

LONGWAVE UV INC.



INSTALLATION/MAINTENANCE
MANUAL



Table of Contents

Click the title to take you to the page	Page Number	Links
Warnings	3	
Parts List	4	
Installation Steps	5	
Caution	10	
Installation options	21	
Multi Array Units	23	
Maintenance	28	
Warranty	37	Warranty Registration
Website		www.longwaveuv.com
Contact Us		info@longwaveuv.com



Warnings!

A LICENSED ELECTRICIAN MUST INSTALL THIS UNIT!

WIRE ALL CIRCUITS WITH INSULATION RATED 600 VAC min.

THIS DEVICE PRODUCES POTENTIALLY HARMFUL UV LIGHT

ALWAYS PROTECT YOUR EYES AND SKIN FROM EXPOSURE TO UV LIGHT

MAKE SURE THE CONNECTOR MATES

COMPLETELY ONTO THE UV LAMP PINS

DISCONNECT POWER BEFORE REPLACING OR SERVICING THE 3G UNIT /LAMP

UV LAMP, QUARTZ TUBE AND TEFLON@ SHEATH ARE ALL FRAGILE

JUNCTION BOX SHOULD BE PROTECTED FROM FLOODING

DO NOT USE SILICONE OR PETROLEUM BASED LUBRICANTS ON THE GASKETS



Parts List

Disinfection chamber: 3-inch diameter ABS pipe with 4-inch inlet and outlet hubs-**1**

Disinfection sub-assembly consisting of an anodized aluminum frame supporting a --Teflon[®] sheath containing a pure fused quartz tube-**1**

Riser Pipe- 4-inch diameter ABS pipe-**1**

1-inch white PVC Lamp handle-**1**

Long life UV Lamp- Bubble wrapped and packed inside the PVC handle-**1**

Electrical Sub-Assembly Junction Box (rated NEMA 6P) - **1**

Alarm Board (pre-wired) - **1**

Electronic Ballast-**1**

Lamp Cord-**1**

4-inch Schedule 40 ABS pipe couplings-**2**

Watertight connection-**1**

Dielectric Grease-**1**

Parts not Included

TEFLON@TAPE

ABS CEMENT

MULTI PURPOSE CEMENT

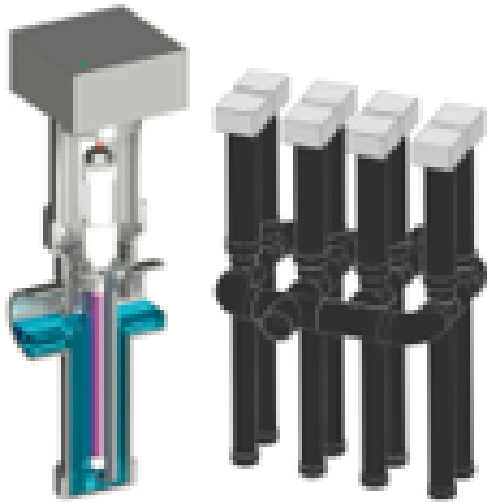
ISOPROPYL ALCOHOL

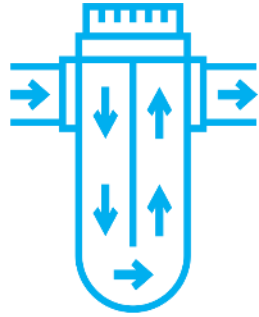
GLYCERIN

POWER AND ALARM WIRES

SILICONE ADHESIVE (R1V)

*IF INSTALLING ABOVE GROUND IRRIGATION VALVE

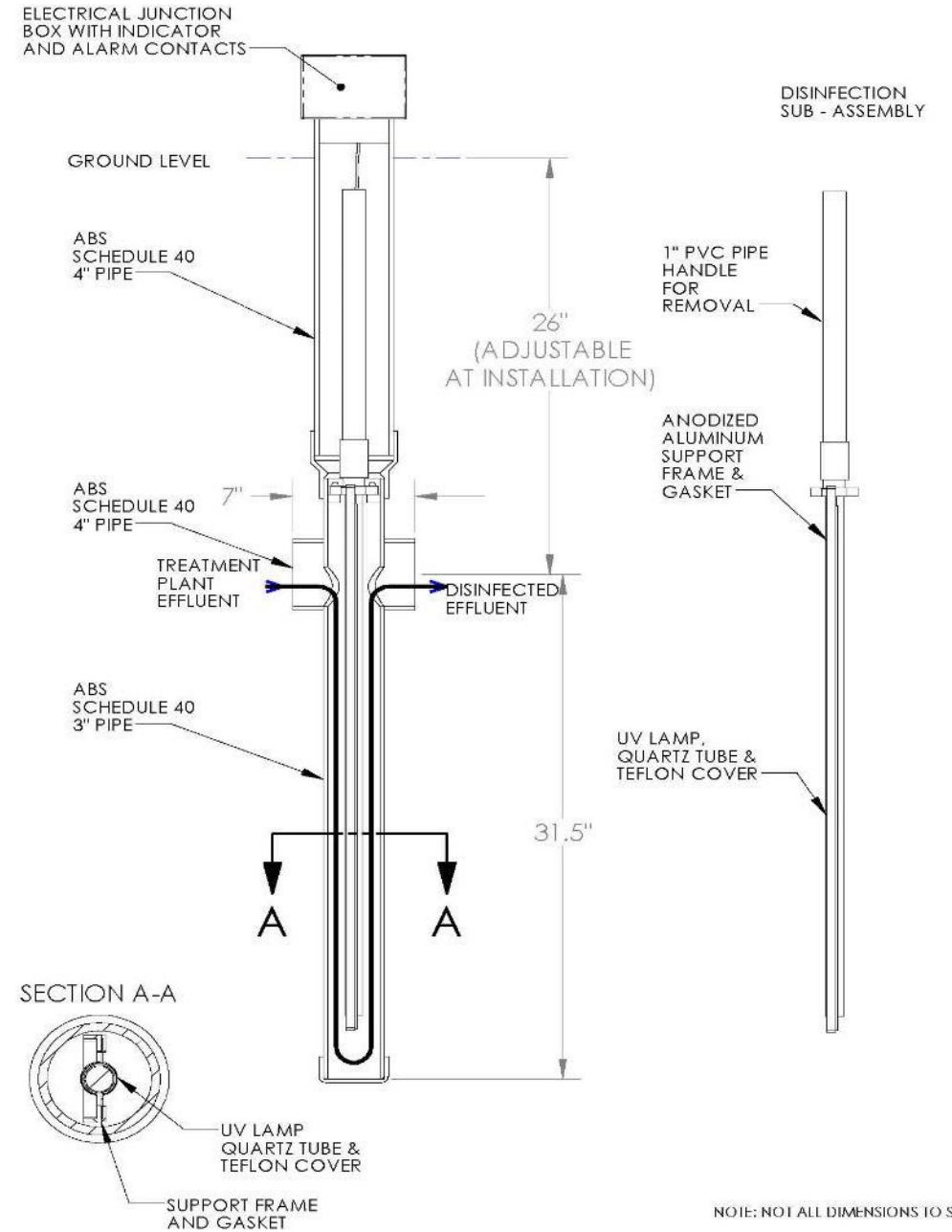




LONGWAVE UV INC.

Installation Steps

Salcor 3g Unit by Longwave UV, Inc.





Install the 3-inch disinfection chamber in place at the site.

- a. Position the disinfection chamber in the ground or in the tank.
- b. Connect the hubs to the inlet and outlet pipes.



*White PVC Handle and
4-inch Riser Pipe*

Cut the 4-inch riser pipe to meet the job needs. The 1-inch lamp handle may be cut to length after cutting the riser pipe.

Use the 4-inch ABS inlet pipe connection to the pretreatment unit as a reference point.

The lamp handle upper end should be cut so it will be approximately 6 inches from the top of the riser pipe

Bond the 4-inch riser pipe to the chamber sub-assembly.

d. Bond the second PVC white threaded female adapter to the top or plain end of the white PVC pipe handle



Top End of PVC Handle with newly bonded adapter

Carefully slide the lamp cord through the top of the white 1-inch PVC pipe handle. The lamp cord wire with the 4-pin lamp socket connector should extend out about 6 inches past the bottom end of the 1-inch white PVC handle which has a threaded female pipe adapter already bonded to it.



Threaded Bottom End of PVC Handle

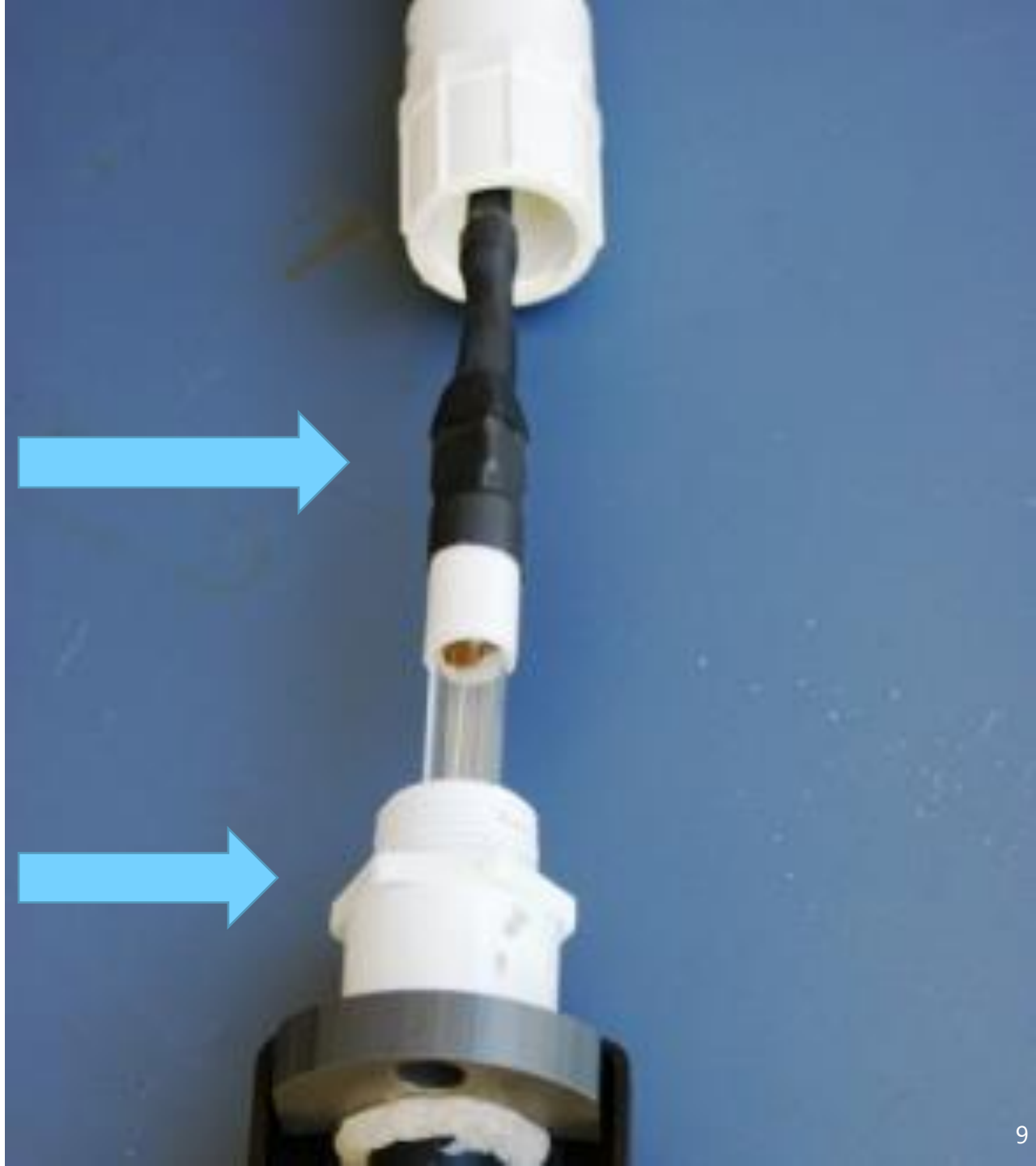


Lamp connector pins are not arranged in a square shape

Carefully connect the 4-pin socket connector of the lamp cord to the UV lamp pins. Note: the pins are not arranged in a square formation.

Apply Dielectric Grease to the inside of the boot.

Push the 4-pin socket onto the pins on the UV lamp end. Make sure that the 4-pin socket connector is fully connected onto the pins. The socket to lamp pins connection is electrically critical to maintain the proper operation of the lamp. It is extremely important that there is a fully mated complete connection between the socket and the UV lamp pins.



CAUTION!!



The UV Lamp, the Quartz Tube, and the Teflon® Sheath Covering ARE ALL VERY FRAGILE, So Handle Them With Care. Carefully slide the UV lamp into the quartz tube in the frame assembly. Make sure that the UV lamp has **BOTTOMED OUT** in the Quartz Tube, that is, that the UV lamp is **FULLY SEATED** in the Quartz Tube. Do not force the UV lamp into the Quartz Tube, as UV Lamp may break the bottom of the Quartz Tube. Make sure that the UV Lamp is completely enclosed in the Quartz Tube.

CAUTION

Wrap both ends of the threaded white PVC 1-inch lamp handle pipe pieces with Teflon[®] tape. screw the threaded bottom end of the 1-inch lamp handle onto the top end of the aluminum frame assembly

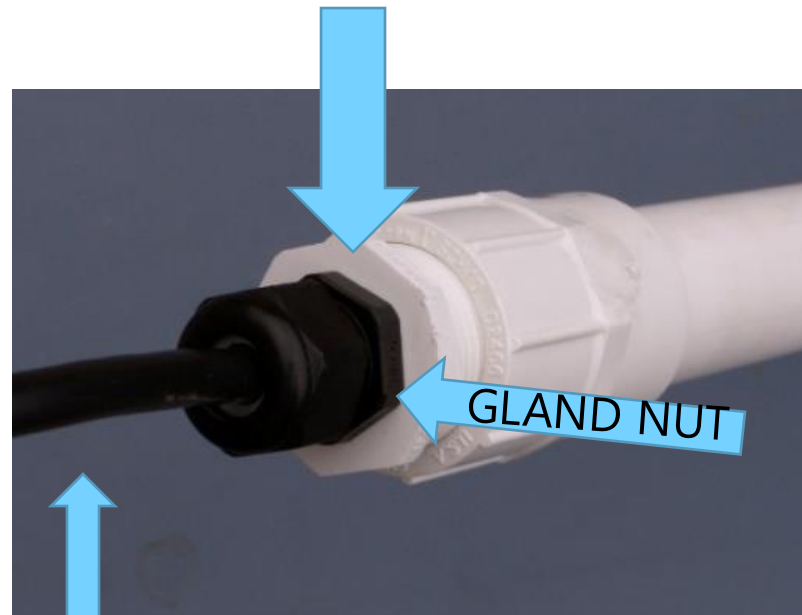
and screw the black threaded reducer into the top end of the handle pipe. It is crucial that Teflon[®] tape is used to seal all of the threads to maintain the waterproof operation of the lamp.

Pull Any Extra Cord up Through the Gland Nut.

Tighten the gland nut to approximately 22 in/lb to make the UV lamp chamber watertight

DO NOT OVERTIGHTEN!!

Black threaded reducer at the top of the lamp handle



EXTRA LAMP CORD

Top of the Aluminum Frame Assembly



Anodized
Frame
Assembly

Inspect the Teflon[®] sheath

If necessary, use a clean soft cloth and isopropyl (rubbing) alcohol to clean and remove any fingerprints from the Teflon[®] sheath.

Lubricate the rubber gaskets with either water or glycerin.



PVC handle on the anodized aluminum frame assembly

Caution

Gently insert the entire frame/handle assembly into the riser/chamber assembly using the white PVC handle. Make sure that the wide part of the sub-assembly is at right angles to the inlet and outlet pipes. The correct rotational orientation of the frame in the disinfection chamber is required for successful UV Unit operation. The frame must be at a right angle to the incoming effluent

Tuck the extra lamp cord wire into the top of the riser pipe.

Place the round coupling on the bottom of the junction box into the top of the 4-inch riser pipe and secure it with the setscrew.



Install the Watertight Conduit connector to the side of the Junction Box and secure it with the nut on the inside. Use a little Silicone Adhesive Sealant, also called RTV, on the O-ring of the watertight conduit connector to assist in waterproofing

Attention Installers!!

The LONGWAVE UV INC. Model 3G Unit requires a specific separate independent 10-15-amp circuit breaker on the main electrical panel. *The LONGWAVE UV INC. UV Unit circuit breaker should be separate from the circuit breakers for the pumps, etc.*

No other electrical unit should be connected to the LONGWAVE UV INC. 3G Unit circuit breaker.

The UV Unit operates on 120 VAC single-phase (50 or 60 Hz) power and consumes 40 watts.



Watertight Conduit Connector Nut Inside of the Junction Box

Bring the power wires and alarm wires into the junction box via the waterproof conduit connection. Seal the outside of the flexible conduit pipe to the waterproof connector with *Silicone Adhesive Sealant*. The *installer* is responsible for ensuring that the external flexible wire conduit connection(s) containing the power and/or alarm wires to the junction box are **WATERTIGHT!!**

**GROUNDING
POST**



max.

LISTED
FLUORESCENT
LAMP BALLAST



UR2

F1 2 A

T85



SPARE2



COM NO NC
ALARM CONT S

10-30
94V-0 CLD



**ALARM
WIRE
TERMINAL
BLOCK**

**POWER INLET
TERMINAL BLOCK**



Attach the power and alarm wires to the appropriate terminal block connections on the Alarm Board. See [Figure 4](#) (Page 10). The alarm contacts are compatible with external alarm circuit units furnished by others that use either normally open (N/O) or normally closed (N/C) contacts. Note: N/O means the contacts are *OPEN* when there is *NO POWER* to the Alarm Board relay. The contacts are rated for up to 240 volts and up to 2 Amps. Select the common connection terminal screw and then use either the N/C or N/O connection terminal screw that complies with the external receiving alarm circuit requirement



Attach the lid to the junction box with 4 screws

Attach the lid to the junction box with 4 screws

Turn on the circuit breaker at the main electrical control panel. The Green Indicator Light on the junction box lid should now be shining, indicating that the 3G Unit is operating properly



**YOUR
INSTALLATION IS
COMPLETE**

TWO INSTALLATION OPTIONS

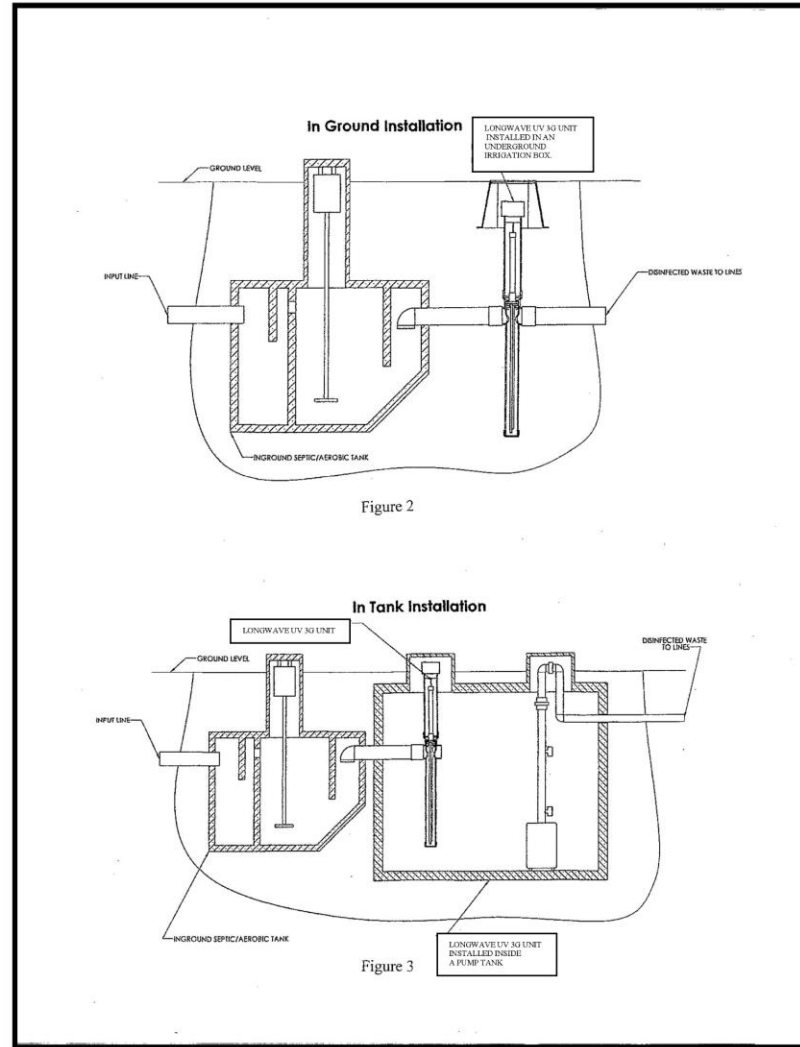
IN GROUND INSTALLATION

IN TANK INSTALLATION

**NOTE THE JUNCTION BOX CAN BE PLACED BELOW GRADE IN AN IRRIGATION VALVE BOX. THE BOX SHOULD BE PROTECTED FROM FLOODING.*

Couple the 4-Inch inlet pipe to the exit pipe of the pretreatment

unit and couple the 4-inch outlet pipe to the drain field pipe.



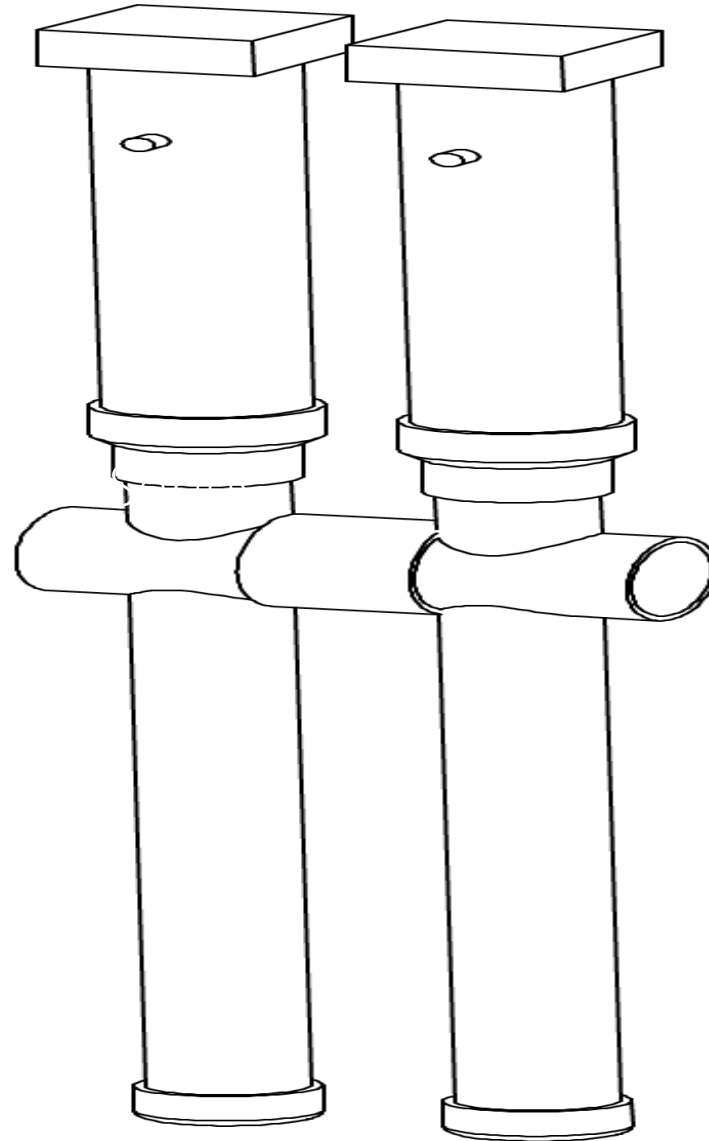
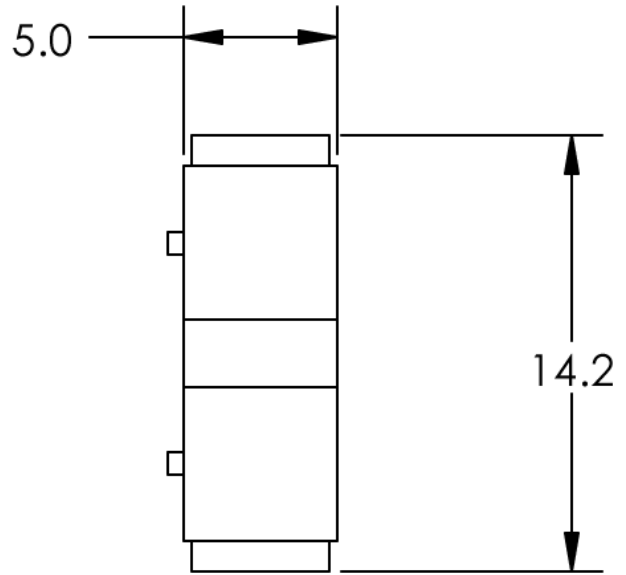
COUPLE THE 3G UNIT INLET PIPE TO THE PRETREATMENT

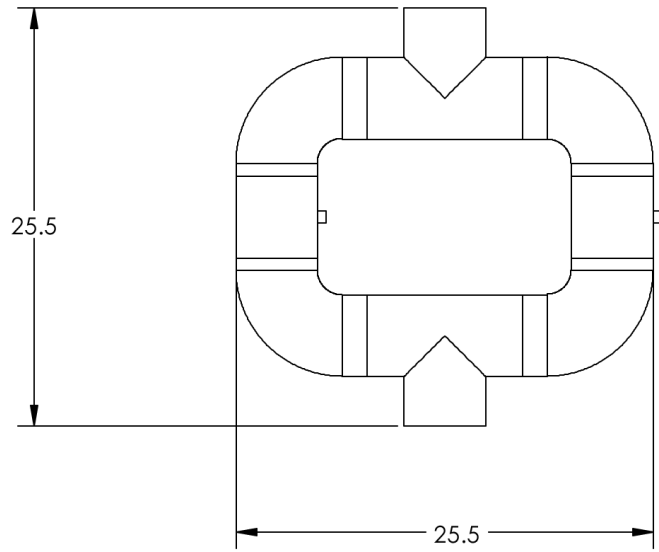
UNIT EXIT PIPE AT THE ENTRANCE OF THE PUMP TANK.



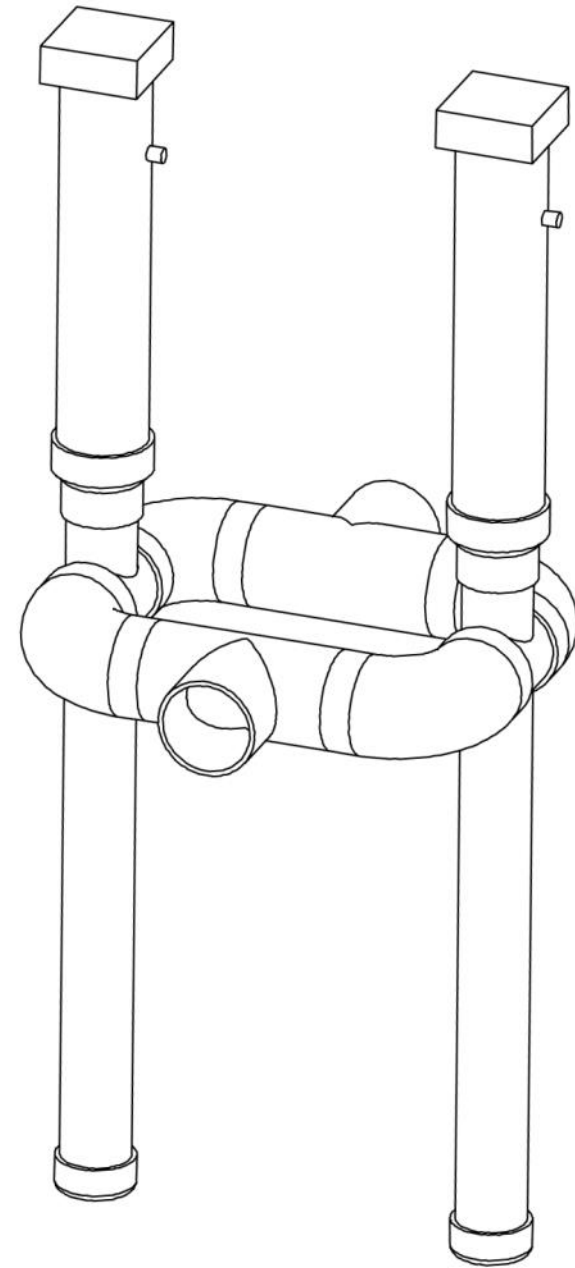
Salcor 3G Unit can be stacked in multiple Arrays

2 UNITS IN SERIES



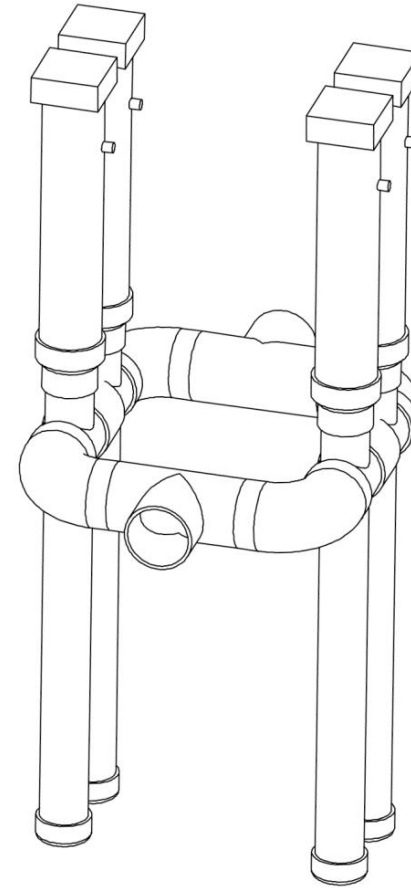
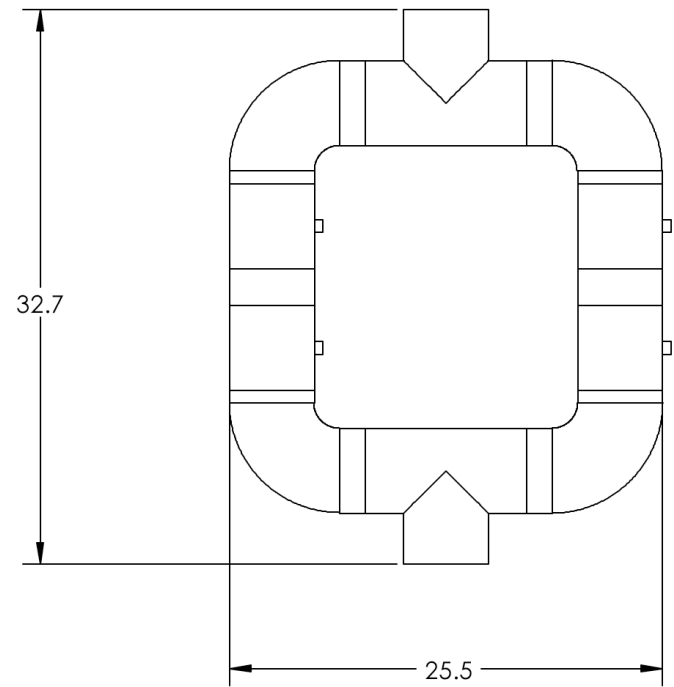


2 UNITS IN PARALLEL

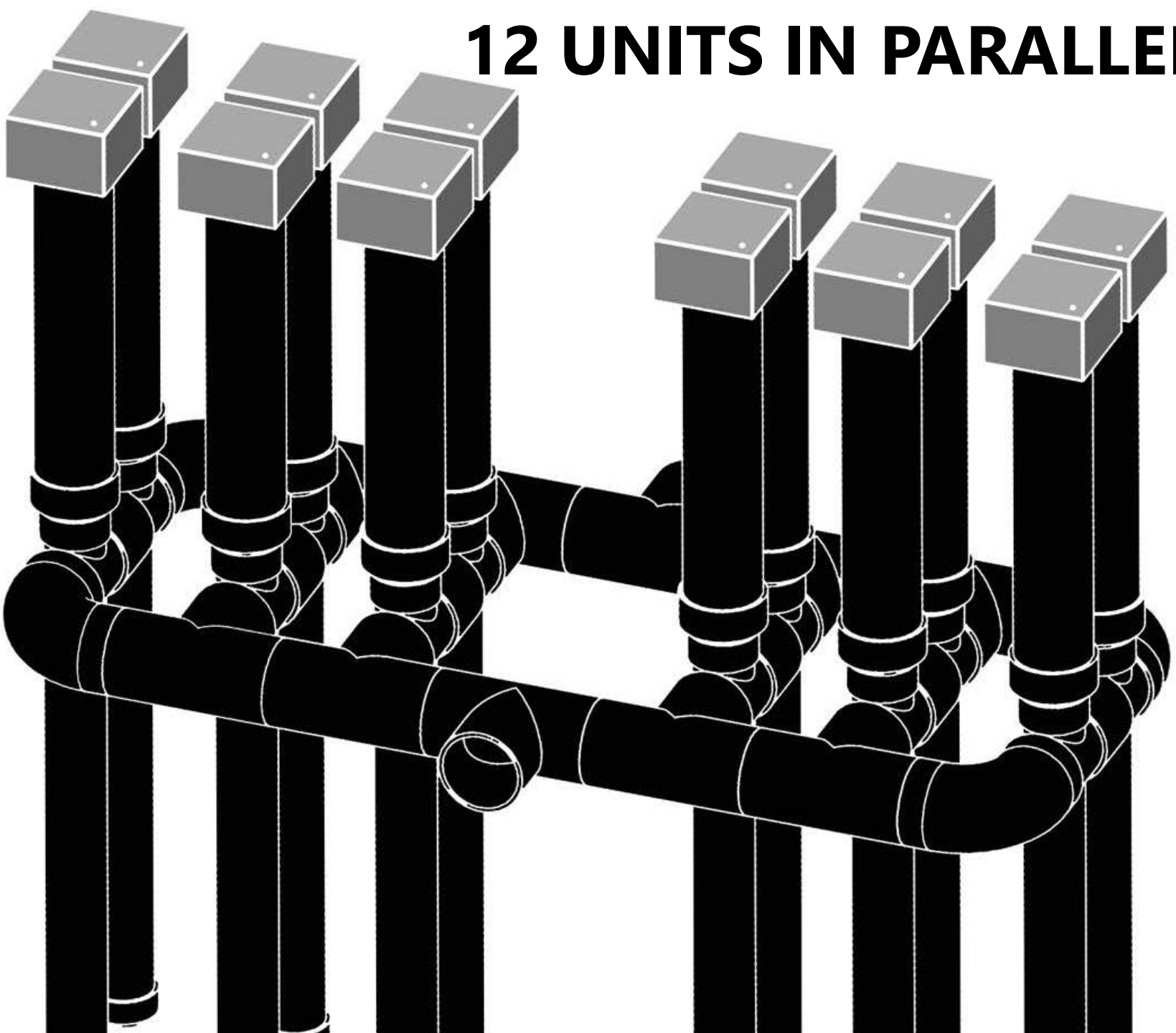
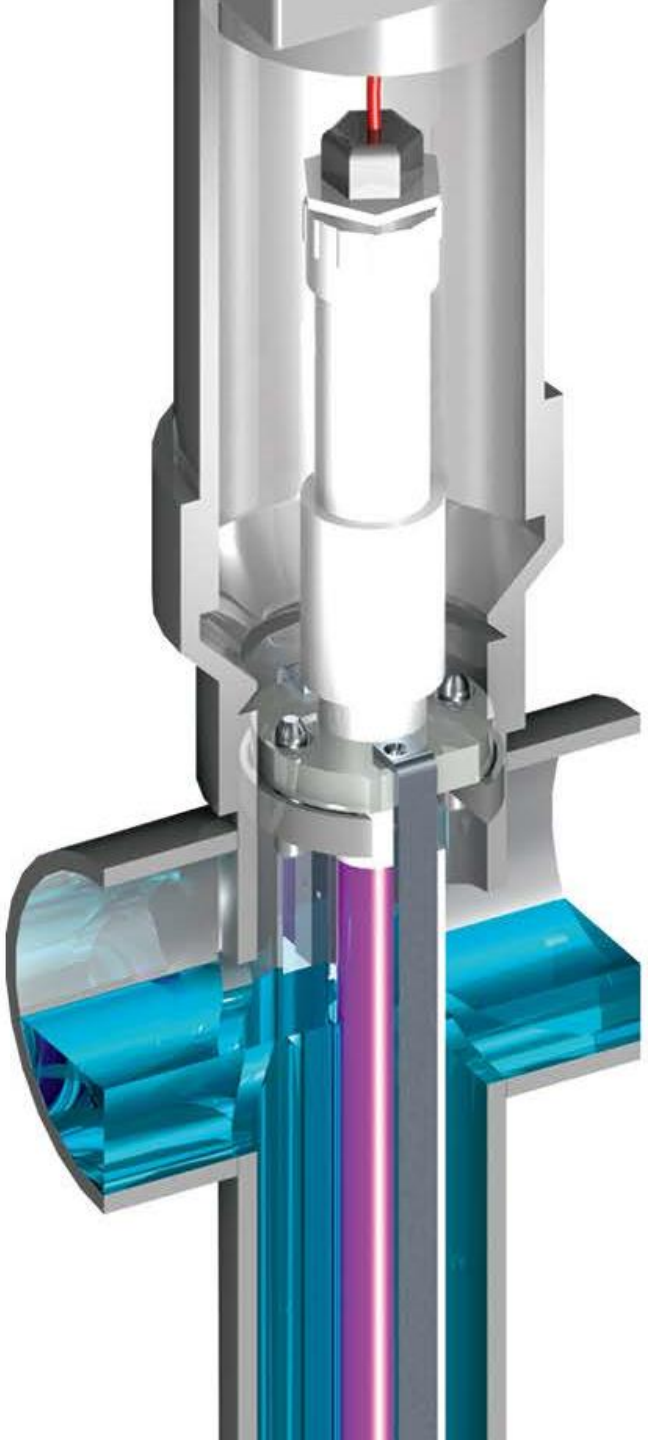


4 UNIT

SERIES AND PARALLEL



12 UNITS IN PARALLEL





Maintenance

UV LAMP REPLACEMENT PROCEDURE

STEP 1

Turn off the dedicated circuit breaker located on the main electrical control panel that supplies power to the UV Unit.

STEP 2

- Remove the electrical junction box from the 4-inch riser pipe by loosening the junction box to riser pipe setscrew. Then carefully set the junction box aside.

STEP 3

- Using the white PVC handle connected to the disinfection sub-assembly, lift the sub-assembly out of the disinfection chamber/riser pipe and set it aside.

STEP 4

After pulling out the sub-assembly, check the disinfection chamber to make sure there is no mud, debris, or other flow-impeding non-liquid material present at the bottom of the disinfection chamber.

STEP 5

- If there is non-liquid material present in the bottom of the disinfection chamber, use a shop vacuum cleaner to vacuum out the excess material. Do not let the material flow downstream

STEP 6

- Loosen the lamp cord grip at the top of the white PVC handle so that the lamp cord can move through the cord grip and thus allow the handle to move away from the top of the aluminum frame assembly

STEP 7

Unscrew the bottom threaded end of the 1-inch white PVC handle from the upper end of the aluminum frame assembly. Separate the handle from the assembly

STEP 8

- Disconnect the four pin socket connector attaching the lamp cord to the UV lamp. Remove the old UV lamp

STEP 9

- Use dielectric grease on the boot of the connector. Connect the 4-pin socket connector to the new lamp

STEP 10

Lower the new UV lamp into the quartz tube of the UV sub-assembly, making sure it bottoms out in the quartz tube. Do not use force that would break the quartz tube.

STEP 11

- Screw the bottom threaded end of the 1-inch lamp handle onto the upper end of the aluminum frame assembly. Use Teflon[®] tape to ensure a waterproof connection.

STEP 12

- Using the white PVC handle, gently insert the entire frame/handle assembly into the riser/chamber assembly. Make sure that the wide part of the sub-assembly is at right angles to the inlet and outlet pipes

STEP 13

Tuck the remaining lamp cord into the top of the riser pipe. Tighten all cord grips.

STEP 14

- Put the junction box back onto the riser pipe. Tighten the setscrew.

STEP 15

- Turn on the power to the UV Unit

STEP 16

Check the green indicator light on the lid of the junction box for proper operation

STEP 17

- If the green indicator light is on, the installation procedure is finished.

THE END

- FINISHED

FRAGILE

**HANDLE
WITH CARE**

**TO CLEAN THE TEFLON □
SHEATH AND DISINFECTION
SUB-ASSEMBLY**



- Use a soft sponge and detergent to clean the surfaces, especially the Teflon® sheath. Be careful when cleaning the Teflon® sheath, as it is **Very Fragile**.



- Use a soft cloth with isopropyl alcohol to remove difficult stains such as fingerprints or other films from the Teflon® sheath.



2 Year Limited Warranty

This warranty is given by LONGWAVE UV INC. for the benefit of the first purchaser of the product for which this warranty applies. The warranty applies only to those parts which are manufactured and delivered by LONGWAVE UV INC.

The warranty is that the parts manufactured and delivered by LONGWAVE UV INC. will be free from defects in the material or workmanship under normal use and service according to the Installation and Operating Instructions for the time specified below.

In the event of a failure of a part due to such a covered defect, LONGWAVE UV INC. will repair or replace, at its option, the defective part at its factory located at 447 Ammunition Road, Suite E, Fallbrook, CA 92028. At the option of [LONGWAVE UV INC.](#), repairs or replacement may be made at the site of equipment installation.

The part must be returned to the factory at the expense of the person claiming the benefit of the warranty unless LONGWAVE UV INC. elects to repair or replace the defective part at the installed site.

The warranty shall be for a period of twenty four (24) months after the date of delivery of the product, or the specified service life of the product, whichever period is the shortest. All products for which warranty claims are filed must be returned as provided above to the factory within thirty (30) days from the date of the claimed malfunction in order for this warranty to be effective. The only entity authorized to do any warranty repairs is LONGWAVE UV INC.

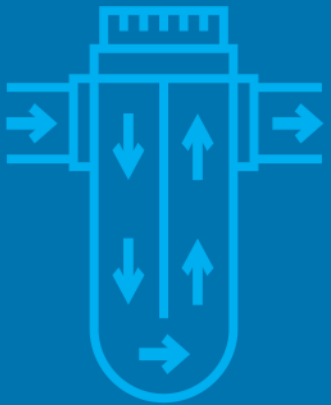
The repairs or replacement by LONGWAVE UV INC. will be accomplished within thirty (30) days from receipt of the defective parts at the factory.

This warranty is expressed in lieu of all other warranties, expressed or implied, including the implied warranty of fitness for a particular purpose, and of all other obligations or liabilities on the part of [LONGWAVE UV INC.](#), and it neither assumes nor authorizes any other persons to assume for LONGWAVE UV INC. any other liabilities in connection with the sale of the products.

This warranty does not cover parts or products made by others, or products or any part thereof which have been repaired or altered, except by [LONGWAVE UV INC.](#), which shall have been subjected to misuses, negligence, or accident.

LONGWAVE UV INC. shall not be liable for damage or delay suffered by the purchaser regardless of whether such damages are general, special, or consequential in nature whether caused by defective material or workmanship, or otherwise, or whether caused by LONGWAVE UV INC. negligence, regardless of degree.

**Thank you for
choosing Longwave
UV, Inc.**



LONGWAVE UV INC.

