

COIL COMPANY
HEAT EXCHANGE · AIR HANDLING

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How to Replace Coils

Identifying Steam Heating Coils in the Field

There are many types and arrangements of steam heating coils in the field. To replace one, the type and arrangement are very important. If you see a coil with return bends at the back end and two side by side headers on the connection end, this is known as a standard steam coil. Standard steam is used for above freezing applications such as steam reheat or non-modulating valve systems.

Coils with one header at the connection end are most likely a steam distributing coil and can be confirmed if you go to the opposite end of the coil and there are plugged tubes and no return bends. If you were to cut open the header, there would be a channel for supply steam and one for return condensate. This coil is used with any application of 40 degrees or below and modulating valve applications.

Water Coil Connection Hands & Designation

Both heating and cooling water coils usually have two headers and each header has a connection for either incoming or outgoing water flow. The incoming water should always enter on the leaving air side of the coil. For example, let's say you have an 8 row cooling coil. The air will be flowing from row 1 to row 8. The Water will be flowing from row 8 to row 1. This is known as "counter flow".

Many coils have the wrong connection arrangement on the wrong side of the unit and you can see the arrangement is not counter-flow. As an owner, you may desire to have it replaced exactly as is because the cost to change the piping is way too much.

Never discuss coil connection locations as "right" or "left" hand when dealing with replacement. Always designate locations by standing outside the unit and viewing them as "upper right & lower left" or "upper left and lower right" etc.

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They are where they are and you can never go wrong designating them this way.

DX Coil Circuitry and Tonnage

DX Coils have a capacity just like water cooling coils, but certainly have much more hardware on the front the decipher and understand than a water coil. This hardware simply takes the place of a supply connection and a supply header of a water cooling coil. The distributor has two distinct functions on a coil. One is to be of a size to fit the incoming distributor leads in the back of the distributor. The other is to be able to have an orifice that meets the requirement of the maximum amount of refrigerant tons that is required by the circuits in the back of the distributor. In today's replacement systems, one must also know if the refrigerant is R-22 or R410 (or another refrigerant).

When replacing a DX coil, you don't need to explain all the hardware. You just need to know the following items. One is the distributor manufacturer and model number. The other is the model and manufacturer of the thermal expansion valve. The TXV can tell you the refrigerant type, the suction temperature, and the tonnage.

Condenser Coil Circuitry & Connection Explanation

Replacement condenser coils have many different types of arrangements and having an understanding of these arrangements will make it easier. Condenser coils almost always have an inlet for the refrigerant and that is always a header. Always count the number of tubes connected to the incoming header. From here, it gets a little tougher. Many condenser coils have what is known as a sub-cooler circuit. Meaning, that large portion of the coil removes the designated heat from the refrigerant, but there is an extra circuit that sub cools the refrigerant from there. You also may see another a couple other headers, but always count the number of tubes connected to any header.

You can't explain to the manufacturer how to build these coils unless you provide a circuit diagram (which we can give you) or photos that are well lighted and easy to see the headers and all return bends.

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Coil Company builds coils in standard 4 weeks, but can expedite coils in 10 days, 5 days, and even 3 working days!