

# Hydronic Radiant Center

using the

## SEISCO Hydronic Space Heater

### PURGING AND FILLING

#### CAUTIONS:

- \*\*\* Do not fill this system with water if any part of the cement slab is below 40° F.
- \*\*\* We strongly recommend the use of softened water for filling this system.
- \*\*\* This system must be protected with antifreeze before final operation.
- \*\*\* We recommend a final mixture containing 25% pure propylene glycol.

It is now time to purge the air out of the system. Close the Isolator Flange ball valve (just above the pump) and open the Hydronic Space Heater drain (just below the pump). There are 2 ways of filling this system with water depending on whether there is softened water in the building.

#### METHOD 1: SOFTENED WATER

Connect one hose from a soft water source water faucet to the Isolator Flange fill port and open the fill port valve. Connect another hose from the Hydronic Space Heater drain valve and place the other end in a pail or to a drain. Close all of the manifold supply valves except for one and turn the water on. When only water comes out of the Hydronic Space Heater drain hose, close the open manifold valve and open the next one. Repeat this procedure until all floor loops are purged of air. Once all the loops are purged, close the Hydronic Space Heater drain and pressurize the system to 25 PSI with water pressure and close the Isolator Flange fill valve. Inspect all fittings and joints for leaks. If there are no leaks, it is time to fill the system with antifreeze.

#### METHOD 2: SOFTENED WATER

Connect one hose from a pail filled with softened water to a pump and a second hose from the pump to the Isolator Flange fill port and open the fill port valve. Connect a third hose to the Hydronic Space Heater drain valve and place the other end in the pail. Close all of the manifold supply valves except for one and turn the pump on. Refill the pail with softened water as it is pumped in taking care to keep the water level above the hose inlet so that the pump does not draw in air. When only water comes out of the drain line, close the open manifold valve and open the next one. Repeat this procedure until all floor loops are purged of air. Once all of the air is out of the system, close the Hydronic Space Heater drain and, using the pump, pressurize the system to 25 PSI. Inspect all fittings and joints for leaks. If there are no leaks, it is time to fill the system with antifreeze.

#### FILLING WITH ANTIFREEZE

The system MUST be protected with antifreeze. We recommend a minimum 25% mixture of pure propylene glycol. Use a small pump to pump the antifreeze into the system. Refer to the “*METHOD 2: SOFTENED WATER*” instructions above but run the Hydronic Space Heater drain hose to a drain instead of back into the pail. Divide the total amount of antifreeze mixture to be used by the number of loops in the system so that each loop gets approximately the same amount of antifreeze.

Open the Hydronic Space Heater drain, close the Isolator Valve ball valve and open the Isolator fill port valve. Open one floor loop valve and close all others. Pump one portion of the antifreeze into the loop that is open, close the manifold valve and open the next one. (As you pump the antifreeze in it pushes plain water out of each loop.)

Follow the same procedure with each loop until all the antifreeze is added. Once all the antifreeze is installed, open all manifold ports, close the Hydronic Space Heater drain and open the Isolator Valve ball valve. Pump enough water through the Isolator fill port valve to pressurize the system to 25 PSI and then shut off the fill port valve, remove the hose and cap the port. The system is now purged and filled with antifreeze. We recommend running the circulating pump for ½ hour to insure that all air is purged prior to turning on the circuit breaker to the Seisco Hydronic Space Heater.

## **ELECTRICAL CONNECTIONS**

The SEISCO Micro-Hydronic Space Heater must be wired according to the instructions included with the Hydronic Space Heater and all local codes.

Locate a thermostat on an inside wall away from direct sunlight or any areas that may be influenced by drafts. Locate the pump relay near the PRO Panel and connect the circulating pump, pump relay and thermostat.

## **OPERATION**

The system is now ready to operate. Turn on the circuit breakers to power the Hydronic Space Heater and the circulating pump circuit. Set the thermostat to 5° above the room temperature. The relay will close to turn on the system circulating pump and the flow of water will start the Seisco Micro-Hydronic Space Heater. Open the knurled knob on the air bleed on the top right side of the panel to remove any remaining air. Leave the air bleed open until all air is exhausted (after one week of operation). As the panel circulating pump produces water flow through the Hydronic Space Heater, the elements will turn on to adjust the outgoing temperature to its set point. Monitor the temperature on the gauge. After the system has normalized and the thermostat set point has been reached, the output temperature setting should be a maximum of 105° F ± 5°F. . Under no circumstances should the output temperature be above 125° F. If the temperature is not in this range, adjust the Hydronic Space Heater temperature setting to this set point according to the Seisco instruction manual.

## **MAINTENANCE**

There is little regular maintenance required. During the summer months, be sure to set your thermostat to a low setting or turn off the circuit breaker to prevent the system from heating the floor at the same time you are trying to cool the house. It is a good idea to turn the system on a couple times during the summer for 5 minutes to exercise the circulating pump. The pressure gauge should be checked periodically to make sure the system maintains a minimum of 15 PSI. If not, you need to add to the system and check for leaks. You should not have to add to this system regularly. If you hear gurgling sounds from the pump or you can see air bubbles circulating through the translucent loop pipe, open the air bleed until the air is exhausted. Recheck system pressure and adjust to 20 PSI if needed.