Installation and Maintenance Manual

Models:
UV-1, UV-250,
UV-700, UV-1200,
UV-1400, UV-1500,
UV-3000, UV-5000 and UV-6000

Wyckomar

UV Purification Systems

CAUTION - WARNING

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.

See "Safety Precautions" on Page 4

Please read this entire User Manual
before attempting to install your UV system.

Read and follow ALL safety precautions

Keep this manual in a safe place
for future reference.

Unit Serial Number: _____

Date of Purchase: _____

Please keep your sales receipt as proof of purchase for warranty purposes.

Notice
Although Wyckomar has attempted to ensure the accuracy of the content of this manual, it is possible that this document may contain technical inaccuracies, typographical, or other errors. Wyckomar assumes no liability for any error in this publication, and for damages, whether direct, indirect, incidental, consequential or otherwise

Wyckomar provides this publication "as is" without warranty of any kind, either expressed or implied. Use of the system is at the discretion of the buyer.

The published information in this manual is subject to change without notice. Wyckomar reserves the right to make changes in the product design and layout without notification to its customers.

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UV Purification Systems

Introduction

Congratulations on purchasing a Wyckomar UV purification system. Please read through the installation procedures and follow all safety warnings when setting up your system. Wyckomar Inc. manufactures several sizes of UV purification systems; however, they all operate on the same principle. Basic installation is the same for most units. Refer to the exploded view diagrams for replacement parts.

Table of Contents

Wyckomar

UV Purification Systems

Introduction

How Ultraviolet Water Purification Works

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).

Factors Affecting UV Purification

The Wyckomar UV Purifier is guaranteed to eliminate microbiological contamination only if the physical qualities of the influent water supply are as follows:

Turbidity (Suspended Solids): Turbidity must be < 1.0 NTU at the time of disinfection. There must be a 5-micron or less sediment prefiltration system installed before the UV system.

TDS (Total Dissolved Solids): Should not exceed approximately 500 ppm.

Total Hardness (Sum of Calcium & Magnesium): Must be < 10 gpg (grains per gallon) of hardness, otherwise pretreatment is required.

Tannins & Colour: Must be < 2.0 ppm, or pretreatment is required.

Iron: Must be < 0.3 ppm.

Manganese: Must be < 0.05 ppm.

If your water quality parameters do not meet these criteria, please contact the manufacturer for pretreatment recommendations.

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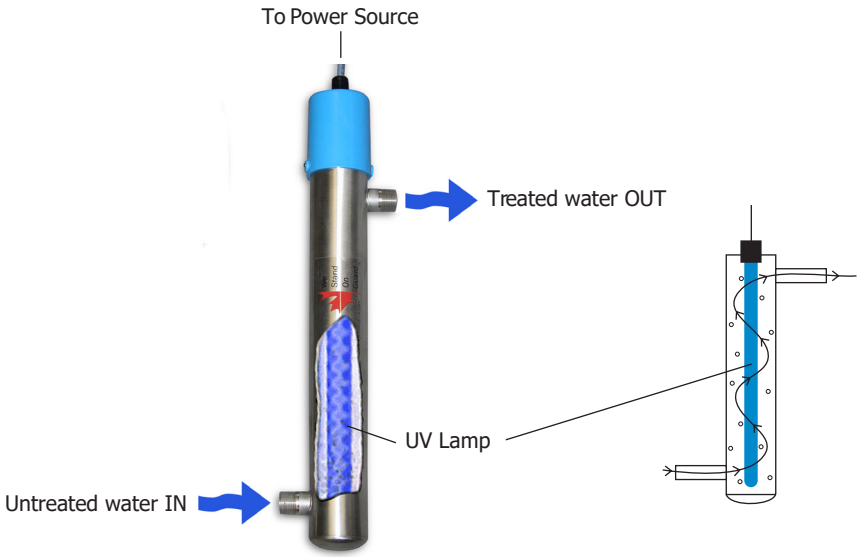
UV Purification Systems

Introduction

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 ultra-violet 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. 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.

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, the lamp must be replaced for the unit to operate properly. The alarm sounds also when the ballast is damaged for any reason (e.g. from moisture buildup inside, or from having received a power spike or lightning strike).



Setting Up

Safety Precautions

Please READ and FOLLOW all safety precautions.
SAVE these instructions.

Never expose your eyes directly to UV light.

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.

ELECTRICAL SHOCK HAZARD
This UV system is installed near water. Please take all necessary precautions. Other than where noted in this manual, DO NOT attempt to repair parts yourself, but contact the manufacturer or authorized dealer for repair service.

The electronic ballast in this system can get damaged from voltage and/or frequency deviations, caused by power outages or lightning strikes. Only connect this UV system to a properly grounded outlet. A GFCI circuit is recommended. It 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.

It is highly recommended, especially in rural areas, to install **a quality voltage regulator or surge suppressor, rated at > 3600 Joules** at the power input to the ballast.

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. Contact a professional plumber for information.

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

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. Inspect the UV system after installation, and carefully check for leaks. DO NOT plug in the system if there is water on any part(s) that are not intended to be wet.

This system is to be used ONLY for its intended use of potable water disinfection. DO NOT use attachments that are not approved by the manufacturer, as this may cause problems with the UV system.

Setting Up

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 re-contaminated in the pipes between the purifier and the faucet. Be sure to follow instructions under "Disinfecting Your Water System" on Page 9

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 6).

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

Caution: The ballast and all electrical connections must be mounted and installed above water lines to prevent the possibility of electric shock in the case of a water leak. A grounded electrical outlet is required (GFCI is preferred).

The manufacturer's warranty is only applicable when prefiltered water is used. Prefilters (to 5 micron) remove sediment particles that can reduce the effectiveness of the UV lamp or potentially damage the unit.

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

Install your Wyckomar purifier indoors in a protected area. The temperature should not fall below 4 °C (40 °F). Avoid conditions with high humidity to prevent condensation on the purification chamber. Ideal temperature conditions range from 9 °C to 29 °C.

Use Teflon tape (T-tape) liberally on all pipe connections (3 turns around the fitting). Do not use any other sealants other than food grade pipe dope (pipe joint compound with PTFE, e.g. "Oatey® Great White®").

Use food-grade silicone or plumber's grease on O-rings. DO NOT use oil-based products.

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

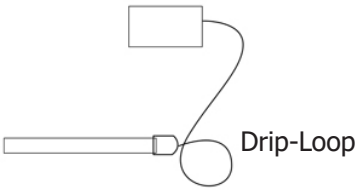
If system is not used for extended perieods of time, unplug ballast to prevent unit from heating up. Replug ballast upon return before turning on water supply.

Setting Up

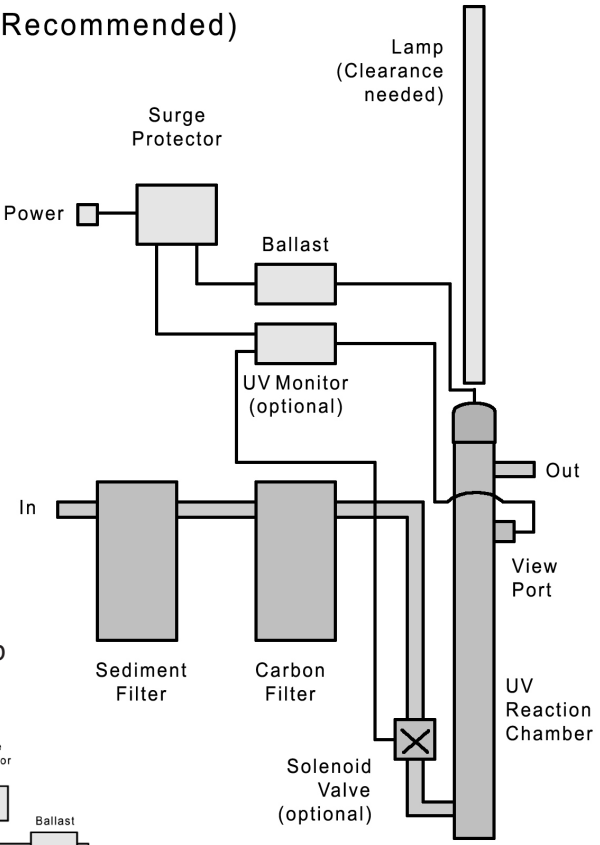
Installation Diagrams

Wyckomar systems can be installed vertical or horizontal. Refer to these schematic drawings for typical position of components. Ensure that there is adequate clearance at the lamp end of the unit in order to safely remove the UV lamp from the chamber. Space required for clearance is at least the length of the UV chamber.

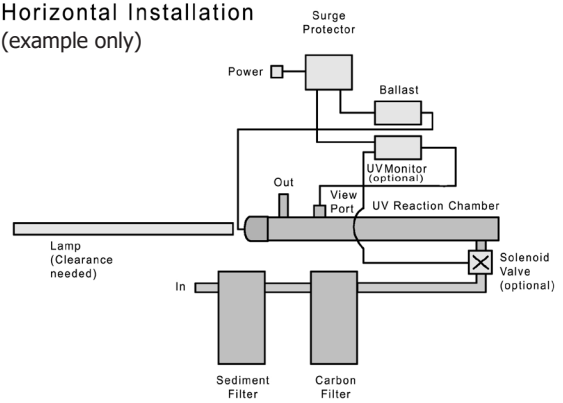
All electronic devices shall be mounted above the UV system with a drip-loop in the connecting cable



Vertical Installation (Recommended)



Horizontal Installation (example only)



Setting Up

Installation

Carefully select the location for the UV system and any related components. Note the direction of water flow in the supply line to which the unit is being connected.

Refer to the appropriate exploded view diagram for your unit and check to see that you have all the necessary fittings.

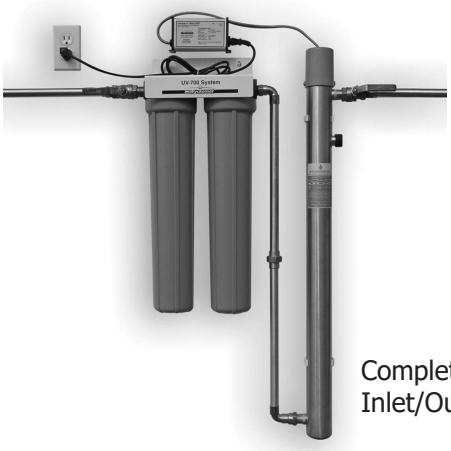
Parts List: 4 screws 1 quartz dome or sleeve, 1 or 2 O-rings
1 alcohol wipe 1 Allen key wrench
1 UV lamp w/ O-rings on each end

Turn off the main water supply valve. Fasten unit to wall, using the mounting clips ("pipe hangers") and screws provided. Press the UV chamber into the clips for a secure hold.

Install new plumbing, making sure the In and Out ports on the filter set point in the direction of water flow. Installation of bypass and valves is recommended.

Install filter set

Install UV unit



After installation of the plumbing is complete, install electrical components (surge suppressor and ballast, monitor if present) ABOVE the water line.

Continue with installation of the quartz dome or sleeve(s) according to the instructions on Page 8

Complete installation with pre-filter set and UV. Inlet/Outlet shutoff valves are recommended.

Setting Up

Installation and Start Up Operation

Take the plastic cap off the unit and remove the black nut from the end of the unit. Remove quartz sleeve/dome from packaging, being careful not to lose the spring inside the dome. You may wish to lubricate the o-ring with food-grade silicone or plumber's grease (do NOT use oil based products such as Vaseline) and roll it over one end of the sleeve or the open end of the dome. Avoid fingerprints on the sleeve/dome, wipe with alcohol.

Gently slide the sleeve/dome into the unit. For domed systems (UV-1, UV-250, UV-700, UV-1200, UV-1400, UV-3000 and UV-6000), the dome will center itself inside the bottom of the reaction chamber. For sleeved systems (UV-1500 and UV-5000), the sleeve(s) will protrude out of the reaction chamber at the bottom end, hold in place with hand or foot. Roll second o-ring over the end at the bottom.

Thread on the compression nut(s). The o-ring will set itself into the beveled seal of the bushing on the reaction chamber. **Hand tighten** the nut(s) (do NOT use tools). In sleeved systems, install the lower plastic cap and gently tighten the set screws with the Allen key supplied. This will keep the lamp from sliding through.

Insert the UV lamp, it will center itself in the spring inside the dome in domed systems, or stop at the lower plastic cap in sleeved systems. Connect the white 4-pin electrical connector. Replace the top plastic cap and gently tighten setscrews. Unit is now ready to be turned on.

Plug the power cable from the ballast into an appropriate power source outlet **(a power surge suppressor rated at> 3600 Joules is strongly recommended)**. Wait for the lamp to come on (up to 30 sec) and inspect the ballast and viewport, if present.

Open main water valve **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 and then release. Continue with next filter. Open valves on either side of purifier **slowly** and check for leaks (bypass valve should remain closed). Turn on any faucet to release air in the system, wait for a steady stream of water, then turn off faucet.

Now that the system is operating properly, any incoming water is disinfected. Any exisiting pathogens downstream of the system, if present, are not affected. Therefore, **it is mandatory to disinfect the plumbing system downstream from the unit after installation** according to the instructions on Page 9.

Wyckomar

UV Purification Systems

Setting Up / Maintenance

Disinfecting Your Water System

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 it's way to the taps.

The following steps must be taken to accomplish this important task.

1 Turn off the water supply to the UV unit and make sure that the by-pass valve is closed if equipped. Turn on the UV unit.

2 Remove the filter bowls from the filter housing head and remove the filter cartridges.

3 Fill one filter bowl one-half full with chlorine bleach and screw the bowls (without cartridges) back onto the filter housing head.

4 Turn on the water supply, check for leaks.

5 Turn on every tap in the water system of the building both inside and outside, one-by-one. Run the water at each tap until the smell of chlorine is evident. Let the system sit idle for 60 - 120 minutes.

6 While the UV lamp remains on, open all taps in the water system to flush out the chlorine - approximately 5 minutes.

7 When all chlorine is flushed from the system, and while the UV lamp remains on, shut off the water supply and reinstall the filter cartridges in the filter housings.

8 Turn on the water supply slowly, check for leaks. 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 located in the purification chamber will operate effectively for approximately 1 year (9000 hours) under normal conditions. The lamp will still light 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 use only original manufacturer replacement parts.**

Caution! Do not look directly at the UV.

1 Unplug the purifier from the electrical outlet. Note: It is not necessary to turn off the water supply. Do not use water during maintenance.

2 With the Allen key provided, loosen the two set screws that secure the top cap containing the electrical cord. Remove the cap and carefully set aside (it is attached to the ground wire).

3 Remove the lamp connector located at the cord end of the lamp by gently wiggling and pulling away from the lamp.

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

5 Insert the replacement lamp into the quartz dome/sleeve. Hold lamp at ceramic ends. Do not touch the lamp with your hands - fingerprints will prevent the system from working properly. If the lamp is touched, clean with an alcohol wipe.

6 Gently push the lamp connector against the pins at the end of the new lamp.

7 Make sure that all electrical components are dry before replacing the top cap. Secure the cap with the setscrews.

8 For ballast models RH51-425-40N or -40L and RH51-800-95N or -95L: Reset counter according to instructions on Page 14.
For all other ballast models: Plug in the Power Cord.

9 To confirm that your new lamp is working correctly, check your model's light indicator on the ballast and, if present, check the view port.

Maintenance

Cleaning/Replacing the Quartz Dome or Sleeve

Important:
If water turbidity is a problem, it is advisable to clean the quartz dome/sleeve each time when replacing the lamp.

1 Turn off the water supply and open a faucet to depressurize the plumbing system. Unplug the purifier from the electrical outlet. Press the pressure-relief button on one of the filter housings. Horizontal mounted systems need to be drained by removing filter bowls. Have a bucket on hand.

2 With the Allen key provided, loosen the two set screws that secure the top cap containing the electrical cord. Remove the cap and carefully set aside (it is attached to the chamber with the ground wire).

3 Remove the white lamp pin connector from lamp end. Remove the UV lamp carefully from the UV unit.

4 Loosen and remove the sealing compression nut. Caution: Quartz dome/sleeve may be stuck to the O-ring inside the retaining nut.

5 Carefully remove the quartz dome/sleeve from the UV chamber. Retain the spring inside domed sleeves.

6 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. You may choose to lubricate the O-ring with food-grade silicone or plumber's grease (do not use oil based products, such as Vaseline). Slide the o-ring onto the dome/sleeve.

7 Using a clean cloth to hold the end of the replacement quartz dome/sleeve, guide it gently into the UV chamber and screw the sealing compression nut down until snug to secure seal. Hand-tight only, DO NOT USE TOOLS!

8 Re-insert the retained spring in domed sleeves.

9 Insert replacement lamp into the quartz dome/sleeve. Gently push the lamp pin connector against the pins at the end of the lamp.

10 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. Plug in the ballast, turn on the water supply slowly and check for leaks.

Maintenance

Changing Filter Cartridges

Filter cartridges have to be changed on a frequent basis to ensure porper 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.

1 Turn off the water supply. If isolation valves are installed at the unit, close them both.

2 Press pressure release button to relieve pressure in filter housing. Unscrew housing with plastic wrench. A heat gun or hair dryer may assist removing the filter sump if stuck. Note: When opening filter housing, it is common for the o-ring/gasket to lift out of the housing and stick to cap.

3 Remove used cartridge and discard. Rinse out housing and fill approximately 1/3 full of water. Add about 2 to 3 teaspoons of bleach and scrub inside with brush or sponge. Rinse thoroughly.

4 Remove o-ring/gasket from sump and wipe groove and o-ring/gasket clean. You may choose to lubricate o-ring/gasket with a coating of food grade silicone grease. Place o-ring/gasket back in place and press o-ring/gasket down into the groove with fingers (or place on rim of sump). Note: Make sure o-ring/gasket is seated level to maintain proper seal. If o-ring/gasket appears damaged, replace at this time.

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

6 Screw the sump onto the cap and handtighten. Make sure that the cartridge slips over the cap standpipe.

7 Open shutoffs at the UV system (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.

8 Depress the pressure release button (if present) to release trapped air from the filter housings.

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

Maintenance

Filter Maintenance and Troubleshooting

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.

Wyckomar

UV Purification Systems

ECO Ballast RH51 Series Operation

For UV systems supplied with the Wyckomar ECO ballast.

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.

This 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.

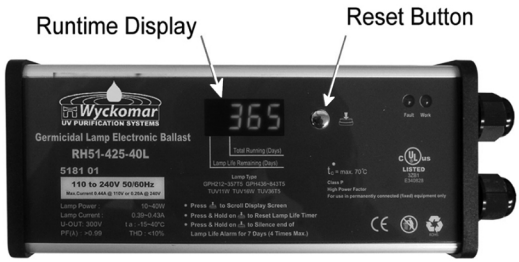
If the digital display reads “A3”, this is an indication that the UV lamp life is used up. This will happen at the end of lamp life, when the remaining lamp life goes from 1 to 0. The alarm will come on at intervals.

The alarm can temporarily be stopped. 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.

To replace the UV lamp, unplug the ballast from the wall, replace the lamp with an identical Wyckomar UV lamp and follow the reset procedure below.

To reset the ballast after installing a new lamp please hold down the Reset Button until the display shows “rSET” - continue holding the button down until the display shows “365” and beeps shortly ... your ballast is now reset.



Maintenance

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 14)
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 9)
Water too hot	No-Flow	Run a tap for 10 sec.

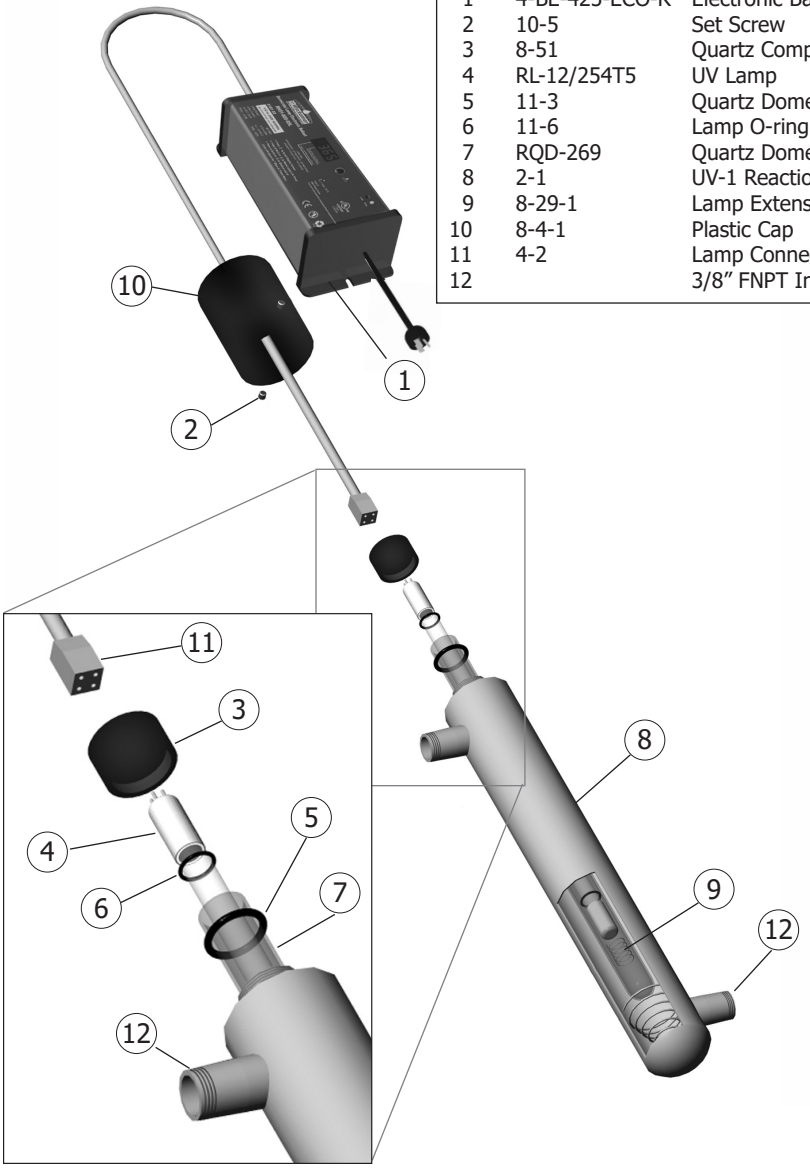
If problems persist, call Wyckomar Inc. for technical assistance. (800) 419-5162 or (519) 822-1886 email sales@wyckomaruv.com

UV-1

Technical Info

Exploded Diagram & Parts List

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

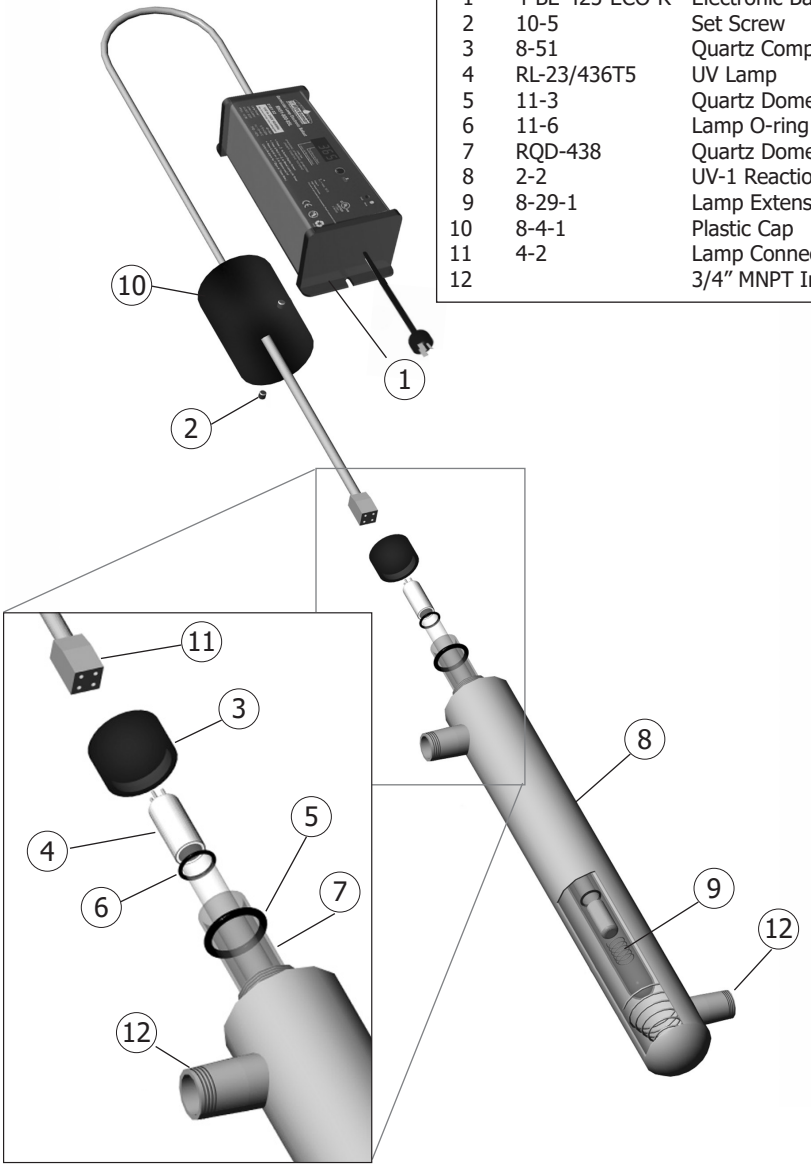


UV-250

Technical Info

Exploded Diagram & Parts List

Item	Part-No.	Description
1	4-BE-425-ECO-R	Electronic Ballast
2	10-5	Set Screw
3	8-51	Quartz Compression Nut
4	RL-23/436T5	UV Lamp
5	11-3	Quartz Dome Seal 2-211
6	11-6	Lamp O-ring 2-113
7	RQD-438	Quartz Dome Sleeve
8	2-2	UV-1 Reaction Chamber
9	8-29-1	Lamp Extension Spring
10	8-4-1	Plastic Cap
11	4-2	Lamp Connector
12		3/4" MNPT In/Out Ports



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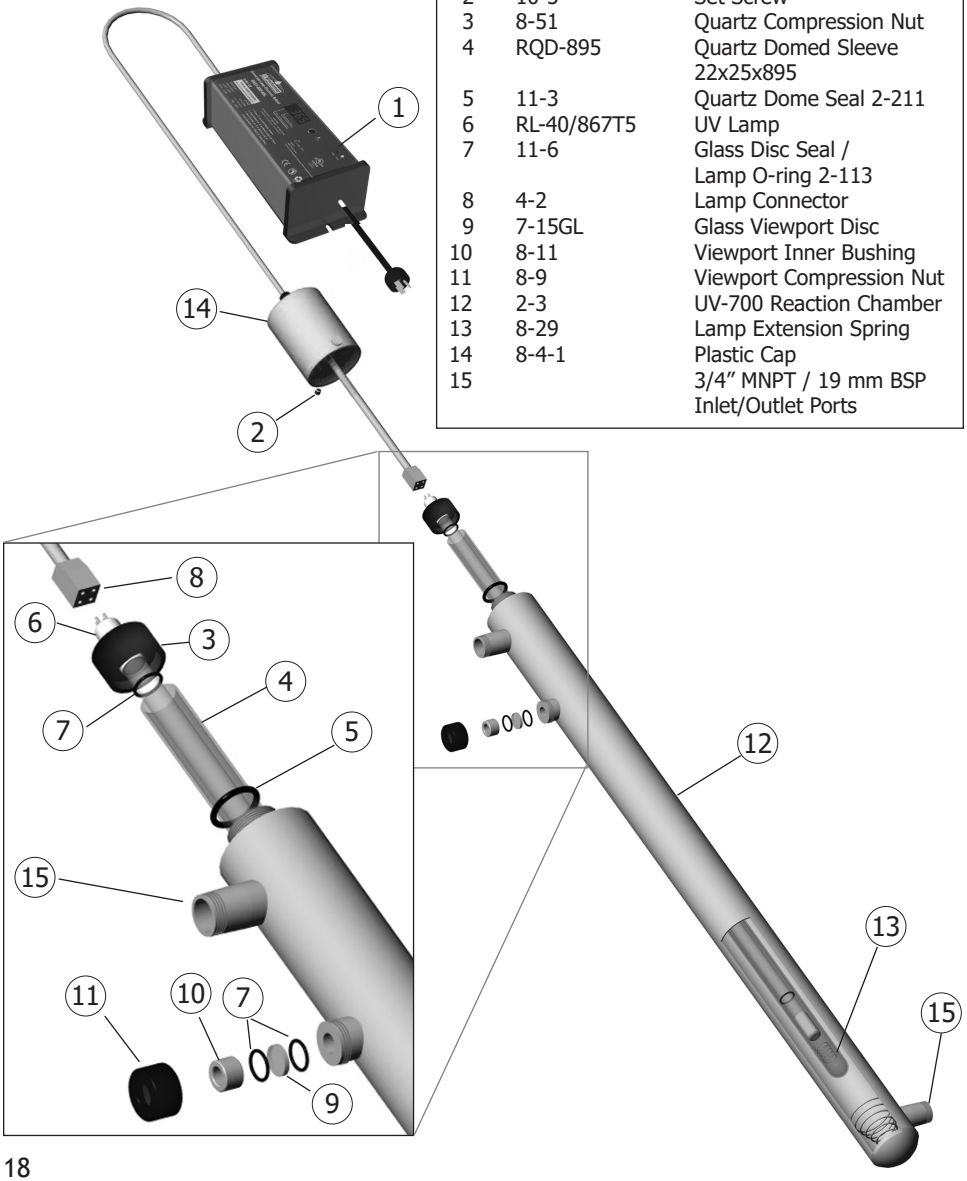
UV Purification Systems

UV-700

Technical Info

Exploded Diagram & Parts List

Item	Part-No.	Description
1	4-BE-425-ECO-R	Electronic Ballast
2	10-5	Set Screw
3	8-51	Quartz Compression Nut
4	RQD-895	Quartz Domed Sleeve 22x25x895
5	11-3	Quartz Dome Seal 2-211
6	RL-40/867T5	UV Lamp
7	11-6	Glass Disc Seal / Lamp O-ring 2-113
8	4-2	Lamp Connector
9	7-15GL	Glass Viewport Disc
10	8-11	Viewport Inner Bushing
11	8-9	Viewport Compression Nut
12	2-3	UV-700 Reaction Chamber
13	8-29	Lamp Extension Spring
14	8-4-1	Plastic Cap
15		3/4" MNPT / 19 mm BSP Inlet/Outlet Ports



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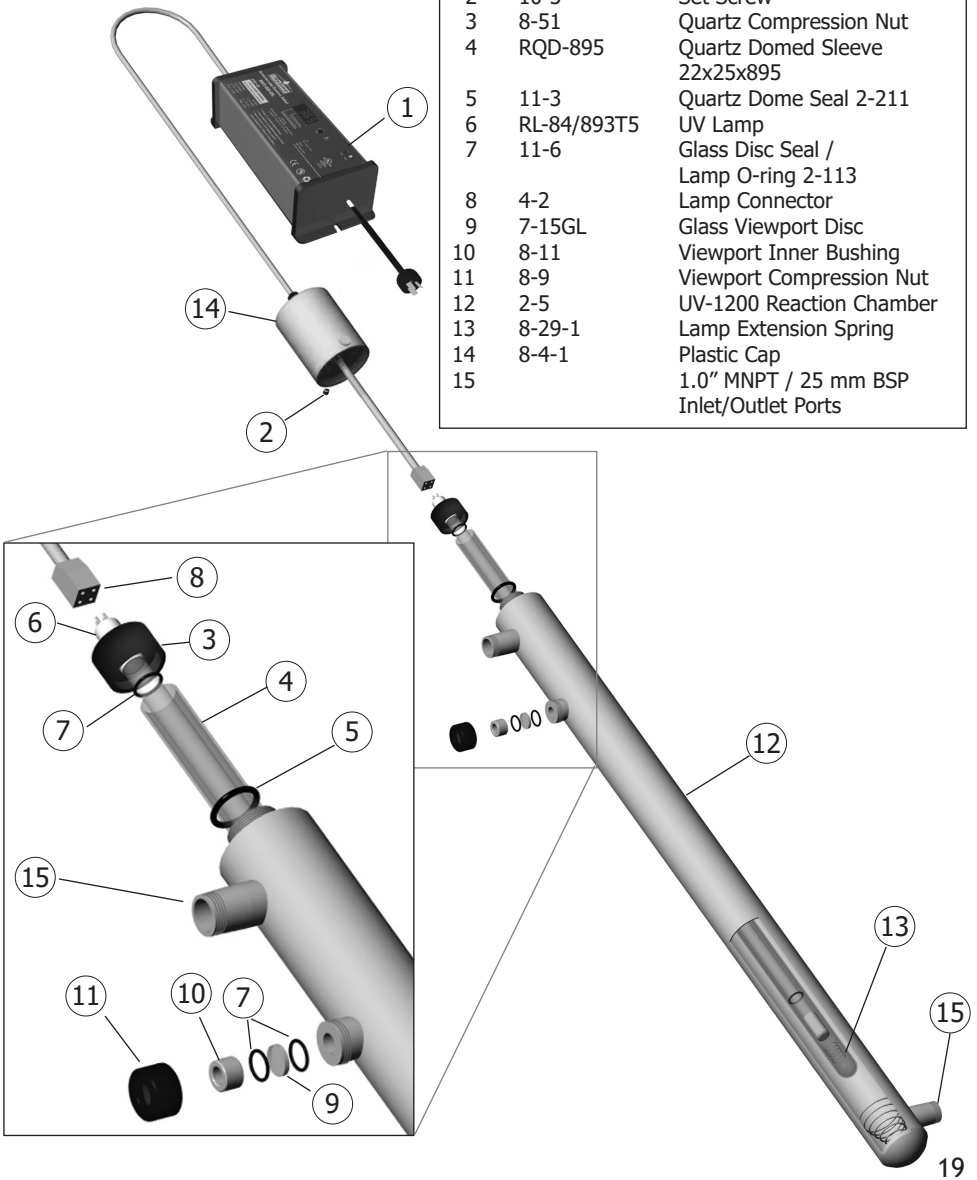
UV Purification Systems

UV-1200

Technical Info

Exploded Diagram & Parts List

Item	Part-No.	Description
1	4-BE800-ECO	Electronic Ballast
2	10-5	Set Screw
3	8-51	Quartz Compression Nut
4	RQD-895	Quartz Domed Sleeve 22x25x895
5	11-3	Quartz Dome Seal 2-211
6	RL-84/893T5	UV Lamp
7	11-6	Glass Disc Seal / Lamp O-ring 2-113
8	4-2	Lamp Connector
9	7-15GL	Glass Viewport Disc
10	8-11	Viewport Inner Bushing
11	8-9	Viewport Compression Nut
12	2-5	UV-1200 Reaction Chamber
13	8-29-1	Lamp Extension Spring
14	8-4-1	Plastic Cap
15		1.0" MNPT / 25 mm BSP Inlet/Outlet Ports



Wyckomar

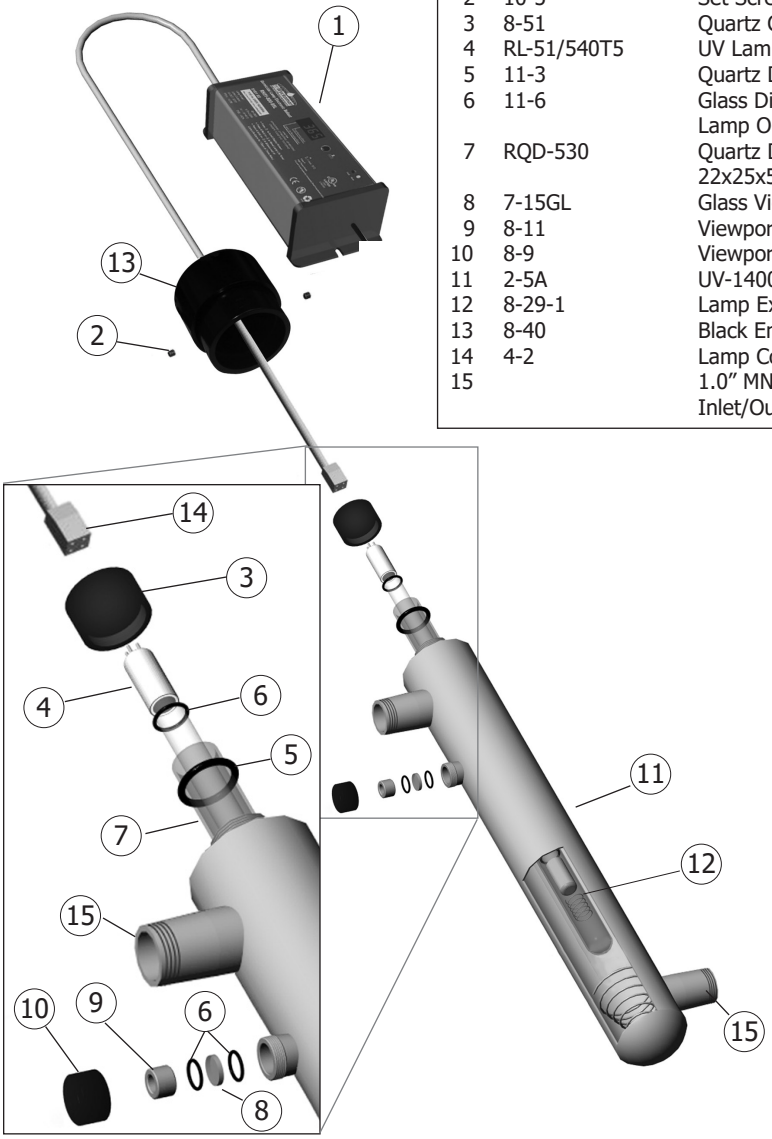
UV Purification Systems

UV-1400

Technical Info

Exploded Diagram & Parts List

Item	Part-No.	Description
1	4-BE-800-14/30ECO	Ballast
2	10-5	Set Screw
3	8-51	Quartz Compression Nut
4	RL-51/540T5	UV Lamp
5	11-3	Quartz Dome Seal 2-211
6	11-6	Glass Disc Seal / Lamp O-ring 2-113
7	RQD-530	Quartz Dome Sleeve 22x25x530
8	7-15GL	Glass Viewport Disc
9	8-11	Viewport Inner Bushing
10	8-9	Viewport Compression Nut
11	2-5A	UV-1400 Chamber
12	8-29-1	Lamp Extension Spring
13	8-40	Black End Cap
14	4-2	Lamp Connector
15		1.0" MNPT / 25mm BSP Inlet/Outlet Ports



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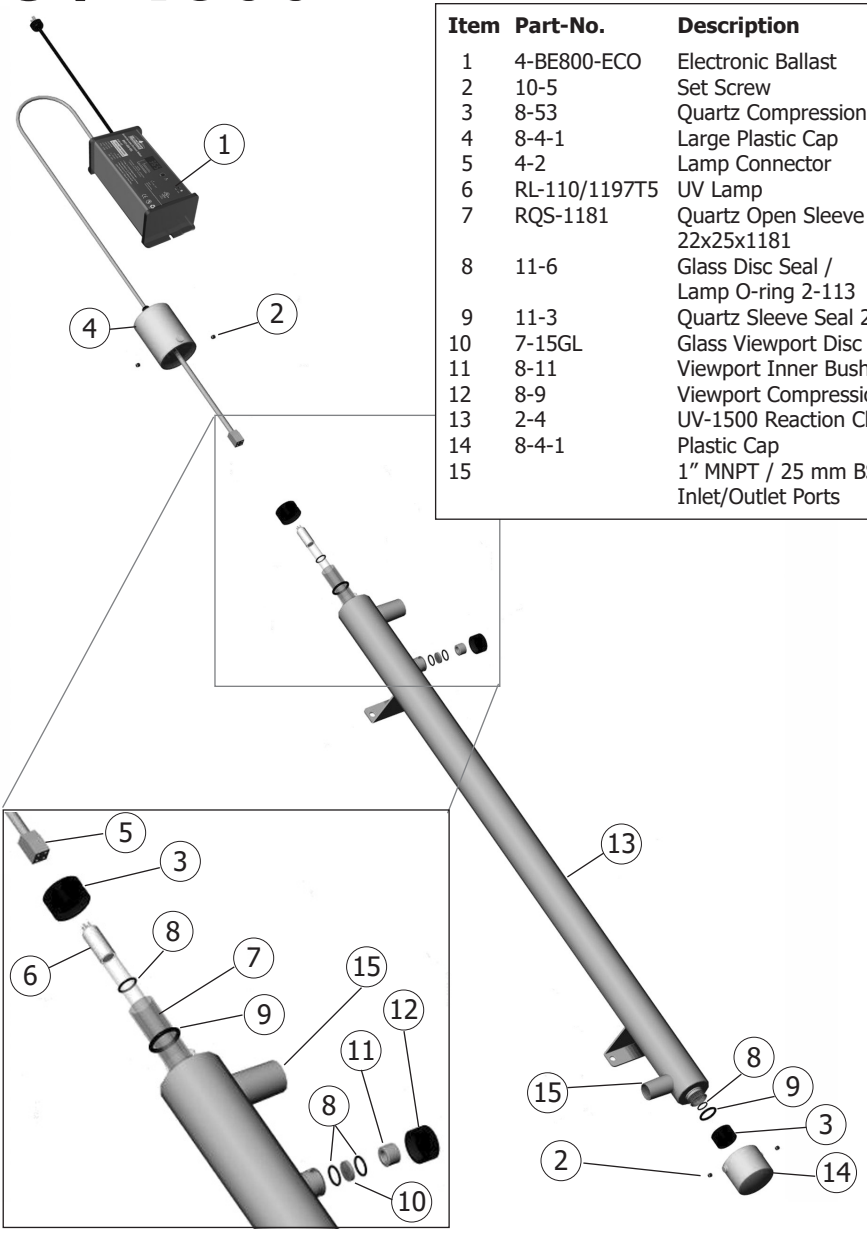
UV Purification Systems

UV-1500

Technical Info

Exploded Diagram & Parts List

Item	Part-No.	Description
1	4-BE800-ECO	Electronic Ballast
2	10-5	Set Screw
3	8-53	Quartz Compression Nut
4	8-4-1	Large Plastic Cap
5	4-2	Lamp Connector
6	RL-110/1197T5	UV Lamp
7	RQS-1181	Quartz Open Sleeve 22x25x1181
8	11-6	Glass Disc Seal / Lamp O-ring 2-113
9	11-3	Quartz Sleeve Seal 2-211
10	7-15GL	Glass Viewport Disc
11	8-11	Viewport Inner Bushing
12	8-9	Viewport Compression Nut
13	2-4	UV-1500 Reaction Chamber
14	8-4-1	Plastic Cap
15		1" MNPT / 25 mm BSP Inlet/Outlet Ports



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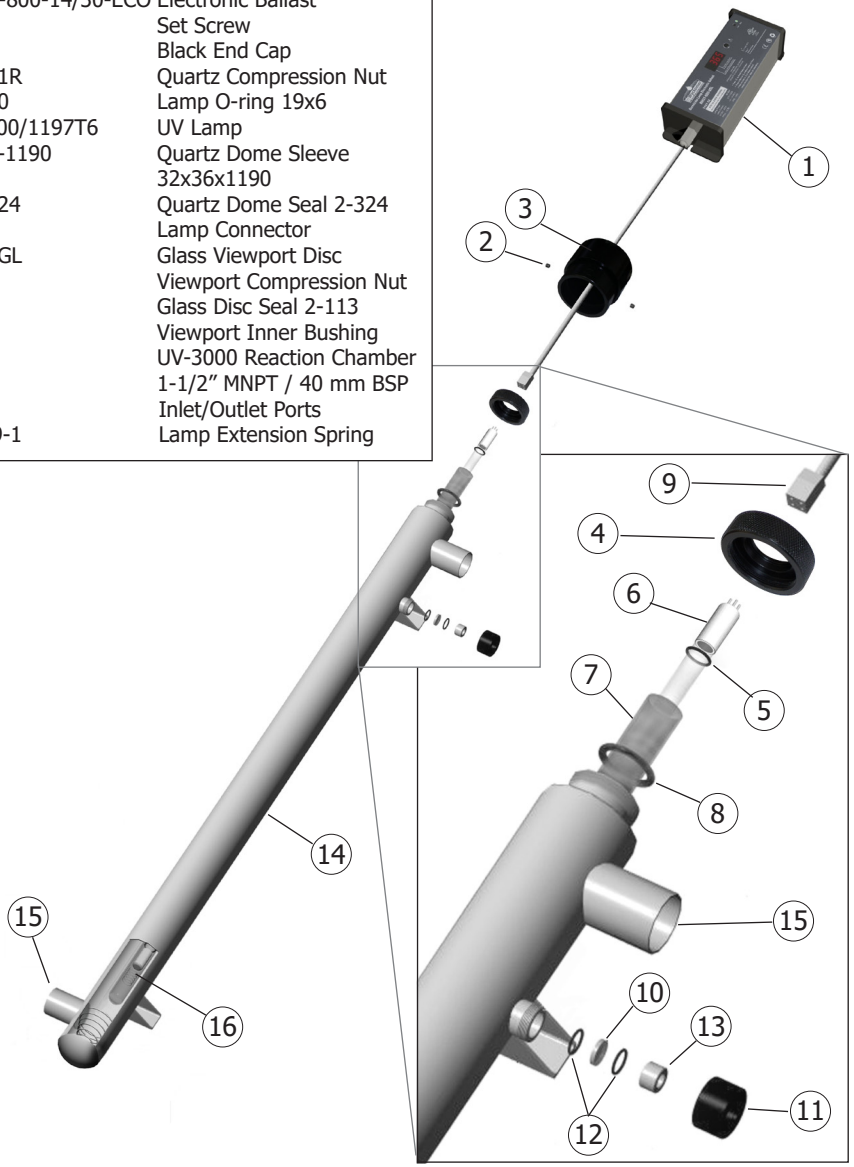
UV Purification Systems

UV-3000

Technical Info

Exploded Diagram & Parts List

Item	Part-No.	Description
1	4-BE-800-14/30-ECO	Electronic Ballast
2	10-5	Set Screw
3	8-40	Black End Cap
4	8-301R	Quartz Compression Nut
5	11-10	Lamp O-ring 19x6
6	RL-100/1197T6	UV Lamp
7	RQD-1190	Quartz Dome Sleeve 32x36x1190
8	11-324	Quartz Dome Seal 2-324
9	4-2	Lamp Connector
10	7-15GL	Glass Viewport Disc
11	8-9	Viewport Compression Nut
12	11-6	Glass Disc Seal 2-113
13	8-11	Viewport Inner Bushing
14	2-30	UV-3000 Reaction Chamber
15		1-1/2" MNPT / 40 mm BSP Inlet/Outlet Ports
16	8-29-1	Lamp Extension Spring



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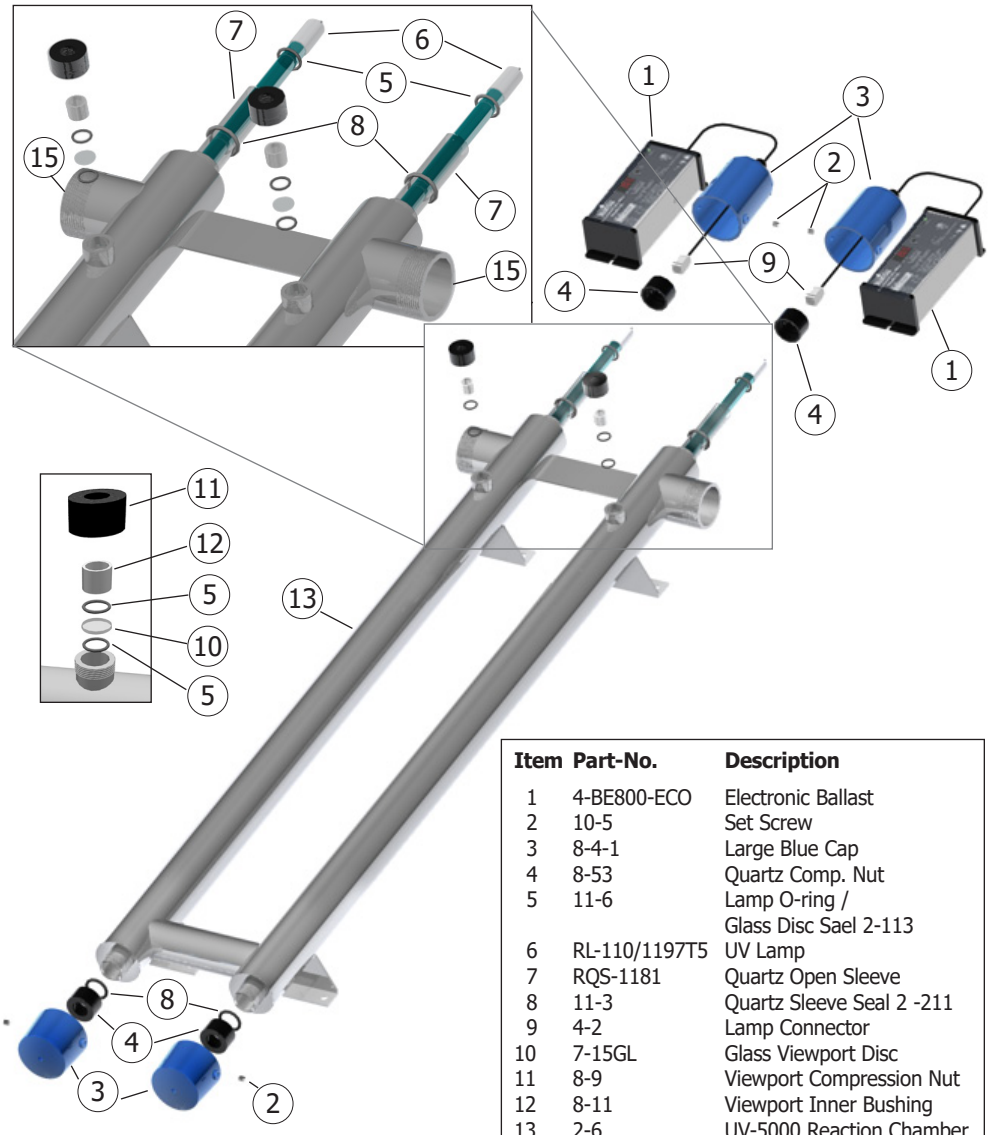
UV Purification Systems

UV-5000

Technical Info

Exploded Diagram & Parts List



Item	Part-No.	Description
1	4-BE800-ECO	Electronic Ballast
2	10-5	Set Screw
3	8-4-1	Large Blue Cap
4	8-53	Quartz Comp. Nut
5	11-6	Lamp O-ring / Glass Disc Sael 2-113
6	RL-110/1197T5	UV Lamp
7	RQS-1181	Quartz Open Sleeve
8	11-3	Quartz Sleeve Seal 2 -211
9	4-2	Lamp Connector
10	7-15GL	Glass Viewport Disc
11	8-9	Viewport Compression Nut
12	8-11	Viewport Inner Bushing
13	2-6	UV-5000 Reaction Chamber
15		2" MNPT / 50 mm BSP Inlet/Outlet Ports

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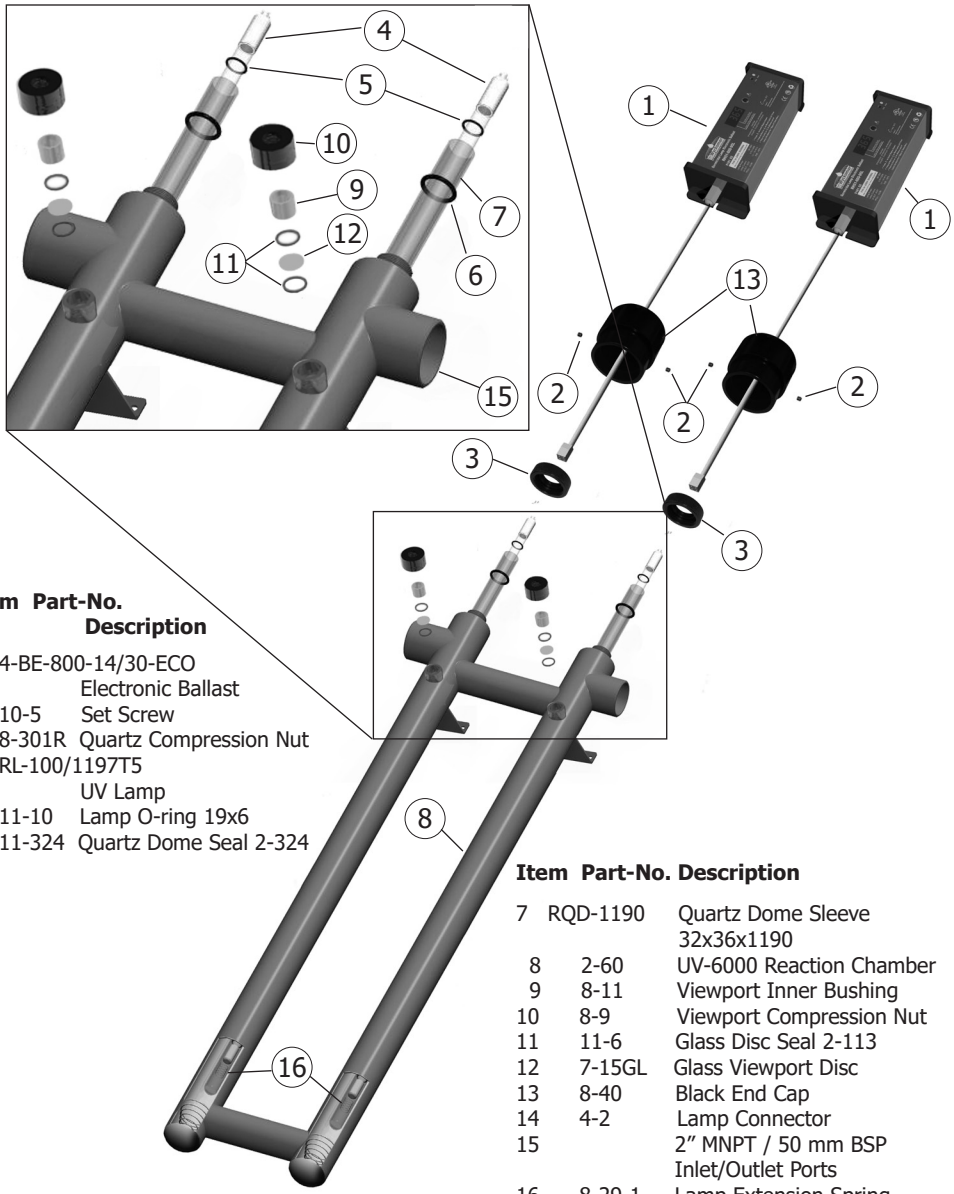
UV Purification Systems

UV-6000

Technical Info

Exploded Diagram & Parts List



Item	Part-No.	Description
1	4-BE-800-14/30-ECO	Electronic Ballast
2	10-5	Set Screw
3	8-301R	Quartz Compression Nut
4	RL-100/1197T5	UV Lamp
5	11-10	Lamp O-ring 19x6
6	11-324	Quartz Dome Seal 2-324

Item	Part-No.	Description
7	RQD-1190	Quartz Dome Sleeve 32x36x1190
8	2-60	UV-6000 Reaction Chamber
9	8-11	Viewport Inner Bushing
10	8-9	Viewport Compression Nut
11	11-6	Glass Disc Seal 2-113
12	7-15GL	Glass Viewport Disc
13	8-40	Black End Cap
14	4-2	Lamp Connector
15		2" MNPT / 50 mm BSP Inlet/Outlet Ports
16	8-29-1	Lamp Extension Spring

Accessories

Filter Sets and Cartridges

Filter Sets are available in standard 10" and 20" configurations, in SlimLine and BigBlue sizes. For commercial applications with higher flow rates, stainless steel filter housings are available. We HIGHLY recommend a 5 micron sediment and a carbon filter be installed ahead of the UV unit in order to ensure proper UV operation. Commercial grade filter systems for higher flow rates are also available.

Sediment and carbon filter cartridges are available from Wyckomar. Other types of filter cartridges for the removal of various contminants are also available (arsenic, fluoride, etc). Minerals and dissolved solids have an effect on the clarity of the water and therefore on the efficacy of the UV disinfection process. If elevated levels of these contaminants are present, additional equipment may be needed to reduce/remove them from the water. Please refer to the Section "Factors affecting UV Purification" on Page 2.

Be sure to replace filter cartridges on a regular basis to ensure proper operation of your UV disinfection system.

SlimLine Filter Sets

Filter Cartridges

BigBlue Filter Set

Stainless Steel Filter Housings

Accessories

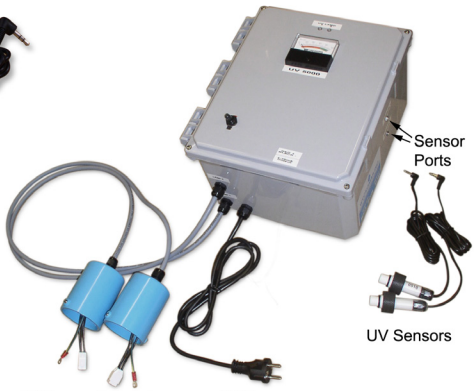
UV Monitoring System, Remote Out

A Wyckomar UV Monitor (available separately) measures true UV intensity at 254 nm, which is the effective germicidal wavelength for UV treatment of drinking water. It continuously monitors lamp output inside the reaction chamber through a sensor in the viewport, regardless of whether or not water is flowing through the system. UV intensity is constantly displayed in real-time on the meter face on the monitor device. If the UV intensity emitted by the lamp drops below the alarm set-point (70% of new lamp UV output), the audible alarm will sound. An optional solenoid valve may be connected to the monitor to stop the water flow.

Any Wyckomar UV system can be supplied with a NEMA IV rated enclosure for all electrical components, including ballasts, monitoring system and main fuse and switch. This can include a 4-20 mA Remote Output to connect to a PLC, and/or pilot lights for visible fault control.

UV Monitor

Tower Lamp Alarm



NEMA Integrated Control Panel

Accessories

Overheat Protection

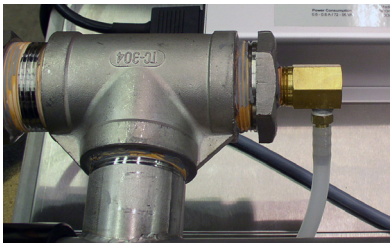
Thermo-Sensitive Purge Valve

During times of no-flow, some UV systems will warm up, as there is no cool water flowing through the chamber to cool the lamp. This is normal.

Increased temperature of the water means reduced UV output. This may result in the UV system going into alarm state, if it is equipped with a UV Monitor.

The solution to this problem is to install a thermo-sensitive purge valve at the out port of the UV system. It will automatically open and drain water from the chamber, to allow cool water to replace it and maintain high UV output of the lamp. No power is required.

Purge Valve



Installation on the Out Port
with a T-Fitting

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UV Purification Systems

Frequently Asked Questions

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 blueish, 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.

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UV Purification Systems

Contact and 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 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:	www.wyckomaruv.com

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.

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