

# INSTALLATION GUIDE AND MAINTENANCE MANUAL

## UV Purifier and Water Treatment Systems



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## Wyckomar Purification Systems

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# INTRODUCTION

Congratulations on purchasing a Wyckomar UV Purification System. This system uses modern UV disinfection technology to purify water from microbiological contamination. When combined with pre-treatment using micro filtration technology, it will provide you with safe drinking water for years to come.

Please read through the installation procedure and follow all safety warnings when setting up your system.

## Table of Content

Section 1	Introduction, TOC	3
Section 2	Safety Instructions	4
Section 3	About UV Purification	6
Section 4	Installation	7
Section 5	Maintenance	19
Section 6	Operation	28
Section 7	Technical Specifications	29
Section 8	Exploded Diagrams, Parts Lists	33
Section 9	Troubleshooting	37
Section 10	FAQs	38
Section 11	Warranty	39



Developing  
Sustainable Water  
Purification Solutions  
with UV Technology  
Innovations



# SAFETY INSTRUCTIONS

Please READ and understand this entire manual before operating the equipment. FOLLOW all safety precautions when setting up and maintaining the equipment. Keep this manual in a safe place for future reference.

## Safety Precautions



### ELECTRICAL SHOCK HAZARD

This UV system is installed near water. Please take all necessary precautions. The ballast and all electrical connections **MUST** be mounted and installed **ABOVE** the water lines to prevent the possibility of electrical shock in case of a water leak. Only connect this UV system to a properly grounded outlet. A GFCI circuit is recommended.

**DO NOT** operate the UV system if the power cord, plug or any electrical component appears to be damaged or if the unit has been dropped or damaged in any way.

**DO NOT** plug in the system if there is water on any part(s) that are not intended to be wet.



### CAUTION - WARNING

**DO NOT** expose eyes to UV rays.

**DO NOT** operate the UV lamp when removed from the chamber.

The UV lamp in this system contains mercury (Hg). This can become a hazard only if the lamp breaks. In case of a lamp breakage, avoid inhalation or ingestion of debris and avoid exposure to the eyes and skin. Do not attempt to use a vacuum cleaner to clean up the broken lamp. Follow local regulations and guidelines for disposal of mercury waste.



### CAUTION - WARNING

This system is to be used **ONLY** for its intended use of potable water disinfection.

This UV system is designed for indoor use only. Do not use this UV system where it may be exposed to the elements. Protect the unit from freezing at all times.

Ensure installation is in compliance with all local laws, regulations and codes.

Inspect the UV system after installation, and carefully check for leaks.

Other than where noted in this manual, **DO NOT** attempt to repair parts yourself, but contact the manufacturer or authorized dealer for repair service.

**DO NOT** use attachments that are not approved by the manufacturer, as this may cause problems with the UV system.



## NOTICE

The electronic ballast in this system can get damaged from voltage and/or frequency deviations, caused by power outages or lightning strikes. It is highly recommended, especially in rural areas, to install a quality voltage regulator or surge suppressor, rated at > 3600 Joules (UL1449 certified or equivalent) at the power input to the ballast.

The electronic ballast should not be plugged into the same circuit as a water pump, since the on/off cycle of the pump can cause voltage spikes in the line.

In older homes, the installation of plastic water treatment devices such as filter housings may interrupt the water pipe's electrical continuity to ground. This can lead to pinhole leaking due to electrolysis or stray current corrosion. For prevention, the piping has to be properly bonded and grounded.

## Important Considerations

Wyckomar purifiers are installed either at the main water supply line or at point of use. In some installations, particularly where plumbing is old, the water may become recontaminated in the pipes between the purifier and the faucet. Be sure to follow instructions under "Disinfecting Your Water System" on Page 17

Wyckomar purifiers are designed to be installed vertically and work best when mounted in this position. However, in cases with space restrictions, the unit may be mounted horizontally (see Installation Diagrams on Page 7)

### For 12V and 24V units and systems

Wyckomar purifiers are installed between the holding tank and the usage (tap or water hose)

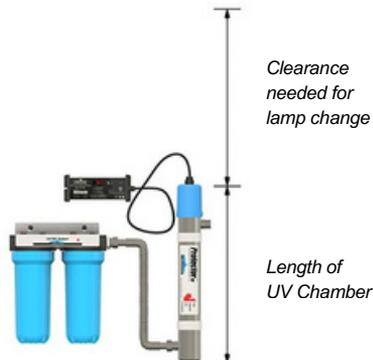
If your UV system is used in a seasonal location or on a boat or RV, be sure to shut down and drain the UV system for the winter to avoid possible damage from freezing and other hazards.

If the system is not used for extended periods of time, unplug ballast to prevent unit from heating up. Replug ballast upon return at least 1 minute before turning on water supply to allow the UV lamp to come to full power.



## IMPORTANT

**Clearance** to the side or above the unit for lamp exchanges should be equal to the length of the purifier.

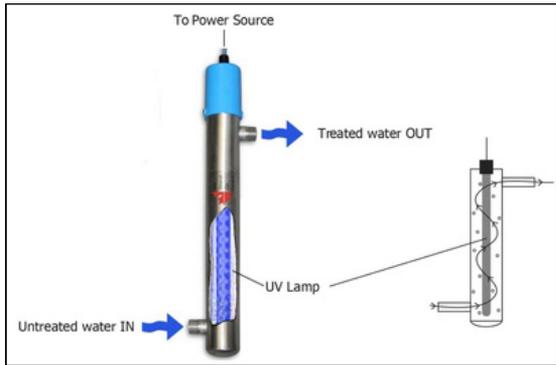


# UV WATER PURIFICATION

Wyckomar Ultraviolet (UV) Purifiers utilize the proven principle of ultraviolet light radiation to eliminate or reduce unacceptable levels of microorganisms in water and other liquids. Ultraviolet light energy destroys bacteria, viruses, fungi, spores, algae and other such contaminants, which are pathogenic to humans, animals and plants. Ultraviolet purification is a completely natural, non-chemical, environmentally safe technique, which adds nothing to, and removes nothing from the water (such as trace minerals).

## How Your Wyckomar UV Water Purifier Works

Untreated water enters the lower portion of the purification chamber and flows through the unit in an upward circular path. The spiraling movement assures the maximum irradiation of the fluid and helps prevent larger particles from blocking the treatment of microorganisms. The purification chamber contains the ultraviolet light-producing lamp.



In operation, the lamp emits a bluish glow, which is visible in the view port window on the side of some units.



### CAUTION - WARNING

#### DO NOT LOOK AT THE UV LIGHT DIRECTLY

Looking through the view port is safe, since the glass disc in the view port filters out the UV rays. On systems equipped with a UV monitor, do not look at the UV light through the view port, as the quartz disc that is used in this case does not filter out the UV rays.

If your unit does not have a view port, operation of the UV light is confirmed by a green LED indicator lamp on the ballast. As long as the appropriate indicators are glowing, the unit is working properly. An alarm will sound when the UV lamp is not functioning. When the alarm is sounding and the ballast displays "A3", the lamp must be replaced for the unit to keep operating properly. The alarm sounds also when the ballast is damaged for any reason, and the ballast display will say "LF" (e.g. from moisture buildup inside, or from having received a power spike or lightning strike). See Page 28

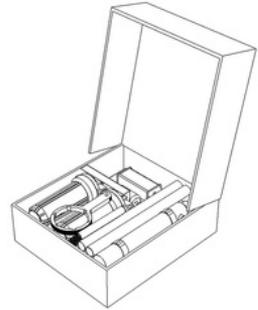
# INSTALLATION

## Unboxing and Inspection

Be sure to check the entire shipment for any damage or parts loss.

Inspect the items in the box for damage, and check the UV Lamp and the Quartz Dome for breakage.

In case of damage due to shipping, take note also of any damage to the shipping box, and if possible take images for warranty claims. Contact the manufacturer directly.



## Location Considerations and Preparation

Carefully determine the install location for the UV system and any related components.

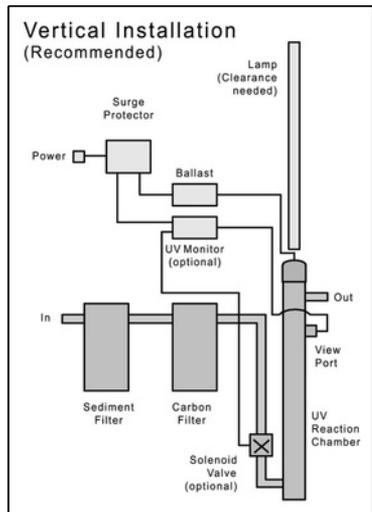
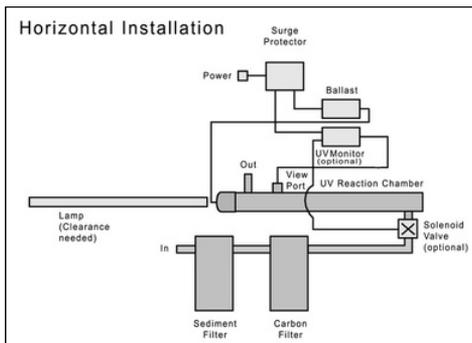
Install your Wyckomar system indoors only, in a protected area where the temperature does not fall below 4 °C (40 °F). Ideal temperature conditions range from 9 °C - 29 °C (48 °F - 84 °F) Avoid high humidity conditions to prevent condensation on the purification chamber.

The system is installed after the water meter (in applications that are connected to the municipal water grid) or after the pressure tank (in applications that are connected to a groundwater well), and before the Tee to the hot water line splits off to the water heater.

Note the direction of water flow in the supply line to which the system is being connected.

If a water softener, iron removal system or other treatment device is installed or planned for, your purifier should be the last treatment device, located closest to the faucet.

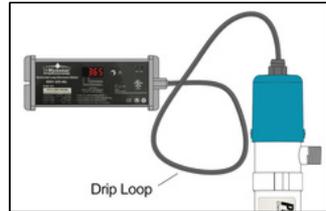
Wyckomar systems can be installed vertical or horizontal. Refer to the drawings for typical position of components.



## INSTALLATION

Ensure that there is adequate clearance at the lamp end of the unit to safely remove the UV lamp from the chamber. Space required for clearance is at least the length of the UV chamber.

All electronic devices (ballast, monitor where applicable) shall be mounted above the UV system, with a drip-loop in the connecting cable to prevent moisture entering the devices.



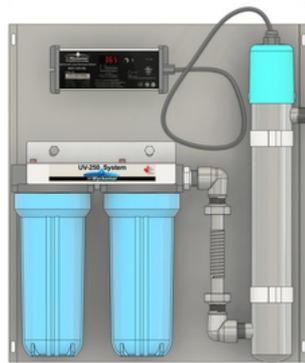
## Installation and Start Up

Prepare the installation location.

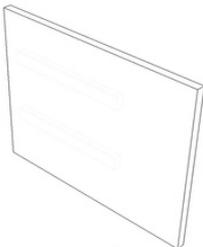
**SYS**



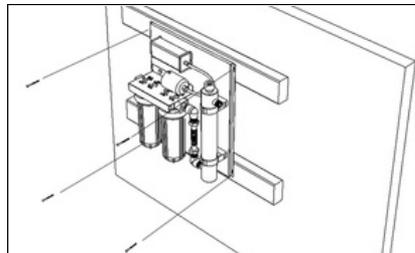
**POU**



For SYS systems that are delivered as components (Purifier and Filterset with S-pipe), it is recommended to install a board of 1/2" plywood (24x24 inches) as the base for the UV system on the wall.



For POU systems that are delivered pre-assembled, it is recommended to install two pieces of framing wood as the base for the UV system on the wall. Install 19" apart (on centre) and install the panel on those. Continue on Page 11

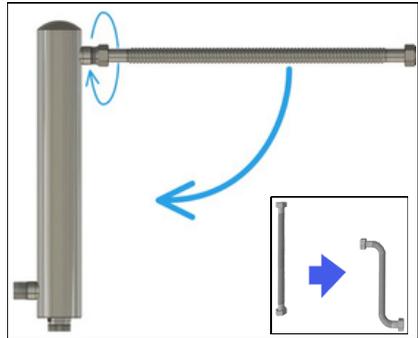


## Set Up / Preparation (SYS only)

Turn off the main water supply.

Prepare plumbing connections, making sure the In and Out ports of the filter set point in the direction of the water flow. It is recommended to install a bypass and manual shutoffs on the ports.

Retrieve the Flexible S-Pipe and bend it into an S-Shape. An easy way to do this is to screw it onto the purifier body and bend it at 90 degree, unscrew from the body and turn around for the other bend.

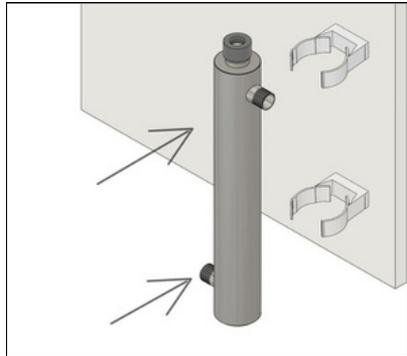


## Assembly and Installation

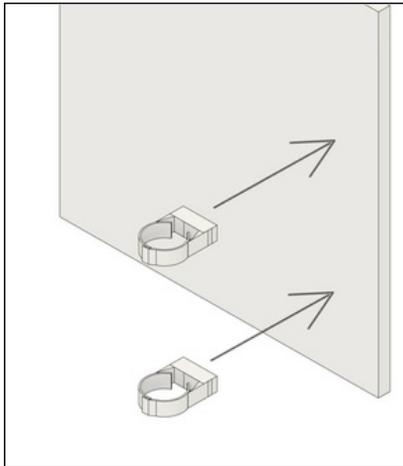
Prepare the UV unit with T-tape on the in-Port and on the Out-Port.

Use Teflon tape (T-tape) liberally on all pipe connections (3 turns around the fittings).

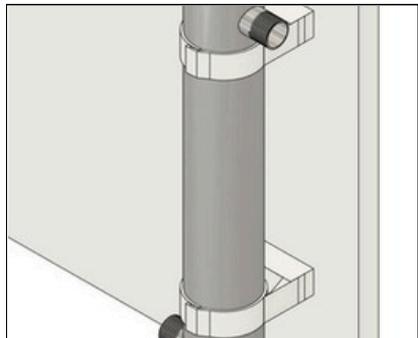
Apply sealant or food grade pipe dope (pipe joint compound with PTFE, e.g. "Oatey® Great White®") to the T-tape.



Press the UV chamber into the clips for a secure hold.



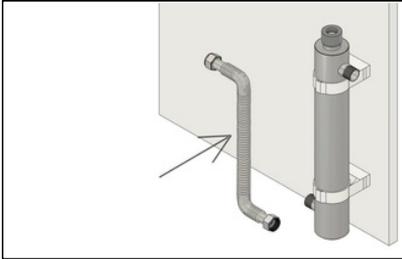
Install the UV chamber to the base, using the mounting clips ("pipe hangers") and screws provided.



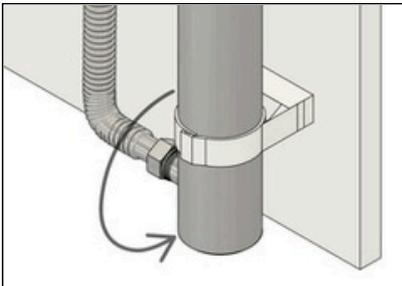
Push twice on the UV chamber until the clips click into the second ridge.

## INSTALLATION

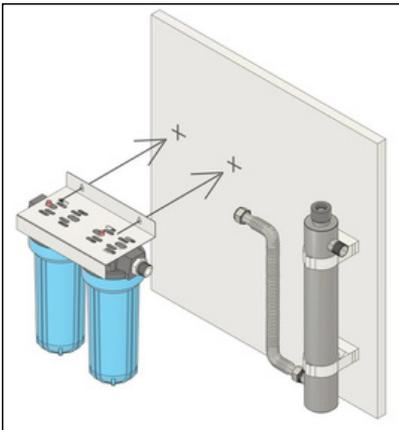
Line up the bent flexible S-Pipe



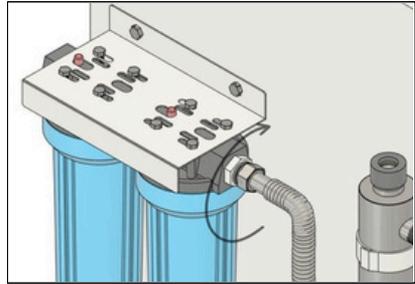
Install the S-Pipe to the bottom Inlet of the UV chamber first. Turn the hexnut on the S-Pipe clockwise with an adjustable wrench (or 1-1/8" wrench) until tight.



Once it is tight at the Inlet, note the position for the filter set



Install the filter set to the board or wall using the screws provided

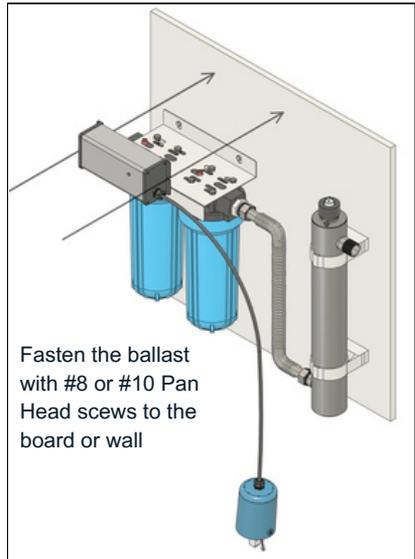


Screw the other hexnut of the S-Pipe to the nipple on the filter set.

### Installation of Electronic Ballast

Retrieve the ballast and install it above the In and Out ports, close enough to the UV unit and to an electrical wall connection (GFCI).

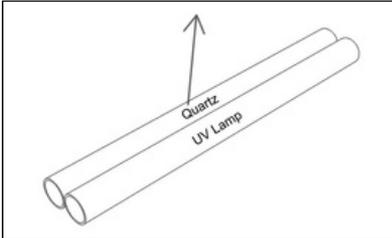
It is recommended to plug into a dedicated surge suppressor and not share the outlet with other devices, esp. not with a water pump, to prevent the ballast from damage if there are voltage spikes or frequency deviations in the power grid.



Fasten the ballast with #8 or #10 Pan Head screws to the board or wall

## Prepare UV Sterilizer with Quartz and Lamp

Remove the Quartz Dome from the crimp tube



Gently remove wrapping.

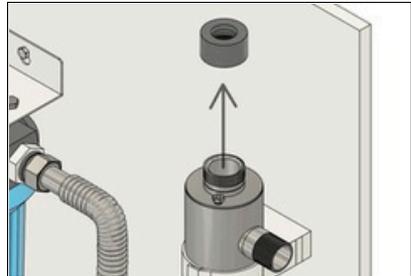
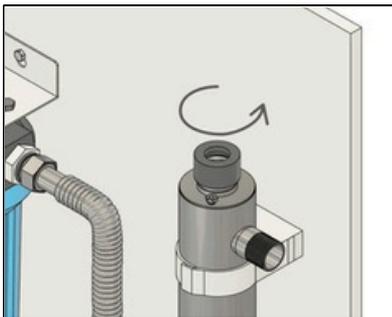


Do not handle the quartz dome with bare hands to avoid fingerprints.

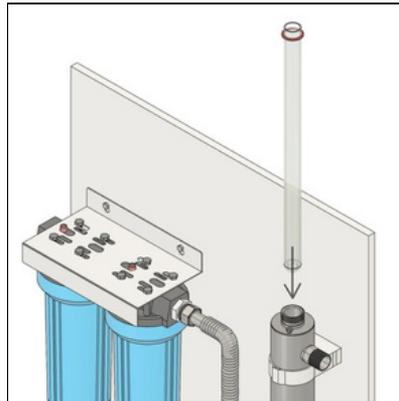
Use a soft cloth or gloves for handling.



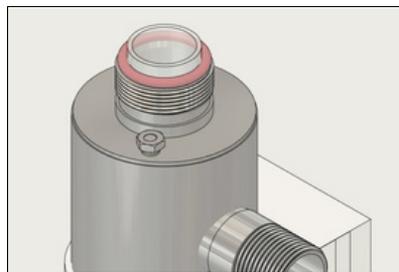
Unscrew and remove the compression nut on top of the UV chamber. Set aside

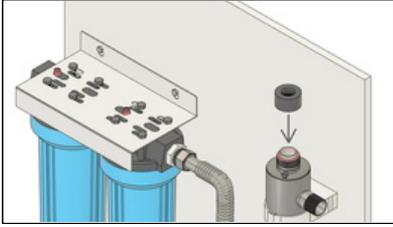


Slowly insert the Quartz Dome into the steel reaction chamber, being careful to install straight down the center of the steel chamber. The Quartz Dome will center itself at the bottom of the chamber.



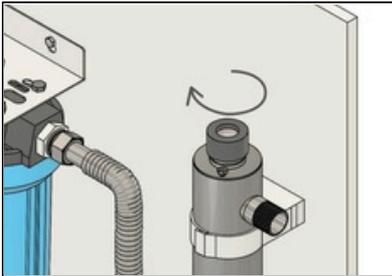
Position O-ring so it fits into the bevel at the top of the UV chamber.





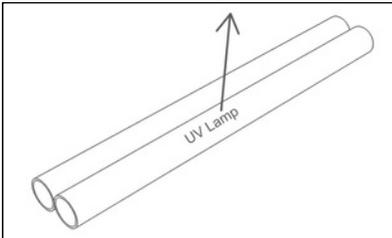
Retrieve the compression nut  
Thread on the compression nut, and tighten it (hand tight only.)  
The O-ring will set itself into the beveled seal end of the bushing on the reaction chamber.

 Do not use tools to avoid damaging the Quartz Dome

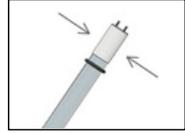


The UV reaction chamber is now sealed.

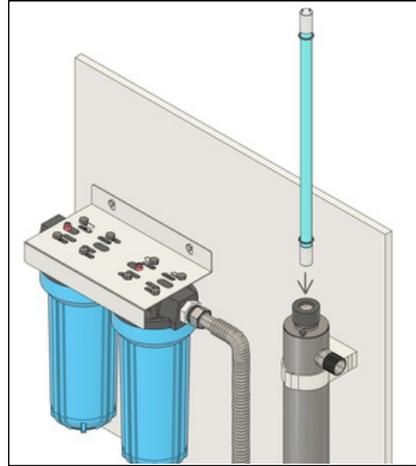
Retrieve the UV Lamp from the crimp tube and gently remove the plastic wrappings. Handle the lamp with a soft cloth or gloves to avoid fingerprints.



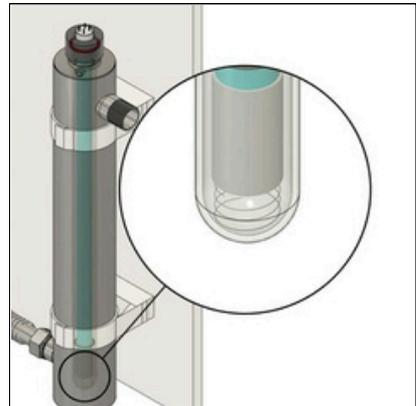
Hold the UV lamp with two fingers at the ceramic cap with the 4 pins at the top



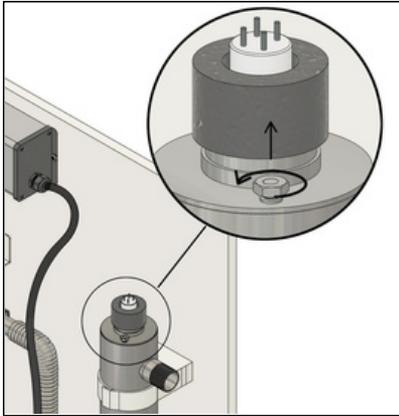
Insert the lamp straight into the Quartz Dome



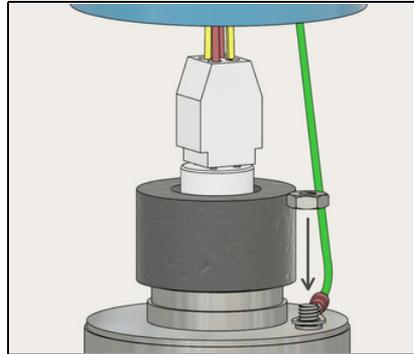
The lamp will eventually settle on the spring at the bottom of the dome.  
Do not push the lamp.



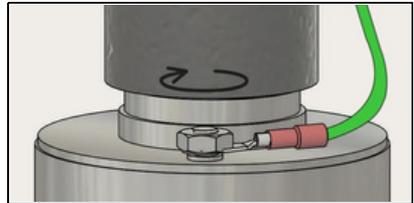
## Make the Electric Connections



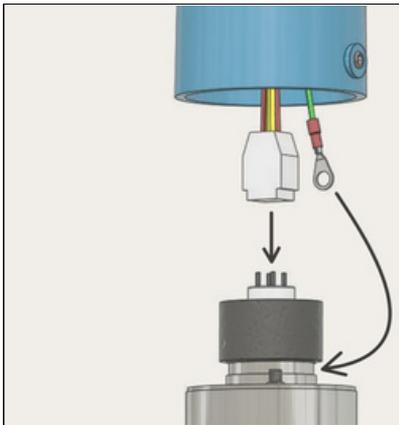
Unscrew the Hex nut on the stud.



Line up the Hex Nut for the groundwire

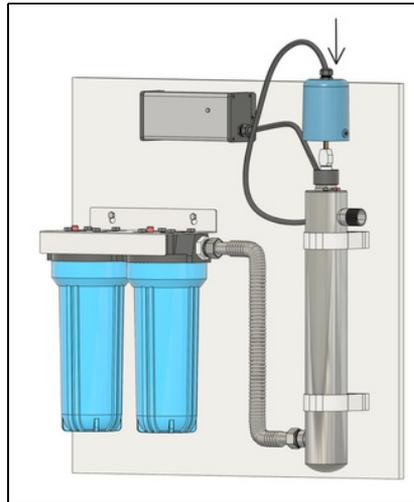


Secure the ring terminal with the Hex Nut.



Bring the Blue/Black cap over to connect the electrical connections.

Connect the white 4-pin connector to the UV lamp by holding the lamp at the cap with two fingers of one hand and using the other hand to push the connector onto the pins on the lamp. It is possible only two ways, both ways are right. Push the connector all the way down. Place the ring terminal of the ground wire over the stud on the reaction chamber.



Put the Blue/Black Cap on the reaction chamber

## INSTALLATION

Secure the set screws using the Allen Key provided

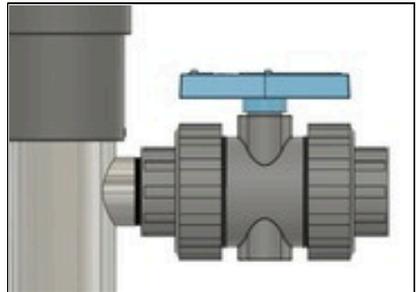
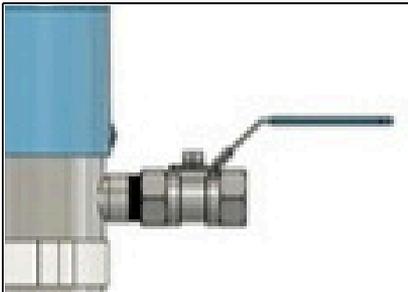
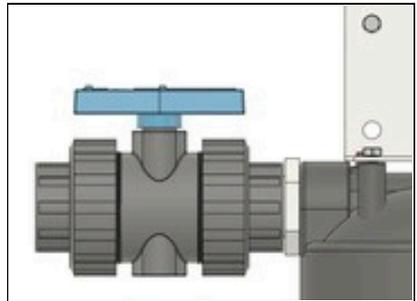
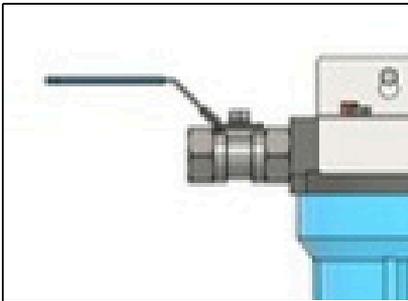


Once the UV system is assembled, it is ready to be plumbed into the water line.

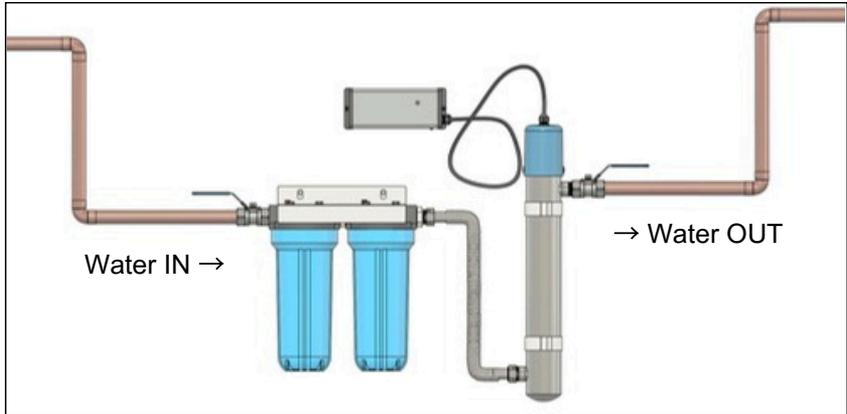
### Connect the UV System to the Water Line

Install manual shutoffs before and after the system (this is optional but highly recommended, so the system can be isolated for maintenance).  
e.g. 3/4" SS Ball Valves on SYS-250

e.g. 1-1/2" SPVC Ball Valves on SYS-3000

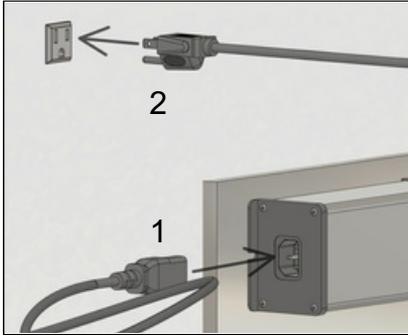


Connect the system to the main water line, according to plumbing code.



## Startup Operation

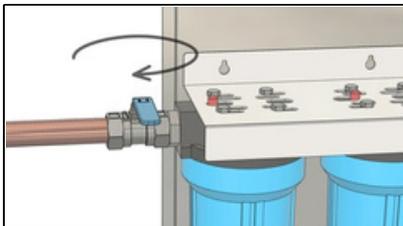
FIRST. plug the ICE connector of the supplied power cable (1) into the ballast



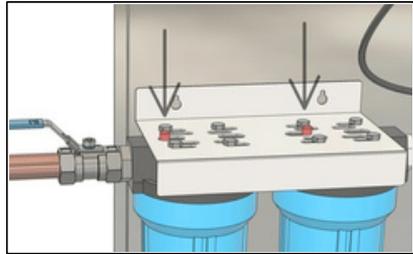
To start up operation of the ballast, plug the NEMA 5-15 power connector (2) into an GFCI secured AC receptacle. The ballast will beep, flicker and eventually the UV lamp will come on. The Green Power LED on the ballast will be lit and the number of days before the UV lamp needs to be replaced is displayed, starting off with 365, and counting one down each day of operation.



Allow water to flow through the system by opening the shutoff valves slowly.



As water fills into the filter set, press the red button on top of the first filter housing (pressure relief valve) to release air. Hold until water starts to escape, then release. Continue with the next filter.



To check the installation, open a tap close to the system and let run for a few moments until there is a steady stream, then close the tap and inspect the plumbing for any leaks.



In case of leakage at any of the connections, tighten them some more. To do so, release pressure by turning off the main water and opening a tap until the pressure is released. Now the connection can be tightened, try to avoid using tools, just use a sturdy hand grip. Introduce water at the main and again inspect for leaks.

Now that the system is operating properly, any incoming water is being disinfected.

Existing pathogens downstream of the system, if present, are not affected by the disinfection process. Therefore, **it is mandatory to disinfect the plumbing system downstream from the unit after installation.**

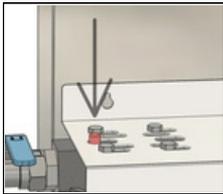
See P 17

## Water System Disinfection Procedure

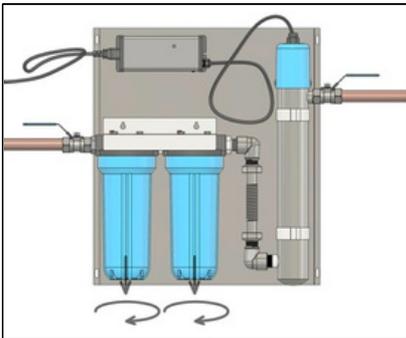


In any UV system, disinfection takes place inside the UV chamber and there is no residual disinfection agent remaining in the water stream. Pathogens that may still be present in the plumbing system downstream of the UV unit will not be affected by the disinfection process. For this reason, it is **CRITICAL** that the plumbing system is disinfected after initial installation to prevent possible re-contamination of the water on its way to the taps.

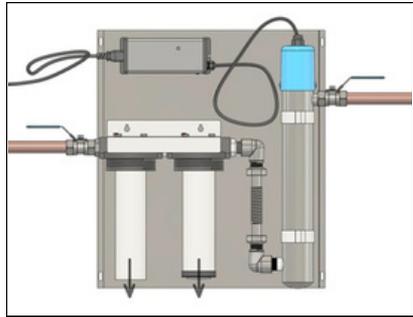
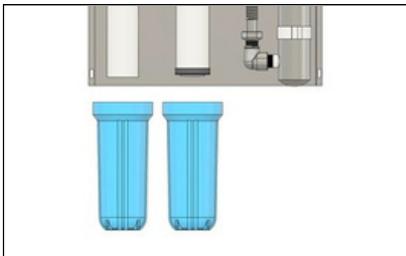
Turn off the water supply to the UV unit and make sure that the by-pass valve is closed if equipped. The UV unit needs to be on and operating. If it is not on, turn on the UV unit.



Open a tap or press the red relief button on one of the filter housings to release pressure in the piping.



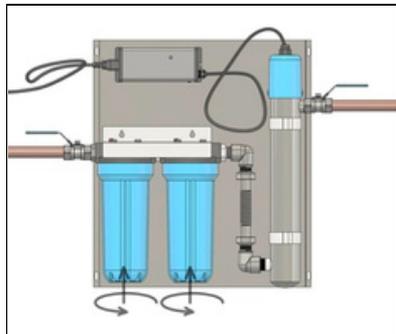
Remove the filter bowls from the housing heads using the supplied wrench.



Remove the filter cartridges.



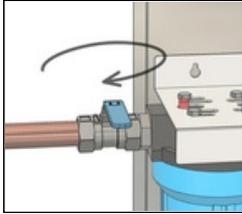
Fill one filter bowl half full with chlorine bleach (approx 1-2 cups)



Screw both bowls (without cartridges) back onto the filter housing heads.

Turn on the water supply.

Check for leaks at the filter housings, if needed turn the bowls on a bit more.



Starting at the lowest level in the building and going to the top of the building, open every tap in the water system both inside and outside, one-by-one.



Run the water at each tap until the smell of chlorine is evident. Close all taps and let the system sit idle for 60 - 120 minutes.



While the UV lamp remains on, shut off the water supply, release pressure in the piping by opening a tap or pressing the red button on a filter housing, and reinstall the filter cartridges in the filter housings.

Turn on the water supply, release air and check for leaks. Open all taps to flush the bleach until it can no longer be smelled (5-10 minutes), then close taps.

Now that the system is operating and the piping is disinfected, test water for contaminants.



**WARNING**



**This simple procedure must be performed after installation of the UV system, and whenever the UV system is shut down or inoperative for any reason whatsoever.**

# MAINTENANCE

## Ultraviolet Lamp Replacement

The UV lamp in the purification chamber will operate effectively for approximately 1 year (rated at 11,000 hours) under normal conditions. The lamp will still light up after that period, but maximum UV light intensity may fall below the prescribed safety level.

**Important:**

It is required that the lamp be changed every 12 months after installation, regardless of apparent condition of the lamp. **For warranty purpose only use original manufacturer replacement parts.**



**WARNING**

Always disconnect power to the system before performing a UV lamp change.

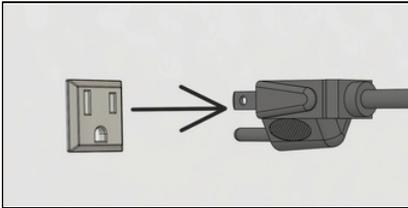


**CAUTION**

Do not look directly at the UV light

**Note:**

It is not necessary to turn off the water supply. Do not use water during maintenance because it will not be disinfected while the UV lamp is off.



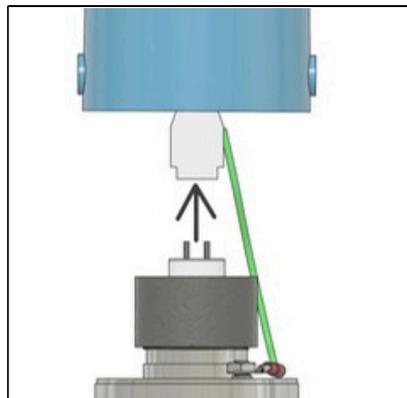
Unplug the power cable from the electrical outlet.



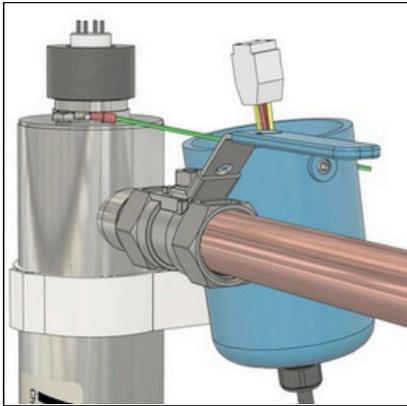
With the Allen key provided, loosen the two set screws that secure the top cap containing the electrical cord.



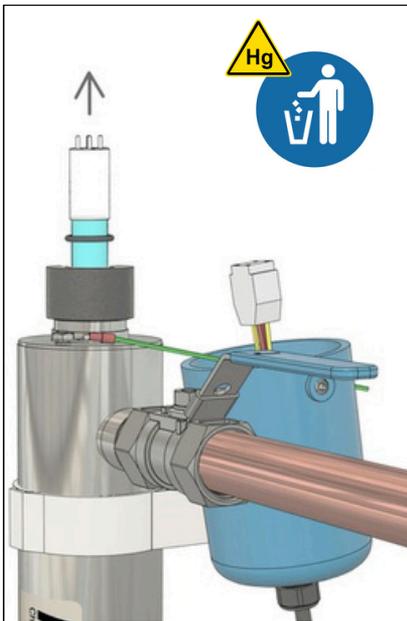
Lift the Blue Cap to get at the 4pin electrical connector on the UV Lamp.



Remove the 4pin electrical connector from the pins on the UV Lamp. Pull with 2 fingers, gently wiggling and pulling it away from the lamp.



When the 4pin connector is off, set the cap aside, let it dangle from the attached ground wire.

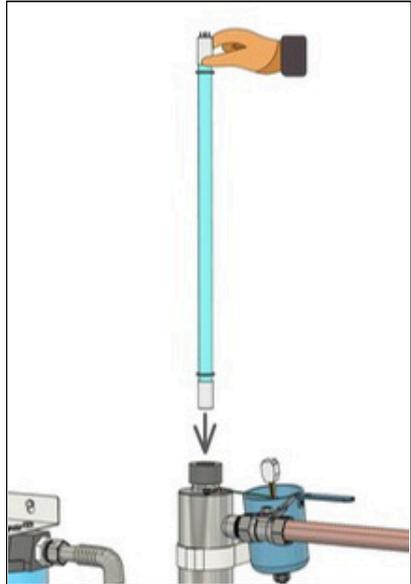


Carefully slide the UV lamp out of the quartz dome/sleeve and discard appropriately.

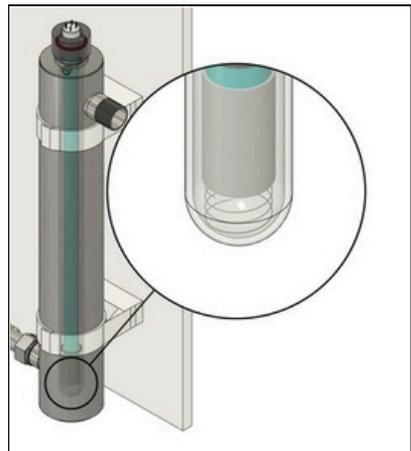
Retrieve replacement lamp.



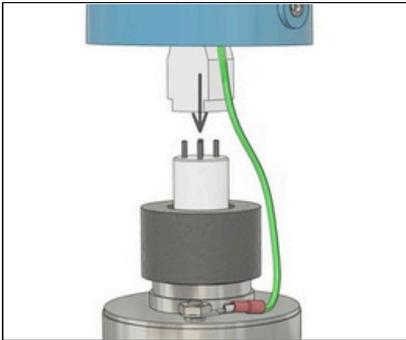
Do not touch the lamp with your hands to avoid fingerprints. If the lamp is touched, clean fingerprints off with an alcohol wipe.



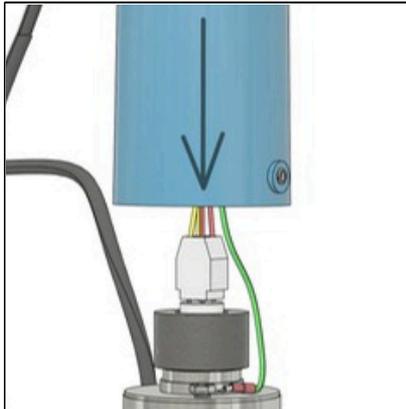
Holding the replacement lamp at the ceramic end, insert it gently into the Quartz Dome.



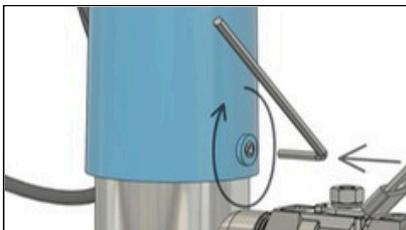
The lamp will eventually settle rest on the little spring at the bottom of the quartz dome. Do not push the lamp.



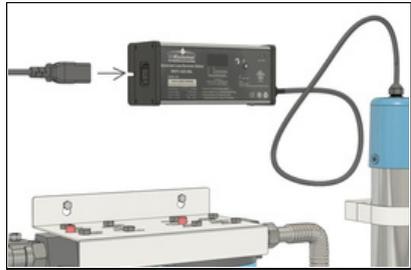
Connect the white 4-pin connector to the UV lamp by holding the lamp at the ceramic lamp end with two fingers of one hand and using the other hand to push the connector onto the pins of the lamp. It is possible only two ways to connect, both ways are right. Push the connector all the way down.



Make sure that all electrical components are dry before replacing the top cap.



Secure the set screws with the Allen Key



Plug in the Power Cord.

**For ballast models RH51-425-40 and RH51-800-95:**

The ballast will beep and display the number of days that were left for the old lamp.

For the new lamp just installed, reset the counter back to 365 for a new year of operation. This is done by holding the reset button for up to 1 minute, until the display reads rSET and then 365. Let go of the reset button.

To confirm that your new lamp is working correctly, check your model's light indicator on the ballast.

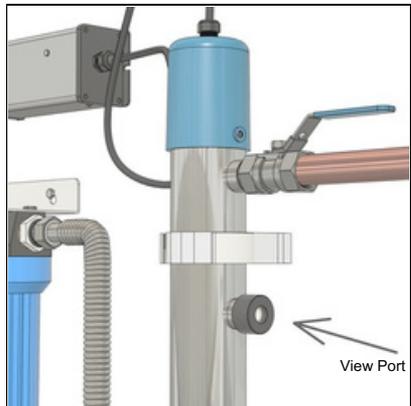


**For all other ballast models:**

The ballast will beep and eventually the green light comes on, confirming full operation.



If present (UV-700, UV-1200, UV-1500 and UV-3000 only), check the view port.

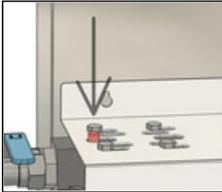


## Quartz Dome Cleaning / Replacement

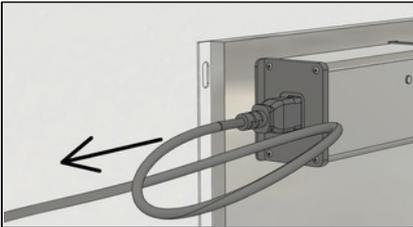
The Quartz Dome or Sleeve has the function of keeping the UV lamp away from the water stream while allowing the UV rays emitted by the lamp to penetrate the water column. It is made from quartz (glass does filter out UV rays, quartz will let them through) and relatively fragile. Please use caution when handling the Quartz Dome or Sleeve.

<p><b>WARNING</b></p> <p> Always disconnect power to the system before performing maintenance on a Quartz Dome</p>	<p><b>Important:</b></p> <p> If water turbidity is a problem, it is advisable to clean the quartz dome/sleeve each time when replacing the lamp</p>
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Turn off the water supply to the UV system.



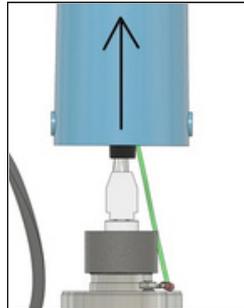
Open a tap or press the red relief button on one of the filter housings to release pressure in the piping.



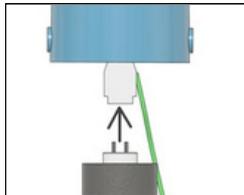
Unplug the power cable to the UV lamp from the electrical ballast.



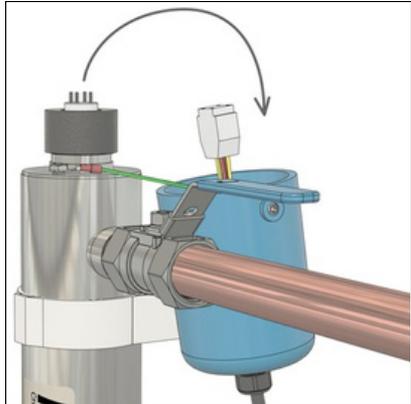
With the Allen key provided, loosen the two set screws that secure the top cap containing the electrical cord.



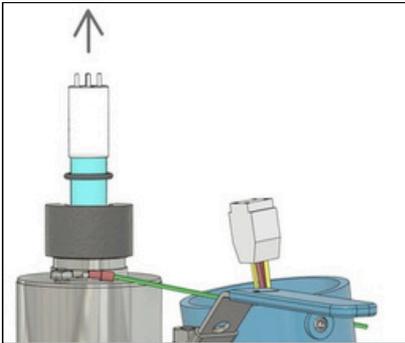
Lift the Blue Cap to get at the 4pin electrical connector on the UV Lamp.



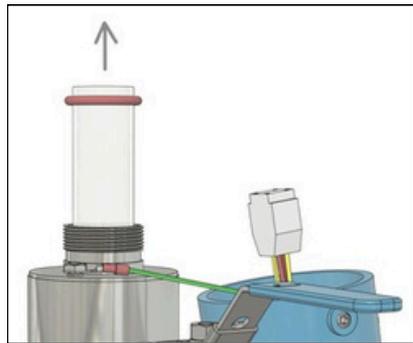
Remove the 4pin electrical connector. Pull with 2 fingers, gently wiggling and pulling it away from the lamp.



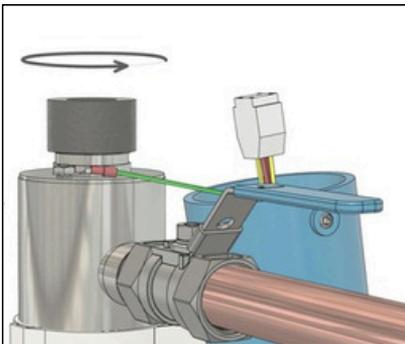
When the 4pin connector is off, set the cap aside, let it dangle from the attached ground wire.



Carefully slide the UV lamp out of the quartz dome/sleeve.



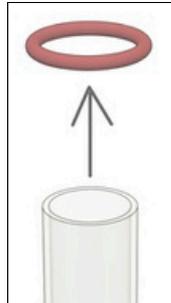
Carefully remove the quartz dome/sleeve from the UV chamber. The Quartz should be dry inside. If there is water inside, check for damage.



Loosen the sealing compression nut.



Quartz dome/ sleeve may be stuck to the O-ring inside the retaining nut. Soak with vinegar until it comes loose.



Remove the oring from the Quartz. Discard used O-ring and obtain a new O-ring.

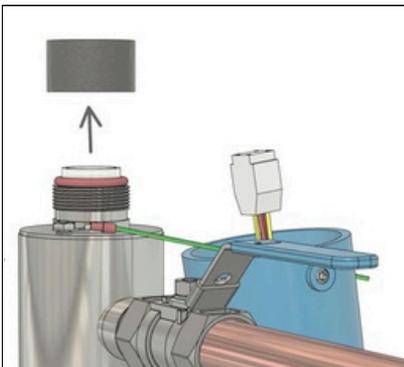


Retain the little spring in the bottom of the Quartz.

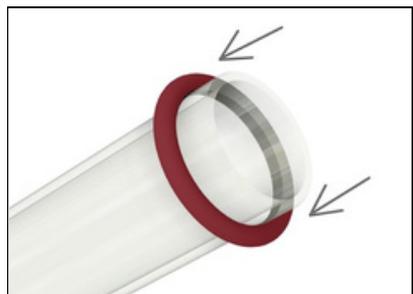
Wipe the quartz dome/sleeve with nonabrasive cleaner (e.g. CLR or Limeaway) and then with an alcohol wipe being careful not to touch the dome/sleeve with your fingers.



If the Quartz can not be cleaned completely, if it is scratched or tinted, it has to be replaced with a new one



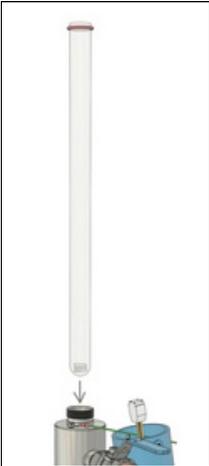
Remove compression nut and set aside.



Slide a new O-ring onto the Quartz Dome.

## MAINTENANCE

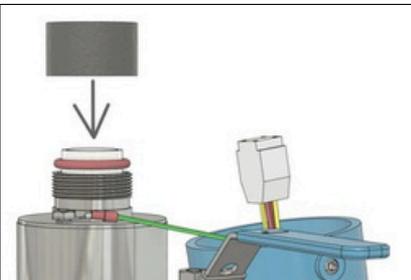
Drop the little spring back into the Quartz Dome.



Using a clean cloth or gloves to hold the end of the replacement Quartz Dome, guide it gently into the UV chamber. The Quartz Dome will centre itself at the bottom of the UV chamber.



Position the O-ring so it fits into the bevel at the top of the UV chamber.



Thread on the compression nut, and tighten it (hand tight only.)

The O-ring will set itself into the beveled seal end of the bushing on the reaction chamber.



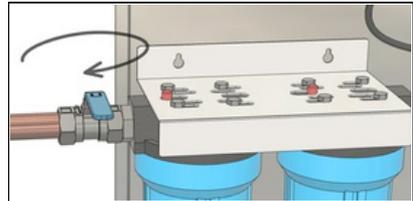
Do not use tools to avoid damaging the Quartz Dome

Insert UV lamp.

Refer to the Section MAINTENANCE → Ultraviolet Lamp Replacement and follow the steps from Page 20-21 that describe reinsertion of the UV lamp and complete the reassembly of the UV purifier.

Make sure that all electrical parts are dry before replacing the top cap and securing it with the setscrews.

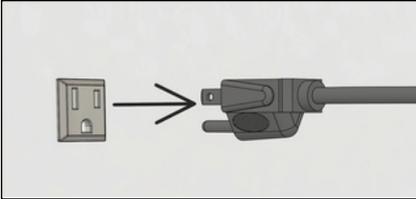
Turn on the water supply and check for leaks.



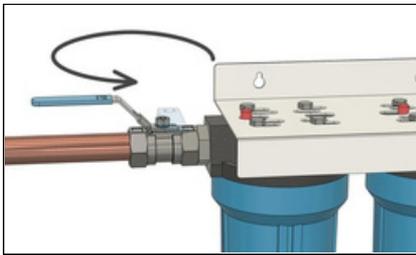
# CHANGING FILTER CARTRIDGES

Filter cartridges have to be changed on a frequent basis to ensure proper operation of the system. A pressure drop detected at the tap is an indication that the sediment filter cartridges is at capacity, and a re-occurrence of unwanted taste or odour is an indication that the carbon cartridge (if present) is exhausted.

**Follow these steps to change out filter cartridges in your system:**



Disconnect the ballast from the main power

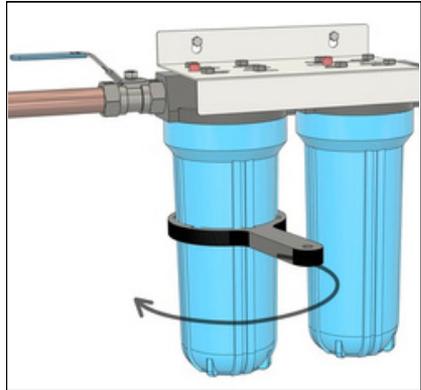
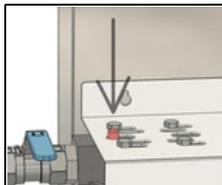


Turn off the water supply.



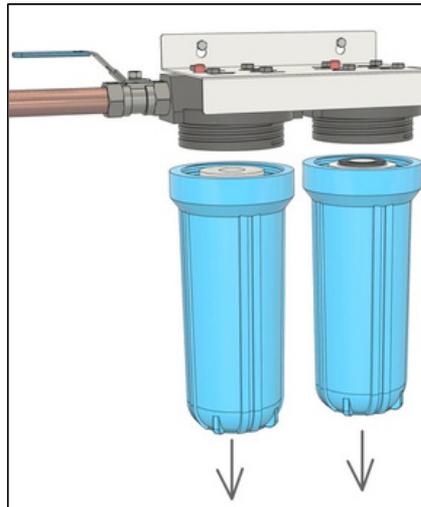
Open a faucet downstream to depressurize the plumbing system and let it run until no more water flows.

Press the pressure-relief button on one of the filter housings. Be careful, a slight stream of water may emit.

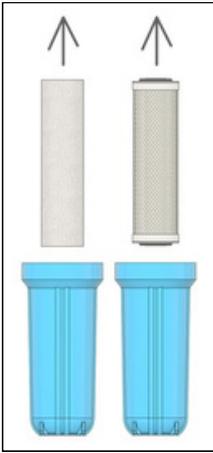


Unscrew housings with plastic wrench. A heat gun or hair dryer may assist removing the filter sumps if stuck.

Note: It is common for the O-ring to lift out of the housing sump and stick to the housing head.

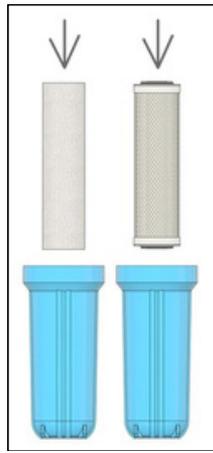


## MAINTENANCE



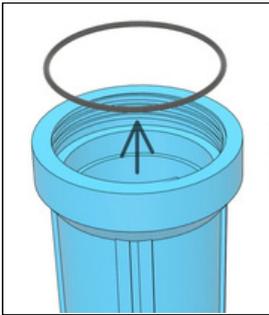
Remove used cartridges and discard.

Use the water left in the housing to swirl loose residue off the walls and rinse out.



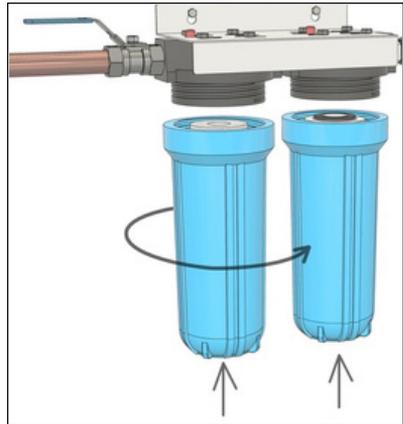
Make sure the replacement cartridges are lined up properly (Sediment filter cartridge followed by Carbon Block cartridge)

Insert new cartridge into each sump making sure that it slips down over the sump standpipe.



Remove O-ring from sump and wipe groove and O-ring clean.

You may choose to lubricate O-ring with a coating of food grade silicone grease.



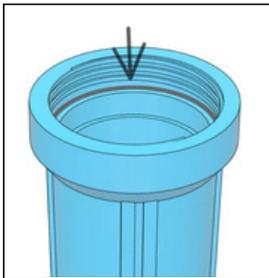
Screw the sumps onto the headings. Make sure that the cartridges slip over the cap standpipes on the heads. Hand tighten the sumps.

Open shutoffs (if present), open a faucet to depressurize the plumbing system, then turn on the water supply slowly to allow filter housing(s) to fill with water. Let any trapped air bleed off.

Check for leaks. Filter sump may be gently tightened with plastic filter wrench if leaks occur. **DO NOT OVERTIGHTEN!**

Let water run for 10 minutes to release carbon fibres.

Place O-ring back in place and press it down into the groove with fingers (or place on rim of sump).



Note: Make sure the O-ring is seated level to maintain proper seal. If the O-ring appears damaged, replace at this time.

## Filter Maintenance



**Important:**

Do not use filter with water that is microbiologically unsafe or of unknown quality without adequate disinfection before or after the unit.

An activated carbon cartridge (Taste/Odour) may contain a small amount of carbon fines (very fine black powder). A new cartridge should be flushed with sufficient water after installation to remove the fines before using the water.

Each time that you use water from your filtered water tap for drinking or cooking purposes, it is recommended that you run the tap for at least 10 seconds prior to using the water. This is important if the water tap is not used daily.

Replacement filter cartridges have a limited service life. Changes in taste, colour and flow of the water being filtered are signals that replacement of the cartridge is imminent or may soon be necessary.

**CAUTION**

The filter must be protected against freezing. Failure to do so may result in cracking of the filter and water leakage.

**CAUTION**

All filtration systems contain other parts that have a limited service life. Exhaustion of the service life of those parts often cannot be easily detected. Commonly, it is only after leakage has been observed or water damage has occurred that one is made aware that the service life has been exhausted.

**IMPORTANT NOTICE:** To prevent costly repairs or possible water damage, we recommend that the bowl or sump of all plastic housings be replaced periodically: at least every 5 years for clear sumps, and every 10 years for opaque sumps.



# OPERATION

## ECO Ballast RH51 Series Operation



When installing the ballast to the purifier, you must first connect the 4-pin connector to the UV lamp and then plug the power cord into the wall receptacle (surge protector rated at 3600 Joules recommended). The ballast will come on, the LED will display the number of remaining lamp life days ("365" in a new UV system), and the lamp will start up. Please allow 1 minute for the lamp to come to full power.

The ballast displays the days of remaining lamp life on the digital display by default. Press the Reset Button for less than 2 secs. to switch the display to show the overall ballast working days, press again to return to the lamp life display.

If the digital display reads "A3", this is an indication that the UV lamp life is used up. This will happen at the end of lamp life, when the remaining lamp life goes from 1 to 0. The alarm will come on at intervals.

The alarm can temporarily be stopped. Hold the Reset button for 5 sec. until it reads "7" to have 7 more days of operation (Refer to the reset instructions printed on the label). After the 4th temporary reset the display will stay at "0" and the alarm will be on continuously. The UV lamp needs to be replaced now.

If the digital display reads "LF" and the ballast alarms at intervals or continuously, this means the UV lamp is faulty and has to be replaced.

## ECO Ballast ZUM1 Series Operation



Press SELECT to switch display screen between lamp and ballast

Press SELECT to display total running days of ballast.

Press & Hold SELECT to reset lamp life timer

Press & Hold SELECT to silence end of lamp life alarm for 7 days (4 times max)

### Dry (Volt Free) Contacts Wiring Diagram

- NO - Normally Open - Lamp On
- NC - Normally Closed - Lamp Fault
- Com - Common



## 12V DC Ballast Series Operation

To operate the UV system, make sure the lamp connector is connected to the UV lamp and that all electrical components are dry.

Connect the wires to the 12V / 24V power source to start up the lamp.

Confirm your lamp is working correctly, check that the light indicator on the ballast is bright green and, if present, check the viewport.

If the light indicator is light green, this is an indication that there is a problem and the ballast can not light up the UV lamp. Inspect the power connection and if necessary, replace the UV lamp.



# TECHNICAL SPECIFICATIONS

## UV Purifier and Water Treatment Systems

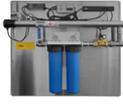
### Low to Medium Flow Rate

<b>UV Purifier</b>				
<b>Part #</b> Model Name	<b>P1/QD4E</b> The Athabasca   Purifier	<b>P250/QD4E</b> The Huron   Purifier	<b>P250/QD4E</b> The Huron   Purifier	<b>P250/QD4E-HO</b>
<b>Flow Range</b>	9 - 22 LPM 2.4 - 5.8 GPM	17 - 43 LPM 4.5 - 11.4 GPM	17 - 43 LPM 4.5 - 11.4 GPM	33 - 82 LPM (8.7 - 21.6 GPM)
<b>UV Dose Applied @ 95% UVT</b>	16 mJ/cm2 @ 22 LPM / 5.8 GPM 30 mJ/cm2 @ 12 LPM / 3.1 GPM 40 mJ/cm2 @ 9 LPM / 2.4 GPM	16 mJ/cm2 @ 43 LPM / 11.4 GPM 30 mJ/cm2 @ 23 LPM / 6 GPM 40 mJ/cm2 @ 17 LPM / 4.5 GPM	16 mJ/cm2 @ 43 LPM / 11.4 GPM 30 mJ/cm2 @ 23 LPM / 6 GPM 40 mJ/cm2 @ 17 LPM / 4.5 GPM	16 mJ/cm2 @ 82 LPM / 21.6 GPM 30 mJ/cm2 @ 45 LPM / 11.9 GPM 40 mJ/cm2 @ 33 LPM / 8.7 GPM
<b>Water Treatment System</b>				
<b>Part #</b> Model Name	<b>SYS1/QD4E (AC)</b> <b>SYS1/QD4E-12VA (DC)</b> The Athabasca   Basic System	<b>SYS250/QD4E (AC)</b> <b>SYS250/QD4E-12VA (DC)</b> The Huron   Basic System	<b>SYS250-POU (AC)</b> <b>SYS250-POU-12VA (DC)</b> The Huron   Premier System	<b>SYS250HO/QD4E</b>
<b>Rated Flow</b> (limited by Filter)	Up to 3.78 LPM - 1 GPM	Up to 15 LPM - 4 GPM	Up to 15 LPM - 4 GPM	Up to 34 LPM - 9 GPM
<b>Initial UV Dose at Rated Flow</b>	96 mJ/cm2 @ 95 % UVT	46 mJ/cm2 @ 95 % UVT	46 mJ/cm2 @ 95 % UVT	35 mJ/cm2 @ 95 % UVT
<b>Electrical</b>	110 - 240 Volt AC / 50 - 60 Hz 12 / 24 V DC	110 - 240 Volt AC / 50 - 60 Hz 12 / 24 V DC	110 - 240 Volt AC / 50 - 60 Hz 12 / 24 V DC	110 - 240 Volt AC / 50 - 60 Hz 12 / 24 V DC
<b>Ballast</b>	<b>AC:</b> Electronic Ballast w/ Lamp Out Alarm, Power LED, Count of Total Running Days on LCD Display (Resettable) Model RH51-425-40L Part# 4-BE-425-ECO-R <b>DC:</b> Ballast Part # 4-BE12V-P1	<b>AC:</b> Electronic Ballast w/ Lamp Out Alarm, Power LED, Count of Total Running Days on LCD Display (Resettable) Model RH51-425-40L Part# 4-BE-425-ECO-R <b>DC:</b> Ballast Part # 4-BE12V-P250	<b>AC:</b> Electronic Ballast w/ Lamp Out Alarm, Power LED, Count of Total Running Days on LCD Display (Resettable) Model RH51-425-40L Part# 4-BE-425-ECO-R <b>DC:</b> Ballast Part # 4-BE12V-P250	Electronic Ballast w/ Lamp Out Alarm, Power LED, Count of Total Running Days on LCD Display (Resettable) Model RH51-800-95L (Part # 4-BE800-ECO)
<b>UV Lamp</b>	Low-Pressure UVC @12Watts, 425 mA (Part# RL-12/254T5)	Low-Pressure UVC @23Watts, 425 mA (Part# RL-23/436T5)	Low-Pressure UVC @23Watts, 425 mA (Part# RL-23/436T5)	Low-Pressure UVC @44Watts, 800 mA (Part# RL-44/436T5)
<b>Filtration</b>	10" SlimLine (L 9-3/4" OD 2-1/2") w/ Pressure Relief	10" SlimLine (L 9-3/4" OD 2-1/2") w/ Pressure Relief	10" SlimLine (L 9-3/4" OD 2-1/2") w/ Pressure Relief	10" BigBlue (L 9-3/4" OD 4-1/2") w/ Pressure Relief
<b>Stage 1 Sediment Filter</b>	Melt-Blown Polypropylene ("Spun Poly") or Pleated Cell 5 Micron	Melt-Blown Polypropylene ("Spun Poly") or Pleated Cell 5 Micron	Melt-Blown Polypropylene ("Spun Poly") or Pleated Cell 5 Micron	Melt-Blown Polypropylene ("Spun Poly") or Pleated Cell 5 Micron
<b>Stage 2 Carbon Filter</b>	Coconut Shell Carbon Extruded Carbon Block	Coconut Shell Carbon Extruded Carbon Block	Coconut Shell Carbon Extruded Carbon Block	
<b>S Pipe</b>	PVC Tubing	SS Flexible Hose Part # 10-FF18	SS Flexible Hose Part # 10-FF12	SS Flexible Hose Part # 10-FF12-1
<b>Min/Max Oper. Temperature</b>	Tmin. = 3 °C (37 °F), Tmax. = 40 °C (104 °F)	Tmin. = 3 °C (37 °F), Tmax. = 40 °C (104 °F)	Tmin. = 3 °C (37 °F), Tmax. = 40 °C (104 °F)	Tmin. = 3 °C (37 °F), Tmax. = 40 °C (104 °F)
<b>Max. Operating Pressure</b>	125 psi - 8.6 bar	125 psi - 8.6 bar	125 psi - 8.6 bar	90 psi - 6 bar
<b>Plumbing</b>	3/8" FNPT In/Out	3/4" MNPT In/Out	3/4" MNPT In/Out	1" MNPT In/Out

Medium to Large Flow Rate

<b>UV Purifier</b>				
<b>Part #</b> Model Name	<b>P700/QD4E</b> The Ontario   Purifier	<b>P700/QD4E</b> The Ontario   Purifier	<b>P1200/QD4E</b> UV-1200   Purifier	<b>P1500/QS4E</b> UV-1500   Purifier
<b>Flow Range</b>	37 - 92 LPM 9.8 - 24.3 GPM	37 - 92 LPM 9.8 - 24.3 GPM	50 - 125 LPM 13.2 - 33 GPM	68 - 168 LPM 17.9 - 44.3 GPM
<b>UV Dose Applied @ 95% UVT</b>	16 mJ/cm2 @ 92 LPM / 24.3 GPM 30 mJ/cm2 @ 50 LPM / 17.2 GPM 40 mJ/cm2 @ 37 LPM / 9.8 GPM	16 mJ/cm2 @ 92 LPM / 24.3 GPM 30 mJ/cm2 @ 50 LPM / 17.2 GPM 40 mJ/cm2 @ 37 LPM / 9.8 GPM	16 mJ/cm2 @ 125 LPM / 33 GPM 30 mJ/cm2 @ 68 LPM / 18 GPM 40 mJ/cm2 @ 50 LPM / 13.2 GPM	16 mJ/cm2 @ 168 LPM / 44.3 GPM 30 mJ/cm2 @ 92 LPM / 24.7 GPM 40 mJ/cm2 @ 68 LPM / 17.9 GPM
<b>Water Treatment System</b>				
<b>Part #</b> Model Name	<b>SYS700/QD4E</b> The Ontario   Basic System	<b>SYS700-POU</b> The Ontario   Premier System	<b>SYS1200/QD4E</b> Basic System	<b>SYS1500/QS4E</b> Basic System
<b>Rated Flow</b> (limited by Filter)	Up to 30 LPM - 8 GPM	Up to 30 LPM - 8 GPM	Up to 45 LPM - 12 GPM	Up to 57 LPM - 15 GPM
<b>Initial UV Dose at Rated Flow</b>	49 mJ/cm2 @ 95 % UVT	49 mJ/cm2 @ 95 % UVT	44 mJ/cm2 @ 95 % UVT	48 mJ/cm2 @ 95 % UVT
<b>Electrical</b>	110 - 240 Volt AC / 50 - 60 Hz	110 - 240 Volt AC / 50 - 60 Hz	110 - 240 Volt AC / 50 - 60 Hz	110 - 240 Volt AC / 50 - 60 Hz
<b>Ballast</b>	Electronic Ballast w/ Lamp Out Alarm, Power LED Count of Total Running Days on LCD Display (Resettable) Model RH51-425-40L Part# 4-BE-425-ECO-R	Electronic Ballast w/ Lamp Out Alarm, Power LED Count of Total Running Days on LCD Display (Resettable) Model RH51-425-40L Part# 4-BE-425-ECO-R	Electronic Ballast w/ Lamp Out Alarm, Power LED, Count of Total Running Days on LCD Display (Resettable) Model RH51-800-95L (Part # 4-BE800-ECO)	Electronic Ballast w/ Lamp Out Alarm, Power LED, Count of Total Running Days on LCD Display (Resettable) Model RH51-800-95L (Part # 4-BE800-ECO)
<b>UV Lamp</b>	Low-Pressure UVC @40 Watts, 425 mA (Part# RL-40/867T5)	Low-Pressure UVC @40 Watts, 425 mA (Part# RL-40/867T5)	Low-Pressure UVC @84 Watts, 800 mA (Part# RL-84/893T5)	Low-Pressure UVC @110 Watts, 800 mA (Part# RL-110/1197T5)
<b>Filtration</b>	20" SlimLine (L20" OD 2-1/2") w/ Pressure Relief	20" SlimLine (L20" OD 2-1/2") w/ Pressure Relief	20" BigBlue (L20" OD 4-1/2") w/ Pressure Relief	20" BigBlue (L20" OD 4-1/2") w/ Pressure Relief
<b>Stage 1</b>	Melt-Blown Polypropylene ("Spun Poly") or Pleated Cell 5 Micron	Melt-Blown Polypropylene ("Spun Poly") or Pleated Cell 5 Micron	Melt-Blown Polypropylene ("Spun Poly") or Pleated Cell 5 Micron	Melt-Blown Polypropylene ("Spun Poly") or Pleated Cell 5 Micron
<b>Stage 2</b>	Coconut Shell Carbon Extruded Carbon Block	Coconut Shell Carbon Extruded Carbon Block	Coconut Shell Carbon Extruded Carbon Block	Coconut Shell Carbon Extruded Carbon Block
<b>S Pipe</b>	SS Flexible Hose Part # 10-FF36	Integrated Part # 10-FM24	SS Flexible Hose Part # 10-FF36-1	SS Flexible Hose Part # 10-FF36-1
<b>Min/Max Oper. Temperature</b>	Tmin. = 3 °C (37 °F) Tmax. = 40 °C (104 °F)	Tmin. = 3 °C (37 °F) Tmax. = 40 °C (104 °F)	Tmin. = 3 °C (37 °F) Tmax. = 40 °C (104 °F)	Tmin. = 3 °C (37 °F) Tmax. = 40 °C (104 °F)
<b>Max. Operating Pressure</b>	125 psi - 8.6 bar	125 psi - 8.6 bar	90 psi - 6 bar	90 psi - 6 bar
<b>Plumbing</b>	3/4" MNPT In/Out	3/4" MNPT In/Out	1" MNPT In/Out	1" MNPT In/Out

Medium to Large Flow Rate

UV Purifier				
<b>Part #</b> Model Name	<b>P1400/QD4E</b> The Superior   Purifier	<b>P1400/QD4E</b> The Superior   Purifier	<b>P3000/QD4E</b> UV-3000   Purifier	<b>P3000/QD4E</b> UV-3000   Purifier
<b>Flow Range</b>	54 - 120 LPM 14 - 31.7 GPM	54 - 120 LPM 14 - 31.7 GPM	105 - 250 LPM 27.8 - 66 GPM	105 - 250 LPM 27.8 - 66 GPM
<b>UV Dose Applied @ 95% UVT</b>	16 mJ/cm <sup>2</sup> @ 120 LPM / 31.7 GPM 30 mJ/cm <sup>2</sup> @ 73 LPM / 19.36 GPM 40 mJ/cm <sup>2</sup> @ 53 LPM / 14 GPM	16 mJ/cm <sup>2</sup> @ 120 LPM / 31.7 GPM 30 mJ/cm <sup>2</sup> @ 73 LPM / 19.36 GPM 40 mJ/cm <sup>2</sup> @ 53 LPM / 14 GPM	16 mJ/cm <sup>2</sup> @ 250 LPM/66 GPM 30 mJ/cm <sup>2</sup> @ 135 LPM/35.7 GPM 40 mJ/cm <sup>2</sup> @ 105 LPM/27.8 GPM	16 mJ/cm <sup>2</sup> @ 250 LPM/66 GPM 30 mJ/cm <sup>2</sup> @ 135 LPM/35.7 GPM 40 mJ/cm <sup>2</sup> @ 105 LPM/27.8 GPM
Water Treatment System				
<b>Part #</b> Model Name	<b>SYS1400-1/2BB</b> The Superior   Basic System	<b>SYS1400-POU</b> The Superior   Premier System	<b>SYS3000/QD4E</b>	<b>SYS3000-POU</b>
<b>Rated Flow</b> (limited by Filter)	Up to 53 LPM - 14 GPM	Up to 53 LPM - 14 GPM	Up to 57 LPM - 15 GPM	Up to 57 LPM - 15 GPM
<b>Initial UV Dose at Rated Flow</b>	40 mJ/cm <sup>2</sup> @ 95 % UVT	40 mJ/cm <sup>2</sup> @ 95 % UVT	73 mJ/cm <sup>2</sup> @ 95 % UVT	73 mJ/cm <sup>2</sup> @ 95 % UVT
<b>Electrical</b>	110 - 240 Volt AC / 50 - 60 Hz	110 - 240 Volt AC / 50 - 60 Hz	110 - 240 Volt AC / 50 - 60 Hz	110 - 240 Volt AC / 50 - 60 Hz
<b>Ballast</b>	Electronic Ballast w/ Lamp Out Alarm, Power LED, Count of Total Running Days on LCD Display (Resettable) Model RH51-800-95L (Part # 4-BE800-14/30ECO)	Electronic Ballast w/ Lamp Out Alarm, Power LED, Count of Total Running Days on LCD Display (Resettable) Model RH51-800-95L (Part # 4-BE800-14/30ECO)	Electronic Ballast w/ Lamp Out Alarm, Power LED, Count of Total Running Days on LCD Display (Resettable) Model RH51-800-95L (Part # 4-BE800-14/30ECO)	Electronic Ballast w/ Lamp Out Alarm, Power LED, Count of Total Running Days on LCD Display (Resettable) Model RH51-800-95L (Part # 4-BE800-14/30ECO)
<b>UV Lamp</b>	Low-Pressure UVC @51 Watts, 800 mA (Part# RL-51/540T5)	Low-Pressure UVC @51 Watts, 800 mA (Part# RL-51/540T5)	Low-Pressure UVC @100 Watts, 800 mA (Part# RL-100/1197T6)	Low-Pressure UVC @100 Watts, 800 mA (Part# RL-100/1197T6)
<b>Filtration</b>	10" BigBlue (L9-3/4" OD 4-1/2") w/ Pressure Relief (20" BB optional)	10" BigBlue (L 9-3/4" OD 4-1/2") w/ Pressure Relief	20" BigBlue (L20" OD 4-1/2") w/ Pressure Relief	20" BigBlue (L20" OD 4-1/2") w/ Pressure Relief
<b>Stage 1</b>	Melt-Blown Polypropylene ("Spun Poly") or Pleated Cell 5 Micron	Melt-Blown Polypropylene ("Spun Poly") or Pleated Cell 5 Micron	Melt-Blown Polypropylene ("Spun Poly") or Pleated Cell 5 Micron	Melt-Blown Polypropylene ("Spun Poly") or Pleated Cell 5 Micron
<b>Stage 2</b>	Carbon Impregnated Pleated Cell or Extruded Carbon Block	Carbon Impregnated Pleated Cell or Extruded Carbon Block	Carbon Impregnated Pleated Cell	Carbon Impregnated Pleated Cell
<b>S Pipe</b>	Integrated Part# 10-FF12-1	Integrated Part# 10-FF12-1	Integrated Part# 10-FF15-36	
<b>Min/Max Oper. Temperature</b>	Tmin. = 3 °C (37 °F), Tmax. = 40 °C (104 °F)	Tmin. = 3 °C (37 °F), Tmax. = 40 °C (104 °F)	Tmin. = 3 °C (37 °F), Tmax. = 40 °C (104 °F)	Tmin. = 3 °C (37 °F), Tmax. = 40 °C (104 °F)
<b>Max. Operating Pressure</b>	90 psi - 6 bar			
<b>Plumbing</b>	1" MNPT In/Out	1" MNPT In/Out	1-1/2" MNPT In/Out	1-1/2" MNPT In/Out

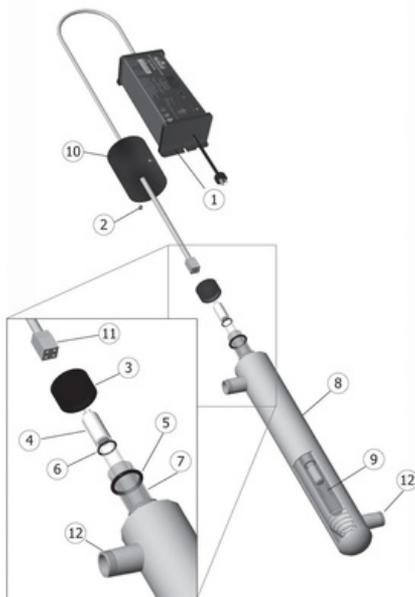
**X-Large and Commercial Flow Rate**

<b>UV Purifier</b>				
<b>Part #</b>	<b>P5000/QS4E</b>	<b>P5000/QS4E-ICP</b>	<b>P6000/QD4E</b>	<b>P6000/QD4E-ICP</b>
<b>Flow Range</b>	136 - 330 LPM 36 - 87.4 GPM	136 - 330 LPM 36 - 87.4 GPM	205 - 500 LPM 54.1 - 132 GPM	205 - 500 LPM 54.1 - 132 GPM
<b>UV Dose Applied @ 95% UVT</b>	16 mJ/cm2 @ 330 LPM/87.4 GPM 30 mJ/cm2 @ 180 LPM/47.5 GPM 40 mJ/cm2 @ 136 LPM/36.4 GPM	16 mJ/cm2 @ 330 LPM/87.4 GPM 30 mJ/cm2 @ 180 LPM/47.5 GPM 40 mJ/cm2 @ 136 LPM/36.4 GPM	16 mJ/cm2 @ 500 LPM/132 GPM 30 mJ/cm2 @ 270 LPM/71.3 GPM 40 mJ/cm2 @ 205 LPM / 54.1 GPM	16 mJ/cm2 @ 500 LPM/132 GPM 30 mJ/cm2 @ 270 LPM/71.3 GPM 40 mJ/cm2 @ 205 LPM / 54.1 GPM
<b>Electrical</b>	110 - 240 Volt AC / 50 - 60 Hz	110 - 240 Volt AC / 50 - 60 Hz	110 - 240 Volt AC / 50 - 60 Hz	110 - 240 Volt AC / 50 - 60 Hz
<b>Ballast</b>	Electronic Ballast w/ Lamp Out Alarm, Power LED, Count of Total Running Days on LCD Display (Resettable) Model RH51-800-95L (Part # 4-BE800-ECO) x 2	Electronic Ballast w/ Lamp Out Alarm inside NEMA IV Control Panel Non-Metallic Part # 4-13PN x 2	Electronic Ballast w/ Lamp Out Alarm, Power LED, Count of Total Running Days on LCD Display (Resettable) Model RH51-800-95L (Part # 4-BE800-14/30ECO) x 2	Electronic Ballast w/ Lamp Out Alarm inside NEMA IV Control Panel Non-Metallic Part # 4-13PN x 2
<b>Ballast Enc. Rating</b>	IP64	IP66	IP64	IP66
<b>Lamp Current</b>	0.39 - 0.43 A / U-Out: 300 V / PF(λ): > 0.99% / THD: < 10%	0.39 - 0.43 A / U-Out: 300 V / PF(λ): > 0.99% / THD: < 10%	0.39 - 0.43 A / U-Out: 300 V / PF(λ): > 0.99% / THD: < 10%	0.39 - 0.43 A / U-Out: 300 V / PF(λ): > 0.99% / THD: < 10%
<b>Number of Lamps</b>	2 Low-Pressure UVC @110 Watts, 800 mA (Part# RL-110/1197T5)	2 Low-Pressure UVC @110 Watts, 800 mA (Part# RL-110/1197T5)	2 Low-Pressure UVC @100 Watts, 800 mA (Part# RL-100/1197T6)	2 Low-Pressure UVC @100 Watts, 800 mA (Part# RL-100/1197T6)
<b>Optional UV Monitor</b>	Analog (Part # 4-UV/MS-1/2 V3) Digital (Part # 4-UV/MS/DUV27)	Integrated (Part # 4-MCB-V3) with 2 x Sensor (Part # 4-35-3)	Analog (Part # 4-UV/MS-1/2 V3) Digital (Part # 4-UV/MS/DUV27)	Integrated (Part # 4-MCB-V3) with 2 x Sensor (Part # 4-35-3)
<b>Min/Max. Operating Temp.</b>	Tmin. = 3 °C (37 °F), Tmax. = 40 °C (104 °F)	Tmin. = 3 °C (37 °F), Tmax. = 40 °C (104 °F)	Tmin. = 3 °C (37 °F), Tmax. = 40 °C (104 °F)	Tmin. = 3 °C (37 °F), Tmax. = 40 °C (104 °F)
<b>Max. Pressure</b>	125 psi - 8.6 bar	125 psi - 8.6 bar	125 psi - 8.6 bar	125 psi - 8.6 bar
<b>Plumbing</b>	2" MNPT In/Out	2" MNPT In/Out	2" MNPT In/Out	2" MNPT In/Out
<b>Chamber Material</b>	316L Stainless Steel	316L Stainless Steel	316L Stainless Steel	316L Stainless Steel

# EXPLODED DIAGRAMS & PARTS LISTS

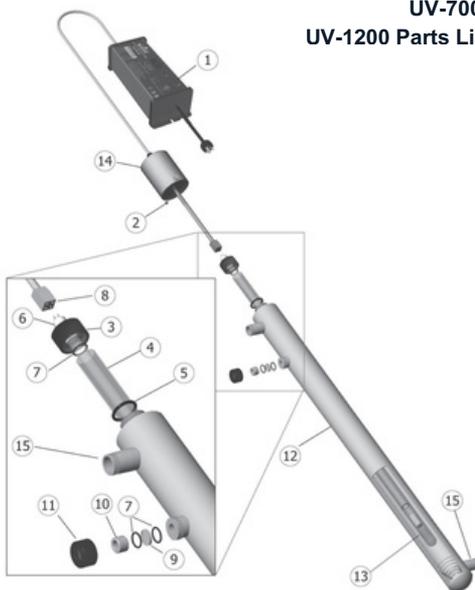
## UV-1, UV-250, UV-250-HO Parts List

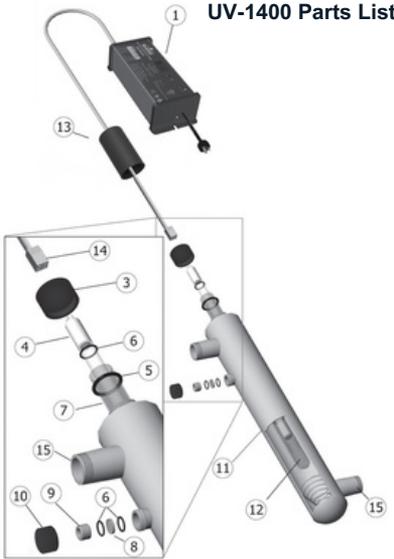
		UV-1	UV-250	UV-250-HO
Item #	Description	Part-No.	Part-No.	Part-No.
1	Electronic Ballast	4-BE-425-ECO-R	4-BE-425-ECO-R	4-BE800-ECO
2	Set Screw	10-5	10-5	10-5
3	Quartz Compression Nut	8-51	8-51	8-51
4	UV Lamp	RL-12/254T5	RL-23/436T5	RL-44/436T5
5	Quartz Dome Seal 2-211	11-3	11-3	11-3
6	Lamp O-ring 2-113	11-6	11-6	11-6
7	Quartz Dome	RQD-269	RQD-269	RQD-269
8	UV Reaction Chamber	2-1	2-1	2-1
9	Lamp Extension Spring	8-29-1	8-29-1	8-29-1
10	Plastic Cap	8-4-1	8-4-1	8-4-1
11	Lamp Connector	4-2	4-2	4-2
12	In/Out Ports	3/8" FNPT	3/4" MNPT	1" MNPT



## UV-700, UV-1200 Parts List

		UV-700	UV-1200
Item #	Description	Part-No.	Part-No.
1	Electronic Ballast	4-BE-425-ECO-R	4-BE800-ECO-R
2	Set Screw	10-5	10-5
3	Quartz Compression Nut	8-51	8-51
4	Quartz Dome	RQD-895	RQD-895
5	Quartz Dome Seal 2-211	11-3	11-3
6	UV Lamp	RL-40/867T5	RL-84/893T5
7	Glass Disc Seal / Lamp O-ring 2-113	11-6	11-6
8	Lamp Connector	4-2	4-2
9	Glass Viewport Disc	7-15GL	7-15GL
10	Viewport Inner Bushing	8-11	8-11
11	Viewport Compression Nut	8-9	8-9
12	UV Reaction Chamber	2-3	2-5
13	Lamp Extension Spring	8-29	8-29
14	Plastic Cap	8-4-1	8-4-1
15	In/Out Ports	3/4" MNPT / 19mm	1" MNPT / 25mm



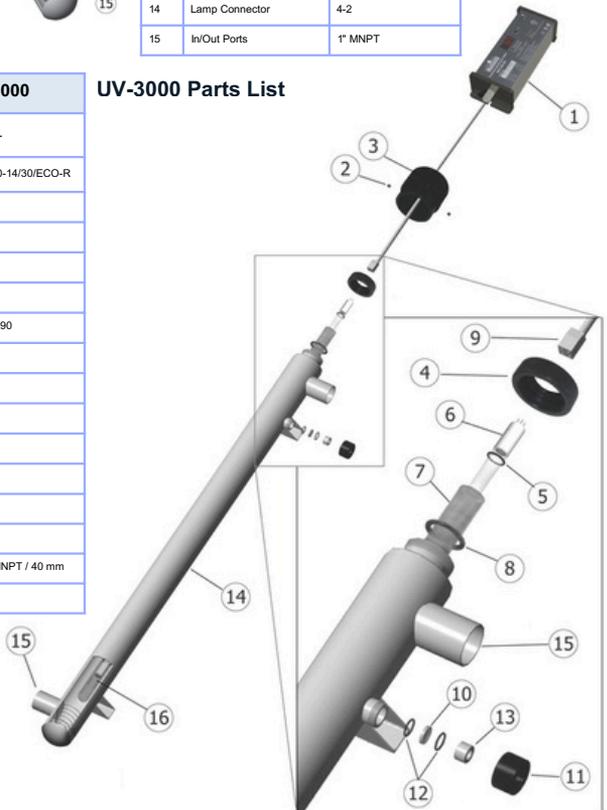


**UV-1400 Parts List**

Item #	Description	Part-No.
1	Electronic Ballast	4-BE800-14/30/ECO-R
2		
3	Quartz Compression Nut	8-51A
4	UV Lamp	RL-51/540T5
5	Quartz Dome Seal 2-211	11-3
6	Glass Disc Seal / Lamp O-ring 2-113	11-6
7	Quartz Dome	RQD-530
8	Glass Viewport Disc	7-15GL
9	Viewport Inner Bushinf	8-11
10	Viewport Compression Nut	8-9
11	UV Reaction Chamber	2-5A
12	Lamp Extension Spring	8-29-1
13	Black End Cap	8-4
14	Lamp Connector	4-2
15	In/Out Ports	1" MNPT

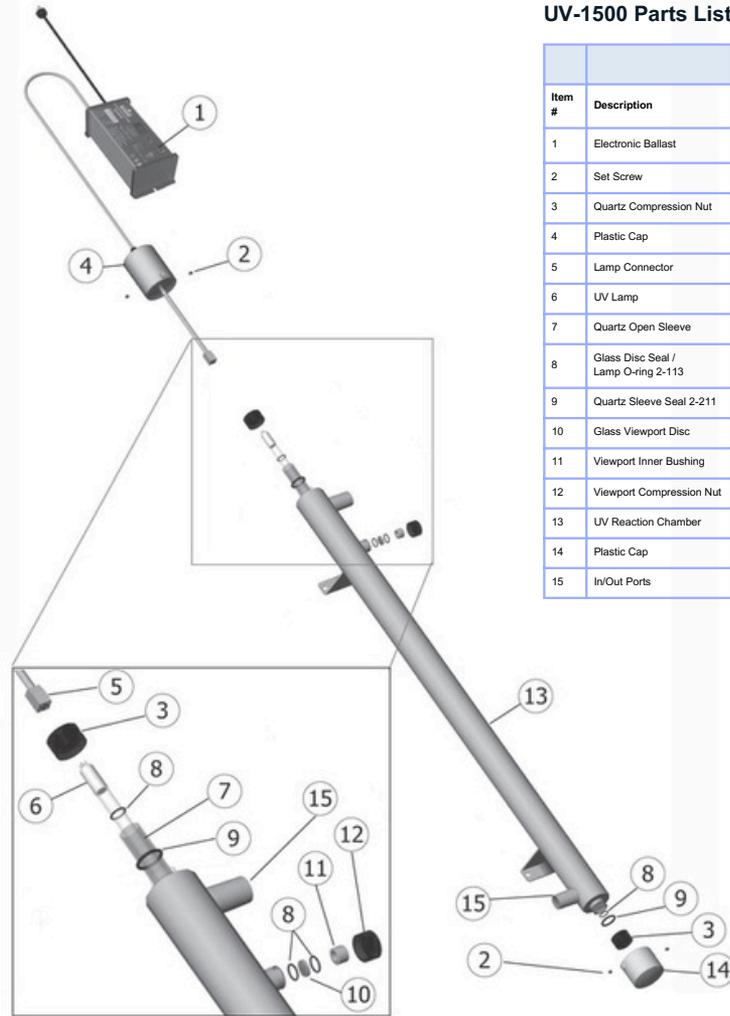
Item #	Description	Part-No.
1	Electronic Ballast	4-BE800-14/30/ECO-R
2	Set Screw	10-5
3	Black End Cap	8-40
4	Quartz Compression Nut	8-301R
5	Lamp O-ring 19x6	11-10
6	Quartz Dome	RQD-1190
7	Quartz Dome Seal 2-324	11-324
8	Lamp Connector	4-2
9	Glass Viewport Disc	7-15GL
10	Viewport Compression Nut	8-9
11	Glass Disc Seal 2-113	11-6
12	Viewport Inner Bushing	8-11
13	UV Reaction Chamber	2-30
14	In/Out Ports	1-1/2" MNPT / 40 mm
15	Lamp Extension Spring	8-29

**UV-3000 Parts List**

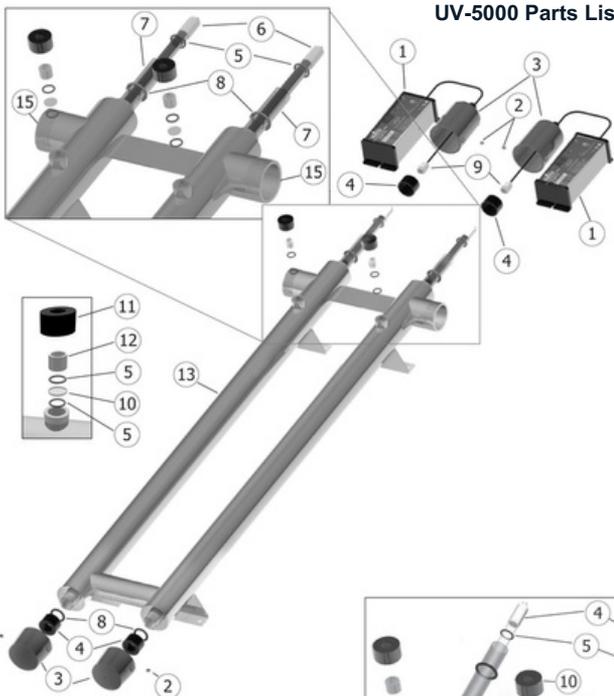


**UV-1500 Parts List**

UV-1500		
Item #	Description	Part-No.
1	Electronic Ballast	4-BE800-ECO
2	Set Screw	10-5
3	Quartz Compression Nut	8-53
4	Plastic Cap	8-4-1
5	Lamp Connector	4-2
6	UV Lamp	RL-110/1197T5
7	Quartz Open Sleeve	RQS-1181
8	Glass Disc Seal / Lamp O-ring 2-113	11-6
9	Quartz Sleeve Seal 2-211	11-3
10	Glass Viewport Disc	7-15GL
11	Viewport Inner Bushing	8-11
12	Viewport Compression Nut	8-9
13	UV Reaction Chamber	2-4
14	Plastic Cap	8-4-1
15	In/Out Ports	1" MNPT / 25 mm



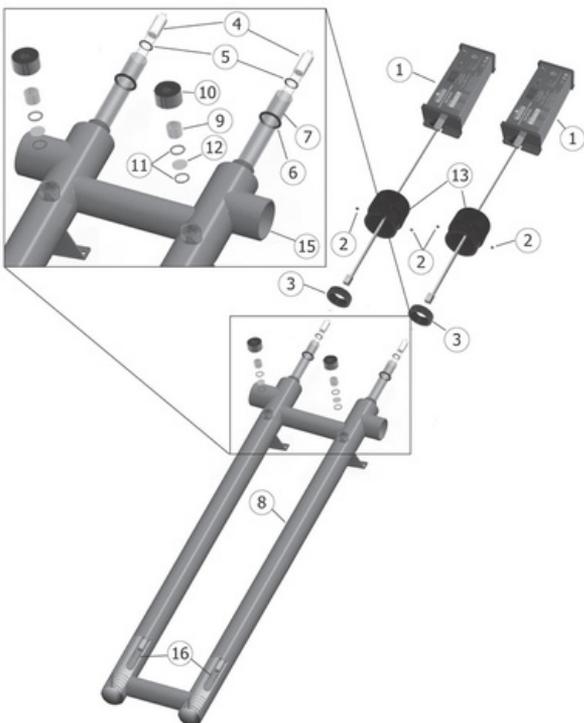
**UV-5000 Parts List**



Item #	Description	Part-No.
1	Electronic Ballast	4-BE800-ECO
2	Set Screw	10-5
3	Large Blue Cap	8-4-1
4	Quartz Compression Nut	8-53
5	Glass Disc Seal / Lamp O-ring 2-113	11-6
6	UV Lamp	RL-110/1197T5
7	Quartz Open Sleeve	RQS-1181
8	Quartz Sleeve Seal 2-211	11-3
9	Lamp Connector	4-2
10	Glass Viewport Disc	7-15GL
11	Viewport Compression Nut	8-9
12	Viewport Inner Bushing	8-11
13	UV Reaction Chamber	2-6
14	Large Blue Cap	8-4-1
15	In/Out Ports	2" MNPT / 50 mm

**UV-6000 Parts List**

Item #	Description	Part-No.
1	Electronic Ballast	4-BE800-14/30/ECO
2	Set Screw	2-5
3	Quartz Compression Nut	8-301R
4	UV Lamp	RL-100/1197T6
5	Lamp O-ring 19x6	11-10
6	Quartz Dome Seal 2-324	11-324
7	Quartz Dome	ROD-1190
8	UV Reaction Chamber	2-60
9	Viewport Inner Bushing	8-11
10	Viewport Compression Nut	8-9
11	Glass Disc Seal 2-113	11-6
12	Glass Viewport Disc	7-15GL
13	Black End Cap	8-40
14	Lamp Connector	4-2
15	In/Out Ports	2" MNPT / 50 mm
16	Lamp Extension Spring	8-29



# TROUBLESHOOTING GUIDE

Problem	Possible Cause	Solution
UV lamp will not light (buzzing alarm on ballast)	Wrong Input voltage - has to be within range of rated voltage (120V / 240V +/- 8%)	Install voltage regulator
	Lamp connector is loose	Check that connector is securely on the pins
	UV lamp is old and burnt out	Replace UV lamp
	UV lamp is new, ballast LED is red	Replace ballast
	Ballast displays A3 - indicating lamp life is up (alarm can be silenced by pressing the Reset Button, up to 4 times)	Replace UV lamp Reset ballast (see page 28)
Leak at Quartz sleeve	Defective or cracked O-ring	Replace O-ring
	Quartz fracture (hair-line crack in the sleeve)	Replace Quartz sleeve
	Defective or cracked compression nut	Replace compression nut and O-ring
Leak at filter housing	Defective O-ring or cross-threaded fitting	Replace O-ring or filter housing
	Cracked filter housing head	Replace filter housing
Bacteria count	Sleeve is fouled or caked with deposits	Clean sleeve, disinfect piping (see Page 17)
Water too hot	No-Flow	Run a tap for 10 sec.
<b>If problems persist, call Wyckomar Canada Inc. for technical assistance. (800) 419-5162 or (519) 822-1886 email: sales@wyckomaruv.com</b>		

## FREQUENTLY ASKED QUESTIONS

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### **What is the warranty on your product?**

The warranty for the UV sterilizer against manufacturing defects is 5 years, and the UV lamp carries a pro-rated warranty of 1 year.

### **How Often Should I Change the Filters?**

Filter change frequency can be quite subjective and depends on how much work the filters are required to do (what is the relative quality of your water source?). Whole home UV systems will require new filters at least twice a year and more frequently, if the water is of questionable quality and clarity. Carbon filters should be changed if and when you notice a change in taste or odour in the water, and changed more frequently if you have additional concerns such as chlorine and other contaminants.

### **Does the UV light need to be changed yearly?**

The technology of UV disinfection uses a translucent lamp that emits UV radiation which is created inside the lamp by an arc between the two filaments of the lamp. This electronic arc is vaporizing a bead of mercury inside the lamp, and once the mercury is used up, the lamp will only shine bluish, but not emit UV rays any more, so it will have to be replaced. Our UV lamps are rated for a lifetime of 11,000 hours, which is a bit more than 1 year for a light that is on all the time 24/7/365.

### **What is the general lifespan of the UV system?**

The lifespan of the water treatment system is varied. The filter housings are said to have a lifetime of 5-7 years by the manufacturer, which is low by our experience. We have customers with 30 year old systems that still work well. The UV part of the system has a lifespan of at least 1 generation.

### **We have town water containing chlorine & fluoride plus who knows what else.**

#### **How can you help?**

Our filters will remove most of the chlorine and some fluoride. For elevated levels, extra filtration can be added.

### **Minerals are not taken out of the water? We have high calcium levels.**

#### **Any issues with that?**

A balance of minerals in your drinking water is generally a good thing for health. When some minerals are in excess concentration (for example iron) they may be addressed with additional water treatment equipment. Generally, calcium is more of an aesthetic issue in water quality rather than one of healthy water. Contact us with your water quality report for further information.

## WARRANTY INFORMATION

We want you to be satisfied with your product and with our service. If you need to contact a Wyckomar Customer Service Representative, please have your product model number and serial number ready.

For warranty service, please contact us for an RMA # (Return Merchandise Authorization Number) and ship defective product, along with proof of purchase indicating the date of purchase and a letter describing the problem, to:

Mail:	Wyckomar Canada Inc. 111 Malcolm Rd. Guelph, Ontario CANADA N1K 1A8
Telephone:	1.800.419.5162 519.822.1886
Fax:	519.763.6580
email:	sales@wyckomaruv.com
web:	<a href="https://shop.wyckomaruv.com">https://shop.wyckomaruv.com</a>

**For this warranty to be effective, when making a warranty claim you must include your proof of purchase receipt indicating the date of purchase**

Wyckomar Canada Inc. warrants to the first purchaser of the UV unit that the UV reactor chamber will be free from faulty material and/or workmanship for a period of 5 years from date of purchase.

Ballasts, UV Monitors and UV Lamps carry a one-year pro-rated warranty from date of purchase.

Wyckomar Canada Inc.'s liability during the warranty period is limited to the repair and/or replacement of the part(s), which prove to be defective in material and/or workmanship under normal use. Shipping, handling and service costs are the responsibility of the purchaser. The defective part or unit must be returned to Wyckomar at the purchaser's expense.

The warranty is not transferable and is the only warranty authorized by Wyckomar Canada Inc. Any other warranty or guarantee, implied or offered, will not be honored by Wyckomar Canada Inc.

This warranty is void, if in the opinion of Wyckomar Canada Inc. that the product failure was caused by misuse, abuse, accident or improper installation. Do not install systems out of doors (in the elements). All units are for indoor use only in a dry location.

As a result of this warranty, Wyckomar Canada Inc. is not responsible for any damages, injuries or losses whatsoever, including those incurred during installation, repair or replacement, as well as incidental or consequential damages.



**Wyckomar Canada Inc.**  
**111 Malcolm Road**  
**Guelph, Ontario**  
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