




UPFLOW/DOWNFLOW COILS INSTALLATION INSTRUCTIONS

1. Important Safety Instructions

The following symbols and labels are used throughout this manual to indicate immediate or potential safety hazards. It is the owner's and installer's responsibility to read and comply with all safety information and instructions accompanying these symbols. Failure to heed safety information increases the risk of personal injury, property damage, and/or product damage.

 WARNING	
HIGH VOLTAGE DISCONNECT ALL POWER BEFORE SERVICING OR INSTALLING THIS UNIT. MULTIPLE POWER SOURCES MAY BE PRESENT. FAILURE TO DO SO MAY CAUSE PROPERTY DAMAGE, PERSONAL INJURY OR DEATH.	

 WARNING	
ONLY PERSONNEL THAT HAVE BEEN TRAINED TO INSTALL, ADJUST, SERVICE, MAINTENANCE OR REPAIR (HEREINAFTER, "SERVICE") THE EQUIPMENT SPECIFIED THIS MANUAL SHOULD SERVICE THE EQUIPMENT.	
THIS EQUIPMENT IS NOT INTENDED FOR USE BY PERSONS (INCLUDING CHILDREN) WITH REDUCED PHYSICAL, SENSORY OR MENTAL CAPACITIES, OR LACK OF EXPERIENCE AND KNOWLEDGE, UNLESS THEY HAVE BEEN GIVEN SUPERVISION OR INSTRUCTION CONCERNING USE OF THE APPLIANCE BY A PERSON RESPONSIBLE FOR THEIR SAFETY.	
CHILDREN SHOULD BE SUPERVISED TO ENSURE THAT THEY DO NOT PLAY WITH THE EQUIPMENT.	
THE MANUFACTURER WILL NOT BE RESPONSIBLE FOR ANY INJURY OR PROPERTY DAMAGE ARISING FROM IMPROPER SUPERVISION, SERVICE OR SERVICE PROCEDURES. IF YOU SERVICE THIS UNIT, YOU ASSUME RESPONSIBILITY FOR ANY INJURY OR PROPERTY DAMAGE WHICH MAY RESULT. IN ADDITION, IN JURISDICTIONS THAT REQUIRE ONE OR MORE LICENSES TO SERVICE THE EQUIPMENT SPECIFIED IN THIS MANUAL, ONLY LICENSED PERSONNEL SHOULD SERVICE THE EQUIPMENT. IMPROPER SUPERVISION, INSTALLATION, ADJUSTMENT, SERVICING, MAINTENANCE OR REPAIR OF THE EQUIPMENT SPECIFIED IN THIS MANUAL, OR ATTEMPTING TO INSTALL, ADJUST, SERVICE OR REPAIR THE EQUIPMENT SPECIFIED IN THIS MANUAL WITHOUT PROPER SUPERVISION OR TRAINING MAY RESULT IN PRODUCT DAMAGE, PROPERTY DAMAGE, PERSONAL INJURY OR DEATH.	

 WARNING
DO NOT BYPASS SAFETY DEVICES.

2. Shipping Inspection

Upon receiving the product, inspect it for damage from shipment. Shipping damage, and subsequent investigation is the responsibility of the carrier. Verify the model number, specifications, and accessories are correct prior to installation. The distributor or manufacturer will not accept claims from dealers for transportation damage or installation of incorrectly shipped units.

2.1 Handling

Use caution when transporting / carrying unit. Do not carry unit with hooks or sharp object. The preferred method of carrying the unit after arrival at the job site is to carry by two-wheel hand truck from the back or sides or by hand by carrying at the cabinet corners.

3. Codes & Regulations

This product is designed and manufactured to comply with national codes. The Product shall be installed in accordance with national wiring regulations. Installation in accordance with such codes and/or prevailing local codes/regulations is the responsibility of the installer. The manufacturer assumes no responsibility for equipment installed in violation of any codes or regulations.

The United States Environmental Protection Agency (EPA) has issued various regulations regarding the introduction and disposal of refrigerants. Failure to follow these regulations may harm the environment and can lead to the imposition of substantial fines. Should you have any questions please contact the local office of the EPA.

4. Replacement Parts

Inspect the unit to verify all required components are present and intact. Report any missing components immediately to the manufacturer or to the distributor. Make sure to include the full product model number and serial number when reporting and/or obtaining service parts. Replacement parts for this product are available through your contractor or local distributor. For the location of your nearest distributor consult the white business pages, the yellow page section of the local telephone book or contact:

HOMEOWNER SUPPORT
DAIKIN COMFORT TECHNOLOGIES
MANUFACTURING, L.P.
19001 KERMIER ROAD
WALLER, TEXAS 77484
877-254-4729



5. Pre-Installation Instructions

5.1 Preparation

Keep this document with the unit. Carefully read all instructions for the installation prior to installing product. Make sure each step or procedure is understood and any special considerations are taken into account before starting installation. Assemble all tools, hardware and supplies needed to complete the installation. Some items may need to be purchased locally. Make sure everything needed to install the product is on hand before starting.

5.2 Clearances

Refrigerant lines must be routed depending on configuration of unit to maintain the required 24" minimum clearance for service. Consult all appropriate regulatory codes prior to determining final clearances. In installations that may lead to physical damage (i.e. a garage) it is advised to install a protective barrier to prevent such damage. Always install units such that a positive slope in condensate line ($\frac{1}{4}$ " per foot) is allowed.

NOTE: Furnace application requires that the installer MUST review and strictly follow ALL furnace installation clearance guidelines. Failure to do so may result in property / equipment damage, personal injury or death.

CONSULT ALL APPROPRIATE REGULATORY CODES WHEN DETERMINING FINAL CLEARANCES.

6. Application Information

Coils are designed for indoor installation only and must be installed downstream (discharge air) of the furnace. The CAPTA product line may be installed in upflow or downflow orientations.

7. Condensate Drain Piping

In all cooling applications where condensate overflow may cause damage, a secondary drain pan must be provided by the installer and placed under the entire unit with a separate drain line properly sloped and terminated in an area visible to the owner. This secondary drain pan can provide extra protection to the area under the unit should the primary drain plug up and overflow. For coils with "A" Cabinets (14" wide), use float switch if secondary drain line is not installed. Refer to product nomenclature from product specification literature to identify coil models with "A" cabinets. As expressed in our product warranty, we will not be liable for any damages, structural or otherwise due to the failure to follow this installation requirement.

Condensate drain connections are located in the drain pan at the bottom of the coil/enclosure assembly. Use the female ($\frac{3}{4}$ " FPT) threaded fitting that protrudes outside of the enclosure for external connections. The connectors required are $\frac{3}{4}$ " NPT male, either PVC or metal pipe, and must be hand tightened to a torque of no more than 37 in-lbs. to prevent damage to the drain pan connection. An insertion depth between .36 to .49 inches (3-5 turns) should be expected at this torque. Insulate PVC drain lines/pipes with high heat resistive tape within 1" furnace flue/vent pipe. Foil-Mastic Sealant tape is the preferred wrapping material.

1. Ensure drain pan hole is NOT obstructed.
2. To prevent potential sweating and dripping on finished space, it may be necessary to insulate the condensate drain line located inside the building. Use Armaflex® or similar material.

A Secondary Condensate Drain Connection, now called for by many building codes, has been provided. Pitch the drain line $\frac{1}{4}$ " per foot to provide free drainage. Provide required support to drain line to prevent bowing. Install a condensate trap in the primary drain line to ensure proper drainage. If the secondary drain line is required, run the line separately from the primary drain and end it where condensate discharge can be easily seen.



CAUTION

IF SECONDARY DRAIN IS NOT INSTALLED, THE SECONDARY ACCESS MUST BE PLUGGED.

8. Plastic Drain Pan Application



WARNING

DO NOT USE THE COIL PAN SHIPPED WITH THE UNIT ON OIL FURNACES OR ANY APPLICATION WHERE THE TEMPERATURE OF THE DRAIN PAN MAY EXCEED 300°F. A HIGH TEMPERATURE DRAIN PAN SUCH AS KITS HTP-A, -B, -C, AND -D FOR NORMAL CABINET WIDTHS OF 14, 17.5, 21 AND 24.5 INCHES, RESPECTIVELY, SHOULD BE USED FOR APPLICATIONS WHERE THE TEMPERATURE EXCEEDS 300°F AND BELOW 450°F. A FIELD FABRICATED METAL DRAIN PAN CAN ALSO BE USED FOR APPLICATIONS WHERE TEMPERATURE EXCEEDS 300°F. FAILURE TO FOLLOW THIS WARNING MAY RESULT IN PROPERTY DAMAGE AND/OR PERSONAL INJURY.

If the uncased coil is to be installed on top of a gas furnace, allow enough space between the top to the furnace and the bottom of the plastic coil drain pan to have a free flow of air. A minimum of 2.0" distance from the top of the furnace and the bottom of the coil pan is required.

NOTE: The coil must be installed with the line set and drain openings to the front of the furnace.

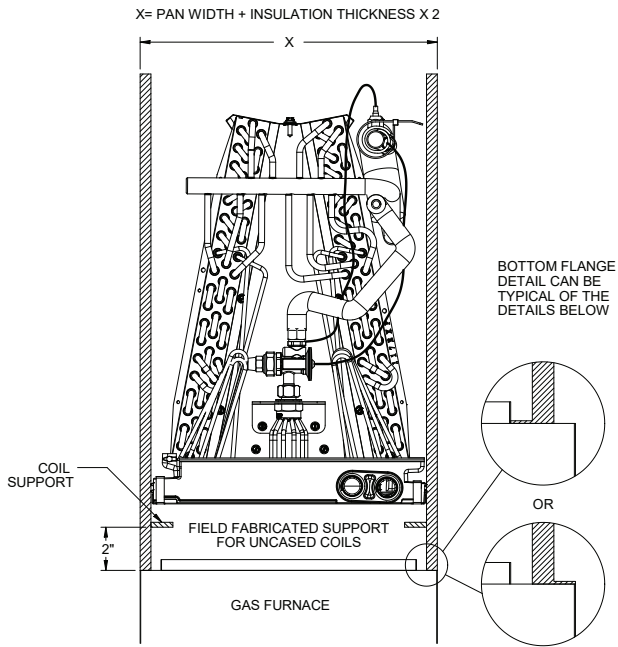


Figure 1

NOTE: Water coming from the secondary line means the coil primary drain is plugged and needs immediate attention. Install a trap in the drain line below the bottom of the drain pan (Figure 1). If using a copper drain line, solder a short piece of pipe, minimum 6" length, to the connector before installing a drain fitting.

DO NOT over torque the 3/4" copper connector to the plastic drain connection. Using a wet rag or heatsink material on the short piece to protect the plastic drain pan, complete the drain line installation. Use Figure 2 as a template for typical drain pipe routing. This figure shows how to avoid interference with vent piping.

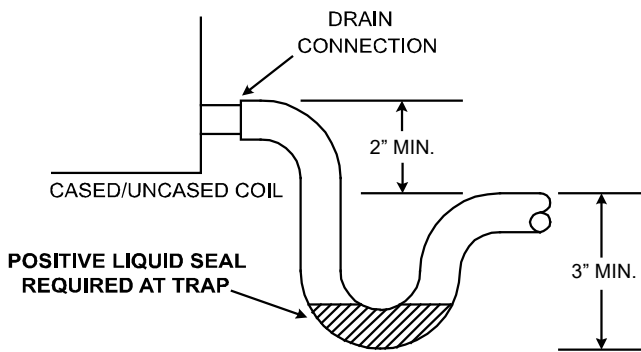


Figure 2

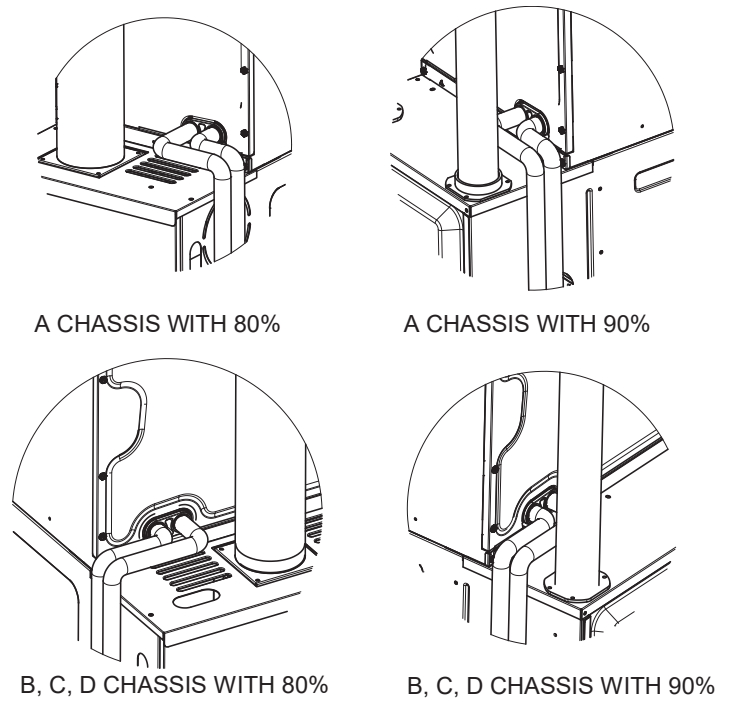


Figure 3

8.1 Condensate Drain Pan Break-away Feature

The drain pan (0161D00116) possesses a break-away feature on the lip located on the front-top and rear-top of the drain pan. This feature is to be used for uncased installations, as necessary. The force required to break the lip is 18lbf uniformly distributed over the feature. A force of 8lbf localized on the corner of the lip can also be applied. (Applies only for A-size Cabinet) See Figure 4.

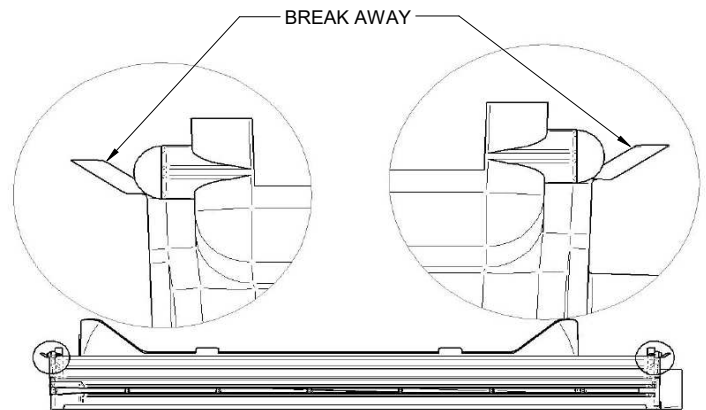


Figure 4

9. Refrigerant Lines



CAUTION

THE COIL IS SHIPPED UNDER PRESSURE WITH A R-410A GAS MIXTURE. USE APPROPRIATE SERVICE TOOLS AND FOLLOW THESE INSTRUCTIONS TO PREVENT INJURY.



WARNING

A QUENCHING CLOTH IS STRONGLY RECOMMENDED TO PREVENT SCORCHING OR MARRING OF THE EQUIPMENT FINISH WHEN BRAZING CLOSE TO THE PAINTED SURFACES. USE BRAZING ALLOY OF 5% MINIMUM SILVER CONTENT.

NOTE: Refrigerant tubing must be routed to allow adequate access for servicing and maintenance of the unit.

Do not handle coil assembly with manifold or flowrator tubes. Doing so may result in damage to the tubing joints. Always use clean gloves for handling coil assemblies.

9.1 Tubing Size/Length

For the correct tubing size, follow the specification for the condenser/heat pump. Give special consideration to minimizing the length of refrigerant tubing when installing coils. Refer to Remote Cooling/Heat Pump Technical Publication TP-107* Long Line Set Application R-410A for guidelines for line lengths over 80'. Leave a minimum 3" straight in line set from braze joints before any bends.

9.2 Tubing Preparation

All cut ends are to be round, burr free, and cleaned. Any other condition increases the chance of a refrigerant leak. Use a pipe cutter to remove the closed end of the spun closed suction line.

9.3 Brazing

Braze joints should be made only with the connections provided external to the cabinet. Do not alter the cabinet nor braze inside the cabinet. To avoid overheating after brazing, quench all brazed joints with water or a wet rag.



CAUTION

APPLYING TOO MUCH HEAT TO ANY TUBE CAN MELT THE TUBE. TORCH HEAT REQUIRED TO BRAZE TUBES OF VARIOUS SIZES MUST BE PROPORTIONAL TO THE SIZE OF THE TUBE. SERVICE PERSONNEL MUST USE THE APPROPRIATE HEAT LEVEL FOR THE SIZE OF THE TUBE BEING BRAZED.

9.4 Tubing Connections for TXV Version

TXV models come with factory installed adjustable TXV with the bulb permanently located on the suction tube.

1. Remove coil access panel and rubber grommets.
2. Remove access valve fitting cap and depress the valve stem in access fitting to release pressure. No pressure indicates possible leak.
3. Reinstall the Coil Access Panel & rubber grommets.
4. Remove the spin closure on both the liquid and suction tubes using a tubing cutter. DO NOT USE A CUTTING METHOD THAT WOULD RESULT IN THE GENERATION OF COPPER SHAVINGS OR COPPER DUST.

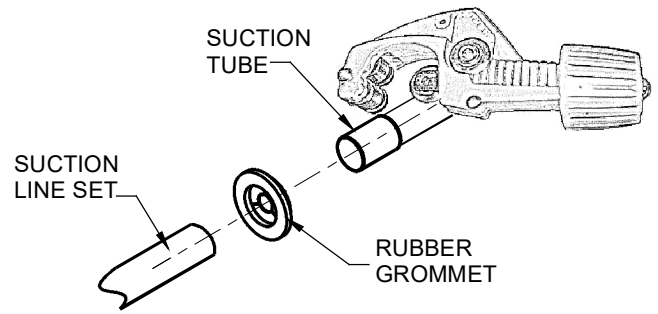


Figure 5.1

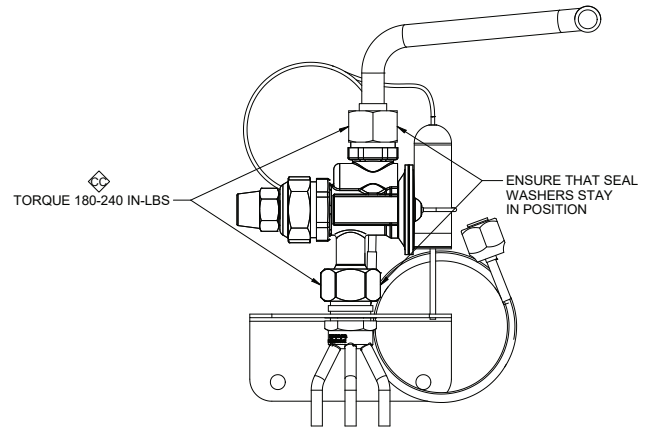


Figure 5.2



CAUTION

EXCESSIVE TORQUE CAN CAUSE TXV RETAINING RING TO WEAKEN & CREATE LEAK AND WILL BECOME DIFFICULT TO RE-INSTALL TXV. USE THE PROPER TORQUE (180-240 IN. ILBS) SETTINGS WHEN TIGHTENING THE TXV OR HAND TIGHTEN PLUS 1/2 TURN.

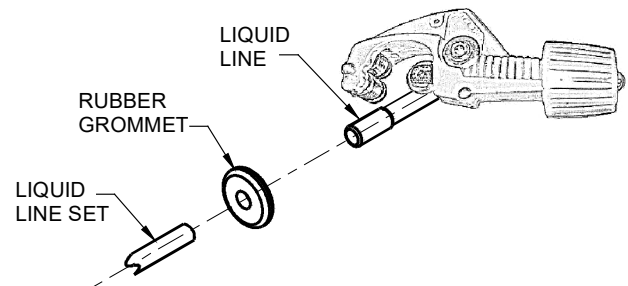


Figure 5.3

5. Insert liquid line set into liquid tube expansion and slide grommet about 18" away from braze joint.
6. Insert suction line set into suction tube expansion and slide insulation and grommet about 18" away from braze joint.
7. Braze suction and liquid line joints.

Thermal Expansion Valve System Adjustment

The following information for the indoor unit should be verified before attempting to charge system or adjust TXV if necessary.

1. Total static pressure is .5" WC or less.
2. Airflow is correct for installed unit.

3. Airflow tables are in the installation manual and Spec Sheet for Indoor Unit.
4. Complete airflow tables and charging information are in Service Manual RS6200006.
5. The outdoor temperature must be 60°F or higher.
6. Set the room thermostat to COOL, fan switch to AUTO
7. Set the temperature control well below room temperature.

NOTE: In situations where the TXV must be removed and replaced or re-installed into the system, the TXV should be hand tightened first and then apply a half turn to fully set the TXV. No more than 20 ft-lb torque should be applied to the joints of the TXV.

Superheat adjustments should not be made until indoor ambient conditions have stabilized. This could take up to 24 hours depending on indoor temperature and humidity. Before checking superheat run the unit in cooling for 10 minutes or until refrigerant pressures stabilize. Use the following guidelines and methods to check unit operation and ensure that the refrigerant charge is within limits.

NOTE: Charge two stage units on low stage.

1. Purge gauge lines. Connect service gauge manifold to base-valve service ports.
2. Temporarily install a thermometer on the liquid line at the liquid line service valve and 4-6" from the compressor on the suction line. Ensure the thermometer makes adequate contact and is insulated for best possible readings. Use liquid line temperature to determine subcooling and vapor temperature to determine superheat.
3. Check subcooling and superheat. The system should have a subcooling of 8°F +/- 1°F and two-stage compressor systems should have a Subcooling of 6°F +/- 1°F. and superheat of 8°F +/- 1°F. If subcooling and superheat are low, adjust TXV to 8°F +/- 1°F superheat, then check subcooling.
 - a. If subcooling is low and superheat is high, add charge to raise subcooling to 8°F +/- 1°F. Two-stage compressor systems should have a Subcooling of 6°F +/- 1°F then check superheat.
 - b. If subcooling and superheat are high, adjust TXV valve to 8°F +/- 1°F superheat, then check subcooling.

SATURATED SUCTION PRESSURE TEMPERATURE CHART	
SUCTION PRESSURE	SATURATED SUCTION
PSIG	R-410A
50	1
52	3
54	4
56	6
58	7
60	8
62	10
64	11
66	13
68	14
70	15
72	16
74	17
76	19
78	20
80	21
85	24
90	26
95	29
100	31
110	36
120	41
130	45
140	49
150	53
160	56
170	60

TABLE 5

Superheat Adjustments (Only if necessary)

1. Attach a pipe clamp thermometer near the suction line service valve at the outdoor unit.
 - a. Ensure the thermometer makes adequate contact for the best possible readings.
2. TXV-based systems should have a Superheat value of 8°F +/- 1°F.
3. Adjust Superheat by turning the TXV valve stem clockwise to increase and counterclockwise to decrease. Adjustments should be made opening or closing the valve by no more than ¼ turn at a time. Allow the system to stabilize 15 to 20 minutes before making additional adjustments if necessary.
4. After adjustments are complete replace cap on adjustment stem and tighten 1/6 turn.
5. Remove gauges and check the Schrader ports for leaks and tighten valve cores if necessary. Install caps finger tight.

NOTE: Do NOT adjust the charge based on suction pressure unless there is a gross undercharge.

4. Disconnect manifold set, installation is complete.

NOTE: Check the Schrader ports for leaks and tighten valve cores if necessary. Install caps finger-tight.

SUBCOOL FORMULA = SAT. LIQUID LINE TEMP. - LIQUID LINE TEMP.

SUPERHEAT FORMULA = SUCT. LINE TEMP. - SAT. SUCT. TEMP.

SATURATED LIQUID PRESSURE TEMPERATURE CHART	
LIQUID PRESSURE	SATURATED LIQUID TEMPERATURE °F
PSIG	R-410A
200	70
210	73
220	76
225	78
235	80
245	83
255	85
265	88
275	90
285	92
295	95
305	97
325	101
355	108
375	112
405	118
415	119
425	121
435	123
445	125
475	130
500	134
525	138
550	142
575	145
600	149
625	152

10. Supply Duct Connection

1. Top flanges can be bent for ease in installation to the duct flanges. (See Figure 6)

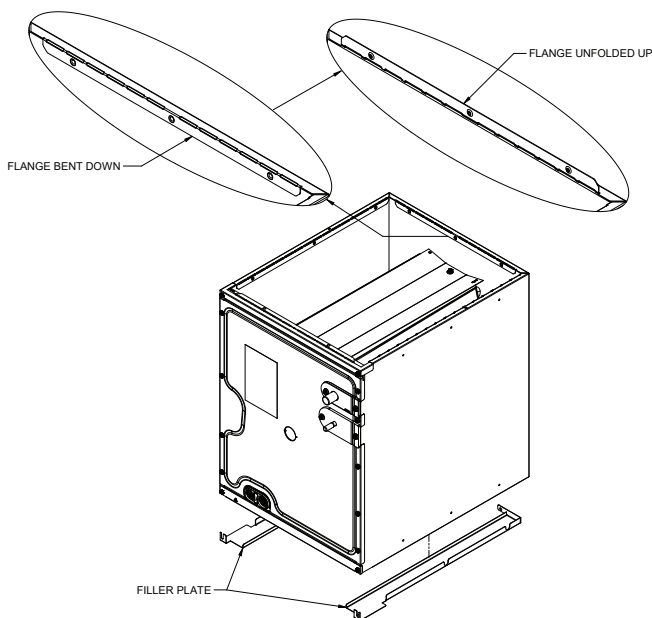


Figure 6

2. A duct flange kit can also be purchased from your distributor. (See Figure 7)

- 14 inch chassis - CLDUCTFLGA
- 17.5 inch chassis - CLDUCTFLGB
- 21 inch chassis - CLDUCTFLGC
- 24.5 inch chassis - CLDUCTFLGD

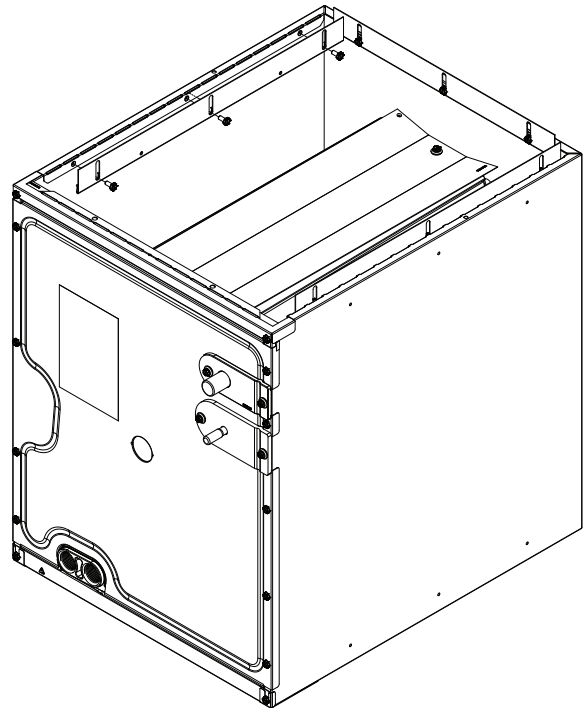


Figure 7

11. Filler Plates

Filler plates are supplied on all 17.5, 21, & 24.5 inch chassis to be used for adapting the unit to a furnace one size smaller. If the plenum and furnace openings are the same size, the filler plates must be removed. See Figure 6.

12. Return Ductwork

DO NOT TERMINATE THE RETURN DUCTWORK IN AN AREA THAT CAN INTRODUCE TOXIC OR OBJECTIONABLE FUMES/ODORS INTO THE DUCTWORK.

13. Sealing Along The Panel Gap

IMPORTANT NOTE: To prevent cabinet sweating and airflow leak, apply field provided insulation tape along all joining surfaces between the coil, gas furnace, duct work and panels. See Figure 8.

14. Removing Coil from Cabinet

In an event of removing taller coils from cabinet to service or replace; remove access panel, remove top tie rail to allow the coils to slide out of the cabinet.

After service or replacement slide the coil back in the cabinet and secure the top tie rail and re-install access panel. See Figure 9.

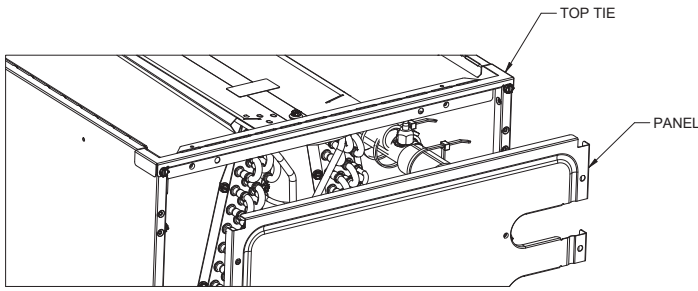


Figure 9

Clean Comfort brand UV coil purifiers also can be purchased from distributor. Maximum UV lamp diameter to be used per delta plate knockout design is 1.375" to reduce the possibility of air leak.

Refer to UV coil purifiers product specification and installation manual for additional details.

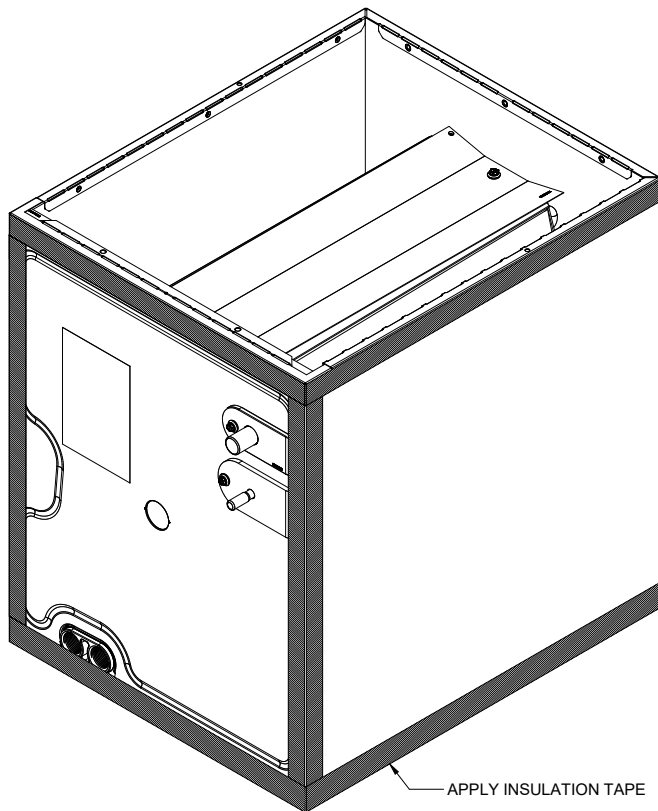


Figure 8

15. Aluminum Indoor Coil Cleaning (Qualified Servicer Only)



This unit is equipped with an aluminum tube evaporator coil. The safest way to clean the evaporator coil is to simply flush the coil with water. This cleaning practice remains as the recommended cleaning method for both copper tube and aluminum tube residential evaporator coils.

It has been determined that many coil cleaners and drain pan tablets contain corrosive chemicals that can be harmful to aluminum tube and fin evaporator coils. Even a one-time application of these corrosive chemicals can cause premature aluminum evaporator coil failure. Any cleaners that contain corrosive chemicals including, but not limited to, chlorine and hydroxides, should not be used.

An alternate cleaning method is to use one of the products listed in TP-109* to clean the coils. The cleaners listed are the only agents deemed safe and approved for use to clean round tube aluminum coils. TP-109 is also available on the web site in Partner Link > Service Toolkit.

NOTE: Ensure coils are rinsed well after use of any chemical cleaners.

16. Start-Up Procedure

 WARNING	
<p>HIGH VOLTAGE DISCONNECT ALL POWER BEFORE SERVICING OR INSTALLING THIS UNIT. MULTIPLE POWER SOURCES MAY BE PRESENT. FAILURE TO DO SO MAY CAUSE PROPERTY DAMAGE, PERSONAL INJURY OR DEATH.</p>	

- Prior to start-up, ensure that all electrical wires are properly sized and all connections are properly tightened.
- All panels must be in place and secured. For Air Tight application, gasket must be positioned at prescribed locations to achieve 1.4% leakage.
- Tubing must be leak free.
- Condensate line must be trapped and pitched to allow for drainage.
- Low voltage wiring is properly connected.
- Auxilliary drain is installed when necessary and pitched to allow for drainage.
- Unit is protected from vehicular or other physical damage.
- Return air is not obtained from, nor are there any return air duct joints that are unsealed in, areas where there may be objectionable odors, flammable vapors or products of combustion such as carbon monoxide (CO), which may cause serious personal injury or death.

Start-Up Checklist

Air Handler / Coil			
	Model Number	_____	
	Serial Number	_____	
ELECTRICAL			
Line Voltage (Measure L1 and L2 Voltage)	L1 - L2	_____	
Secondary Voltage (Measure Transformer Output Voltage)	R - C	_____	
Blower Amps		_____	
Heat Strip 1 - Amps		_____	
Heat Strip 2 - Amps		_____	
BLOWER EXTERNAL STATIC PRESSURE			
Return Air Static Pressure		_____	IN. W.C.
Supply Air Static Pressure		_____	IN. W.C.
Total External Static Pressure (Ignoring +/- from the reading above, add total here)		_____	IN. W.C.
TEMPERATURES			
Return Air Temperature (Dry bulb / Wet bulb)		_____ DB °F	_____ WB °F
Cooling Supply Air Temperature (Dry bulb / Wet bulb)		_____ DB °F	_____ WB °F
Heating Supply Air Temperature		_____ DB °F	
Temperature Rise		_____ DB °F	
Delta T (Difference between Supply and Return Temperatures)		_____ DB °F	
Air Handler / Coil - (Inverter Matched)			
INVERTER AH / COIL ONLY			
Check EEV and EEV wiring is secure (no adjustment required)		_____	
Additional Checks			
Check wire routings for any rubbing		_____	
Check product for proper draining		_____	
Check screw tightness on blower wheel		_____	
Check factory wiring and wire connections		_____	
Check product for proper clearances as noted by installation instructions		_____	
°F to °C formula: (°F - 32) divided by 1.8 = °C °C to °F formula: (°C multiplied by 1.8) + 32 = °F			

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CUSTOMER FEEDBACK

We are very interested in all product comments.
Please fill out the feedback form on one of the following links:
Daikin Products: (<https://daikincomfort.com/contact-us>)
Goodman® Brand Products: (<http://www.goodmanmfg.com/about/contact-us>).
Amana® Brand Products: (<http://www.amana-hac.com/about-us/contact-us>).
You can also scan the QR code on the right for the product brand you purchased to be directed to the feedback page.



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PRODUCT REGISTRATION

Thank you for your recent purchase. Though not required to get the protection of the standard warranty, registering your product is a relatively short process, and entitles you to additional warranty protection, except that failure by California and Quebec residents to register their product does not diminish their warranty rights. The duration of warranty coverages in Texas differs in some cases.

For Product Registration, please register as follows:
Daikin Products: (<https://daikincomfort.com/owner-support/product-registration>).
Goodman® Brand products: (<https://www.goodmanmfg.com/product-registration>).
Amana® Brand products: (<http://www.amana-hac.com/product-registration>).
You can also scan the QR code on the right for the product brand you purchased to be directed to the Product Registration page.



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