

Installation, Operation and
Maintenance Information
for:
Coils

You Have a Direct Line To Us!



1-800-523-7590

Fax (610) 251-0805

Website: www.coilcompany.com

Coil Company

P.O. Box 956

Paoli, PA 19301

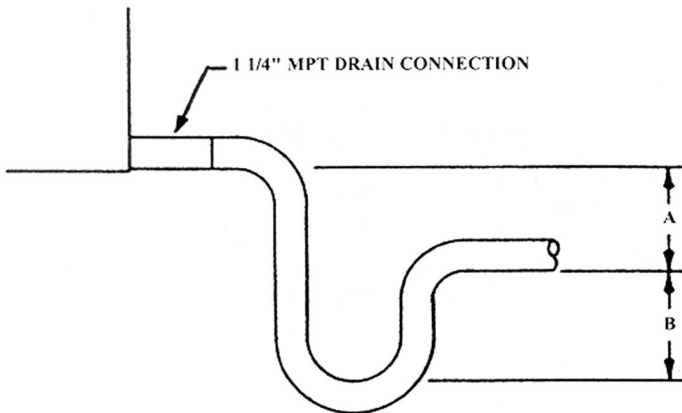
General

1. Support all piping independently of the coil.
2. All coil connections extend through the unit side panel.
3. All connections adjacent to heating coils should have swing joints or flexible fittings to absorb expansion and contraction strains.
4. Install all piping in accordance with local codes and accepted industry standards.

Condensate Drain

1. The drain pan has a 1-1/4" steel MPT connection on each side. Cap off the side that is not used.
2. Install a drain line trap as shown in Figure 5. Dimensions A and B must be twice the negative static pressure for the unit to drain properly. Failure to install a trap and incorrect trapping can cause the drain pan to overflow.

FIGURE 5



DX Coils

1. The expansion valve (by others) should be externally equalized. Locate the expansion valve bulb on a horizontal section of the suction line just below the valve. Make sure the surfaces of the suction line and bulb are clean and make good contact to insure accurate superheat control.
2. Suction lines should be sloped toward the compressor to allow good oil return.
3. Suction risers of more than 5 feet should be trapped at the bottom.
4. Evacuate the system to remove moisture and non-condensables. Leak test all connections before charging the system.

Water Coils

1. Cooling and heating coils
 - A. Supply and return connections are steel MPT.

- B. Use a back-up wrench when making coil connections to prevent damage to the coil. Excessive stress could break the weld joint at the header.
- C. Coils are provided with 3/8" steel MPT vent and drain connections.
- D. All controls should be sized and selected based on the control manufacturer's recommendations.

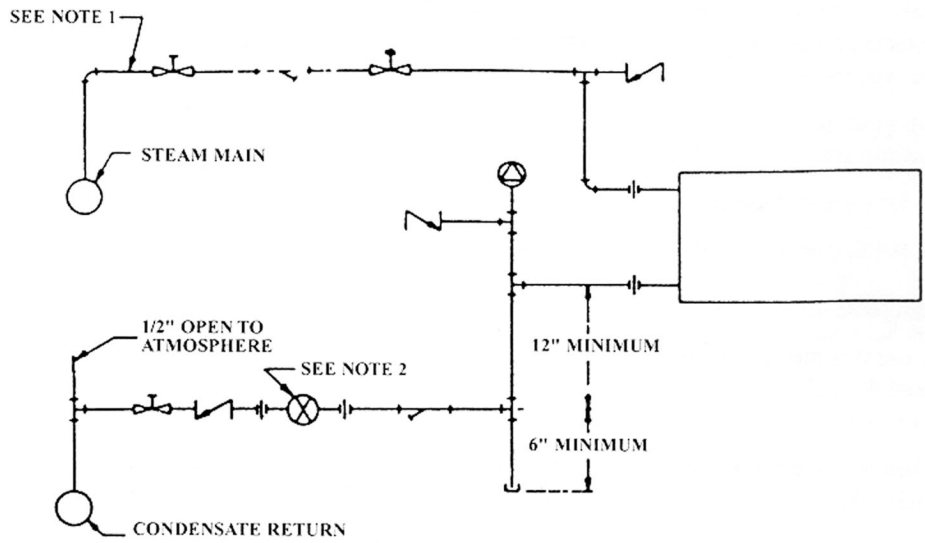
2. Heating coils only

- A. Water flow should not be modulated on heating coils subject to freezing temperatures.

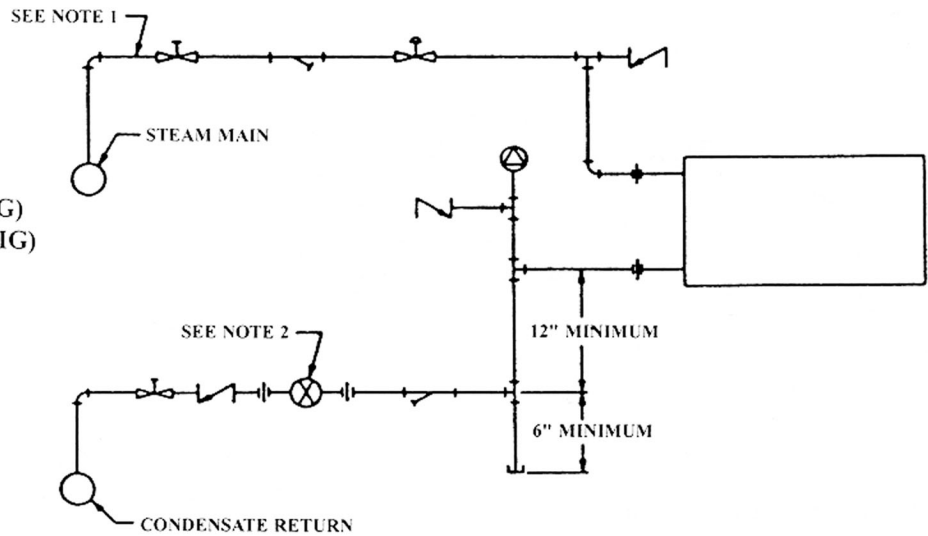
Steam Coils (See Figures 6 and 7)

1. Supply and return connections are steel MPT.
2. Steam coils are pitched 1/8" per foot toward the return connection end of the coil.
3. Use a back-up wrench when making coil connections to prevent damage to the coil. Excessive stress could break the weld joint at the header.
4. Pitch steam piping in the direction of steam flow and condensate piping in the direction of condensate flow.
5. Insulate both steam and condensate piping.
6. Drip legs must be provided in the steam mains to remove condensate. DO NOT drip steam mains through the coil.
7. Return piping must remain the same size as the return connection until through the dirt pocket.
8. Traps must be selected and sized according to the manufacturer's recommendations.
9. Traps must be located a minimum of 12" below the coil outlet.
10. Where multiple coil banks are present, each coil must be trapped separately.
11. Controls must be selected and sized according to the manufacturer's recommendations.
12. When the entering air is 35°F or below, the following is necessary:
 - A. A minimum of 5 PSIG steam pressure must be maintained at all times.
 - B. Face and bypass dampers should be used in lieu of modulating controls.
 - C. Steam should be fed into the coil for 10 to 15 minutes before admitting outdoor air.
 - D. Provision must be made to close off outdoor air in the event sufficient steam is not available.
 - E. Return air and outdoor air must be thoroughly mixed before entering the coil. Temperature sensing Controls must be positioned to sense true mixed air temperatures.

**FIGURE 6
LOW PRESSURE (0 TO 15 PSIG)**



**FIGURE 7
MEDIUM PRESSURE (15 TO 55 PSIG)
MEDIUM PRESSURE (55 TO 100 PSIG)**



LEGEND

- | | |
|---|---------------------------|
| — 90° ELBOW | — TEE |
| — UNION | — STRAINER |
| — AUTOMATIC OR CONTINUOUS AIR VENT | — STEAM TRAP (SEE NOTE 2) |
| — 15° SWING CHECK VALVE | — GATE VALVE |
| — VACUUM BREAKER (1/2" 15° SWING CHECK VALVE) | — CONTROL VALVE |
| — DIRT POCKET | |

NOTES

1. Long branch lines should be dripped before entering the coils
2. For low pressure systems, a combination float and thermostatic trap is recommended. A float or bucket trap is recommended for medium or high pressure

Freeze Protection Method for Coils

Coils subjected to freezing temperatures cannot be adequately protected by simply draining the coil. Low tubes in each circuit will remain filled with water and burst upon freezing.

Two generally accepted methods of protecting coils from freezing are:

1. Using an air blower.
2. Adding an adequate antifreeze solution.

Using an Air Blower

To use this method, a blower capable of producing 150 CFM at about 45 inches of water is required. The blower outlet will have to be field adapted to the threaded coil connection.

When blowing out a coil, use the following procedure and refer to Figure 8.

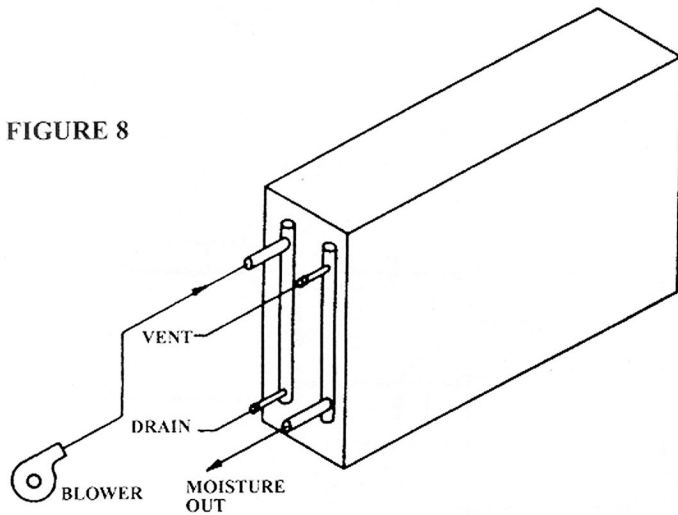


FIGURE 8

1. Turn off the water supply.
2. Remove the vent and drain caps and allow the coil to drain.
3. Replace the vent and drain caps and remove the supply and return piping from the coil connections.
4. Connect the blower outlet to the return (top) connection as shown. Care should be taken not to place excessive stress on the connection or damage to the coil may result.
5. Blow air through the coil for about 30 to 45 minutes. Tap the top or bottom of the air handler along the length of the coil area to help remove trapped water.
6. Place a mirror in front of the supply connection (bottom) to see if all the moisture is removed. Any moisture still being removed from the coil will fog the mirror.
7. Once the air appears to be moisture free, turn the blower

off and allow the coil to stand about 10 minutes to permit any water remaining on the inside tube walls to drain down.

8. Start the blower again and if any moisture is being removed repeat the procedure again.
9. Do not reconnect the supply and return piping until the coil is ready to be returned to operation.

Addition of Antifreeze Solution

A corrosion inhibited antifreeze solution should be circulated through the coil for best results. Consult the manufacturer's information about freezing points of different concentrations to determine the best solution and the lowest cost.

For best results use a circulating pump and runaround loop between the coil and the solution container.

Referring to Figure 9, use the following procedure:

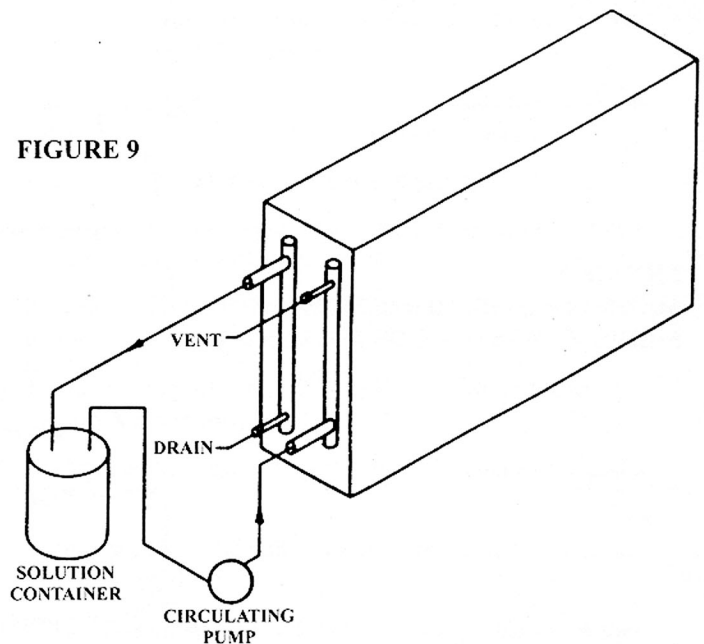


FIGURE 9

1. Repeat steps 1-3 above.
2. Connect the circulating pump to the supply (bottom) connection and the return line to the return (top) connection.
3. Circulate the solution for about 20 minutes.
4. Check the solution with a hydrometer. If the freezing point is not as low as desired, add additional antifreeze to the solution container and repeat the procedure.
5. The antifreeze may be left in the coil or removed to be used on another coil.