

WHOLE HOUSE WATER PURIFICATION SYSTEM Owner's Manual



CLEAN & SAFE
PRE-FILTRATION & UV WATER STERILIZER
ALL-IN-ONE

Models:
SPS-103, SPS-103S, SPS-203, SPS-203S
SPS-104, SPS-104S, SPS-204, SPS-204S



SPS-103



SPS-103S



SPS-203



SPS-203S



SPS-104



SPS-104S



SPS-204



SPS-204S













Congratulations on the purchase of your whole house water purification system! This system uses the most advanced UV technology on the market and is designed to provide you with years of trouble free operation with minimal maintenance required to protect your drinking water from microbiological contaminants. AguaTopone SPS Whole House Water Purification System combines up to three big blue filter housings and a uv disinfection system into one simple, clean looking and integrated product line. Manufactured from high grade steel and finished in a tough powder coat , the system will stay looking good as new and give years of free of impurities water if maintained and installed properly. The AguaTopone SPS system cartridges and lamp need replacing regularly to maintain optimum performance. This is a simple procedure when following instructions, For replacements contact your local dealer. AguaTopone SPS systems speed installation, easy to service and provide lasting value. Ideal for home, cottages and treated harvested rainwater, but can be used in other situations. For other types of water supply please contact your local dealer or plumber.






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 trash. For proper disposal, contact your local recycling /reuse or hazardous waste center.
	This symbol indicates not to store any combustibile 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 on 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 can eject forcibly. 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 (GFCI).
	This symbol indicates there is a potential for VERY hot water when flow is started.

1.2 Safety Precautions:

 **DANGER**

Failure to follow these instructions will result in serious injury or death.

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 • **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.
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 • **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 very hot (Approx. 140°F) 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 eliminate this condition, a temperature management 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 10" of copper pipe on the outlet of your UV chamber.
 - **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. Can not be used in or above water or outdoors or used in swimming pools when persons are in the pool.
- **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 cord. Keep extension cord away from heat and sharp edges.
- Always disconnect the extension cord from the receptacle before disconnecting this system from the extension cord. Never yank cord to pull plug from 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.
- **SYSTEM PROTECTION:** To protect your Controller, a UL 1449 certified (or equivalent) transient voltage surge suppressor is strongly recommended.
- Read and understand the Owner's Manual before operating and performing any maintenance on this equipment.



1.3 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:

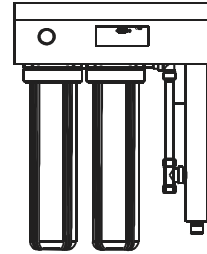
Turbidity	<1NTU
Suspended Solids	<10 mg/L
Color	None
Total Iron	<0.3 mg/L
Manganese	<0.5mg/L
Hydrogen Sulphide	<0.5 mg/L
Hardness	<7 gpg
UV Transmittance	>75%

Where raw water conditions do not meet these minimum standards, pre-filtration treatment equipment such as an inline or automatic filter, ion exchange softener or an RO system must be installed. Consult with your local water treatment specialist for advice.

2.UNPACKING AND INSTALLATION

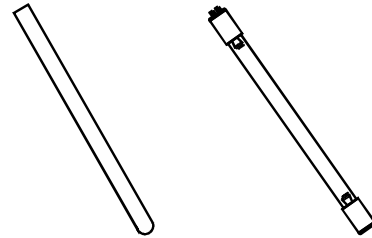
Removing your SPS system from its carton you should check all components, to ensure all are present and have not been damaged in transportation. Depending on your model, you should have:

1.SPS system (with double or triple filtration and UV, cover and Filter cartridge pre-installed)



e.g.

2.Uv lamp, quartz tube
(in cardboard tube)



Quartz Tube

UV Lamp

3 Accessory bag



Manual



Housing Wrench



Spring



O-ring

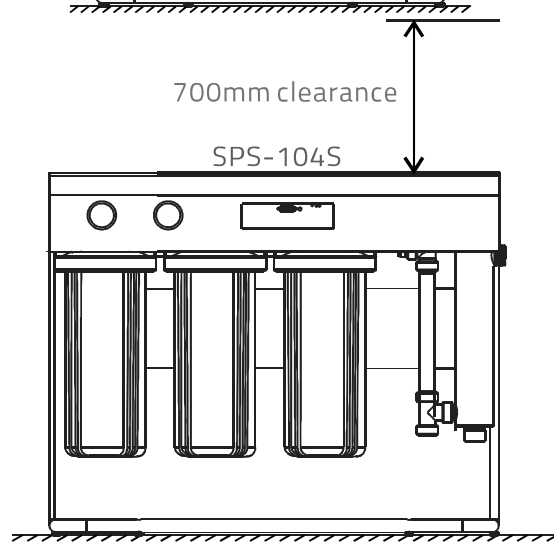
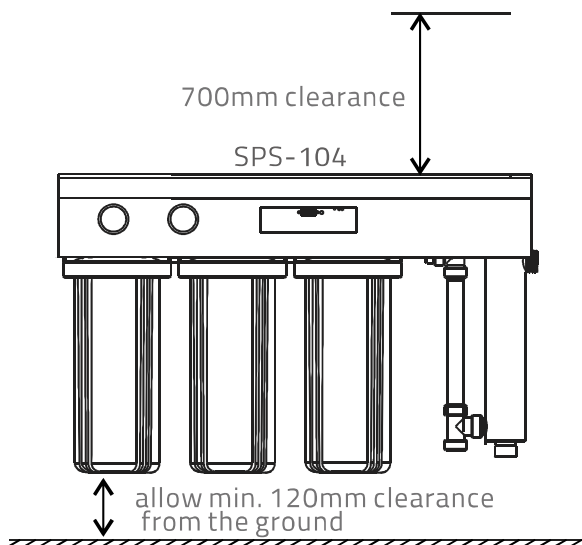
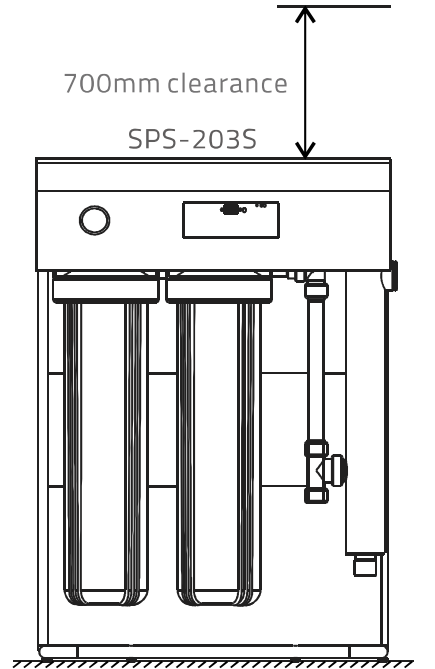
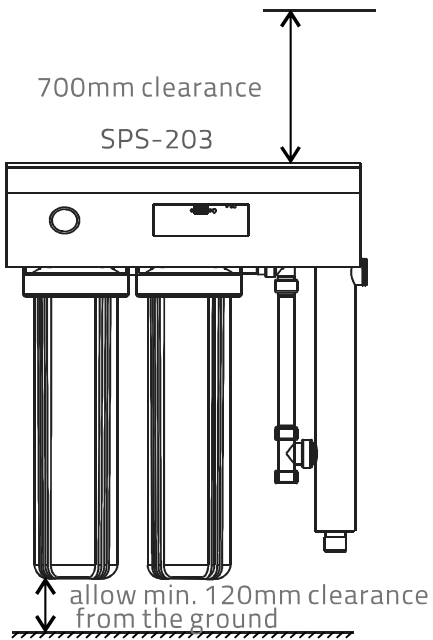
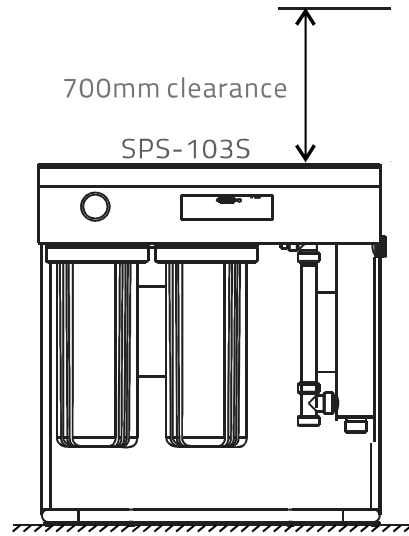
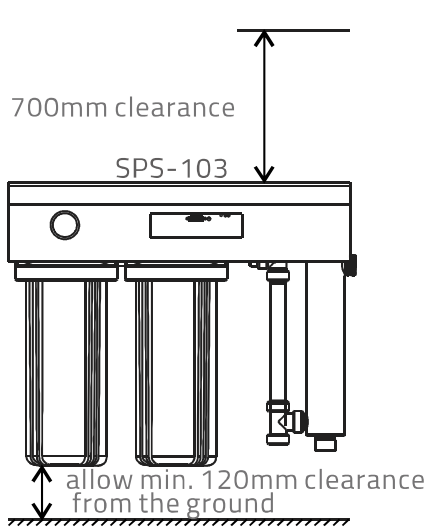


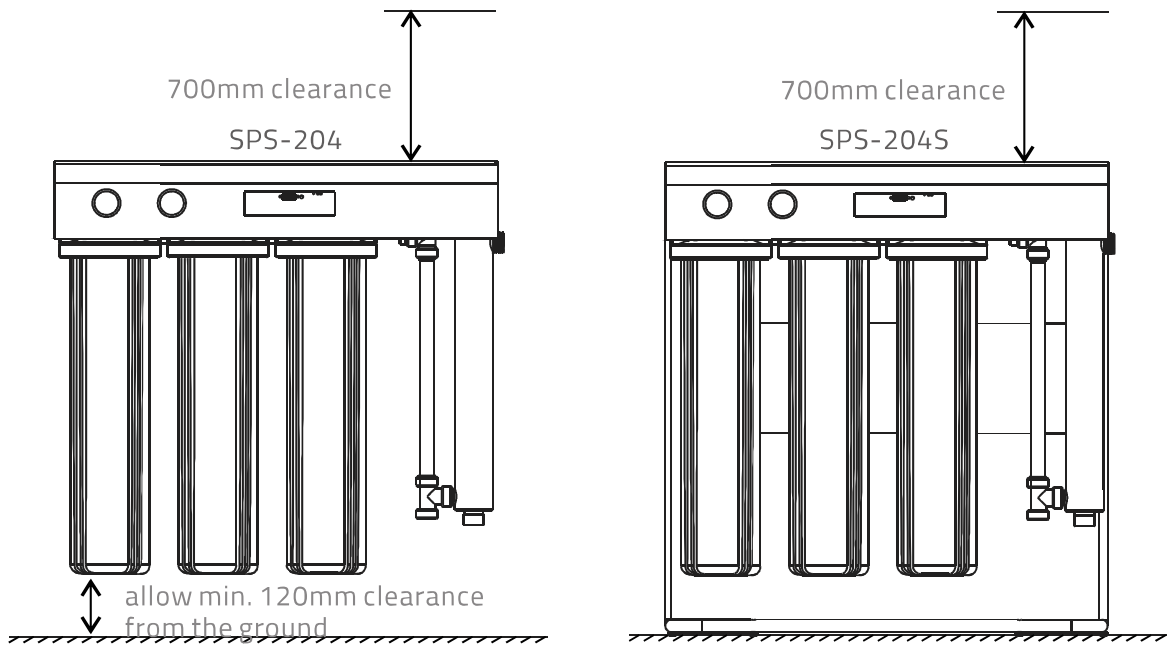
Seal Tape

Step 1: Selecting the system location

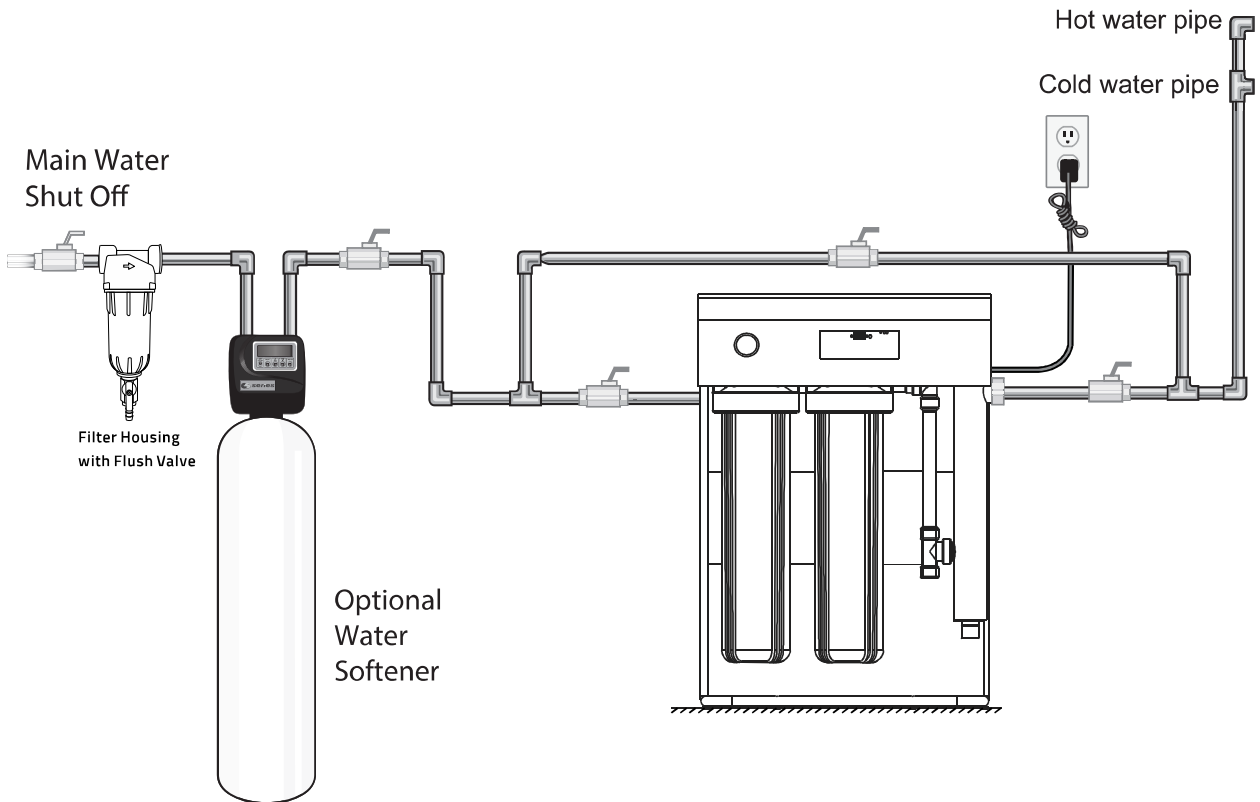
SPS system should be mounted close to where the water line enters the building to ensure the water used in the dwelling is treated. Do not install in a location with high humidity, direct sun or a direct source of heat.

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 lamp changes. A standard 110V or 220V power plug nearby is required.





Step 2: Installation procedure

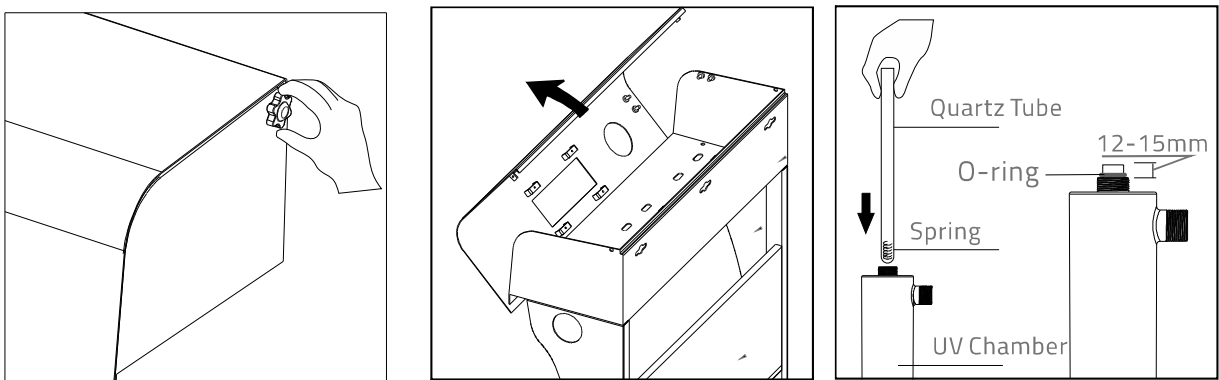


Typical installation

EXAMPLE ONLY: Fittings, pipes and valves not supplied with system units

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" BSPT (British Standard Pipe).
2. SPS series system have 4 mounting key holes at the rear of the bracket. Use the 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 to SPS system. 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 SPS system comply with the local plumbing code.
4. Remove black knobs, open the steel cover, remove the lamp connector and knurled barrel nut on the top of the uv chamber.
5. Insert the spring into the quartz tube. And then carefully insert quartz sleeve into UV reactor chamber, make sure domed end first so the open end is upwards. Place O-ring over the end of the quartz sleeve and slide downward.

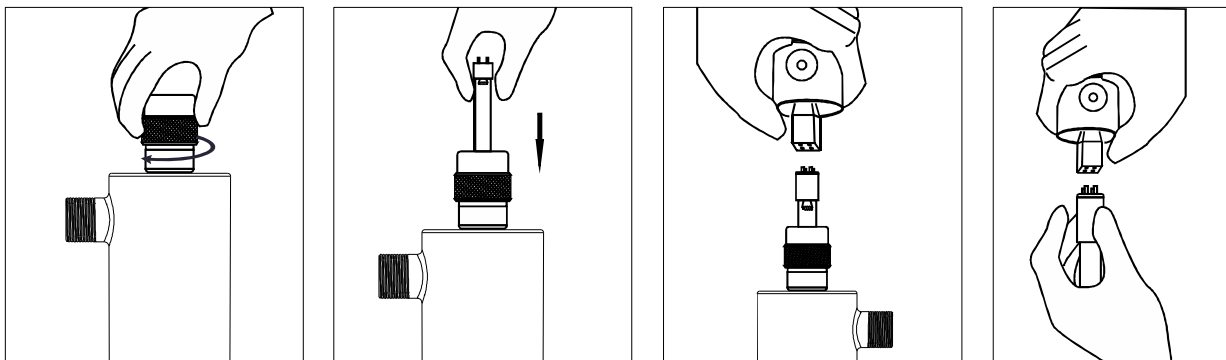
NOTE : When the quartz sleeve is fully inserted, it should protrude above the UV Chamber by around 12-15mm.



6. Screw the aluminum barrel nut back in place to seal in the quartz sleeve and it must be tighten but do not over tighten.

7. Insert the UV lamp into the quartz tube, the end with the pins upwards. Hold the last 50mm of the lamp out the UV chamber so you can fasten the connector.

IMPORTANT: The 4 pins connectors are not square. If lamp pins will not go into the socket, rotate lamp pins 90 degrees and try again. Any marks and fingerprints may interfere with UV transmittance. If lamp is soiled, please clean lamp with an alcohol based cleaner.



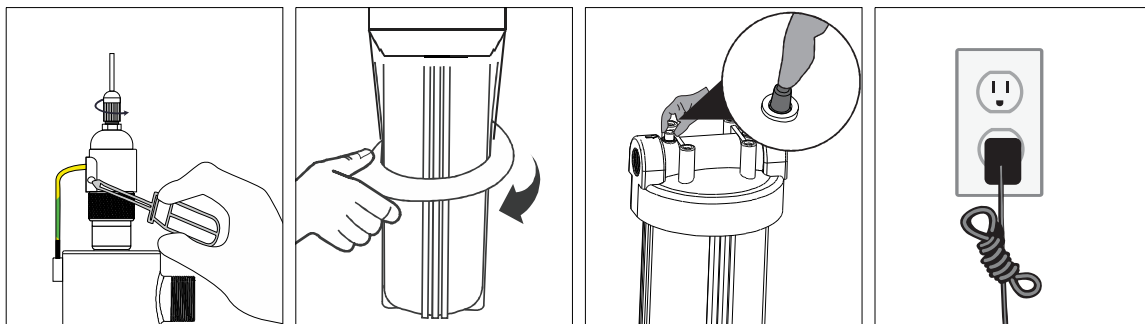
8. Put safety cap on the aluminum nut end. Connect the earth ground to the chamber, Plug in power supply.

9. Tighten filter housing with wrench, DO NOT over tighten.

10. Turn the water on, keep water flowing through to flush the system for 2-3 minutes, Check the system for leaks, releasing air and impurities.

11. Turn on the power and ensure the uv lamp working. Make sure the GREEN LED lighting, check display on ballast to ensure all is functioning properly.

12. Close the steel cover, screw black knobs.



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 UV system.

- 1.Ensure the ballast is plugged in for entire disinfection process. Turn the UV system shut off valves to the closed position.
- 2.Remove the housing with wrench, adding 250mL -500mL (1 - 2 cups) of standard 5.25% concentration un-scented chlorine bleach to the empty filter housing and re-installing.
- 3.Verify that the UV system is connected to the AC power voltage and operating properly.
- 4.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 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 eliminate this condition, a temperature management valve can be installed at the outlet of your UV system.

3.1 Lamp ballast operation

● 365 days time countdown display. The display shows the remaining lamp life in DAYS. The lamp should be changed every year. So the ballast counts at days -0 (Zero) the system will alarm and sound an audible beep which indicating the UV lamp requires changing. Please:

- * Press (S) switch to toggle the display between
- * Press (S) switch to silence lamp life alarm for 7 days

● Reset UV lamp life display

After UV lamp change, please press and hold (S) switch to re-set lamp life timer to 365 days

● Lamp failure alarm

Usually the UV lamp failure function, display shows Red light and alarm will beep which will continue until the lamp is changed and the ballast is re-set.

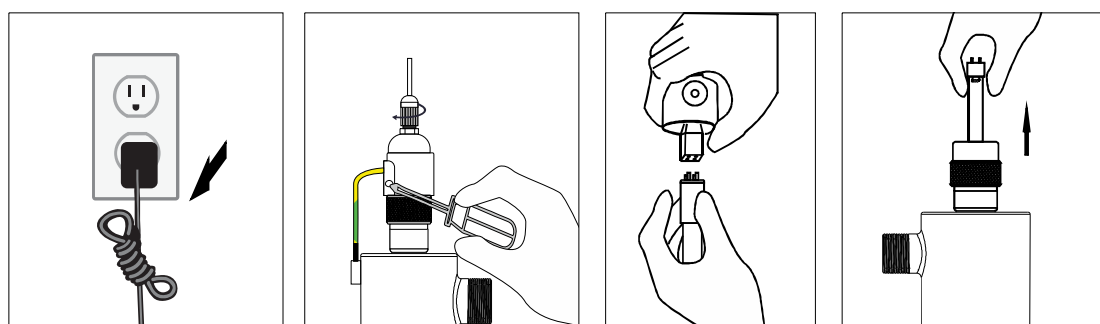
NOTICE: press (S) switch to display total running in days. This will be displayed for 10 seconds and cannot be re-set.

3.2 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 (approximately 1 year) to ensure adequate disinfection.

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

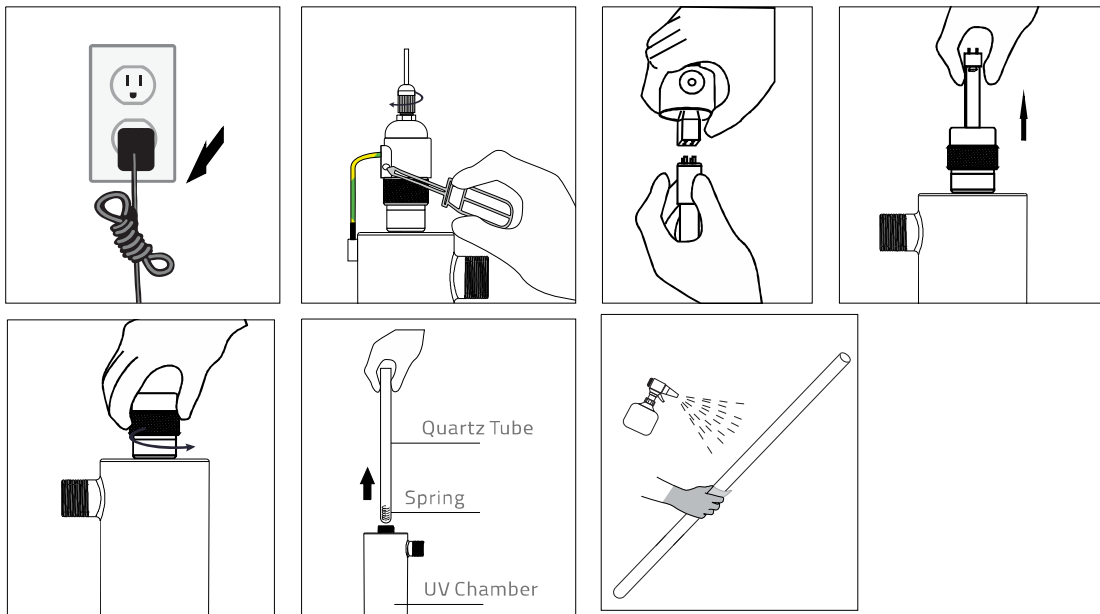
1. Unplug the system from the electrical outlet and turn off all water supplies to the unit.
2. Disconnect earth ground, carefully extract the lamp connector from the sleeve gland nut assembly to just expose the top of the lamp. While holding the lamp firmly, remove the lamp power connector. Lamp base 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 step 2 above. Important notice: for safety, the earth ground must be always be connected whilst the system in operation.
4. Repressurise the system and check the leaks, switch the power on to the ballast. Press and hold the re-set button until display will change 365.
5. The UV lamp replacing is now complete.



3.3 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. Reset UV ballast until you see 365. Close the steel cover of system.



3.4 Replacing cartridge





AVOID PLUMBING SYSTEM CONTAMINATION BY THOROUGHLY WASHING HANDS BEFORE LOADING CARTRIDGES.

1. Turn water supply off by closing shut off valves. If flow required when changing cartridges, open bypass valve. Relieve pressure inside the filter housings by pressing down on the red buttons.
2. Using wrench supplied, place around the housing and turn clockwise to loosen housing. Remove the lower part of the filter housing. Have a pail nearby, as each housing will be full of water with cartridge to be disposed of.
3. Remove the used cartridge 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 replacement cartridge 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 SPS system.

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 piece 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.
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"> *Remove the sump, wipe the O-ring and threads clean. Ensure the O-ring is fitted properly, then re-install. *Lubricate O-rings with suitable sealant. *Remove sump, check for cartridge damage, re- assemble ensuring cartridge is centered.
Red lamp blinks and beeping sounds.	<ul style="list-style-type: none"> *Lamp has reached or nearing the maximum lamp life. *Lamp is disconnected or faulty. 	<ul style="list-style-type: none"> *Replace lamp on or before lamp counter reached 0. *Check lamp connection, replace if needed.
Display flashing.	<ul style="list-style-type: none"> *Power interruption. 	<ul style="list-style-type: none"> *Reset ballast.
Error code "A3" on ballast.	<ul style="list-style-type: none"> *Ballast countdown has reached 0, lamp life expired. 	<ul style="list-style-type: none"> *Replace lamp.

5. SPECIFICATIONS

Models	SPS-103 (S) ¹	SPS-203 (S) ¹	SPS-104 (S) ¹	SPS-204 (S) ¹
Operating pressure	4-100 PSI	4-100 PSI	4-100 PSI	4-100 PSI
Ambient air temperature	2-50°C	2-50°C	2-50°C	2-50°C
Maximum humidity	95%	95%	95%	95%
Maximum hardness	120 ppm	120 ppm	120 ppm	120 ppm
Maximum iron	0.3 ppm	0.3 ppm	0.3 ppm	0.3 ppm
Minimum UVT	75%	75%	75%	75%
Flow Rates ²				
Maximum rated flow at dose of 16 mJ/cm ² **	57LPM	85LPM	57LPM	85LPM
Maximum rated flow at dose of 30mJ/cm ² **	30LPM	45LPM	30LPM	45LPM
Maximum rated flow at dose of 40mJ/cm ² **	23LPM	34LPM	23LPM	34LPM
Electrical				
Voltage	100-240V AC	100-240V AC	100-240V AC	100-240V AC
Frequency	50/60Hz	50/60Hz	50/60Hz	50/60Hz
Max. power consumption	43W	63W	43W	63W
Lamp power	33W	48W	33W	48W
Other				
UV Chamber Material	SUS 304	SUS 304	SUS 304	SUS 304
Inlet/Outlet	3/4" & 1" BSPT	3/4" & 1" BSPT	3/4" & 1" BSPT	3/4" & 1" BSPT
Other				
Rated service life of lamp	9000 hours	9000 hours	9000 hours	9000 hours
UV System Certification				
<p>1 Units model ending in (S) have coated steel standing bracket. 2 The max flow rate is determined by the carbon filter. ** Flow rates shown are at 95% UVT.</p>				

6. WARRANTY

One-Year Limited Warranty for the UV Chamber

Agua Topone warrants the UV chamber on the SPS product to be free from defects in material and workmanship for a period of one (1) year from the date of purchase. During this time, we will repair or replace, at its option, any defective SPS product. Please return the defective part to an Agua Topone dealer, who will return it to Agua Topone. We will either make the necessary repairs or, if it is determined that a replacement is required, we will provide a replacement part. We will then return the part to the dealer. This warranty does not include shipping and handling charges which will be collected from you by the dealer. Parts repaired or replaced under this one (1) year warranty will be covered under warranty to the end of the original one (1) year warranty period. This warranty is also subject to the conditions and limitations outlined under the heading "General Conditions and Limitations" below.

Three-Year Limited Warranty for Structural, Hardware and Electrical Components

Agua Topone warrants the structural, hardware, and electrical components to be free from defects in material and workmanship for a period of three (3) years from the date of purchase. During this time, we will repair or replace, at its option, any defective parts covered by the warranty. Please return the defective part to your dealer who will process your claim. This warranty does not include shipping and handling charges which will be collected from you by the dealer.

One-Year Limited Warranty for Lamps, Sleeves

Agua Topone warrants original lamps, sleeves to be free from defects in material and workmanship for a period of one (1) year from the date of purchase. During this time, we will repair or replace, at its option, any defective parts covered by the warranty. Please return the defective part to your dealer who will process your claim. This warranty does not include shipping and handling charges which will be collected from you by the dealer.

General Conditions and Limitations

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

The above warranties do not include the cost of shipping and handling of returned items. The limited warranties described above are the only warranties applicable to the SPS range of products. These limited warranties outline the exclusive remedy for all claims based on a failure of or defect in any of these products, whether the claim is based on contract, tort (including negligence), strict liability or otherwise. These warranties are in lieu of all other warranties whether written, oral, implied or statutory. Without limitation, no warranty of merchantability or of fitness for a particular purpose shall apply to any of these products.

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

