

Installing the Heat Exchanger in the Plenum

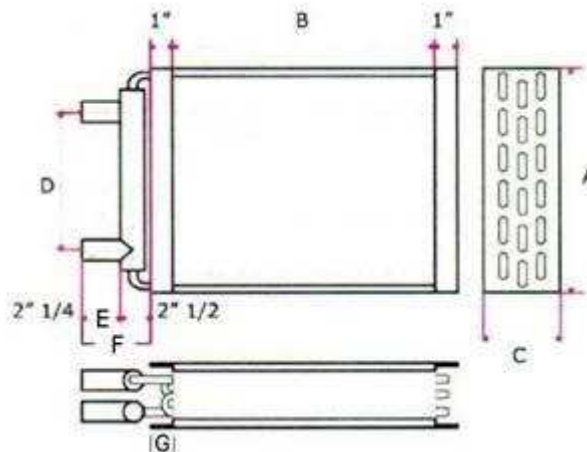
1. Installing the Heat Exchanger in the Plenum

Note: It is recommended that you contact your local plumbing/heating contractor to supply and install the heat exchanger unless you have the tools and experience required.

The heat exchanger must be installed below the evaporator coil if you have air conditioning. This is required since the heat exchanger may freeze and crack when the air conditioner is used. If it is not possible to place the heat exchanger between the furnace and the evaporator coil, you must drain the heat exchanger before using the air conditioner. It is recommended that a bypass system of valves be installed for servicing and draining the heat exchanger if necessary. (Noted above) The heat exchanger must be installed so that it is airtight. No air must be able to flow around it or out of the ductwork. Use adhesive backed foam tape (used for insulating doors and windows) around the water coil. Use foil tape to seal off the heat exchanger and the hole you make. Make sure the fittings for the supply and return lines are easy to get to once the heat exchanger is installed.

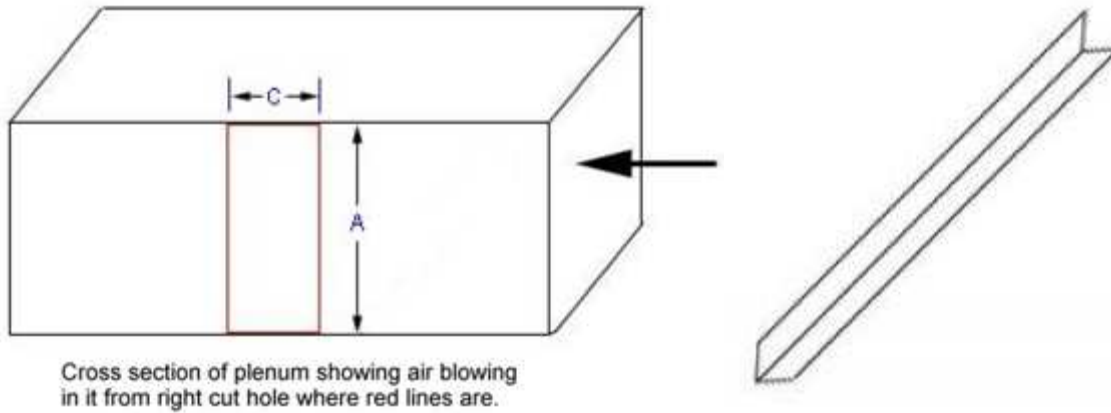
We have a heat exchanger to fit most popular sizes of plenums. If you are unable to your ductwork must be modified to accept the heat exchanger. This is best left to a professional. In all cases wear proper protective gear. (gloves, safety glasses, etc.)

Measure the width of the heat exchanger (Dimension A in next diagram). Measure the thickness of the



heat exchanger (Dimension C).

Start by cutting a hole in the side of your ductwork the thickness of the heat exchanger (Dimension C) and the full length of the ductwork (usually Dimension A).

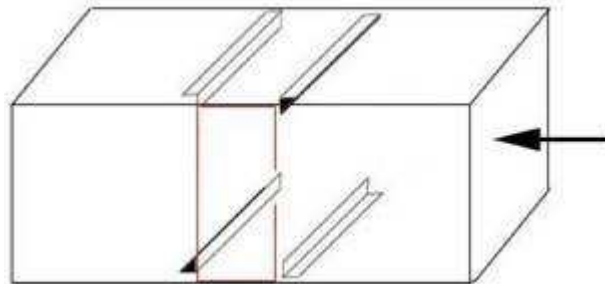


WARNING! Metal edges are very sharp! Wear protective gloves and use caution!

Slide the heat exchanger into the hole for a test fit. Ideally the tubes (D and E) should stick out of the plenum (see diagram above). The header and tubes (F) can stick out of the plenum as well, if necessary. As long as the entire coil surface (B) is in the plenum, operation should be fine even if the header (F and G) sticks out.

While test fitting try to determine how much tape is needed around the frame of the heat exchanger to seal and keep air from flowing around it. A different amount (thickness) may be needed on different sides. You can purchase different thicknesses of tape so that it will fit and seal properly. Use enough foam tape so that it fits tight and air can't blow by it.

The heat exchanger needs to be installed so it won't move up or downstream in the plenum. The easiest way is to fabricate some pieces of metal into a shape, approx. the length of the heat



exchanger like shown above.

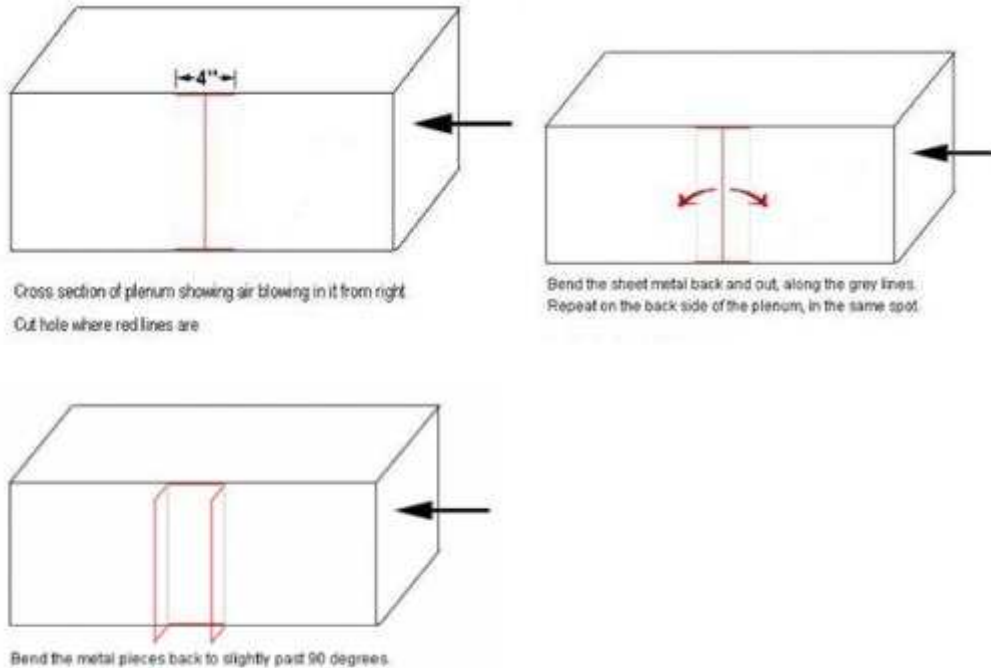
Install the braces the proper width apart as shown above (Dimension C). Secure them in place using pop rivets or self tapping screws. You will need four pieces, two on the top and bottom.

Slide the heat exchanger carefully into the plenum to check the fit again. Once proper fitting is verified, you can seal off the ends of the heat exchanger and the hole you made in the plenum with foil tape made

for ductwork.

2. **Installing a Heat Exchanger in a Small Plenum** You can install a heat exchanger in a plenum that is smaller than the length of the heat exchanger, as follows. Make cuts at the top and bottom of the plenum, usually 4 inches long (the width of the heat exchanger) as shown below. You may need to do this on both sides of your ductwork depending on your heat exchanger size.

Cut another line vertically, between the other two cuts, right in the middle as shown.



Slide the heat exchanger through the front hole to the back hole so it protrudes out the front and back of the plenum. Ideally the core of the heat exchanger will be entirely within the plenum. Crimp the sheet metal to the edge of the heat exchanger. This is item G in the diagram on page 16 using channel-lock pliers to crimp. This not only forms a virtually airtight seal, but it also supports the heat exchanger as well.

3. **Bleeding the Heat Exchanger** With the pump running (Prime first and turn the thermostat up so that the pump comes on), simply close the brass valve on the return side, holding for 2-3 seconds, then open quickly. Repeat the procedure four times or until you cannot hear air rushing through the line.

4. **Air Flow through Plenum** The motors on most force air furnaces have three speeds to provide various rates of air movement. Please consult a local furnace specialist if you want to change the airflow of your existing furnace system.