

operation with minimal maintenance required.

Date of installation:	
Installed by:	
Installer phone#:	
Serial #:	
(Found on label on side of	Power Supply)

KEY INFORMATION YOU SHOULD KNOW:

• Clean the sleeve regularly for optimum performance.

of (before) any UV system.

• A 5-micron (nominal) sediment filter must be installed upstream

• This product is for indoor use only. Keep all components clean

Sterilight[®] SV50 model is USEPA UVDGM 2006 validated.

VIQUA A TROJAN TECHNOLOGIES COMPANY

and dry.

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SAFETY INSTRUCTIONS

GROUNDING

This product must be grounded. If it should malfunction or breakdown, grounding provides a path of least resistance for electric current to reduce the risk of electrical shock. This system is equipped with a cord having an equipment-grounding conductor and 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.

DANGER – Improper connection of the equipment-grounding conductor can result in a risk of electrocution. Check with a qualified electrician or service personnel if you are in doubt as to whether the outlet is properly grounded. Do not modify the plug provided with this system – if it will not fit the outlet, have a proper outlet installed by a qualified electrician. Do not use any type of adapter with this system.

GROUND FAULT CIRCUIT INTERRUPTER PROTECTION

To comply with the National Electrical Code (NFPA 70) and to provide additional protection from the risk of electric shock, this system should only be connected to a properly grounded, grounding-type power supply receptacle that is protected by a Ground Fault Circuit Interrupter (GFCI). Inspect operation of GFCI as per manufacturers suggested maintenance schedule.

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.

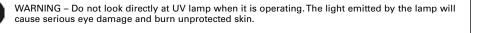
WARNING – To guard against injury, basic safety precautions should be observed, including the following:

1. READ AND FOLLOW ALL SAFETY INSTRUCTIONS.

- 2. **DANGER** To avoid possible electric shock, special care should be taken since water is employed in the use of this system. 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.
- 3. **CAUTION** Do not operate with broken or faulty parts as this may result in exposure to ultraviolet radiation. Contact supplier for replacement parts.
- 4. Do not operate the system if it has a damaged cord or plug, or if it is malfunctioning or if it has been dropped or damaged in any manner.
- 5. Always unplug the system, shut off water flow and release water pressure before servicing or cleaning. Never yank cord to remove from outlet; grasp the wall plug and pull to disconnect.
- 6. Do not use the system for other than intended use. The use of attachments not recommended or sold by the manufacturer may cause an unsafe condition.
- 7. To prevent risk of electrical shock, connect this system only to a properly grounded, grounding-type power supply receptacle that is protected by a Ground Fault Circuit Interrupter (GFCI). Inspect performance of GFCI as per manufacturer's suggested maintenance schedule. If an extension cord is used, ensure it is of a sufficient rating and accepts the plug from this system; never use an adapter.
- 8. Visually inspect this system prior to installation. If the quartz sleeve or lamp is broken, cracked or damaged in any way, do not use. Contact the supplier for replacement parts
- 9. Keep all connections dry and off the ground. Do not touch plug with wet hands.
- 10. The light emitted by the lamp will cause serious eye damage and burn unprotected skin. Do not plug system into an electrical outlet without first properly securing the lamp into the chamber. Unplug the system prior to removing the lamp from the chamber.
- 11. If the UV system malfunctions or fails, water must be boiled prior to consumption until the UV system is operational and the water lines have been shocked. System failure is indicated by the system's audible and visual alarms or the absence of any indicator light.
- 12. Intended for indoor use only. System must not be exposed to weather elements. In seasonal applications, chamber must be drained to prevent freezing.
- 13. Installation of this system must be in accordance with local plumbing and electrical codes as well as any and all applicable regulations and laws.
- 14. SAVE THESE INSTRUCTIONS.



WARNING – To prevent risk of electrical shock, connect this system only to a properly grounded, grounding-type power supply receptacle that is protected by a Ground Fault Circuit Interrupter. Pull plug before servicing or replacing lamp. Keep all connections dry and off the ground. Do not touch plug with wet hands.





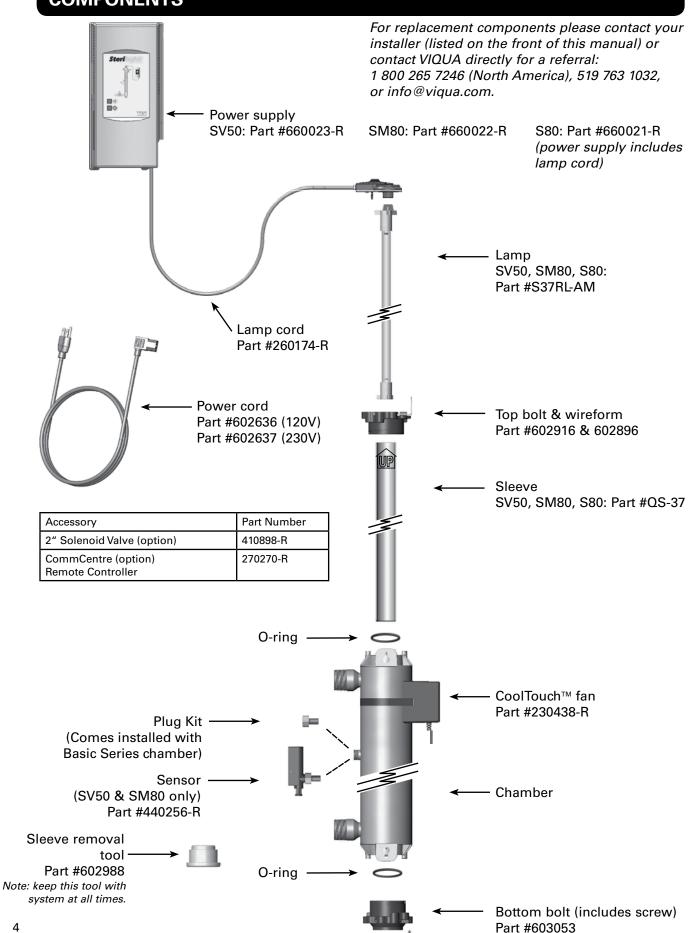
WARNING – Read manual before installing or servicing this system. Only authorized personnel possessing a strong understanding of this system should attempt to replace lamp or service this system.

NOTE - Maximum pressure rating is 100 PSI (6.89 bar)

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COMPONENTS



WARRANTY

General (All Models)				
Operating Parameters				
Maximum operating pressure	100 PSI (689 kPa)			
Minimum operating pressure	4 PSI (27 kPa)			
Maximum ambient air temperature	104ºF (40ºC)			
Minimum ambient air temperature	32°F (0°C)			
Maximum humidity	100%			
Maximum hardness	120 ppm (7 grains per gallon)			
Maximum iron	0.3 ppm			
Minimum UVT	75%*			
Installation	Vertical ONLY			
Other				
Chamber material	316L SST			
Rated service life of lamp	2 years			

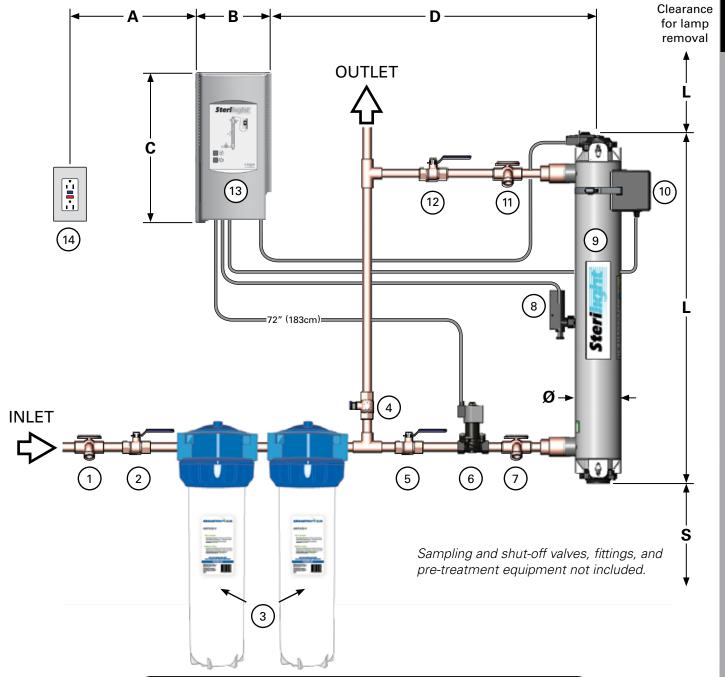
* $\overline{\text{SV50}}$ has a minimum UVT rating of 85%

	SV50*	SM80**	S80**
Rated flow dose of 30 mJ/cm ²		up to 80 gpm (265 lpm)	up to 80 gpm (265 lpm)
Rated flow dose of 40 mJ/cm ²	50 gpm (189 lpm)		
Electrical			
Voltage	100-240V 50-60Hz	100-240V 50-60Hz	100-240V 50-60Hz
Max. current	2.4 Amp	2.4 Amp	2.4 Amp
Max. power consumption	230 Watts	230 Watts	230 Watts
Lamp power consumption	200 Watts	200 Watts	200 Watts
Port Size			
Inlet and outlet	2" MNPT	2" MNPT	2" MNPT
	*Flow rates shown are at 85% UVT. ** Flow rates show are at 95% UVT.		

SPECIFICATIONS

	SV50	SM80	S80
Color-coded plug and play connections	Yes	Yes	Yes
Sensor with diagnostic test	Yes	Yes	
CoolTouch fan	Yes	Yes	Yes
Communications ports (two, RJ45)	Yes	Yes	Yes
Solenoid valve	Optional	Optional	Optional
Controls			
Audible alarm mute button	Yes	Yes	Yes
New lamp button	Yes	Yes	Yes
Lamp age indicator	Yes	Yes	Yes
Lamp operation indicator	Yes	Yes	Yes
Power supply operation indicator	Yes	Yes	Yes
Solenoid operation indicator	Yes	Yes	Yes
Fan operation indicator	Yes	Yes	Yes
Sensor reading indicator	Yes	Yes	
USEPA UVDGM 2006 (SV50 model only)	Yes		
Other certifications			

DIMENSIONS & LAYOUT



Model	L	S (min.)	Ø	A (max.)	В	С	D (max.)
SV50	41"	12"	4"	72"	6.5"	13"	48"
	(103cm)	(30cm)	(10cm)	(182cm)	(16.5cm)	(33cm)	(122cm)
SM80	41"	12"	4"	72"	6.5"	13"	48"
	(103cm)	(30cm)	(10cm)	(182cm)	(16.5cm)	(33cm)	(122cm)
S80	41"	12"	4"	72"	6.5"	13"	48"
	(103cm)	(30cm)	(10cm)	(182cm)	(16.5cm)	(33cm)	(122cm)

OVERVIEW

INSTALLATION

- 1) **Sample valve**: Allows for sampling of raw water.
 - Shut-off valve: Required to allow maintenance of pre-treatment equipment.
- Pre-treatment (illustrative only): For the UV system to operate effectively, the water should meet certain water quality parameters, as outlined below. To meet these, pre-treatment of the water may be required. Pre-treatment equipment must be installed BEFORE the UV chamber. Pre-treatment systems can be comprised of one or more of the following elements: sediment filters; carbon filters; iron removal systems; water softeners; cyst reduction filters, etc.

Water Quality Requirements:

Iron: < .3 PPM (.3 mg/L) Hardness: < 120 PPM (7 Grains Per Gallon) % UVT: > 75% (SM80, S80) > 85% (SV50)

IMPORTANT:

A 5 micron (nominal) sediment filter must be installed before the UV system and after any water softening equipment.

- **Bypass Shut-off valve**: Bypass line and valve are optional. Intended to provide emergency water supply in the event that the UV system is unavailable.
- 5) **Shut-off valve**: Required to allow maintenance of UV system.
- Solenoid valve: Optional piece of equipment supplied by VIQUA a Trojan Technologies Company. Allows water supply to be shut-off when proper disinfection cannot be assured (2" Solenoid available).

Note: If the ground from your electrical panel is tied to your copper water lines, and you are using a solenoid valve, installation of an approved ground strap is required. This ground strap will maintain continuity between the lines that have been cut to install the solenoid. Check your local electrical code for the correct clamp and cable size.



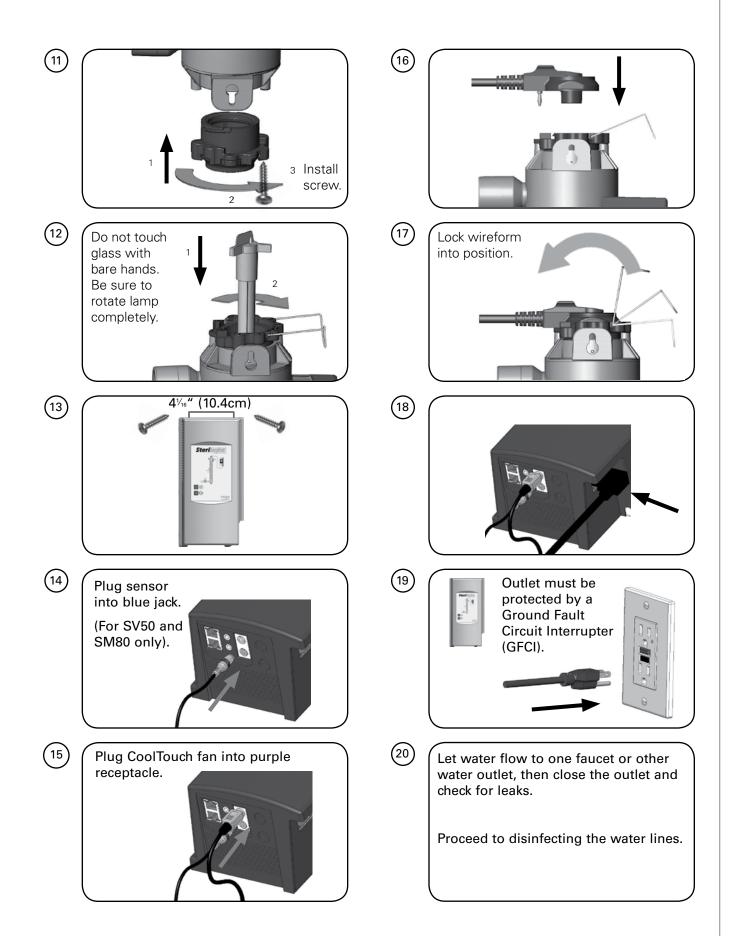
- **Sample valve**: Allows for sampling of water entering UV chamber; necessary in order to confirm water being treated is of adequate quality.
- 8 **Sensor:** Monitors UV output to ensure proper dose (UV exposure) is being provided. Unique test function allows verification of sensor performance.
- 9) UV chamber: Provides disinfection of the water. MUST BE INSTALLED VERTICALLY.
 -) **CoolTouch[™] fan:** Removes excess heat from water in chamber during periods without water flow.
- **Sample valve:** Allows for sampling of water immediately following UV treatment; necessary in order to confirm proper operation of UV system.
- 12) **Shut-off valve**: Required to allow maintenance of UV system.
- 13 **Power supply**: Powers and controls the UV lamp and other devices. Provides human interface, displaying information and allowing control inputs (such as muting the audible alarm).
- Power source: Provides power to the power supply. For safety reasons the outlet must be protected by a Ground Fault Circuit Interrupter (GFCI). NOTE: to protect the power supply, a UL1449 certified (or equivalent) transient voltage surge suppressor is required.

INSTALLING THE UV SYSTEM

6 (1)Determine appropriate indoor Do not touch glass with location of the power supply and chamber, referring to Dimensions and bare hands. Insert curved Layout drawing. Power supply should end of be installed higher than chamber away from all water sources. Ensure sleeve first. Do not rotate adequate clearance above chamber sleeve. to allow for removal of the lamp and sleeve. 7 (2)Attach chamber to Wet O-ring wall vertically. with water then place Install screws 37.5" over top end apart. of sleeve. 3 (8) Ensure Make all necessary plumbing sleeve bolt connections. is rotated full 1/4 turn until positive stop. 9 4 Only for SV50 & SM80 Series. 1 5 (10) Ensure sleeve bolt is rotated full 1/4 turn Wet O-ring until positive with water then place over stop. bottom end of sleeve. 2

OVERVIEW

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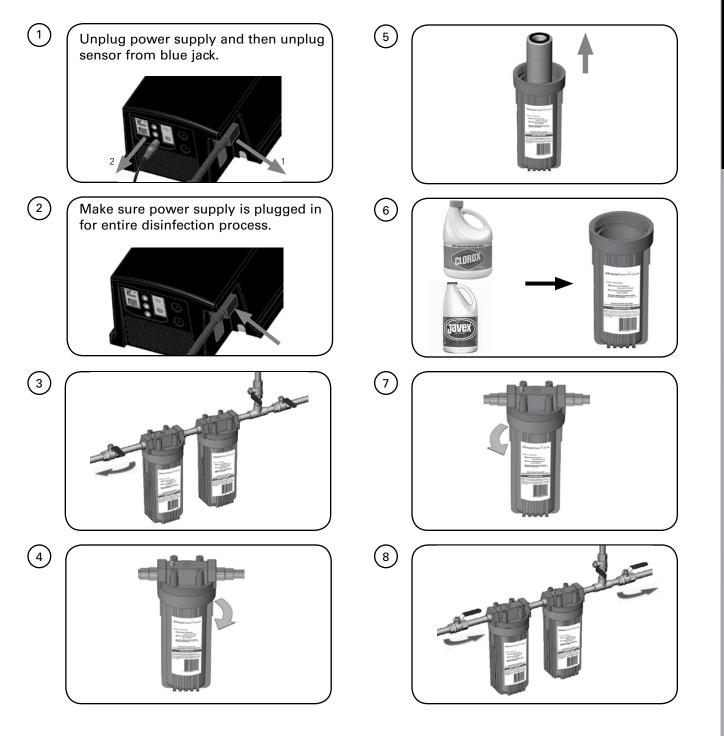


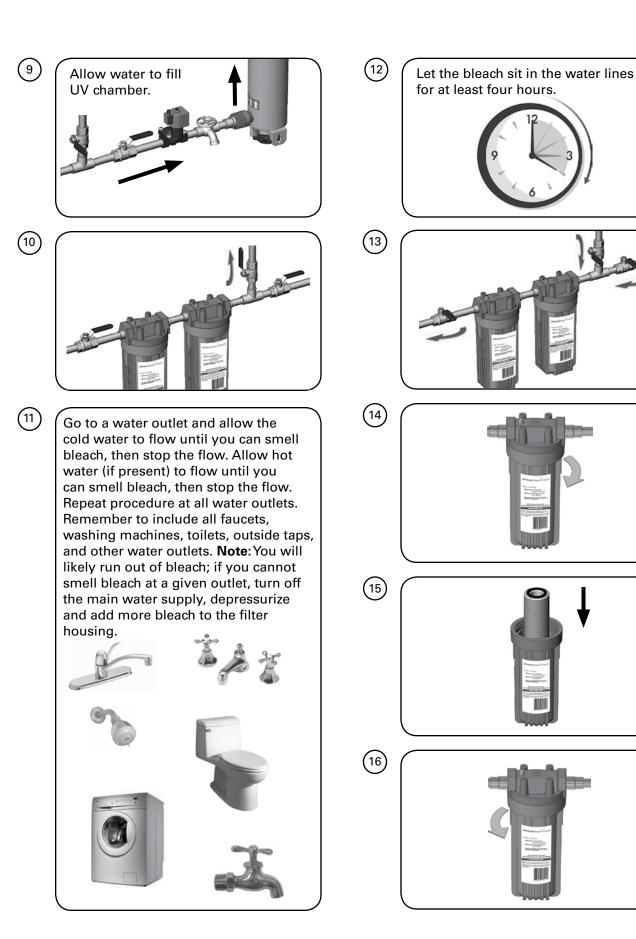
OVERVIEW

OPERATION

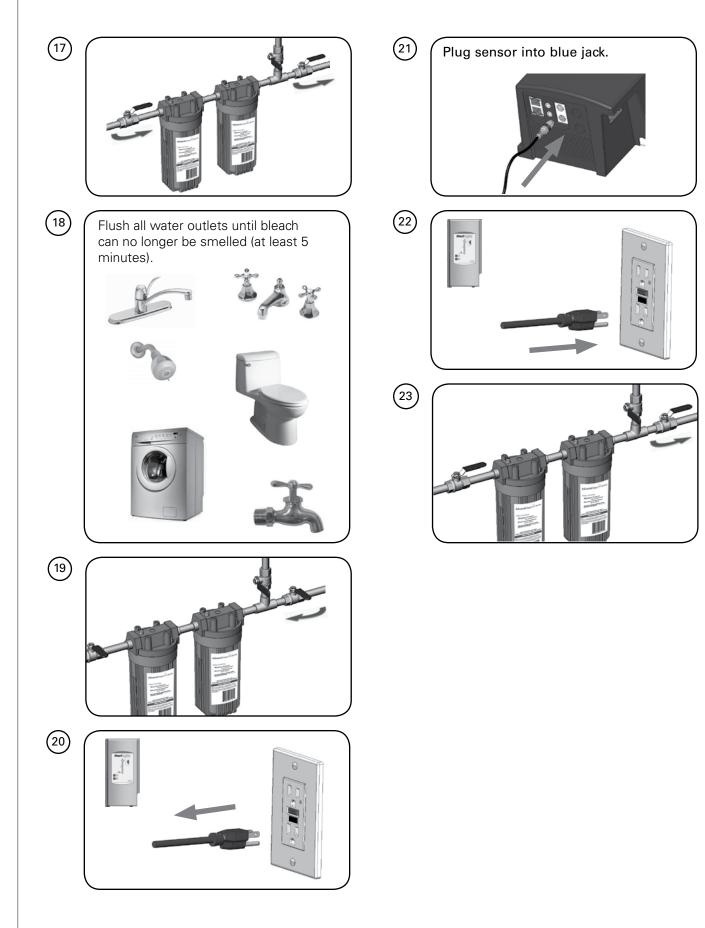
DISINFECTING THE WATER LINES

UV systems disinfect the water using ultraviolet light, treating the water as it passes through the system. When there is a risk that water downstream of the UV system has been contaminated it is critical that these water lines be chemically disinfected. Disinfection of the water lines is therefore required after initial system installation and following any period of time during which the system is inoperative, whether due to an alarm condition, a power failure, or for any other reason.





OVERVIEW



CONTROL PANEL

Buttons

	Button	Meaning
A	Mute	Press this button in order to turn off the audible alarm. When the alarm is due to the lamp's age, the mute button will deactivate the audible alarm for 7 days; this may be repeated up to a maximum of 4 times.
B	New Lamp	After installing a new lamp, press and hold this button until you hear a beep (about five seconds). This will reset the internal clock.



Indicator lights

The table below is a list of *possible* causes and solutions. Before replacing parts, please contact Technical Assistance for any new troubleshooting techniques (1 800 265 7246).

	Green	Yellow	Flashing Red	Solid Red
1	Operating normally	Not applicable	Power supply failure; replace power supply	Power supply inactive due to lamp failure
(2)	Operating normally	Not applicable	Fan disconnected; reconnect	Not applicable
Ŭ			Fan turning slower than required; unplug system, clean blades using a Q-tip	
			Fan damaged; replace fan	
3	Operating normally	Warning; lamp will require replacement	Lamp disconnected; unplug system, reconnect lamp and plug-in system again	Lamp inactive due to power supply failure
		shortly	Lamp failure; replace lamp	
4	UV dose is adequate and sensor is operating normally	UV dose is near the minimum required	Sensor disconnected; unplug system, reconnect sensor and plug- in system again	Sensor inactive due to lamp or power supply failure
	(SV50 & SM80 models only)		UV dose is below minimum required, see Low UV Alarm section	
5	Solenoid valve open (If equipped with solenoid)	Not applicable	Solenoid valve disconnected; reconnect	Solenoid valve inactive (closed) due to failure of another
			Solenoid coil damaged; replace coil (not entire solenoid)	component, in order to ensure safety of the water supply

OVERVIEW

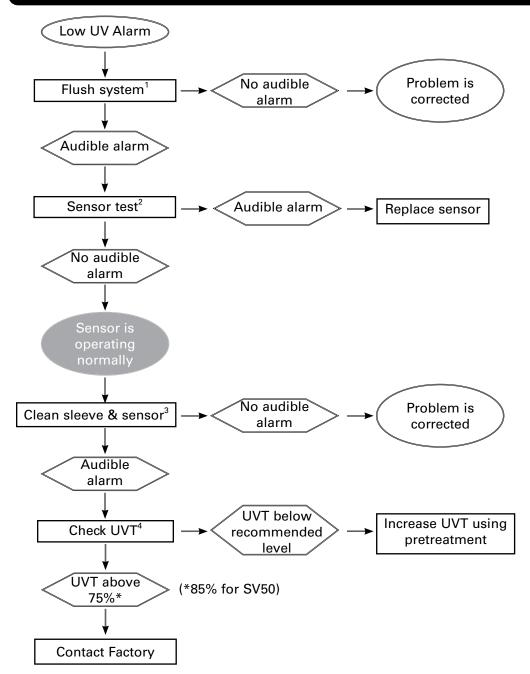
WARRANTY

TROUBLESHOOTING

The table below is a list of *possible* causes and solutions. Before replacing parts, please contact Technical Assistance for any new troubleshooting techniques (1 800 265 7246).

Symptom	Possible Cause	Possible Solution
No power	GFCI and/or breaker tripped	Reset GFCI and/or breaker
	Power supply fuse has blown	Replace power supply fuse - see Fuse Replacement section
	Transient voltage surge suppressor (TVSS) damaged	Replace TVSS
	Power supply damaged	Replace power supply and use a TVSS
GFCI or breaker repeatedly trips	Connection between lamp and lamp plug is wet	Clean and dry the lamp plug and lamp end lamp, check unit for leaks or condensation
	Short-circuit in the electrical assembly	Replace power supply
Leak at inlet or outlet	Threaded pipe fittings are leaking	Clean threads, reseal with Teflon tape and retighten
Leak detected from area of	Condensation of moist air on cold chamber (slow accumulation)	Control humidity or relocate unit
chamber	O-ring damaged, deteriorated or incorrectly installed	Inspect and replace if deteriorated
	Sleeve bolt not tight enough	Ensure nut is turned completely (to stops)
Alarm	See Control Panel section	See Control Panel section
System is operating but water tests	Equipment downstream of UV system is acting as a breeding ground for pathogens	Ensure UV is the last piece of treatment equipment
reveal bacterial contamination	Pathogens are residing in the distribution lines post-UV	Ensure all distribution lines have been disinfected with chlorine - see Disinfecting the Water Lines section
	Recontamination from pipe dead-ends	Remove any pipe dead-ends and flush with chlorine - see Disinfecting the Water Lines section

LOW UV ALARMS (SV50 & SM80 only)



- In some cases, short-term flows of low ultraviolet transmittance (UVT) water can be created following and during the regeneration cycle of a water softener, resulting in a sensor alarm. Flushing the UV system alleviates this condition until the softener goes through another regeneration cycle. In the longer term, the softener's settings must be modified. To flush the UV system, unplug the sensor, then open a tap downstream and let water run for two (2) minutes. Disinfect the water lines following the procedures outlined under "Disinfecting The Water Lines" in the Installation section.
- 2. SV50 and SM80 Series are equipped with a unique, patented, self-test sensor. Simply press the test button located at the top of the sensor and hold until the audible alarm stops (usually about 5 seconds). If the audible alarm is still present after 30 seconds, release the button and replace the sensor.
- 3. Refer to Sleeve Cleaning And Lamp Replacement section of the Owner's Manual.
- 4. Contact your water treatment dealer to inquire about testing the UVT of your water.

MAINTENANCE

OPERATION

SLEEVE CLEANING & LAMP REPLACEMENT

Sleeve cleaning

Minerals in the water slowly form a coating on the sleeve. This coating must be removed because it reduces the amount of UV light reaching the water, thereby reducing disinfection performance. The need to clean the sleeve will be indicated by a low UV alarm (flashing red indicator light beside the sensor on control panel - see Control Panel section for details).

Note: Low UV alarms are for SV50 & SM80 Series only. If you own a Basic model, please clean the sleeve regularly (3-4 times per year, or more often depending on water quality).

When only cleaning is required, follow the instructions below and re-install the current lamp.

Lamp replacement

The amount of UV light created by the lamp decreases over time, requiring that the lamp be replaced. The system will automatically notify you when it is time to replace the lamp (the lamp should last approximately 24 months). If the lamp requires replacement, follow the instructions below and install a new lamp. NOTE: The UV system is designed to operate continuously and should not be shut off for short periods of time, such as over a period of less than three weeks.

Equipment required:



#2 Phillips screw driver



Clean cotton, latex or plastic gloves are preferred.



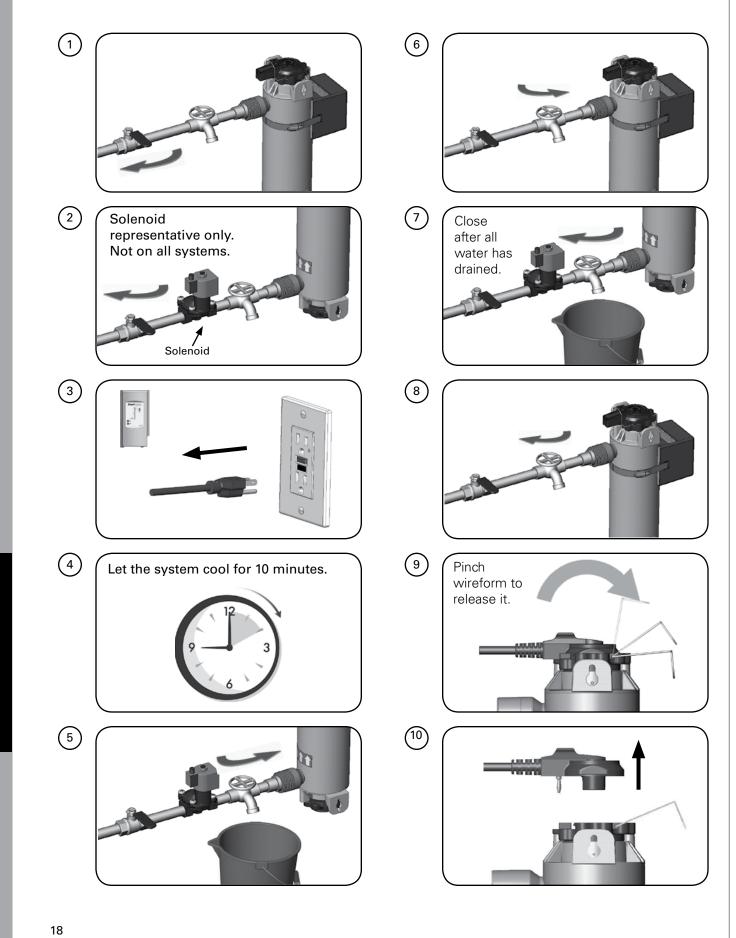
Scale remover such as CLR™ or Lime-Away™.

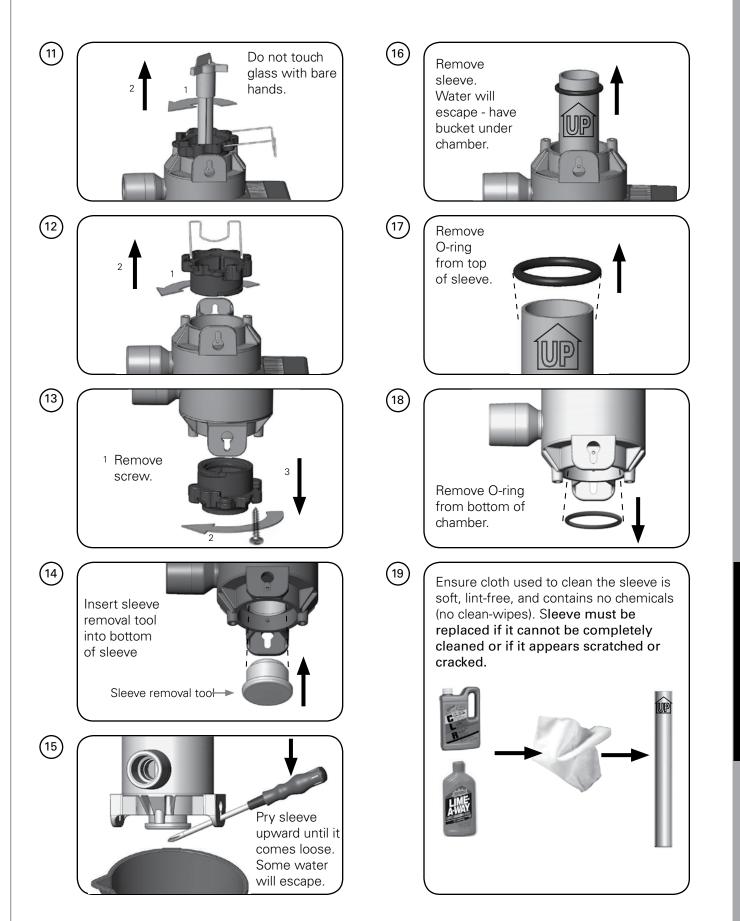


Cloth must be soft, lint-free, and chemical-free. No clean-wipes.

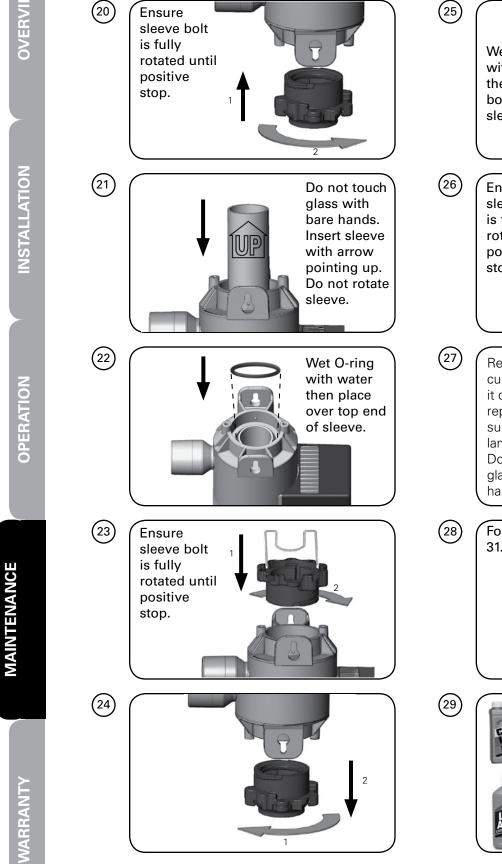


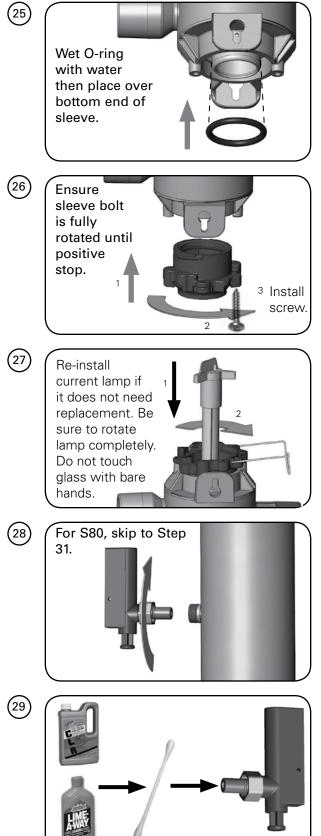
Cotton swab.



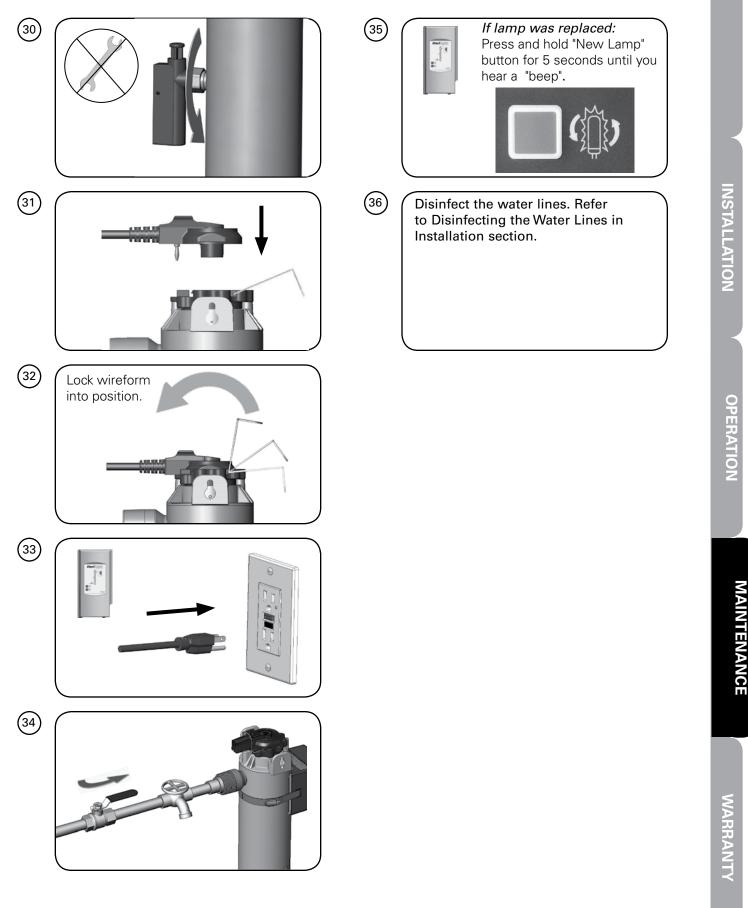


OVERVIEW



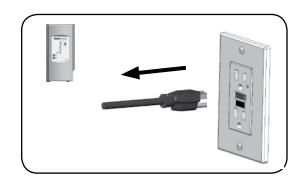


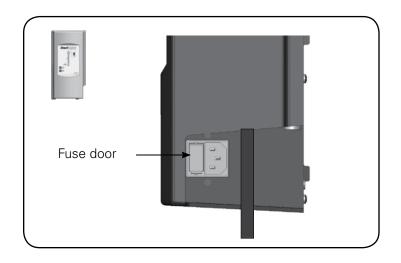
Ensure



FUSE REPLACEMENT

The system comes equipped with one functioning and one spare 250V 2.5A fuse. To access the fuses, first unplug system and disconnect the power cord from the power supply. Remove the fuse door by pushing in the tab on one side using a knife or other tool and gently prying outwards. Repeat on the other side.





WARRANTY

Our Commitment

To maximize the superior quality of disinfection, each Sterilight[®] product must be properly sized, installed, and maintained. If you experience difficulty with your product, our Technical Support Centre is available to help you.

During the applicable warranty period noted below, we will provide the warranty coverage, described below, for your product.

How to Get Help

To obtain help under this warranty, contact the VIQUA Technical Support Center at 1 800 265 7246 or by email at info@viqua.com. Please have available the model number, the date of purchase, the name of the dealer from whom you purchased your Sterilight product ("the source dealer"), as well as a description of the problem you are experiencing. A VIQUA technician will help you troubleshoot the problem and isolate the defective part.

In order to establish proof of purchase when making a warranty claim, you will either need your original invoice, previously completed and returned your warranty card through the mail or online.

Specific Warranty Coverage

Warranty coverage is specific to the following Sterilight products:

Ten-Year Limited Warranty for Sterilight[®] UV Chamber

VIQUA warrants the UV chamber on the Sterilight[®] product to be free from defects in material and workmanship for a period of ten (10) years from the date of purchase. During this time, we will repair or replace, at its option, any defective Sterilight[®] UV chamber.

Please return the defective part to a Sterilight dealer, who will return it to VIQUA - a Trojan Technologies Company. 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 ten (10) year warranty will be covered under warranty to the end of the original ten (10) year warranty period. This warranty is also subject to the conditions and limitations outlined under the heading "General Conditions and Limitations" below.

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

VIQUA warrants the structural, hardware, and electrical components to be free from defects in material and workmanship for a period of five (5) 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 a Sterilight dealer, who will return it to VIQUA - a Trojan Technologies Company. 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 five (5) year warranty will be covered under warranty to the end of the original five (5) year warranty period. This warranty is also subject to the conditions and limitations outlined under the heading "General Conditions and Limitations" below.

One-Year Limited Warranty for Lamps, Sleeves and UV Sensors

VIQUA warrants original lamps, sleeves and UV sensors to be free from defects in material and workmanship for a period of one (1) year from the date of purchase. During this time, we will repair or replace, at its option, any defective parts covered by the warranty.

The warranty period for lamps and sleeves may be verified using date codes in addition to purchase receipts and VIQUA's database of registered owners. We will advise you whether the defective item needs to be returned to a Sterilight dealer for failure analysis. Replacement lamps and sleeves provided under warranty will be sent to your Sterilight dealer.

If the UV sensor experiences a problem which VIQUA confirms is covered by warranty, please return the sensor to a Sterilight dealer who will return it to us. We will either repair or replace the sensor and return the sensor to your dealer. This warranty on lamps, sleeves and sensors does not include shipping and handling charges which will be collected from you by the dealer.

Parts 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.

Warranty for Replacement Lamps and Parts

VIQUA warrants replacement lamps, purchased for bi-annual routine maintenance, and other parts purchased to repair product components that are no longer covered by the original warranty, to be free from defects in material and workmanship for a period of three (3) months from the date of purchase. During this time, we will repair or replace, at its option, a defective replacement lamp or part free of charge except for shipping and handling charges.

The warranty period on replacement lamps and parts will be verified using date codes and/or purchase receipts. VIQUA will advise you whether the defective item needs to be returned to a Sterilight dealer for failure analysis. Replacement lamps and parts provided under warranty will be sent to your Sterilight 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.

The limited warranties described above are the only warranties applicable to the Sterilight products listed in the "Specific Warranty Coverage" section. 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.

VIQUA - a TrojanTechnologies Company does not assume any liability for personal injury or property damage caused by the use or misuse of any of the above products. VIQUA shall not in any event be liable for special, incidental, indirect or consequential damages. VIQUA'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.



Sterilight[®] SV50 model is USEPA UVDGM 2006 validated.



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Sterilight® modèle SV50 Certifié USEPA UVDGM – 2006



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