

Installation Instructions

TXV Conversion Kit

Used with TWE Air Handler

Model Number: BAYTXV4001
Used With: TWE090A
 BAYTXV4002 TWE090A, TWE120A, TWE180B, TWE240B
 BAYTXV4003 TWE120B

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.

May 2020

ACC-SVN131E-EN

© 2020

1

Warnings, Cautions, and Notices

Read this manual thoroughly before operating or servicing this unit. 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
- 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-including industry replacements for CFCs such as HCFCs and HFCs.

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.

2

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 electrical codes.

WARNING

Personal Protective Equipment Required!
 Installing/servicing this unit could result in exposure to electrical, mechanical and chemical hazards. Before installing/servicing this unit, technicians MUST put on all Personal Protective Equipment (PPE) recommended for the work being undertaken. ALWAYS refer to appropriate SDS sheets and OSHA guidelines for proper PPE. When working with or around hazardous chemicals, ALWAYS refer to the appropriate SDS sheets and OSHA guidelines for information on allowable personal exposure levels, proper respiratory protection and handling recommendations. If there is a risk of arc or flash, technicians MUST put on all necessary Personal Protective Equipment (PPE) in accordance with NFPA70E for arc/flash protection PRIOR to servicing the unit. Failure to follow recommendations could result in death or serious injury.

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.

3

General

NOTICE

Equipment Damage!
 Refer to the R-410A Application Guide (SS-APG008-EN) prior to proceeding with the installation of this kit. Every component in the system should be reviewed for compatibility with R-410A and POE oil prior to converting the system.

The thermal expansion valves (TXV) referred to in this installation guide are used with air handlers in conjunction with condensing units that were designed for use with R-410A refrigerant. Refer to Table 1 to determine which kit is to be used with a particular unit combination.

Inspection

Remove the TXV kit from the shipping package and inspect for damage. Report any damage immediately to the transportation company and make any appropriate claims.

Table 1. TXV kits

TXV Kit	TWE Unit	TTA Unit	Kits Needed
BAYTXV4001*	TWE090A	TTA073D, TTA073G, TTA0724*A	1
BAYTXV4002*	TWE090A	TTA090D, TTA090G, TTA0904*A	1
	TWE120A	TTA090D, TTA120D, TTA090G, TTA120G, TTA0904*A, TTA1204*A	1
	TWE180B	TTA150E, TTA150H, TTA180E, TTA180H, TTA180F, TTA180J, TTA1504*D, TTA1804*D, TTA1804*C	2
	TWE240B	TTA180E, TTA180H, TTA 240E, TTA240H, TTA240F, TTA240J, TTA1804*D, TTA2404*D, TTA240*C	2

Table 1. TXV kits

BAYTXV4003*	TWE120B	TTA120E, TTA120H, TTA1204*D	1
-------------	---------	--------------------------------	---

Table 2. Kit contents

Description	Quantity
TXV - Adjustable	1 ^(a)
Installers Guide	1
Insulating Tape	1 ^(a)
Tube Cap	1 ^(a)
Reducer (5/8" x 1/2")	2 ^(b)
Reducer (1/2" x 3/8")	2 ^(b)
Label - Refrigerant Converted	1
Label - R-410A Only	1

(a) BAYTXV4003A will have quantity 2

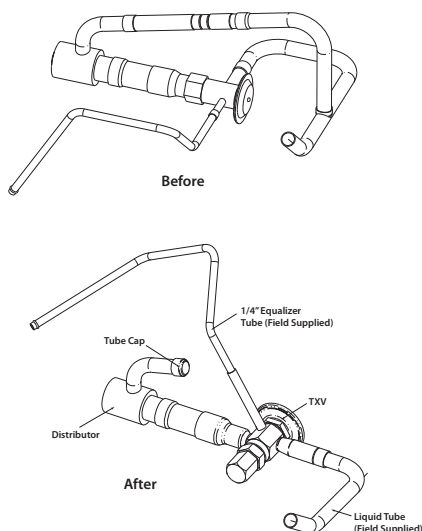
(b) BAYTXV4003A only

Installation

Hazardous Voltage w/Capacitors!

Disconnect all electric power, including remote disconnects and discharge all motor start/run capacitors before servicing. Follow proper lockout/tagout procedures to ensure the power cannot be inadvertently energized. Verify with an appropriate voltmeter that all capacitors have discharged. Failure to disconnect power and discharge capacitors before servicing could result in death or serious injury.

- Permanently mark through the "Refrigerant 22" on the unit nameplate.
- Restore power to the unit and follow the startup procedure from the Installation, Operation and Maintenance manual (SS-SVX10*-EN).
- The TXV(s) supplied in this kit are field adjustable. System and application differences require that the TXV should be adjusted to give optimum system performance and reliability. The TXV should be adjusted to give 16-20°F of superheat as measured at the compressor and 10-12°F subcooling as measured at the liquid line service valve. Each full turn of the valve equates to approximately 2-3°F change in superheat (clockwise increases superheat and counter-clockwise decreases superheat).

Figure 1. Existing TXV locations (representative view - applications may vary)

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 oil and 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.

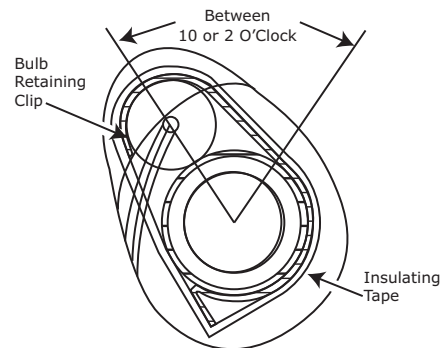
- For new systems, skip to [Step 2](#). For pre-existing systems, open any unit disconnects to remove power from the unit. Evacuate the system charge and clean the system of residual fluids and mineral oil per the R-410A Application Guide (SS-APG008*-EN).
- Remove the insulating tape and TXV remote bulb clamps.
- Using a tube cutter, cut or unbrazed the existing TXV at the locations shown in [Figure 1](#).
- Discard the removed section.

Note: The check valve assembly is only needed on heat pumps and therefore can be removed.

- Braze the tube cap provided on the stub tube coming from the distributor.
- Braze the TXV (large port) to the tube connecting to the distributor.
- Braze the 1/4 in. equalizer tube to the 1/4 in. port on the TXV.
- Braze the field supplied interconnecting liquid tube to the entering side (small port) of the TXV.

Note: Clean the suction tube thoroughly before clamping the remote bulb in place.

- Uncoil the remote bulb and secure to the suction tube with the clamp removed in [Step 2](#). The bulb should be secured to a horizontal section of tube near the evaporator outlet and wrapped thoroughly with the insulating tape provided ([Figure 2](#)). The entire bulb should be in contact with the suction tube.
- Leak check, evacuate and charge the system according to the instructions given in the unit Installation, Operation and Maintenance Manual (SS-SVX10*-EN).
- Replace any tube insulation that was removed in the retrofit process.
- Place the labels provided on the exterior of the TWE air handler as close as possible to the unit nameplate in a visible location.

Figure 2. Remote bulb installation

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.

Trane and American Standard have a policy of continuous product and product data improvement and reserve the right to change design and specifications without notice. We are committed to using environmentally conscious print practices.