

INSTRUCTIONS FOR INSTALLATION OF WEBEN UNDERFLOOR HEATING SYSTEM

1. The base underneath the concrete slab to be poured must be firmly compacted. The base material should be pea gravel. Depth of the base should be at least 4 inches.
2. Lay the wire mesh on top of the gravel. Mesh should be 6" x 6", 10 gauge wire.
3. Lay the plastic pipe (see BILL OF MATERIALS for specification) on the wire mesh. Pipes must be placed at one foot intervals and bends must be made with a minimum radius of 6 inches. Follow the routing shown on the layout drawings, starting with the circuit from the equipment room to the furthest point outward and returning. Be sure and leave at least three feet of each end of the piping of each circuit stubbed into the equipment room. Identify which ends are supply and which ends are return.
4. Crossovers of the pipes should not be required if the layout is followed. However, if a crossover occurs, place a piece of sheet metal underneath the crossover to prevent the pipe from being pushed into the gravel when the concrete is poured.
5. Fasten the plastic pipe to the wire mesh with plastic wire ties (SEE BILL OF MATERIALS) at 3 foot intervals. Tighten the wire ties, but be careful not to kink the plastic pipe. Cut the tails off the wire ties exercising caution not to cut the pipe.
6. DO NOT INSTALL THE PLASTIC PIPE IN ASPHALT. THE HOT ASPHALT WILL DAMAGE THE PLASTIC.
7. Hang the supply and return manifolds horizontally on the equipment room wall approximately 2 feet above the floor. We recommend that you place the supply and return manifolds on different walls in the corner of the equipment room. However, if equipment room layout does not allow this, place the supply manifold 1 inch above the return manifold.
8. Connect the supply manifold to the supply outlet of the JHWB floor heating unit, with 1½" copper pipe. Connect the return manifold to the return inlet of the JHWB floor heating unit, with 1½" copper pipe.
9. Connect the supply plastic pipes to the supply manifold; connect the return plastic pipes to the return manifold. Use none-hardening Permatex between the manifolds and plastic pipes. Clamp pipes to manifolds with hose clamps. (See BILL OF MATERIALS). DO NOT USE PIPE DOPE, GLUE, OR HEAT.
10. Install test gauge and test cock on female adapters located on the ends of the manifolds. Connect air pressure tank (supplied by contractor) to test cock.
11. Pressure test the system at 80 P.S.I. for a minimum of 24 hours. The pressure may drop a few points overnight due to cooling. Soapy water may be used to locate any leaks. If there are any leaks in the pipe, cut the pipe through and splice. Then repressurize the system. DO NOT POUR THE CONCRETE UNTIL PRESSURE HAS BEEN MAINTAINED FOR AT LEAST 24 HOURS.
12. CONTINUE TO PRESSURIZE THE SYSTEM DURING THE CONCRETE POUR. This is necessary to detect any leaks caused by the rock in the concrete nicking the plastic pipe.
13. The concrete used should have minimum water content. Use extreme caution when pouring the concrete. Workers must avoid stepping on the plastic pipe and be careful not to hit the pipe with hand tools. If a leak occurs, it must be repaired quickly and the system repressurized.

14. During the pour, the wire mesh must be pulled into the slab so that the mesh is 2 inches below the surface of the slab.
15. Make sure that the hooks used to pull up the wire mesh do not cut the plastic pipe.
16. After the concrete has cured, remove the air pressure, and plug the holes where the test gauge and test cock were located.
17. Connect the gas service to the heater. FOLLOW LOCAL CODES.
18. Connect the ½ inch water service to the pressure regulator valve located on the JHWP floor heating unit. A shut-off valve must be installed by contractor.
19. Vent the heater. FOLLOW LOCAL CODES.
20. Mount the electrical control box on the wall above and behind the circulating pump. Supply the box with a 220 volt, single phase, 20 amp service. FOLLOW LOCAL CODES.
21. Mount the outdoor thermostat on an outside wall, out of reach, in a shaded area. Connect the thermostat to the control panel with the 2-wire cable (provided).
22. Fill the system with a 50% antifreeze solution. Manually turn on the circulating pump to purge the air from the system by pushing the fluid through.
23. Set outdoor thermostat at 35°F. If the temperature is above 35°F, bypass the thermostat so that the circulating pump will run continuously. Start the heater as per instructions listed in the JARCO manual.
24. Turn on the water supply and adjust the regulator to 10 P.S.I. on temperature-pressure gauge.
25. The operating aquastat on the heater should be set at 90°F and the high limit set at 160°F.
26. Adjust the balancing valves so that the temperature on the return plastic pipes feels the same on all circuits.
27. Expansion of the fluid will cause the pop-off valve to eventually release. A drain line from the pop-off valve is recommended to recover the antifreeze solution.