

TROJANUVMAX™

WHOLE HOME UV DISINFECTION SYSTEM

Model IHS12-D4
and IHS12-D4/2

OWNER'S MANUAL



PURIFY WATER
99.99% FREE
OF BACTERIA
AND VIRUSES!

Congratulations. By purchasing this system, you have taken the first step in ensuring safe drinking water for your whole home.

Date of installation:

Installed by:

Installer phone #:

Serial #:

(Found on label on side of Power supply)

KEY INFORMATION YOU SHOULD KNOW:

- This product is for indoor use only.
Keep all components clean and dry.
- Clean the sleeve regularly for optimum performance

VIQUA™
A TROJAN TECHNOLOGIES COMPANY

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520166-R

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 – Do not look directly at UV lamp when it is operating. The light emitted by the lamp will cause serious eye damage and burn unprotected skin.



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 125 PSI (8.62 bar)

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SPECIFICATIONS

Specifications

Operating Parameters

Maximum operating pressure	125 PSI (862 kPa)
Minimum operating pressure	4 PSI (27.5 kPa)
Maximum ambient air temperature	122 °F (50°C)
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%

Flow Rates*

Maximum rated flow at dose of 16 mJ/cm ²	16 GPM (60 LPM)
Maximum rated flow at dose of 30 mJ/cm ²	9 GPM (34 LPM)
Maximum rated flow at dose of 40 mJ/cm ²	7 GPM (26 LPM)

Electrical

Voltage	100-240V AC
Frequency	50-60 Hz
Max. current	0.5 Amp
Max. power consumption	50 Watts
Lamp power	40 Watts

Other

UV Chamber Material	304 SST
Inlet/Outlet	3/4" NPT

Other

Rated service life of lamp	1 year
UV System Certification	

*Flow rates shown are at 85% UVT.

COMPONENTS

For replacement components, please contact your installer (listed on the front of this manual) or contact VIQUA directly for a referral: 1 800 265 7246 (North America), 519 763 1032, or info@viqua.com.

Components

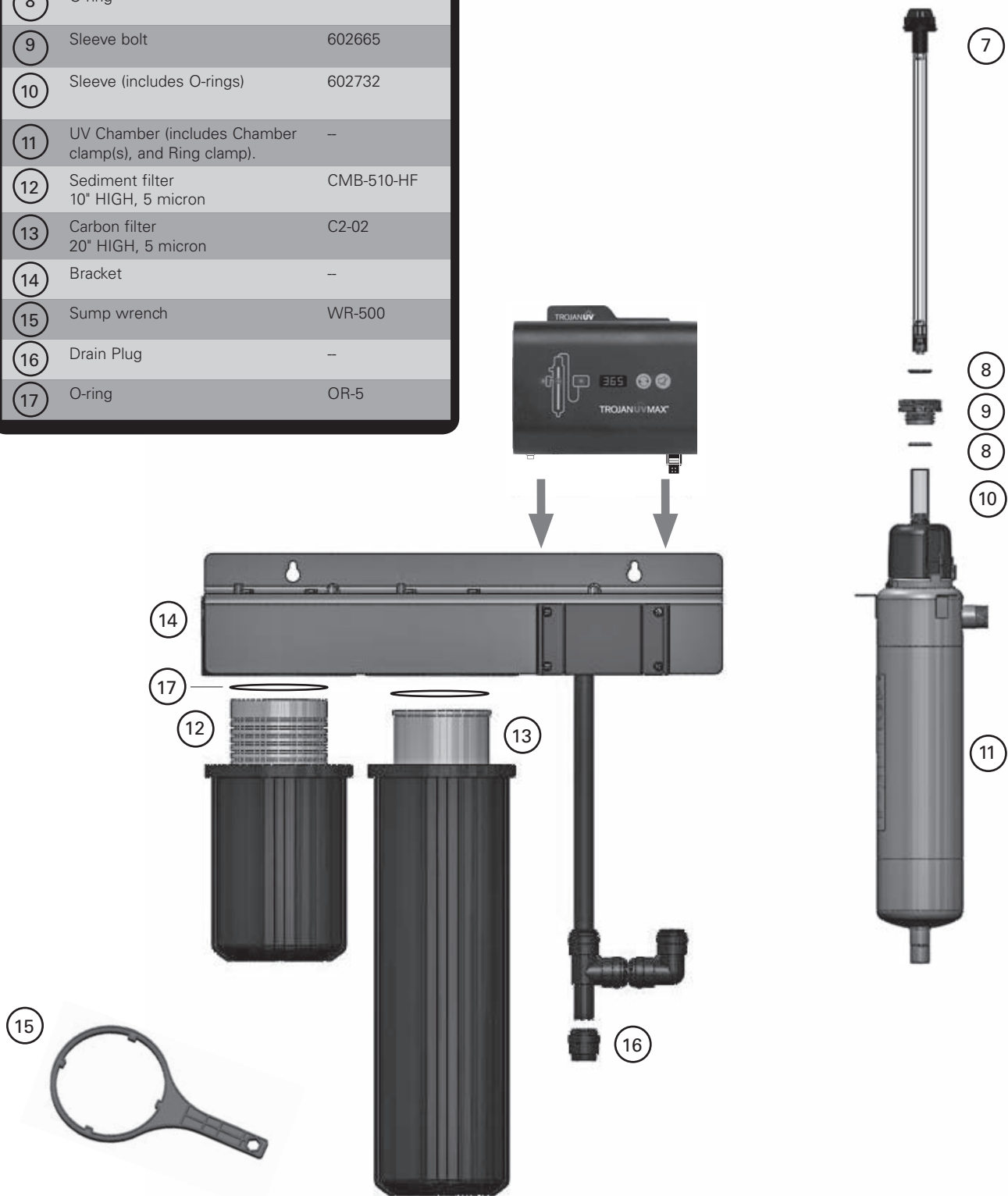
Part	Part Number
1 Power supply mounting bracket	--
2 Reference card	603069
3 Power supply (includes Power supply mounting bracket, Reference card, Safety cap, Lamp cord)	650713-007
4 Power cord	602636 (120V) 602637 (230V)
5 Safety cap	603000
6 Lamp cord	--



COMPONENTS

Components

Part	Part Number
7 Lamp (includes O-rings)	602805
8 O-ring	—
9 Sleeve bolt	602665
10 Sleeve (includes O-rings)	602732
11 UV Chamber (includes Chamber clamp(s), and Ring clamp).	—
12 Sediment filter 10" HIGH, 5 micron	CMB-510-HF
13 Carbon filter 20" HIGH, 5 micron	C2-02
14 Bracket	—
15 Sump wrench	WR-500
16 Drain Plug	—
17 O-ring	OR-5



OVERVIEW

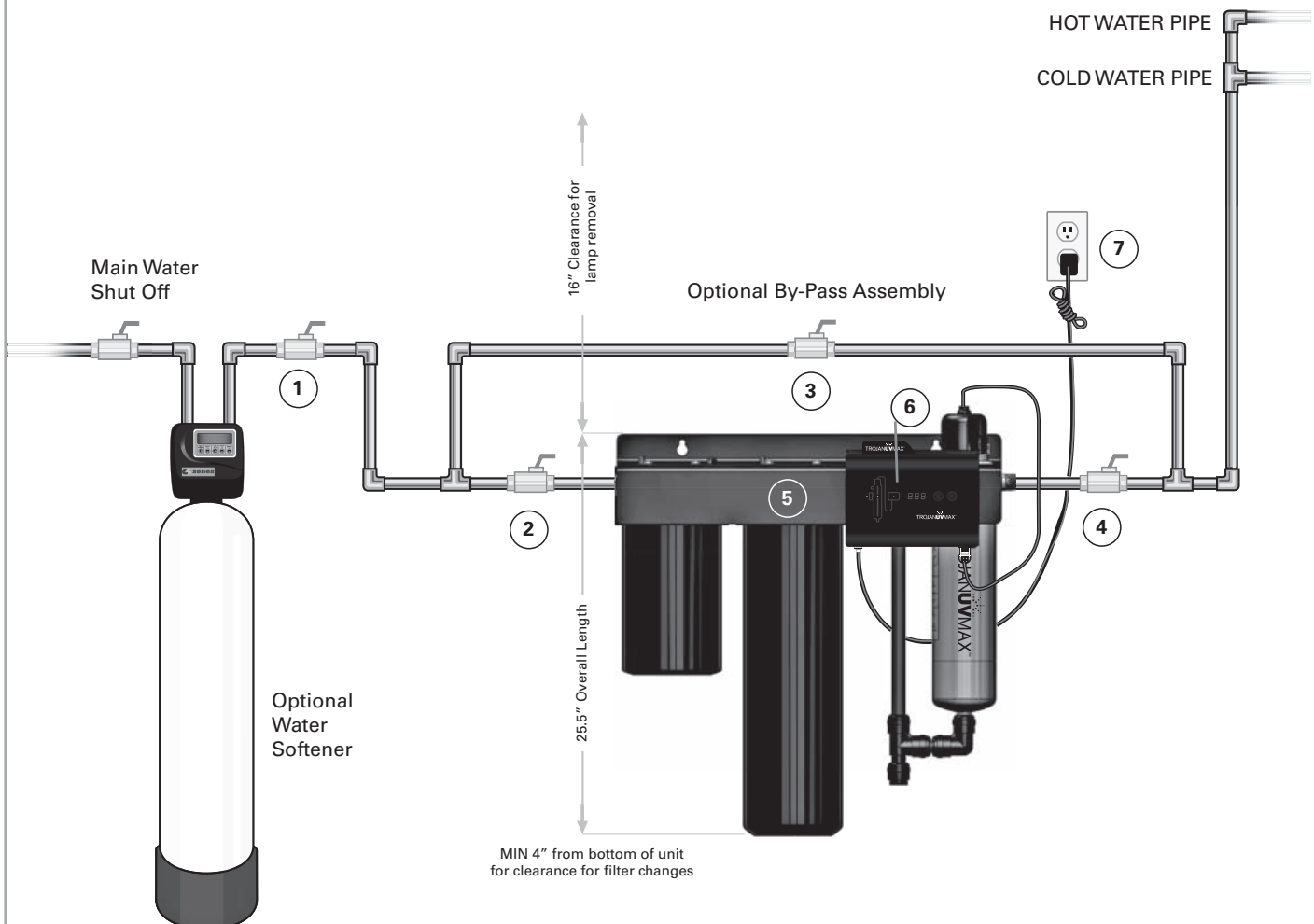
INSTALLATION

OPERATION

MAINTENANCE

WARRANTY

DIMENSIONS AND LAYOUT



- ① Main water shut-off valve.
- ② Shut-off valve: Allows for ease of maintenance of whole home UV disinfection system.
- ③ 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.
- ④ Shut-off valve: Allows for ease of maintenance of whole home UV disinfection system.
- ⑤ Whole Home System: Provides filtration and disinfection of the water.
- ⑥ 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).
- ⑦ 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

- 1 Determine appropriate **indoor** location of the power supply and chamber, referring to Dimensions and Layout drawing. Ensure adequate clearance above chamber to allow for removal of the lamp and sleeve. Make sure to turn off the main water supply.

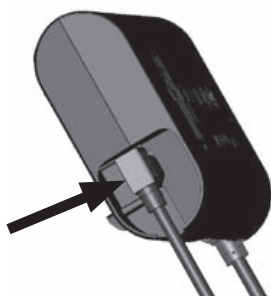
- 2 Mount the system to the wall with appropriate lag bolts through the two mounting holes located on the metal bracket. The supplied lag bolts are suitable for attachment to wood. (Attachments to other materials will require purchasing of alternative hardware).

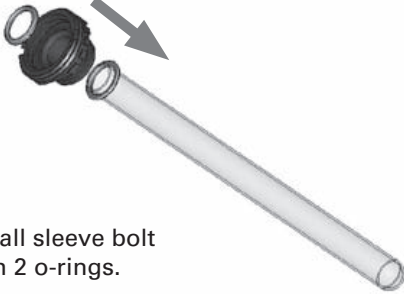
- 3 Make all necessary plumbing connections referring to Dimensions and Layout drawing.

- 4 Slide power supply onto mounting bracket.
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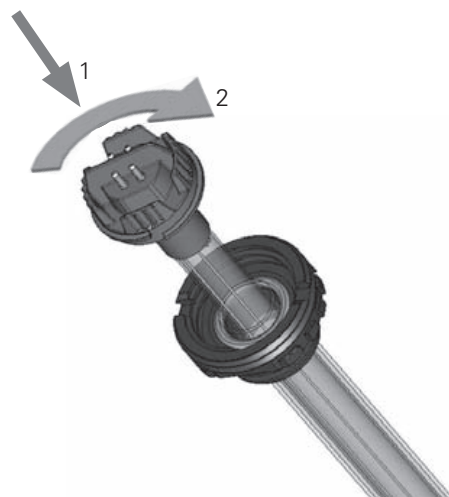
- 5 Slide Reference card behind power supply.
- 

- 6 Outlet must be protected by a Ground Fault Circuit Interrupter (GFCI).
- 

- 7
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- 8
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- Install sleeve bolt with 2 o-rings.

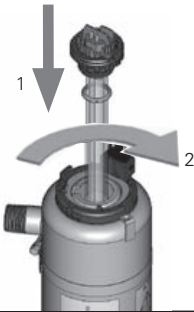
- 9 Screw lamp into sleeve hand-tight.
- Caution: Over tightening will break the sleeve.



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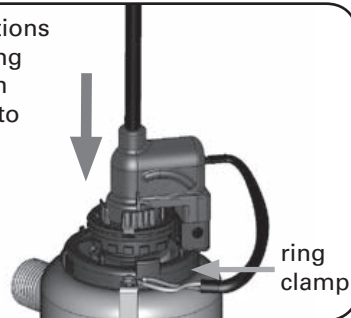
Insert Lamp/sleeve assembly and screw into chamber.

Caution: Over tightening will break the sleeve.



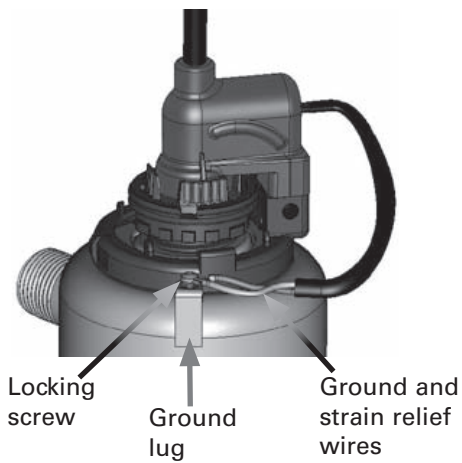
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Align connections by rotating ring clamp to push lamp plug onto end of lamp.



12

Attach ground (green/yellow) and strain relief (red) wires from the lamp plug to the ground lug on the chamber. Secure both wires with locking screw provided.



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Push safety cap into place.



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Let water flow to one faucet or other water outlet, then close the outlet and check for leaks.

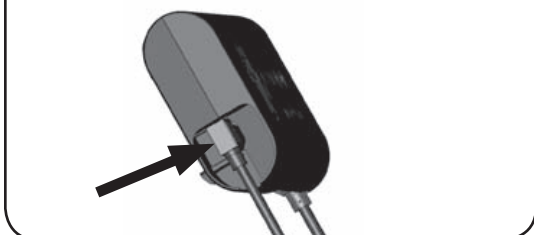
Proceed to Disinfecting The Water Lines.

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. Make sure the UV system is "on" during the entire disinfecting process.

1

Make sure power supply and lamp are plugged in for entire disinfection process.

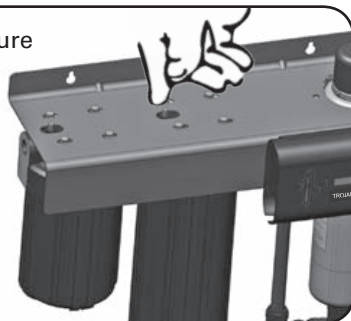


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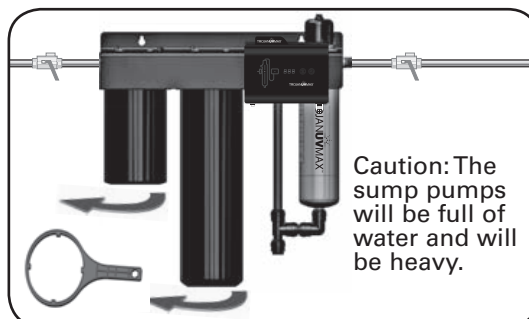
Relieve pressure in the filter.



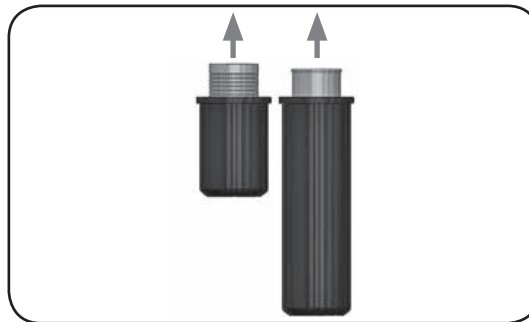
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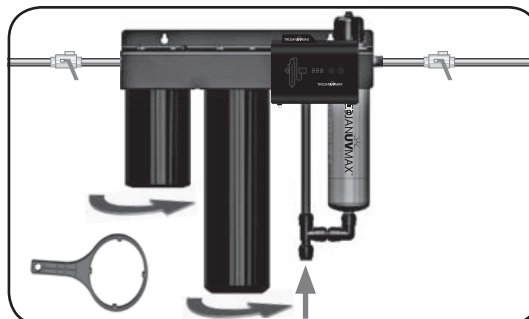
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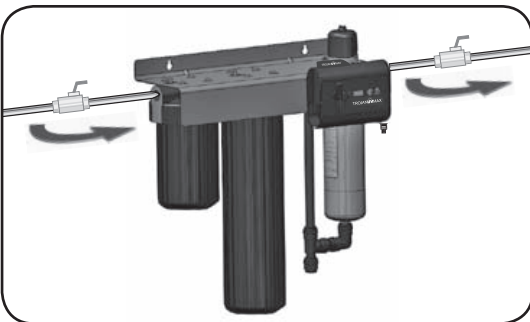
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Go to a water outlet and allow the cold water to flow until you can smell bleach, then stop the flow. Allow hot water (if present) to flow until you can smell bleach, then stop the flow. Repeat procedure at all faucets, washing machines, toilets, outside taps, and other water outlets. **Note:** You will likely run out of bleach; if you cannot smell bleach at a given outlet, turn off the main water supply, depressurize and add more bleach to the filter housing.



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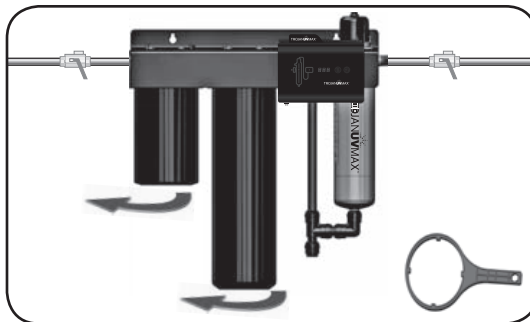
Let the bleach sit in the water lines for at least four hours.



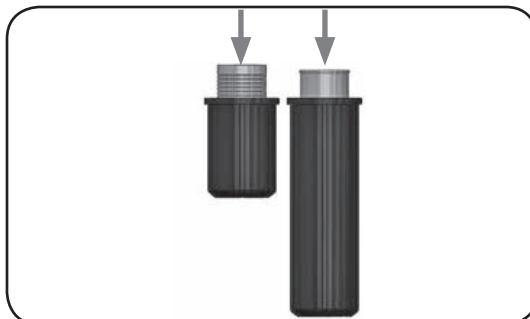
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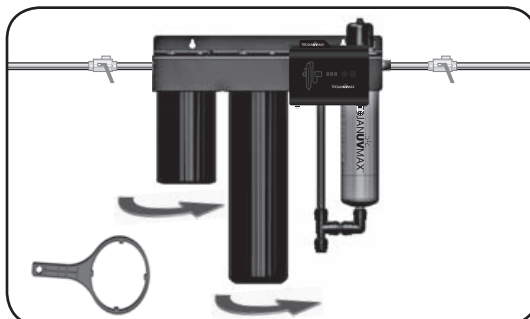
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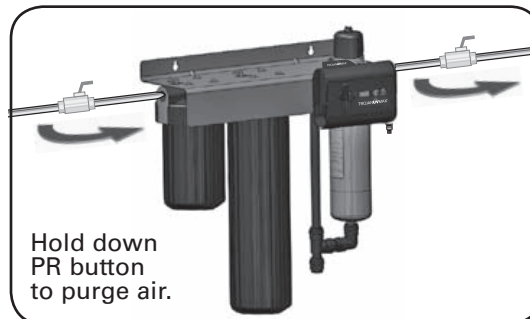
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Flush all water outlets until bleach can no longer be smelled (at least 5 minutes).



CONTROL PANEL



Buttons and Display

(A)	Lamp timer display	Counts down from 365 days to show time for annual lamp replacement.
(B)	Lamp timer reset	After installing a new lamp, press and hold for five seconds to reset Lamp timer to 365.
(C)	Mute	Press to silence audible alarm. When the alarm is due to the lamp's age, the mute button will silence the audible alarm for 7 days; this may be repeated up to a maximum of 4 times. After that, the button will silence for only 24 hours. When the alarm is due to any other issue, the mute button will silence the audible alarm for 24 hours.

Indicator lights

Indicator lights only indicate a problem with the component when flashing red.

The table below is a list of **possible** causes and solutions. Before replacing parts, please contact VIQUA Technical Assistance for any new troubleshooting techniques. 1-800-265-5774

	Green	Yellow	Flashing red	Solid red
(1)	Option not available on this system	Option not available on this system	Option not available on this system	Option not available on this system
(2)	Lamp operating normally	Warning; lamp will require replacement shortly	Lamp disconnected; unplug system, reconnect lamp and plug-in system again Lamp failure; replace lamp	Lamp inactive due to power supply failure
(3)	Power supply operating normally	Air temperature around system is too warm	Power supply failure; replace power supply	Power supply inactive due to lamp failure

TROUBLESHOOTING

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

Symptom	Possible cause	Possible solution
No power	GFCI and/or breaker tripped	Reset GFCI and/or breaker
	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 lamp pins and lamp plug, 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 UV chamber	Condensation of moist air on cold chamber (slow accumulation)	Control humidity or relocate unit
	O-ring damaged, deteriorated or incorrectly installed	Inspect and replace if deteriorated
	Lamp/sleeve assembly not properly installed (too tight or not tight enough)	Tighten assembly hand-tight
Alarm	See Control Panel section on page 15	See Control Panel section on page 15
System is operating but water tests reveal bacterial contamination	Equipment downstream of UV system is acting as a breeding ground for pathogens	Ensure UV is the last piece of treatment equipment
	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
Lamp timer does not read anything	Unit is unplugged	Plug unit into AC power outlet
	No power at AC power outlet	Replace fuse or reset breaker
	Power cord is damaged	Replace power cord
	Power surge caused damage to electrical assembly	Replace power supply and use a surge protector (TVSS)
Leak detected at filters	O-ring damaged, deteriorated or incorrectly installed	Remove the sump, wipe the o-ring and threads clean. ensure the o-ring is fitted properly, then reinstall
	Filter cartridge not centered	Remove sump, check for cartridge damage, re-assemble ensuring cartridge is centered

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 purification performance.

Please clean the sleeve regularly (3-4 times per year, or more often depending on water quality).

When only cleaning is required, follow instructions 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 every 12 months. 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.

The system will automatically notify you after 12 months to replace the lamp. Follow these instructions.

Equipment required:



Gloves



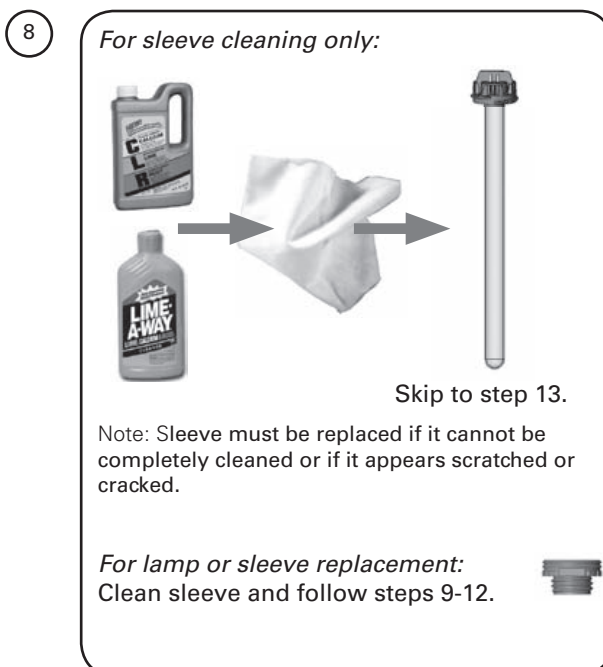
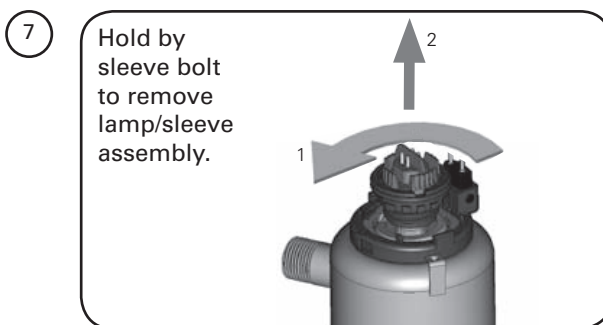
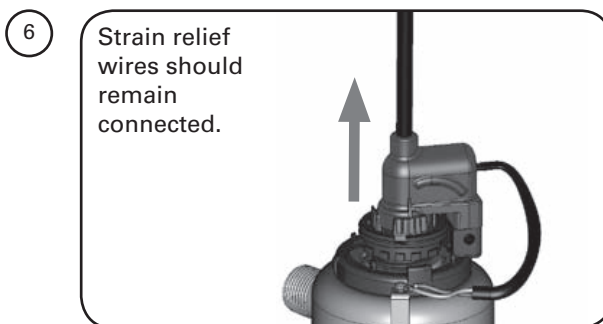
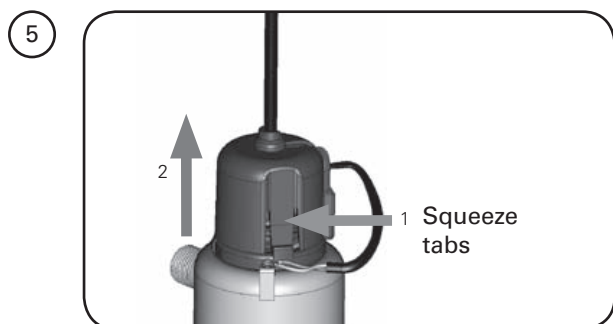
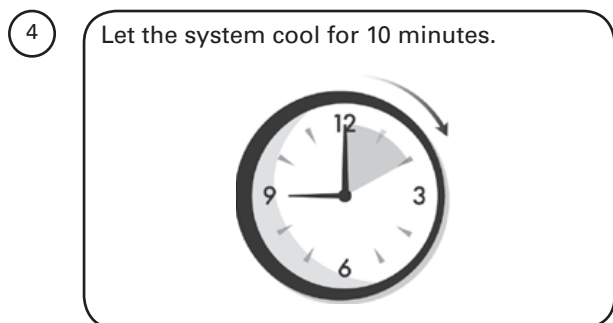
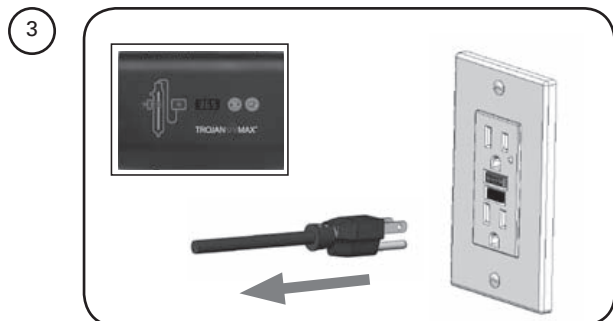
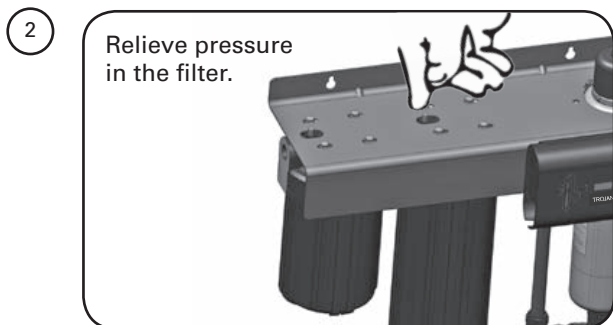
Scale remover such as CLR™ or Lime-A-Way™.



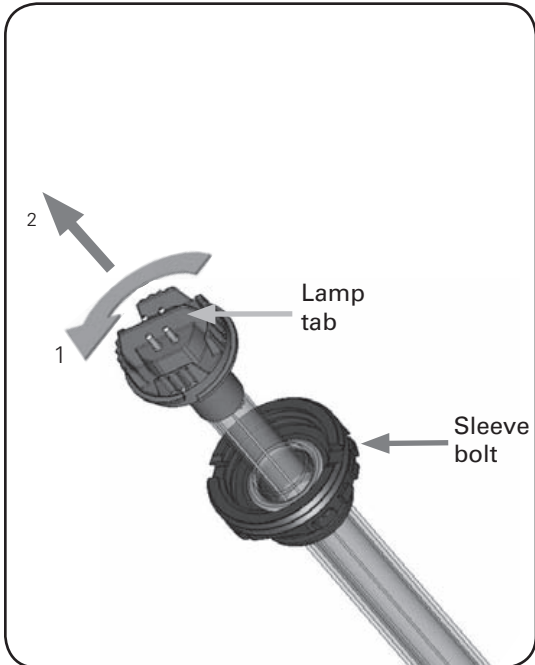
Cloth must be soft, lint-free, and chemical-free. No clean-wipes.

get **genuine**

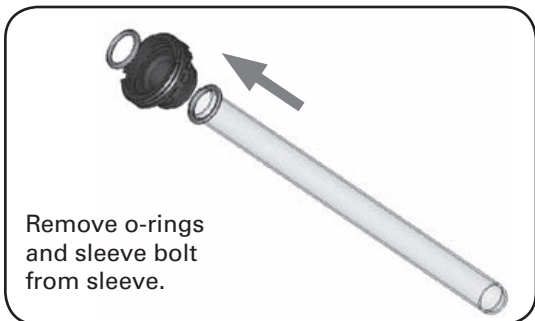
Each component of our UV products has been designed and developed through extensive research and development to be part of an overall system that operates safely and effectively over its entire lifetime. Using genuine parts for our UV systems not only ensures the quality of the disinfection but also ensures maintenance of your system warranty.



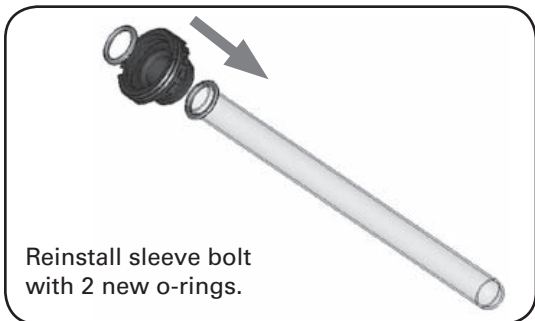
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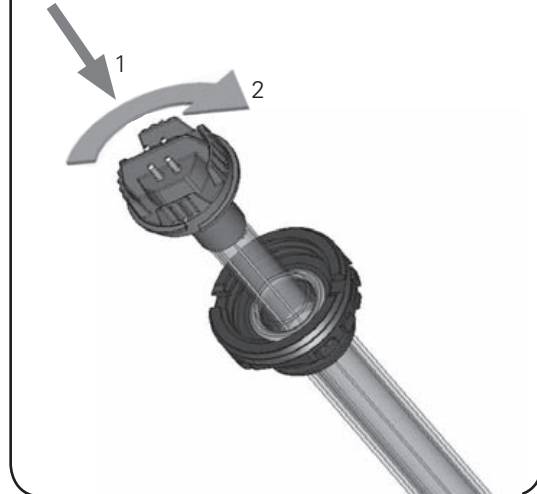
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12

Screw lamp into sleeve hand-tight.

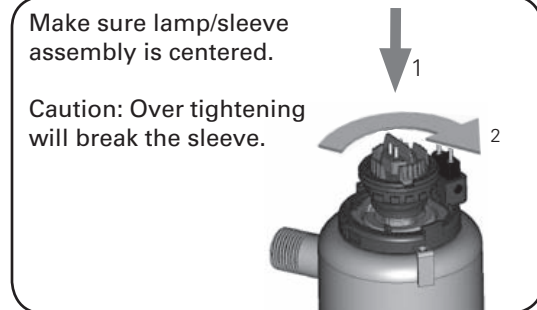
Caution: Over tightening will break the sleeve.

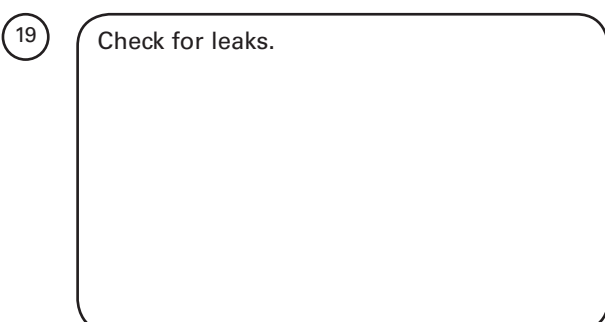
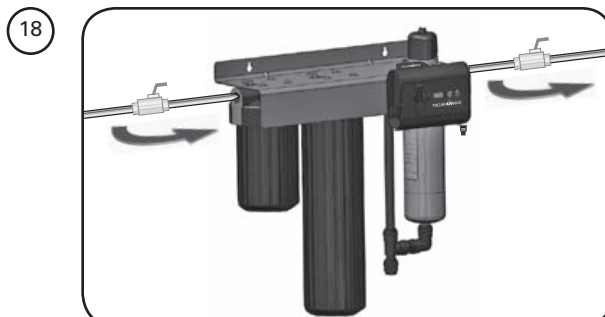
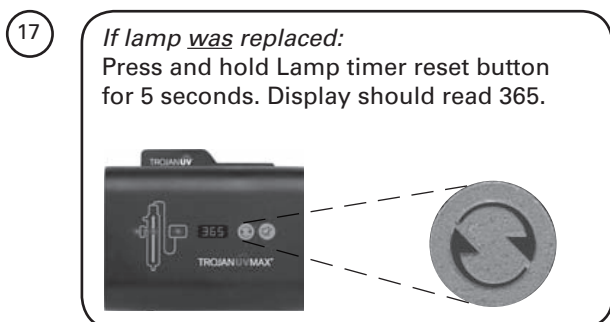
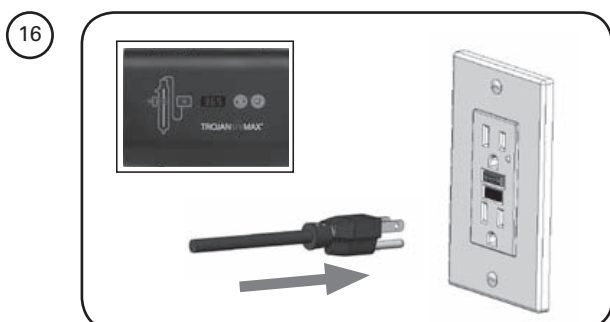
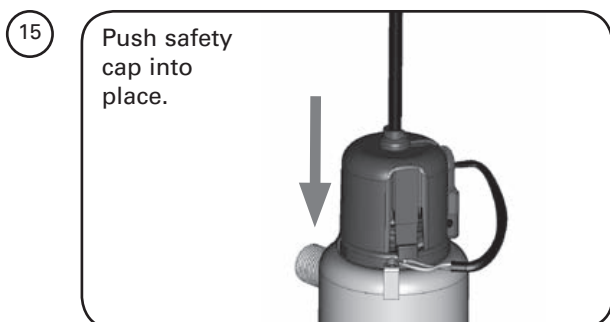
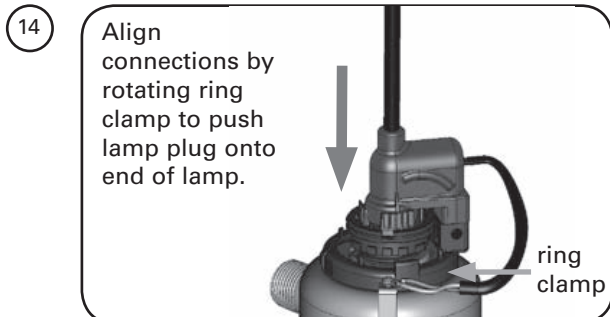


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Make sure lamp/sleeve assembly is centered.

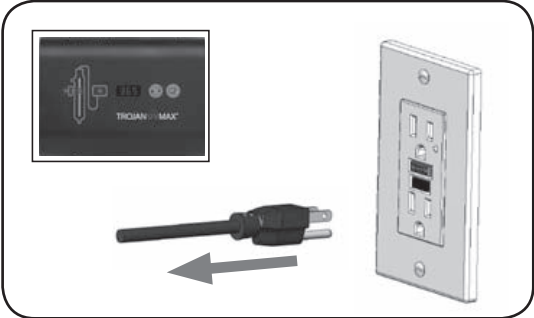
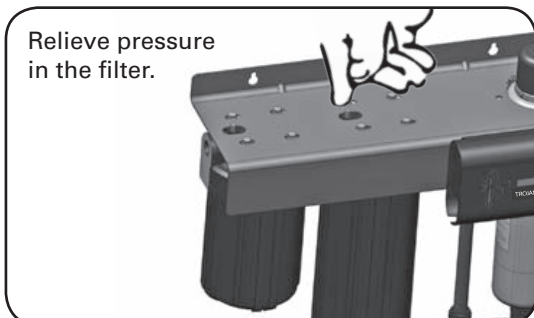
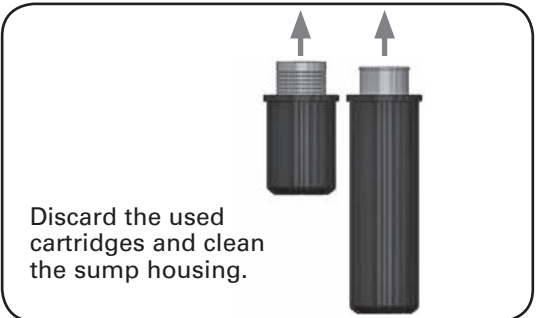
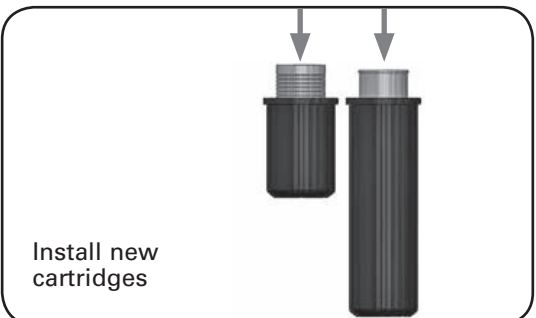
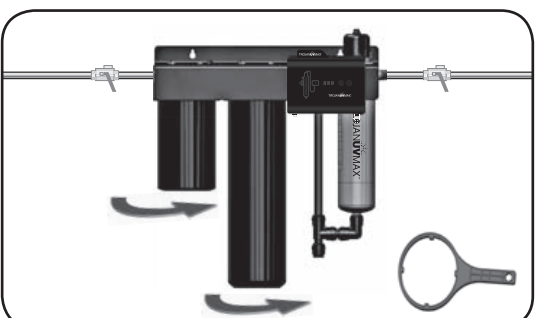
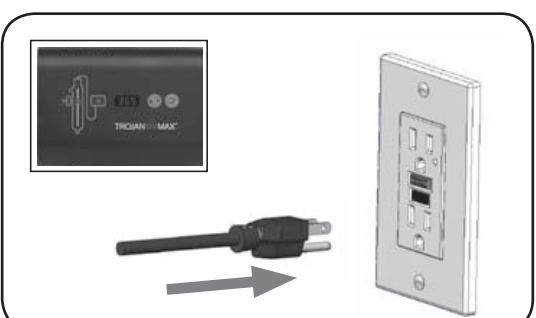
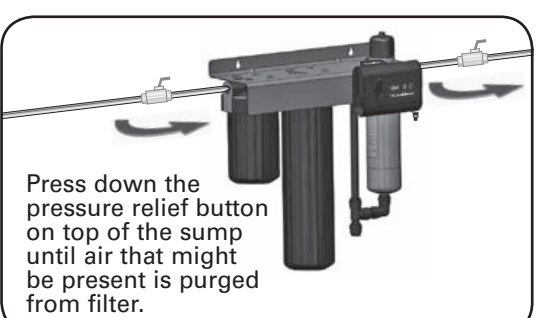
Caution: Over tightening will break the sleeve.





CARTRIDGE REPLACEMENT

It is recommended to change the filter cartridges regularly, approximately 3-4 times per year depending on water quality and usage. A gradual drop in water pressure after the filtration device is an indication that the pre-filter cartridges are nearing the end of their useful life.

- 1  Disconnect the power cord from the wall outlet.
- 2  Rotate the filter housing to the 'OFF' position.
- 3  Relieve pressure in the filter.
- 4  Remove the old filter cartridges from the housing.
- 5  Rotate the filter housing back to the 'ON' position.
- 6  Discard the used cartridges and clean the sump housing.
- 7  Install new cartridges.
- 8  Rotate the filter housing back to the 'OFF' position.
- 9  Connect the power cord to the wall outlet.
- 10  Press down the pressure relief button on top of the sump housing until air that might be present is purged from filter.

WARRANTY

Our Commitment

To maximize the superior quality of disinfection, each TrojanUVMax™ product must be properly 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 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 VIQUA 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 issue.

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

Specific Warranty Coverage

Warranty coverage is specific to the following TrojanUVMax™ products:

Ten-Year Limited Warranty for TrojanUVMax™ UV Chamber

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

Please return the defective part to your 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, 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.

Three-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 three (3) years from the date of purchase. During this time, VIQUA will repair or replace, at its option, any defective parts covered by the warranty.

Please return the defective part to your dealer, who will return it to VIQUA - a Trojan Technologies Company. We will either make the necessary repairs or, if VIQUA determines that a replacement is required, 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 three (3) year warranty will be covered under warranty to the end of the original three (3) 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 and Sleeves

VIQUA warrants original lamps and 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, VIQUA 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. VIQUA will advise you whether the defective item needs to be returned to a VIQUA dealer for failure analysis. Replacement lamps and sleeves provided under warranty will be sent to your TrojanUVMax™ dealer.

This warranty on lamps and sleeves 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 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 your dealer for failure analysis. Replacement lamps and parts provided under warranty will be sent to your 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 TrojanUVMax™ products listed. 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 Trojan Technologies 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.

TROJAN  **UVMAX**™

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