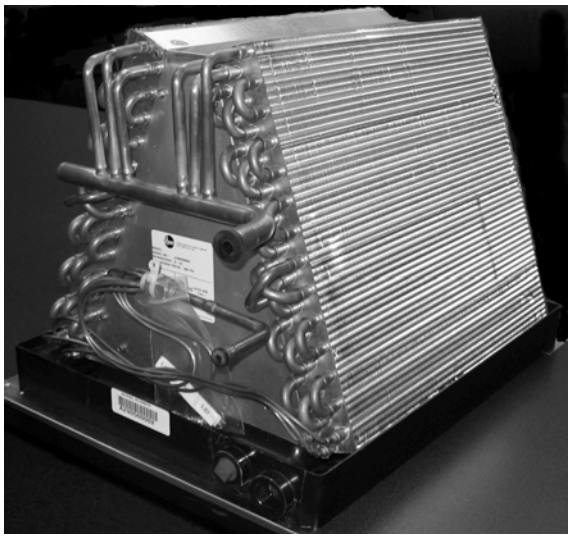
INDOOR COIL

Coil Installation Instructions
RCTA – B Model
Replacement A-Coil



WARNING!

BECAUSE OF POSSIBLE DAMAGE TO EQUIPMENT OR PERSONAL INJURY, INSTALLATION, SERVICE, AND MAINTENANCE SHOULD BE PERFORMED BY A TRAINED, QUALIFIED SERVICE PERSON. THIS PRODUCT CONTAINS NO CONSUMER SERVICEABLE ITEMS.

WARNING!

PROPOSITION 65: THIS PRODUCT CONTAINS FIBERGLASS INSULATION. RESPIRABLE PARTICLES OF FIBERGLASS ARE KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER.

General:

RCTA-B A-coil evaporator coil series are designed for use with outdoor cooling condensing or heat pump units. These instructions are intended as a general guide and do not supersede local codes in any way. Consult with local authorities having jurisdiction before installation.

Rheem Manufacturing Company
Fort Smith, AR 72903

RCTA-B036 coil will replace older Rheem coil models noted in Table 1 below:

RCAB-A031S	RCAB-A037S	RCLB-A024S	RCLB-A030S
RCLB-A036S	RCPB-B036S	RCPB-C024S	RCPB-C027S
RCPB-C036S	RCPB-C039S	RCQB-B018S	RCQB-C018S
RCQB-B024S	RCQB-C024S	RCQB-B030S	RCQB-C030S
RCQB-B036S	RCQB-C036S	RCTB-A024S	RCTB-A025S
RCTB-A036S			

Table 1

Vertical Upflow & Downflow Applications

These coils can be used in all vertical upflow and some downflow applications. This coil is designed to fit all RHQA-12 and 13 applications. RHQA-08 and 10 air handlers will require field modifications utilizing the parts supplied or removal of parts from the existing air handler. See the instructions later in this manual for details of the installation.

These coils will fit cooling coil plenums RXAL-B16, B20, or B22. Addition or modification of supplied parts or removal or modification of existing parts may be required. The instructions in this manual provide details of the installation.

Downflow applications are limited. Downflow applications for indoor airflows of greater than 1050 cfm can result in water blowoff and are not recommended.

Horizontal Applications

Horizontal applications utilize the existing RXCH-A14 drain pans. This will limit the horizontal application of these coils to air handlers RHQA-12 or RHQA-13. Horizontal installation in RHQA-08 or RHQA-10 air handlers is not recommended, as the coil is slightly larger than the RXCH-10 horizontal drain pan.

Flow Controls

These coils are supplied with a flow-check, fixed orifice flow control only. This flow control will allow the refrigerant flow to reverse for heating operation while bypassing the orifice. Some of the original coils noted in Table 1 may have been supplied with a thermostatic expansion value. A proper orifice size is included with this coil for those applications.

Heat Pump Applications

Heat pump applications are sensitive to correct charge balance between heating and cooling operation modes. The internal volume of the RCTA-B036 coil is:

1. About the same for RCQB-B,C024, 030, and 036 applications
2. About the same for all RCPB-B,C036, and C039 applications
3. Greater than the RCQB-B,C018 and RCPB-B,C024 and 027 applications

The RCTA-B036 is approved for all heat pump applications when replacing:

- RCQB-B,C024, 030, and 036 coils
- RCPB-B,C036 and C039 coils

The RCQB-C018 and RCPB-C024 and 027 coils can be replaced with the RCTA-B036 coil, but care must be taken when charging the system. ***The system must be charged in cooling only***. Heating pressures will be well below charge chart values.

Coil Dimensions

Suction Line –3/4”
Liquid Line – 3/8”

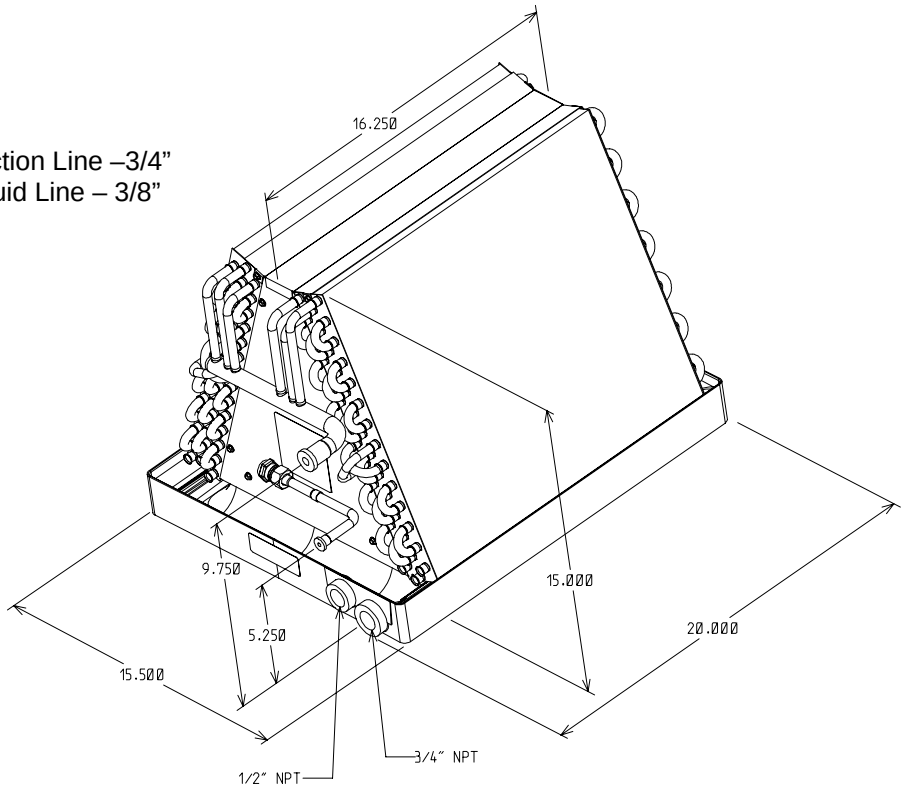


Figure 1

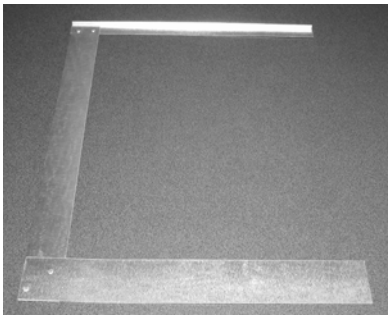
RCTA-B, Wet Coil Pressure Drop

Airflow CFM	800	1000	1200
Inches, WC	0.20	0.24	0.30

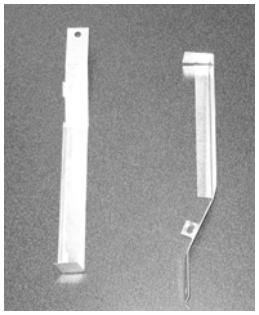
Table 2

Receiving:

Check coil for shipping damage. If you should find damage, immediately contact the last carrier. Verify carton contents to verify that all required parts are within the carton. Contents include:

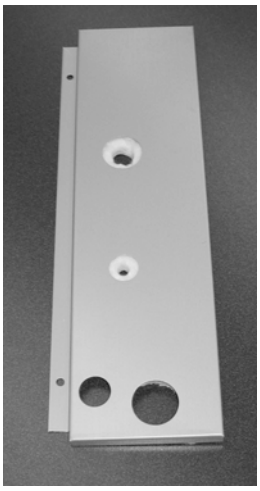


Bottom Adapter



Horizontal Brackets

Orifices
(contained within bag)



New Tubing
&
Drain Panel

Orifice Size	Location
57	Bag
60	Bag
65	Distributor
67	Bag
71	Bag
73	Bag

Table 3

Installation

IMPORTANT

The Clean Air Act of 1990 bans the intentional venting of refrigerant (CFC's and HFC's) as of July1, 1992. Approved methods of reclaiming must be followed. Fines and/or incarceration may be levied for non-compliance.

WARNING!

Coils are shipped with a 10 psi dry air holding charge. Puncture rubber plug on suction line to release charge before removing plugs. Note: The absence of pressure does not verify a leak. Check the coil for leaks before installing, or returning it to your local wholesaler.

CAUTION!

When an evaporator coil is installed in an attic or above a finished ceiling, an auxiliary drain pan should be provided under the unit as specified by most local building codes.

CAUTION!

Drain pans are made of a polymer that can withstand temperatures up to 400 deg F. Maintain 3" clearance on oil or drum type heat exchangers, and 1½" on sectionalized heat exchangers.

1. Pump down the outdoor unit by closing off the liquid line service valve. After the majority of the charge has been pumped into the outdoor coil, close the suction service valve and reclaim the remaining charge in the system.
2. Remove the coil from the coil enclosure or the air handler coil enclosure by:
    a. Unsweating the coil connections
    b. Removing the drain fittings
    c. Remove the coil access panel
    d. Remove the tubing panel
    e. Remove the existing coil
3. If the previous coil utilized a horizontal drain pan, RXCH-A14, this drain pan can be reused. Inspect the drain pan for rust or damage. Replace the drain pan if necessary.
4. Remove the bag of orifices attached to the liquid line of the RCTA-B series coil. The coil will ship with the #65 orifice installed. Replace the #65 with an orifice based on Table 3 below. Be sure to pressure relieve the dry air holding charge from the coil. Then remove liquid line from distributor, note the position of the orifice in the distributor, and remove the orifice from the distributor. Insert the new orifice into the distributor so that it is in the same position as the old orifice. Reattach the liquid line to the distributor.

Size Tons	Standard Outdoor	High Efficiency Outdoor
1½	57	60
2	57	60
2½	65	67
3	71	73

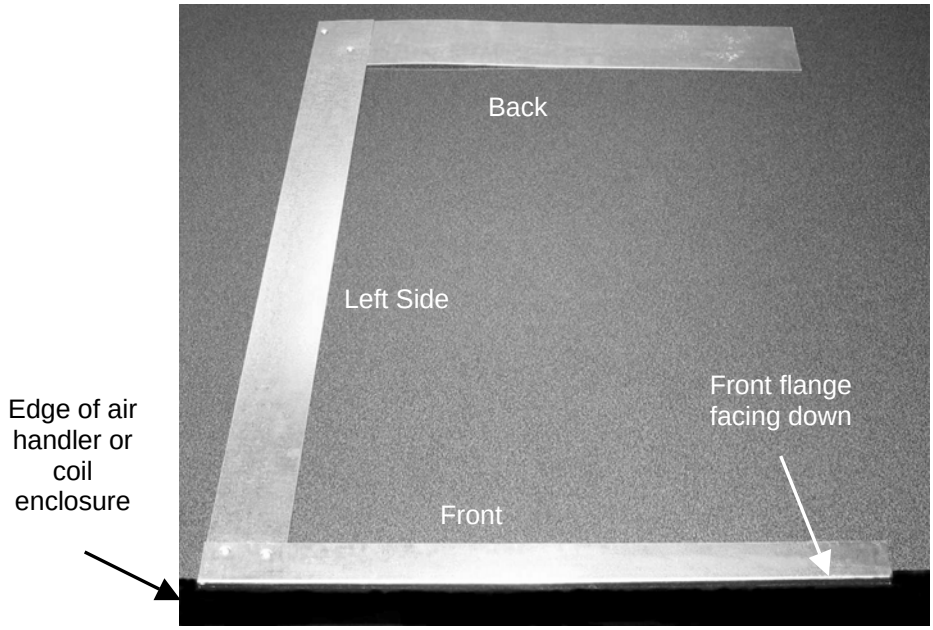
Table 4

(Note: #65 orifice is factory installed)

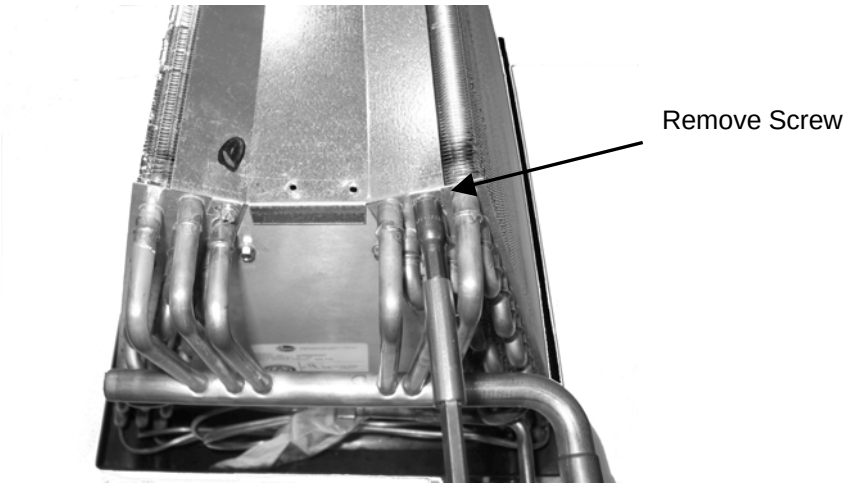
5. Find the bottom adapter plate shipped with the replacement coil and place in air handler or coil enclosure using the guidelines below. If the air handler is an RHQA-08 or RHQA-10, the bottom adapter is not required. One or more pieces of duct tape may be required for air handler horizontal installations to hold the left side in place while the coil is fitted into the air handler. Flange should butt-up to the air handler casing.

    The bottom adapter is designed to fit directly into an RHQA-12 or 13 air handler. If the coil is to fit into an RXAL style coil casing the coil adapter originally shipped with the coil casing must be in place as used in the installation of the original coil. Use the following instructions:

    a. **RXAL-B16** – Remove the front and left side legs by trimming even with the left side piece such that there will be about a 14¾" length of the back. Place the remaining back section of the bottom adapter into the back of the enclosure.
    b. **RXAL-B20** – Remove the front and left side legs by trimming even with the left side piece such that there will be about a 14¾" length of the back. Place the remaining back section of the bottom adapter into the back of the enclosure.
    c. **RXAL-B22** – Remove the front and left side legs by trimming even with the back section. This will provide a length of about 16½" for the back section. Place the remaining back section of the bottom adapter into the back of the enclosure.

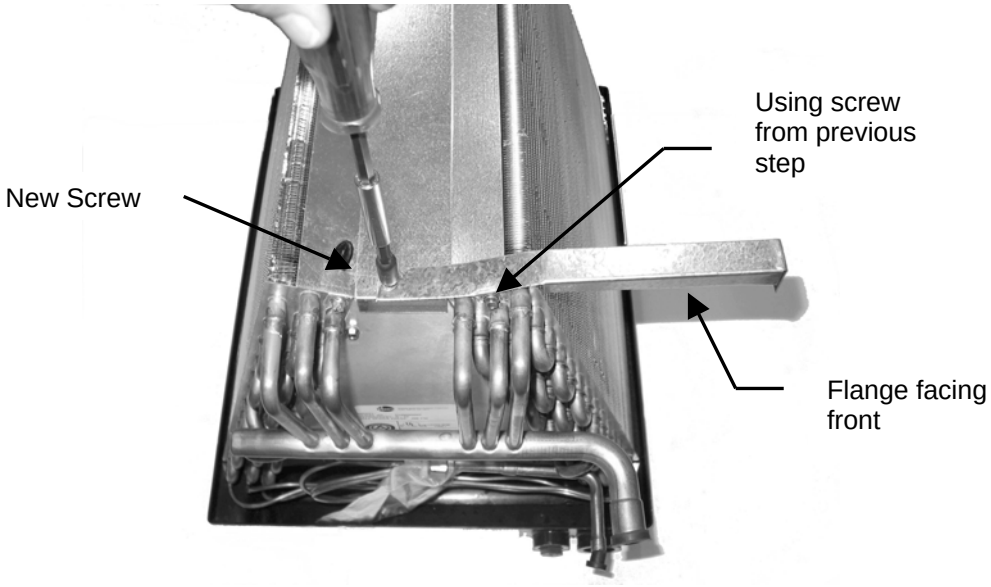


6. If this application is for an horizontal air handler, follow the procedure below. If not, please skip this step and move to the next step. For horizontal installations:
    a. Install the horizontal brackets by first removing the coil screw shown in Horizontal A.



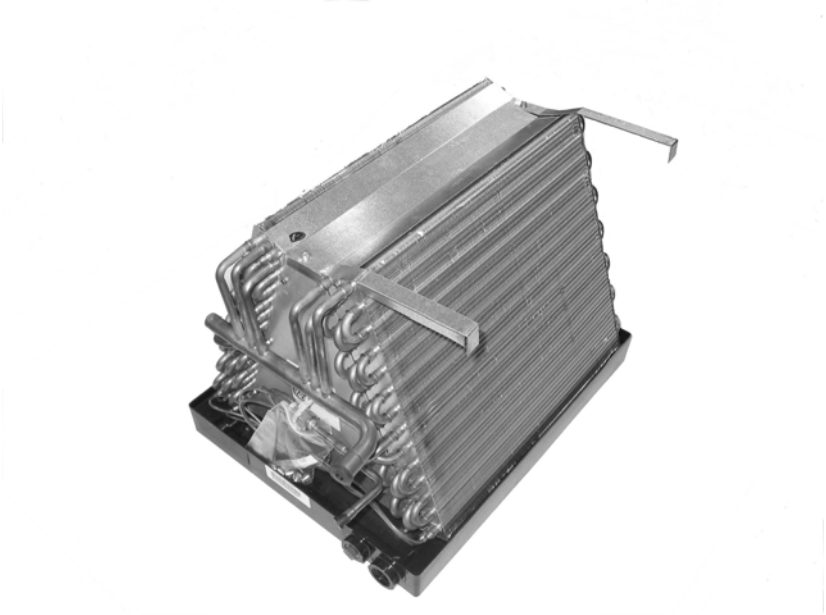
Horizontal A

    b. Install front horizontal bracket as shown in Horizontal B. Attach bracket to the coil using the screw removed in the last step and a new screw to attach to the coil top plate.



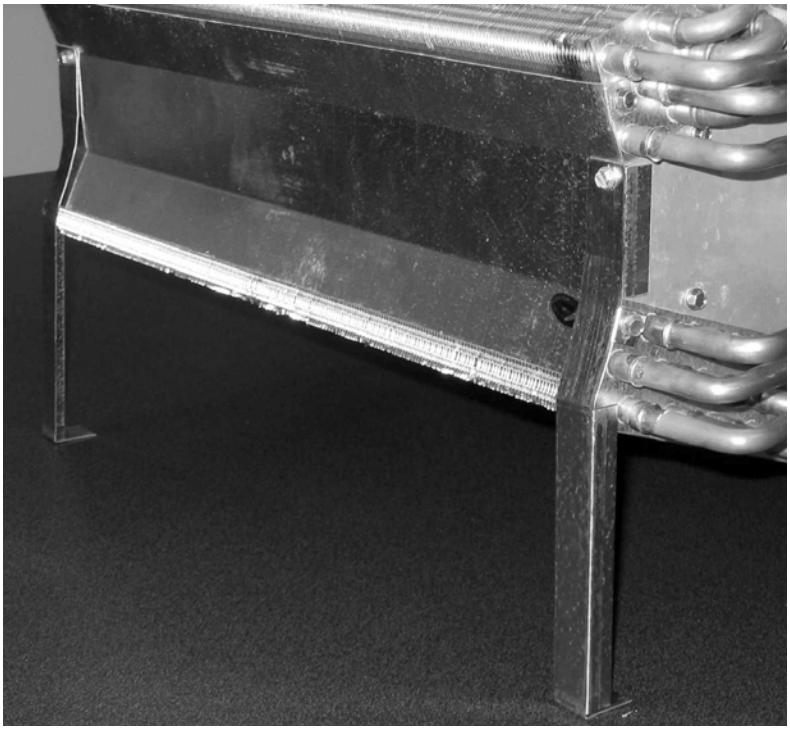
Horizontal – B

c. Fasten back horizontal bracket to the coil in the same manner used to attach the front bracket. See Horizontal C for view of coil after both brackets installed. Back bracket will have the flange at the back of the coil facing back.



Horizontal – C

d. Horizonal – D shows the coil laying in the horizontal position without the horizontal drain pan in place



Horizontal – D

7. If this application is upflow or downflow only

    a. For RHQA-08 or RHQA-10 air handlers, the back channel and screws must be removed. After the channel has been removed, slide the coil into place.

    b. For other applicatons, slide the coil into the air handler or coil enclosure. Move the coil toward the tubing connection end in order to line up the drain fittings and coil braze connections with the new tubing & drain connection panel. If the RXAL-B16 coil enclosure is being used, the top channel that contains the duct flange will have to be removed so that the coil can slide into place.

8. The new tubing panel supplied with the RCTA-B036 coil is designed as a drop-in replacement for the RHQA-12 and 13 air handlers. For RHQA-08 or RHQA-10 air handlers the new tubing panel must have 2¼" trimmed from the top of the panel. The top is the end opposite the openings for the drain connections. Replace the old tubing panel with the new panel.

    If the application uses an RXAL coil casing, some modification of the panel will be required or reuse of the existing tubing panel. See the instructions below.

    RXAL-B16 – The new tubing panel will fit the existing casing. The panel must be notched about ½" from the bottom of the new panel in each of the bottom right and left corners. Screw in place where possible and use a high quality aluminum tape (or equivalent) to seal the right side and bottom to the cabinet. Seal all other openings.

    RXAL-B20, B22 – Due to a height difference, the new tubing panel will be about 2" short of fitting into the opening of the original tubing panel. This will require a small blockoff plate to be field fabricated to take-up the dimensional differences. Install the new tubing panel using the instructions for the RXAL-B16. Fabricate a blockoff plate per Figure 2 below. Attach the blockoff plate to the new tubing panel and coil enclosure. Top screws will fit into the existing screw holes. The bottom holes of the adapter plate will screw into the supplied

new tubing panel. Use self-drill fasteners or standard sheet metal screws to create the required engagement hole. Use high quality aluminum tape (or equivalent) to seal the blowoff plate and all other openings that may provide air leakage.

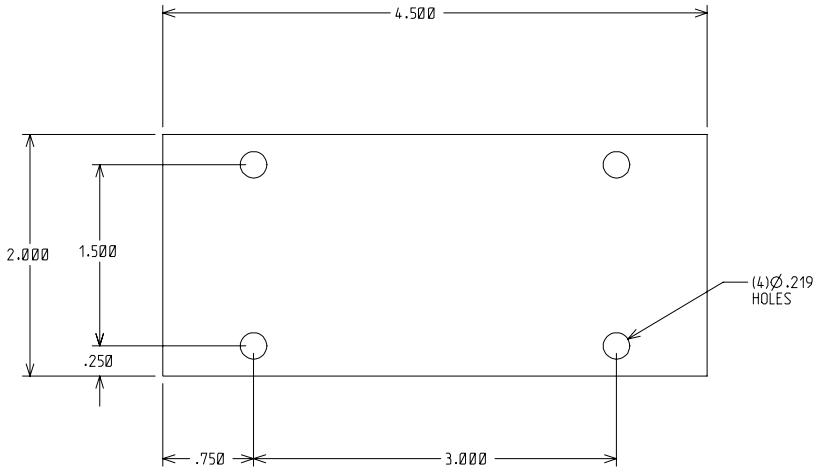


Figure 2 – RXAL-B20, B22 Blockoff Plate

9. Braze the refrigerant liquid and suction connections to the liquid and suction lines on the coil. See the section entitled “Refrigerant Piping” for additional instructions.
10. Leak check the connections and make sure the coil is leak tight.
11. Evacuate the interconnecting lines and coil.
12. Reinstall the condensate drain lines. See the section entitled “Condensate Drain” for additional instructions.
13. Open the service valves and start the system. Allow at least 10 minutes for the system to equalize operating pressures. Check pressures and temperatures using the charge chart supplied with the outdoor unit.
    a. A coarse charge determination can be made by using the subcooling and superheat at the service valves. Subcooling should be approximately 10º F when outdoor ambient is 80-100º F. Superheat will vary from about 15-20º F at 80º outdoor ambient to 8-12º F at 100º F. ***Do not allow the superheat to drop below 8º F and use the charge chart with the outdoor unit whenever possible***.
14. Seal all openings in the air handler or coil enclosure using high quality tape or sealant to prevent outside air leakage into the cabinet.

Refrigerant Piping:

Refrigerant sweat connections provided with the coil are 3/8” ODF Liquid line and 3/4” ODF Suction line. Check outdoor unit manufacturer’s instructions for proper interconnecting line sizing.

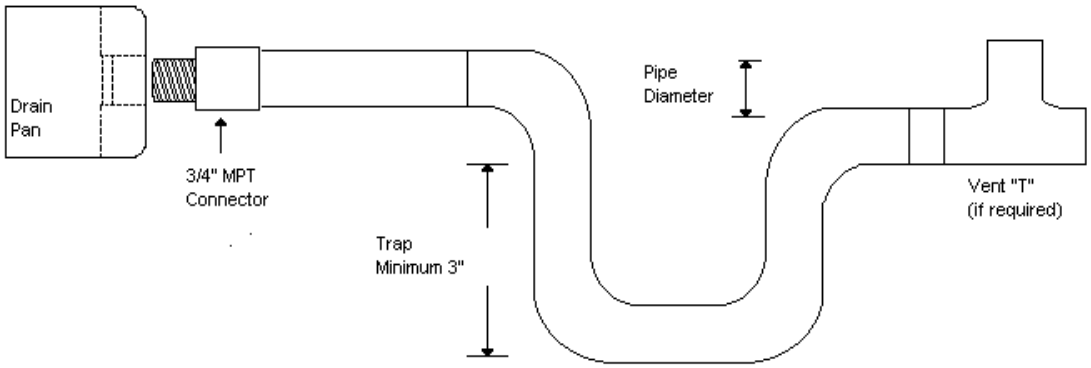
Condensate Drain:

CAUTION!

All coils are provided with a secondary drain fitting. It should be trapped and piped to a location that will give the occupant a visual warning that the primary drain is clogged.

1. Coils are equipped with right side primary and secondary drain connections. Primary drain connection is ¾" NPT while the secondary is ½" NPT. The secondary drain connection has a drain plug to prevent condensate leakage if this connection is not utilized. Remove the plug before connecting to the secondary drain.
2. Attach drain lines to pan with ½" or ¾" male pipe thread PVC fittings. **DO NOT TIGHTEN ABOVE 10 FT-LBS OF TORQUE.** This maximum torque is slightly above hand tight.
3. Do not reduce drain line sizes.
4. Route drain line(s) so they will not be exposed to freezing temperatures and do not interfere with accessibility to the coil, air handling system or filter. The drain should be pitched downward 1" per 10' with a 2 " trap (if required) as close to the coil as possible. If line makes a second trap, or has an extended run before termination, a vent tee should be installed after the trap closest to the pan.

If the coil is located in or above a living space where damage may result from condensate overflow, a separate 3/4" drain must be provided from the secondary drain connection. Run this drain to a place in compliance with local installation codes where it will be noticed when unit is operational. Condensate flowing from the secondary drain indicates a plugged primary drain.



Prime the trap with water. Test line for leaks. Test water flow with unit in operation.