

INSTALLATION INSTRUCTION

Branch Box

VRF SYSTEMS
OUTDOOR UNIT ACCESSORIES
507454-01
10/2014

TP Technical
Publications



THIS MANUAL MUST BE LEFT WITH THE OWNER FOR FUTURE REFERENCE

These instructions are intended as a general guide and do not supersede local codes in any way. Consult authorities having jurisdiction before installation.

⚠ WARNING

Improper installation, adjustment, alteration, service or maintenance can cause property damage, personal injury or loss of life.

Installation and service must be performed by a licensed professional HVAC installer, service agency or the gas supplier.

Failure to follow safety warnings and these instructions exactly could result in property damage, dangerous operation, serious injury, or death.

Any additions, changes, or conversions required in order for the appliance to satisfactorily meet the application needs must be made by a licensed professional HVAC installer (or equivalent) using factory-specified parts.

Do not use this system if any part has been under water. A flood-damaged appliance is extremely dangerous. Immediately call a licensed professional HVAC service technician (or equivalent) to inspect the system and to replace all controls and electrical parts that have been wet, or to replace the system, if deemed necessary.

The State of California has determined that this product may contain or produce a chemical or chemicals, in very low doses, which may cause serious illness or death. It may also cause cancer, birth defects, or reproductive harm.

⚠ CAUTION

As with any mechanical equipment, personal injury can result from contact with sharp sheet metal edges. Be careful when you handle this equipment.

⚠ IMPORTANT

The Clean Air Act of 1990 bans the intentional venting of refrigerant (CFCs, HCFCs and HFCs) as of July 1, 1992. Approved methods of recovery, recycling or reclaiming must be followed. Fines and/or incarceration may be levied for noncompliance.

These units must be installed as a part of a matched system as specified in the Product Specifications (EHB) bulletin.

General

Branch box V8MIDB01 (12A51) is used with VPA mini heat pump outdoor units to simplify refrigerant piping connections with up to four indoor units to create a VRF (variable refrigerant flow) system that uses HFC-410A refrigerant. Two branch boxes can be used to connect a total of up to seven indoor units to a single outdoor unit.

Refer to the Product Specification bulletin (EHB) for the proper use of branch boxes with matching VPA mini heat pumps, indoor units, branch pipes, line sets and controls. These instructions are intended as a general guide and do not supersede local or national codes in any way. Authorities having jurisdiction should be consulted before installation.

Shipping and Packing List

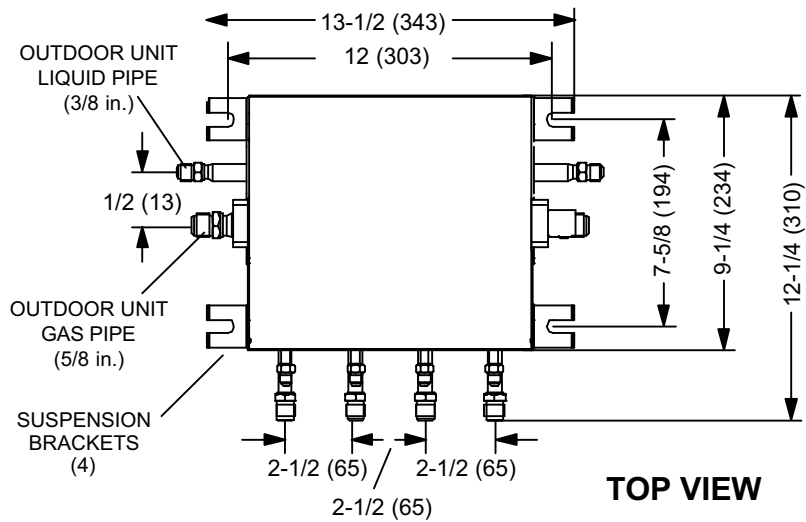
Check the components for shipping damage. If you find any damage, immediately contact the last carrier.

Package 1 of 1 contains the following:

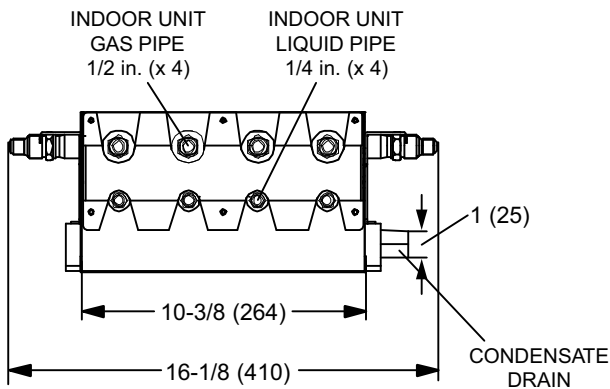
- 1 - Assembled branch box
- 4 - ¼" to ⅜" adaptor
- 4 - ½" to ⅝" adaptor
- 5 - Gas pipe insulation sleeves (for flared connections)
- 5 - Liquid pipe insulation sleeves (for flared connections)

Unit Dimensions - inches (mm)

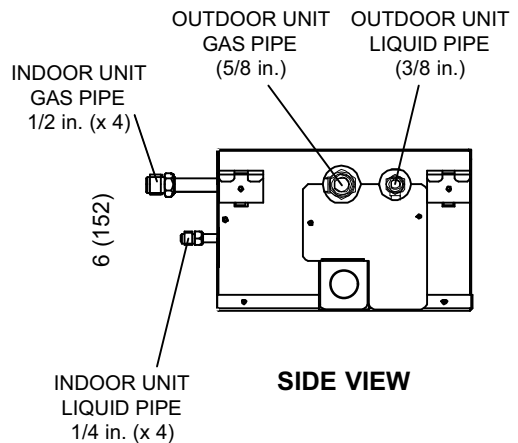
V8MIDB01 Branch Box



TOP VIEW



FRONT VIEW (Indoor Unit Connections)



Branch Box Installation

Use the provided suspension brackets to suspend the branch box between the outdoor and indoor units. The branch box location must accommodate the size of the box and the required straight pipe lengths entering the branch box. Refer to the dimension drawing above and figure 3.

- 1 - Use the branch box as a template to mark the location of the suspension brackets. Use a plumb line or a laser to transfer the bracket positions to the main structural ceiling.
- 2 - **Make sure that the structural ceiling is able to support the weight of the branch box. It may be necessary to add extra support.** If the structural ceiling is constructed of concrete, install anchors to accept four 3/8" threaded rods to suspend the branch box. If the structural ceiling includes wooden joists, use angle iron or a Unistrut channel fixed securely in place to accept the 3/8" threaded rods. See figure 1.

- 3 - Slide one nut and one washer onto each threaded rod. Use electrical tape to keep the washer from falling off. Position the nuts slightly above the final resting place of the four suspension brackets.

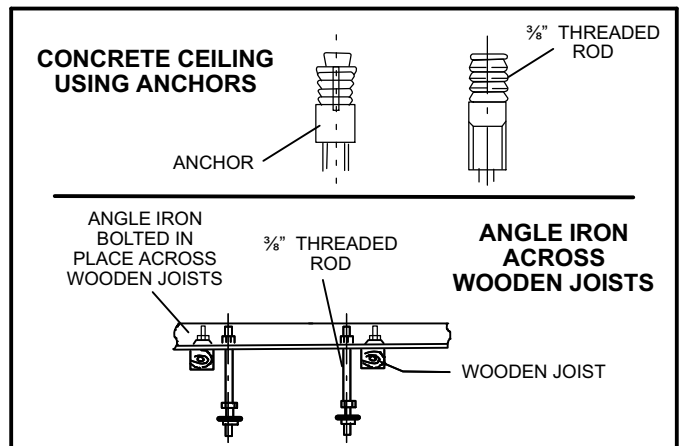


Figure 1. Suspending Methods

- 4 - Raise the branch box and insert the threaded rods into the suspension brackets. Slide a washer and then a nut onto each rod below each suspension bracket. Use the leveling nut (beneath suspension bracket) to adjust the branch box. Remove the electrical tape holding the upper washers and nuts in place and tighten each of the four nuts above the brackets down onto the brackets. This will ensure that the branch box remains level. See figure 2.
- 5 - Continue with refrigerant piping connections.

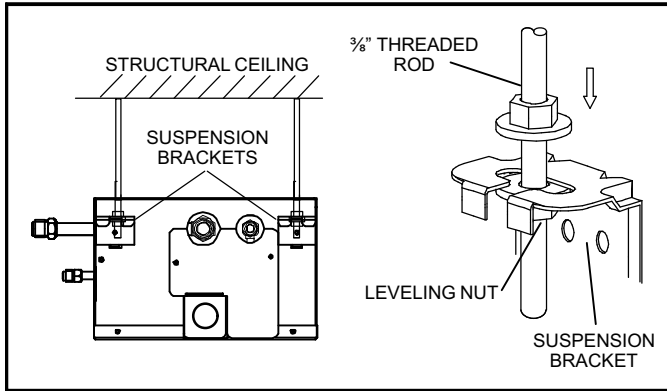


Figure 2. Suspension Hardware

Refrigerant Piping Connections

IMPORTANT !
 Do not remove seals from refrigerant piping stubs until connections are being made. This will prevent dust or water from getting into the refrigerant piping before it is connected.

Field piping connections from the outdoor unit gas and liquid pipes are provided on both sides of the branch box to provide easy access in all applications. Each branch box can accommodate up to four indoor units. Outgoing gas and liquid connections are on the front of the box.

Refrigerant piping connections are made using the provided brass flare nuts. Adaptors are provided with the branch box to accommodate use of different pipe sizes. Refer to the VPA mini heat pump installation instructions for detailed information on refrigerant piping connections.

After refrigerant piping has been installed and checked for leaks, apply the provided insulation sleeves over all flared connections.

If the application requires the use of two branch boxes to accommodate five, six or seven total indoor units, consult the Lennox VRF Application Department for assistance.

Branch boxes cannot be connected in series.

⚠ WARNING

Use only R410A refrigerant to charge this system. Use of other refrigerant or gas will damage the equipment.

Do not allow air or other contaminants to enter system during installation of refrigerant piping. Contaminants will result in lower system capacity and abnormally high operating pressures and may result in system failure or explosion.

Insulate all refrigerant piping.

After refrigerant piping connections have been completed, check the system for leaks per commissioning instructions.

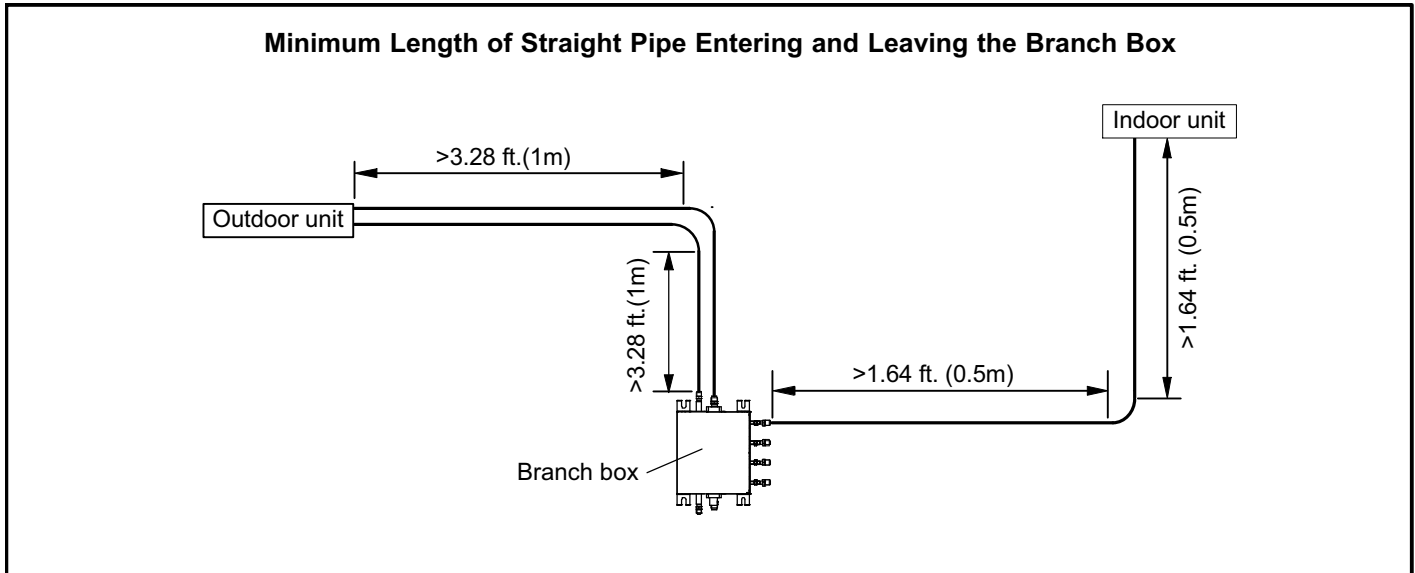
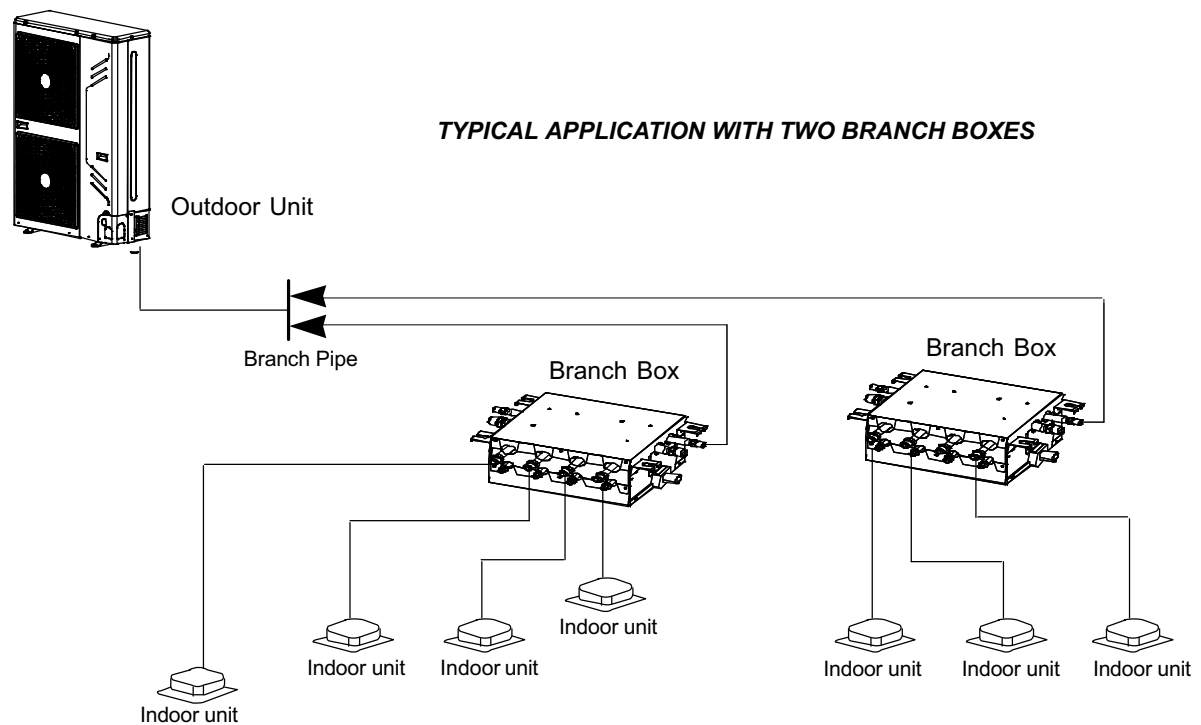
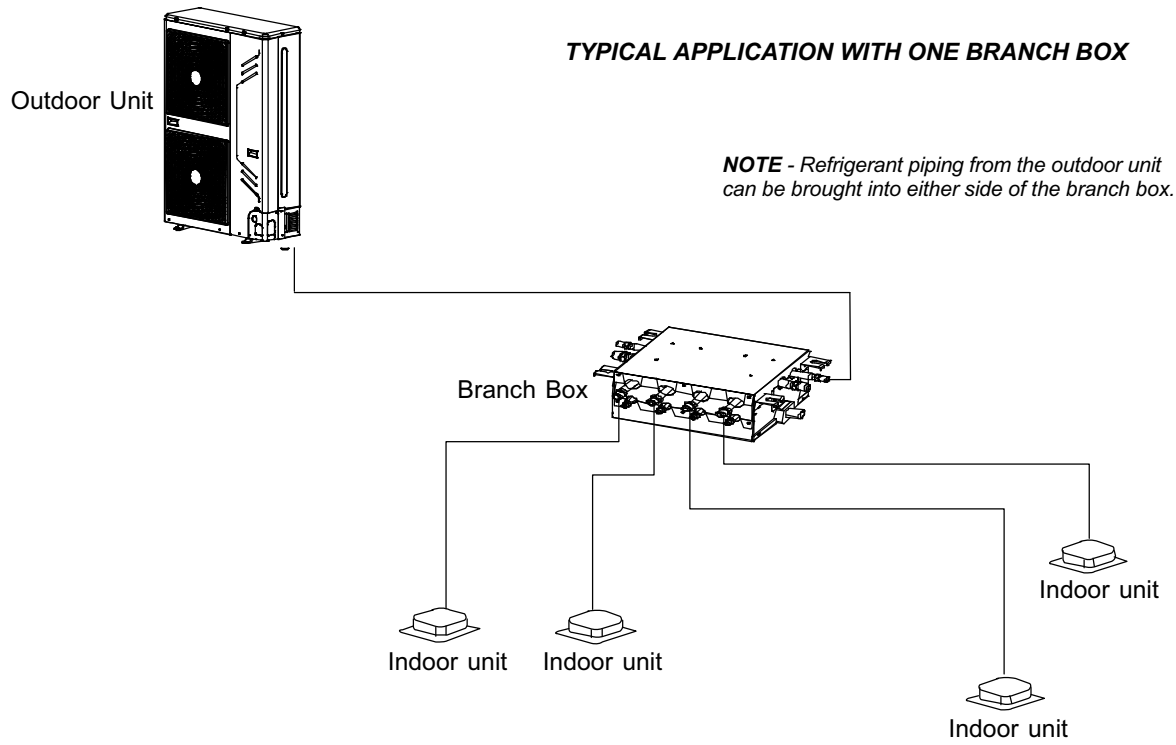


Figure 3



NOTE - Branch box(es) should be placed between the outdoor unit and indoor units. **Branch boxes cannot be connected in series.**