



Riser and Cabinet Installation

Vertical Stacked BULLDOG Heat Pump (Universal Cabinet)



InnKeeper/HomeKeeper
Models: IK 008 – 018
HK 020 – 036

www.bulldogheatpump.com

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Cross reference to related documents:

- Vertical Stacked Bulldog Heat Pump Guide Specifications
- Installation, Operation, and Maintenance Manual

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INFORMATION

HANDLING

Care must be taken in handling the cabinet and risers and other accessories to ensure that this equipment does not sustain any damage. It is recommended that the cabinet and risers be transported individually on a two-wheel cart.

The protective shipping packaging should remain on the cabinet until they are ready for installation. During construction, the unit must not be run and shall be sheltered from contaminants and debris such as drywall dust, wood chips, and paint that could damage, which may result in diminished performance.

STORAGE

The cabinet should be stored upside down to prevent damaging the foam gaskets on the underside of the cabinet.

Both the cabinet and risers should be stored in a non-corrosive environment sheltered from conditions of extreme temperature or humidity. Subjecting the unit and risers to conditions of this nature may result in significantly reduced performance, reliability, and operational life.

The unit is intended for interior use only and should be stored indoors at all times to protect it from the elements and to help eliminate the potential growth of indoor air quality (IAQ) contaminants.

If indoor storage is not possible, the equipment may be stored outdoors during the summer months only, if the following provisions are met:

1. The equipment must be placed on a dry surface, or raised off the ground in a manner which allows for air-circulation beneath the unit.
2. A waterproof tarp must be used to cover the equipment in order to provide protection from the elements.
3. Continuous ventilation to the units must be provided to help prevent moisture accumulation on the interior and exterior surfaces. Moisture buildup on, or within the unit's insulation may result in microbial growth that can lead to odors and serious health-related IAQ problems.
4. The individual units shall not be stacked on top of one another.

UNIT CLEARANCE

The vertical stacked product has a sound-dampening front cover panel. The sound-dampening panel slides off with minimal service clearance. However, in the event of chassis replacement, the front service entrance must permit straight horizontal removal of the chassis. The return air path must be unobstructed during operation.

The installation of all vertical stacked product and components and accessories must be in accordance with all local code and regulations of all governing authorities having jurisdiction. The manufacturer recommends the following installation procedures.

It is the responsibility of the installing contractor to comply with all applicable codes and regulations. It is the responsibility of the installing contractor to ensure adequate service clearance for regular maintenance or for repair in place is established. The installing contractor will be responsible for removing the unit if it is not serviceable in place.

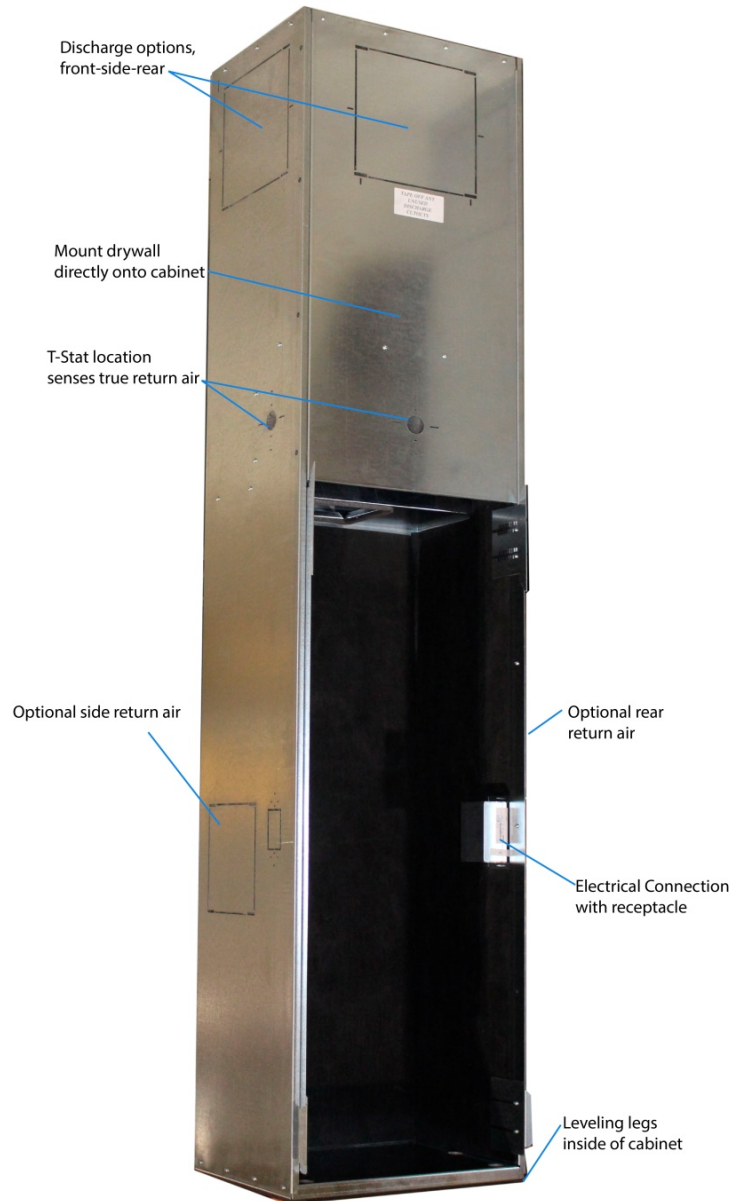


Figure 1

INSTALLATION

The information below details the installation procedure for a vertical stacked unit riser and cabinet.

Please read this document in its entirety prior to proceeding with the installation.

Specific site conditions may warrant variations in locations and dimensions.

GENERAL INSTALLATION CHECKLIST

1. Remove packaging and inspect the unit. Carefully check for shipping damage or material shortage; file a freight claim and notify appropriate sales representative if damage is found.
NOTE: The chassis and front panel are shipped separately from the cabinet and risers.
2. Verify the correct model and voltage as indicated by the model number.
3. Verify the installation location of the unit using the sheet metal template that is provided.
4. Verify that the power supply complies with the nameplate specification.

LOCATION

1. Determine cabinet location using the optional manufacturer-supplied template.
2. Locate core holes for risers using supplied template.
3. Locate the unit in an indoor area. The ambient temperature surrounding the unit must not be less than 45°F (7°C). Do not locate the unit in areas that may be subjected to freezing temperatures.

CABINET PLACEMENT

1. Review the riser schedule to identify cabinet type and location.
2. Position the cabinet. Shim to make cabinet level, then anchor the cabinet with concrete bolts to floor (See Figure 3). If installing a base extension, bolt the extension to the concrete floor (See Figure 5).
3. The riser knockout to be left exposed for riser installation.



Figure 2

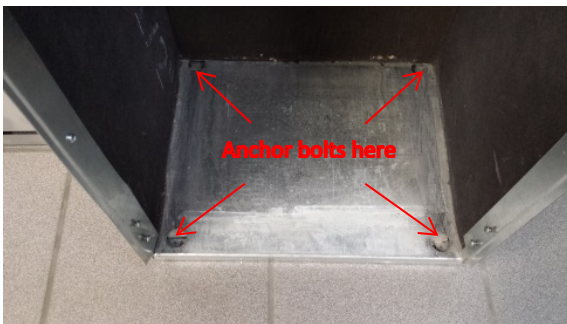


Figure 3



Figure 4

RISER BUNDLE INSTALLATION

1. The supply and return risers are standard type “M” copper. Type “L” copper is optional. The condensate riser is type “M” copper.
2. Risers are factory swaged expanded top end to accept risers from the unit above and to minimize field brazing. The factory will also pre-install service isolation ball valves on the supply and return risers.
3. The risers are pre-bundled with a metal channel for slip fit connection to the left or right side of the cabinet as indicated on the construction drawings. The copper risers need to be isolated from the metal channel and cabinet with neoprene isolation to prevent metal-to-metal contact with housing.
4. Match unit location with riser bundle nomenclature as indicated by the manufacturer supplied riser schedule, and the label affixed to the riser bundle.
5. Refer to Figure 7 (page 6) for positioning of risers pertaining to floor-to-floor installment. The riser diameter shall be as shown on plans. Riser length and schedule shall be coordinated with the mechanical contractor.
6. Hang the riser bundle slip fit connection onto the riser knockout on the cabinet. See Figure 5.
7. Align and insert riser into swage top end of the risers below. Do not scrape or dent the risers during positioning. The risers bottom ends should slide approximately 2” of the 3” swage top ends. This will allow for the floor to floor variations and prevent the riser joints from bottoming out.
8. Expansion allowance is not needed as the difference between the summer to winter temperature change is minimal.
9. Braze riser joints with Sil-Fos or 95/5 tin-antimony solder. Perform a system leak test.
10. A fire stop may be required for the riser openings in the floors. Consult local fire codes for dictation on appropriate requirements.
11. Refer to the consulting engineers instructions for riser anchoring requirements.

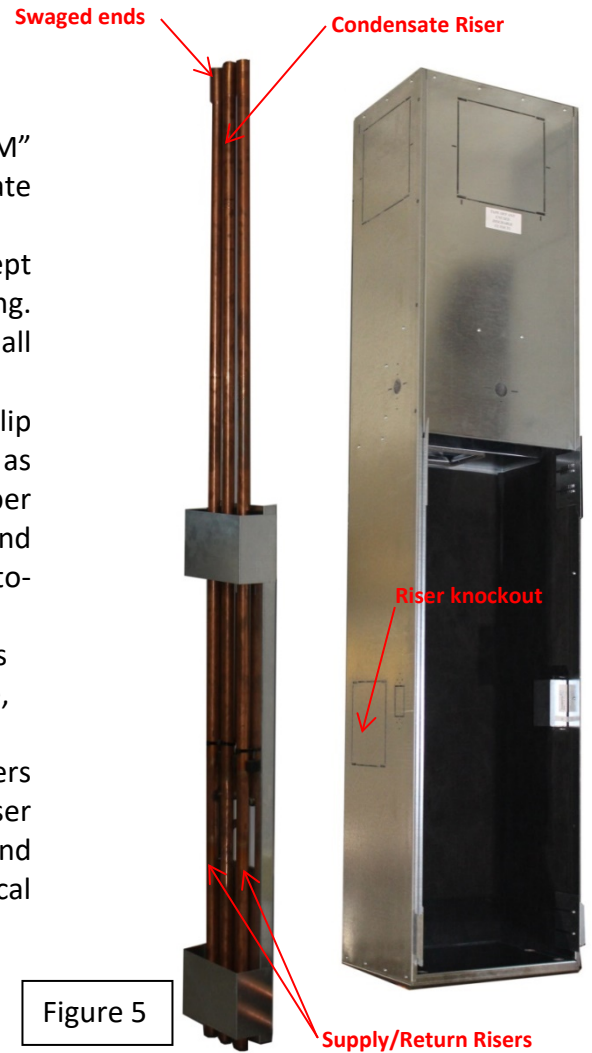


Figure 5



Figure 6

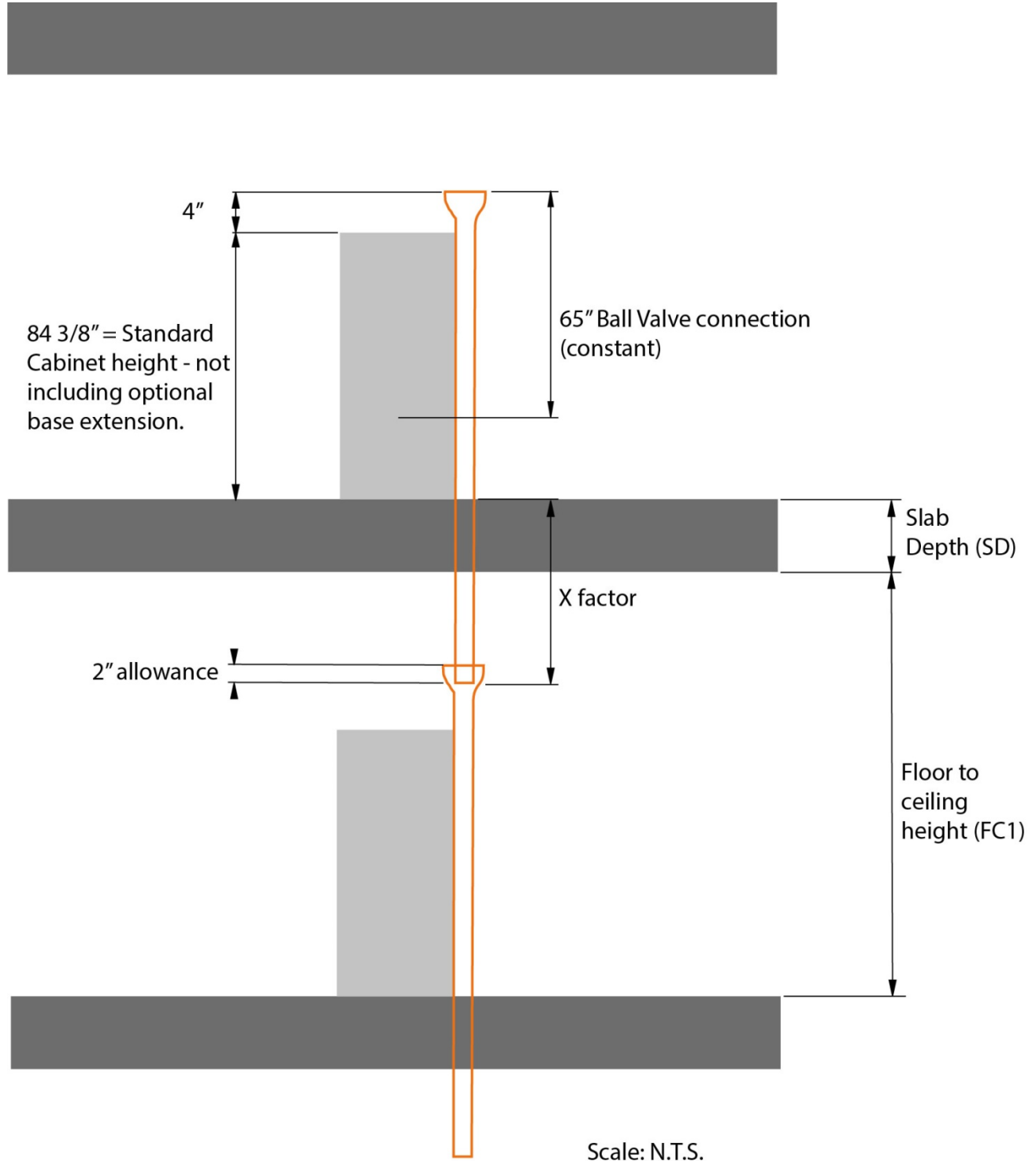


Figure 7

ELECTRICAL WIRING

Main Wiring

Electrical connections are made to the cabinet. Cabinets have knockouts for a standard single gang electrical box. Receptacle may be included with unit. Box must not protrude into cabinet more than 1/2" or it will interfere with the chassis installation or removal. Refer to Guide Specs for further wiring instructions.

Figure 8



DRYWALLING

1. Attach drywall to front of unit to ensure the proper fit of acoustic panel as shown in figure 11.
2. Glue or attach drywall with screws to the front of cabinet
3. It is permissible to glue or screw drywall directly to the side of the cabinet as long as the riser bundle is not on that side. Please note that the drywall screw must not be longer than the drywall thickness plus a maximum of 3/8".
4. Use studs to frame in the riser side of the cabinet where necessary. Keep screws away from the riser pipes.
5. Mount thermostat and connect to thermostat wire. Ensure that the thermostat is not mounted in direct sunlight, or within the supply airstream of the heat pump unit.
6. Wire thermostat to control board.
7. Connect power cord at cabinet electrical box.

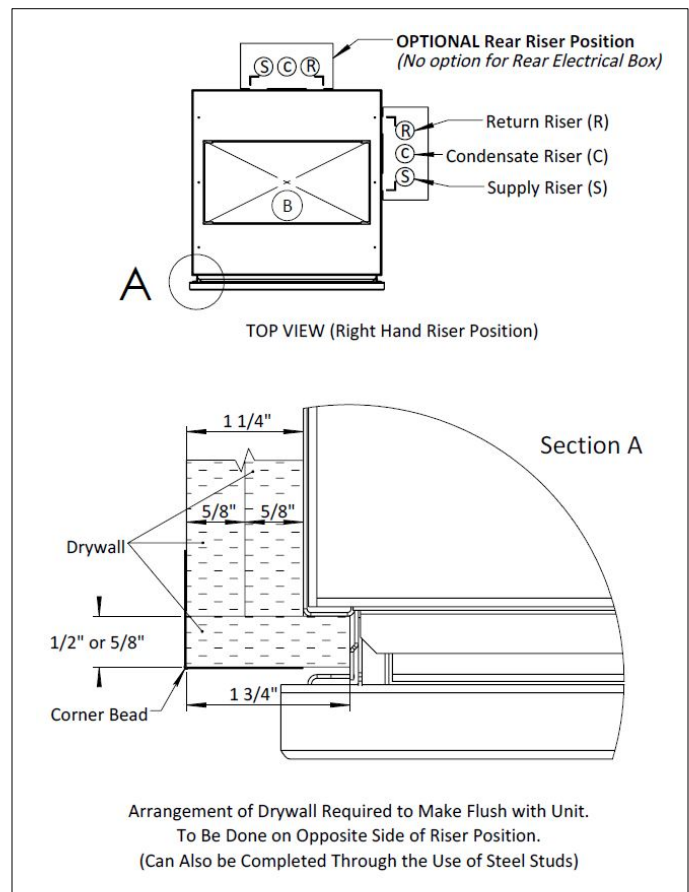
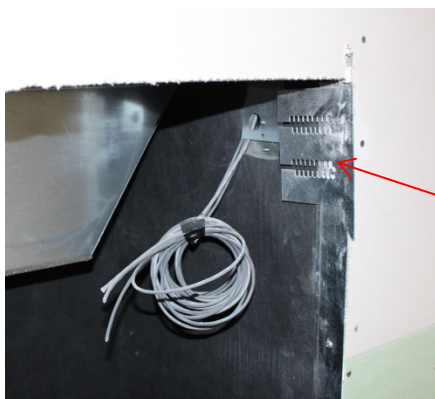


Figure 9



Front panel clips

Figure 10