



# HORIZONTAL 2-WAY CASED EVAPORATOR COIL INSTALLATION INSTRUCTIONS

## Table of Contents

<b>IMPORTANT SAFETY INSTRUCTIONS</b> .....	1
Shipping Inspection .....	1
Codes and Regulations.....	1
Replacement Parts.....	2
Preinstallation Instructions.....	2
<b>APPLICATION INFORMATION</b> .....	2
Duct Flange Attachment .....	2
Condensate Drain Piping .....	3
Horizontal Coil Water Blow-Off Bracket .....	3
<b>REFRIGERANT LINES</b> .....	4
<b>SPECIAL INSTRUCTIONS</b> .....	4
<b>ASSISTANCE OR SERVICE</b> .....	4

## 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.



Recognize this symbol as a safety precaution.

### **WARNING**

Hazards or unsafe practices could result in property damage, product damage, severe personal injury or death.

### **CAUTION**

Hazards or unsafe practices may result in property damage, product damage, personal injury or death.

### **CAUTION**

Hazards or unsafe practices may result in property or product damage.



Whirlpool® Model: WCH  
WPIO-285F

### **WARNING**

#### HIGH VOLTAGE!

Disconnect ALL power before servicing.

Multiple power sources may be present.

Failure to do so may cause property damage, personal injury or death.



### **WARNING**

Installation and repair of this unit should be performed **ONLY** by individuals meeting the requirements of an "Entry Level Technician," at a minimum, as specified by the Air-Conditioning, Heating and Refrigeration Institute (AHRI). Attempting to install or repair this unit without such background may result in product damage, personal injury or death.



## 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, electrical characteristics 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.

## Codes and Regulations

This product is designed and manufactured to comply with national codes. 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.

## Replacement Parts

When reporting shortages or damages, or ordering repair parts, give the complete product model and serial numbers as stamped on the product. 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:

Service Parts Department  
Tradewinds Distributing Company, LLC  
14610 Breakers Drive  
Jacksonville, FL 32258  
1-866-944-7575

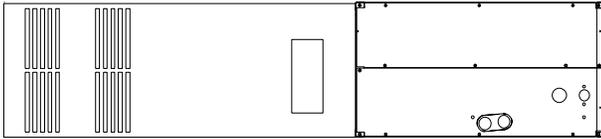
## Preinstallation Instructions

Carefully read all the instructions for the installation prior to installing the product. Make sure each step or procedure is understood and any special considerations are taken into account before starting the installation. Assemble all the 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.

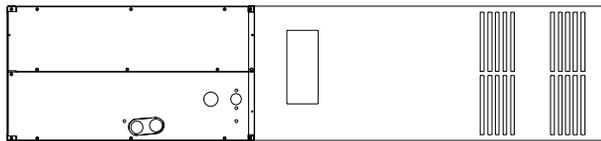
## APPLICATION INFORMATION

Install this coil upstream (discharge air) of the furnace. This coil is bi-directional coil and can be installed in either the left or right direction. The coil is factory-shipped for right-side application. Determine the coil direction by the side that allows the best access.

### Front View—Right Application



### Front View—Left Application



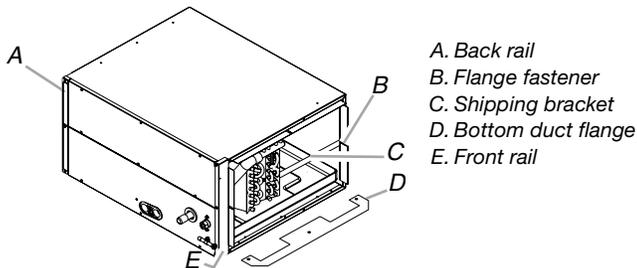
To reverse from right to left application, relocate the front rail to the back, and the back rail to the front. Then attach the flanges to the discharge side of the unit.

If the coil and furnace combination are not similar in depth and width, use a field-supplied transition to center the furnace and coil openings. See "Installation of Furnace, Coil, Plenum and Transition" illustration. The supplied Z-bracket attachment should be used to attach the coil to a narrower furnace when the furnace is one size smaller than the coil (for example, coil height = 17½" [44.5 cm] and furnace width = 14" [35.6 cm]). See "Installation of Furnace, Coil and Plenum with Z-Bracket" illustration. "Incorrect Installation of Furnace, Coil and Plenum" illustration indicates the incorrect coil/furnace attachment method.

## Duct Flange Attachment

1. Remove the shipping bracket spanning the A-Coil apex to the rear of the wrapper on all models prior to installation.
2. The bottom duct flange for the supply plenum side is shipped unattached. Carefully insert the flange into bottom rail and use a 5/16" screw to attach at the middle of the flange.

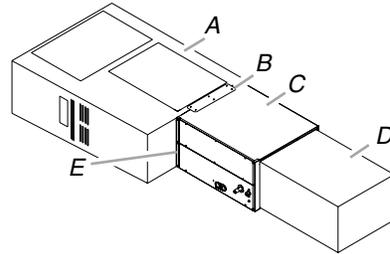
### Attach the Duct Flange—Horizontal Right Application



## NOTES:

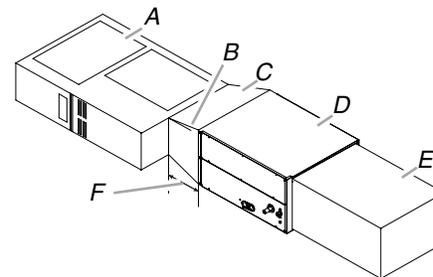
- Remove the shipping bracket prior to installation.
  - Duct flanges are in the accessory kit included with this unit. Remove the duct flanges from kit packaging and install as instructed in steps 3 and 4.
3. Using the hardware and brackets provided, attach the coil to the furnace. See the "Installation of Furnace, Coil and Plenum" illustration.
  4. Attach plenum to coil. See the "Installation of Furnace, Coil and Plenum" illustration.

### Installation of Furnace, Coil and Plenum



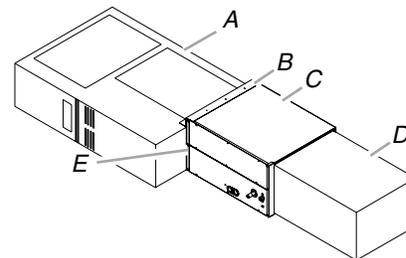
- A. Unit
- B. Top and back bracket accessory
- C. Coil
- D. Plenum
- E. Front bracket accessory

### Installation of Furnace, Coil, Plenum and Transition



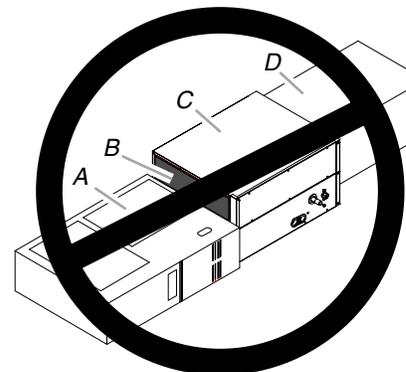
- A. Unit
- B. 10° angle maximum
- C. Transition
- D. Coil
- E. Plenum
- F. 18" (45.7 cm) minimum

### Installation of Furnace, Coil and Plenum with Z-Bracket



- A. Unit
- B. Top and back bracket accessory
- C. Coil
- D. Plenum
- E. Front bracket accessory

### Incorrect Installation of Furnace, Coil and Plenum



- A. Unit
- B. Duct board, sheet metal or other filler material
- C. Coil
- D. Plenum

5. Use tape or mastic to seal between the coil and furnace, and between the coil and plenum.

## Condensate Drain Piping

**NOTE:** When coils are installed above ceilings, or in other locations where damage from condensate overflow may occur, it is mandatory to install a field-fabricated auxiliary drain pan under the coil cabinet enclosure. Drain lines from the auxiliary pan must be installed and terminated so that the homeowner can see water discharges.

The coil drain pan has a primary and an optional secondary drain with 3/4" NPT female connections. The connectors required can be 3/4" NPT male, either PVC or metal pipe, and should 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 0.355" to 0.485" (3 to 5 turns) should be expected at this torque. If a copper drain line is used, solder a short piece of pipe to the connector before installing a drain fitting.

### NOTES:

- Do not over-torque the 3/4" copper connector to the plastic drain connection.
- Ensure drain pan hole is not obstructed.
- 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 has been provided for areas where the building codes require it. Pitch the drain line 1/4" per foot to provide free drainage. Insulate drain lines (primary and secondary) located inside the building to prevent sweating. Install a condensate trap to ensure proper drainage. If the secondary line is required, run the line separately from the primary drain and end it where it can be easily seen.

**NOTE:** Water coming from this line means the coil primary drain is plugged and needs clearing.

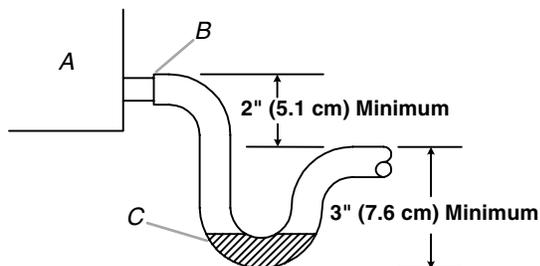
## CAUTION

**If secondary drain is not installed, the secondary access must be plugged.**

**NOTE:** Trapped lines are required by many local codes. In the absence of any prevailing local codes, please refer to the requirements listed in the Uniform Mechanical Building Code.

A drain trap in a draw-through application prevents air from being drawn back through the drain line during fan operation, thus preventing condensate from draining, and if connected to a sewer line, to prevent sewer gases from being drawn into the airstream during blower operation. In a blow-through application, the drain trap prevents conditioned air from escaping. It is permissible in this application to use a shallow trap design sometimes referred to as a running trap.

### Condensate Drain Trap

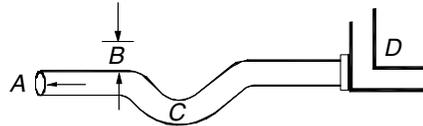


- A. Cased coil
- B. Drain connection
- C. Positive liquid seal required at trap

The depth of a running trap (see the following illustration) should be either 1" (2.5 cm) or a depth that permits unrestricted condensate drainage without excessive air discharge.

Field experience has shown condensate drain traps with an open vertical tee between the air handler and the condensate drain trap can improve condensate drainage in some applications, but may cause excessive air discharge out of the open tee. The manufacturer does not prohibit this type of drain but does not recommend it due to the resulting air leakage. Regardless of the condensate drain design used, it is the installer's responsibility to ensure the condensate drain system is of sufficient design to ensure proper condensate removal from the coil drain pan.

### Running Trap



- A. Pitch toward drain
- B. 1" (2.5 cm) minimum
- C. Drain trap
- D. Condensate drain connection

**NOTE:** Connect the same size drain or larger as on the unit.

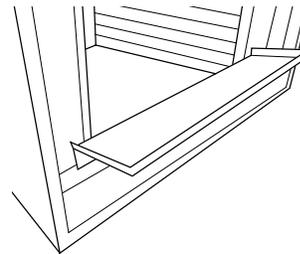
## WARNING

**Do not use this coil on OIL furnaces or any application where the temperature of the drain pan may exceed 300°F. A field fabricated metal drain pan should be used for these type of applications. Failure to follow this warning may result in property damage and/or personal injury.**

## Horizontal Coil Water Blow-Off Bracket

WCH4860P4D coils are shipped with an accessory kit containing a sheet metal bracket. For horizontal-left applications where the airflow may exceed 1,600 CFM, this bracket must be installed on the left side of the drain pan as shown in the "Horizontal Blow-Off Bracket" illustration.

### Horizontal Blow-Off Bracket



# REFRIGERANT LINES

## CAUTION

To protect the unit when welding close to the painted surfaces, the use of a quenching cloth is strongly advised to prevent scorching or marring of the equipment finish. Solder with a minimum of 5% silver is recommended.

- 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.
- To avoid overheating after brazing, quench all welded joints with water or a wet rag.
- For the correct tubing size, follow the specification for the condenser/ heat pump.

## WARNING

This product is factory-shipped under pressure. Follow these instructions to prevent injury.

## 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.

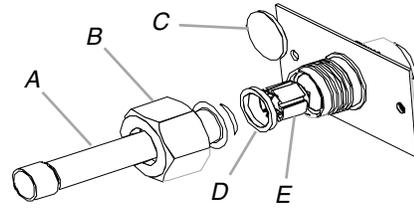
**NOTE:** Tubes of smaller size require less heat to bring the tube to brazing temperature before adding brazing alloy. The use of a heat shield when brazing is recommended to avoid burning the serial plate or the finish on the unit.

## SPECIAL INSTRUCTIONS

This coil comes equipped with a check style flowrator for refrigerant management. For most installations with matching applications, no change to the flowrator orifice is required. However, in mix-matched applications, a flowrator change may be required. See the piston kit chart or consult your local distributor for details regarding mix-matched orifice sizing. If the mix-matched application requires a different piston size, change the piston in the distributor on the indoor coil before installing the coil, and follow the procedure shown below.

1. Loosen the  $\frac{1}{16}$ " nut one turn only to allow high pressure tracer gas to escape.  
**NOTE:** No pressure loss indicates a possible leak.
2. After the gas has escaped, remove the nut and discard the black or brass cap.
3. Remove the check piston to verify it is correct, and then replace the piston. See piston kit chart in kit instructions.
4. Use a tube cutter to remove the spin closure on the suction line.
5. Remove the tailpiece clamped to the exterior.

6. Slide the  $\frac{1}{16}$ " nut into position on the tailpiece.
7. Braze the tailpiece to the line set liquid tube.



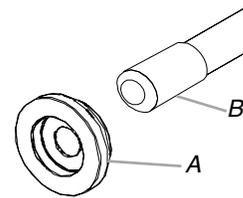
A. Tailpiece  
B.  $\frac{1}{16}$ " nut  
C. Black or brass cap  
D. White Teflon® seal  
E. Piston

8. Insert the suction line into the connection.
9. Slide the insulation and the rubber grommet at least 18" (45.7 cm) away from the braze joint.
10. Braze the suction line.
11. After the tailpiece has cooled, verify the position of the white Teflon® seal and hand tighten the nut.
12. Torque the  $\frac{1}{16}$ " nut to 10 to 25 ft-lbs or tighten  $\frac{1}{8}$  turn.

## CAUTION

Excessive torque can cause orifices to stick. Use the proper torque settings when tightening orifices.

13. Replace the suction line grommet and insulation.



A. Rubber grommet  
B. Suction line with spin closure

14. Check the fittings for leaks after complete installation.
15. Evacuate and charge on the low side.  
**NOTE:** With the piston in the distributor, the seal end should point inside the distributor body and should not be seen when looking into the end of distributor. Make sure the piston is free to rotate, and move up and down in the distributor body.  
**IMPORTANT:** Note 2 in the piston kit chart does not apply to CH coils.  
**NOTE:** Specifications and performance data listed herein are subject to change without notice.

## ASSISTANCE OR SERVICE

If you need further assistance, you can write to the below address with any questions or concerns:

Tradewinds Distributing Company, LLC  
14610 Breakers Drive  
Jacksonville, FL 32258

Please include a daytime phone number in your correspondence.  
Or call toll free: 1-866-944-7575.