NEMA 5-15P - "I" SUFFIX (I.E. AQ-UV-10C)	
Lamp Power (Watts)	34	45
Power (Watts)	36	48
Replacement Lamp	AQ-UV-L330C	AQ-UV-L420C
Replacement Sleeve	AQ-UV-Q330	AQ-UV-Q420
Reactor Dimensions	8.9 X 41.8 CM (3.5 X 16.5")	8.9 X 50.8 CM (3.5 X 20.0")
Chamber Material	304L Stainless Steel, A249 Pressure Rated Tubing	
Controller Dimensions	21.7 X 10.8 X 10.2 CM (8.6 X 4.2 X 4")	
Operating Pressure	0.7-10.3 BAR (10-150 PSI)	
Operating Water Temperature	2-40° C (36-104° F)	
Lamp Change Reminder	YES	
Lamp Out Indicator	YES	
Shipping Weight	5.2 KG (11.5 LBS)	5.6 KG (12.9 LBS)

# AQUASANA AQ-UV-C SERIES LIMITED WARRANTY

## What is covered

This Warranty covers defects in materials or workmanship in manufacturing of your Aquasana UV Filtration System except as provided below. This warranty only applies to the original purchaser and is not transferable.

## For how long

**UV CHAMBER** Aquasana warrants the UV chamber (stainless-steel reactor) to be free from defects in material and workmanship for a period of ten (10) years from the date of purchase by a consumer ("Warranty Period").

**ELECTRONICS** Aquasana warrants the electrical (power supply) components to be free from defects in material and workmanship for a period of three (3) years from the date of purchase by a consumer ("Warranty Period").

**UV LAMPS & QUARTZ SLEEVES** Aquasana warrants lamps, sleeves and UV sensors to be free from defects in material and workmanship for a period of one (1) year from the date of purchase by a consumer ("Warranty Period").

## What is not covered

This warranty does not cover filter cartridges and any systems that were not installed in compliance with the instructions by a licensed plumber or that have been abused or operated incorrectly. It also does not cover the following:

- Incidental or consequential damages caused by a failure of the product.
- Clogging, as replacement of the pre-filter cartridge is the purchaser's responsibility.
- Damage from use of non-potable water supplies.
- Labor costs to install or replace the system or filters.
- Damage caused by fire, flood or acts of God.
- Damage caused by use with water outside the following Water Quality Parameters:
  - Hardness > 120 mg/L (7 gpg)
  - Iron > 0.3 mg/L (ppm)
  - Manganese > 0.05 mg/L (ppm)
  - Tannins > 0.1 mg/L (ppm)
  - Turbidity > 1 NTU
  - Transmittance (UVT) < 75%

- A product that has been modified in any manner, unless approved by Aquasana.
- A product where the serial number has been altered defaced or removed.
- Water damage is found inside ballast housing or controllers. This warranty is voided if the product is used with parts that are not genuine Aquasana parts. This includes replacement lamps, sleeves, electrical control modules and UV chambers. Failure to use genuine Aquasana parts may seriously compromise disinfection performance and affect warranty coverage.

## What Aquasana, Inc. will do

We will replace the defective part of the covered product, or if necessary, the product and send it to you with installation instructions for a licensed plumber.

## How to get service

To receive service under this Warranty, you must contact Aquasana, Inc. at 1-866-662-6885 or [warranty@aquasana.com](mailto:warranty@aquasana.com) within the Warranty Period to describe the problem to a customer service representative who will verify that the product is under warranty and determine whether a part or the system will be replaced and whether you must send back the defective part. You will be required to provide a proof of purchase and proof of a licensed plumber's installation.

## How state law applies

This warranty gives you specific rights and you may have other rights which vary from state to state

Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.

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## Warranty registration

Warranty registration is not required for coverage under the Aquasana Limited Warranty and is not necessary for factory direct purchases made from [www.aquasana.com](http://www.aquasana.com). If you purchased from a retailer or dealer, please complete the online warranty registration form at [www.aquasana.com/warranty](http://www.aquasana.com/warranty). Once registered online, we will have a record of your purchase and you will not be required to produce a proof of purchase for a warranty claim.

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