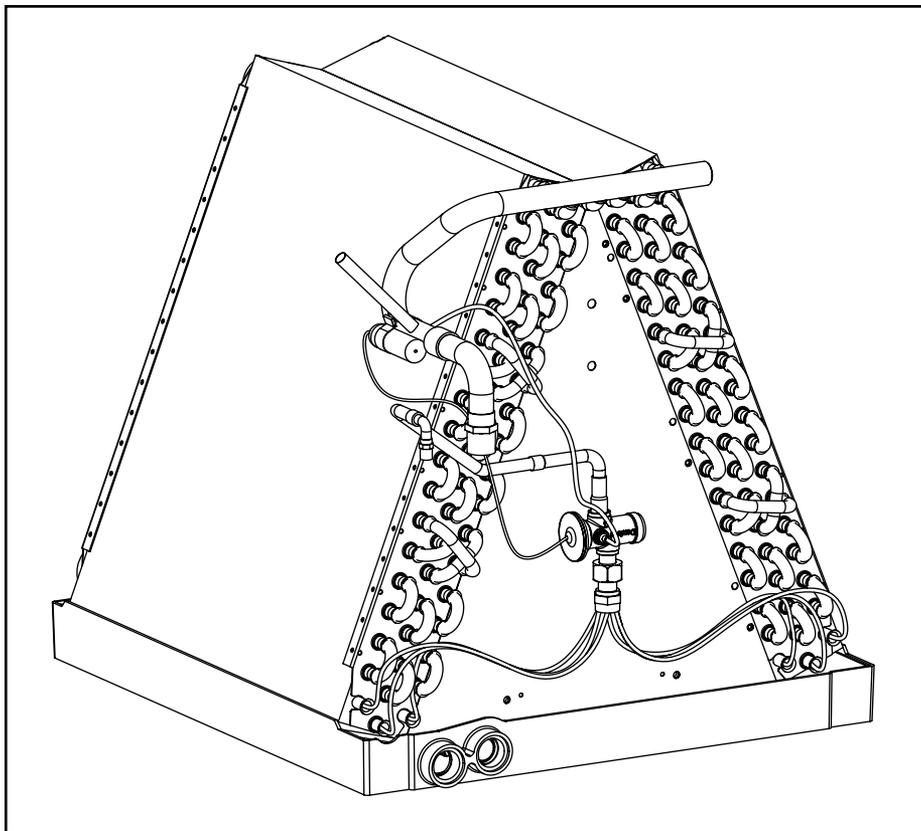


Split System Indoor Coils

INSTALLATION INSTRUCTIONS



⚠ CAUTION:

Read the installation instructions supplied with the furnace/air handler and observe all safety requirements outlined in the instructions and/or furnace/air handler markings before proceeding with the installation of the coil.

These instructions are primarily intended to assist qualified individuals experienced in the proper installation of this appliance. Some local and national codes require licensed installation/service personnel for this type of equipment. Read all instructions carefully before starting the installation.

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1. GENERAL INFORMATION

C(*)DA coils are designed for upflow and downflow furnace/air handler applications. The C(*)DA coils are furnished with down-turned refrigerant connections, ready for brazing.

Read the installation manual supplied with the outdoor unit for refrigerant line connection procedure, required line sizes, and other information pertaining to the system installation.

1. Make certain that the air delivery of the furnace/air handler is adequate to handle the static pressure drop of the coil, filter, and duct work.
2. In office style models check the orifice size of the coil's expansion device and confirm that it is suitable for application with the intended outdoor unit.
3. Where precise forming of the refrigerant lines is required, a copper tubing bender designed for the size lines used is recom-

5. mended. Avoid sharp bends and contact of the refrigerant lines with metal surfaces.
4. Refrigerant lines should be wrapped with pressure sensitive neoprene or other suitable material where they pass through the raw edges of holes.
5. The coil enclosure (if provided) and suction line must be insulated as needed to prevent condensate from forming and causing property damage.
6. Coil must be level for proper condensate drainage.
7. Do not remove seals from the coil until the tubing connections are ready to be made.

NOTE: Optional cooling/heating equipment must be properly sized and installed in accordance with the furnace manufacturer's specifications and approved recommendations. "Heating only" furnace air circulators may have to be replaced with multi-speed "Heating/Cooling" blowers to upgrade the air delivery (CFM) when an add-on coil is installed. Refer to Coil Specifications for recommended CFM and allow for pressure drop across the coil and filters.

2. COIL SPECIFICATIONS

C5DA	T25	T30	T36	T37	T41	T43	T47	T48	T49	T60
Nominal (2) Capacity BTUH	24,000	30,000	36,000	36,000	42,000	42,000	48,000	48,000	48,000	60,000
Nominal Airflow CFM	800	1000	1200	1200	1400	1400	1600	1600	1600	2000
Width (in.)	18 1/8	18 1/8	18 1/8	18 1/8	18 1/8	18 1/8	18 1/8	18 1/8	21	21
Height (in.)	20	20	20	20	20	24	20	24	28	28
Depth (in.)	19 1/2	19 1/2	19 1/2	19 1/2	19 1/2	19 1/2	19 1/2	19 1/2	19 1/2	19 1/2
Connections										
Liquid Line	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8
Suction Line	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4
Metering Device	TXV									

C3DA	036	047	048	055
Nominal (2) Capacity BTUH	36,000	47,000	48,000	54,000
Nominal Airflow CFM	1,200	1,400	1,500	1,600
Width (in.) W	18 1/8	18 1/8	18 1/8	18 1/8
Height (in.) H	20	20	24 1/4	20
Depth (in.) D	19 1/2	19 1/2	19 1/2	19 1/2
Connections				
Liquid Line	3/8	3/8	3/8	3/8
Suction Line	3/4	3/4	3/4	3/4
Installed Orifice Size (in.)	0.067	0.080	0.082	0.093
Extra Orifice (in.) supplied	0.060 (use for 024) 0.063 (use for 030)	0.075 (use for 042)	N/A	N/A

1. Refer to sales specification sheets for Listed/Certified combinations of equipment and required accessories.
2. Refer to the current ARI Directory for certified ratings of split systems.

3. COIL INSTALLATION

WARNING:

Electric furnaces may be connected to more than one supply circuit.

Upflow Furnace:

1. Disconnect all electrical power to the furnace.
2. Install the coil in the coil cabinet and level it as needed to allow proper condensate drainage or make a plenum to enclose the coil or drop the duct directly over it.
3. Seal the enclosure as required to minimize air leakage.
4. Connect the refrigerant lines as outlined in the Refrigerant Lines section.

Downflow FE/E* Electric Furnace:

1. Ensure that all electrical power to the furnace is off.
2. Use the appropriate Coil Conversion Kit which includes 2 air filters, close-off plates (2 sets) and a coil hold down bracket.
3. Remove the filter located at the top of the furnace cabinet.
4. Remove the refrigerant line knockouts located at the top and bottom of the furnace cabinet.
5. Install the coil and level it as needed to ensure proper condensate drainage.
6. Secure the coil hold down bracket with screws.
7. Add air filters to the sides of the coil.
8. Cut the floor opening for the refrigerant lines and drain line (See Figure 6).
9. Connect the refrigerant lines as outlined in the Refrigerant Line Connection section. Connect the drain line and ensure that there is a water trap in the water line.

Downflow Furnace with Integral Coil Cabinet or Optional Cabinet

1. Ensure that all electrical power to the furnace is off.
2. On the optional cabinet, refer to its installation instructions for assembly details.
3. Remove the knockout in the left bottom corner of the furnace and cut an appropriately sized hole in the floor. See Figure 6.
4. Remove the interior coil panel. Install the coil and level it as needed to ensure proper condensate drainage.
5. Remove the knockout for the refrigerant lines in the secondary covers and replace in the furnace.

NOTE: Modifications to the panel may be required.

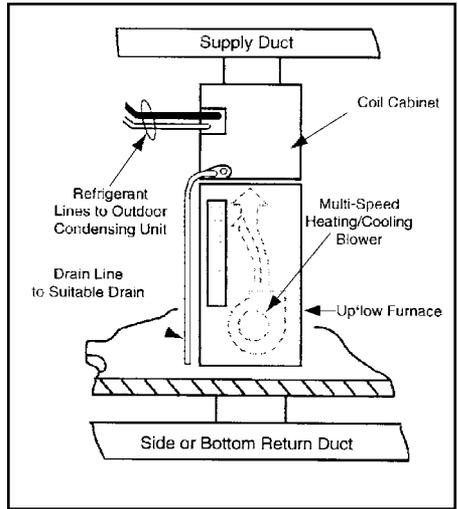


Figure 1. Upflow Furnace/Air Handler

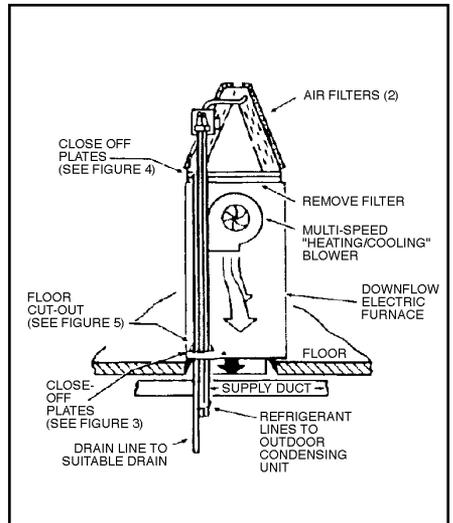


Figure 2. Downflow Furnace without Coil Cabinet

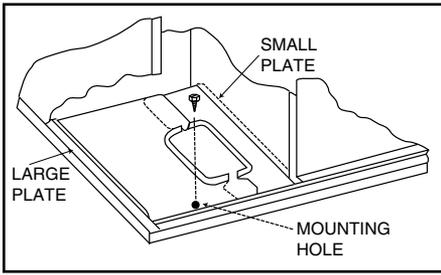


Figure 3. Bottom Close-Off Plates

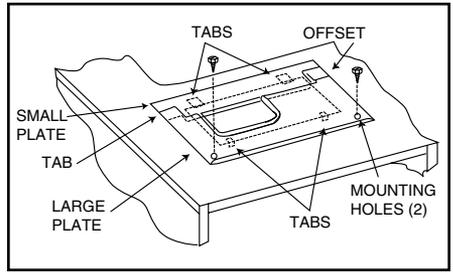
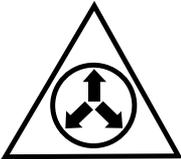


Figure 4. Close-Off Plates for Opening at Top of Furnace

6. Slide the close-off plates around the refrigerant lines and install with the dart clips provided. See Figure 5.
7. Snap the bushings around the lines and into the close-off panels.
8. Connect the refrigerant line as outlined in the refrigerant line section.

4. VERIFY PRESSURIZATION

WARNING:



NITROGEN	
HEALTH	1
FLAMMABILITY	0
REACTIVITY	0
0 Minimal Hazard 1 Slight Hazard	

This coil is pressurized with Nitrogen. Avoid direct face exposure or contact with valve when gas is escaping. Always ensure adequate ventilation is present during the depressurization process. Any uncertainties should be addressed before proceeding.

VERIFY PRESSURIZATION:

- Test by depressing Schrader valve and listen for escaping gas
- If no pressure is found, test coil for leak
 - If no leak is found, install coil
 - If leak is found, clearly mark leak location and return coil to your distributor for processing

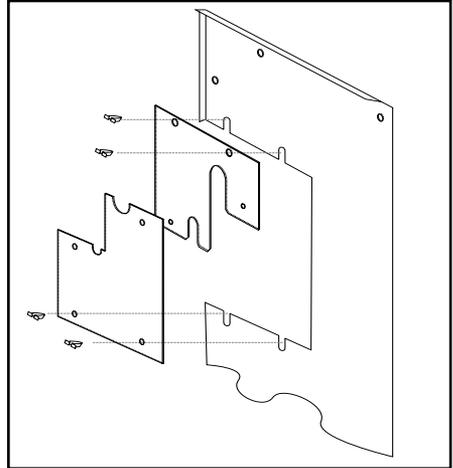


Figure 5. Exploded View for Close-Off Plates

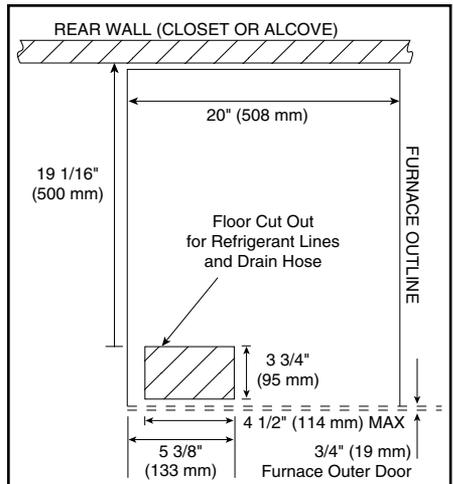
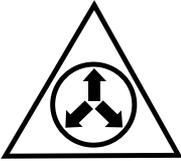


Figure 6. Location of Floor Cut-Out for Refrigerant Lines and Drain Line

5. REFRIGERANT LINE CONNECTIONS

WARNING:



NITROGEN	
HEALTH	1
FLAMMABILITY	0
REACTIVITY	0
0 Minimal Hazard 1 Slight Hazard	

This coil is pressurized with Nitrogen. Avoid direct face exposure or contact with valve when gas is escaping. Always ensure adequate ventilation is present during the depressurization process. Any uncertainties should be addressed before proceeding.

Note: For coils with factory installed TXV valve proceed to step #8.

Note: Before proceeding with the connection of the refrigerant lines, confirm that the orifice size meets the requirements outlined in the outdoor unit installation manual. Factory installed orifice sizes are listed in the Specifications section. If the restrictor orifice must be replaced, follow the steps below:

1. Remove the valve cap from the end of the liquid line. Relieve all pressure from the coil by depressing the valve. Remove the valve core. Properly dispose of all removed parts.
2. Loosen the orifice body halves by applying two wrenches and squeezing them together as shown in **Figure 9**, to turn the assembly nut counter-clockwise.
3. Continue to unscrew the assembly nut to separate it from the distributor body.
4. Insert a light-gauge wire hook between the distributor body and the restrictor orifice to lift the orifice out of the body. (See **Figure 10**) Carefully remove the restrictor orifice being careful not to scratch either part.
5. Check the actual size of the new orifice. The size is stamped on its side. Do not use pin gauges to measure the orifice diameter.
6. Insert the new orifice in the distributor body,

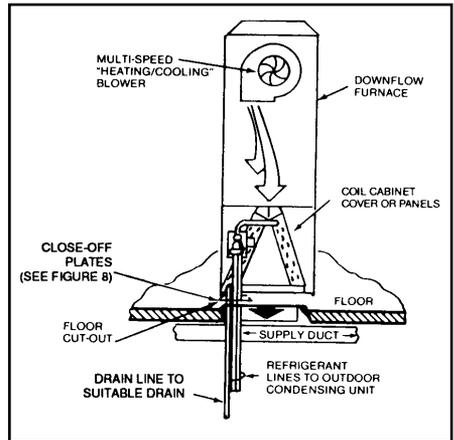


Figure 7. Downflow Furnace with Coil Cabinet

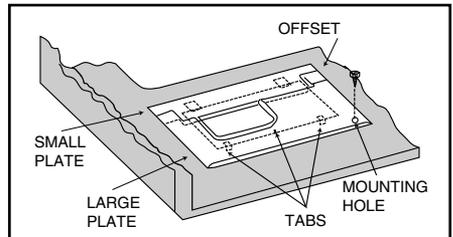


Figure 8. Close-Off Plates (Supplied with appropriate blower conversion package)

rounded end down. (See **Figure 11**)

7. After installing the orifice in the distributor body, realign the assembly nut to the distributor body. Mark a line along both bodies after hand tightening and then tighten an additional 1/4 turn. Caution: Do not overtighten! The misalignment of the two lines will show how much the nut is tightened. If a torque wrench is used, tighten to 10-12 ft. lbs. or 14-16 Nm.
8. Remove the valve cap from the end of the liquid line. Relieve all pressure from the coil by depressing the valve. Remove the valve core.

Note: On models which use a TXV, it is recommended to wrap a wet rag around the suction line between the sensing bulb and the line set braze joint before applying any heat.
9. Unbrazed and remove the cap on the suction line. Unbrazed and remove the valve core holder on the liquid line.
10. Properly dispose of all removed parts.

Line Connections:

11. Cut the line set tubing to the proper length. Be sure that the tubing has been sized in accordance with the outdoor unit specifications.
12. Inspect both refrigerant lines. The ends of the lines must be round, clean, and free of any burrs.
13. Insert the line set tubes into the coil tube stubs until they bottom out.
Note: On models which use a TXV, it is recommended to wrap a wet rag around the suction line between the sensing bulb and the line set braze joint before applying any heat.
14. Braze the individual connections with dry nitrogen flowing through the joint to eliminate internal oxidation and scaling.
15. Check the assembly for leaks.
16. On horizontal applications of models with TXV valve, re-position the sensing bulb on the suction line so it is in the 4 o'clock position on the suction tube.

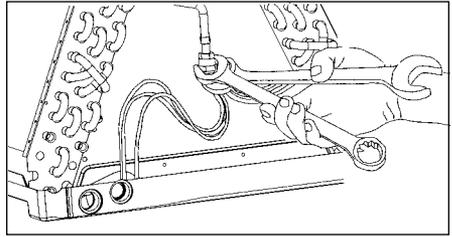


Figure 9. Wrenches on Distributor Body and Assembly Nut

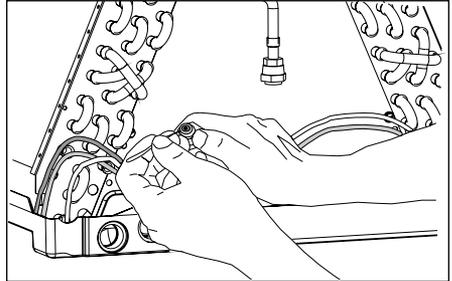


Figure 10. Removal of Orifice

6. COMPLETING THE INSTALLATION

CAUTION:

The indoor coil must be checked to ensure a level installation. Failure to do so may result in improper condensate disposal, causing structural damage, premature equipment failure, or possible personal injury.

Condensate Drain:

1. Thread the 3/4" drain fitting (included) into the lowest tapped hole on the condensate pan. Hand tighten the fitting. If a different configuration is required, use only PVC or similar material for the fitting.
NOTE: Overtightening the fitting may crack the drain pan and create a condensate leak.
2. Slip the drain line over the end of the fitting, add the clamp provided and run to a suitable drain. Avoid bending or pinching of the line.
3. During the system checkout, inspect the drain line and connections to verify proper condensate disposal.

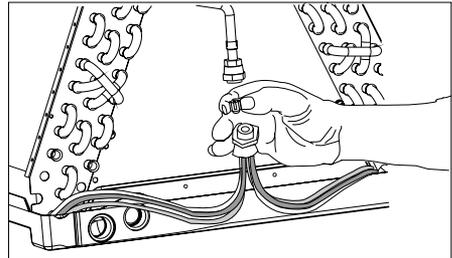


Figure 11. Restrictor Insertion in Distributor Body

Air Filter — Air filters are not provided as an integral part of this coil, however, a filter must be installed upstream of the coil and inspected frequently. When the filter becomes clogged with dust or lint, it should be replaced (disposable type) or cleaned (washable type). The filter should be inspected and replaced or cleaned at least twice during the year, generally at the start of each heating and cooling season.

Close-Off Plates and Panels — Install the necessary air close-off plates around the refrigerant lines and drain line where required. Reinstall all inner and outer panels of the furnace/air handler that were previously removed to install the indoor coil.

Refrigerant Charging — C(*)Q series indoor coils contain a "holding charge" to prevent entrance of moisture and contaminants during shipment. The total system operating charge of R-22 refrigerant is in the outdoor unit and is adequate for the matched listed system including 15 feet of line set.

 **WARNING:**

Ensure that all electrical power to the furnace and outdoor (condensing) unit is off before performing any maintenance or service on the system.

It will be necessary to evacuate the indoor coil and line set prior to charging. Refer to the outdoor

unit installation manual for detailed charging instructions.

7. MAINTENANCE AND SERVICE

To ensure optimum system performance and to minimize the possibility of equipment failure, the following periodic maintenance should be performed on the coil:

1. The air filter installed with the system should be checked and cleaned or replaced twice per year.
2. Check the coil, drain pan, and condensate drain line for cleanliness at the start of each heating and cooling season. Clean and remove any debris as required.

 **CAUTION:**

Do not operate the system without having a suitable filter in place in the return air duct system. Always replace the filter with the same size and type.

INSTALLER: PLEASE LEAVE THESE INSTALLATION INSTRUCTIONS WITH THE HOMEOWNER



HRAI
✓ MEMBER COMPANY



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