

Small Filtrific Pondless Installation Manual

Unpack all materials, tank, pump, tubing and fittings to make sure you have all the parts before you proceed.

Start with the tank assembly first. Find the plastic bag which contains pre-assembled pump discharge assembly with bulkhead fitting, atrium grate, Teflon tape, a 2" pattern and rubber clamp kit, a 1" threaded 90 degree ell and various small fittings.

Remove the cloth filter basket from the tank and other items packaged inside it as well. Find the pre-assembled discharge assembly. Remove the bulkhead retaining nut from the body of the bulkhead fitting. From the inside of the tank, push the threaded end of the bulkhead body through the opening at the bottom of the tank. The rubber gasket is installed on the inside. On the other side (outside) of the tank, screw on the retaining nut hand tight then using channel lock pliers or small pipe wrench, turn the nut an additional ½- 1 full turn. You may partially fill the tank with water to check for leaks and tighten again if needed. Do not over-tighten the retaining nut otherwise splitting of the nut or stripping the threads will occur.

If no leaks are present, empty the tank and prepare to attach the pump. Find the 1" threaded 90-degree ell. Apply three wraps of the Teflon tape provided to the threaded discharge fitting on the top of the pump. Screw the 1" ell to the top of the pump. Apply Teflon tape to the threaded insert fitting on the end of the discharge line you just installed. Screw the pump onto the insert fitting on the 1" ell just installed on the pump. Find the package containing the pump intake screen. Screw the two halves together and then install it on the front of the pump and hand-tighten. Adjust the angle of the discharge tubing at the pump at the ell so that the discharge line will fit into the tank comfortably. Note; it is ok to coil the discharge line above the pump. The pump must sit horizontally on the bottom of the tank. Install the pump.

Find the 1 inch insert female ell adapter (hose barb by 1 inch female thread), and the 1" by short gray nipple located in the plastic bag. Apply Teflon tape to both ends of the nipple. Install one end into the threads in the outside portion of the bulkhead fitting. Hand-tighten then add ½ to 1 turn more with a wrench. Screw the 1" female insert fitting on the other end of the nipple. Tighten this also.

Find a number 12 stainless steel clamp and the fourteen foot section of 1" tubing. Slip the clamp over one end of the pipe. Push the tubing over the barbed portion of the female insert fitting you just installed. Hint: You may have to heat the end of the pipe with hot water or a hair dryer to be able to connect the tubing over the barbs. Install the tubing, slide the clamp into place and tighten.

Measure down from the top edge of the tank on the DISCHARGE side (the bulkhead fitting side), approximately 2 inches. The approximate location is marked with an adhesive dot labeled "fill". Drill a ½" hole and attach the auto fill float valve and body like you did with the bulkhead fitting. The balance of the level controls will be installed later. Remove the float arm and store it in the plastic bag until the unit is ready to use.

Set the tank assembly aside for now.

The 45 mil liner will provide containment for any size feature up to 10'x10'. Decide what size feature you will need to accept the accent piece, whether it is a statue, fountain bowl(s), cored rock, etc. Please take into account the splash factor. The liner in the finished feature should extend out far enough to contain splashing as the water hits different parts of the feature. Water will splash 1.5' outward for every foot of drop.

After you have decided on the shape of the feature, outline the area and remove soil to a depth of 8-10 inches. Excess soil may be used to elevate the edges of the feature to prevent run-off from entering. The tank will be buried within a foot or so from the edge of the liner somewhere on the perimeter of the feature. The intake into the reservoir is the upper 4 inch top opening. The 4" sewer pipe attaches to this point and will terminate with a drain somewhere in the feature. Decide where you want to locate the drain and slope the bottom of the water feature toward it. Dig a trench from that point to where the tank will be buried. Then dig a hole at least 1-1/2 times wider than the tank and to the proper depth (½" to 1" of tank top may be exposed to allow for mulch). Install the tank but do not fill around it yet.

The trench for the drain will be dug level to the tank. The trench should be deep enough so that the opening of the 4" PVC elbow is buried to grade inside the feature.

At this time cut an 8-12" section from the 4" sewer pipe and set it aside.

To install the drain line, locate the 4" rubber no-hub coupling. Attach the coupling to the intake of the tank and tighten the clamp. Glue the 4" elbow to the pipe making sure the opening on the elbow points to the sky. Next measure the remaining 4" drain line and insert the free end into the no-hub coupling on the tank. If you the elbow leans sideways, turn the pipe and elbow as a unit then tighten the remaining band on the no-hub coupling. Take the short section of pipe and fit this into the 4" elbow as far as it will go. This short piece will become riser pipe, and it must be cut precisely. Take the rubber ring out of the package containing the cardboard pattern disk. Next, place it over the pipe and slide it down to the top of the elbow. Using a marker or pencil scribe a line around the pipe using the top of the rubber ring as a guide. You will then cut the pipe to this line. Remove the riser. Do not glue this to the elbow yet.

Lay the tubing from the tank to the water feature noting where you will install the bronze gate valve. The working end of the pipe will come out of the ground and over the top of the feature. You may disguise this bit of tubing with rock, etc.

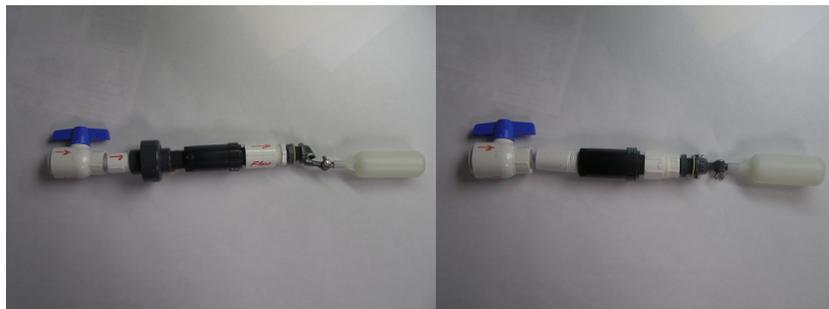
Roll out the gray underlayment in two directions first north and south then east and west being sure to overlap it as you go. Cut the fabric away from the drain.

Roll out the rubber liner next. **IMPORTANT!!!** Position the liner the way you want it. It will cover the opening of the elbow leading to the drain. Find the cardboard disk and place it on the liner over the drain. Center the disk over the drain then trace the outline of the disk onto the liner. Use scissors, or box cutter to cut a **SMOOTH LINE** around the circle you traced. Pull back the liner and glue the riser into place. Pull the liner back in place and stretch the liner over the pipe and push it down to the underlayment. Find the rubber ring and slide it over the pipe and down over the liner that has been pushed upward into the tube. Tighten the clamp and install the 4" atrium grate into the pipe.

Install the cloth filter basket noting the slot for the pump cable. Also, reinstall the float arm. Route the discharge piping to your accent piece. Cut the gate valve into the discharge piping at the desired location. Use two, 1 inch male insert adapters, to connect the valve to the tubing. Apply Teflon tape to the insert adapters and follow the clamping guideline mentioned earlier. The piping will be buried up to the gate valve and then will start coming to the surface at the edge of the feature. Install the 6 inch valve box over the gate valve. Exit the ground at the feature and lay the tubing on the liner for now.

Connect the remaining components for the level control (float valve) before operating the feature. You will need to tie into an existing pressurized water source such as an irrigation main or a hose bibb. Because of the variables involved, please contact us, and we can advise you on additional parts required.

In the kit, you will find a black cylindrical item that may have a female and a male pipe thread one each end OR a female and a male hose thread on each end. This part is a pressure regulator that allows the float valve to turn the water off when the valve experiences line pressures greater than 30 psi. The water flow direction is embossed on the valve body, and this arrow must point toward the float. Consult the pictures below for the installation/ orientation of the regulator found in the kit.



The photo to the left shows fittings used for connecting to a regulator with female x male pipe threads.

The photo to the right shows fittings used for connecting to a regulator with female x male hose threads.

The isolation valve (PVC ball valve) is placed in front of the regulator assembly as shown. Install PVC pipe between the isolation valve and the pressurized water source.

After installing the pressure regulator, isolation valve, and valve boxes backfill around the outside of the tank and bring the soil level to grade.

Now is a good time to wash down the liner and to make sure the water goes toward the drain. The tank will fill with dirty water. Plug in the pump to pump the water outside the feature via the discharge tubing. It is also a good idea to wash off the stones used in the water feature and release that water also. You can easily bury the pipe later under the stone as you set up the accent piece. Empty the filter basket as needed.

The last step is to fill the tank with water. A hose is will do the job quickly, or you can let the auto fill do it for you. Before filling loosen the wing nut on the float arm and set the float downward at a 45-degree angle. By doing this, you will have a starting point from which you can fine tune the float/water level later.

Before you attach the lid, take a moment to notice the four rubber balls on the underside of the cover. These connect to the cover by bolts. After installing the cover, you can tighten these bolts that expand the rubber balls, which secures the cover to the tank.

There is no overflow piping for the tank. During a heavy rain event or if the float malfunctions, water will naturally flow out of the tank under the cover.