

## 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 with the short piece of 1 inch tubing, 1 inch thread x thread 90(ell), bulkhead fitting, atrium grate and various other items. Also gather these next loose items: 1 inch by close gray PVC nipple, two 1 inch hose swivel adapters, Teflon tape and the pump and filter.

Remove the cloth filter basket from the tank. Select the bulkhead fitting and one, 1 inch by close PVC nipple(the short, stubby threaded fitting). Apply Teflon tape to one end of the nipple and screw it into the female threads in the flat smooth end of the bulkhead adapter. Remove the large nut from the other end of the adapter, keeping the rubber gasket in place. From INSIDE the tank, push the large threaded end of the bulkhead adapter through the pre-drilled hole at the bottom end outlet of the tank. Secure the bulkhead adapter to the tank with the large nut previously removed. Hand- tighten then turn the nut 1-2 more turns with a pipe wrench. DO NOT OVER TIGHTEN as the nut may break.

Next find the black marlex female thread by male threaded 90 degree elbow. Apply Teflon tape to the male threads and screw this into the female threads on the bulkhead adapter on the outside of the tank. Point the elbow slightly sideways either to the left or right of the tank depending on what side the supply tubing is run.

Find one of the 1 inch insert male adapters (hose barb by 1 inch male thread), apply Teflon tape to the male threads and screw this into the female threads of the marlex elbow. Hand- tighten then add ½ turn more with a wrench.

Locate the SF1.0 hose adapters. These are the 1 inch barb by swivel fittings used to connect the pump discharge tubing to the nipple at the inside bottom of the tank. Also locate the pump, filter, 1 inch thread by thread elbow and the other 1 inch by close nipple (sstf).

Unpack the pump and screw the filter to the intake side of the pump(the front port). Now screw the 1 inch elbow to the top(discharge port) of the pump. Adjust the angle of the elbow to easily receive the tubing when the final connection is made inside the tank. Apply Teflon tape to one end of the remaining 1 inch by close nipple and screw this into the elbow. Unpack each of the SF1.0 fittings and push the o-rings supplied into the groove on the swivel end. Next push and twist the SF1.0 fittings into each end of short piece of tubing supplied. Test fit the tubing if you think cutting may be needed. Connect the tubing first to the nipple

at the bottom side of the tank then connect it to the pump. The clamps supplied may not be needed at this point as the hose barbs are a tight fit.

Now find the 14 foot section of supply tubing and with a clamp, attach one end to the barbed fitting outside the tank. Just snug the clamp. Over-tightening may cause leakage around the fitting.

Measure down from the top edge of the tank on the DISCHARGE side (the bulkhead fitting side), approximately 2 inches. Drill a 1/2" hole and attach the auto fill float valve and body like you did with the bulkhead fitting. You can hook, with the proper adapters, 1/2", 3/4", 1" PVC or irrigation swing pipe to the auto fill which in turn will be attached to your irrigation main or an outside hose bibb. To protect the float assembly unscrew the arm and store it in the tank.

For now, toss the rest of the tubing and electrical cord into the tank with the pump and set aside.

The 10' x 10', 45 mil liner will provide containment for any size feature up to 10'x10'. Decide what size feature you will need to comfortably 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 far enough out to contain splashing as the water hits different parts of the feature.

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 inches to a foot or so from the edge of the liner somewhere on the perimeter of the feature. The intake into the tank is the upper 4 inch opening. This will have a length of 4 inch sewer pipe attached to it and will terminate with a drain somewhere in the feature. Decide where you want the drain to be and slope the bottom of the feature to 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 (1/2" to 1" of tank top may be exposed to allow for mulch). The trench for the drain may be dug level or with a very slight slope (1/4") to the tank. The trench should be deep enough so that the 4" PVC elbow is buried to or below grade.

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. Depending on the depth of the elbow, measure and cut a piece from the 4" PVC pipe so that when fitted into the elbow the pipe rises above the liner by the thickness of the 4" rubber ring in the kit. Do not glue this to the elbow yet. Now measure the remaining 4" pipe and cut to length if needed and slip one end into the coupling and tighten the clamp. Glue the 4" elbow to the other end. Remove the discharge tubing from the tank and drape it in the hole and run it back out and to the area where the gate valve will be located. Don't forget that some of this tubing will be used to go

from the gate valve to the feature. Level the drain line and the tank and back fill. Tamp the soil firmly over the drain line to prevent settling. Hint: Put a rag into the elbow to keep dirt out.

Roll out the grey underlayment in two directions first north and south then east and west being sure to overlap it as you go. Use the sod staples provided to pin the fabric down. Cut the fabric away from the drain.

Insert the piece of pipe you measured earlier into the 4" elbow. Find the rubber liner retaining ring. It is in a plastic bag along with a paper cardboard disk.

Remove the

ring but don't loose the disk! Making sure the short piece of pipe is inserted to the full depth of the socket in the elbow, rest the ring on the underlayment next to it. If the pipe is the same height as the ring, pull it out of the elbow and glue it into place. If the pipe is too tall pull it out, cut it down and then glue it. Put the ring in a safe place for now.

Roll out the rubber liner next. **IMPORTANT!!!** Position the liner the way you need it. It will cover the pipe 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 out the traced circle to make a hole. 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 which has been pushed upward on the pipe. Tighten the clamp and install the 4" atrium grate into the pipe.

Install the cloth filter basket noting the slot for the pump cable. 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.

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

