Please read this manual carefully before installation and keep it for future reference.

Installation & Owner's Manual

MRCOOL®

COMFORT MADE SIMPLE

Hyper-Heat Single-Zone 24K-60K Ducted Air Handler & Condenser

Due to updates and constantly improving performance, the information and instructions within this manual are subject to change without notice. Please visit www.mrcool.com/documentation to ensure you have the latest version of this manual.

Version Date: 06/27/23

INDOOR UNIT INSTALLATION

Indoor Unit Parts

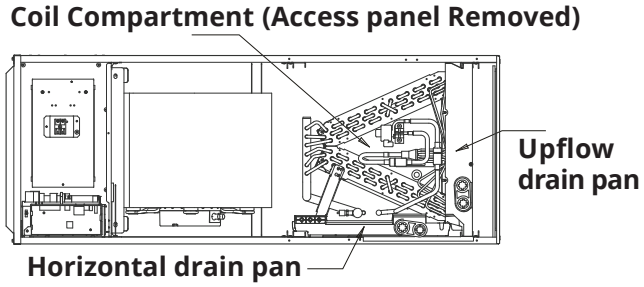


Fig. 2.1

Safety Precautions

WARNING

- ***DO NOT*** **install the indoor unit in a bathroom, laundry room, or any location where it could be exposed to excessive amounts of moisture. This could cause the wiring of the unit to short or corrode.**
- **Securely install the indoor unit on a structure that can sustain the weight of the unit. If the structure is too weak, the unit could fall and cause personal injury, unit or property damage, and/or death.**
- **Keep flammable materials and vapors (such as gasoline) away from the air handler. Also, ensure that any heating elements are at least 18 in (46 cm) above the floor if the air handler is being installed in a garage. Failure to follow these instructions could result in death, fire, and/or explosion.**

CAUTION

- **Install the indoor and outdoor units, cables, and wires at least 3.2 ft (1 m) away from televisions or radios to prevent static or image distortion. Depending on the appliances, a 3.2 ft (1 m) distance may not be sufficient.**
- **If the indoor unit is installed on metal, it must be electrically grounded.**

Indoor Unit Installation Instructions

The indoor unit should be installed in a location that meets the following requirements:

- ☑ **Enough room for the installation and maintenance to be performed.**
- ☑ **Enough room for the refrigerant piping and drain pipe.**
- ☑ **The ceiling is horizontal and its structure can sustain the weight of the indoor unit.**
- ☑ **The air inlet and outlet are not impeded.**
- ☑ **Room for properly sized return and supply ducts must be maintained.**
- ☑ **There is no direct radiation from heaters.**

CAUTION

DO NOT **install the indoor unit in any of the following locations:**

- ⊘ **Areas where oil drilling or fracking is being performed.**
- ⊘ **Coastal areas with high salt content in the air.**
- ⊘ **Areas with caustic gases in the air, such as near laundry vents.**
- ⊘ **Areas where power fluctuations can occur, such as near a factory.**
- ⊘ **Enclosed spaces, such as cabinets.**
- ⊘ **Areas with strong electromagnetic waves.**
- ⊘ **Areas where flammable materials or gas are stored.**
- ⊘ **Rooms with high humidity, such as bathrooms or laundry rooms.**

IMPORTANT

- **Be sure to apply sealant around any places where wires, refrigerant piping, and condensate piping enter the air handler cabinet.**
- **Use duct tape and/or sealing compound to seal any space around the holes where condensate piping exits the cabinet. Warm air must not be allowed to enter through any gaps or holes in the cabinet.**

Indoor Unit Dimensions and Clearance Requirements

WARNING

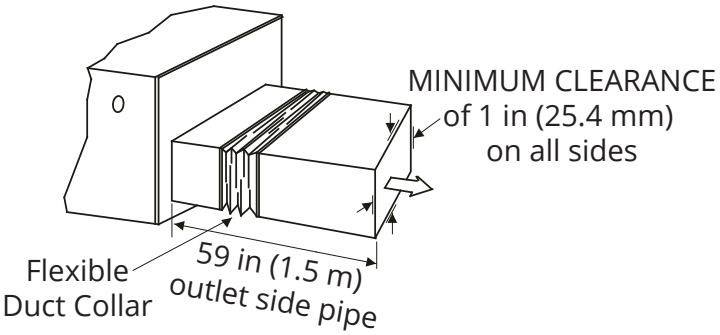
- **There must be an airtight seal between the bottom of the air handler and the return air plenum. In order to achieve this, use fiberglass sealing strips, foil duct tape, caulking, or an equivalent sealing method to ensure a tight seal.**
- **Return air must not be drawn from a room where the air handler or any gas-fueled appliance (ex: water heater), or carbon monoxide-producing device (ex: wood fireplace) is installed.**

Indoor Unit Clearance Requirements

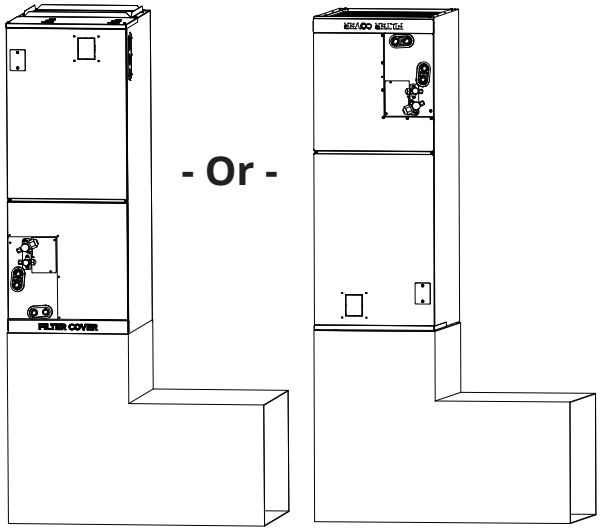
The distance between the mounted indoor unit should meet the specifications illustrated in the following diagram.

Horizontal Installations

Plenum Clearances

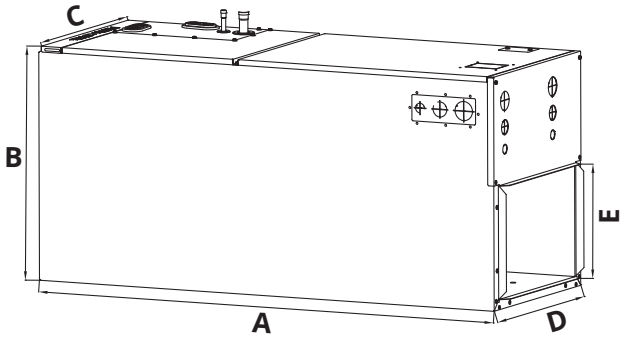


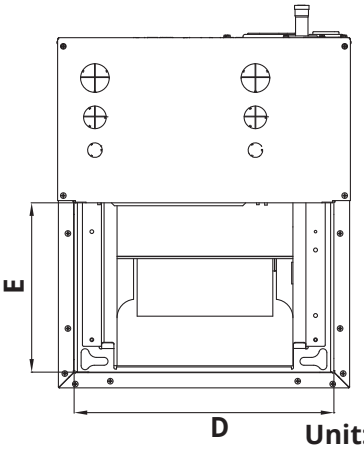
Vertical Installations



Mounting instructions: When installed vertically (upflow or downflow), the lower end of the air outlet needs to be connected to the L-shaped metal air duct and fastened by screws.

Indoor Unit Dimensions





Unit: inch (millimeter)

Dimensions	Model Capacity (Btu/h)		
	24K	36K~48K	60K
Length of A	45 in (1143 mm)	49 in (1245 mm)	53 in (1346 mm)
Length of B	21 in (533 mm)	21 in (533 mm)	21 in (533 mm)
Length of C	17.5 in (445 mm)	21 in (533 mm)	24.5 in (622 mm)
Length of D	15.75 in (400 mm)	19.3 in (490 mm)	22.85 in (580 mm)
Length of E	10.25 in (260 mm)	10.25 in (260 mm)	10.25 in (260 mm)

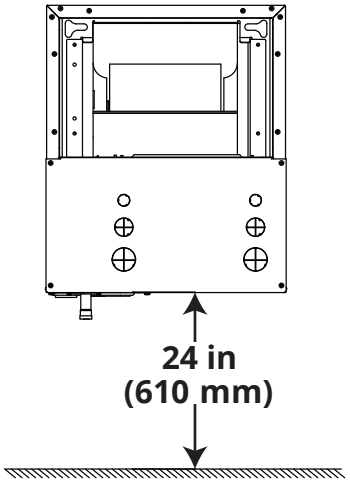
Filter Dimensions

Unit: inch (millimeter)

Model Capacity (Btu/h)	Width	Depth	Thickness
24K	16 in (406.4 mm)	20 in (508 mm)	1 in (25.4 mm)
36K-48K	20 in (508 mm)	20 in (508 mm)	1 in (25.4 mm)
60K	23 in (584.2 mm)	20 in (508 mm)	1 in (25.4 mm)

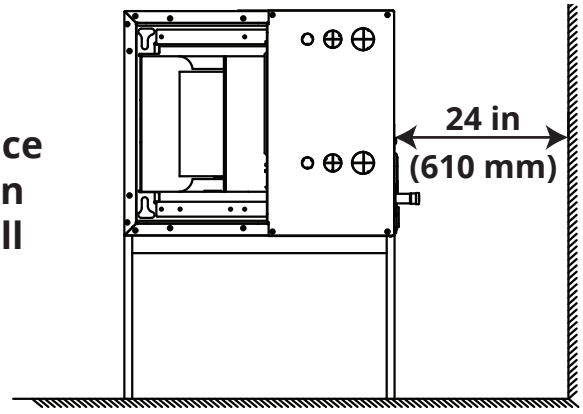
Indoor Unit Dimensions and Clearance Requirements (continued)

Vertical installations



Minimum clearance required between air handler & wall

Horizontal installations



Note on Ductwork & Connections

Air supply and return can be handled in one of several ways depending on which is best suited for the type of installation. Please see the dimensions on the previous page to determine duct inlet and outlet connection sizes to match the air handler. The vast majority of problems encountered with combination cooling systems can be linked to improperly designed or installed ductwork. For this reason, it is highly important that the duct system be properly designed and installed.

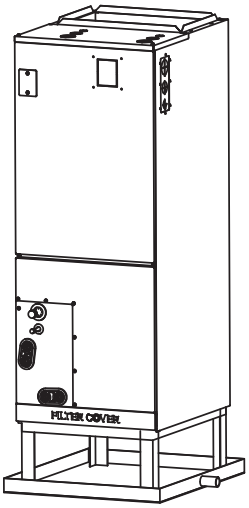
The use of flexible duct collars will minimize the transmission of vibration and noise into the conditioned space. In an installation where the return air duct is short, or where sound is likely to be a problem, a sound absorbing liner should be used inside the duct.

Insulation of the ductwork is a requirement anywhere it runs through an uncooled space during the cooling season. The use of a vapor barrier is recommended to prevent absorption of moisture from the surrounding air into the insulation. The supply air duct should utilize a properly sized transition in order to match the unit opening. All ducts should be suspended using flexible hangers and never fastened directly to the structure. This unit is not designed for non-ducted (free-blow) applications. Ductwork should be fabricated and installed in accordance with local and/or national codes.

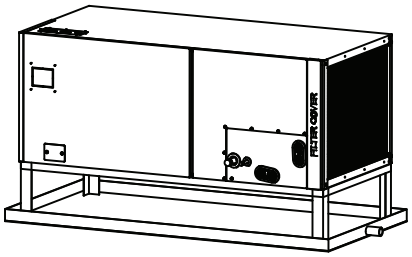
Installation Mounting Positions

The unit can be installed in a vertical (downflow or upflow) or a horizontal (right or left) configuration.

Vertical up installations



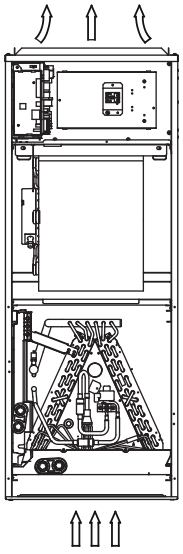
Horizontal installations



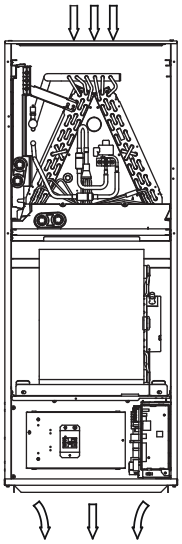
IMPORTANT

- **A field-fabricated secondary drain pan (not included), with a drain pipe to the outside of the building is required in all installations over a finished living space or in any area that may be damaged by overflow from the main drain pan. NOTE: A secondary drain pan is required for horizontal installations.**
- **This unit is not designed for non-ducted (free-blow) applications. Electric heat kit elements and/or blower is easily accessible without ductwork and creates a safety hazard that could result in electric shock and/or personal injury.**

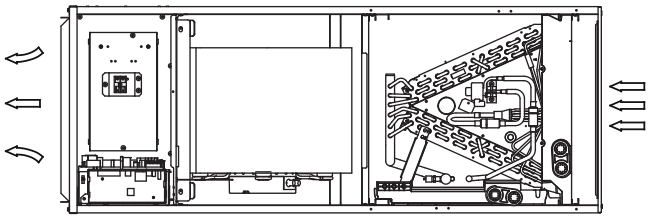
Installation Mounting Positions (continued)



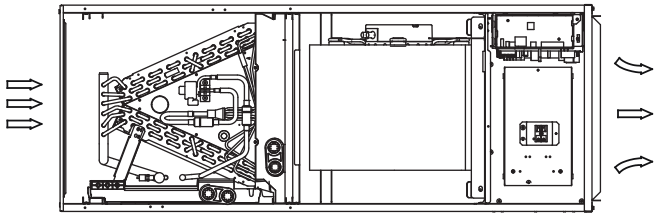
Vertical Upflow



Vertical Downflow



Horizontal Left

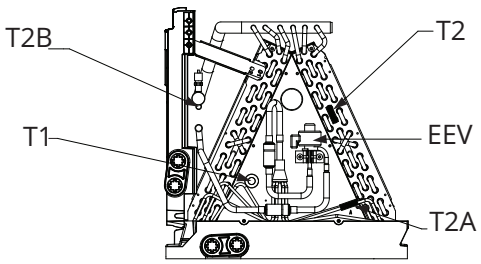


Horizontal Right

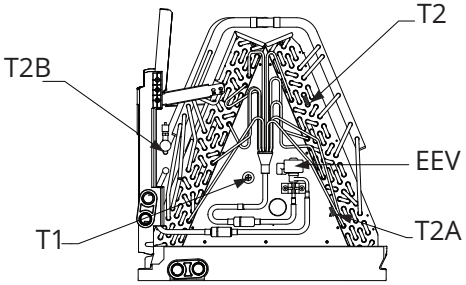
Temperature Sensor Locations

The illustrations below represent the position of each temperature sensor of the evaporator coils. Location dependent on model/capacity.

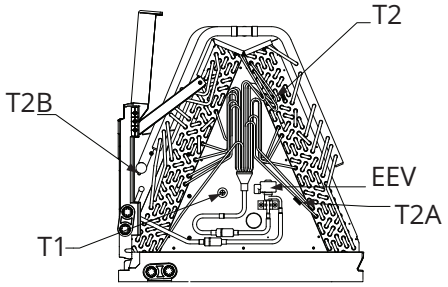
24K model



36K & 48K model



60K model



NOTE: T2A & T2B sensors are only available on some units.

Installation Overview For Horizontal Left or Vertical Upflow

The steps below represent an overview of completing the installation of a horizontal left or vertical upflow indoor unit once it has been securely mounted in place. Please refer to the sections further in this manual for more detailed information of each step.

1.) Open the upper cover.

2.) Open the cover of the electronic control box.

3.) Connect the wiring according to the appropriate wiring diagram (connect wiring to outdoor condenser first). Please refer to the **Electrical Connections** section.

4.) Replace cover of electronic control box & reinstall upper cover.

5.) Connect the refrigerant piping.

6.) Install the drainage pipes.

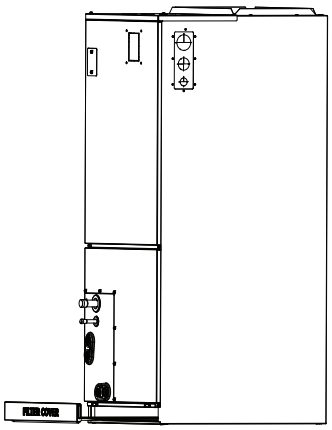
NOTE ON HORIZONTAL RIGHT & VERTICAL DOWNFLOW INSTALLATIONS

If you're planning to install the indoor unit in a horizontal right or vertical downflow configuration,additional steps are required for the unit to be installed in these positions. The evaporator and drain pan will need to be removed from the cabinet and rotated 180° then reinstalled. For more detailed instructions on how to complete these steps, please refer to the next page.

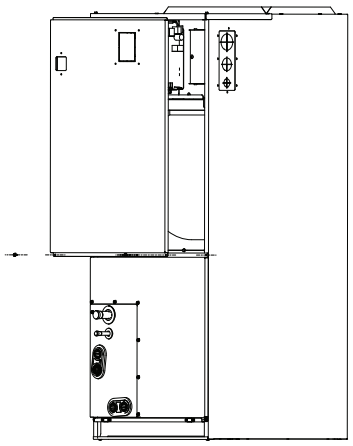
Horizontal Right & Vertical Downflow Conversion & Installation Overview

In order to install the air handler in a horizontal right or vertical downflow position the following steps must be completed. If these steps are not followed, the unit may not operate correctly and it could cause damage to the unit, personal property, and/or cause personal injury.

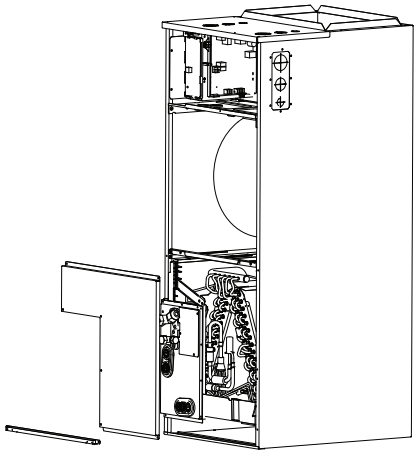
1. Remove the filter door, then remove the filter.



2. Remove the upper cover assembly.



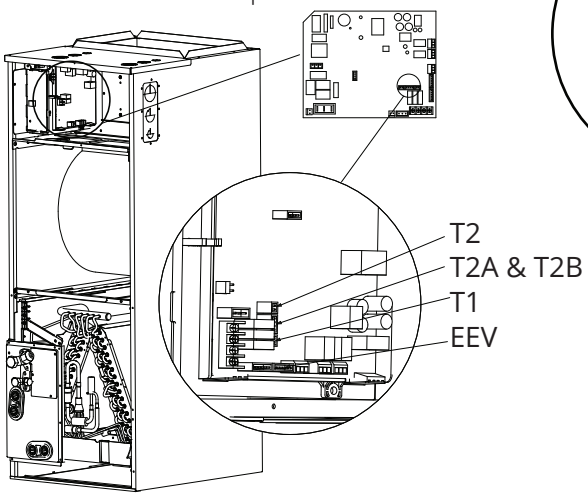
3. Remove evaporator cover plate.



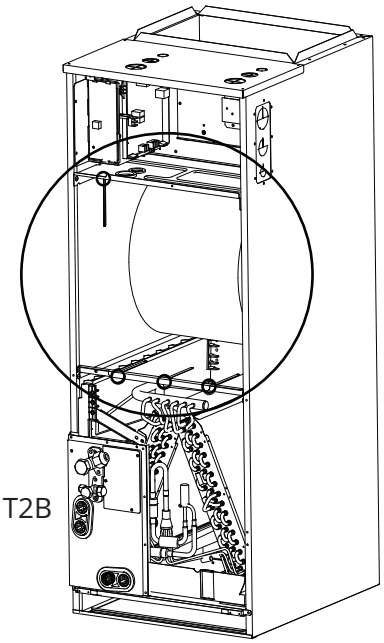
4. Remove T1, T2, T2A, T2B sensor plug, and EEV valve wiring.

   Disassemble T1, T2, T2A, T2B temperature sensor and EEV.

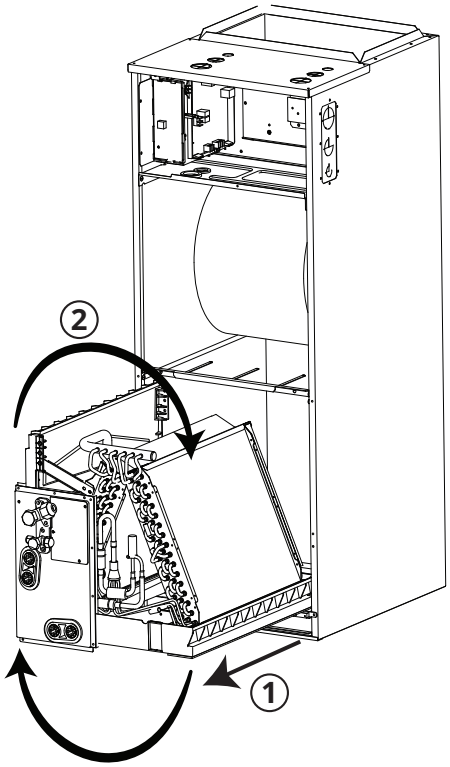
   T2: Evaporator central sensor plug
   T2A: Evaporator input sensor plug
   T2B: Evaporator output sensor plug
   T1: Room temperature sensor
   EEV: Electronic expansion valve



5. Remove T1, T2, T2A, T2B temperature sensor, & EEV wire ties.



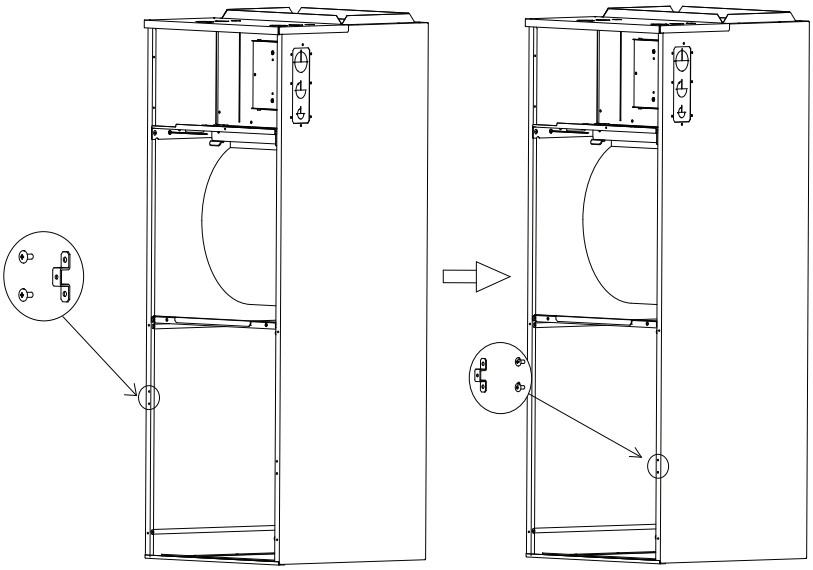
6. Remove the evaporator and drain pan. Then, rotate them 180°



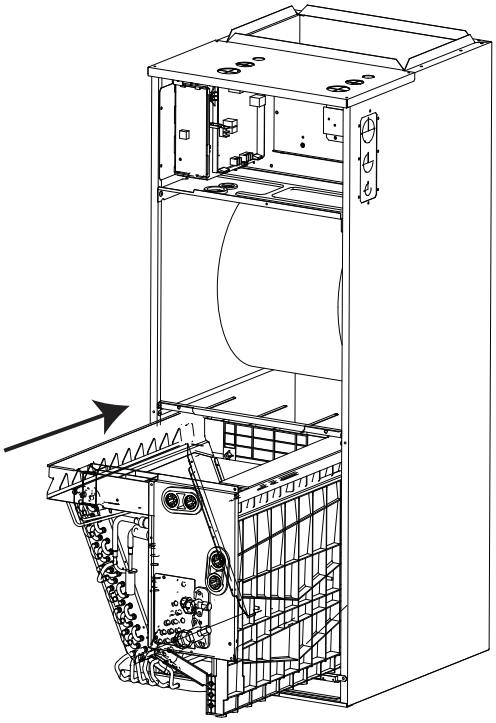
NOTE

The T2A and T2B sensors are only available on some units.

7. Adjust the position of the two mounting brackets .



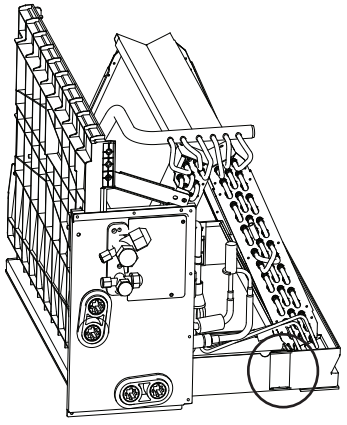
8. Reinstall the evaporator and drain pan.

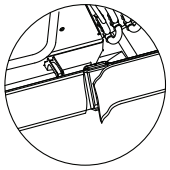


9. Reinstall T1, T2, T2A, T2B sensor plug, EEV, and tie up the temperature sensor wires.

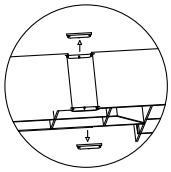
NOTE

The wiring harness needs to be routed so it passes through the groove of the water receiving tray and is then placed on the hook of the water receiving tray as shown below. Follow the directions in Fig. 2.2 for step-by-step instructions of how to complete this step.

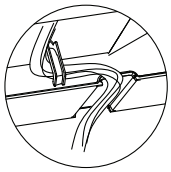




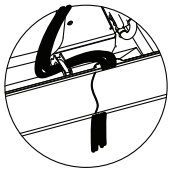
Cut the foam gasket.



Remove knockouts as shown.



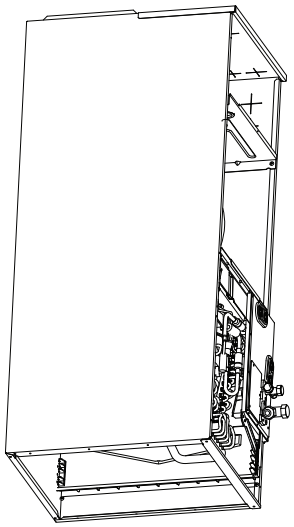
Hook the wire into the buckle and feed it down through the wire slot.

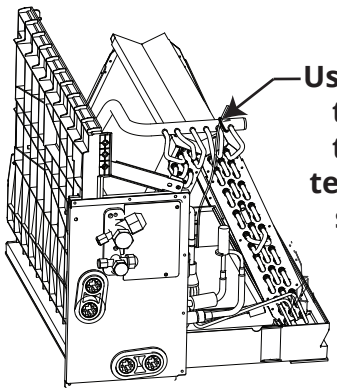


Paste the foam gasket back into place.

Fig. 2.2

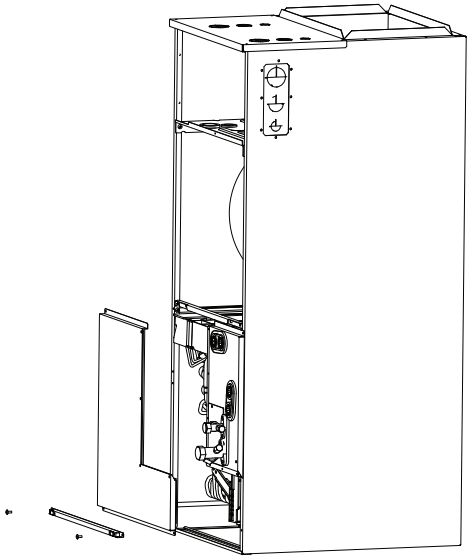
10. Evaporator assembled in place.



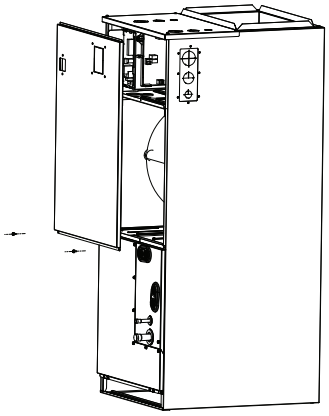


Use cable ties to secure the room temperature sensor as shown.

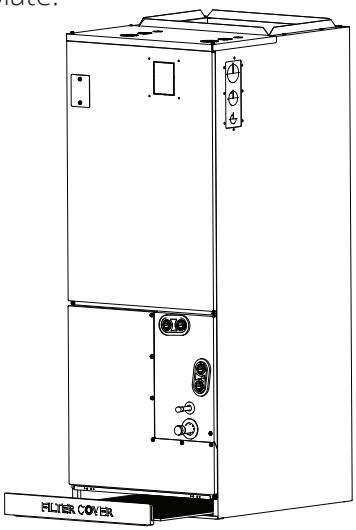
11. Reinstall the evaporator cover plate.



12. Open the cover of the electronic control box.
13. Connect the wiring according to the appropriate wiring diagram (connect wiring to outdoor condenser first). Please refer to the **Electrical Connections** section.
14. Close the cover of the electronic control box.
15. Reinstall the upper cover assembly.



16. Reinstall the filter and filter plate.



17. Connect refrigerant piping.
18. Install drainage pipes.