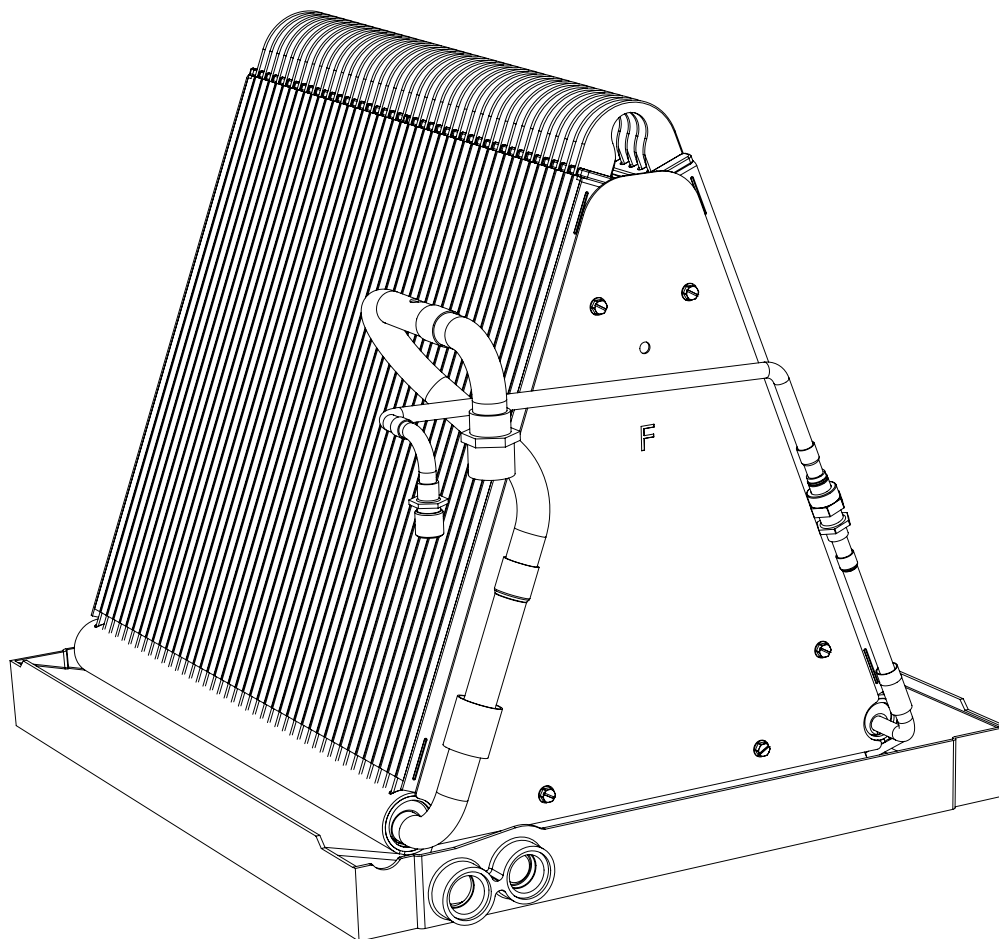


INSTALLATION INSTRUCTIONS

C8QA Series Split System Uncased Indoor Coils - Quick Connect



IMPORTANT

ATTENTION INSTALLERS:

It is your responsibility to know this product better than your customer. This includes being able to install the product according to strict safety guidelines and instructing the customer on how to operate and maintain the equipment for the life of the product. Safety should always be the deciding factor when installing this product and using common sense plays an important role as well. Pay attention to all safety warnings and any other special notes highlighted in the manual. Improper installation of the unit or failure to follow safety warnings could result in serious injury, death, or property damage.

These instructions are primarily intended to assist qualified individuals experienced in the proper installation of this appliance. Some local codes require licensed installation/service personnel for this type of equipment. Please read all instructions carefully before starting the installation. Return these instructions to the customer's package for future reference.

DO NOT DESTROY. PLEASE READ CAREFULLY & KEEP IN A SAFE PLACE FOR FUTURE REFERENCE.

IMPORTANT SAFETY INFORMATION

Please read all instructions before servicing this equipment. Pay attention to all safety warnings and any other special notes highlighted in the manual. Safety markings are used frequently throughout this manual to designate a degree or level of seriousness and should not be ignored. **WARNING** indicates a potentially hazardous situation that if not avoided, could result in personal injury or death. **CAUTION** indicates a potentially hazardous situation that if not avoided, may result in minor or moderate injury or property damage.

WARNING:

This C8QA coil must be installed in accordance with the instructions outlined in this manual during the installation, service, and operation of this unit. Unqualified individuals should not attempt to interpret these instructions or install this equipment. If you do not possess mechanical skills or tools, call your local dealer for assistance. Under no circumstances should the equipment owner attempt to install and/or service this equipment. Failure to follow safety recommendations could result in possible damage to the equipment, serious personal injury or death.

WARNING:

The C8QA series uncased indoor coil is charged at the factory with an R-410A refrigerant holding charge to prevent entrance of moisture and contaminants during shipment. Follow all charging instructions for maximum unit performance and efficiency. Refrigerant charging must be done by qualified personnel familiar with safe and environmentally responsible refrigerant handling procedures.

WARNING:

Improper installation, service, adjustment, or maintenance may cause explosion, fire, electrical shock or other hazardous conditions which may result in personal injury or property damage. Unless otherwise noted in these instructions, only factory authorized kits or accessories may be used with this product.

CAUTION:

This unit uses R-410A refrigerant with POE oil. When servicing, cover or seal openings to minimize the exposure of the refrigerant system to air to prevent accumulation of moisture and other contaminants.

- The installer must comply with all local codes and regulations which govern the installation of this type of equipment. Local codes and regulations take precedence over any recommendations contained in these instructions. Consult local building codes for special installation requirements.
- Familiarize yourself with the controls that shut off the electrical power to the unit. If the unit needs to be shut down for an extended period of time, turn off electrical power at the circuit breaker. For your safety always turn off the electrical power before performing service or maintenance on the unit.
- Installation of equipment may require brazing operations. Installer must comply with safety codes and wear appropriate safety equipment (safety glasses, work gloves, fire extinguisher, etc.) when performing brazing operations.
- Read the Installation Instructions supplied with the furnace or air handler. Always observe all safety requirements outlined in this manual and on the furnace or air handler markings before installing the coil.
- Follow all precautions in the literature, on tags, and on labels provided with the equipment. Read and thoroughly understand the instructions provided with the equipment prior to performing the installation and operational checkout of the equipment.

GENERAL INFORMATION

C8QA series coils are designed for upflow or downflow applications and incorporate single shot coupling refrigerant connections for easy installation.

- Verify that the coils orifice size is suitable for application with the intended outdoor unit. Depending on application, additional installer supplied orifice or TXV may be required.
- 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 Table 2 (page 7) for coil specifications, recommended CFM, and allowances for pressure drop across the coil and filters.
- Verify that the air delivery of the furnace/air handler is adequate to handle the static pressure drop of the coil, filter, and duct work.
- If precise forming of refrigerant lines is required, a copper tubing bender is recommended. Avoid sharp bends and contact of the refrigerant lines with metal surfaces.
- Refrigerant lines should be wrapped with pressure sensitive neoprene or other suitable material where they pass against sharply edged sheet metal.
- The coil enclosure (if provided) and suction line must be insulated as needed to prevent condensate from forming and causing property damage.
- Close-off plates are available in some air filter kits. Refer to the Replacement Parts List for available part numbers. Install the necessary close-off plates around the refrigerant lines and drain line where required. See Figures 2-5 (page 4). Reinstall all inner and outer panels of the furnace/air handler that were previously removed when installing the indoor coil.

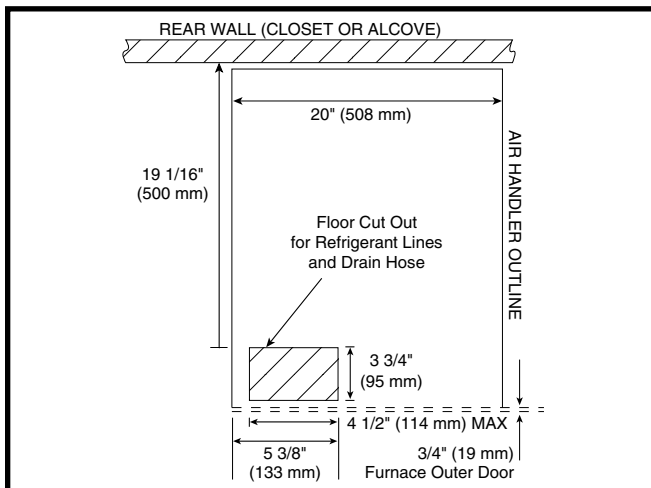


Figure 1. Location of Floor Cut-Out for Refrigerant Lines & Drain Hoses

COIL INSTALLATION

WARNING:

ELECTRICAL SHOCK OR FIRE HAZARD

To avoid risk of electrical shock, personal injury, or death, disconnect all electrical power to the unit before performing any maintenance or service. The unit may have more than one electrical supply.

Label all wires prior to disconnection when servicing the unit. Wiring errors can cause improper and dangerous operation

CAUTION:

The coil must be level to ensure proper condensate drainage. An unlevel installation may result in structural damage, premature equipment failure, or possible personal injury.

Upflow Installations

1. Disconnect all electrical power to the furnace.
2. Install the coil on the furnace air discharge opening.
NOTE: It may be necessary to install the coil at the air inlet opening if dictated in the furnace installation instructions.
3. If needed, make a plate to adapt the coil to the air discharge opening. See Figure 1 for coil dimensions.
4. Level the coil as needed to ensure proper condensate drainage.
5. Make and install the plenum over the coil. Insulate as required.
6. Seal the enclosure as required to minimize air leakage.
7. Connect the refrigerant lines as outlined in the Refrigerant Line Connection section (page 4).

Downflow Installations

Downflow FE/E* Electric Furnace:

1. Disconnect all electrical power to the furnace.
2. Select 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 1.
9. Connect the refrigerant lines as outlined in the Refrigerant Line Connection section (page 4).

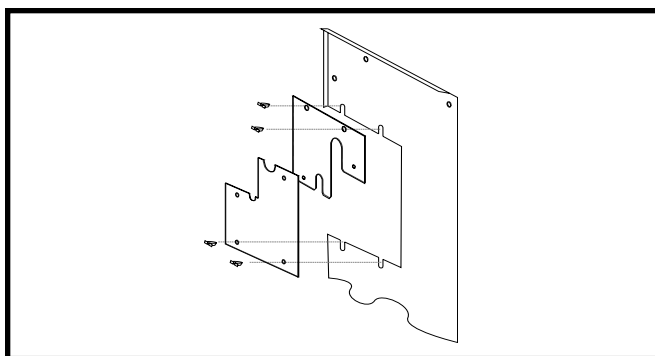


Figure 2. Close-Off Plate Assembly

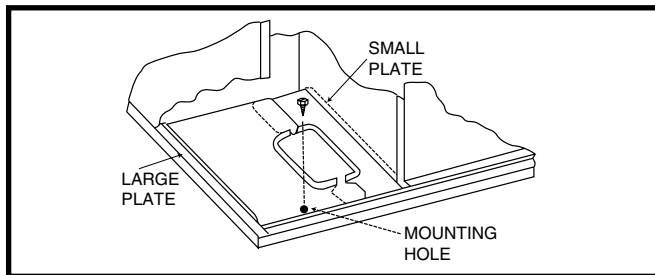


Figure 3. Bottom Close-Off Plates

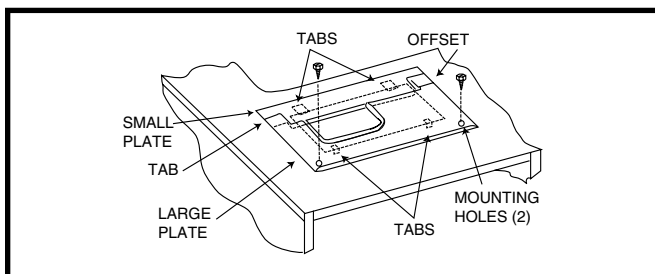
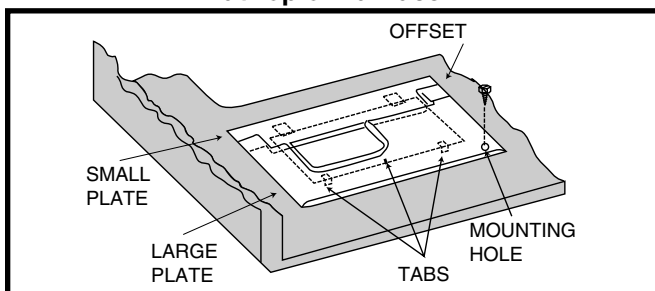


Figure 4. Close-Off Plates for Opening at Top of Furnace



**Figure 5. Close-Off Plates
(Supplied w/ appropriate blower conversion package)**

COUPLING SIZE	TORQUE	MALE COUPLING	FEMALE COUPLING NUT	FEMALE COUPLING BODY
3/8" (10mm)	10-12 Ft-Lbs (14-16 Nm)	3/4"	13/16"	5/8"
3/4" (19mm)	35-45 Ft-Lbs (47-61 Nm)	1-1/16"	1-5/16"	1"
7/8" (22mm)	35-45 Ft-Lbs (47-61 Nm)	1-1/8"	1-5/16"	1"

Table 1. Torque Values

Downflow Furnace with Integral Coil Cabinet or Optional Cabinet

1. Disconnect all electrical power to the furnace.
2. Remove the knockout in the left bottom corner of the furnace and cut an appropriately sized hole in the floor. See Figure 1. **NOTE:** For the optional cabinet, refer to its installation instructions for assembly details.
3. Remove the interior coil panel. Install the coil and level it as needed to ensure proper condensate drainage.
4. Remove the knockout for the refrigerant lines in the secondary covers and replace in the furnace.
NOTE: Modifications to the panel may be required.
5. Slide the close-off plates around the refrigerant lines and install the provided dart clips. See Figure 2.
6. Snap the bushings around the lines and into the close-off panels.
7. Connect the refrigerant lines as outlined in the refrigerant lines section.

Refrigerant Line Connections

The total system operating charge of R-410A is in the outdoor unit and is adequate for the matched listed system including 15 feet of line set.

⚠ CAUTION:

In orifice style coils 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 Table 2 (page 7). If the restrictor orifice must be replaced, see Restrictor Change-Out section (page 5).

1. Remove the protective caps from the coil and refrigerant line set couplings.
2. With a soft, dust-free cloth, carefully wipe clean all coupling threads and seals to remove any dust or material which could contaminate the refrigerant system.
3. Using refrigerant oil, lightly lubricate the diaphragm, seal, and mating threads.
4. Connect the couplings as follows:
 - a.) Line up the refrigerant line with the coil coupling and thread together by hand for 2-3 turns of the union nut (or until a sharp increase in torque is felt), to ensure proper thread mating.
 - b.) With the appropriate sized wrenches, tighten the union nut while preventing rotation of the female body with respect to the male half. Tighten the nut to the appropriate value in Table 1.
 - c.) Mark the position of the union nut (match lines on the line coupling and the coil coupling), then tighten the coupling an additional one (1) wrench flat (60 degrees) to ensure a leakproof connection.
5. Check the system for leaks.

Orifice Removal & Installation

If the orifice must be replaced, follow the steps below.

NOTE: Factory supplied orifice sizes are listed in Table 2 (page 7).

1. Connect only the suction line coupling to the coil
2. Reclaim the holding charge from the coil and suction vapor line through the Schrader port using the methods approved under the Refrigerant Transition and Recovery Certification Program.

CAUTION:

To prevent damage to the unit or internal components, it is recommended that two wrenches be used when loosening or tightening nuts. Do not over tighten!

3. Open the distributor body using two open end wrenches and turning the swivel nut counterclockwise.
 4. Insert a light-gauge wire hook between the distributor body and the restrictor orifice while being careful not to scratch either part. Carefully remove the restrictor orifice from the distributor body. See Figure 7.
 5. Select the proper size restrictor. The size is stamped on its side. Do not use pin gauges to measure the orifice diameter.
 6. Insert the new orifice into the distributor body, rounded end down. See Figure 8.
-

CAUTION:

To prevent damage to the unit or internal components, it is recommended that two wrenches be used when loosening or tightening nuts. Do not over tighten!

7. Realign the assembly nut on the distributor body and hand tighten both components. Mark a line on both bodies and then tighten an additional 1/4 turn using two wrenches. The movement 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. Evacuate the system through the Schrader port on the vapor line.
9. Connect the liquid line and check the connections for leaks.

Condensate Drain

CAUTION:

The coil must be level to ensure proper condensate drainage. Improper condensate disposal may result in structural damage, premature equipment failure, or possible personal injury.

- Methods for disposing of condensate vary according to local codes. Refer to local codes or authority having jurisdiction for restrictions and proper condensate disposal requirements.

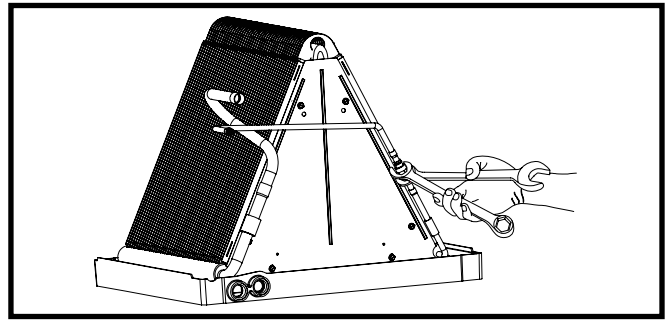


Figure 6. Loosening of Nut & Distributor Body

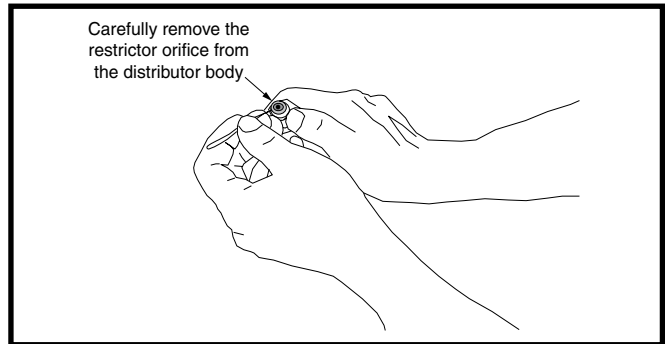


Figure 8. Removal of Orifice

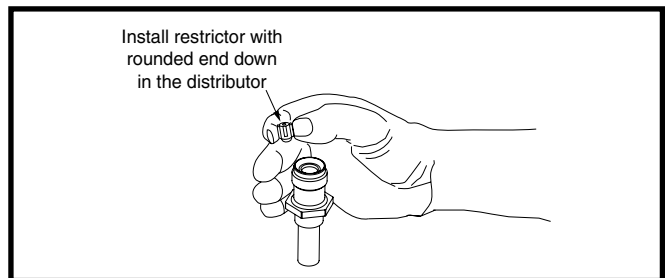


Figure 7. Restrictor Insertion into Distributor Body

- All condensate pans have primary and secondary drain connections to meet FHA requirements. If the application is located in or above a living space where damage may result from condensate overflow, a separate 3/4 inch drain must be provided from the secondary drain connection and a secondary drain pan must be installed under the entire unit. Run secondary drain lines to a place where they are noticeable if used.
- The coil condensate pan is designed with 3/4" NPSC drain connections. Use a PVC or similar material fitting to attach the drain line to the pan. **NOTE:** The fitting should be hand tightened only. Overtightening may crack the drain pan and cause condensate to leak.
- The drain pan **MUST** be drained with field supplied tubing and looped to form a trap.

IMPORTANT: Failure to install a trap may result in condensation overflowing the drain pan, resulting in substantial water damage to surrounding area.

- Prime the trap with water. Insulate the drain if it is located in an unconditioned space, and test the condensate line for leaks. Consult local codes for additional restrictions or precautions.
- Route the lines to a suitable drain, avoiding sharp bends and pinching of the lines. The drain should maintain a minimum horizontal slope in the direction of discharge of not less than 1" vertical for every 10 ft of horizontal run.
- During system checkout, inspect the drain line and connections to verify proper condensate drainage.

Air Filter

Air filters are not supplied as an integral part of this coil; however, an air filter kit is available. Refer to the Replacement Parts List for available part numbers.

The 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). It is recommended that filters be inspected and replaced at least twice during the year. Generally it is best to replace or clean the filters at the start of each heating and cooling season.

MAINTENANCE & SERVICE



WARNING:

ELECTRICAL SHOCK OR FIRE HAZARD

To avoid risk of electrical shock, personal injury, or death, disconnect all electrical power to the unit before performing any maintenance or service. The unit may have more than one electrical supply.

Label all wires prior to disconnection when servicing the unit. Wiring errors can cause improper and dangerous operation



CAUTION:

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

To ensure optimum performance and to minimize possible equipment failure, the following maintenance tasks should be performed periodically on this equipment:

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 as needed.

COIL SPECIFICATIONS & DIMENSIONS

C8QA-	024	030	036	042	048
Nominal Capacity (BTUH)	24,000	30,000	36,000	42,000	48,000
Nominal Airflow (CFM)	800	1,000	1,200	1,400	1,600
W - Width (in.)	18 1/8	18 1/8	18 1/8	18 1/8	18 1/8
H - Height (in.)	18	18	18	24 3/4	24 3/4
D - Depth (in.)	19 1/2	19 1/2	19 1/2	19 1/2	19 1/2
Connection - Liquid Line (in.)	3/8	3/8	3/8	3/8	3/8
Connection - Suction Line (in.)	3/4	3/4	3/4	3/4	3/4
Installed Orifice Size (in.)	.055	.061	.067	.072	.077

NOTES:

1. Individual restrictors are available by part number - PN664*** (where *** represents the size).
Example: 664103 is a restrictor 0.103 in diameter.
2. Refer to sales specification sheets for Listed / Certified combinations of equipment and required accessories.
3. Refer to the current AHRI directory for certified ratings of split systems.

Table 1. Coil Specifications

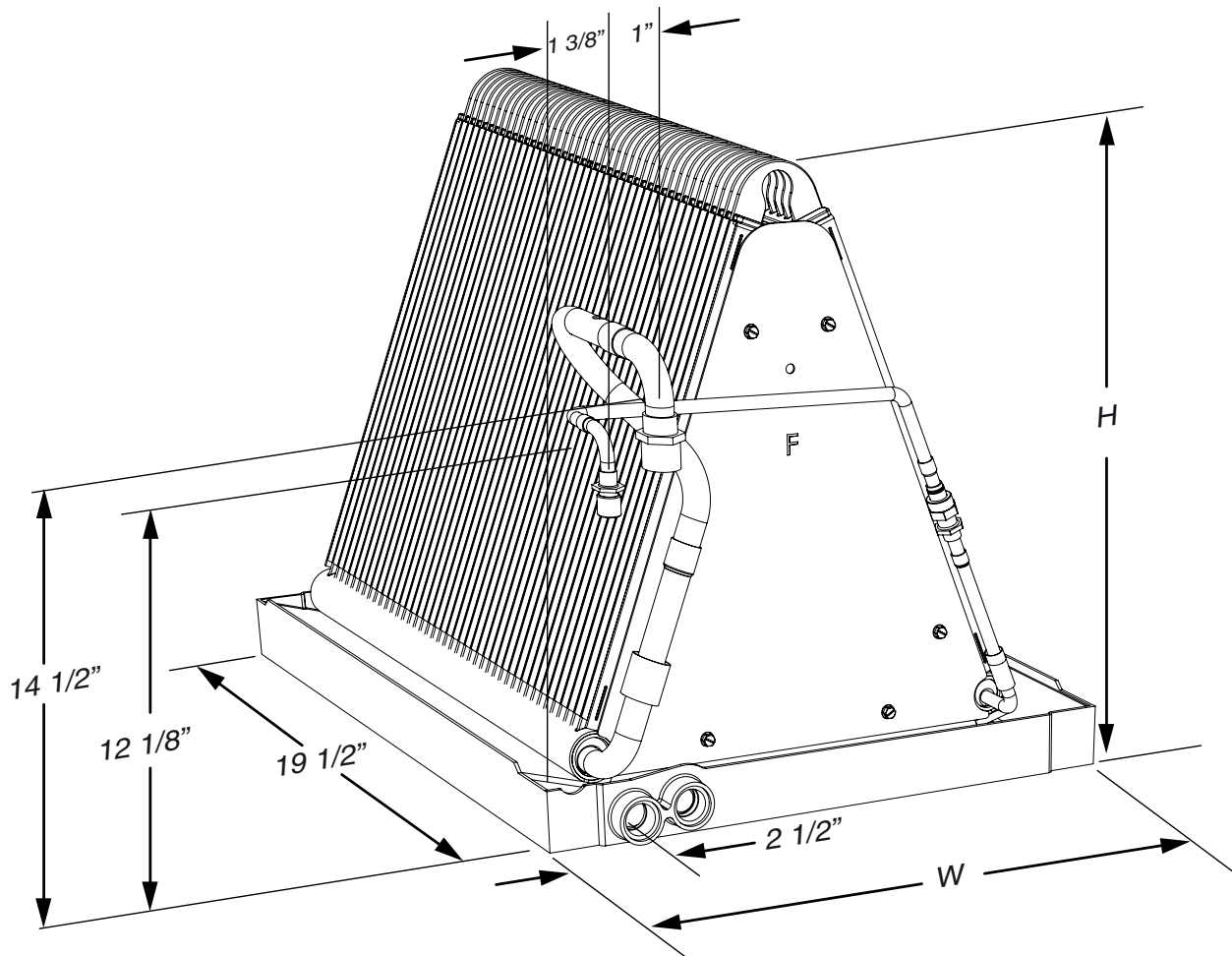


Figure 9. C8QA Coil Dimensions

INSTALLER: PLEASE LEAVE THESE INSTRUCTIONS WITH THE EQUIPMENT OWNER.

