



SPARK-L-PURE®

WATER MICROFILTRATION SYSTEM



INSTALLATION AND PRODUCT USE GUIDE

For use with Bacteriologically
Safe Water Only.

Installation Instructions

CONGRATULATIONS! You have just purchased SPARK-L-PURE® Water Microfiltration System by General Ecology, Inc. employing the most advanced, effective and reliable technology available. The features of this equipment are indicated in product literature accompanying each Unit. It is recommended that you briefly study this literature before beginning your installation. Please note that the SPARK-L-PURE® Unit features Top Mounted, Sweat-type Copper Inlet and Outlet Adapter/Connectors that are available in either 3/4" or 1" sizes. Be sure you have the proper size for your installation (normally 3/4" for residential applications).

Multiple Units can be installed in parallel to increase flow rate (for industrial, commercial and special applications), or in series for special requirements such as pre-filtration followed by submicron microfiltration. See *Figure 1*. **For installation in the State of Wisconsin, please see *Figure 1A* on the next page.**

Installation is straightforward and is easily accomplished by persons experienced in plumbing installation and the sweating of copper pipe. Normally, only a tubing cutter, soldering torch, 1/2" wrench and possibly a pair of channel lock pliers are required. A 1/2" "deep" socket, in lieu of the wrench, will facilitate V-clamp Nut removal and replacement and is recommended.

Figure 1

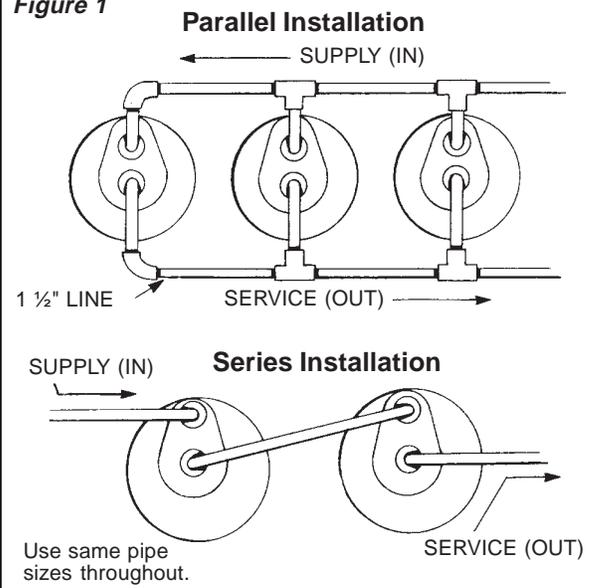
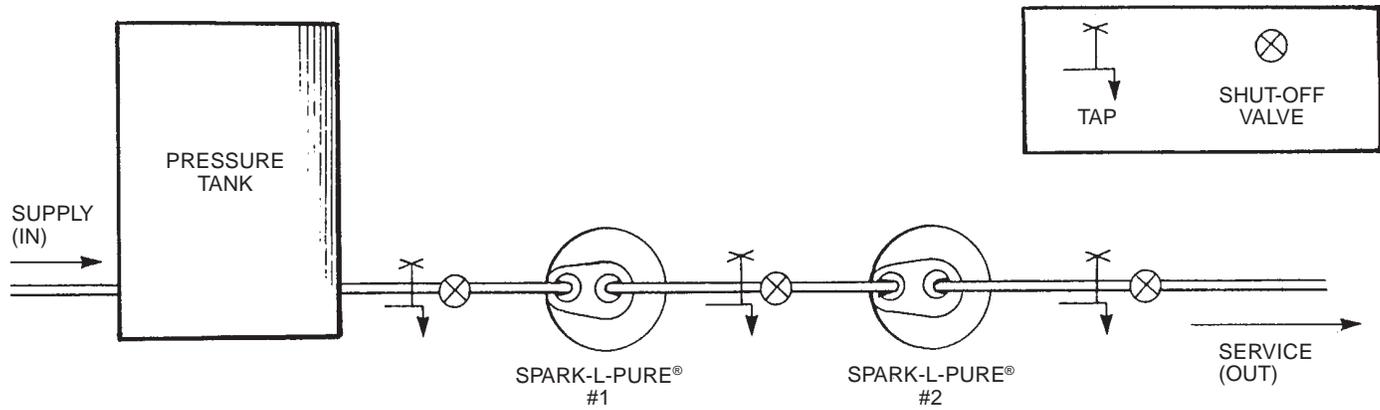


Figure 1A

Wisconsin Installation to Comply with State Agency Guidelines



Assembly Instructions

1. Remove the stainless steel Housing and the Cartridge Module from the package.
2. Remove the V-band that secures the Housing Cover and Bowl by removing 1/2" Nut with a wrench or 1/2" deep socket.
3. Carefully raise the Cover, being careful not to dent or cut the Bowl Flange, nor allow dirt on any of the Gaskets.
4. Lower the Cartridge Module into the Bowl.
5. Be sure Gaskets are clean and free of cuts and other potential leak paths.
6. For ease of installation, a light coating of petroleum jelly should be applied to center Port O-Rings of Housing Cover before aligning it with the Cartridge Module.
7. Center the Cover on the Module while aligning it with the Bowl Flange and press down into position.
8. Install V-clamp and tighten (do not overtighten) while lightly tapping the outside of the V-clamp outside the bolt. A light coating of petroleum jelly applied to the insides of the V segments will ease the Clamp installation.
9. Note the Unit Cover's Supply (INLET) Port and Service (OUTLET) Port. On all General Ecology stainless steel Units the Port closest to the side is the Supply (INLET) Port and the center Port is the Service (OUTLET) Port.

Equipment Placement

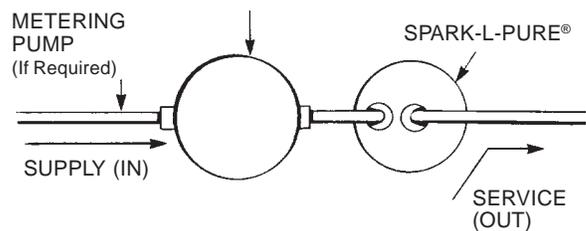
The SPARK-L-PURE® Unit should be level and should have adequate vertical clearance to permit the three (3) Dielectric Positioning Pads to be positioned under each Unit. It is important to use these Pads to allow vertical clearance for the Unit to clear the Inlet and Outlet Connectors during servicing. Additionally, the Pads eliminate potential electrical interface between the Unit and the floor.

The Unit should always be placed on the Service (OUTLET) side, rather than the Supply (INLET) side, of the air pressure tanks used with on-site water supplies. See Figure 2.

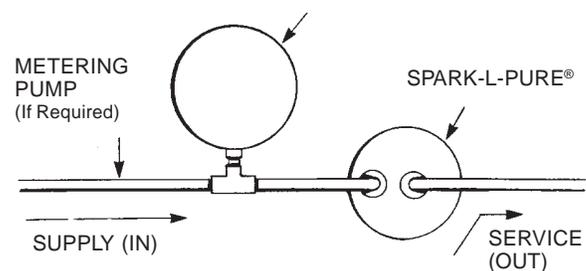
After deciding on placement of the Unit, it is recommended that appropriate fittings such as valves, nipples, elbows, etc., be "dry fit" to be sure of proper positioning, and to double-check the routing, proper lengths and other factors that will assure a workmanlike job. Do not strap copper tubing rigidly in place near the Unit. Allowing tubing to flex slightly will reduce possibilities of uneven strain at the Inlet and Outlet Connections. Copper tubing, unlike threaded galvanized and iron, is exceptionally convenient and fast to work with since it can be cut to exact lengths needed and threading taps and dies are not needed. Copper tubing can be cut with inexpensive tubing cutters, with hack saws, or, for short pieces, with a band saw. Because of the special Inlet and Outlet Connectors, union joints usually are not needed.

Figure 2

IN/OUT Pressure Tank Installation



"TEE" Pressure Tank Installation

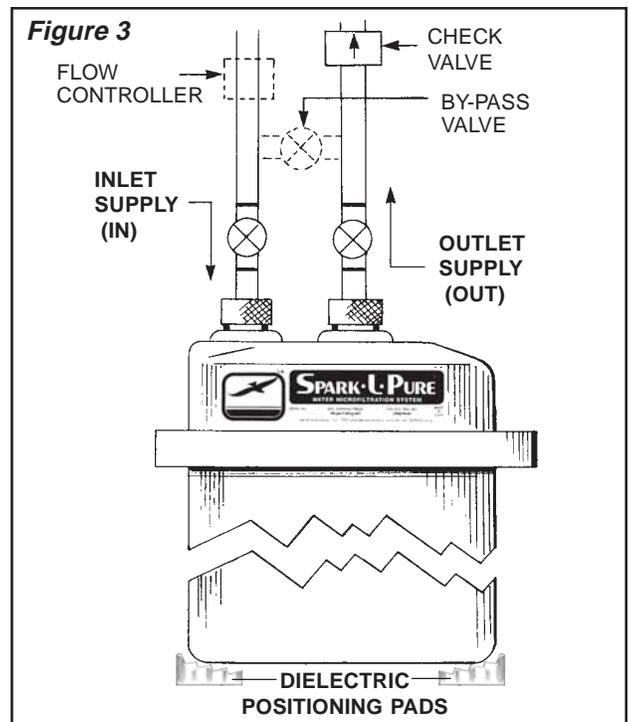


Installation Considerations

Valves should be placed in series with the Supply (INLET) and Service (OUTLET) Lines as shown in Figure 3. A Flow Controller, if necessary, should be placed in the Supply Line to help limit flow surges due to trapped air and other possible causes. A Check Valve should be placed in the Service Line to protect the Unit from backpressure surges. It may also be desirable to place a third (By-pass) Valve directly between the Inlet and Outlet Lines as indicated in Figure 3, but we recommend that this not be done if highest reliability against by-pass is important.

A By-pass Valve should be installed only if contamination of the Service Lines is not a potential problem. The purpose is to allow water to bypass the Unit, if desired, by closing the Inlet and Outlet Lines, and opening the By-pass.

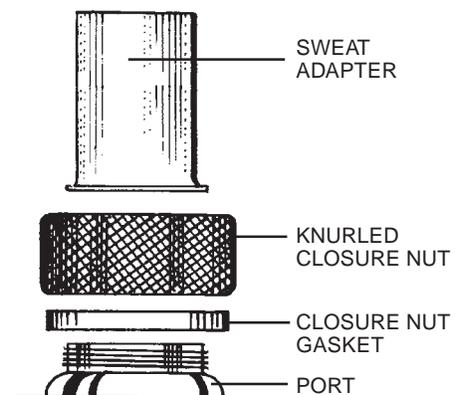
The SPARK-L-PURE® Unit is compact, relatively lightweight and is easily disconnected from the plumbing lines. It is not necessary to service the Unit in place; for convenience, it can be carried to a nearby sink, floor drain, or even outside. Adequate clearance should be provided around the installed Unit for ease of movement and to allow servicing on other pieces of equipment when necessary. Obviously, the Unit should not be allowed to freeze.



Installation Instructions

1. Select location and position Unit as desired.
2. Close Supply and Service Valves to isolate the plumbing at the installation point.
3. Dry-fit the plumbing fittings and pieces necessary to install the Unit and cut or unthread existing plumbing lines as appropriate. Avoid getting water into parts to be soldered. All tubing or fittings should be dry; attempting to solder lines containing water generates steam and will cause leakage problems and possibly an accident.
4. Solder all joints. Do not allow excess heat to reach any seals or gaskets and be sure solder does not coat the sealing faces of the Sweat Adapters nor reach the ball or seal of any valves. Do not use excess solder, but be sure it flows completely around all joints. (To avoid cold, brittle joints, melt the solder by touching it to the heated copper surfaces...do not heat the solder directly.)
5. In order to avoid the possibility of connecting the SPARK-L-PURE® Unit in the reverse direction, **be sure to label the Supply (INLET) and Service (OUTLET) pipes.**
6. Position the SPARK-L-PURE® Unit, and start the threads of the Knurled Closure Nuts. Be sure to place the Closure Nut Gaskets in the order shown in Figure 4. Place the Positioning Pads underneath the Unit and raise it to the proper elevation to eliminate strain on the Inlet and Outlet Ports, and snugly finger tighten the Inlet Port Nut only at this time.
7. Slowly open the Supply Line Valve allowing water to enter the Unit. Trapped air will exhaust through the loosely connected Outlet Port until the Unit fills. When water starts to flow from the Outlet:
 - a. Close the Inlet Valve.
 - b. Snugly tighten the Outlet Closure Nut.
 - c. Open the Outlet Valve.
 - d. Reopen the Inlet Valve to place the SPARK-L-PURE® Unit in service.
8. Check carefully for leaks or seepage around any of the joints or connections and correct as necessary.

Figure 4



Service Instructions

The SPARK-L-PURE® Microfiltration Unit, furnished with General Ecology, Inc.'s AQUA-POLISH® Cartridge Module, should require little or no service other than an occasional Module cleaning or replacement. Because of its inherently strong microstructure, it can be cleaned and reused, relative to particulate removal. The need for cleaning or changing the Module will be apparent from an obviously reduced flow rate due to clogging. Service should be accomplished by the following procedure.

IMPORTANT: In order to avoid reinstalling the Unit in the reverse direction, **the Inlet and Outlet Pipes should be labeled prior to disconnecting the Unit.** On all General Ecology® stainless steel Pressure Vessels, the Port closest to the Vessel Cover's side is the Supply (INLET) Port and the center Port is the Service (OUTLET) Port.

Disassembly:

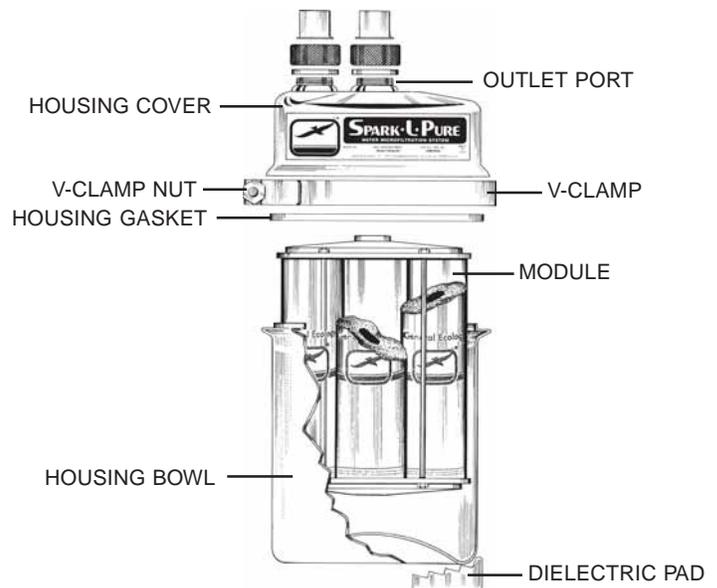
Removing Module from Unit:

1. Close Supply and Service Line Valves, loosen brass Closure Nuts and gradually remove Dielectric Positioning Pads to lower Unit to supporting surface.
2. Place Unit over drain or a container to catch excess water as the V-clamp is removed, and remove V-clamp.
3. Carefully raise the Cover from the Unit and remove the Cartridge Module. (We recommend the use of rubber gloves to protect the skin from direct contact with the potential concentration of impurities that may be on the outside of the Cartridge Module.) Dump excess water from the Bowl and rinse clean. Be careful not to dent or cut the Bowl Flange, nor cut nor allow dirt on any of the Gaskets.
4. To remove surface debris use a garden hose. Spray the Module Elements at a glancing angle.
5. **DO NOT** apply a reverse flow back pressure on the Module unless it is installed inside the Pressure Vessel and the pressure can be controlled not to exceed two (2) psi. Reverse flow is easily accomplished by connecting the center Outlet Port to a supply line.
6. For older SPARK-L-PURE® Systems only (prior to 1991): Check to be sure the Rubber Pedestal is properly in place on the raised center of the Bowl bottom when positioning the Module. Not required on Units purchased in 1991 or later.
7. Be sure Gaskets are clean and free of cuts and other potential leak paths.
8. For ease of installation a light coating of petroleum jelly should be applied to center port O-rings of Housing Cover before aligning it with the Cartridge Module.
9. Center the Cover on the Module while aligning it with the Bowl Flange and press down into position.
10. Install V-clamp and tighten (do not overtighten) while lightly tapping the outside of the V-clamp outside the bolt. A light coating of petroleum jelly applied to the insides of the V segments will ease clamp installation. A small amount of anti-seize compound should be applied to the V-clamp outside the bolt.

Reinstallation:

Placing the Unit back in service:

11. Reposition the Unit per initial installation, being careful to replace the Closure Nut Gaskets properly and to position the Unit to eliminate strain on the Service and Supply Lines. Finger tighten the Inlet Port Nut only at this time.
12. Slowly open the Supply Line Valve allowing water to enter the Unit. Trapped air will exhaust through the loosely connected Outlet Port until the Unit fills. When water starts to flow from the Outlet:
 - a. Close the Inlet Valve.
 - b. Snugly tighten the Outlet Closure Nut.
 - c. Open the Outlet Valve.
 - d. Reopen the Inlet Valve to place the SPARK-L-PURE® Unit in service.
13. Allow water to run for three to five minutes to remove air and particles from the new module.



QUESTIONS?

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