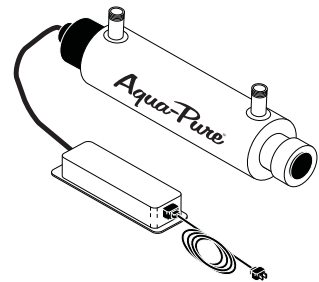
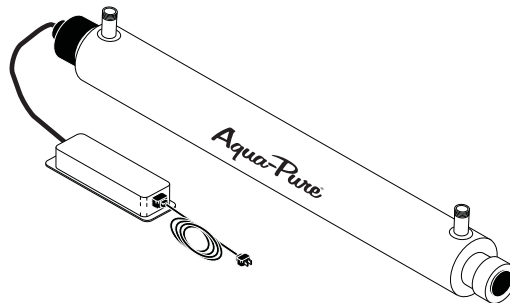
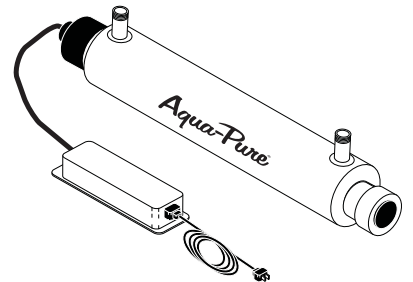
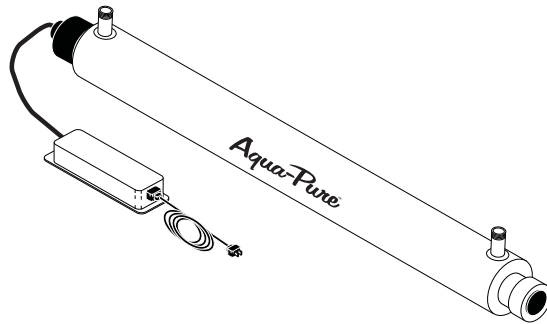




**Installation and Operating Instructions For**  
**APUV Series Ultraviolet Light Systems**  
**Models: APUV1**  
**APUV2**  
**APUV5**  
**APUV8**




Installer: Please leave this manual with homeowner.  
Homeowner: Please retain for operation and future maintenance instructions.



# SAFETY INFORMATION

Read, understand, and follow all safety information contained in these instructions prior to installation and use of the Aqua-Pure® APUV Series Ultraviolet Light Systems. Retain these instructions for future reference.

The Aqua-Pure APUV Series Ultraviolet Light Systems are intended for use in irradiating water with powerful ultraviolet light and have not been evaluated for other uses. These filters are typically installed at the point-of-use or point-of-entry, and must be installed as specified in these installation instructions.

EXPLANATION OF SIGNAL WORD CONSEQUENCES	
 <b>WARNING</b>	Indicates a potentially hazardous situation, which, if not avoided, could result in death or serious injury and/or property damage.
<b>CAUTION</b>	Indicates a potentially hazardous situation, which, if not avoided, may result in property damage.

⚠ <b>WARNING</b>
<b>To reduce the risk associated with choking:</b> <ul style="list-style-type: none"><li>• <b>Do not</b> allow children under 3 years of age to have access to small parts during the installation of this product.</li></ul>
<b>To reduce the risk associated with the ingestion of contaminants:</b> <ul style="list-style-type: none"><li>• <b>Do not</b> use with water that is microbiologically unsafe or of unknown quality without adequate disinfection before or after the system.</li></ul>
<b>To reduce the risk associated with hazardous voltage due to an installer drilling through existing electric wiring or water pipes in the area of installation:</b> <ul style="list-style-type: none"><li>• <b>Do not</b> install near electric wiring or piping which may be in path of a drilling tool when selecting the position to mount the filter bracket.</li></ul>

<b>CAUTION</b>
<b>To reduce the risk associated with property damage due to water leakage:</b> <ul style="list-style-type: none"><li>• <b>Read and follow</b> Use Instructions before installation and use of this system.</li><li>• Before starting installation, shut off main water supply and drain pipes.</li><li>• Installation and Use <b>MUST</b> comply with all state and local plumbing codes.</li><li>• <b>Protect from freezing</b>, remove cartridge when temperatures are expected to drop below 40° F (4.4° C);</li><li>• <b>Do not</b> install systems in areas where ambient temperatures may go above 110° F (43.3° C).</li><li>• <b>Do not install</b> on hot water supply lines. The maximum operating water temperature of this filter system is 100°F (37.8°C).</li><li>• <b>Do not install</b> if water pressure exceeds 125 psi (889 kPa). If your water pressure exceeds 80 psi (552 kPa) you must install a pressure limiting valve. Contact a plumbing professional if you are uncertain how to check your water pressure.</li><li>• <b>Do not</b> install where water hammer conditions may occur. If water hammer conditions exist, you must install a water hammer arrester. Contact a plumbing professional if you are uncertain how to check for this condition.</li><li>• Where a backflow prevention device is installed on a water system, a device for controlling pressure due to thermal expansion must be installed.</li><li>• <b>Do not</b> use a torch or other high temperature sources near filter system, cartridges, plastic fittings or plastic plumbing.</li><li>• On plastic fittings, never use pipe sealant or pipe dope. Use PTFE thread tape only, pipe dope properties may deteriorate plastic.</li><li>• Take care when using pliers or pipe wrenches to tighten plastic fittings, as damage may occur if overtightening occurs.</li><li>• <b>Do not</b> install in direct sunlight or outdoors.</li><li>• <b>Do not</b> install near water pipes which will be in path of a drilling tool when selecting the position to mount the bracket.</li><li>• Mount filter in such a position as to prevent it from being struck by other items used in the area of installation.</li><li>• Ensure that the location and fasteners will support the weight of the system when installed.</li><li>• Ensure all tubing and fittings are secure and free of leaks.</li></ul>

<b>IMPORTANT NOTES</b>
<ul style="list-style-type: none"><li>• Failure to follow instructions will void warranty.</li><li>• Some local codes may require the use of a licensed plumber or certified installer when disrupting a potable water line.</li></ul>

## WATER CHEMISTRY

Water quality is extremely important for the optimum performance of your ultraviolet light system.

### Only install the ultraviolet light system when:

- **Total Iron** - count is less than 0.3 ppm (0.3 mg/l)
- **Hydrogen Sulfide** - count is less than 0.05 ppm (0.05 mg/l)
- **Suspended Solids** - count is less than 10 ppm (10 mg/l)
- **Manganese** - count is less than 0.05 ppm (0.05 mg/l)
- **Hardness** - count is less than 7 gpg (where total hardness is less than 7 gpg, the ultraviolet light system should operate efficiently provided the lamp/quartz sleeve is cleaned periodically. If total hardness is over 7 gpg, the water should be softened.

This sterilizer is specifically designed to supply water free of virtually all bacteria, viruses, algae and fungi by irradiating the water with powerful ultraviolet light. The result is bacteriologically safe water without the use of potentially harmful chemicals.....Natures Way, with no residual disinfecting agent in your water.

## INSTALLING YOUR ULTRAVIOLET LIGHT SYSTEM

- **CAUTION:** electronic ballast must be connected to a grounded receptacle and the lamp connector ground wire connected to the stainless steel reactor chamber.
- The Ultraviolet Light System is designed to be mounted horizontally or vertically at the point-of-use or point-of-entry depending on the specific flow rate of the unit. The ideal installation is vertical with the lamp connector on top.
- The ballast should be mounted either above or beside the reactor chamber. This will prevent moisture caused by condensation from entering the ballast enclosure, causing a potential for ballast failure.
- The complete water system, including any pressure or hot water tanks, must be sterilized before start up by flushing with chlorine (household bleach) to destroy and residual contamination.
- For safety purposes, the Ultraviolet Light System should be connected to a ground fault interrupt circuit.
- The Ultraviolet Light System is intended for indoor use only, do not install Ultraviolet Light System where it may be exposed to the weather.
- Install the Ultraviolet Light System on cold water line only.
- If treating the entire house, install the Ultraviolet Light System before any branch lines.
- A 5 micron sediment filter must precede the Ultraviolet Light System. Ideally, the Ultraviolet Light System should be the last treatment the water receives before it reaches the faucet.

**1)** For shipping purposes, the UV lamp is packed in a separate cardboard tube. Carefully remove the UV lamp from the shipping tube being careful not to touch the "glass" portion with your fingers. Insert the UV lamp into the quartz sleeve and making sure the connection end is inserted last. Mount the Ultraviolet Light System to the wall with supplied clamp (1 clamp on all 1 gpm units and 2 clamps on all 2, 5 and 8 gpm units). If required, a double-end clamp can be purchased from your dealer to affix to an RO membrane.

**2)** If the Ultraviolet Light System is to be hard plumbed, make sure you leave enough clearance in front of the lamp connector to facilitate lamp service (a length equal to the length of the unit should suffice).

**3)** Various connection methods can be used to connect the water source to the Ultraviolet Light System, however union type connectors are recommended. The use of a flow restrictor device is strongly recommended when installing your Ultraviolet Light System in order that the manufacturers recommended flow rate not be exceeded. These flow restrictions are available from your dealer. In addition, the use of a by-pass assembly is recommended for emergency use of untreated water when your Ultraviolet Light System is being serviced. Note: When the UV unit is returned to service after being on by-pass the complete water system must be sterilized once again with chlorine (household bleach) to destroy and contamination that may have entered the distribution system while on by-pass. **Do Not Solder Connections While Attached To The Ultraviolet Light System As It Could Damage The O-ring Seals.**

**4)** Prior to connecting the power source, check all connections to ensure that they are indeed secure, turn on water supply and check for any leaks. If satisfied that there are no leaks, proceed with the following steps.

**5)** To properly ground the stainless steel generating chamber, attach the green wire coming from the power source to the grounding lug on the UV chamber. Remove the green cap nut and slide the eyelet connector onto the screw. Fasten the cap nut to the screw with a 5/16" wrench.

**6)** The power source provided with your Ultraviolet Light System must be located within (5) feet of an electrical outlet. Do Not Use An Outlet That Can Be Switched Off (IE. A Waste Disposal Outlet). Attach the lamp connector to the UV lamp and press into the aluminum gland nut. Plug the ballast into the outlet and ensure the "POWER-ON" LED is illuminated. The audible will enter a self test mode when power is first applied to verify ballast operation.

**Note:** If the ballast enters alarm condition, power must be removed for 30 seconds to allow ballast to reset.

**Note:** As the system requires time to reach its full operating capacity, please allow the Ultraviolet Light System to operate 3-5 minutes prior to using the water from the unit. In addition, to clear any air from the system, open the faucet and allow water to run through the Ultraviolet Light System for 2-3 minutes (when using an RO application, run the water for 30-45 seconds).

## OPERATING AND MAINTENANCE INSTRUCTIONS

**NOTE:** Prior to performing any work on the Ultraviolet Light System, always disconnect the power supply first

- 1) Regularly inspect your Ultraviolet Light System to ensure that the UV lamp is operating.
- 2) Replace the UV lamp with a new lamp after one year of continuous use to ensure a high bacteria and virus kill rate. It should be noted that the UV lamp should be **ON** continuously as repeatedly turning the lamp on and off will severely shorten the lamp life and allow bacteria to pass through without being affected by the UV.
- 3) To replace the UV lamp, first disconnect power. Disconnect the lamp connector by carefully separating it from the gland nut (use the aid of a slot screwdriver if required). Disconnect lamp connector from lamp and carefully remove the UV lamp. Replace the new lamp being careful not to touch the new UV lamp "glass" with your fingers as oils impair UV transmission. If contact does occur, clean with alcohol and reconnect carefully replace lamp into stainless steel cell. Press lamp connector into aluminum gland nut. Plug power source into outlet. Verify "POWER-ON LED" is illuminated and ballast audible start-up sequence operates.
- 4) 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, first remove the UV lamp as outlined in step 3 and follow the following steps:
  - A) Shut off water supply and drain all lines.
  - B) Remove the lower connection on the Ultraviolet Light System and drain the UV chamber (use a small bucket under the unit to prevent a spill).
  - C) Remove aluminum gland unit from chamber. (Do not allow quartz sleeve to fall).
  - D) 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.
  - E) Clean the quartz sleeve with a cloth soaked in vinegar or some other mild acid and then rinse.
  - F) Re-assemble the quartz sleeve in the UV chamber allowing the sleeve to protrude an equal distance from both ends of the UV chamber.
  - G) Wet the o-rings and slide onto each end of the quartz sleeve and re-assemble the gland nuts (hand tight is sufficient).
  - H) Re-tighten all connections, turn on water and check for leaks.
  - I) Re-install the UV lamp and lamp connector as per prior instructions.
  - J) Plug in ballast and verify the "POWER-ON LED" is illuminated and ballast power-up sequence operates.

**NOTE:** If the system is put on a temporary by-pass or if it becomes contaminated after the Ultraviolet Light System, it will be necessary to shock the system with household bleach for a full 20 minutes before resuming the use of the water.

## **PARTS BREAKDOWN**

### **Lamps**

5605831 for APUV1 Ultraviolet Light System  
5605833 for APUV2 Ultraviolet Light System  
5605835 for APUV5 Ultraviolet Light System  
5605837 for APUV8 Ultraviolet Light System

### **Quartz Sleeves**

5605832 for APUV1 Ultraviolet Light System  
5605834 for APUV2 Ultraviolet Light System  
5605836 for APUV5 Ultraviolet Light System  
5605838 for APUV8 Ultraviolet Light System

### **Ballast**

5605859 for APUV1 Ultraviolet Light System  
5605859 for APUV2 Ultraviolet Light System  
5605859 for APUV5 Ultraviolet Light System  
5605859 for APUV8 Ultraviolet Light System

## SPECIFICATIONS

Model Type		APUV1	APUV2	APUV5	APUV8
Flow Rate		1 gpm (3.8 lpm) (0.24 m <sup>3</sup> /hr)	2 gpm (7.5 lpm) (0.45 m <sup>3</sup> /hr)	5 gpm (18.9 lpm) (1.14m <sup>3</sup> /hr)	8 gpm (30.3 lpm) (1.80 m <sup>3</sup> /hr)
Dimensions	Length	15" (38.1 gm)	18.5" (47 cm)	22" (56 cm)	35.5" (90 cm)
	Diameter	2.5" (6.4 cm)	2.5" (6.4 cm)	2.5" (6.4 cm)	2.5" (6.4 cm)
Shipping Weight		5 lbs (2.3 kg)	8 lbs (3.6 kg)	12 lbs (5.4 kg)	18 lbs (8.2 kg)
Electrical	Volts	100 - 130 V (50 - 60 Hz <sup>1</sup> )	100 - 130 V (50 - 60 Hz <sup>1</sup> )	100 - 130 V (50 - 60 Hz <sup>1</sup> )	100 - 130 V (50 - 60 Hz <sup>1</sup> )
	Power Consumption	16	19	26	39
	Lamp Watts	14	17	24	36
Maximum Operating Pressure		125 psi (862 kPa)	125 psi (862 kPa)	125 psi (862 kPa)	125 psi (862 kPa)
Ambient Temp. Range		36 100°F (2 - 37.8°C)	36 100°F (2 - 37.8°C)	36 100°F (2 - 37.8°C)	36 100°F (2 - 37.8°C)
Inlet/Outlet Port Size		1/4" MNPT	1/2" MNPT	3/4" MNPT	3/4" MNPT
Visual "POWER-ON"		Yes	Yes	Yes	Yes
Audible Lamp Failure		Yes	Yes	Yes	Yes
Chamber Material		304 Stainless Steel	304 Stainless Steel	304 Stainless Steel	304 Stainless Steel

## MANUFACTURER'S WARRANTY

Manufacturer warrants the ultraviolet water Ultraviolet Light System's hardware and electrical systems to be free from defects in material and workmanship for a period of five (5) years from the date of purchase by the original owner (consumer) on a pro-rated basis. Manufacturer warrants the ultraviolet lamps and to be free from defects in material and workmanship for a period of one (1) year and the chamber for a period of seven (7) years. The warrantor will at its option and expense, either repair or replace such units subject to the following conditions, exceptions, and exclusions. No other warranties with respect to the units other than those expressly included in this one year warranty, have been made by the Warrantor.

## WARRANTY CONDITIONS, EXCEPTIONS AND EXCLUSIONS

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

- 1) Water passed through the unit must not contain:
  - a) Sulfur
  - b) Filtratable Solids
  - c) Greater than 0.3 ppm Iron
  - d) Excessive Hardness\*

*\* Where total hardness is less than 7.0 gpg, the UV unit should operate efficiently provided the quartz sleeve is cleaned periodically. If total hardness is over 7.0 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.
- 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 the defective unit or installing any replacement unit. This limited Warranty applies only to a unit when returned to the Warrantor at the owners expense and in accordance with shipping instructions received from the Warrantor.

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