

You should have received the following:

- A. A disinfection chamber
 - B. UV lamp (#1 piece, #2 piece 30 & 50 GPM systems)
 - C. Quartz sleeve (#1 piece, #2 piece 30 & 50 GPM systems)
 - D. Compression nut (#1 piece, #2 piece 30 & 50 GPM systems)
 - E. Power Supply
 - F. O-ring(s) (#1 piece, #4 pieces 30 & 50 GPM systems)
- Warranty (at end of this manual)

GUV-7



GUV-SHIELD



GUV-SHIELD-MAN



REPLACEMENT PARTS LIST

MODEL	Lamp #	Quartz #	Ballast #	O-ring #	Compression Fitting #
GUV-7	#1 L-501414	#1 Q-532017	#1 E-06105B	#1 M-75214O	#1 M-A100CN
GUV-SHIELD-7	#1 L-501414	#1 Q-532017	#1 E-06055B	#1 M-75214O	#1 M-A100CN
GUV-SHIELD-10	#1 L-524414	#1 Q-532017	#1 E-06050B	#1 M-75214O	#1 M-A100CN
GUV-SHIELD-15	#1 L-572433	#1 Q-521035	#1 E-06055B	#1 M-75214O	#1 M-A100CN
GUV-SHIELD-20	#1 L-024433	#1 Q-521035	#1 E-06050B	#1 M-75214O	#1 M-A100CN
GUV-SHIELD-7-MAN	#1 L-501414	#1 Q-532017	#1 E-06055B	#1 M-75214O	#1 M-A100CN
GUV-SHIELD-10-MAN	#1 L-524414	#1 Q-532017	#1 E-06050B	#1 M-75214O	#1 M-A100CN
GUV-SHIELD-15-MAN	#1 L-572433	#1 Q-521035	#1 E-06055B	#1 M-75214O	#1 M-A100CN
GUV-SHIELD-20-MAN	#1 L-024433	#1 Q-521035	#1 E-06050B	#1 M-75214O	#1 M-A100CN
GUV-SHIELD-30-MAN	#2 L-572433	#2 Q-582035	#2 E-06055B-HT	#4 M-75214O	#4 M-A100CN
GUV-SHIELD-50-MAN	#2 L-024433	#2 Q-582035	#2 E-06050B-HT	#4 M-75214O	#4 M-A100CN

1. Your Disinfection Unit – Pre-Installation

Your Ultraviolet (UV) water disinfection system has been tested at Glasco UV LLC's manufacturing facility. The unit has been hydrostatically pressure-tested to 100 psi. In some cases, a small amount of water may remain in the vessel. In order to insure that the unit works at optimum performance, please follow the instructions outlined in this manual.

1.1. Warning

UV light is harmful to your eyes and skin. Do not look directly into the light. Always unplug (disconnect power) your unit before installing or removing a lamp. Your unit may have a green LED light that indicates that the lamp is operating and the unit has an audible alarm that will sound in the event of lamp failure. If the LED goes out, contact your dealer for service. If your unit has an audible alarm and it goes off, contact your dealer.

Since the unit is run by electricity, please remember to disconnect all power before servicing the equipment. Failure to do so may result in serious injury or death.

When handling lamps and quartz, use gloves to prevent them from becoming dirty. If they do, wipe them with alcohol.

1.2. Your Water Supply

Glasco recommends that trained professionals test and maintain your water supply. In addition to testing the water to see if UV is appropriate, we recommend pre-filtering systems (softeners, carbon or reverse osmosis) to help remove tastes, odors, minerals and cysts.

The following parameters are recommended for UV applications:

- Iron: < 0.3 ppm (0.3 mg/L)
- Hardness: < 7 gpg (120 mg/L)
- Turbidity: < 5 NTU
- Manganese: <0.05 ppm (0.05 mg/L)
- Tannins: < 0.1 ppm (0.1 mg/L)
- UV Transmittance: >75% (Lower levels can be treated but the factory should be consulted to properly size the system)

If your water contains levels in excess of the above levels proper pre-treatment is recommended to correct these levels prior to the UV system installation.

1.3. UV Effectiveness

Your disinfection unit needs to be maintained. Change your lamp on a yearly basis and insure that the quartz sleeve is cleaned on a regular basis.

Failure to do periodic maintenance will impact your unit's effectiveness.

1.4. Flow Rate

Your unit has been designed to accommodate a certain flow rate. In order to work effectively, you may need to install a flow control device. This device attaches to the inlet and controls the water that enters the system. Note: your system may have come with a flow controller.

Failure to use a flow control (available at most plumbing supply stores) may reduce the effectiveness of your disinfection unit.

1.5. Inspection

Insure that lamps and quartz have not been broken. We recommend that you use gloves when handling lamps and quartz sleeves to prevent them from becoming dirty. Dirt and skin oils will impact the UV output.

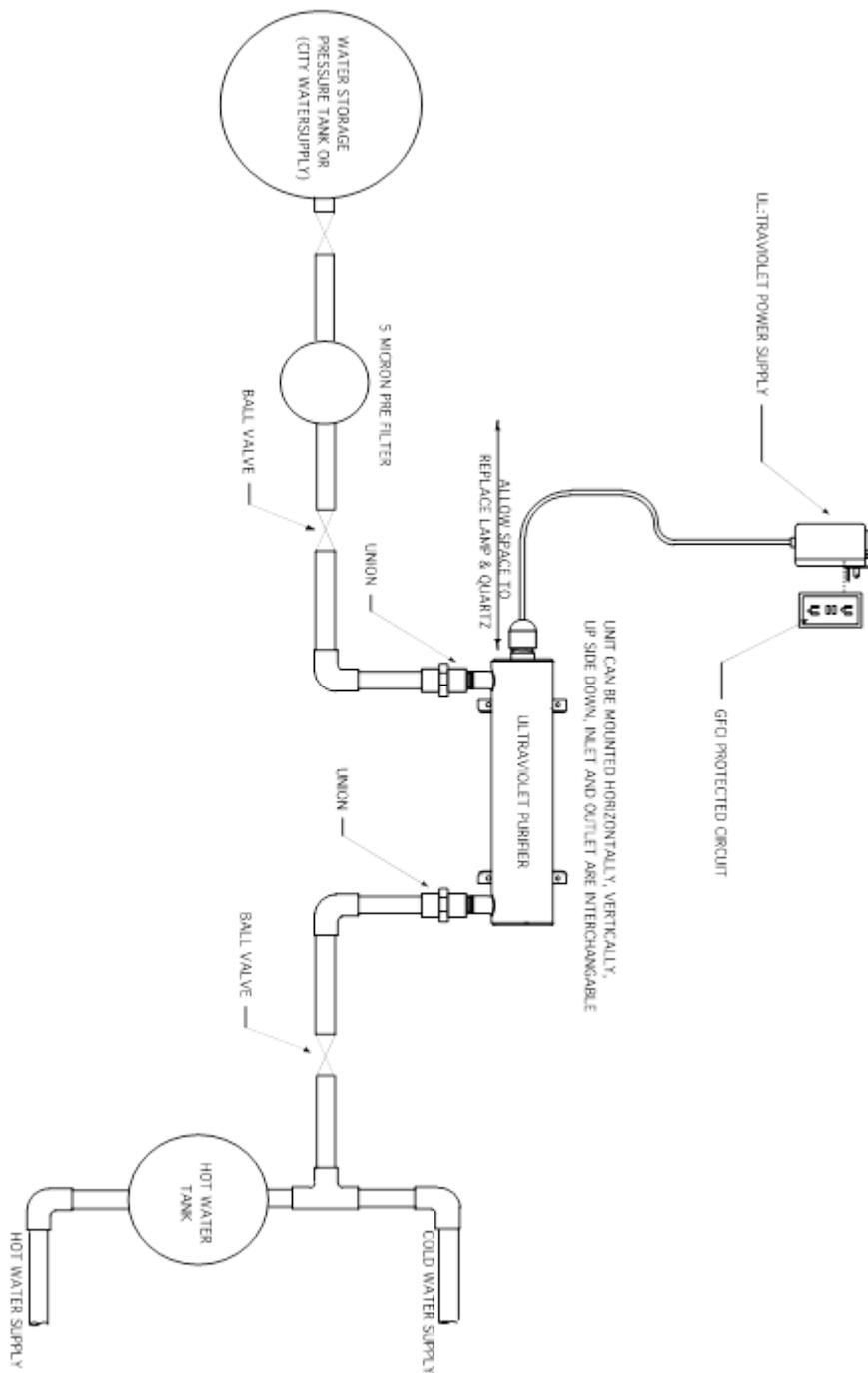
A warranty sheet has been included. Please fill out the warranty and send back to manufacturer or dealer. This warrantees the chamber for 7 years and electrical components for 1-year.

1.6. Electrical Requirements

The electronics have been designed to work with standard power supplies. Since the unit is susceptible to power fluctuations, we recommend that the system be kept off any lines where there are surges. This includes pumps or motors. If there are fluctuations, please use a surge suppressor. Systems will come with plugs, which require no "hard wiring". Please look at the outside of the electrical "box" for Voltage, Cycle and AMP draw. The ballast control should be connected to a grounded outlet and for safety purposes the system should be connected to a ground fault interrupt circuit. If the incoming power is subject to power surges it is also recommended that a surge suppressor be installed.

1.7. Location of Unit

The UV system is designed for indoor use only and should not be subject to weather conditions. UV disinfection works best when it is installed closest to point of use. The system should be installed after any pre-treatment equipment. The system should be installed after the storage tank and before the water line splits to the hot water heater. When installing, remember that you will need to be able to remove lamps and quartz as part of a maintenance schedule. Allow yourself enough room to accomplish these tasks. The chamber can be mounted vertically or horizontally. When installing horizontally we recommend the Inlet/outlet can face up to prevent air being trapped in the chamber. When installing vertically we recommend the inlet be on the bottom for the best hydraulic characteristics. If the system has been modified with a sensor port please do not install it facing down. The ballast should be mounted either above or beside the disinfection chamber. It is good practice to provide "drip loops" for the wiring going to the ballast to prevent any water from entering the ballast control box.



2. Your Disinfection Unit – Installation

If you are attempting to install the unit by yourself and you have questions, please call your water quality or plumbing professional. Improper installation can cause potential water damage to your property and can also reduce the effectiveness of the UV disinfection system.

2.1. Recommended Supplies

Before getting started, you will need the following:

- Screws to bolt the unit into place
- Teflon tape to insure quality sealing
- Shutoff valves for both the inlet and outlet
- Unions before and after the unit
- Flow control (from dealer or plumbing supply house) Note: many units come with this as a standard accessory. It looks like a brass disk with a rubber insert. This will be press fit into the inlet and outlet.

2.2. Plumbing

Your unit may be installed under the sink or where the water enters the building. In either case, we recommend that shutoff valves be installed before the inlet and after the outlet. This allows for easier yearly servicing and allows you to shut off the water supply if you have a problem with the unit.

Flow Control – If your system is to be installed with a flow control which is included on the 7, 10, & 15 gpm systems it should be installed prior to making the inlet/outlet connections. The flow control should be installed on the inlet side with the molded flo-et facing out of the inlet nipple. Note the 15 GPM flow control only consists of the brass insert.



Mount the chamber to the wall using the mounting brackets attached to the chamber. Various connections may be used for the water inlet/outlet but be sure to perform any solder connections without the quartz sleeve and O-ring installed to prevent any damage from the heat generated.

A damaged quartz sleeve can cause a potential leaking problem. An unchecked leak can lead to severe flooding.

2.3. Quartz for Close-ended Units (creating a watertight unit)

A sealed unit has one opening for the lamp and quartz to go into. The quartz has a dome on one end like a test tube.

Once the unit has been secured and the piping connections have been made, it is time to install the quartz sleeve.

The unit will have come with a compression nut that is in place and holds an O-ring. Remove the nut and the O-ring.

Insert the dome end of the quartz into the unit. Guide the quartz through the unit until it rests at the end in a spring.

Once in the spring, you can screw in the compression nut (make sure that the O-ring is properly positioned in the nut). Create a tight seal, but not too tight as you may crack the quartz sleeve.

Now that it is in place, you can test the unit to see if it is watertight. Slowly pressurize the unit by allowing water to run through the unit for five minutes. As this is happening, check to see if the seal is dry. If it is not, you will need to redo the seal. If it is dry, you are prepared to install the lamp.

2.3.1 Quartz for Open-ended Units (creating a watertight unit)

An open system has openings on each end of the unit. The quartz will also have openings on both ends.

The unit will have come with compression nuts that are in place and hold O-rings. Remove the nut and the O-ring. Insert the quartz into the unit. Use your fingers on both sides to guide it into place. Move the quartz so it comes out of the unit at equal lengths on both sides. (Note: Quartz is usually already inserted in GUV-C7, 10 upon shipping)

Making sure that the O-ring is sitting properly in the compression nut, loosely hand tighten each nut into place. Before tightening, re-check to insure that the quartz is extending equally out of each side. You can do this by inserting your fingers on both sides and judging the appropriate distance. Once done, tighten until you have a secure fit. Create a tight seal, but not too tight as you may crack the quartz sleeve.

Now that it is in place, you can test the unit to see if it is watertight. Slowly pressurize the unit by allowing water to run through the unit for five minutes. As this is happening, check to see if the seal is dry. If it is not, you will need to redo the seal. If it is dry, you are prepared for lamp installation.

2.4 Installing the Lamp

Carefully slide the lamp into the quartz (dropping the lamp can break the quartz). Once it is in place, connect the lamp to the socket. When you have done that, tighten the cap to the nut and then plug in the unit.

3. Maintenance

As noted in this manual, your lamp needs to be replaced on a yearly basis to insure proper disinfection. The quartz sleeve should be inspected and cleaned at this time. Depending on the water quality the quartz sleeve may need to be cleaned on a more frequent basis.

The quartz may have “build up” on it. If it does, clean it with soap and water. If the quartz is stained, use a product like CLR or Lime-A-way (both available at the grocery store).

When you remove the quartz, please follow the same instructions as above in reverse.

Track your maintenance record on the front page of this manual.

4. Operation Status and Alarms – Basic (GUV-7)



The unit will have come with an audible and visual lamp status alarm. In the event of a lamp out, the audible alarm will sound. The green light aka LED indicates lamp is on, the LED will go off when the lamp goes off and the red LED will illuminate. If this is the case, have your water professional check to see if the lamp needs to be replaced. When alarming, the water may not be safe to drink.

If the lamp is working, suspect that the alarm circuit has been damaged and the ballast pack is in need of replacement.

5. Operation Status and Alarms – GUV-SHIELD, GUV-SHIELD-MAN



In addition to the lamp status LED and lamp failure alarm the SHIELD controller tracks the total number of days in operation and counts down the 1 year lamp life remaining in days. After initial installation the green LED will indicate the lamp is operating. In the event of lamp failure the red LED will illuminate and an audible alarm will consistently beep until the situation is corrected. Also upon initial installation the system will display “365” for the number of lamp life days and count down. If the push-button is depressed the display will change to show the total number of days in operation. Once the countdown reaches “0” days the controller will display “A3” on the display and an audible chirp will sound indicating the useful lamp life has expired. The audible alarm can be deferred up to 4 times by depressing the push button. This action will set the countdown to an additional 7 days. After the final deferral has reached the controller can only be silenced by replacing the UV lamp and manually resetting the controller countdown timer. To manually reset the timer please follow the following steps:

1. Disconnect power to the system
2. Remove expired lamp from the system
3. Depressurize, drain chamber and inspect clean the quartz sleeve if necessary.
4. Reassemble quartz sleeve, pressurize and inspect for leaks.
5. Install new UV lamp and securely attach lamp connector.
6. Power the system back up
7. Push and hold the push-button for ~ 10 seconds
8. While still holding the system will flash “reset”, beep and the display will change to “365”
9. Release button and the controller will resume normal operation counting down the new lamp life remaining.

6. Recommendations

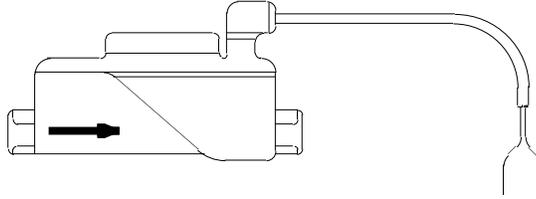
- Use a licensed plumber or qualified water professional to do the installation.
- Check the unit on a regular basis to see if the lamp is on (the green LED indicator will tell you if the lamp is working).
- When first installing the unit, you will need to make insure that all plumbing after the unit has been sanitized. This will make sure that all microorganisms have been destroyed. Plumbers often fill the UV chamber with disinfectant and flush out the pipes. They do this by opening all spigots and allowing the disinfectant to run its course through the pipes. Professionals should do this because many disinfectants can be harmful or fatal if swallowed.
- Install carbon filters, softeners and reverse osmosis systems BEFORE the UV system. These types of filters can breed microorganisms.
- Use a flow control device that is rated for your unit’s GPM flow rate.

7. Options

Your system may have come with optional equipment. If it did, instructions for these options are attached.

Automatic Shut-off Valve aka Normally Closed Solenoid

Your system may have come with an optional automatic solenoid valve.



This device will stop the water flow if the UV lamp goes out or if the UV intensity falls. It is considered a “normally closed” valve. This means that when there is no power to it, it closes. This will occur during a power outage or lamp failure.

The solenoid will work off of a signal from the ballast, which indicates lamp out. If lamp fails, then the solenoid will shut off the water supply.

The solenoid will also work off of a signal from the UV monitor, when the UV intensity has fallen to an unsafe level. In the event of water stoppage, you will need to correct the problems.

Reasons for stoppage include: Power failure, Lamp is out, Ballast is out, UV lamp is failing, Solenoid is damaged

There is a manual override on some of the valves. Call your water professional in case of an emergency. The manual valve is a white toggle switch. In order to open the valve, it must have power. This is generally provided by the UV system, but in emergencies, power can be brought directly to the valve.

The main power box control will have leads for attaching the solenoid. These leads will need to be connected to the leads on the actual solenoid valve. The solenoid will have come with connectors.

The solenoid valve will have an arrow on it indicating flow direction. Please install it the solenoid so that the path of the water goes with the arrow.

Manual Quartz Cleaning System

Your system may have come with an optional manual quartz cleaning system. This device will allow you to clean the quartz sleeve without having to disassemble the disinfection chamber.

! WARNING ! The plunger may be forced out when water pressure builds up. When installing the unit, make sure that you stand clear of the plunger when pressurizing the system.

In order for the system to work at optimum performance, you must clean the quartz on a periodic basis. To clean quartz, pull the plunger toward you and then push it in again. Do this a few times a month.

You may need to change the o-rings on the wiper on a periodic basis. Please open the system once a year to inspect the quartz and the wiper rings.

WARRANTY REGISTRATION

MODEL NUMBER/TYPE: _____

DEALER NAME: _____

PURCHASE DATE: _____

NAME: _____

ADDRESS: _____

CITY: _____ STATE: _____ POSTAL CODE: _____

COUNTRY: _____

PHONE: _____ EMAIL: _____

Please fill out the above information and forward it to your dealer or to Glasco UV LLC. This will provide you with a 7-year warranty on the stainless steel chamber and a 1-year warranty on the electrical components. UV lamps are warranted for 30 days. After the initial 30 days of operation, replacement or refund will be pro-rated based on the expected lamp life of 9,000 hours.

In addition, this will allow your dealer to remind you when it is time to replace your lamp and quartz.

This warranty applies to equipment that has been installed and maintained according to the instructions in this manual. Glasco UV LLC is not responsible for damage due to improper use, operation or installation.

This warranty needs to be received by Glasco UV LLC within 25 days of initial operation. The warranty applies to replacing defective equipment.

Glasco shall have no liability hereunder, either direct or contingent, for any consequential damages. Glasco recommends that you use pre-filters, flow-control devices and inspect the lamp to insure that it is functioning.



126 Christie Avenue
Mahwah, NJ 07430
(201) 934-3348 Fax (201) 934.3388