Installation Guide

Horizontal, Flat Cased Coils

Copper/Aluminum Coils:

COL33973, COL33974, COL33975

COL33976, COL33977, COL33978

For servicing indoor coil only. For servicing existing equipment only.

⚠ SAFETY WARNING

Only qualified personnel should install and service the equipment. The installation, starting up, and servicing of heating, ventilating, and air-conditioning equipment can be hazardous and requires specific knowledge and training. Improperly installed, adjusted or altered equipment by an unqualified person could result in death or serious injury. When working on the equipment, observe all precautions in the literature and on the tags, stickers, and labels that are attached to the equipment.

September 2025 **PART-SVN276A-EN**

Introduction

Read this manual thoroughly before operating or servicing this unit.

Warnings, Cautions, and Notices

Safety advisories appear throughout this manual as required. Your personal safety and the proper operation of this machine depend upon the strict observance of these precautions.

The three types of advisories are defined as follows:

⚠ WARNING	Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.
⚠ CAUTION	Indicates a potentially hazardous situation which, if not avoided, could result in minor or moderate injury. It could also be used to alert against unsafe practices.
NOTICE	Indicates a situation that could result in equipment or property-damage only accidents.

Important Environmental Concerns

Scientific research has shown that certain man-made chemicals can affect the earth's naturally occurring stratospheric ozone layer when released to the atmosphere. In particular, several of the identified chemicals that may affect the ozone layer are refrigerants that contain Chlorine, Fluorine and Carbon (CFCs) and those containing Hydrogen, Chlorine, Fluorine and Carbon (HCFCs). Not all refrigerants containing these compounds have the same potential impact to the environment. Trane advocates the responsible handling of all refrigerants.

Important Responsible Refrigerant Practices

Trane believes that responsible refrigerant practices are important to the environment, our customers, and the air conditioning industry. All technicians who handle refrigerants must be certified according to local rules. For the USA, the Federal Clean Air Act (Section 608) sets forth the requirements for handling, reclaiming, recovering and recycling of certain refrigerants and the equipment that is used in these service procedures. In addition, some states or municipalities may have additional requirements that must also be adhered to for responsible management of refrigerants. Know the applicable laws and follow them.

⚠ WARNING

Proper Field Wiring and Grounding Required!

Failure to follow code could result in death or serious injury.

All field wiring MUST be performed by qualified personnel. Improperly installed and grounded field wiring poses FIRE and ELECTROCUTION hazards. To avoid these hazards, you MUST follow requirements for field wiring installation and grounding as described in NEC and your local/state/national electrical codes.

⚠ WARNING

Personal Protective Equipment (PPE) Required!

Failure to wear proper PPE for the job being undertaken could result in death or serious injury.

Technicians, in order to protect themselves from potential electrical, mechanical, and chemical hazards, MUST follow precautions in this manual and on the tags, stickers, and labels, as well as the instructions below:

- **Before installing/servicing this unit, technicians MUST put on all PPE required for the work being undertaken (Examples; cut resistant gloves/sleeves, butyl gloves, safety glasses, hard hat/bump cap, fall protection, electrical PPE and arc flash clothing). ALWAYS refer to appropriate Safety Data Sheets (SDS) and OSHA guidelines for proper PPE.**
- **When working with or around hazardous chemicals, ALWAYS refer to the appropriate SDS and OSHA/GHS (Global Harmonized System of Classification and Labelling of Chemicals) guidelines for information on allowable personal exposure levels, proper respiratory protection and handling instructions.**
- **If there is a risk of energized electrical contact, arc, or flash, technicians MUST put on all PPE in accordance with OSHA, NFPA 70E, or other country-specific requirements for arc flash protection, PRIOR to servicing the unit. NEVER PERFORM ANY SWITCHING, DISCONNECTING, OR VOLTAGE TESTING WITHOUT PROPER ELECTRICAL PPE AND ARC FLASH CLOTHING. ENSURE ELECTRICAL METERS AND EQUIPMENT ARE PROPERLY RATED FOR INTENDED VOLTAGE.**

⚠ WARNING

Follow EHS Policies!

Failure to follow instructions below could result in death or serious injury.

- **All Trane personnel must follow the company's Environmental, Health and Safety (EHS) policies when performing work such as hot work, electrical, fall protection, lockout/tagout, refrigerant handling, etc. Where local regulations are more stringent than these policies, those regulations supersede these policies.**
- **Non-Trane personnel should always follow local regulations.**

⚠ WARNING

Cancer and Reproductive Harm!

This product can expose you to chemicals including lead and bisphenol A (BPA), which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

⚠ WARNING

Refrigerant under High Pressure!

Failure to follow instructions below could result in an explosion which could result in death or serious injury or equipment damage.

System contains refrigerant under high pressure. Recover refrigerant to relieve pressure before opening the system. See unit nameplate for refrigerant type. Do not use non-approved refrigerants, refrigerant substitutes, or refrigerant additives.

⚠ CAUTION

Pressurized Coil!

Failure to follow instructions could result in serious injury.

Coil is pressurized with 8–12 psig of dry air. Do not stand directly in front of the coil connections when removing sealing plugs. If no pressure if released, check for leaks.

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Table of Contents

General Information

These coils are designed for use as cooling only or in combination with a Heat Pump outdoor section.

Application Information

1. FURNACE AND COIL
   Coil MUST BE installed downstream (discharge air) of the furnace.
2. INDOOR UNIT AIRFLOW
   Indoor unit must provide the required airflow for Cooling only or Heat Pump System Combination.

Inspection

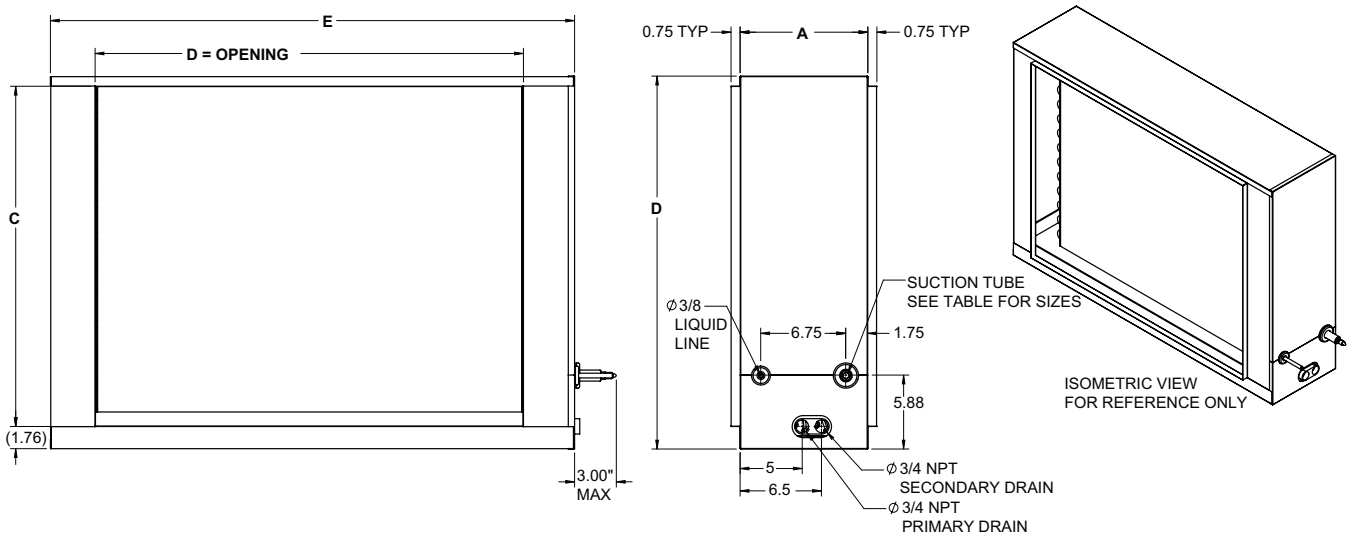
1. Unpack all components of the kit.
2. Check carefully for shipping damage. If any damage is found, report it immediately, and file a claim against the transportation company.

Recommendations

1. If this coil is a part of the total system installation, then use the Installer’s Guide packaged with the furnaces, Heat Pump outdoor sections, and Control Center for physically installing those components.
2. It is recommended that the outline drawing be studied and dimensions properly noted and checked against selected installation site. By noting in advance proper clearance allowances for installation and possible future service of the coil.

Dimensional Data

Figure 1. Dimensional data – COL33973, COL33974, COL33975, COL33976, COL33977, and COL33978



Note: *All dimensions are in inches.*

Table 1. Dimensional data

Coil Part#	Previous Model#	A	B	C	D	E	Suction Size
COL33974	4PXFH003BZ3HHA	10	23.50	21	30	35.50	3/4
COL33973	4PXFH001BC3HHA	10	23.50	21	24	29.50	3/4
COL33975	4PXFH005BZ3HHA	10	23.50	21	30	35.50	3/4
COL33976	4PXFH004BC3HHA	10	23.50	21	30	35.50	7/8
COL33977	4PXFH007BC3HHA	10	23.50	21	30	35.50	7/8
COL33978	4PXFH009BZ3HHA	10	23.50	27	34	41.50	7/8

Installing Coil/Enclosure

Coil/enclosure assembly can be used for all horizontal furnaces (gas and electric) applications (see Figure 2, p. 10), and for applications of vertical upflow furnaces (see Figure 3, p. 10), where the top clearance is insufficient for installing an A coil and enclosure, and there is access to a run of horizontal duct.

Figure 2. Horizontal furnaces (gas and electric) applications

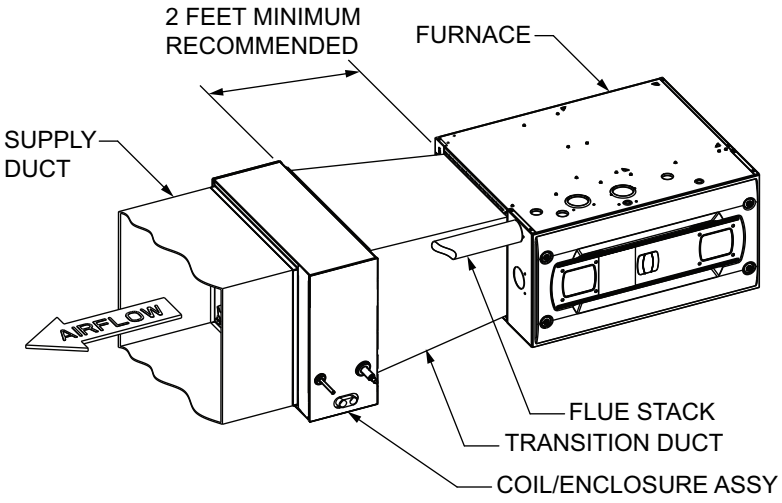
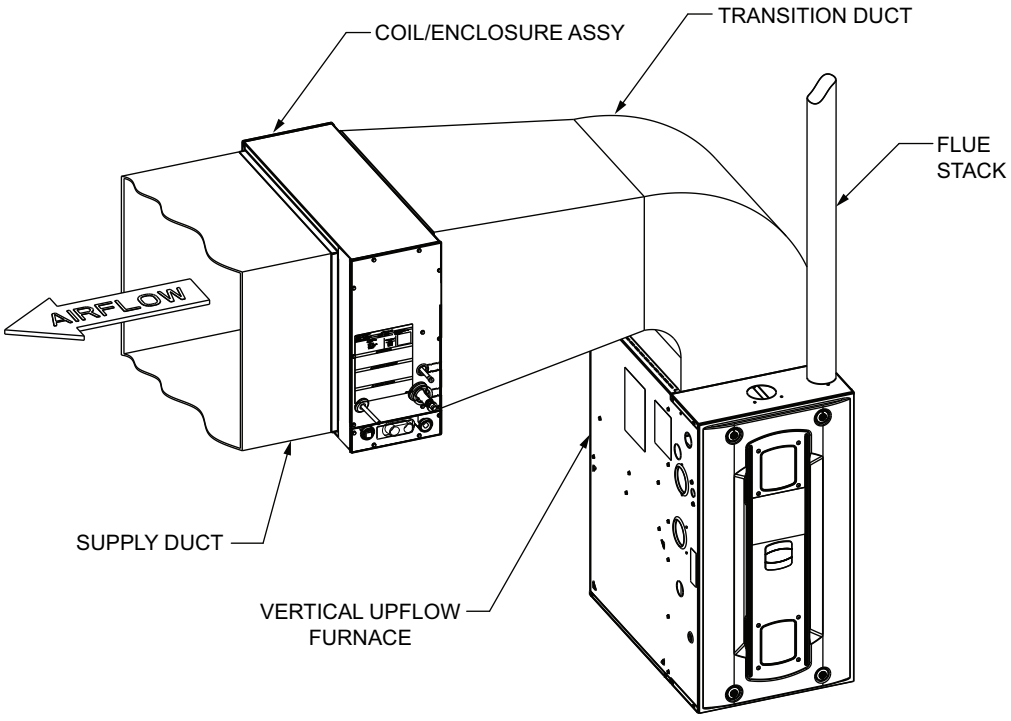


Figure 3. Vertical upflow furnaces applications



Since coil/ enclosure assembly must be installed within the horizontal run of duct, a transition duct must be fabricated to mate with the furnace supply outlet duct flange on one end and the duct flange connection on the coil/ enclosure assembly on the other end.

For maximum performance, it is recommended that the transition duct be at least 2 feet in length.

1. Secure the transition duct to the furnace with the furnace in position.

2. The refrigerant lines and condensate connections of cased coils may be on either side of the supply air duct. The air may be directed through the coil from either side of the coil.
3. Attach the coil/ enclosure assembly to the transition from the furnace, providing proper support for coil/ enclosure assembly's weight. Keep the coil level. Extra pitch is not required for coil to drain properly.
4. Secure the downstream side of coil/ enclosure assembly to the supply air duct.

Note: *Secure properly so there will be no air leakage.*

5. When hanging the coil for ceiling mounted applications, do not assemble screws in the cabinet in areas that may puncture the coil or drainpan. Areas to be avoided include the back, bottom, front, top center, and lower 3-inch of the left and right sides of the coil cabinet.
6. The indoor coil must be evacuated through the refrigerant lines at the outdoor unit before opening the service valves. See evacuation procedure in Field Fabricated Refrigerant Lines section of the Installer's Guide for the outdoor unit.
7. Complete the installation of the unit per installation instructions.

Installing/Brazing Refrigerant Lines

Important: *Do NOT open refrigerant valve at the outdoor unit until the refrigerant lines and coil have been brazed, evacuated, and leak checked. This would cause contamination of the refrigerant or possible discharge of refrigerant to the atmosphere.*

1. The following steps are to be considered when installing the refrigerant lines:
   - Determine the most practical way to run the lines.
   - Consider types of bends to be made and space limitations.
   - Route the tubing making all required bends and properly secure the tubing before making final connections.

Note: *Refrigerant lines must be isolated from the structure and the holes must be sealed weather tight after installation.*

Important: *Do not unseal refrigerant tubing until ready to fit refrigerant lines.*

There is only a holding charge of dry air in the indoor coil, therefore no loss of operating refrigerant charge occurs when the sealing plugs are removed.

1. Remove sealing plugs and use pipe cutter to remove spun closed ends.
2. Field supplied tubing should be cut square, round and free of burrs at the connecting end. Clean the tubing to prevent contaminants from entering the system.
3. Swedge using approved industry practices, or use field supplied coupler, on indoor unit coil connections. Connect field supplied refrigerant tubing to coil connections.
4. Flow a small amount of nitrogen through the tubing while brazing.
5. Use good brazing technique to make leakproof joints.
6. Minimize the use of sharp 90° bends.
7. Insulate the suction line and its fittings.
8. Do NOT allow un-insulated lines to come into contact with each other.

Leak Check

1. Using a manifold gauge, connect an external supply of dry nitrogen to the gauge port on the liquid line.
2. Pressurize the connecting lines and indoor coil to 150 PSIG maximum.
3. Leak check brazed line connections using soap bubbles. Repair leaks (if any) after relieving pressure.
4. Evacuate and charge the system per the instructions packaged with the outdoor unit.

Condensate Drain Piping

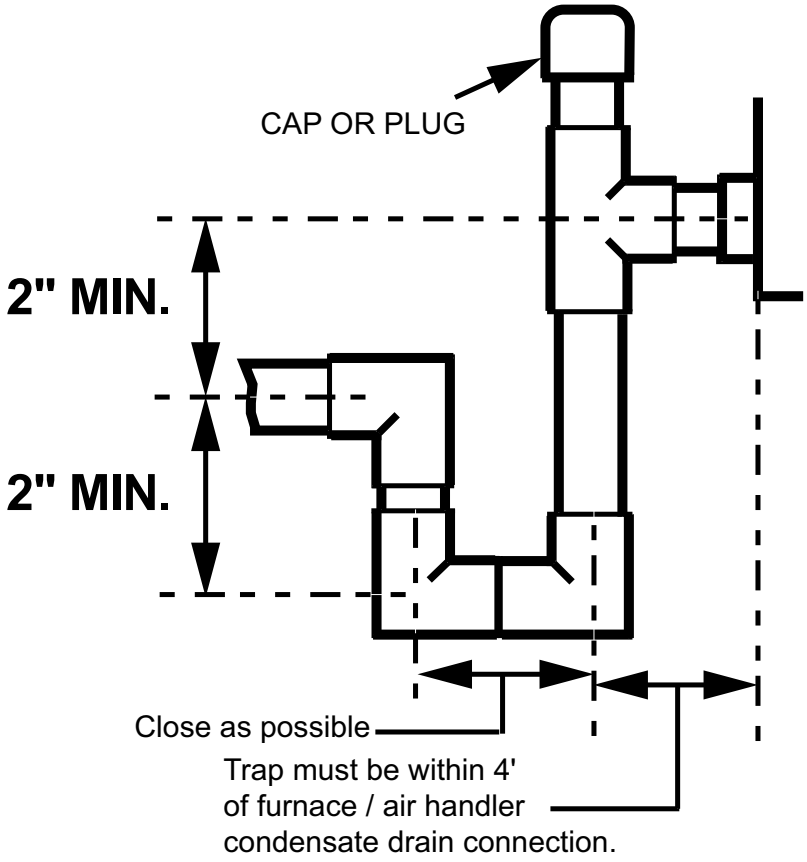
Note: *When coils are installed above ceilings or in other locations where damage from condensate overflow may occur, a field fabricated auxiliary drain pan shall be installed under the coil enclosure. Drain lines from this pan must be installed, but should NOT be connected to the primary pan. These drain lines should terminate in an area easily seen by the homeowner, but not located to drip on sidewalks or other slip hazard areas.*

Condensate drain connections are located in the drain pan at the bottom of the coil/enclosure assembly (see Figure 4, p. 14). The female threaded fitting protrudes outside of the enclosure for external connection. A field fabricated trap is not required for proper drainage due to the positive pressure of the furnace; however, it is recommended to prevent efficiency loss of conditioned air.

1. The drain hole in the drain pan must be cleared of all insulation.
2. Insulate the primary drain line to prevent sweating where dew point temperatures may be met. (Optional depending on climate and application needs).
3. Connect the secondary drain to a separate drain line (no trap is needed in this line). The secondary drain should terminate in an area easily seen by the homeowner, but not located to drip on sidewalks or other slip hazard areas.
4. Test drainage of all condensate lines prior to completing installation.
5. Install coils with the drain pan and/or casing on a flat, level surface. Slope the coil 1/4" towards the drain. Condensate lines must be installed in accordance with building codes. It is the contractor's responsibility to ensure proper condesate drainage at the time of the installation.

Important: *Plug all drain line connection(s) not used. Do not use heat or torch near drain fittings.*

Figure 4. Field fabricated trap



Duct Connections

The supply and return air duct should be connected to the unit with a flame retardant duct connectors. Duct flange connections are provided at both supply and discharge openings of the coil.

TXV Bulb Horizontal Mounting

⚠ CAUTION

Heat Sensitivity!

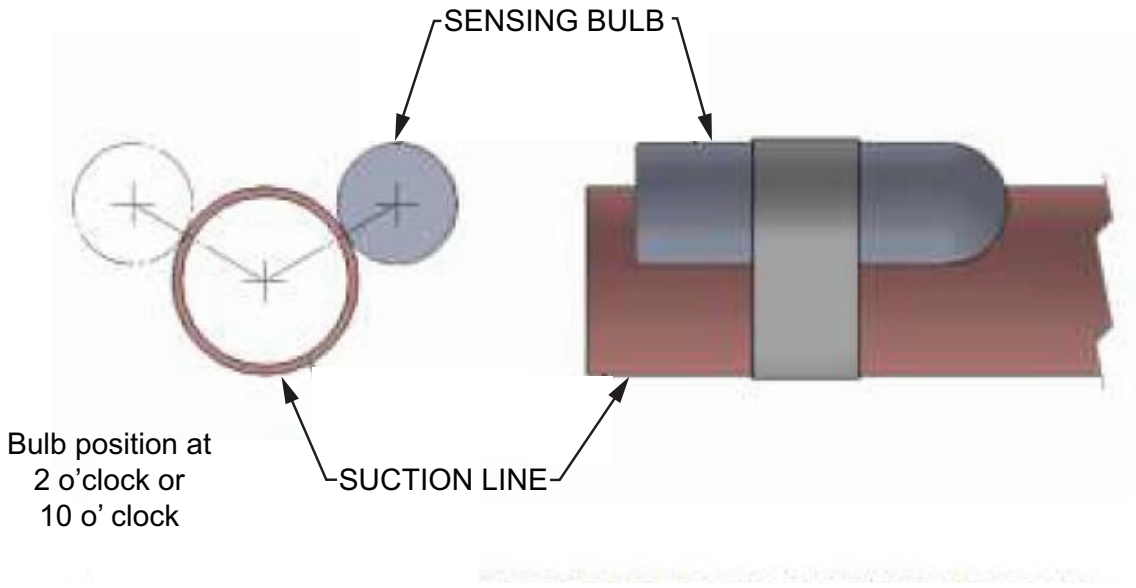
Failure to follow instructions could result in moderate injury or equipment damage.

TXV sensing bulb is sensitive to heat. Do not assemble to suction/vapor line until after filed brazing is complete and line is cool to touch.

The orientation and location of the TXV bulb has a major influence on the system performance.

It is recommended that the TXV bulb be installed parallel to the ground (on a horizontal plane). The bulb position should be at 2 o-clock or 10 o-clock. See Figure 4 for recommended position of TXV bulb in the horizontal plane.

Figure 5. Recommended location for horizontal TXV bulb mount



The TXV sensing bulb should be mounted away from any bends on a clean smooth section of suction/vapor line, using the metal clamp provided. In order to obtain a good temperature reading and correct superheat control, the TXV sensing bulb must conform to the following criteria:

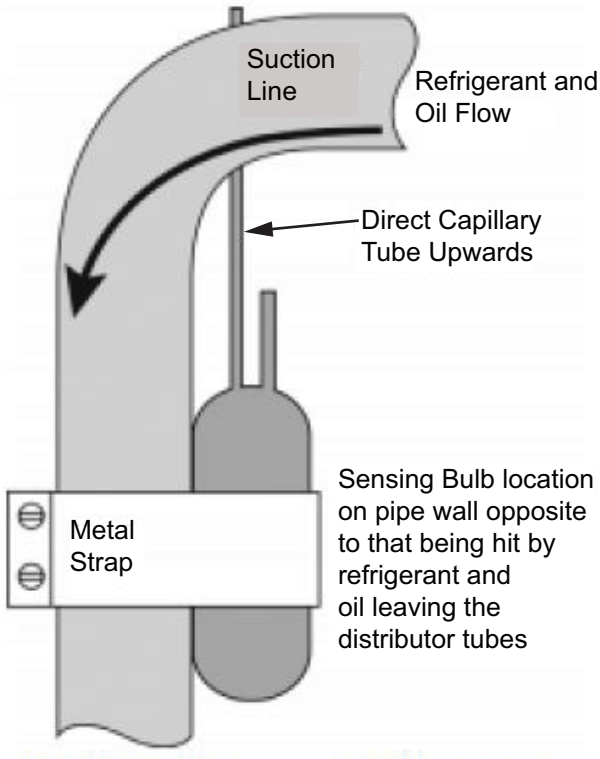
1. The sensing bulb must be in direct and continuous contact with the suction line.
2. The sensing bulb should be mounted horizontally on the suction line.
3. The sensing bulb should be mounted at the 2 o'clock or 10 o'clock position on the circumference of the suction line.
4. The sensing bulb must be insulated from outside air.

A properly mounted sensing bulb will prevent false readings caused by liquid refrigerant that may have formed inside the suction/vapor line. Insulation will protect the sensing bulb from false readings due to contact with warm air.

TXV Bulb Vertical Mounting

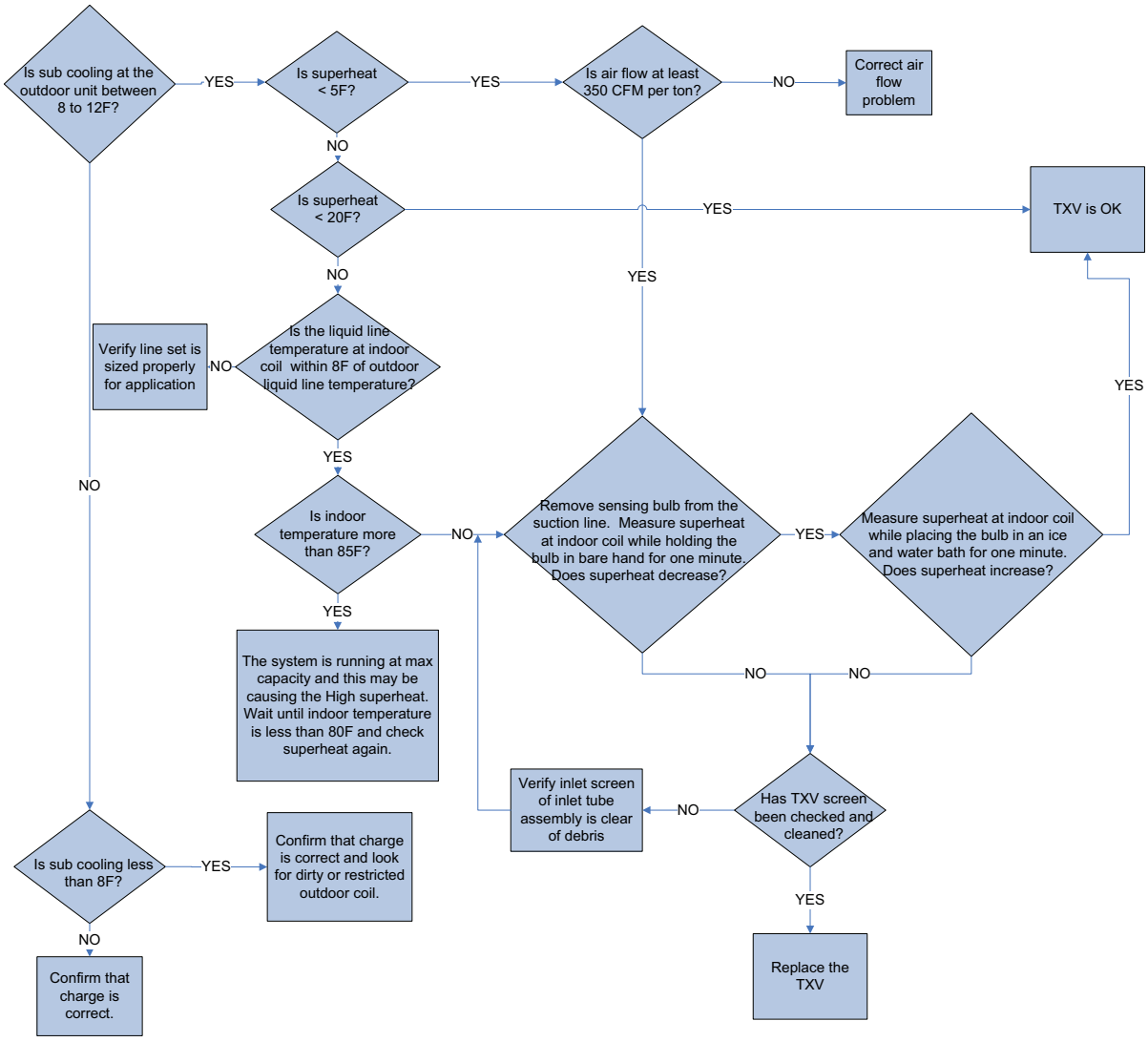
While it is recommended that the TXV sensing bulb is mounted in the horizontal plane, some installation configurations may require that the sensing bulb be mounted vertically. In this instance, place the bulb such that the capillary tubes are directed upwards as shown in Figure 6, p. 17.

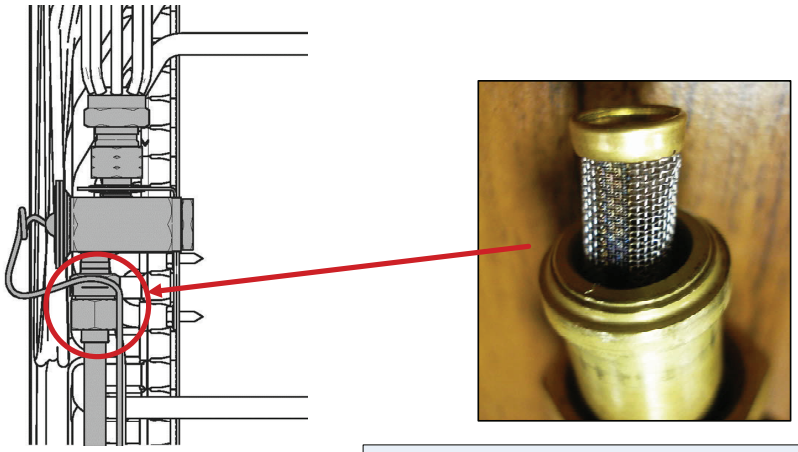
Figure 6. Recommended location for vertical TXV bulb mount



Before starting, confirm the blower wheel, indoor and outdoor coils are clean.

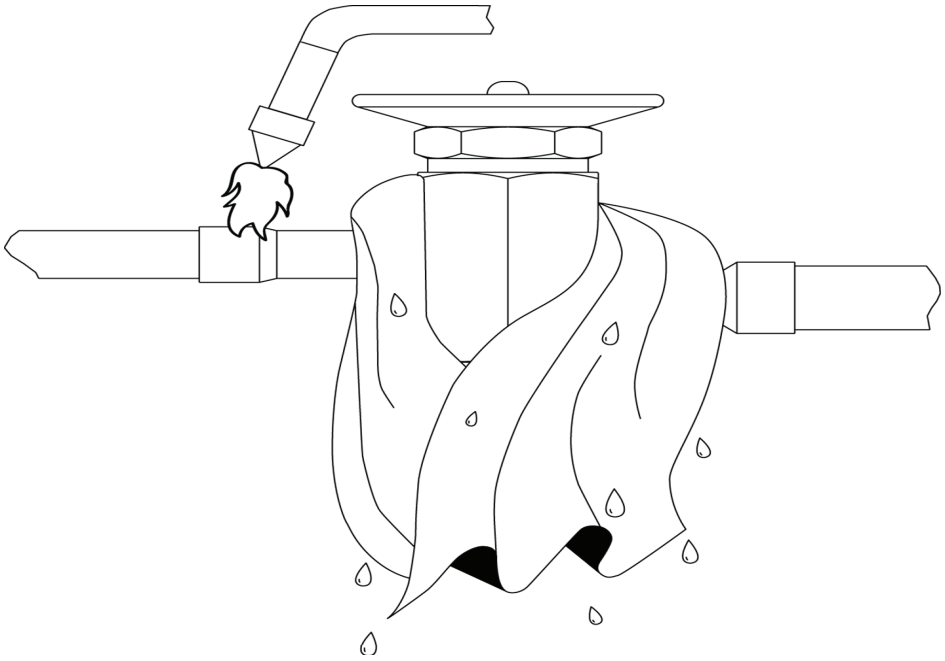
Figure 7. Troubleshooting indoor TXV / cooling mode





Inlet screen located in liquid line. Check, clean, and replace if necessary.

Figure 8. Wrap TXV with wet cloth



Wrap TXV with wet cloth before brazing. Direct torch away from wrapped valve.

Trane and American Standard create comfortable, energy efficient indoor environments for commercial and residential applications. For more information, please visit trane.com or americanstandardair.com.

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