



Elvion Home UV

MANUAL

elvion



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1. SAFETY INFORMATION

Please read this entire manual before operating this equipment. Pay attention to all danger, 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.

1.1 Potential hazards



Waste electrical and electronic equipment (WEEE). This symbol indicates that you should not discard wasted electrical or electronic equipment (weee) in the waste. 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 using 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 is under pressure. 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 (gfi).
	This symbol indicates there is a potential for very hot water when flow is started.



DANGER

Failure to follow 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 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.



- DO NOT operate the disinfection 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 disinfection 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 install this disinfection system where it will be exposed to the weather or to temperatures below freezing.
- DO NOT store this disinfection system where it will be exposed to the weather.
- 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.



WARNING



- During extended periods of no water flow, the water in your chamber can become hot (Approx. 60°C) 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 stop this, a temperature regulation 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.



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 20cm of copper pipe on the outlet of your UV chamber.
- (Hg)**
- 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 lamp inside the disinfection system is rated at an effective life of approximately 9000 hours. To ensure continuous protection, replace the UV lamp annually.
- 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. It can not be used in or above water.
- **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 that are intended for outdoor use. 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. Exercise caution when arranging the cord so that it will not be tripped over or pulled. **DO NOT** use damaged extension cords. Examine extension cord before using and replace if damaged. **DO NOT** abuse extension cords. Keep extension cords away from heat and sharp edges.
- Always disconnect the extension cord from the supply before disconnecting this system from the extension cord. Never yank the cord to pull the plug from the outlet. Always grasp the plug and pull to disconnect.
- If the supply cord is damaged, it must be replaced by a special cord or assembly available from the manufacturer or its service agent.

1.2 Water quality

It is strongly recommended that you have your raw water professionally tested for dissolved mineral content, turbidity and microbiological activity. Your UV disinfection system requires clean, clear water for optimum performance. You should only operate your unit if the source water meets the following minimum standards.

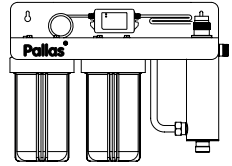
In case inlet water quality is lower than the guidelines described in below chart, please use the adequate pretreatment to respect them.

Turbidity	<1NTU
Suspended Solids	<10 mg/L
Color	None
Total Iron	<0.3 mg/L
Manganese	<0.5mg/L
Hydrogen Sulphide	<0.5 mg/L
UV Transmittance	>75%

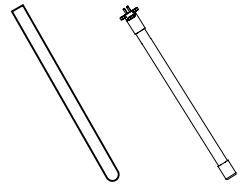
2. UNPACKING & INSTALLATION

Removing your Elvion Home UV from its carton you should check all components, to ensure all are present and have not been damaged in transportation. In the box, you should have:

Elvion Home UV (with double filtration and UV, cover and Filter cartridge pre-installed)



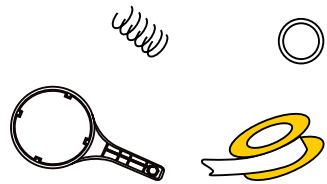
Uv lamp, quartz tube (in cardboard tube)



Quartz tube UV lamp

Accessory bag

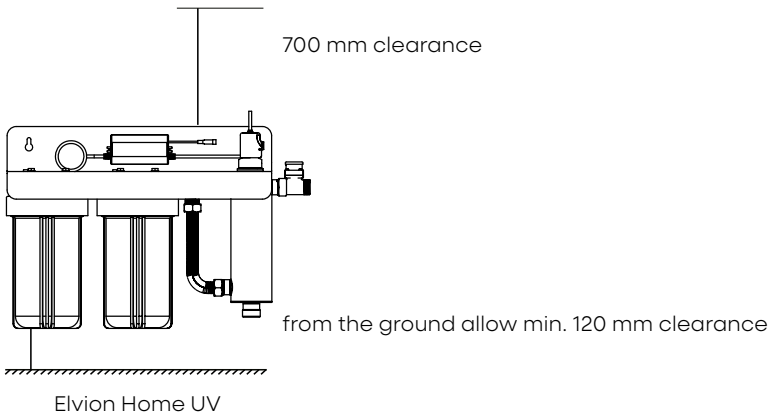
- Manual
- Housing Wrench
- Spring
- O-ring
- Seal tape



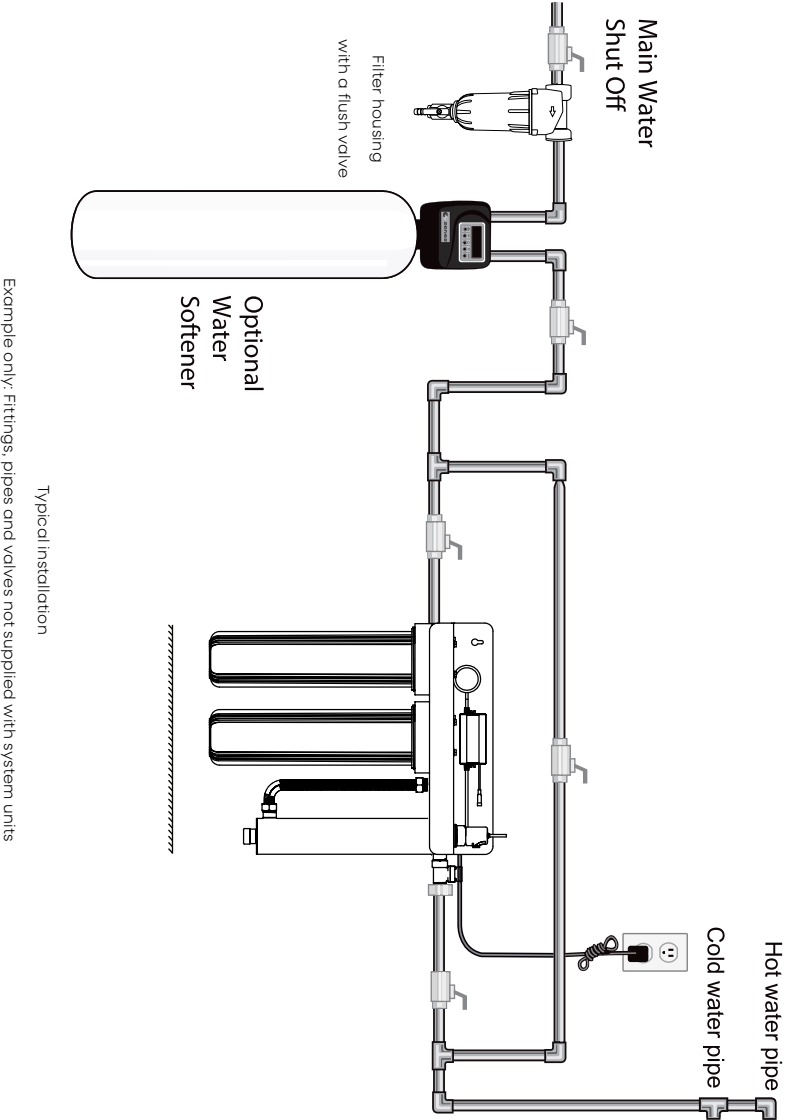
STEP 1: Selecting the system location

The Elvion Home UV should be mounted close to where the water pipe enters the building to ensure the water used in the dwelling is treated. Do not install in a location with high humidity, direct sun or a direct source of heat.

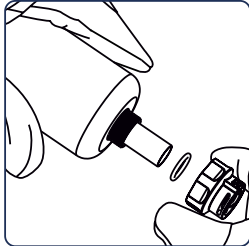
Locate a suitable position for this system remembering to allow 120mm under units with 20" housings and 700mm clearance above the unit for cartridge and and lamp changes. A 220V power plug nearby is required.



STEP 2: Installation procedure



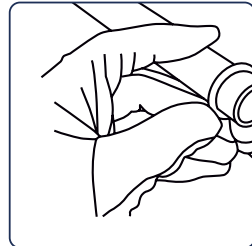
1. Inspect the cold water supply line to the dwelling and the condition of the pipe. Consult your plumber or plumbing supply store to purchase the appropriate connections to cut into the water line and connect the filter system. The inlet and outlet of the system are 1" inch.
2. Elvion Home UV has 2 mounting key holes at the rear of the bracket. Use a template (not supplied) to mark the desired position on the wall where the fixings are required to go. Please make sure this system located into a stud, masonry or reinforced wall section and that the bracket is level.
3. Turn off water and purge the lines. Plumb inlet and outlet pipe work the Elvion Home UV. Please use thread seal tape, DO NOT use liquid sealants. DO NOT connect PVC pipe directly to the system. Make sure the connections to the Elvion Home UV system comply with the local plumbing code.
4. Carefully assemble the reaction chamber as described below. Reactor Chamber, UV Lamp, O-rings, Electronic Ballast , Brackets , Spring , UV sensor , quartz tube



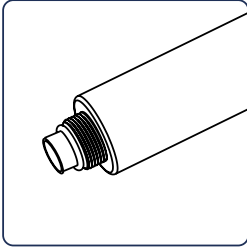
4.1 Remove the open end nut from the chamber, take out the O-ring and quartz tube, and check whether the quartz tube is damaged.



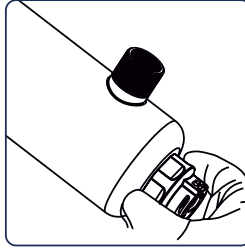
4.2 Use a cloth to clean the surface of the quartz tube to make sure it gets high UV transmittance.



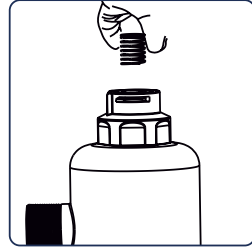
4.2 Install the o-ring on the open end of the quartz tube (12mm from the open end).



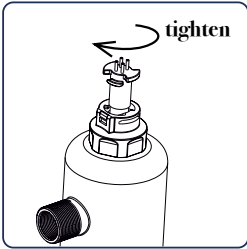
4.4 Carefully insert the quartz tube into the chamber and put the o-ring on it.



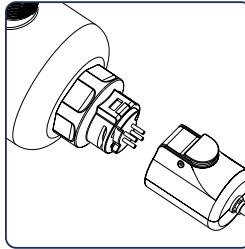
4.5 Secure the quartz tube in the open end - then firmly hand tighten



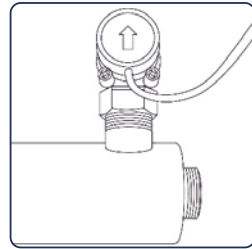
4.6 Place the spring into the quartz tube



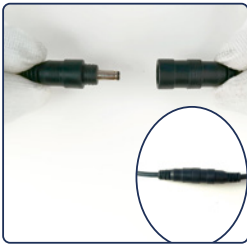
4.7 Carefully insert the UV lamp into the quartz tube, tighten it in clockwise way until tight.



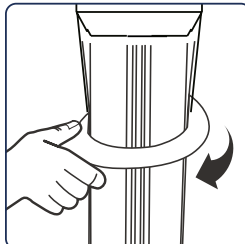
4.8 Connect the lamp holder with the UV lamp. Check the orientation as shown.



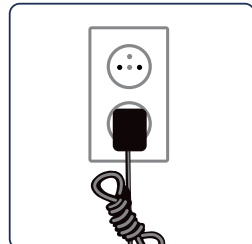
4.9 Insert the flow switch on the outlet if supplied; please notice the water flow direction.



4.10 Connect the male end of the water flow switch and the female end of the ballast (see figure).



4.11 Place filters in appropriate housings according to labels and install. Tighten housings with wrench provided.



4.12 Connect controller to power outlet.

Note: Outlet must be protected by a Ground Fault Circuit Interrupter (GFCI).

STEP 3: Disinfection procedure



The following disinfection procedure is generally accepted as being suitable for the disinfection of plumbing systems known to be contaminated.

If you are uncertain about the efficacy of this procedure you are advised to contact the local health authority responsible for water safety.

As the UV disinfection process takes place only in the UV disinfection chamber and the process provides no residual disinfection capability, therefore it is necessary to chemically disinfect the entire plumbing system before using water treated by the Elvion Home UV.

1. Ensure the ballast is plugged in for entire disinfection process. Turn the UV system shut off valves to the closed position.
2. Open the housing with the wrench, adding 250mL -500mL (1 - 2 cups) of standard 5.25% concentration un-scented chlorine bleach to the empty filter housing and re-install.
3. Verify that the Elvion Home UV is connected to the AC power voltage and operating properly.
4. Slowly turn the valves to the open position and let the water flow.
5. Open all faucets, fixtures and appliances in turn until you can easily smell chlorine. Close the fixtures and let the system sit for 30-60 minutes. DO NOT use or consume system water during this process.
6. Shut off the water supply, remove and re-install filter cartridge and housings. Open the valve and keep flushing 5 minutes thoroughly.

3. MAINTENANCE



WARNING

- Always disconnect the power before performing any work on the disinfection system. Always shut-off water flow and release water pressure before servicing.
- Regularly inspect disinfection system to ensure that the power indicators are on and no alarms are present.
- Replace the UV lamp annually (or biennially if seasonal home use) to ensure maximum disinfection.
- Always drain chamber when closing a seasonal home or leaving the unit in an area subject to freezing temperatures.
- During extended periods of no water flow, the water in your chamber can become very hot (Approx. 60 °C) 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 stop this condition, a temperature regulating valve can be installed at the outlet of your UV system.

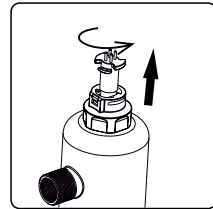
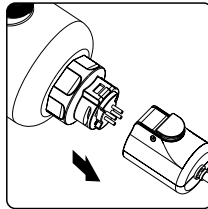
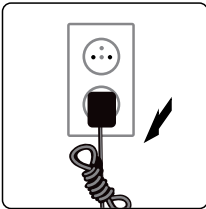
3.1 Replacing UV lamp

Lamp replacement is a quick and simple procedure requiring no special tools. The UV lamp must be replaced after 9000 hours of continuous use (approximately 1 year) to ensure adequate disinfection.



NOTE: DO NOT touch the lamp or quartz tube with your fingers. Handle by the ends only or wear soft gloves.

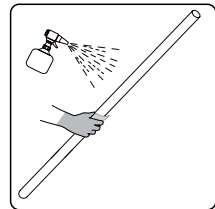
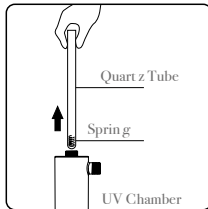
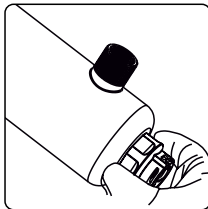
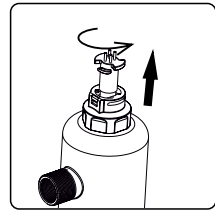
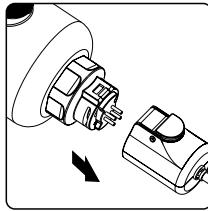
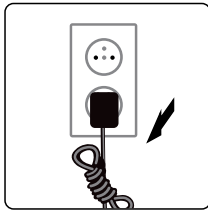
1. Unplug the system from the electrical outlet and turn off all water supplies to the unit.
2. Disconnect earth ground, carefully extract the lamp connector from the sleeve gland nut assembly to just expose the top of the lamp. While holding the lamp firmly, remove the lamp power connector. Lamp base can be very hot, so please be careful not to drop into quartz tube and do not pull the lamp sideways or it will break.
3. Re-install UV lamp by reversing procedure described in Installation Procedure above. Important notice: for safety, the earth ground must be always be connected whilst the system in operation.
4. Re-pressurise the system and check the leaks, switch the power on to the ballast. The UV lamp replacing is now complete.



3.2 Cleaning and replacing quartz tube

The quartz tube is heated by the UV lamp, so it is an ideal place for mineral, metals and dirt to deposit. The quartz tube must be clean and scratch free for the system to work as intended. Please remember always disconnect the power supply.

1. Turn off the power and water to the unit and release water pressure.
2. Open steel cover, disconnect lamp connector, detach the earth ground, grip the white cap and carefully disconnect from the aluminium nut.
3. Remove UV lamp from the chamber, remove the aluminium nut on the top and bottom of chamber. Securing the spring and quartz tube.
4. Slide the quartz tube through and out of the top of the chamber. Clean the quartz tube with alcohol based cleaner if necessary.
5. Slide the quartz tube into the top of chamber. Place bottom o-ring on the quartz tube and screw bottom nut. Please top o-ring on the quartz tube, insert the spring and screw on the top nut.
6. Insert UV lamp into chamber, connect UV lamp with ballast lamp socket. Put gland cap on the top nut, connect earth ground to the chamber. Plug in power supply, make sure the ballast GREEN LED light is illuminated.
7. Restore water supply and check unit for leaks.



3.3 Replacing filter

Avoid contamination by thoroughly washing your hands before loading cartridges.

1. Turn water supply off by closing shut off valves. If flow is required when changing filters, open a bypass valve. Relieve pressure inside the filter housings by pressuring down on the red buttons.
2. Using the wrench supplied, place around the housing and turn clockwise to loosen housing. Remove the lower part of the filter housing. Have a bucket nearby, as each housing will be full of water.
3. Remove the used filter and pour out the water remaining in the filter bowl. Clean the inside of the bowl with warm, soapy water. Rinse the inside thoroughly before reassembling.
4. Remove the replacement filter from its package and place inside the housing, ensuring the filter is centered. Verify the o-ring is seated inside the groove on the top of filter bowl.
5. Place the filter bowl under the filter cap and begin to rotate in a counter clockwise direction. Continue turning until you feel the bowl tightened. This should suffice in making a water proof seal. Use the wrench to gently tighten the bowl further if there are any leaks when the water is turned back on.
6. Repeat for each housing on your Elvion Home UV.

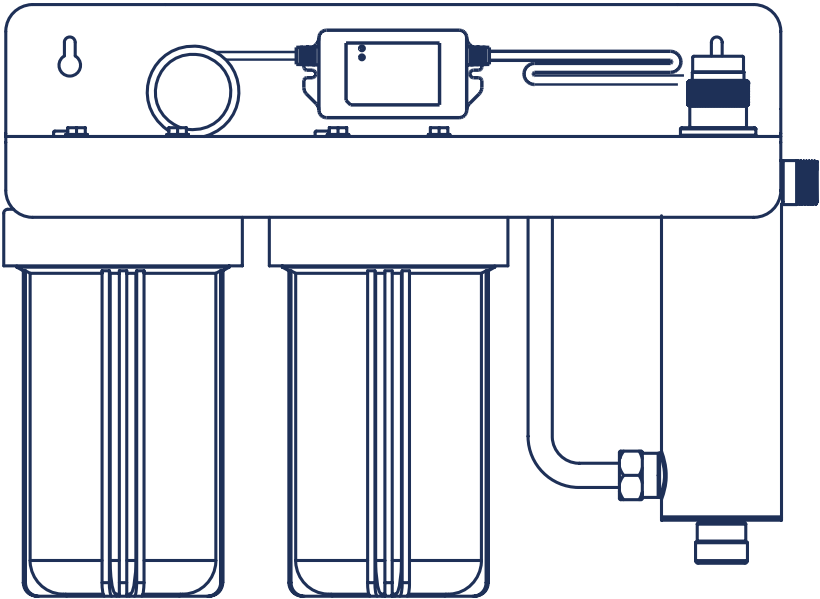
4. TROUBLESHOOTING

Symptoms	Possible cause	Possible solution
No power	<ul style="list-style-type: none"> Ballast and/or breaker tripped. Ballast damaged. 	<ul style="list-style-type: none"> Reset ballast and/or breaker. Replace ballast.
Ballast or breaker repeatedly trips.	<ul style="list-style-type: none"> Connection between lamp and lamp connector plug is wet. Short-circuit in the electrical assembly. 	<ul style="list-style-type: none"> Clean and dry lamp pins and lamp plug, check unit for leaks or condensation. Replace ballast.
Leak at inlet or outlet.	<ul style="list-style-type: none"> Threaded pipe fittings are leaking. Cracked heads. 	<ul style="list-style-type: none"> Clean thread, reseal with telfon tape and tighten. Replace heads.
Leak detected from area of UV chamber.	<ul style="list-style-type: none"> Condensation of moist air on cold chamber (slow accumulation). O-ring damaged, deteriorated or incorrectly installed. Lamp/sleeve assembly not properly installed (too tight or too loose). 	<ul style="list-style-type: none"> Control humidity or relocate unit. Inspect and replace if deteriorated. Check o-rings are in place. Tighten assembly hand-tight.
System is operating but water tests reveal bacterial contamination.	<ul style="list-style-type: none"> Equipment downstream of UV system is acting as a breeding ground for pathogens. Pathogens are residing in the distribution lines post-UV. Lamp reached the maximum lamp life. 	<ul style="list-style-type: none"> Ensure UV is the last stage of treatment equipment Ensure all distribution lines have been disinfected. Remove any pipe dead-ends and flush with chlorine. Replace lamp on or before lamp counter reached 0.

Symptoms	Possible cause	Possible solution
Lamp timer does not read anything.	<ul style="list-style-type: none"> • Unit is unplugged. • No power at AC power outlet. • Power cord is damaged. • Power surge caused damage to electrical assembly. 	<ul style="list-style-type: none"> • Plug unit into AC power outlet. • Replace fuse or reset breaker. • Replace power cord. • Replace ballast.
Leak detected at filters.	<ul style="list-style-type: none"> • O-ring damaged, deteriorated or incorrectly installed. • O-rings dry. • Filter cartridge not centered. 	<ul style="list-style-type: none"> • Drain the water, wipe the O-ring and threads clean. Ensure the O-ring is fitted properly, then re-install. • Lubricate O-rings with suitable sealant. • Drain the water, check for cartridge damage, re- assemble ensuring cartridge is centered.

5. SPECIFICATIONS

MODEL	PHUV33
Operating max pressure	7 bar
Ambient air temperature	2-50°C
Maximum humidity	95%
Maximum iron	0.3 ppm
Minimum UVT	75%
FLOW RATES	
Maximum rated flow at dose of 16 mJ/cm ²	57LPM
Maximum rated flow at dose of 30 mJ/cm ²	30LPM
Maximum rated flow at dose of 40 mJ/cm ²	23LPM
ELECTRICAL	
Voltage	100-240V AC
Frequency	50/60Hz
Max. power consumption	43W
Lamp power	33W
OTHER	
UV Chamber Material	SUS 304
Inlet/Outlet	1" inch
Rated service life of lamp	9000 hours
UV System Certification	CE



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Merchants nationwide.

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