



## INSTALLATION AND LOCATION

**CAUTION** - Electronic ballast must be connected to a grounded outlet (see GFCI) and the lamp connector ground wire connected to the stainless steel reactor chamber.

- The disinfection system is designed to be mounted horizontally or vertically at the point of use or point of entry depending on the specific flow rate of the unit (see UV installation diagram, Page 4).

**NOTE** - The ideal installation is vertical with the lamp connector on top. This prevents water damage from occurring on the lamp pins and lamp connector (see UV installation diagram, Page 4).

- The ballast should be mounted either above or beside the reactor chamber. This prevents moisture from entering the ballast enclosure and minimizes the potential for ballast failure.
- The complete water system, including any pressure or hot water tanks, must be sterilized before start-up by flushing with chlorine (household bleach) to destroy any residual contamination.
- For safety purposes, the UV Disinfection System should be connected to a ground fault circuit interrupter.
- If treating the entire house, install the disinfection system before any branch lines.
- A 5-micron sediment filter must precede the UV Disinfection System. Ideally, the UV Disinfection System should be the last treatment the water receives before it reaches the faucet.

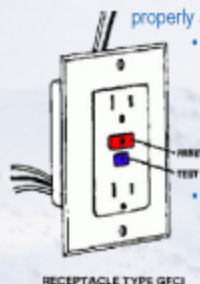
- Carefully remove the UV lamp from the shipping tube, being careful not to touch the "glass" portion with your fingers. The UV Disinfection System should be mounted in the horizontal position, with the inlet/outlet ports facing up. If the system must be installed in the vertical position, make sure the inlet port is at the bottom of the system. Mount the unit in a clear space with at least 40" (100 cm) of space at the lamp end to facilitate lamp and/or quartz sleeve removal. Fasten the UV Disinfection System to a suitable mounting platform with secure fasteners. Apply two turns of Teflon<sup>®</sup> tape around the port threads to ensure a tight joint.
- Insert the UV lamp into the quartz sleeve and chamber, making sure the lamp pins are accessible for connection with the lamp connector cable. Attach the lamp connector to the lamp pins and press fit into gland nut. Mount the UV Disinfection System with the supplied clamp. If the UV Disinfection System is to be hard plumbed, leave enough clearance in front of the lamp connector to allow for lamp service (a length equal to the length of the unit should suffice).
- Various connection methods can be used to connect the water source to the UV Disinfection System; however, union type connectors are recommended. The use of a flow restrictor device is strongly recommended when installing your disinfection system in order that the recommended flow rate not be exceeded. In addition, the use of a bypass assembly is recommended for emergency use of untreated water when your disinfection system is being serviced.
- Prior to connecting the power source, check all connections to ensure that they are indeed secure; turn on water supply and check for any leaks. If satisfied that there are no leaks, proceed with the following steps. **DO NOT SOLDER CONNECTIONS WHILE ATTACHED TO THE DISINFECTION SYSTEM. THIS COULD DAMAGE THE O-RING SEALS.**
- To properly ground the stainless steel reactor chamber, attach the green wire coming from the power source to the grounding lug on the UV chamber. Remove the green cap nut and slide the eyelet connector onto the screw. Fasten the cap nut to the screw with a 5/16" wrench.
- The power source provided with your disinfection system must be located within 5 feet of an electrical outlet. **DO NOT USE AN OUTLET THAT CAN BE SWITCHED OFF (ie. A WASTE DISPOSAL OUTLET).** Attach the lamp connector to the UV lamp and press into the gland nut. Plug the ballast into the outlet and ensure the POWER-ON LED is illuminated. **NEVER LOOK DIRECTLY AT THE BURNING UV LAMP. THE LIGHT GIVEN OFF BY THIS UNIT CAN CAUSE SERIOUS BURNS TO UNPROTECTED EYES AND SKIN.** When power is first applied the audible ballast will enter a self test mode to verify ballast operation.

**NOTE** - If ballast enters alarm condition, power must be removed for 30 seconds to allow ballast to reset.

**NOTE** - The UV Disinfection System requires time to reach its full operating capacity. Allow the disinfection system to operate 3-5 minutes prior to use. In addition, open the faucet and allow water to run through the UV Disinfection System for 2-3 minutes to clear any air or debris. When using a reverse osmosis (RO) application, run the water for 30-45 seconds.

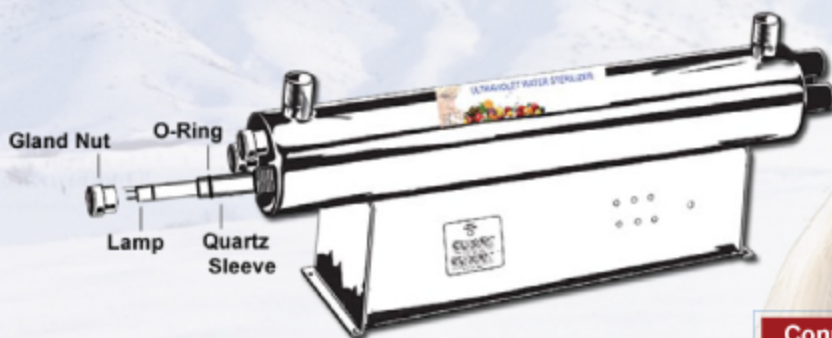
**NOTE** - When the UV unit is returned to service after being on bypass, the complete water system must be resterilized with chlorine (household bleach) to destroy any contamination that may have entered the distribution system while on bypass.

Test once a month to make sure GFCIs are working properly and are protecting you from fatal shock.

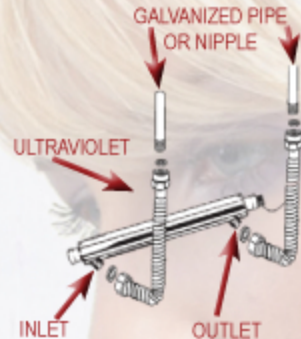


RECEPTACLE TYPE GFCI

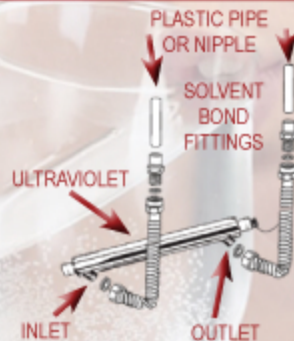
- To test the receptacle GFCI, first plug a nightlight or lamp into the outlet. The light should be on. Then, press the "TEST" button on the GFCI. The GFCI's "RESET" button should pop out and the light should go out.
- If the "RESET" button pops out but the light does not go out, the GFCI has been improperly wired. Contact an electrician to correct the wiring error.
- If the "RESET" button does not pop out, the GFCI is defective and should be replaced. If the GFCI is functioning properly, and the lamp goes out, press the "RESET" button to restore power to the outlet.



### Connecting UV to galvanized pipe



### Connecting UV to plastic pipe

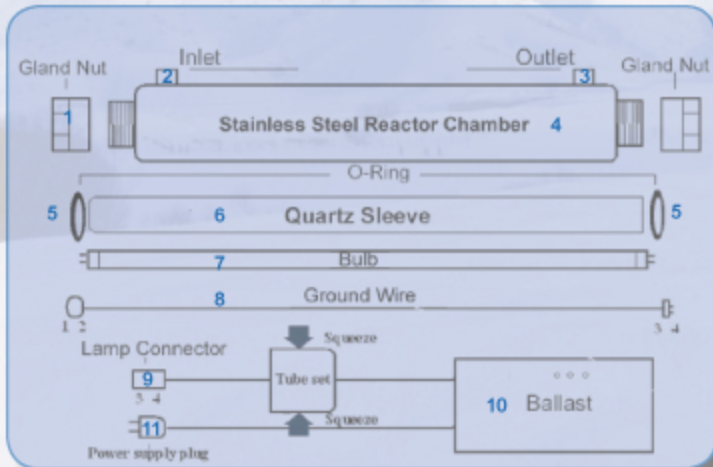




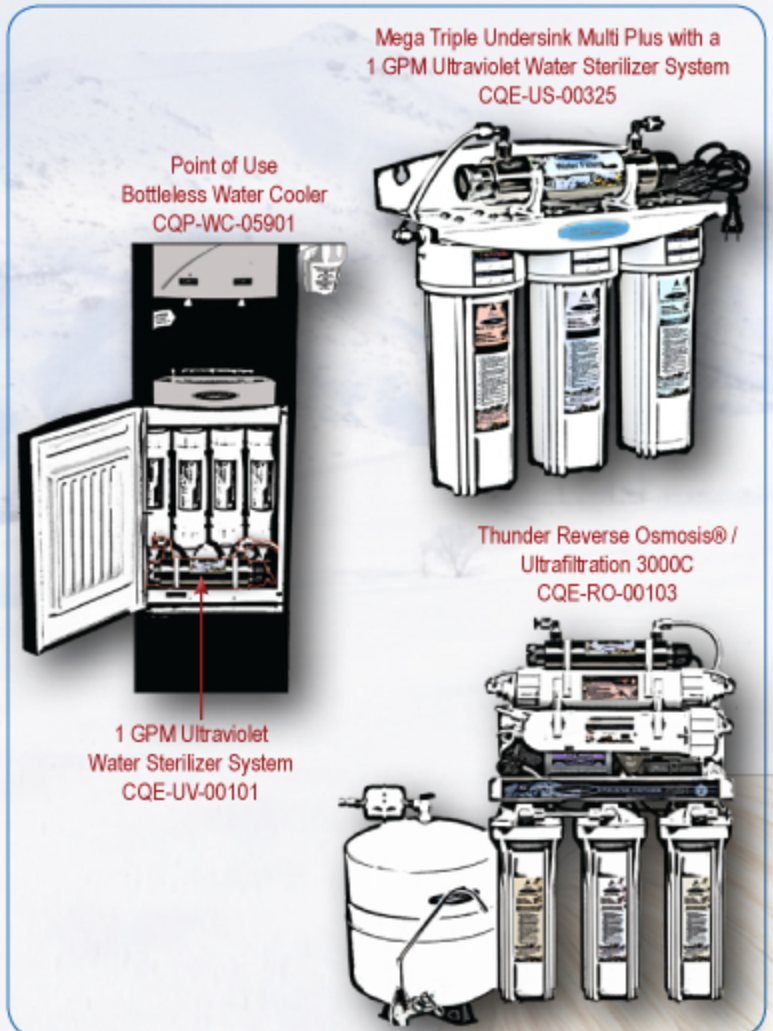
**CAUTION**  
**UV LIGHT**  
DO NOT LOOK  
DIRECTLY AT LIGHT

**DIAGRAM OF UV LAMP**

- (CQE-PT-03269) 1 - Gland Nut
- (CQE-PT-03270) 2 - Inlet
- 3 - Outlet
- 4 - Stainless Steel Reactor Chamber
- (CQE-PT-03268) 5 - O-rings
- (CQE-PT-03150) 6 - Quartz Sleeve
- (CQE-PT-03101) 7 - Bulb
- (CQE-PT-03267) 8 - Ground Wire
- (CQE-PT-03089) 9 - Lamp Connector
- 10 - Ballast
- 11 - Power Supply Plug



**UV INSTALLATION (OTHER)**



**UV INSTALLATION (WHOLE HOUSE)**



Specifications are subject to change without notice.



## OPERATION AND MAINTENANCE

**NOTE - PRIOR TO PERFORMING ANY WORK ON THE DISINFECTION SYSTEM, ALWAYS DISCONNECT THE POWER SUPPLY FIRST.**

1. Regularly inspect your disinfection system to ensure that the UV lamp is operating.
2. Replace the UV lamp with a new lamp after one year of continuous use to ensure a high bacteria and virus kill rate.

**NOTE - The UV lamp should be ON continuously. Repeatedly turning the lamp on and off will severely shorten the lamp life and allow bacteria to pass through without being affected by the UV.**

**TO REPLACE** the UV lamp, first disconnect power. Disconnect the lamp connector by carefully separating it from the gland nut (use the aid of a slot screwdriver, if required). Disconnect lamp connector from lamp and carefully remove the UV lamp. Replace the new lamp, being careful not to touch the new UV lamp "glass" with your fingers as oils may impair UV transmission. If contact does occur, clean lamp with alcohol and reconnect lamp connector. Carefully replace lamp into stainless steel chamber. Press lamp connector into aluminum gland nut. Plug power source into outlet. Verify POWER-ON LED is illuminated and ballast audible start-up sequence operates.

If the water contains any hardness minerals (calcium or magnesium), iron or manganese, the quartz sleeve will require periodic cleaning. To remove the quartz sleeve, first remove the UV lamp (see instructions on replacing quartz sleeve) and follow these steps:

- a) Shut off water supply and drain all lines.
- b) Remove the lowest connection on the disinfection system and drain the UV chamber (use a small bucket under the unit to prevent a spill).
- c) Remove gland nuts from chamber (do not allow quartz sleeve to fall).
- d) Carefully remove O-rings from the quartz sleeve. As the O-rings may tend to adhere to the quartz sleeve, it is recommended to replace the O-rings annually.
- e) Clean the quartz sleeve with a cloth soaked in vinegar or some other mild acid and then rinse.
- f) Reassemble the quartz sleeve in the UV chamber, allowing the sleeve to protrude an equal distance from both ends of the UV chamber.
- g) Wet the O-rings and slide onto each end of the quartz sleeve, then reassemble the gland nuts (hand tight is sufficient).
- h) Retighten all connections, turn on water and check for leaks.
- i) Reinstall the UV lamp and lamp connector as per prior instructions.
- j) Plug in ballast and verify the POWER-ON LED is illuminated and ballast power-up sequence operates.

**NOTE - IF THE SYSTEM IS PUT ON A TEMPORARY BYPASS OR IF IT BECOMES CONTAMINATED AFTER THE DISINFECTION SYSTEM, IT WILL BE NECESSARY TO SHOCK THE SYSTEM WITH HOUSEHOLD BLEACH FOR A FULL 20 MINUTES BEFORE RESUMING THE USE OF THE WATER.**

## QUARTZ SLEEVE REPLACEMENT AND/OR CLEANING

1. Mineral deposits and sediment may accumulate on the quartz sleeve, decreasing UV output. Good maintenance of filtration equipment will reduce the accumulation of residues. If necessary, remove the quartz sleeve after a few months and clean with a commercially available scale remover (CLR, Lime-Away, etc.) and lint free cloth. Repeat the process as often as necessary to keep the quartz sleeve clean.
2. Disconnect power to remove the quartz sleeve. Disconnect the UV lamp and remove from the UV chamber. The sleeve can be removed in the same manner as the UV lamp (through the end of the disinfection system) or by removing the entire cell.
3. Remove the aluminum gland nuts and the two O-ring seals.
4. Carefully slide the quartz sleeve out of the chamber (either side), being careful not to let the end drop inside the chamber which could accidentally crack the quartz. When reassembling the quartz sleeve, make sure the sleeve protrudes an equal distance at each end of the cell.
5. Wet the O-rings with water or a silicone-based grease and slide onto each end of the sleeve.
6. Reinstall the gland nuts and hand tighten to achieve a watertight seal.
7. Install the lamp and connect the lamp connector. Press fit the connector into the gland nut. Slowly turn on water and verify there are no leaks. Reconnect to power source.

