

Piping Instructions

CHILLED- AND HOT-WATER COILS

Purpose

This data is intended to explain piping arrangements for chilled- and hot-water coils to the correct inlet and outlet locations.

Two-Pipe Coils

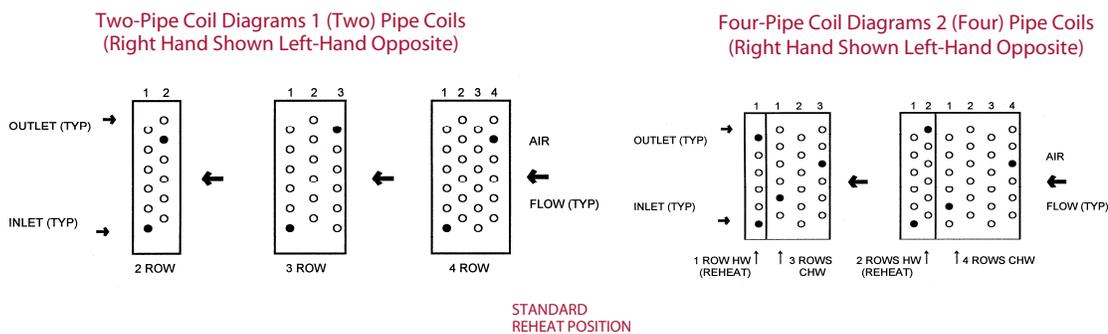
Two-pipe coils have one inlet and outlet. Lanco fan coils may have one- to six-rows. The coil may be 100% chilled water, 100% hot water, or with the addition of a pipe sensor changeover control, it may use chilled water when the chiller is operating or hot water when the boiler is operating. A two-pipe system allows for the chiller or boiler to operate independently, one at a time. The pipe sensor must be clamped onto the supply water line as close to the incoming water source as possible. The purpose of the pipe sensor is to sense the water temperature in the inlet pipe and detect the water temperature at its' set point of approximately 88°F. The pipe sensor will change the thermostat control from the cooling mode to the heating mode and vice versa.

The inlet is always at the bottom of the coil and the outlet is always at the top of the coil. All coils are piped so that the inlet is always on the row farthest downstream from the incoming air (See diagram 1).

All coils have one or more circuits. Circuits are added to reduce the water pressure drop to an acceptable level (usually 10-ft. H₂O pressure drop or less). Due to the various circuit options available, the inlet, and outlet may change position making the inlet and outlet locations vary.

Four-Pipe Coils

Four-pipe coils have a dedicated, chilled-water coil, and a dedicated hot-water coil; each with its' own inlet and outlet, equaling four pipes. Lanco coils use a common tube sheet for four-pipe coils. Example: A four-row, chilled-water coil and a one-row, hot-water coil would use a five-row coil with four rows for chilled-water and one row for hot-water. Normally the one-row, hot-water coil is in the reheat position or downstream from the cooling coil. The hot-water coil may also be ordered in the preheat position or upstream from the chilled-water coil. The controls are wired so that either the chilled-water coil is operating or the hot-water coil is operating, but not both at the same time. When the conditioned space thermostat is satisfied, both the chilled- and hot-water control valves are deactivated. The same rule applies for inlet and outlet locations as explained above in "Two-Pipe Coils" (See diagram 2). Each chilled- and hot-water coil is controlled individually so a pipe sensor is not required.



Always use the following rule to be correct. **The inlet is always the lower connection and the farthest away from the entering-air-side. The outlet connection is always the higher connection the closest to the entering-air-side.**