HQUA

Instruction Manual for

UV Water Sterilizer

Contents

Section 1 Safety Information……2-5

1.1 Warning labels

1.2 Safety precautions

Section 2 General Information….5-12

2.1 Package list & description

2.2 Water quality request

2.3 Specifications

2.4 Pipe system Layout

2.5 Installation

Section 3 Maintenance……13-15

3.1 Replace the UV lamp

3.2 Clean & replace the quartz sleeve
Section 4 Troubleshooting……16
Section 5 After-Sales Service…...16
Commitment & Appendix 1……17-18
Leak Problem Solution……..19

Version No.20180101 By James

HQUA Technical Support Team At TX,US

Section 1 Safety Information

Before starting the installation job, it's very important to read the entire instructions below. Make sure that you understand these in order to avoid potential hazards. Failure to do so may result in serious personal injury or damage to the equipment.

1.1 Warning Labels

To avoid potential hazards, read the labels and tags below carefully. They will also occur in the installation part of the manual.

	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 a potential UV hazard. Proper protection must be worn.
	The UV lamp contains mercury. If the lamp breaks, avoid inhalation or ingestion of the debris and avoid exposure to eyes and skin.		This symbol indicates the marked item could be hot and should not be touched without care.

	This is a safety alert symbol. Obey all safety messages with this symbol to avoid potential injury. When operating the equipment, refer to the Operational and Maintenance manual for additional safety information.		This symbol indicates safety glasses is required for protection against injury of UV exposure.
	This symbol indicates the existence of a risk of electrical shock and/or electrocution.		This symbol indicates that gloves must be worn.
	This symbol indicates the system is under pressure.		This symbol indicates that the transport items are fragile and should be handled with care.

1.2 Safety precautions

Electrical Safety
Negligence to these instructions may 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 explicitly addressed by the provided maintenance and troubleshooting sections, do not attempt repairs yourself. Find a professional plumber or contact us for help. • **Grounding Plug**: This product must be grounded to reduce the risk of electrical shock. The system is equipped with a grounding plug. The plug must be plugged into an appropriate outlet that is properly installed and grounded in accordance with all local codes and ordinances. Do not use any type of adapter with this system. • DO NOT operate the UV water sterilizer with a damaged cord or plug. • DO NOT install this UV water sterilizer where it is exposed outdoors or under temperatures below freezing point. • DO NOT store this disinfection system where it is exposed to the weather or below freezing point unless all water has been drained and the water supply has been shut down.

Potential Hazards to Physical Body

• **Warning of Hot Water Output**: The water in the chamber of this equipment can be very hot (Approx. 140 °F) during an extended periods of no water flowing. It is recommended to open the faucet till the hot water has been purged from your chamber. Keep your body away from the faucet at this time.

To eliminate such condition, a temperature management water tank shall be installed at the outlet of your UV system.

• **Warning of Ultraviolet Exposure**: This system contains an UV Lamp. Do not light up the UV Lamp before 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 a small amount, cause harm to the eyes and skin. It's dangerous to expose yourself directly to a lighted UV Lamp.

Other Cautions

• **Caution of Short Circuit**: Carefully examine the disinfection system after installation. It should not be plugged with water on parts that should be dry such as, the ballast or lamp connector.

• **Caution of Material Degradation**: Due to thermal expansion concerns and potential material degradation from UV exposure, it is recommended to use metal fittings and at least 10" copper pipe on the outlet of your UV chamber.

• **Hg Exposure**: The UV lamp contains mercury. If the lamp breaks, 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 disperse the spilled mercury. Obey local regulations and guidelines for the removal and disposal of mercury waste.

• **Operation Caution**: The UV system must not be used or played by children.

Persons with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, are also not allowed to handle the UV system unless given proper supervision or instruction.

• **Maintenance**: The UV lamp inside the disinfection system has a rated effective life of approximately 9000 hours. To ensure continuous protection, replace the UV lamp annually.

• This system is intended to be permanently connected to water lines.
• This system is not intended to be used in or above water or outdoors or in swimming pools.
• Extension Cords: If an extension cord is necessary, use only 3-wire extension cords that have 3-prong grounding plugs and 3-pole cord connectors compatible with the plug of the system.

• Read and understand the Manual before performing any maintenance on this equipment.

Section 2 General Information

2.1 Accessories list & description

Check the package according the list below. Make sure you get everything ready before installing. If something is lost or damaged, contact the manufacturer and seller or its service agent to get more help.

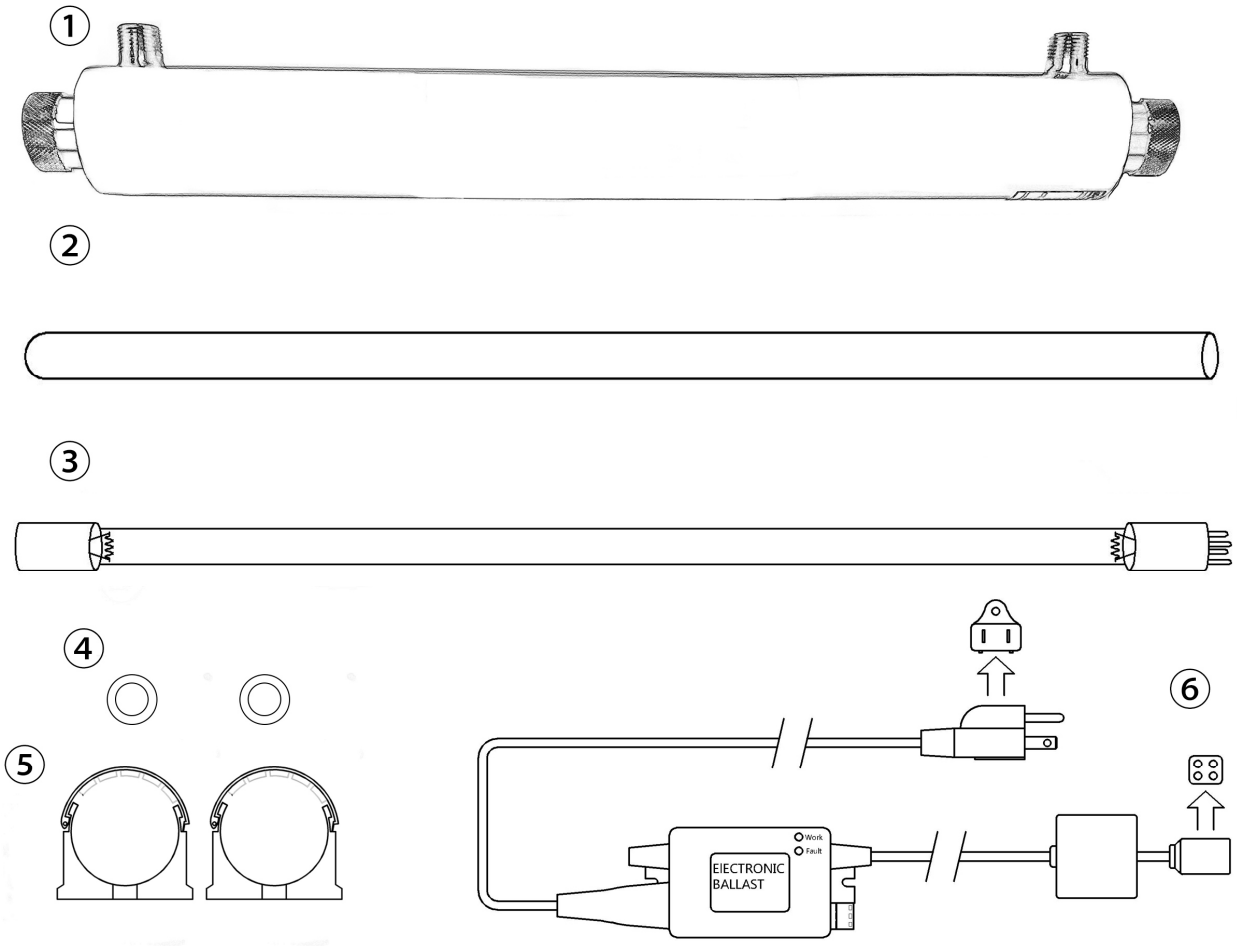


Figure 1 Accessories List

1. Stainless Steel Chamber (304, food grade).

   12 GPM Model: 37.2*2.5(945*64mm) inch Cylinder with 3/4” MNPT in/outlet.

   6 GPM Model: 22.8*2.5(580*64mm) inch Cylinder with 1/2” MNPT in/outlet.

2. Quartz Sleeve to protect the UV lamp and guarantee high transmittance.

   12 GPM Model: 37*0.9(940*23mm) inch with one end.

   6 GPM Model: 22.8*0.9(580*23mm) inch with one end.

3. UV lamps with 4-pin one end.

   12 GPM Model: 36.5*0.6 T5 (925*15mm) inch.

   6 GPM Model: 22.5*0.6 T5 (565*15mm) inch.

4. Several waterproof O-rings suitable for Quartz Sleeve.
5. Plastic brackets for holding the unit.
6. Electronic ballast-power supply with standard U.S. 3-pin plug.

12 GPM Model: 55W; 6 GPM Model: 25W.

HQUA UV Lamp Life 365 Days Countdown Timer is optional to upgrading your unit.

Refer to Appendix 1.

Notice: The amount of UV bulbs, Quartz sleeves & electronic ballasts depends on what you buy online. But the manual is generic for models of 6GPM, 12GPM.

2.2 Requirement on water quality

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

Water quality and minerals	Level
Iron	< 0.3 ppm (0.3 mg/L)
Hardness	< 7 gpg (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%

Notes:

1.Where total hardness is less than 7 gpg, the UV unit should be operated efficiently provided the quartz sleeve is cleaned periodically. If total hardness exceeds 7 gpg, the water should be softened.

2.If your water chemistry contains levels in excess of those mentioned above, proper pre-treatment is recommended prior to the installation of your UV disinfection 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 disinfection system to be used as intended.

2.3 Specifications

Operating Parameters	All models
Maximum operating pressure	125 PSI(862kPa)
Minimum operating pressure	4 PSI(27.5kPa)
Maximum ambient air temperature	122° F(50° C)
Minimum ambient air temperature	32° F (0° C)
Installation	Horizontal (Vertical type needs extra support to ensure safety.)

2.4 Layout of pipe system

We suggest that you build your UV water purification system as shown in the figure below. This design takes testing, maintenance, and water treatment sequences into account. Please take it as a reference:

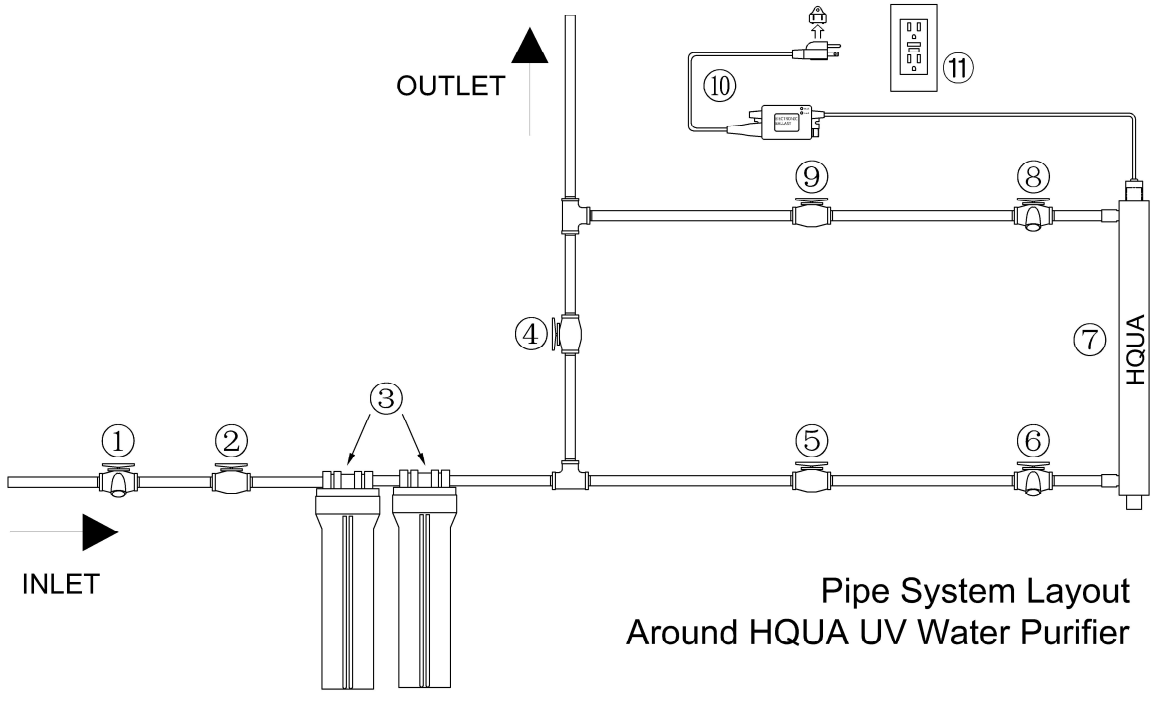


Figure 2 Layout of Pipe System

Item	Description	Function
1	Sample Valve	Allow for sampling of raw water.
2	Main Water Shut-off Valve	Allow for maintenance of pre-treatment equipment.
3	Pre-treatment	Refer to the requirement above.
4	Bypass Shut-off Valve	Bypass line and valve are optional, intended to provide emergency water supply in case the UV system is unavailable.
5	UV System Shut-off Valve	Allow for maintenance of UV system.
6	Sample Valve	Allow for sampling of water entering UV chamber; necessary to confirm whether water treated has adequate quality.
7	UV chamber	Provide disinfection of the water. Horizontal chambers installation required . Vertical installation requires further support than the original brackets.
8	Sample Valve	Allow for sampling of water immediately after UV treatment; necessary to confirm the proper operation of UV system.
9	UV System Shut-off Valve	Required to allow for maintenance of the UV system.
10	Electronic Ballast	Power supply of the UV lamp. The indicator identifies the working situation of the unit. You could also upgrade it with the “HQUA UV Lamp Life 365 Days Countdown Timer”. Refer to Appendix 1.
11	Power Source	Provide power to the controller. For safety reasons the outlet must be protected by a Ground Fault Circuit Interrupter (GFCI).

2.5 Installation

Follow the installation steps one by one and make sure you understand each step before moving on. **Contact the manufacturer and seller or its service agent if you misunderstand the steps in this section.**

Prerequisites:

• Measure your water pipe system and make sure you have enough space for this UV unit. Mark the mounting position and drill holes on a flat wall or board. Screw on the plastic brackets for later use. Make sure of an adequate clearance around the chamber to allow for removal of the lamp and quartz sleeve.

• Make sure you have turned off the main water supply. Release water pressure and drain it from your pipe system.

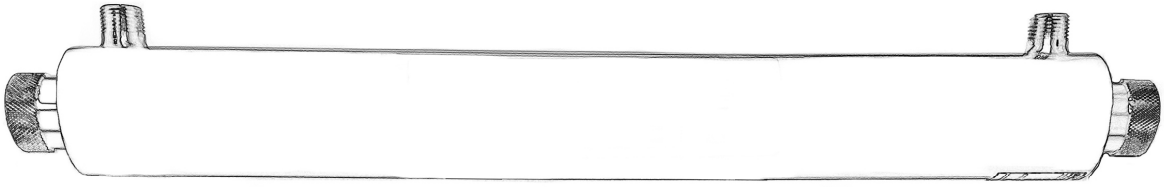
• Pay attention to the labels in the installation procedures. Carefully operate. Hand tighten the cap only- quartz parts damage may result from over-tightening.

• **We recommend you install it horizontally not vertically, unless with enough support to keep it safe.**

• **Do not connect the UV water sterilizer to electric supply before finishing the installation.**

• **Use Teflon tape and pipe thread sealing compound if in need.**

Procedures:



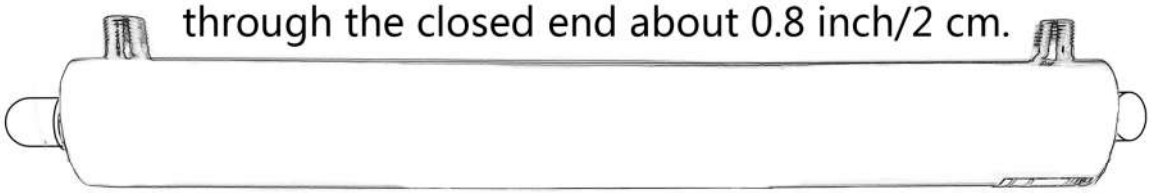
STEP 1 Place the stainless steel chamber on the workbench.



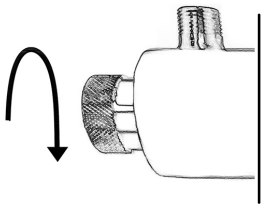
STEP 2 Unscrew the caps on both ends.



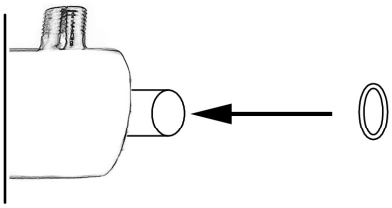
STEP 3 Put the o-ring on the quartz sleeve through the closed end about 0.8 inch/2 cm.



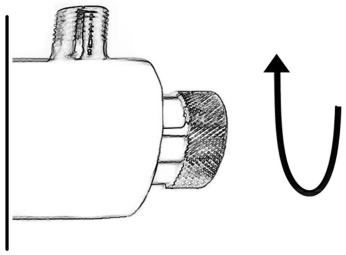
STEP 4 Insert the quartz sleeve into the stainless steel chamber from the left carefully.



STEP 5 Screw on the sealed cap of the left side with teflon tape if need .

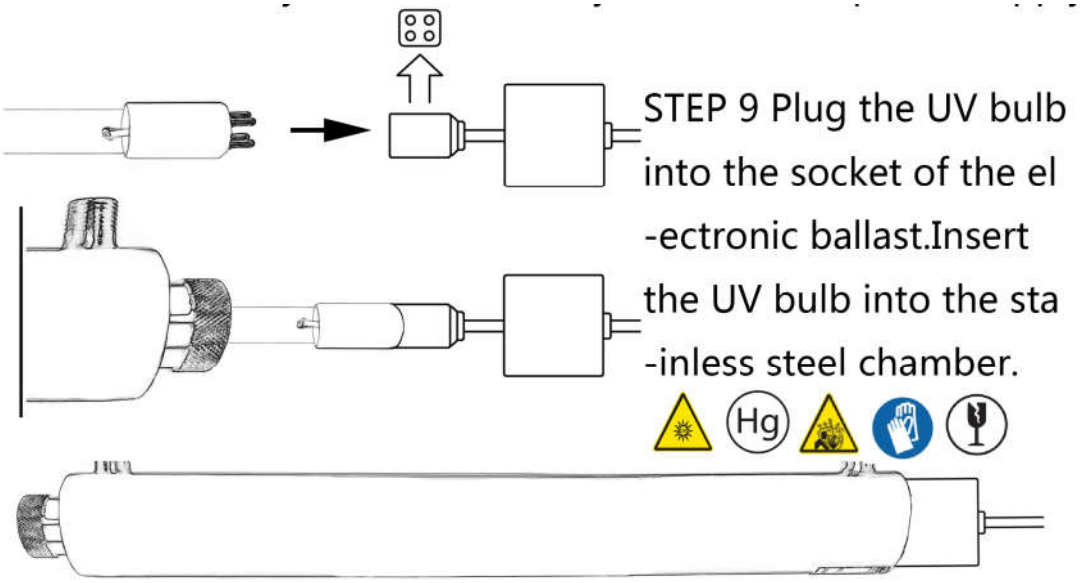


STEP 6 Put another o-ring on the quartz sleeve of the right side.



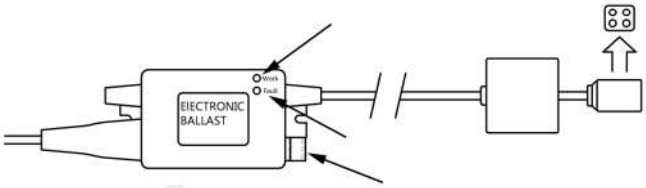
STEP 7 Screw on the hollow cap of the right side(use teflon tape if need). Secure the UV unit on a flat horizontally (the brackets will bend if you install this vertically without any support). Connect the pipeline to this chamber, turn on the water supply to check if there is leakage first (find a solution in the end of manual).

STEP 8 Secure the electronic ballast at a comfortable positi -on which is easy to connect the system and the power supply.



STEP 9 Plug the UV bulb into the socket of the el-ectronic ballast.Insert the UV bulb into the sta-inless steel chamber.

STEP 10 Insert the whole UV bulb into the chamber, and cover a protective cap of the right side.



STEP 11 Connect 3-pin plug with your socket.

It will take 5-10 minutes for the UV bulb to light up completely and switch to the proper work condition.

STEP 12 Check the indicator: The green light means it is working properly. The red light blinks and beeps signifying the system has stopped working and something is wrong. Refer to Section 4 Troubleshooting.

Notice: sometimes the indicator might fail in the shipment, but the system is still working.Please check the UV bulb to confirm the work condition.

The green connection terminal is for the extra upgrade component-HQUA UV Lamp Life 365 Days Countdown Timer, refer to Appendix 1 to find more information.

Section 3 Maintenance

Prerequisites:

• Always disconnect power supply before performing any work on UV water sterilizer.

• Always shut off water flow and release water pressure before servicing.

• **Regularly inspect power indicators on the ballast: the green one means the system is working in good condition. The red light blinks on the fault point and beeps when the system fails. But we suggest you check the UV lamp situation with protections on your eyes and skin such as long sleeve clothing and sunglasses.**

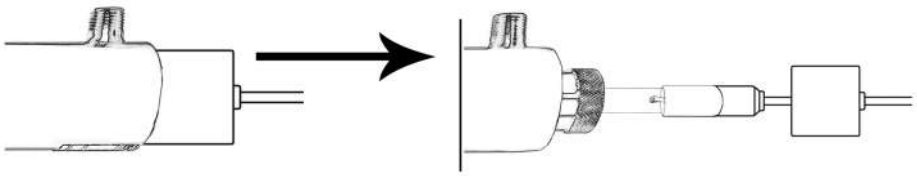
• Replace the UV lamp annually (or biennially for seasonal home use) to ensure maximum disinfection.

3.1 Replace the UV lamp

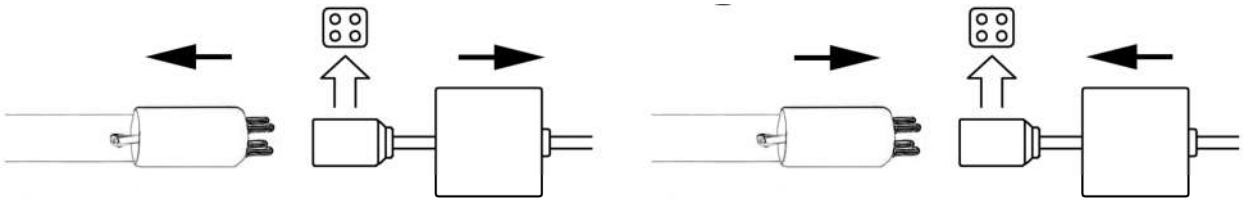
Replacing an UV lamp is quite easy and takes a little while. One UV lamp's lifetime is about 9000 hours, so it should be replaced annually to keep the enough disinfection for 12GPM/6GPM water flow.

Procedures

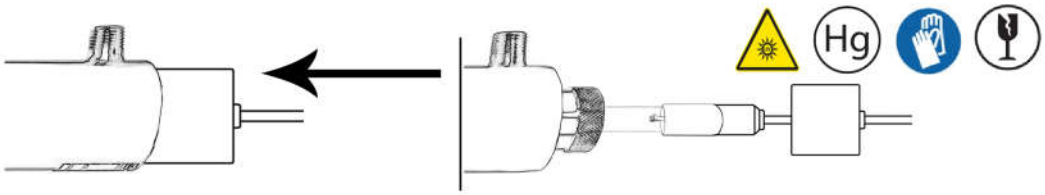
Step 1 Close all faucets and the water supply.
Disconnect the ballast from power supply. Wait for 15 minutes so that the UV lamp cools down completely, which is a quite important move.



Step 2 Dismantle the protective cover, remove the UV lamp from the middle of the chamber.



Step 3 Disconnect the old UV lamp from the ballast.Replace it with a new one and connect the ballast output.



Step 4 Insert the whole UV lamp into the middle hole and cover the protective cap.

Debugging

Connect the power supply first, and check the indicator to see if UV water sterilizer is working properly. Wait for 10-15 minutes to reuse faucets.

3.2 Clean & replace the quartz sleeve

The coating on the quartz sleeve will form slowly due to the minerals in the water. It must be removed because it reduces the amount of UV light reaching the water, thereby reducing the disinfection property. If the sleeve couldn't be cleaned, it must be replaced.

Prerequisites:

• Close the water supply of your system and drains all lines. Make sure the water in the chamber is lower than the quartz sleeve.

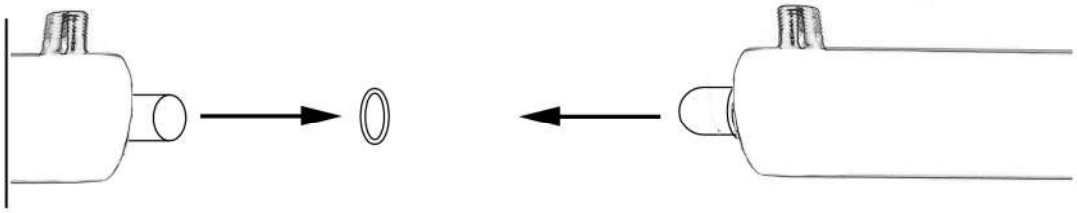
• Depressurize the unit. Place a small pail under the unit in case of any spills.

• Remove the UV lamp; Refer to Section 3.1

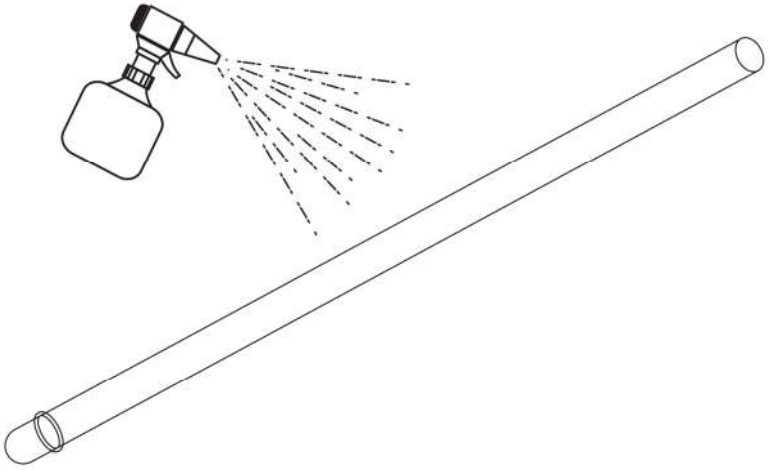
Procedures:



Step 1 Unscrew the lids one by one.



Step 2 Take out the O-ring on the right side. Take off the quartz sleeve from the chamber carefully.



Step 3 Clean the quartz sleeve with a cloth soaked in CLR, vinegar or other mild acid and then rinse with water.

Note: Replace the tube if it cannot be cleaned completely, scratched or cracked.

Step 4 Insert the quartz sleeve into the chamber and finish the rest steps by referring to Section 2.5.

3.3 Where to buy the replacements?

We suggest you purchase these replacements on Amazon.com.

Search “B01N4I3X3Q” for 12GPM UV bulb; “B06XFX6Y4S” for 12GPM Quartz Sleeve. “B01MZ3WBPO” for 6GPM UV bulb; “B06XG19Q2Y” for 6GPM Quartz Sleeve.

Section 4 Troubleshooting

Problem	Possible Cause	Solution
Indicator shows red and beeps. Eliminate the reasons One by one following the Lead.	GFCI and/or breaker tripped.	Reset GFCI and/or breaker.
	Connection problem.	Power off & wait for 15 minutes, adjust the connection between UV lamp and ballast. Then try it again.
	Ballast damaged.	Change with your spare UV bulb to check and confirm. Replace ballast and use a TVSS.
	UV lamp damaged or died.	Replace it with a new one.
Indicator shows no red or green.	Indicator failure.	If the UV bulb is still working, it means the system is working in a good condition.
Leakage at inlet or outlet.	Threaded pipe fittings are leaking.	Clean threads, reseal with Teflon tape and retighten.
Leakage at other places.	Wrong cooperation, fitting position or O-ring damaged.	Refer to Page 19.
System is operating but water tests show bacterial contamination.	Equipment downstream of UV system is acting as a breeding ground for pathogens.	Ensure UV is the last piece of treatment equipment.
	Serious contamination.	Reduce the flow rate or increase sterilization equipment.

Section 5 After-Sales Service

If you need any support, or have questions about the system, please contact our Technical Support team via hqua_qin@163.com and we will be glad to assist you. We sincerely hope that you enjoy the benefits of clean and safe drinking water after the installation of HQUA disinfection system.

Our Commitment

Specific Warranty Coverage

Ten-Year Limited Warranty for HQUA UV Chamber

HQUA warrants that the UV chamber of HQUA product is free from defects of material and workmanship for a period of ten (10) years from the date of purchase. During this period, HQUA will repair or replace, at its option, any defective HQUA UV chamber. Please return the defective part to your dealer for claim.

One-Year Limited Warranty for Electronic Ballast

HQUA warrants that the Electronic Ballast is free from defects of material and workmanship for a period of one (1) year from the date of purchase. During this period, HQUA will repair or replace, at its option, any defective parts covered by the warranty. Please return the defective part to your dealer for claim.

Six-Month Limited Warranty for Lamps.

HQUA warrants that lamps are free from defects of material and workmanship for a period of six (6) months from the date of purchase. During this period, VIQUA will repair or replace, at its option, any defective parts covered by the warranty. Please return the defective part to your dealer for claim.

General Conditions and Limitations

None of the above warranties covers damage caused by improper use or maintenance, accidents, acts of God or minor scratches/imperfections that do not materially impair the product operation. The warranties do not cover products that are not installed as described in the applicable User Manual either. Parts repaired or replaced under these warranties will be covered up to the end of applicable warranty period.

The above warranties do not include the cost of shipment and handling of returned items.

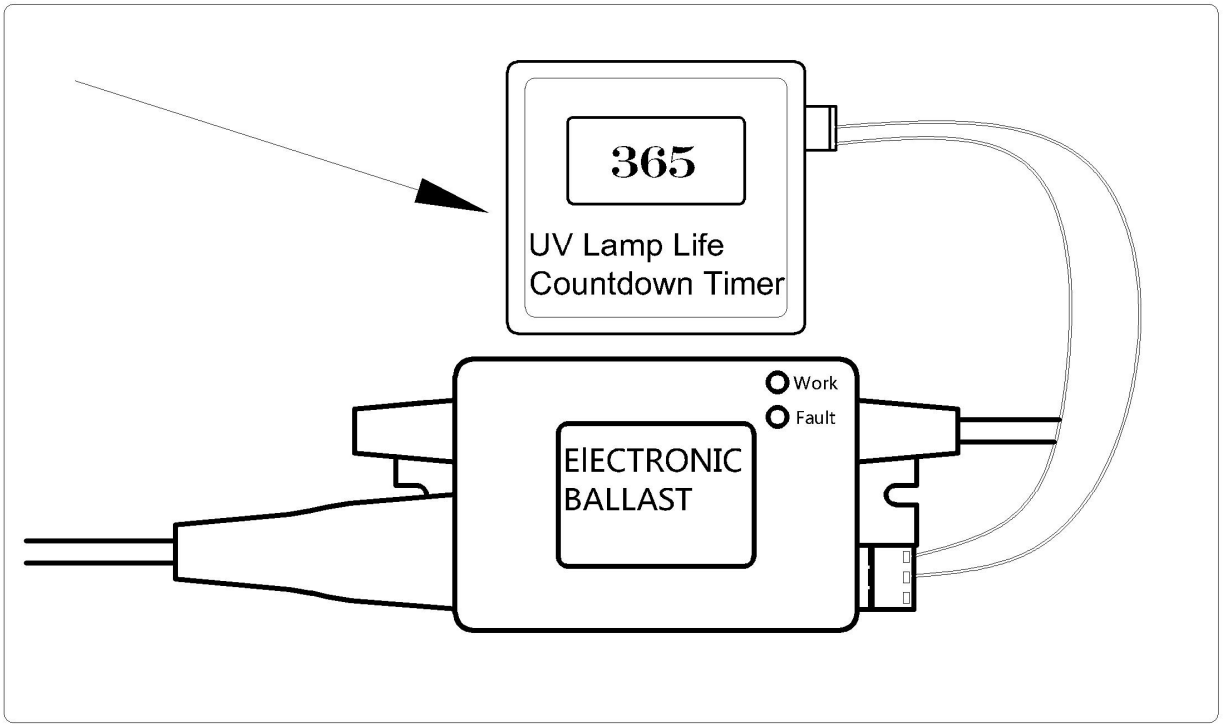
The limited warranties described above are the only warranties applicable to the HQUA series products. These limited warranties outline the exclusive remedy for all claims based on a failure or defect of any the products, whether the claim is based on contract, tort (including negligence), strict liability or otherwise. These warranties are in lieu of all

others regardless of written, oral, implied or statutory ones. Without limitation, no warranty of merchantability or of fitness for a particular purpose shall apply to any of these products.

HQUA does not assume any liability for personal injury or property damage caused by use or misuse of any of the above products. HQUA shall not in any event be liable for special, incidental, indirect or consequential damages. HQUA's liability shall, in all instances, be limited to repair or replacement of the defective products or parts and this liability will terminate upon expiration of the applicable warranty period.

Appendix 1

HQUA UV Lamp Life 365 Days Countdown Timer



This Countdown Timer works as an optional accessory for HQUA Water Sterilizer as 365 days countdown to record the life of your UV bulb since it should be replace yearly. Tiny and effective upgrade of electronic control monitors the working condition.

It is very easy to assemble with our original electronic ballast and works with 12GPM/6GPM system. Our original model excludes this accessory. The ASIN of it is 'B07DJ4J4M8', search it on Amazon. It will be released on August 2018.

Leakage Solution

Prerequisites:

• Always disconnect power supply before performing any work on UV water sterilizer.

• Always shut off water flow and release water pressure before servicing.

Steps to check:

1. Please check the installation steps carefully in the manual. Make sure you finish each step completely.
2. Unscrew the caps of both ends to check the O-ring's fitting position & O-ring cooperation. Check if there is a gap between the O-ring and the stainless steel chamber.
3. Check the O-ring's integrity
4. Check the quartz sleeve to for any crack or damage on it that may cause the leaking.
5. Check the welding joint of stainless steel chamber for the leakage. Contact us for this problem, and we will replace your chamber for free in 3-5 workdays.

Notes:

1.O-rings fitting should be just as its natural state. Do not mix the inner and outer surfaces.
2. Use teflon tape and sealing compound for pipe thread if in need.

Most water leakage comes from the above reasons, but other special reasons are not excluded. If your problem is not resolved, please provide more detailed information and pictures so that we can better help you to solve installation problem.

Email:hqua_qin@163.com
Facebook: jameszhuchangan@gmail.com

……End……

……