



HELPING NATURE WORK FOR YOU

INSTALLATION INSTRUCTIONS

WARNING: NEVER ENTER A SEPTIC TANK. SEPTIC GASES ARE TOXIC AND CAN CAUSE DEATH.

UNPACKING THE PIRANA SYSTEM

Remove the Pirana unit from the tall box. It may be wrapped in plastic that must be removed before installation. Try and remove the Pirana unit in an area where there is no wind. There are lightweight packing materials that may come out of the box as you remove the Pirana unit that will blow around. If you see any damage to the Pirana unit, notify Pirana System before installing the unit in your septic tank. **We no longer use a “bacteria bag stick”. We use a new and improved method of introducing bacteria into the Pirana via a slow dissolving Pirana Blend Bacteria PUC pre-installed in the bottom of the Pirana unit that may rattle about when the Pirana is handled. It is not an indication of anything broken in the Pirana unit. There is also a small clear plastic bag of tan colored powdered bacteria included with the Pirana that is to be poured into the septic tank at start up of the Pirana.** Open the smaller box and remove the air pump. Check for signs of obvious damage. Notify the company immediately with any concerns about the condition of the air pump. Please dispose of the boxes and packing material in a responsible, environmentally friendly manner.

PUMPING THE SEPTIC TANK

NOTE: Prior to the installation of the Pirana into an existing septic tank, Pirana System strongly recommends the septic tank be pumped and cleaned if there is more than four to six inches of scum floating on the surface of the effluent and/or more than three inches of settled sludge. If the septic tank has been pumped within one to three years prior to installing of the Pirana, pumping is normally not necessary. If you are in doubt, pump the septic tank as a precaution. You can call or email Pirana System for directions regarding any issues you might have concerning pumping a septic tank.

If the septic tank is pumped, allow it to refill by using the septic system as before. When the septic tank has refilled, install the Pirana. If you prefer to install the Pirana immediately after pumping and cleaning the septic tank, first install the Pirana following the installation instructions below, refill the septic tank so the top of the Pirana unit is submerged in the water. Refill the tank using a hose connected to a hose bib. Then add 25 pounds of sugar and five pounds of dry dog food as nutrients and start operating the Pirana. Continue to use the septic system as before. As you use the septic system, the Pirana Blend Bacteria rapidly reproduce using the sugar, the dog food and the occupant’s organic waste as nutrients. The effluent leaving the septic tank and entering the clogged disposal field will contain a rich inoculum of Pirana Blend Bacteria to ramp up the start of remediation.

PREPARING THE SITE

You may need to provide an exterior GFI outlet to the air pump installation site. If you don’t have an existing GFI protected outlet where you want to put the air pump, have a qualified electrician provide a surface mounted, GFI protected, exterior outlet within two or three feet of the location of the air pump installation. You plug the air pump cord into the GFI outlet. All work and materials should meet local electrical codes. Do not plug in or energize the air pump until the installation of the Pirana unit is complete.

INSTALLING THE PIRANA UNIT

- 1) The Pirana normally installs in the inlet chamber of a two-chamber septic tank. Install a riser over the inlet opening of a two-chamber septic tank. **If you have a single chamber septic tank see below.** The opening will need a minimum of 12 inches clear space to the bottom of the tank to install the P60 Pirana and 18 inches clear space to install the P80 Pirana. Make certain you have a lid that can be secured against unauthorized access. If circumstances dictate, the riser and Pirana can be installed in the outlet chamber of a two-chambered septic tank.
- 2) Pirana System recommends an effluent filter be installed on the outlet pipe of a single chambered septic tank or install the Pirana in front of the outlet pipe. This installation can increase remediation time because the Pirana Blend bacteria are removed from the full complement of organic waste that is their “food”. *See Pictures 1 and 2. Keep the lid on the riser as much as possible while working on the installation of the Pirana to limit exposure to septic gases.*
- 3) Dig a trench from the air pump to the riser, typically 8 to 12 inches deep. Drill a 15/16-inch hole in the riser for the PVC pipe to enter the inside of the riser. If you install a plastic or fiberglass riser and lid you can use a cordless drill and a barbed spade bit. If you have a concrete, brick or concrete block riser, you can rent a RotoHammer and use a one-inch carbide bit to drill through the concrete. Install ½ inch Sch 40 PVC pipe as shown in [Pictures 3 and 4](#) as an air supply line. The length of the PVC air supply pipe is not of concern. There are installations with 300 linear feet of ½ inch PVC pipe between the air pump and the riser.
- 4) Do not allow dirt or debris to enter the PVC pipe. Use “Wet / Dry” (blue) PVC glue. This will allow you to easily check that all connections were glued. If you live in areas where there are freezing winter temperatures or the soil becomes

frozen, you need to install weatherproof foam insulation (that is typically used on exposed water pipes) around the PVC air supply line where it becomes subject to the freezing temperatures either in the air or in the trench. Along the horizontal portion of the trench, you need to insert the insulated foam airline into a two-inch pipe to keep any compression from the soil covering the trench from compressing the foam insulation, reducing its insulating capability. [See Picture 13](#). To hold the foam insulation in place during installation and back filling, tape the butt joints with duct tape or other strong tape to keep the joints from spreading. If there are changes of direction in the horizontal trench, you most likely will not be able to insert the foam completely into a two-inch fitting. Insulate the air pipe in the fittings by putting pieces of foam insulation around the air pipe and air pipe fittings in the two inch fittings. You can insulate vertical air supply lines in and out of the soil by wrapping the foam insulation with ABS weatherproof tape if you don't want to work with the two-inch outer pipe. The tape covering adds protection from ice and frozen water on the surface of the foam insulation maintaining better insulation performance. If the air pump is installed in an unheated garage or shed, then the insulation needs to begin at the outlet port of the air pump. Bury the foam-insulated pipe to the same depth of trench described above. *Keep the lid on the riser as much as possible to avoid contact with septic gases.*

INSTALLING THE AIR PUMP

- 1) If there isn't a convenient GFI protected exterior electrical outlet, hire a licensed electrical contractor to expand an interior outlet circuit from the inside common wall where you want to place the air pump. In our area of the country, we can drill through the back of the inside outlet box to the exterior of the wall using a minimum 14/2 Romex wire with ground through the wall into a surface mounted exterior outlet box. The electrical contractor would then install a 15-amp GFI outlet. He would wire this expanded electrical line to the interior outlet, thus energizing the exterior GFI. As codes differ around the country, the electrical contractor will know how to accomplish this within the code requirements of your local area. Place the air pump on a concrete stepping stone near enough to the exterior GFI protected outlet to allow the air pump cord to be plugged in. Check that no flooding of the air pump from ground flow water during periods of rain can occur.
- 2) Install the ½ inch PVC pipe end of the clear plastic connector assembly that comes with the Pirana System unit to the ½ inch PVC, Schedule 40 airline to the riser and Pirana unit. Attach the clear plastic tubing to the outlet port of the air pump and clamp tight. You can shorten the clear plastic tubing to fit your installation [See Picture 10](#). You can install the air pump under a deck, in a utility shed, equipment room, basement or garage. [See Pictures 10, 11, 12](#)
- 3) You can put something over your air pump if you prefer when it's installed outside. The air pump is weather proof and UL approved for exterior installations. To save you money, we recommend you look around nurseries or hardware stores in your area for something to go over the air pump. Make sure to provide a minimum of four 2-inch diameter or larger holes for venting in any sealed container to keep heat build up under control. Pirana System recommends that you install the air pump in an basement or enclosed space like a garage or shed in areas with freezing winter temperatures. During the winter months, if the air pump is installed in an unheated shed or garage, it is recommended to put something like an inexpensive plastic tub over the air pump, but not sealed to the floor or shelf where it sits to allow air to be drawn into the air pump. Place an old blanket over the tub or some form of insulation. The waste heat from the air pump will preheat the air under the tub and blanket well above freezing. The above is an inexpensive way to improve the potential for keeping the temperature of the air supplied to the Pirana "preheated" well above the ambient temperature of the outside air or of the frozen ground. Freezing cold air will cause the Pirana Blend Bacteria colonizing the Pirana to go into a condition much like suspended animation. They are alive but not active and produce little or no treatment or population growth. Insulate the pipe from the first point of exposure to very cold or freezing temperatures, outside weather and in the trench.
- 4) If you upgraded your air pump to one with a built in low pressure alarm, check the switch to see if it is in the correct position. The switch is on the bottom right end of the alarm (when it is facing you) and should be in the middle position. The little switch has three positions; right, middle and left. The middle position is the "run" or "on" position. **In the event of a problem, disconnect the electrical supply (unplug cord) and contact Pirana System.**

INSTALLING THE PIRANA

- 1) Most septic tanks are buried within 18 to 24 inches of the top of the soil. Should yours be deeper, you may need to adjust upward the recommended lengths for the pipe. You may also need an extension for the rope attached to the Pirana unit. This rope is for installation and removal of the Pirana unit.
- 2) Glue a 4 ft piece of ½ inch PVC Sch 40 pipe to the coupling on the inside of the Pirana unit as shown in [Pictures 5](#). This is a critical glue connection and should be done with care.
- 3) Holding onto the rope to carry the weight of the Pirana unit, lower it into the septic tank with the Pirana unit facing toward the center of the riser as shown in [Picture 5](#). Allow the Pirana unit to settle to the bottom of the septic tank. "Bounce" the Pirana unit up and down a few times to push away any sludge that may be on the bottom under the Pirana unit. Settle the Pirana unit so that the vertical pipe remains basically where you want it. Moving the Pirana unit should be done with the weight of the Pirana unit carried by the rope and the vertical pipe can help guide it in to the correct position.
- 4) Cut the horizontal PVC pipe coming through the riser as close to the riser wall as is practical. Cut the vertical PVC pipe coming out of the Pirana unit to the correct length to allow a PVC 90 degree elbow to be installed connecting the horizontal and vertical pipes as shown in [Pictures 6 and 7](#). Tie off the rope with a Zip Tie to the horizontal pipe as shown in [Picture 7](#).
- 5) Plug in the cord from the basin or energize the electrical service so that the air pump starts. Inspect the surface of the septic tank to see if there is active agitation of the effluent similar to [Picture 9](#). The installation is complete. Secure the riser lid against unauthorized access to the septic tank.

At least once during the two to four week stabilization period after the Pirana installation and start up, monitor the septic tank for liquid height - should have remained constant or dropped; odors - no septic odors should be present; solids accumulation - no solids matting or accumulation; effluent clarification - sampled in a clear container the effluent should have clarity of at least extremely weak tea, see through. Contact Pirana System with any questions.

AFTER START UP OF THE PIRANA THERE WILL BE A NOTICABLE INCREASE IN SEPTIC ODORS. THIS IS NORMAL AND EXPECTED. THESE ODORS WILL TYPICALLY ABATE WITHIN 24 HOURS. THEY WILL NOT

RETURN AS LONG AS THE PIRANA IS PROPERLY OPERATED AND MAINTAINED WITH NO STRESS EVENTS OR TOXIC SHOCK TO THE PIRANA BLEND BACTERIA COMMUNITY. SEE HOMEOWNER'S GUIDELINES TO OPERATING A PIRANA SYSTEM.

IF YOU HAVE QUESTIONS OR CONCERNS ABOUT THE INSTALLATION OR ANY QUESTIONS ABOUT THE OPERATION OF YOUR PIRANA AFTER THE INSTALLATION, YOU SHOULD CONTACT YOUR INSTALLER / CONTRACTOR OR:



TO CONTACT PIRANA SYSTEM:

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PICTURES FOR INSTALLATION INSTRUCTIONS

WARNING: NEVER ENTER A SEPTIC TANK. SEPTIC GASES ARE TOXIC AND CAN CAUSE ILLNESS OR DEATH. AVOID PROLONGED EXPOSURE TO THESE GASES.



Picture #1 - Septic tank exposed



Picture #2 – Risers installed



Picture #3 – Drilling hole in riser



Picture #4 – PVC air pipe into riser



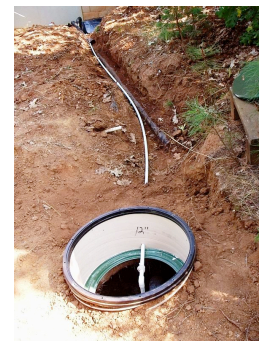
Picture #5 – Pirana unit being lowered into tank with vertical air pipe glued into receiver



Picture #6 – Air pipes ready to cut



Picture #7 – Pipes cut and connected



Picture #8 – Completed



Picture #9 – Pirana start up - notice surface agitation and liquid mounding over Pirana.



Picture #10 – Install in garage (notice the cut piece of clear tubing connected to the air pump outlet port)



Picture #11 – Install in basement



Picture #12 – Install in garden shed



Picture #13 – Foam insulated air pipe inside a two-inch pipe for installation horizontally in a trench

IF YOU HAVE QUESTIONS OR CONCERNS ABOUT THE INSTALLATION OR ANY QUESTIONS ABOUT THE OPERATION OF YOUR PIRANA AFTER THE INSTALLATION, PLEASE CONTACT:

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