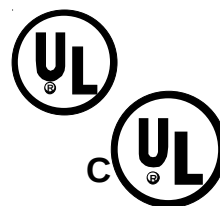
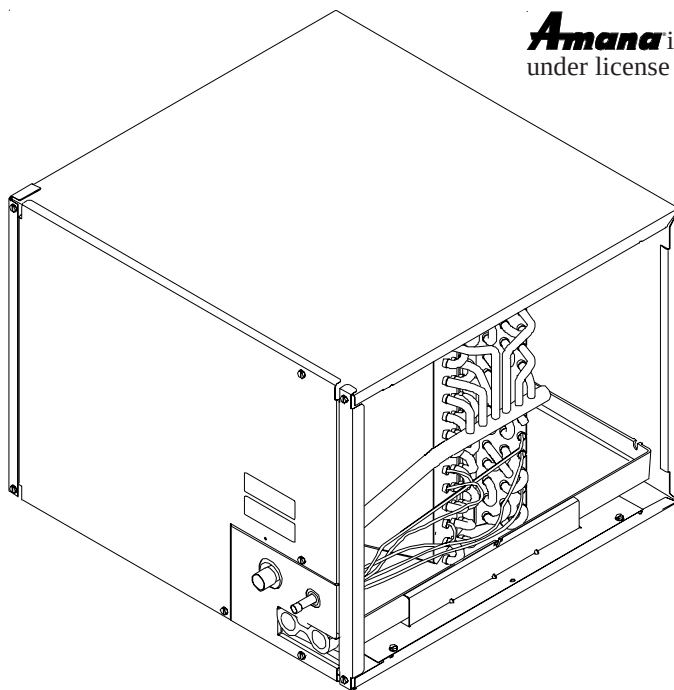


CCF/CHF CASED HORIZONTAL EVAPORATOR COIL INSTALLATION INSTRUCTIONS



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- Only allow **qualified, experienced** technicians to install or service this unit.
- Units must be installed in accordance with Regulations of the National Fire Protection Association and applicable local codes. Where local regulations are at a variance with instructions, installer should adhere to local codes.
- Before connecting tubing, read the outdoor unit installation manual. Pay particular attention to all safety precautions.



RECOGNIZE THIS SYMBOL AS A SAFETY PRECAUTION.

ATTENTION INSTALLING PERSONNEL

As a professional installer you have an obligation to know the product better than the customer. This includes all safety precautions and related items.

Prior to actual installation, thoroughly familiarize yourself with this Instruction Manual. Pay special attention to all safety warnings. Often during installation or repair it is possible to place yourself in a position which is more hazardous than when the unit is in operation.

Remember, it is **your** responsibility to install the product safely and to know it well enough to be able to instruct a customer in its safe use.

Safety is a matter of common sense...a matter of thinking before acting. Most dealers have a list of specific good safety practices...follow them.

The precautions listed in this Installation Manual are intended as supplemental to existing practices. However, if there is a direct conflict between existing practices and the content of this manual, the precautions listed here take precedence.

***NOTE:** Please contact your distributor or our website for the applicable product data book referred to in this manual.

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GENERAL

These horizontal coils can be installed on a furnace or air handling unit. They are specifically designed to “match up” with Amana® brand condensing units and heat pumps to provide high efficiency heating or cooling. These coils are suitable for either attic or crawl space installations. Its bi-directional airflow provides greater flexibility in horizontal left and horizontal right applications.

Non-bleed thermal expansion valve kits can be field installed on CCF coils. Thermal Expansion Valves (TXV) and flow restrictors give accurate refrigerant control and provide reliable operation over a wide range of conditions. To avoid poor operation or equipment damage, any single-phase reciprocating compressor used with an expansion valve coil must include hard start components. Ensure that the outdoor unit has hard start components or install a hard-start kit. See the Product Data Book applicable to your model* for the proper kit number.

NOTE: It may be necessary to change the factory-installed expansion valve on a CHF**TCC coil in order to match the outdoor unit capacity.

CHF**TCC Coil Size	Required TXV Kit	Outdoor Capacity
CHF18TCC CHF24TCC	TXV01A	1 1/2 to 2 tons
CHF30TCC CHF36TCC	TXV02A	2 1/2 to 3 tons
CHF42TCC CHF48TCC CHF60TCC	TXV03A	3 1/2 to 5 tons

SHIPPING AND HANDLING



WARNING

THIS PRODUCT IS SHIPPED FROM THE FACTORY UNDER HIGH PRESSURE!

TO AVOID PROPERTY DAMAGE, PERSONAL INJURY OR DEATH, RELIEVE PRESSURE BEFORE REMOVING THE COPPER CAPS FROM THE MANIFOLD AND DISTRIBUTOR TUBES. TO RELIEVE PRESSURE, DEPRESS THE SCHRAEDER VALVE CORE ON THE MANIFOLD UNTIL PRESSURE IS GONE. FOR MODELS WITH TXV, RELIEVE PRESSURE BY PUNCTURING THE COPPER CAPS WITH AN ALL STEEL AWL.

All units are securely packed in shipping containers tested according to International Safe Transit Association specifications. Upon receipt of the coil assembly, inspect for any damage which may have occurred in transit. If damage is obvious, it should be noted on the carrier's freight bill for inspection and initiation for settlement of claim be made at once. Units are usually shipped F.O.B. factory, and it is the consignee's responsibility to file damage claims. If no damage is found, shipping material should be removed and properly discarded.

LOCATION REQUIREMENTS

The coil can be installed with zero clearance to combustible materials. Adequate room must be provided for servicing, routing of refrigerant lines, and routing of drain lines including a drain trap. Do not locate the unit directly on the ground or in an area that may become wet. If installed over a finished ceiling or living space, a secondary drain pan (with drain line) should be positioned under the entire unit.

COIL SIZING

Coils should be sized prior to installation based on recommended matches to the outdoor unit. Refer to sales literature and the ARI directory. Install unit in accordance with Regulations of the National Fire Protection Association and applicable local codes. Where there are variances with the national code, adhere to local codes.

The capacity of the cooling or heating system is obtained from the published ratings.

NOTES:

- For TXV installation, see the Product Data Book applicable to your model for the proper TXV kit-
- For orifice installation, select the orifice size specified by the outdoor unit.

COIL CLEANING (PRIOR TO INSTALLATION)

To obtain optimum performance on initial start-up, the coil assembly must be cleaned with a mild dishwashing detergent or coil cleaner to remove any manufacturing oil residue, dirt, or other foreign substances from the coil finned surfaces. **Do NOT use coil cleaners containing EDTA (Ethylene Diamine Tetracetic Acid).**



CAUTION

TO AVOID THE RISK OF WATER DAMAGE, THE COIL MUST BE INSTALLED PLUMB AND LEVEL. WHEN THE COIL IS TO BE INSTALLED OVER A FINISHED CEILING OR THE LIKE, AN AUXILIARY DRAIN PAN MUST BE INSTALLED UNDER THE COIL. THE DRAIN PAN MUST HAVE ITS OWN INDEPENDENT DRAIN LINE.

COIL MOUNTING INSTRUCTIONS

The Cased Horizontal Evaporator Coil can be installed either suspended (Figure 1) or directly on a surface (Figure 2). In either installation, ensure the coil bottom is fully supported and resting on rubber isolation pads. These pads will minimize vibration and sound transmission to the structure.



CAUTION

IT IS THE INSTALLER'S RESPONSIBILITY TO ENSURE THE COIL IS PROPERLY SUPPORTED.

*NOTE: Please contact your distributor or our website for the applicable product data book referred to in this manual.

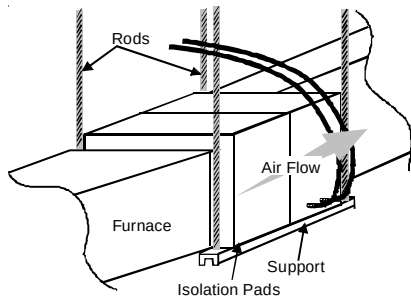


Figure 1

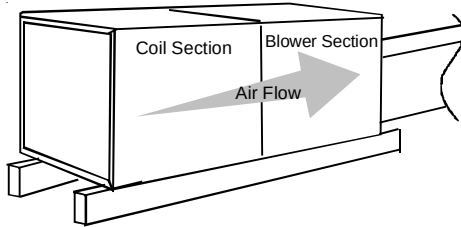


Figure 2

COIL APPLICATIONS

When attaching the coil to either a gas or oil furnace, mount the coil at the supply air end of the furnace (unless the furnace manufacturer instructs otherwise). Ensure the drain pan is down. For proper drainage, the coil must be level or pitched toward the drain connections. If necessary, shim under the furnace so the furnace and coil casing will both be level or pitched toward the drain.

HORIZONTAL LEFT APPLICATIONS

In this application, the opening in the right side of the casing mates with the supply side flanges on Amana® Air Command® brand furnaces. Ensure the furnace flanges are turned up.

HORIZONTAL RIGHT APPLICATIONS

In this application, if you wish to create more surface area for attachment of duct work (Figure 3), turn the front panel 180°.

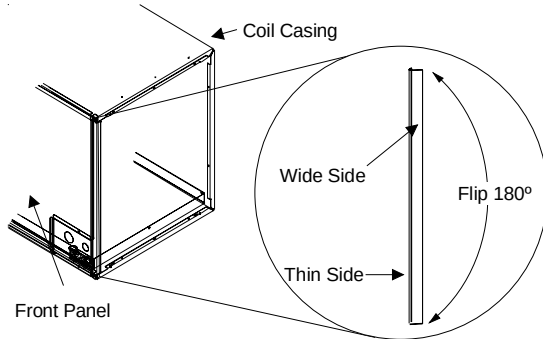


Figure 3

If the furnace and coil are not similar in depth and width, a transition will have to be field-supplied. Center the furnace and coil openings relative to each other. Fasten the assembly securely, and seal as necessary to reduce air leakage. Do not allow screws to penetrate the coil drain pan or tubing.

DUCTWORK

The duct flanges for the return air side are shipped unattached. If necessary, carefully drive the flanges into place using a mallet. In an horizontal left application use three (3) flanges; in an horizontal right application use four (4).

1. Slide the top and side duct flanges onto the casing flange.

Note: Left side duct flange is not used in horizontal left installations.

2. Remove the screws attaching the pan mount to the coil casing.
3. Lift up the pan mount and slide the bottom duct flange underneath onto the casing flange (Figure 4).

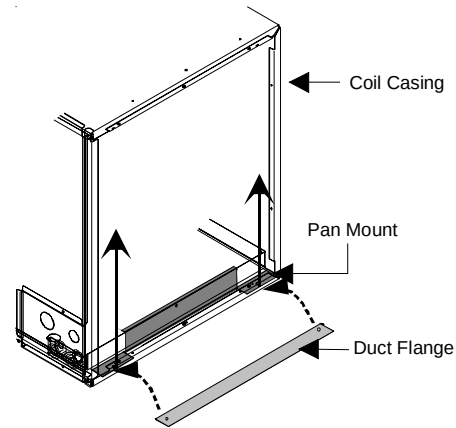


Figure 4

4. Lower pan mount. Secure duct flange and pan mount to the coil casing using the screws removed in step 2.

BLOWER MOUNT

The cased coil is designed to mate flush with a BBA/BBC blower section on either horizontal right or horizontal left applications.

The coil section must be mounted "upstream" (return air side) of the blower section. Use three adapter plates to connect the coil and blower section together, one on each side and one on the back. **NOTE:** Two adapter plates are shipped with the blower section and one with the coil section. Refer to *Ductwork* section to complete installation.

JOB SITE BRAZING

See companion outdoor condensing unit instructions for recommendations on field piping of interconnecting refrigerant lines.

Line sizes for runs of fifty feet or less should be based on the line diameters of the outdoor unit. For lengths greater than 50 feet, refer to the product service manual. A field provided adapter may be necessary depending on line size used and connection size.

TRACER GAS



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The coil is shipped with a tracer gas charge at 150 psig. This charge serves as an indicator for determining coil leaks. To test for leaks:

1. Remove access panel.
2. Remove cap from Schraeder valve and depress core.
A "hiss" should be heard as the tracer gas expels from the coil.

If no "hiss" is heard, the coil has a leak and must be either repaired or replaced. For refrigerant charging information, refer to your outdoor unit installation instructions.

REFRIGERANT CHARGING

Before the coil can be charged, ALL the tracer gas must be expelled from the coil through the Schraeder valve. Remove copper caps from manifold and distributor tubes. Coil and field installed line set must be evacuated prior to charging.



CAUTION

EXCESSIVE TORQUE CAN CAUSE ORIFICES TO STICK. USE THE PROPER TORQUE SETTINGS WHEN TIGHTENING ORIFICES.

DISTRIBUTOR ASSEMBLY

A restrictor orifice is shipped with the coil; however, certain conditions may require that the orifice be replaced. The orifice is located in the distributor flow control assembly. Outdoor units determine the required orifice size needed to properly run the unit efficiently. Check the Product Data Book applicable to your model* for proper restrictor size. Amana® brand outdoor units are shipped with properly sized orifices. If installing a TXV kit, ensure the outdoor unit is matched up with the appropriate TXV kit. Refer to the Product Data Book applicable to your model* for the correct TXV kit needed to properly run the unit efficiently.

NOTE: A small amount of refrigerant oil may be applied to the equalizer tube to improve seal.

Restrictor Orifice Removal



CAUTION

DO NOT REUSE OLD WASHERS, SYSTEM LEAK COULD OCCUR.

1. Disassemble the distributor flow control assembly by holding distributor body with a wrench and turning the brass hex nut.

2. Remove and discard the factory-installed restrictor.
NOTE: If the restrictor does not drop out of the distributor body when disassembled, remove using an orifice extractor.
3. Remove existing teflon washer (if present) and discard.

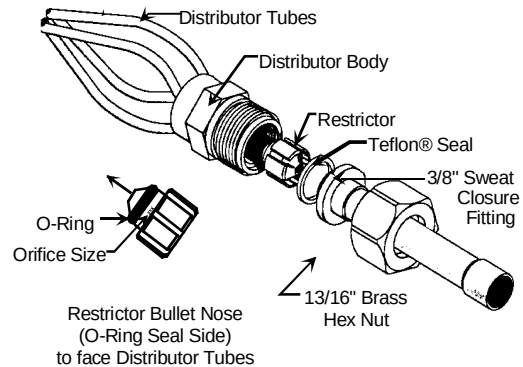


Figure 5

Restrictor Orifice Replacement

1. If required, install a new teflon seal as shown in Figure 5.
2. Insert new restrictor fully into the distributor body with smaller end towards the indoor coil as shown in Figure 5. Ensure the restrictor stays inserted in body before connecting mating half.
3. Thread assembly halves together by hand to insure proper mating of threads. Hand tighten until snug.
4. Tighten assembly to 10-12 ft/lbs of torque. Use a suitable torque wrench with properly sized open end wrench adapter. Use a backup wrench to prevent twisting of distributor tubes when applying torque. Care must be taken not to misshape the distributor body.

NOTE: If a torque wrench is not available, mark a line on each part. Then tighten an additional 1/6 turn (or 1 hex flat).

TXV KIT INSTALLATION (CCF ONLY)

This installation can be used on CCF to increase system efficiency.

1. Insert the outlet of the TXV (female fitting) into the distributor body. Connect the assembly halves together and tighten by hand. Install the inlet tube onto the inlet of the TXV (male fitting). Hand tighten the joint.
2. Remove the cap from the Schraeder valve on the vapor manifold. Without kinking, attach the TXV equalizer line to the Schraeder valve. Hand tighten the nut onto the Schraeder valve.
3. Tighten the equalizer connection to 10-12 ft/lbs of torque.
4. Tighten the TXV connections to 15-30 ft/lbs of torque. Use a suitable torque wrench with properly sized open end wrench adapter. Use a backup wrench to prevent twisting of distributor tubes when applying torque.

NOTE: If a torque wrench is not available, mark a line on each part. Then tighten an additional 1/6 turn (or 1 hex flat).



WARNING

FIRE OR EXPLOSION HAZARD

TO AVOID THE RISK OF FIRE OR EXPLOSION, NEVER USE OXYGEN, HIGH PRESSURE AIR OR FLAMMABLE GASES FOR LEAK TESTING A REFRIGERANT SYSTEM.

USE OF OXYGEN, HIGH PRESSURE AIR OR FLAMMABLE GASES CAN CREATE A HAZARD LEADING TO PERSONAL INJURY AND/OR DEATH.

REFRIGERANT PIPE CONNECTIONS

1. Remove access panel.
2. Remove cap from Schraeder valve on manifold assembly and depress valve core to relieve pressure.
3. Unbrazed or cut caps from suction and liquid lines. If cutting, cut tubes as close to caps as possible.
4. Cut field tubing off squarely and cut to correct length, deburr.
5. Inspect tubing ends. Tubing must be round and without nicks or dents on tubing surface which is to be brazed to the unit.
6. Insert fully into the swage provided.
7. Braze the tubing.

NOTE: This is a copper to copper joint, use an appropriate brazing alloy (2% minimum silver).



CAUTION

IF THE UNIT HAS A THERMAL EXPANSION VALVE EITHER WRAP THE EXPANSION VALVE AND SENSING BULB WITH A WET RAG, OR USE A THERMAL BLOCK OR SIMILAR HEAT DISSIPATING MATERIAL TO PREVENT DAMAGE TO THE EXPANSION VALVE.

For proper leak test, evacuation, and charging procedures, see the outdoor unit installation manual. Leak testing is to be done on line set only; therefore, do **NOT** use refrigerant from condensing unit for testing leaks or you may need to evacuate system if a leak is detected.

DRAIN CONNECTION

The drain connection on the coil requires a full size drain as it exists on the unit. The connection is 3/4" ID FPT pipe size. The drain line must contain a trap. If a proper trap is not present, the drain pan could overflow.

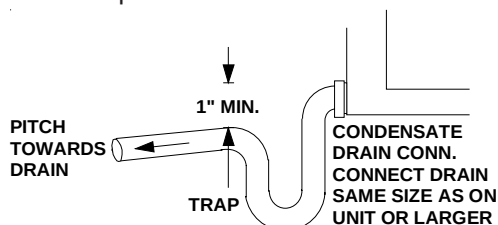


Figure 6

NOTE: To avoid double trapping, and possibly an overflowing drain pan, it is not recommended to use soft plastic drain lines.

If used, the auxiliary drain must be piped separately from the main drain connection and must contain a trap located below the bottom of the drain pan.

CONDENSATE SYSTEM MAINTENANCE (QUALIFIED SERVICER ONLY)

As it cools the air, the coil can produce condensation. This water must be drained away properly. At least once a year, a qualified servicer should inspect the drain pan(s) and drain line(s) to confirm that the condensate will drain properly. Some cleaning or adjustment may be required at this time.

HOMEOWNER INFORMATION

AIR FILTER

Air filter(s) must be supplied by the installer. All of the return air must be filtered before it enters the coil. If this coil is installed without filter(s), poor performance, severe equipment damage, and/or loss of warranty coverage could result. These problems could affect both the indoor unit and the outdoor unit.

If possible, discuss filter location and maintenance with the building owner before leaving the job.

FILTER MAINTENANCE

IMPORTANT: To avoid the risk of poor performance, severe equipment damage, and/or loss of warranty coverage, do not operate the coil without clean filter(s) in place.

Filter(s) should be inspected every month, and cleaned or replaced when necessary. It is the user's responsibility to keep the filters clean. Dirty filters are the most common cause of poor heating or cooling performance.

Your air filter or filters could be located in "filter grilles" in your ceiling or walls, or in the blower coil or furnace. The installer of your coil can tell you where your filter(s) are, and how to clean or replace them. If you cannot reach your installer, call another qualified servicer.

COIL CLEANING

An annual air conditioning checkup including a good coil cleaning, leak check and system pressure check will help keep the system operating at peak efficiency. These coil cleanings should be performed by a qualified servicer.

