

DRINKING WATER FILTRATION SYSTEMS



□ Series 200



□ Series 200-UV



□ Series 300



□ Series 300-UV

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A. Component Placement

A.1 Faucet Placement

Proper faucet placement should ensure a no-splash waterfall pattern into the sink. The faucet handle should normally be positioned to either the left or the right of your existing faucet as one faces the sink.

A.2 Drinking Water System Assembly Placement

The drinking water system assembly must be used in an upright position. It is recommended to be hung on a vertical surface using the two (2) mounting holes near the top of the bracket (mounting screws not provided). As an alternative, the unit may be left freestanding (make certain it is stable enough not to tip over). Be sure to either:

- 3.1 Leave enough length of both blue and orange tubing so the system assembly can be removed from under the sink for periodic cartridge replacement, or...
- 3.2 Leave enough bottom clearance to remove and replace the cartridges from their respective housings after the housings have been unscrewed for servicing.

B. Component Information

B.1 Filter Cartridges

Sediment Cartridges

Sediment cartridges are designed to remove large amounts of suspended particals from water to extend the life of the secondary cartridge and allow proper UV transmission in models equipped with an ultraviolet chamber.

Carbon Cartridges

Carbon cartridges remove taste and odor, chlorine, pesticides, and other contaminants from the water. These are a necessity on chlorinated water as a pretreatment for systems with reverse osmosis (RO) membranes, because chlorine will greatly reduce the life of a membrane. They also help prevent fouling on the quartz sleeve in a system with an ultraviolet sterilizer.

Other Cartridges

A variety of specialty cartridges are available for use with the Drinking Water Filtration System. Popular selections include : MetalEase-AS+5™ Cartridges for the treatment of arsenic (As(V)) in water; ProSelect™ Tannin Resin Cartridges for organics and tannins in water; ProSelect™ Nitrate Resin Cartridges for nitrates in water; and a series of Fluoride Removal Cartridges.

B.2 Ultraviolet Sterilizers

The ultraviolet light used for sterilizing is at a specific wavelength (254 nm) that destroys or inactivates the DNA of microorganisms to render them harmless.

Important Safeguards:

- **Never look directly at an unshielded UV lamp.** It can cause permanent eye damage. Always wear protective eye wear such as eye glasses or safety glasses.
- Great caution should be exercised when handling a lamp to avoid burns. UV lamps run extremely hot.
- To prevent electrical shock, never immerse or wash the unit in water while the bulb is inside or when the unit is plugged in.
- **ALWAYS DISCONNECT THE UNIT FROM THE ELECTRICAL POWER SOURCE** before replacing the UV bulb or servicing any part of the unit.
- Never operate the unit if it has malfunctioned, has a damaged cord or plug, or has been dropped or damaged in any manner.
- Use only those attachments recommended by the manufacturer.
- The Polisher Biolyte™ sterilizer should not be used for any purposes other than its intended function. This unit is designed to treat possible bacteria contamination at the rated specifications and operating limits listed below:

Water Pressure	100 psi
Capacity @ 10 mic. Clear Water	0.7 gpm (3 liters)
Lamp Life	9,000 hours (12 months)
Output	30,000 microwatt seconds/cm ²

WARNING: This filter must be protected from freezing. Failure to do so may result in cracking of the filter and water leakage. UV is for bacteria and virus control only. UV does not kill giardia, cryptosporidium, or other cysts. Make certain that the installation complies with all state and local laws and regulations.

C. Installation

C.1 Drilling the Faucet Hole (Only if an extra faucet hole is not already provided):

Once the location of the faucet has been determined, always check below the point you are about to drill to ensure it is unobstructed where the hole will exit, and that it isn't over a reinforcing rib.

- 1.1 Center punch the desired location to provide a starting point for your drill.
- 1.2 Drill a 1/8" pilot hole.
- 1.3 Enlarge the pilot hole with a 1/2" drill.
- 1.4 Remove all burrs and sharp edges.
- 1.5 Immediately clean up sink area.

Note: If an enamel or porcelain sink is encountered, it is very important that a layer of porcelain be removed before following the steps outlined above. This can be accomplished by gently grinding away, using a hobby grinder and a silicon carbide wheel, enough area of porcelain down to the metal base to accommodate the hole size needed. The drill or hole saw must not contact surrounding porcelain or chipping can occur.

C.2 Faucet Installation

- 2.1 Slide the faceplate and black rubber gasket on to the faucet stud.
- 2.2 Insert the stud through the hole from the top of the sink or countertop.
- 2.3 From under the sink, slide on the large locating washer (small bumps facing up) followed by the smaller locking washer onto the stud.
- 2.4 Thread the nut onto the shank, position the faucet, and tighten the nut while holding the faucet in position with a padded crescent wrench. Be careful not to overtighten.
- 2.5 Thread the plastic quick connect faucet connector onto the end of the faucet stud. Be sure not to overtighten.

C.3 Angle Stop Adapter Valve Installation

- 3.1 From under the sink, turn off the cold water supply at the brass/chrome supply valve.
- 3.2 Disconnect the riser from the supply valve.
- 3.3 Ensuring that the sealing gasket is fully inserted into the angle stop adapter valve's female thread, install the angle stop adapter valve onto the supply valve.
- 3.4 Connect the riser to the angle stop adapter valve.



C.4 Filter Cartridge Installation

- 4.1 Unscrew the filter housing sumps by hand or with a spanner wrench.
- 4.2 Rinse out each of the housings and fill about 1/3 full with water. Add about 2 to 3 tablespoons of bleach and scrub thoroughly with a brush or sponge. Rinse thoroughly.
- 4.3 Install the cartridge into the sump making sure that it slips down over the sump standpipe.
- 4.4 Turn the sump into the cap and hand tighten. Do not over tighten.

C.5 Using Quick Connect Fittings

- 5.1 Insert tube through collet of fitting. The fitting will be gripped before it will seal.
- 5.2 Push the tube all the way into the fitting to the stop. The collet has stainless steel teeth which grip the tube while the o-ring provides a permanent leakproof seal.
- 5.3 Pull the tube to check that it is secure. It is good practice to check the system before it is used.
- 5.4 To disconnect, ensure that the system is depressurized. Push the collet against the face of the fitting. With the collet held in this position, pull on the tube to remove it.



C.6 Ultraviolet Lamp Installation

(Systems with the Polisher Biolyte™ Ultraviolet Sanitizer Only)

- 6.1 Unscrew white cap with silicon plug from stainless steel UV chamber.
- 6.2 Carefully insert bulb into the quartz sleeve. Be sure the wire is hanging out of the quartz sleeve.
- 6.3 Push the stopper (which is attached to the wire) into the quartz sleeve.
- 6.4 Remove the silicon plug from the white cap.
- 6.5 Slide the wire through the hole in the cap.
- 6.6 CAREFULLY screw the cap onto the UV chamber. DO NOT CROSS THREAD. There is a glow bottle starter attached to the lamp. This should be left inside of the cap.
- 6.7 Replace the silicon plug around the wire into the cap.
- 6.8 Plug the wire into the power adapter.
- 6.9 DO NOT attach the power adapter to a power source at this time.

C.7 Connecting Components

Connections are made with plastic quick connect type fittings. These fittings are simple to use and require no tools to make reliable, leak-free connections. See "C.5 Using Quick Connect Fittings" for more information.

- 7.1 Connect the orange tube (feed water) from the inlet connection of the drinking water system assembly (the quick connect elbow fitting on the left side of the unit) to the angle stop adapter valve on the cold water supply line.
- 7.2 Connect the blue tube (product water) from the outlet connection of the drinking water system assembly (the quick connect elbow fitting on the right side of the unit) to the quick connect fitting on the faucet stud.

Note: Make sure there are no kinks in any of the tubing.

D. Startup Procedures

1. Turn on the cold water supply valve and check for leaks. Correct any problems if necessary.
2. Open the faucet.
3. Purge the air out of the system by slowly turning the handle on the angle stop adapter valve all the way open. Leave the faucet open and let the water run for about 10 minutes. This will allow any fine particles in the carbon cartridges to be flushed out. Check for leaks and correct any problems if necessary.

Note: It will not be uncommon to experience air bubbles or effervescence in the product water. This is naturally occurring air trapped in the carbon filter and will disappear after the system is in service for a short period of time.

E. Maintenance

E.1 Filter Cartridges

Sediment and carbon filters have different effective lives when used on different water systems. The amount of use that the cartridge receives also determines its life. Typically, a family of two people will not use as much filtered water as a family of six people. No amount of water metering or maintenance scheduling will be an absolute guarantee of performance. Common sense, and the help of your local water treatment professional is still the best way to maintain a properly functioning filtration system. New cartridges (and changing cartridges often) will enhance performance.

A sediment filter's function is to remove suspended particles from the water, thus reducing the possibility of clogging other cartridges in the system over time. The flow rate will slow down as a cartridge becomes clogged. When the water flow slows down perceptively, it's time to change one or more cartridges. Depending on your water supply, this could be as soon as two months, or as long as one year. We recommend at least an annual change.

Carbon cartridges remove taste and odor, chlorine, pesticides, and other contaminants from the water. They also prevent fouling of the quartz sleeves in UV equipped systems. The carbon cartridges should be changed at a minimum every twelve months (or earlier if you notice any change in the taste or smell of your water). Again, your local water professional will be familiar with the local community water characteristics, and the quality of your water supply and can offer valuable advice and/or periodic testing, depending on the quality of your feed water.

Replacing Filter Cartridges

- 1.1 Turn off the feed water supply to the drinking water system assembly. Open the drinking water faucet to depressurize the system.
- 1.2 Unscrew the filter housing sumps by hand or with a spanner wrench.
- 1.3 Remove used cartridges and discard. Rinse out each of the housings and fill approximately 1/3 full with water. Add 2 to 3 tablespoons of bleach and scrub thoroughly with a brush or sponge. Rinse thoroughly.
- 1.4 Remove the o-ring from the housing and wipe the groove and o-ring clean. Lubricate the o-ring with a coating of clean petroleum jelly. Place the o-ring back into the groove. If the o-ring appears damaged or crimped, it should be replaced immediately.
- 1.5 Install the new cartridge into the sump making sure that it slips down over the sump standpipe.
- 1.6 Turn the sump into the cap and hand tighten. DO NOT OVER TIGHTEN.
- 1.7 Turn on the feed (incoming) water supply and allow the housings to fill with water. Check for any leaks.

E.2 Ultraviolet Lamp

(Systems with the Polisher Biolyte™ Ultraviolet Sanitizer Only)

Change the ultraviolet lamp annually. The ultraviolet lamp in your filtration system emits a very powerful and specific UV wavelength for the sterilization of microorganisms. This wavelength is not visible to the naked eye. It is very important that the lamp be changed once every year even if the lamp is still visibly lit. Visible light is not an indication of UV output. After one year UV lamp emission degrades very quickly until it is no longer effective in killing bacteria, even if the lamp is still lit.

The ultraviolet post-filter is designed to eliminate any bacteria that may be present in the water supply. UV does not kill cysts such as giardia or cryptosporidium. The replaceable ultraviolet bulb is extremely effective at safely removing the threat of harmful bacteria from the water.

Replacing the Ultraviolet Lamp

- 2.1 Unplug the power adapter from the electrical outlet.
- 2.2 Unplug the lamp from the power cord.
- 2.3 Loosen and remove the white silicone plug from the white end cap.
- 2.4 Unscrew the white end cap from the stainless steel UV chamber.
- 2.5 **CAUTION:** The old lamp could be very hot. Do not handle until the lamp has cooled down sufficiently.
- 2.6 Slide the old lamp out of the quartz sleeve and discard the lamp and the silicone plug.
- 2.7 Carefully insert the new lamp into the quartz sleeve. Be sure the wire is hanging out of the quartz sleeve.
- 2.8 Push the stopper (which is attached to the wire) into the quartz sleeve.
- 2.9 Remove the silicon plug from the white cap.
- 2.10 Slide the wire through the hole in the cap.
- 2.11 CAREFULLY screw the cap onto the UV chamber. DO NOT CROSS THREAD. There is a glow bottle starter attached to the lamp. This should be left inside of the cap.
- 2.12 Replace the silicon plug around the wire into the cap.
- 2.13 Plug the wire into the power adapter.
- 2.14 Plug the adapter into the correct power supply. (The use of a ground fault protected outlet is recommended).

E.3 Winterizing for seasonal homes

Never allow the system to freeze with water in it. This can result in cracked lamps and glass (quartz) sleeves. It will also result in cracked cartridge housings.

For proper winterizing, water to the unit should be shut off, the cartridges removed from the system, and all water emptied from the system. Cartridges should be discarded and new cartridges installed at the start of the next season.

Carbon cartridges should not be re-used once they have been dried out. Additionally, carbon cartridges should not be used if left in stagnant water for a considerable length of time.

F: Troubleshooting

Problem	Possible Cause	Solution
1. No product water/ not enough product water.	<ul style="list-style-type: none"> a. Feed water supply turned off. b. Feed water pressure too low. c. Feed water tubing kinked or plugged. d. Flow/pressure control plugged. e. Prefilter(s) fouled or clogged. 	<ul style="list-style-type: none"> a. Turn on feed water supply. b. Feed water pressure must be at least 35 psi. c. Remove blockage or kink in line. d. Flush out flow control; replace if necessary. e. Replace prefilter(s).
2. Bad tasting or smelling product water.	<ul style="list-style-type: none"> a. Post-filter exhausted. b. System contaminated. c. UV bulb burned out. 	<ul style="list-style-type: none"> a. Replace post-filter. b. Replace sediment and carbon filters. c. Sanitize system. d. Replace UV bulb.
3. Cloudy water.	<ul style="list-style-type: none"> a. Dissolved oxygen in feedwater, which is concentrated in product water. 	<ul style="list-style-type: none"> a. Usually clears up as condition of feedwater changes. Letting water stand will allow dissolved air to dissipate.
4. Faucet leaks	<ul style="list-style-type: none"> a. Leak through spout — valve tee bar is set too low or valve seat is defective. b. Leak around stem — o-ring seals worn on valve assembly. 	<ul style="list-style-type: none"> a. Raise tee bar so there is just a little play in the handle in the OFF position, or replace valve assembly. b. Replace valve assembly.
5. No blue glow emitting from UV chamber site parts.	<ul style="list-style-type: none"> a. Lamp burnt out. b. Power adapter not plugged into wall outlet. c. Lamp not plugged in properly to PIN connector. d. Ballast is burnt out. 	<ul style="list-style-type: none"> a. Replace lamp. b. Plug into wall. c. Check connections and adjust. d. Replace ballast.

UV Quartz Sleeve Cleaning and Maintenance

UV lamps produce heat and UVC output, which may cause certain water characteristics to adhere to and bond on the quartz sleeve. This can cause the quartz sleeve to foul. A fouled quartz sleeve will prevent the UVC from reaching the targeted pathogens.

Denatured alcohol, mild citric acid, or a lime/calcium/rust removal product (LimeAway or CLR) and a ScotchBrite pad (non-scratching) can be used to aid in the cleaning of the quartz sleeve. After the quartz sleeve is rinsed off with water and dry, wipe with a lint free cloth with denatured alcohol as a final step.

The quartz sleeve should be cleaned annually or more frequently, depending on the operating conditions.

Use gloves when handling a clean or new lamp and quartz sleeve. Skin oils will adhere to the lamp and quartz sleeve and prevent UV light from properly emanating.

A quartz sleeve should be changed every three (3) to five (5) years, or sooner if they show wear.