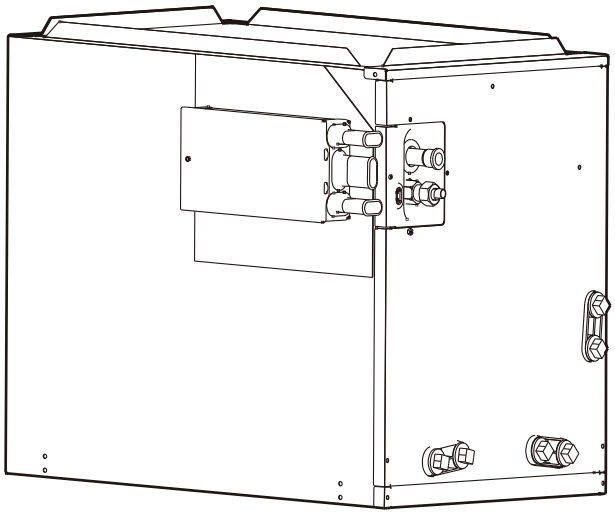
Installation, Operation, and Maintenance

Multi-Position Cased Coils with Leak Mitigation Kit Cooling and Heat Pump Compatible

Factory Installed R–454B Refrigerant Leakage Sensor



⚠ 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.

December 2025

COR-SVX001B-EN

Introduction

Read this manual thoroughly before operating or servicing this unit.

This document is customer property and is to remain with this unit. Return to the service information pack upon completion of work.

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, 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

Safety Hazard!

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

This unit is not to be used by persons (including children) with reduced physical, sensory, or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning the use of the appliance by a person responsible for their safety.

Do not allow children to play or climb on the unit or to clean or maintain the unit without supervision.

⚠ WARNING

Electrical Shock Hazard!

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

Confirm proper grounding before connecting electrical supply.

⚠ WARNING

Safety Hazard!

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

Installation and service must be performed by a qualified installer, service agency, or the gas supplier. Perform general inspection annually.

⚠ WARNING

Safety Hazard!

Failure to follow instructions below could result in death or serious injury and equipment or property damage.

- **Do not use any items other than those approved by the manufacturer for defrosting or cleaning process.**
- **Store the appliance in a room without continuously operating ignition sources(for example: open flames, an operating gas appliance, or an operating electric heater).**
- **Do not pierce or burn.**
- **Be cautious that refrigerants may be odorless.**

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Failure to follow instructions below could result in death or serious injury and equipment or property damage.

- **Store the appliance in a room without continuously operating ignition sources(for example: open flames, an operating gas appliance, or an operating electric heater).**
- **Do not pierce or burn.**
- **Be cautious that refrigerants may be odorless.**

⚠ WARNING

Safety Precautions!

Failure to follow the safety precautions could result in serious injury, death, or property damage.

Appropriate fire extinguishing equipment must be available and easily accessible if any hot work is conducted on the refrigerating equipment or any associated parts. Keep dry powder or CO_2 fire extinguisher adjacent to the charging area.

⚠ WARNING

Risk of Fire — Flammable Refrigerant!

Failure to follow instructions below could result in death or serious injury, and equipment damage.

- **To be repaired only by trained service personnel.**
- **Do not puncture refrigerant tubing.**
- **Dispose of properly in accordance with federal or local regulations.**

⚠ WARNING

Risk of Fire!

Failure to follow instructions below could cause a fire which could result in death, serious injury, and equipment damage.

Confirm the following requirements apply to the room where the air handler is installed.

- **All combustion appliances located in the same room that have continuous pilot lights must be equipped with an effective flame arrest.**
- **All indoor field-made joints of the field piping must be checked for refrigerant leaks after charging using an electronic leak detector calibrated for R-454B with sensitivity of 5 grams per year or better.**
- **The room must be constructed to avoid stagnation or fire hazard in the event of a refrigerant leak.**

⚠ WARNING

Follow National Building Codes!

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

This product designed and manufactured to permit installation in accordance with the National Electric Code, NFPA No. 90A and 90B, and any other local codes or utilities requirements. It is the installer's responsibility to verify that product is installed in strict compliance with national and local codes. Manufacturer will not take responsibility for any damage caused due to installations violating regulations.

NOTICE

Follow EPA Regulations!

Failure to follow these regulations may harm the environment and can lead to the imposition of substantial fines.

The United States Environmental Protection Agency ("EPA") has issued various regulations regarding the introduction and disposal of refrigerants introduced into this unit. These regulations may vary due to the passage of laws. A certified technician must perform the installation and service of this product. For any questions, contact your local EPA office.

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Trademark

Table of Contents

General Information

Inspection

Check carefully for shipping damage. If any damage is found, report it immediately, and file a claim against the transportation company.

Replacement Parts

Contact your distributor for authorized replacement parts.

Installation Location

The coil can be positioned for bottom return air in the upflow and horizontal right applications. It must be positioned for top return when in downflow and horizontal left applications. For furnace applications, the coil must be installed downstream (in the air outlet) of the furnace.

Notes:

- *This coil comes with a factory-installed heat shield on the drain pan.*
- *The leak mitigation system is required to be used with these coils.*

Important: *Equipment is suitable for manufactured (mobile) home use. The height of the furnace, coil and discharge ductwork must be 7 feet or less.*

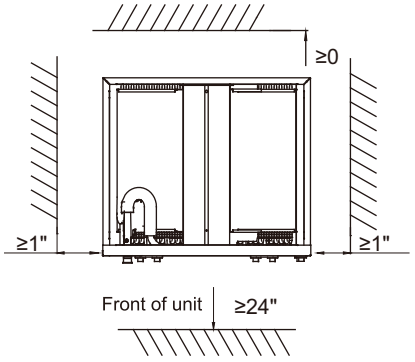
Clearances

For proper installation, select a solid, level site with sufficient space for installation and maintenance.

Confirm the following clearances during installation:

- Maintenance and service access (including coil cleaning and coil assembly removal)
- Refrigerant piping and connections
- Condensate drain line

Figure 1. Top view of the indoor unit clearance (including air duct)



Dimensions

Unit Dimensions

Figure 2. Cased dimensions and component location — interior

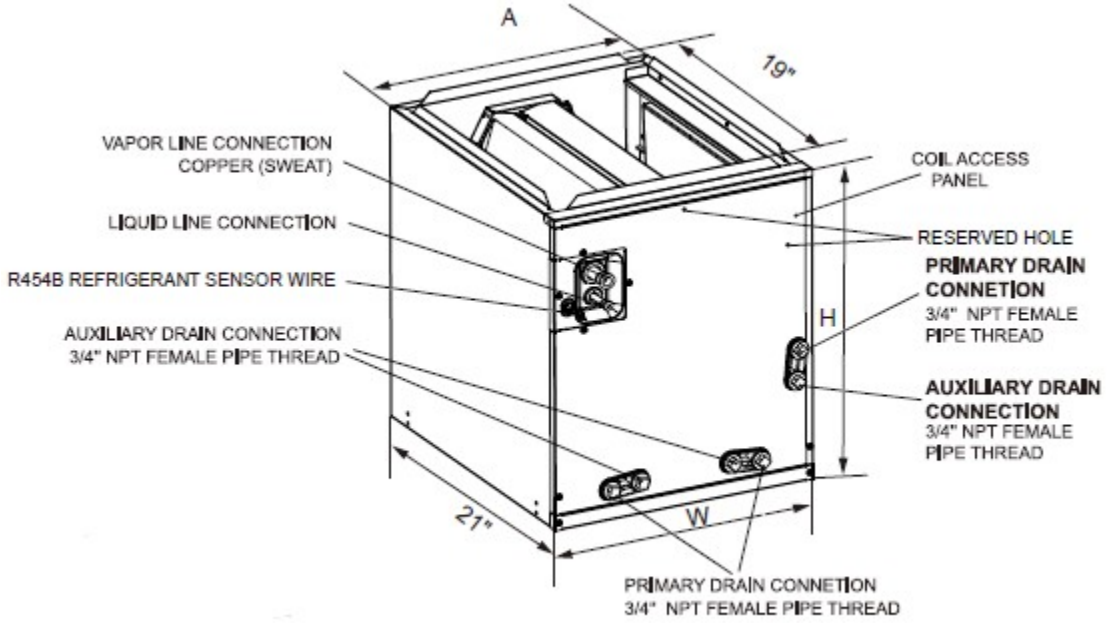
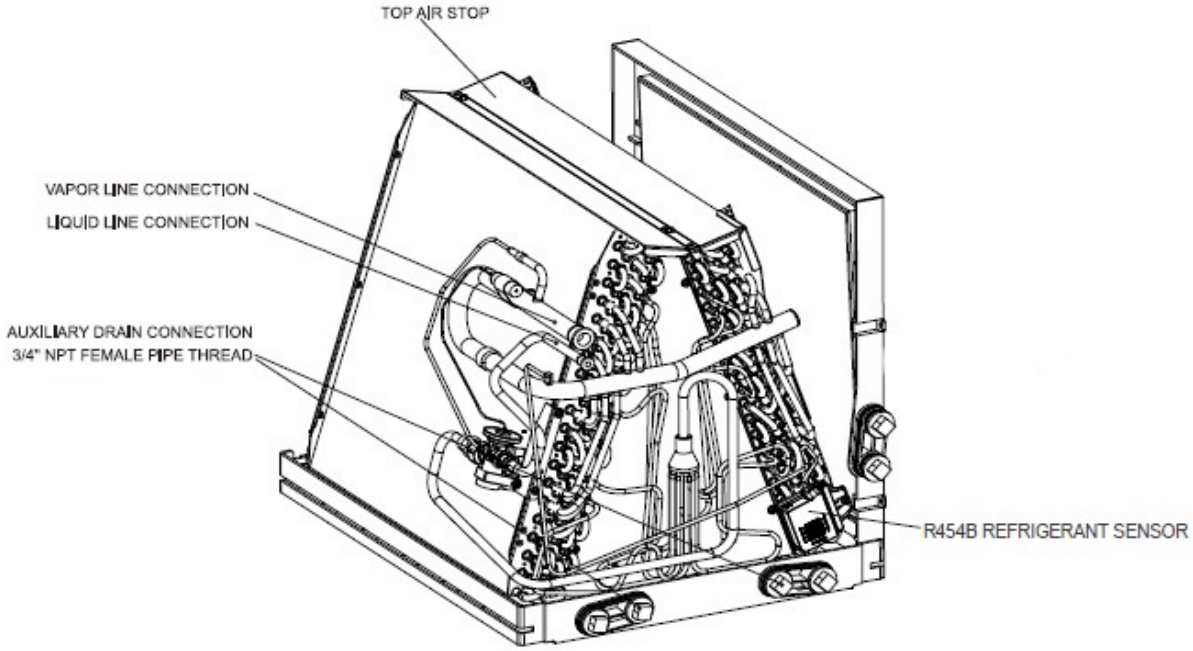


Figure 3. Cased dimensions and component location — exterior



⚠ WARNING

Do Not Reposition!

Failure to follow the safety precautions could result in serious injury, death, or property damage.
Do not reposition the refrigerant sensor from its original position.

Dimensional Data

Table 1. Dimensional data

Models	Unit Dimensions				Weight (lb [kg])
	Unit Height “H” (in [mm])	Unit Width “W” (in [mm])	Supply Duct "A" (in [mm])	Liquid Line/ Vapor Line	
5MXCA003AC3HCA	20"[508]	14-1/ 2"[368]	13"[330]	3/8" / 3/4"	45.2[20.5]
5MXCB004AC3HCA	20"[508]	17-1/ 2"[445]	16"[407]	3/8" / 3/4"	47.4[21.5]
5MXCC005AC3HCA	20"[508]	21"[533]	19-1/2"[495]	3/8" / 3/4"	49.6[22.5]
5MXCB006AC3HCA	26"[660]	17-1/ 2"[445]	16"[407]	3/8" / 7/8"	57[26]
5MXCC007AC3HCA	26"[660]	21"[533]	19-1/2"[495]	3/8" / 7/8"	60.6[27.5]
5MXCD008AC3HCA	26"[660]	24-1/ 2"[622]	23"[584]	3/8" / 7/8"	64[29]
5MXCC009AC3HCA	30"[762]	21"[533]	19-1/2"[495]	3/8" / 7/8"	81[37]
5MXCD010AC3HCA	30"[762]	24-1/ 2"[622]	23"[584]	3/8" / 7/8"	86[39]

Installation

Pre-Installation

⚠ WARNING

Risk of Fire or Explosion!

Failure to follow instructions below could cause a fire which could result in death, serious injury, and equipment damage.

- **Do not install the unit corrosive, inflammable or explosive environment to avoid impact to normal operations or shortened service life of the unit. Use special air-conditioner with anti-corrosive or anti-explosion function.**
- **An authorized personnel must use factory–authorized kits or accessories and packaged instructions when modifying this product.**
- **Personal Protective Equipment (PPE) must be worn at all-time including gloves and safety glasses.**
- **Use quenching cloth for brazing operations.**
- **Fire extinguisher must be easily accessible.**
- **Consult local building codes and National Electrical Code (NEC) for special requirements.**

NOTICE

Equipment Damage!

Failure to follow instructions below could result in equipment damage.

Confirm that the appliance is mounted securely.

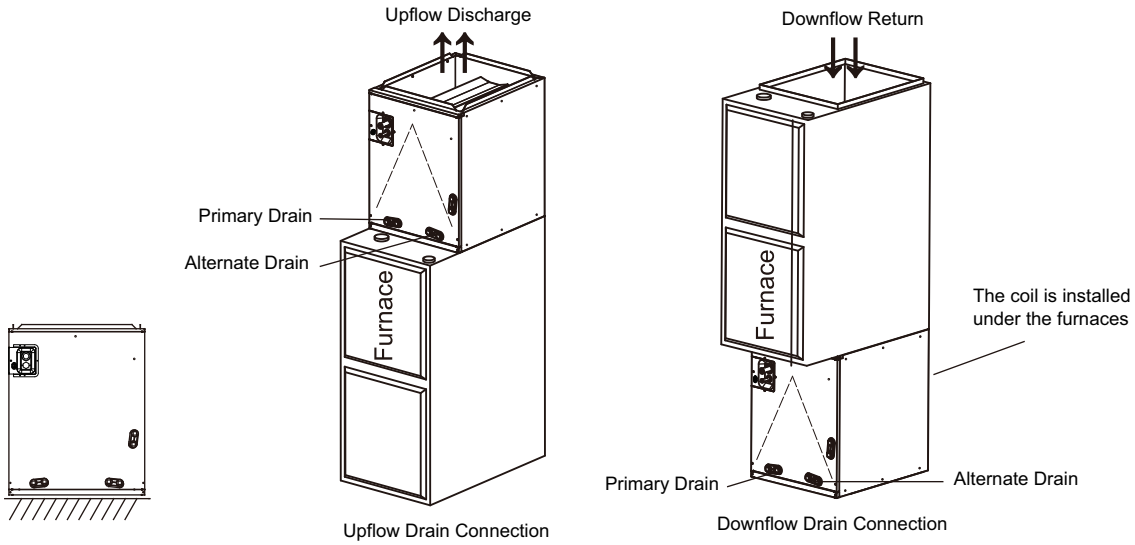
Carefully read and understand all installation instructions before starting. Gather all necessary tools, hardware, and supplies, including any items that may need to be purchased locally. Confirm everything required for installation is on hand before beginning.

Important: *This unit is a partial unit air conditioner, and must only be connected to other units that comply to corresponding partial unit requirements of UL 60335-2-40/CSA C22.2 No. 60335-2-40, or UL 1995/CSA C22.2 No 236. This unit is evaluated as a component of the evaporator unit and the evaporator unit is a partial unit.*

Installation and Trap Connection

1. Shut off or disconnect gas furnace power and remove gas pipe, if necessary.
2. Disconnect and remove a sufficient portion of the supply ductwork to provide clearance for the cased coil.
3. Place the coil case on the top/bottom of the furnace as shown.
4. Align coil case with the furnace outlet.
5. Use self-tapping screws to connect coil case and furnace. See Figure 6, p. 10.
6. Reconnect the ductwork to the coil case.
7. Confirm that the coil is leveled and seal the gap between coil and furnace. If the coil and furnace sizes are not matched, use sheet metal or other material to fill the gap and seal the gap to prevent air leak.
8. Reconnect the gas furnace power line.
9. Turn on the furnace to check for any sign of leakage.

Figure 4. Vertical drain connections



Vertical Drain Conditions
(All other drain connectiouns should be plugged)

Figure 5. Horizontal drain connections

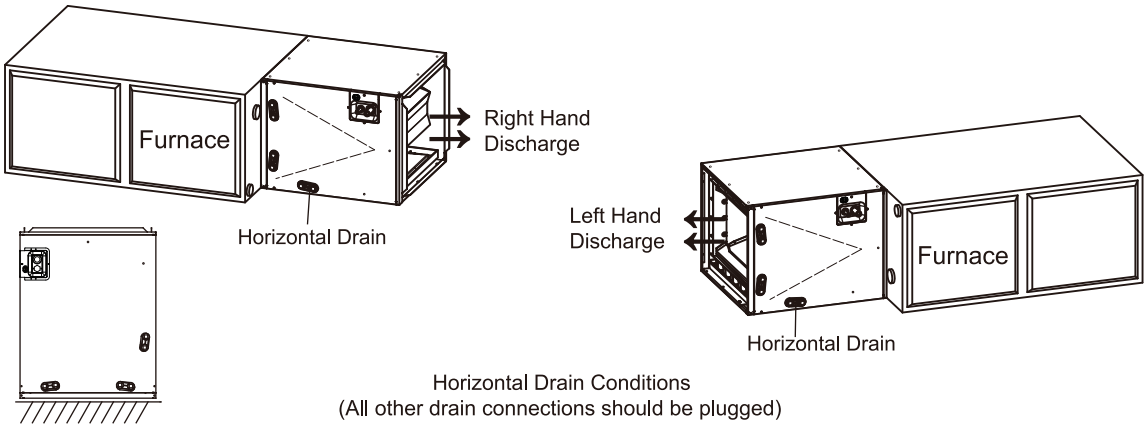
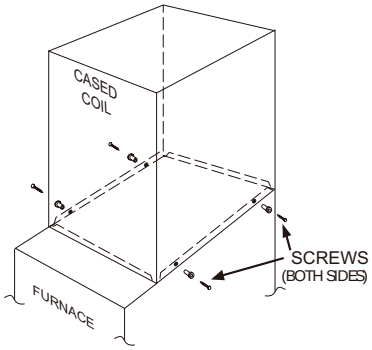


Figure 6. Mounting screws



Note: *The mounting screws must be positioned no more than 1 inch from the coil base and more than 4.72 inches from either side of the coil.*

NOTICE

Equipment Damage!

Failure to follow instructions below could result in a screw damaging either the coil or drain pan and could void the warranty.

Only qualified installers/technicians should attach the coil to furnace/ductwork.

Left Horizontal Installation

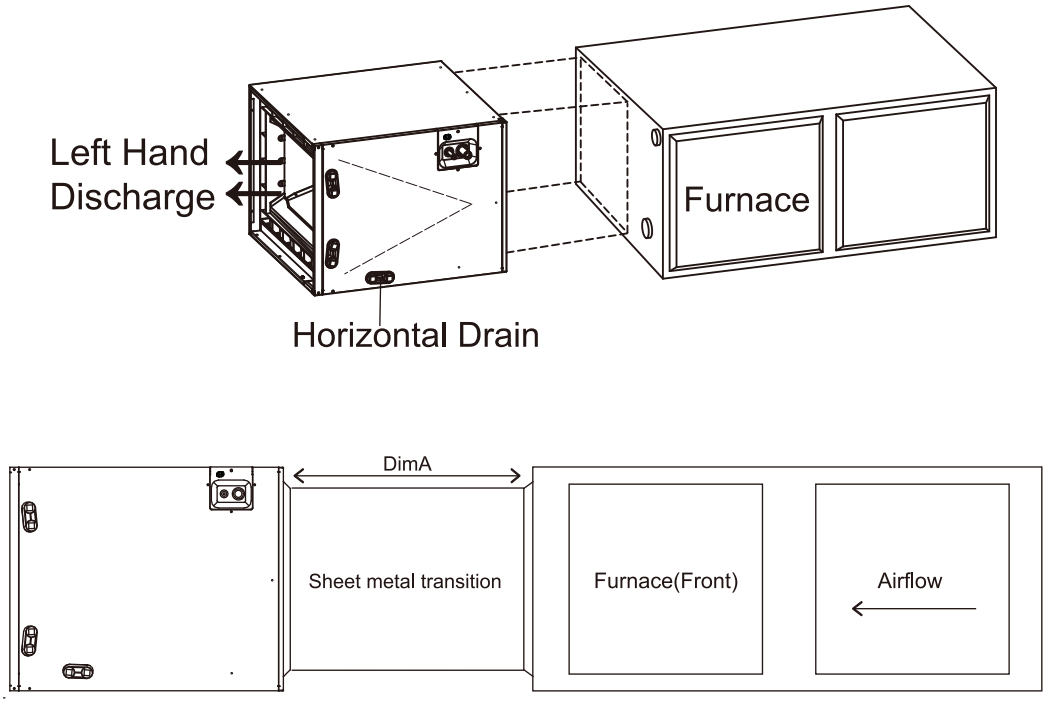
For an upflow furnace in horizontal left orientation, install a sheet metal transition between the furnace supply air outlet and the evaporator coil supply air inlet to create clearance between the coil lineset and furnace flue outlet. This is applicable for A-cabinet non-condensing and all sizes of condensing furnaces. See .

Notes:

- *For A-cabinet non-condensing furnaces, a 6–inch transition is needed.*
- *For all cabinet size condensing furnaces, a 6.5–inch transition is needed.*

If space is a constraint, the lines/flue interference can be removed by rotating the coil such that the line set is facing the opposite direction and air flow through the bottom of the A-coil, thus optimizing airflow.

Figure 7. Transition for horizontal left orientation



Refrigerant Sensor

⚠ WARNING

Leak Detection System Installed!

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

The unit is equipped with electrically powered safety measures and must be powered at all times after installation, except during servicing, to detect any leak.

The R–454B refrigerant leakage sensor is pre-configured on the coil from the factory. It is located in the bottom right corner of the coil to meet different installation scenarios. Before installing the indoor unit, check whether the refrigerant sensor is correctly installed:

- Use only the factory model or specified model of the refrigerant leakage sensor as indicated in the manual.
- The R–454B refrigerant leakage sensor activates the refrigerant shut-off device, alarm, airflow circulation, or other emergency controls, providing an electrical signal at a predetermined alarm setpoint in response to leaked refrigerant.
- Confirm the sensor is accessible for inspection, repair, or replacement by an authorized person, and its function can be easily verified.
- Protect the sensor from tampering or unauthorized resetting of the pre-set value.
- If a leak is detected, the fan will turn on to maximum and the compressor will stop.
- The service life of the refrigerant sensor is 15 years; replace it after this period.

The wire of the refrigerant sensor must be connected to the leak mitigation control kit. For specific operation instructions, please refer to the Wiring diagrams and explanatory label of the leak mitigation control kit.

⚠ WARNING

Fire or Explosion Hazard!

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

When using a gas furnace for heating, confirm that the furnace discharge air temperature does not exceed 200℉. Exceeding this temperature may cause the refrigerant leak sensor to malfunction.

Refrigerant Charge and Room Area Limitations

In UL/CSA 60335-2-40, R–454B refrigerant is classified as class A2L, which is mildly flammable. Therefore, R–454B refrigerant is suitable for systems needing additional refrigerant charge and which will limit the area of the rooms being served by the system.

Similarly, the total amount of refrigerant in the system shall be less than or equal to the allowable maximum refrigerant charge. The allowable maximum refrigerant charge depends on the area of the rooms being served by the system.

The room area (A) is the room area enclosed by the projection to the floor of the walls, partitions, and doors of the space that the equipment serves. For ducted systems, total room area (TA) of all rooms connected by ducts, may be used instead of A.

Rooms connected by drop ceilings only are not considered a single room.

Rooms on the same floor of the building, and connected by an open passageway, can be considered part of the same room if the passageway is a permanent opening, extends to the floor and is intended for people to walk through.

Adjacent rooms on the same floor of the building and connected by permanent openings in the walls and/or doors between rooms (including gaps between the wall and the floor), can be considered part of the same room if the openings meet the following criteria.

- The opening is permanent and cannot be closed.
- Openings extending to the floor, such as door gaps, need to be at least 20 mm above the floor covering surface.
- Natural ventilations opening areas must meet the requirements of ANSI\ASHRAE Standard 15-2022, Section 7.2.3.2.

If the fan incorporated to an appliance is continuously operated or operation is initiated by a refrigerant detection sytem with a sufficient circulation airflow rate, the allowable maximum refrigerant charge (Mmax) and the required minimum room area (Amin/TAmin) is shown the following tables.

Rooms that are connected by a mechanical ventilation system can be considered a single room area if the mechanical ventilation system meets the requirements of ANSI\ASHRAE Standard 15-2022, Section 7.6.4.

Note: *There is no fan inside the A-Coil. The air volume should be evaluated when installed with a furnace.*

Table 2. Allowable minimum refrigerant charge

A[(a)] /TA[(b)]		Mmax[(c)]		A[(a)]/TA[(b)]		Mmax[(c)]	
ft²	m²	lb-oz	kg	ft²	m²	lb-oz	kg
30	3	2-0	0.9	150	14	10-0	4.5
40	4	2-10	1.2	160	15	10-10	4.8
50	5	3-5	1.5	170	16	11-5	5.1
60	6	4-0	1.8	180	17	12-0	5.4
70	7	4-10	2.1	190	18	12-10	5.7
80	8	5-5	2.4	200	19	13-5	6.0
90	9	6-0	2.7	210	20	14-0	6.3
100	10	6-10	3.0	220	21	14-10	6.6
110	11	7-5	3.3	230	22	15-5	6.9
120	12	8-0	3.6	240	23	16-0	7.2

Table 2. Allowable minimum refrigerant charge (continued)

A[(a)]/TA[(b)]		Mmax[(c)]		A[(a)]/TA[(b)]		Mmax[(c)]	
130	13	8-10	3.9	250	24	16-10	7.5
140	14	9-5	4.2	260	25	17-5	7.8

(a) Actual room area where the appliance is installed
(b) Total area of the conditioned space connected by air ducts.
(c) Allowable maximum refrigerant charge in a room

Table 3. Required minimum room area

Mc[(a)]		Amin[(b)] /TAmin[(c)]		Mc[(a)]		Amin[(b)]/ TAmin[(c)]	
lb-oz	kg	ft²	m²	lb-oz	kg	ft²	m²
2-2	1.0	33.1	3.1	10-2	4.6	152.1	14.2
2-9	1.2	39.7	3.7	10-9	4.8	158.7	14.8
3-0	1.4	46.3	4.4	11-0	5.0	165.3	15.4
3-7	1.6	52.9	5.0	11-7	5.2	171.9	16.0
3-15	1.8	59.5	5.6	11-14	5.4	178.5	16.6
4-6	2.0	66.1	6.2	12 -5	5.6	185.1	17.2
4-13	2.2	72.7	6.8	12-12	5.8	191.7	17.9
5-4	2.4	79.3	7.4	13-3	6.0	198.4	18.5
5-11	2.6	86.0	8.0	13-10	6.2	205.0	19.1
6-2	2.8	92.6	8.7	14-1	6.4	211.6	19.7
6-9	3.0	99.2	9.3	14-8	6.6	218.2	20.3
7-0	3.2	105.8	9.9	14-15	6.8	224.8	20.9
7-7	3.4	112.4	10.5	15-6	7.0	231.4	21.5
7-15	3.6	119.0	11.1	15-14	7.2	238.0	22.2
8-6	3.8	125.6	11.7	16-5	7.4	244.6	22.8
8-13	4.0	132.2	12.3	16-12	7.6	251.2	23.4
9-4	4.2	138.8	12.9	17-3	7.8	257.9	24.0
9-11	4.4	145.5	13.6				

(a) Actual refrigerant charge in the system
(b) Required minimum room area
(c) Total area of the conditioned space (for appliances serving one or more rooms with an air duct system)

Table 4. Minimum circulation airflow

Mc[(a)]		Qmin[(b)]		Mc[(a)]		Qmin[(b)]	
lb-oz	kg	CFM	m³/h	lb-oz	kg	CFM	m³/h
2-2	1.0	59	100	10-2	4.6	275	467
2-9	1.2	71	121	10-9	4.8	287	488
3-0	1.4	83	141	11-0	5.0	298	506
3-7	1.6	95	161	11-7	5.2	310	527
3-15	1.8	107	182	11-14	5.4	322	547
4-6	2.0	119	202	12 -5	5.6	334	567

Table 4. Minimum circulation airflow (continued)

Mc[a]		Qmin[b]		Mc[a]		Qmin[b]	
4-13	2.2	131	223	12-12	5.8	346	588
5-4	2.4	143	243	13-3	6.0	358	608
5-11	2.6	155	263	13-10	6.2	370	629
6-2	2.8	167	284	14-1	6.4	382	649
6-9	3.0	179	304	14-8	6.6	394	669
7-0	3.2	191	325	14-15	6.8	406	690
7-7	3.4	203	345	15-6	7.0	418	710
7-15	3.6	215	365	15-14	7.2	430	731
8-6	3.8	227	386	16-5	7.4	442	751
8-13	4.0	239	406	16-12	7.6	454	771
9-4	4.2	251	426	17-3	7.8	466	792
9-11	4.4	263	447				

[a] Actual refrigerant charge in the system
[b] Minimum circulation airflow

Notes: *The allowable maximum refrigerant charge of the Table 2, p. 12 or the required minimum room area of Table 3, p. 12 is available only if the following conditions are met:*

- *Minimum velocity of 3.28 ft/s, which is calculated as the indoor unit airflow divided by the nominal face area of the outlet. The grill area shall not be deducted.*
- *Minimum airflow rate must meet the corresponding values in (b), which is related to the actual refrigerant charge of the system (Mc).*
- *R–454B refrigerant leakage sensor is configured.*

The maximum refrigerant limit described above applies to unventilated areas. If adding additional measures, such as areas with mechanical ventilation or natural ventilation, the maximum refrigerant charge can be increased or the minimum room area can be reduced. R–454B refrigerant leakage sensor is configured for the indoor unit, and meets the incorporated circulation airflow requirements□the maximum refrigerant charge or minimum room area can be determined according to Table 2, p. 12 or Table 3, p. 12.

Table 5. Minimum room area, when installation altitude is >2,000 ft

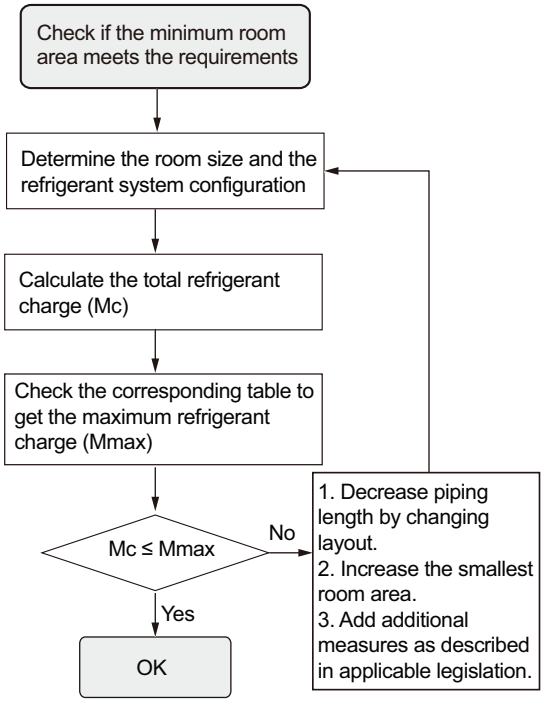
	Altitude(ft)							
	2001- 4000	4001- 6000	6001- 8000	8001- 10000	10001- 12000	12001- 14000	14001- 15000	above 15000
Charge lb	Minimum Conditioned Space(ft²)							
2	33	35	37	39	42	45	47	49
3	50	53	56	59	63	68	71	73
4	66	70	74	79	85	91	94	98
5	83	88	93	99	106	113	118	122
6	100	105	112	119	127	136	141	147
7	116	123	130	138	148	159	165	171
8	133	140	149	158	169	181	188	196
9	149	158	167	178	190	204	212	220
10	166	175	186	198	211	227	235	245
11	183	193	205	218	232	249	259	269
12	199	211	223	237	254	272	282	294
13	216	228	242	257	275	295	306	318
14	232	246	260	277	296	318	330	343
15	249	263	279	297	317	340	353	367
16	266	281	298	317	338	363	377	392
17	282	298	316	336	359	386	400	416
18	299	316	335	356	380	408	424	440
19	315	333	353	376	402	431	447	465
20	332	351	372	396	423	454	471	489

Note: *If the actual room area, air outlet height, and refrigerant charge amount are not reflected in the above tables.*

Wiring Leak Detection Sensor/System to Furnace Assembly

- The wiring shall be not less than 18 AWG.
- Detection of a leak shall turn on the indoor fan at the highest available speed or turn it on to not less than Qmin as shown in Table 4, p. 12.

Figure 8. Installation



Installation of R-454B Leak Mitigation Kit

⚠ 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.**

When the refrigerant sensor detects a leak, the Mitigation Control Board shuts down the outdoor unit and energizes the blower to the maximum fan speed to dilute any concentration of refrigerant. The dry contact alarm relay closes enabling a field provided audible or visual alarm to alert occupants.

Requirements for Gas Furnaces

In accordance with the latest UL 60335-2-40 regulations, the coil and gas furnaces are required to meet specific requirements for operating air volume.

Before installing the unit, the service personnel should carefully check the airflow of the gas furnace to check whether it meets the minimum air volume requirements, and the installation is prohibited if it does not meet the requirements.

Table 6. Minimum airflow setting

System refrigerant charge (lb)[a]	Minimum Airflow Setting (CFM)
less than 4	no minimum
4	108
5	135
6	162
7	189
8	216
9	244
10	271
11	298
12	325
13	352
14	379
15	406
16	433
17	460
18	487
19	514
20	541

[a] The system refrigerant charge is the total system charge according to the instructions provided by the manufacturer of the outdoor unit.

Installing the Refrigerant Leak Mitigation Control Kit

1. Turn off all power supplies of gas furnace, outdoor unit, and wire controller.
2. Open the upper cover of the leak mitigation control kit, and affix the kit on the front or side of A-coil with self-tapping screws. The sponge pad in the accessory bag should be placed on the back of the mitigation kit to

avoid damage to the A-Coil. See example in Figure 10, p. 15.

3. According to the wiring diagram, connect the mitigation board and the signal cables of the gas furnace, outdoor unit, and wire controller. Note that the connection cables should use 18AWG specifications.
4. Install the top cover of the mitigation control kit.
5. Power on the gas furnace and outdoor unit.
6. Confirm the gas furnace and outdoor unit are running normally.

Installation notes:

- Only install the mitigation kit in the designated locations to avoid damaging the coil.
- When installing the mitigation control kit, do not use screws more than 0.4 inches long to prevent screws from penetrating the glass fiber cotton.
- When installing the mitigation control kit, please check that the screws are away from the coil tubes when installed.
- When mounted on the side, the electric control box can be aligned with the indicating label arrangement, as shown in Figure 10, p. 15 and Figure 12, p. 15.
- In the side installation, using a drill, do not drill more than 0.2 inches to prevent the glass fiber cotton from being damaged.
- When installing the mitigation kit on the front panel, use the locating dimples in the panel as shown in Figure 10, p. 15.
- The kit is not allowed to be installed in the lower half of the coil front panel because there is a coil inside that could be punctured by screws.

Figure 9. Front view

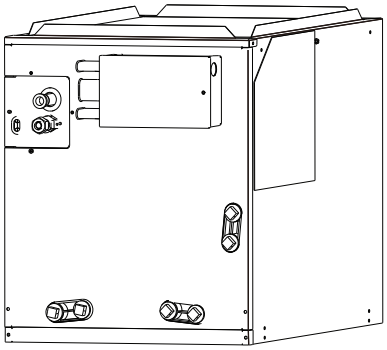


Figure 10. Mounting view

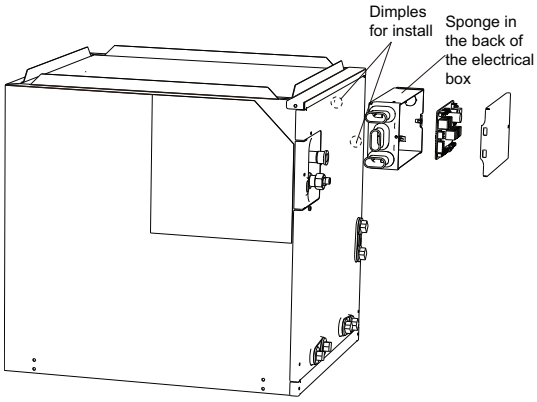


Figure 11. Right view

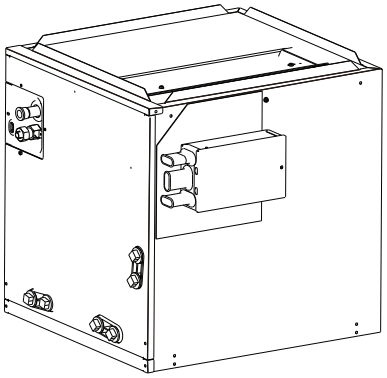


Figure 12. Left view

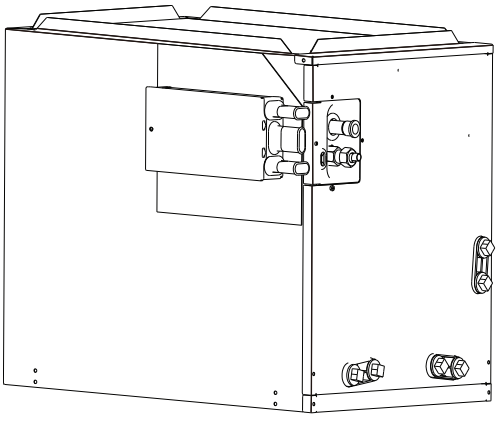
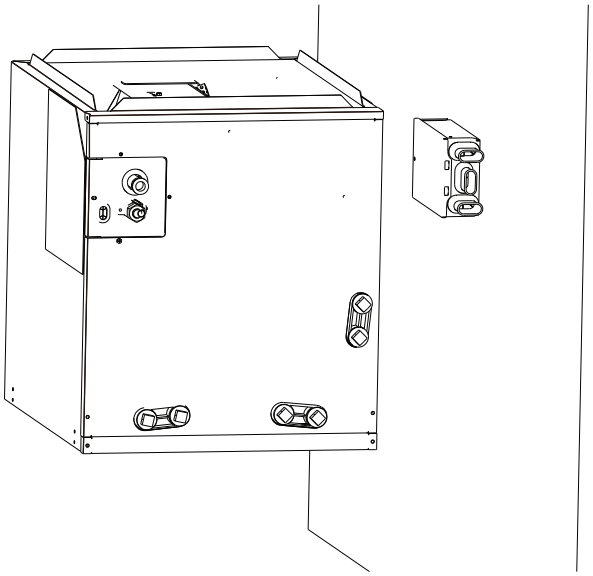


Figure 13. Wall installation



Note: *If the installation configuration does not allow for the kit to be mounted on the cased coil, the leak mitigation kit can be installed on a nearby wall or surface.*

Mitigation Control Board

Table 7. Function description of the mitigation control board

LED1 Number of green flashes	Fault Description	Fault cause	Unit response & handling method
1	The refrigerant sensor communication fails.	Fails to communicate with the refrigerant sensor for 30 consecutive seconds or the refrigerant sensor is faulty.	LED1 of the KIT board blinks green once, turns off the outdoor unit signal, shuts down the compressor, forcibly outputs the air supply signal to the gas furnace, turns off the heating signal of the gas furnace for 5 minutes, and turns on the maximum airflow of the gas furnace. Contact the after-sales personnel of the manufacturer.
2	Refrigerant concentration exceeds the limit alarm value.	A refrigerant leak has been detected	1, maintain ventilation, cut off the outdoor unit signal, turn off the compressor to reduce refrigerant circulation, and avoid open flame; 2. Force the output air supply signal, disconnect the heating signal of the gas furnace, and open the highest wind gear of the gas furnace for 5 minutes until the refrigerant concentration is reduced to a safe value.
3	The refrigerant sensor is faulty.	The refrigerant leakage sensor determines the fault by itself, such as the sensor's own communication error, and the detection concentration exceeds the limit value.	Turn off the outdoor unit signal, shut down the compressor, force out the air supply signal of the gas furnace, turn off the heating signal of the gas furnace for 5 minutes, open the maximum airflow of the gas furnace, and replace with a new refrigerant detection sensor.
4	Life reminder.	The refrigerant sensor expires.	Turn off the outdoor unit signal, shut down the compressor, force out the air supply signal of the gas furnace, turn off the heating signal of the gas furnace for 5 minutes, open the maximum airflow of the gas furnace, and replace with a new refrigerant detection sensor.

Refrigerant Sensor Connection

Connect the cable of refrigerant sensor to CN26 on the board in the MCB kit.

⚠ WARNING

Do Not Reposition!

Failure to follow the safety precautions could result in serious injury, death, or property damage.

Do not reposition the refrigerant sensor from its original position.

Figure 14. Refrigerant sensor location

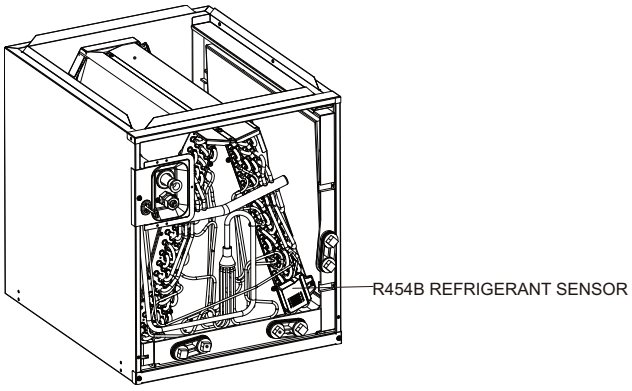
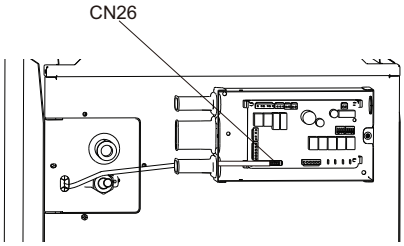


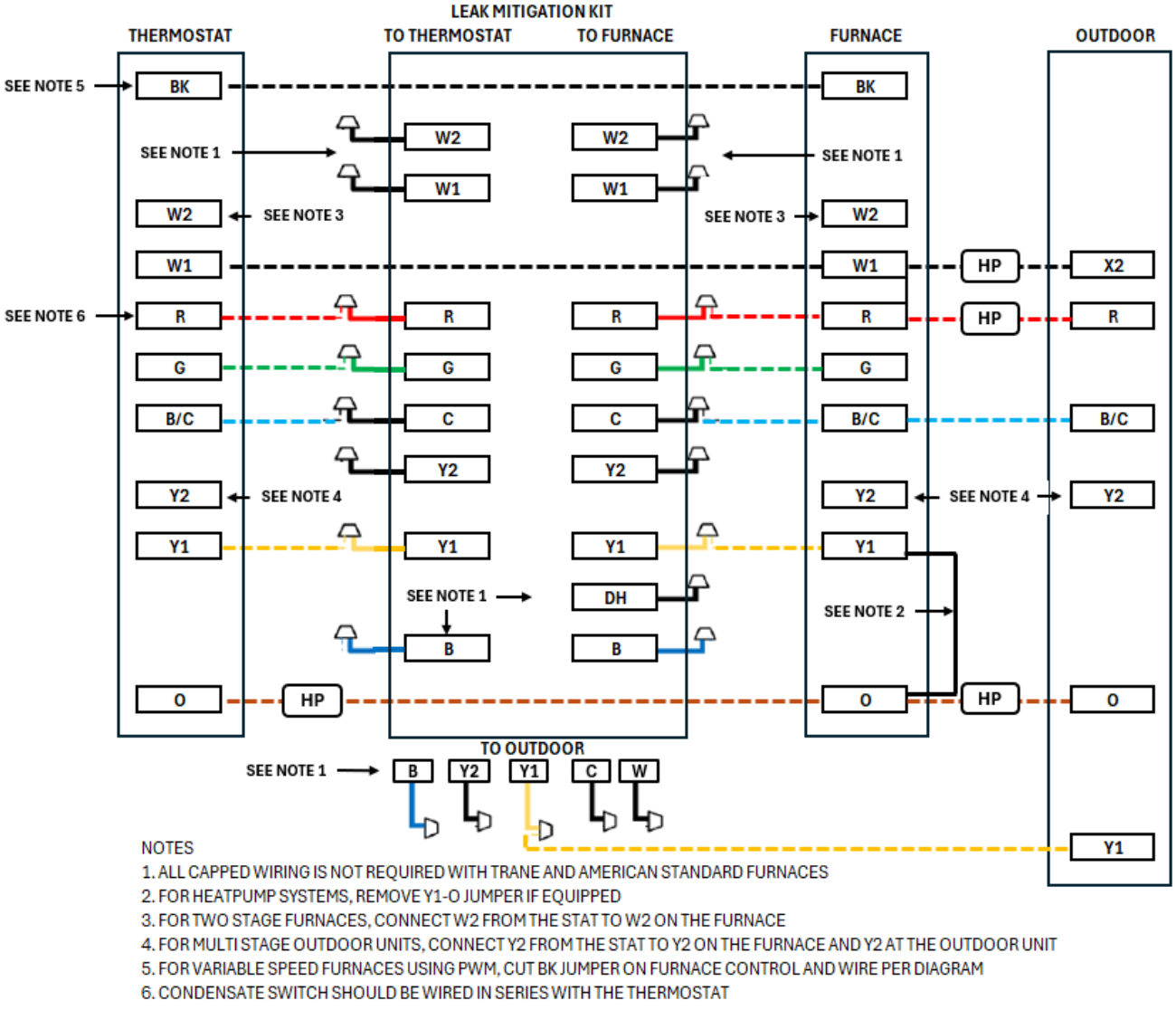
Figure 15. Refrigerant sensor connection



Note: *After installing the sensor, add a zip tie to the incoming refrigerant sensor wire.*

Field Wiring Diagrams

Figure 16. Field wiring diagram

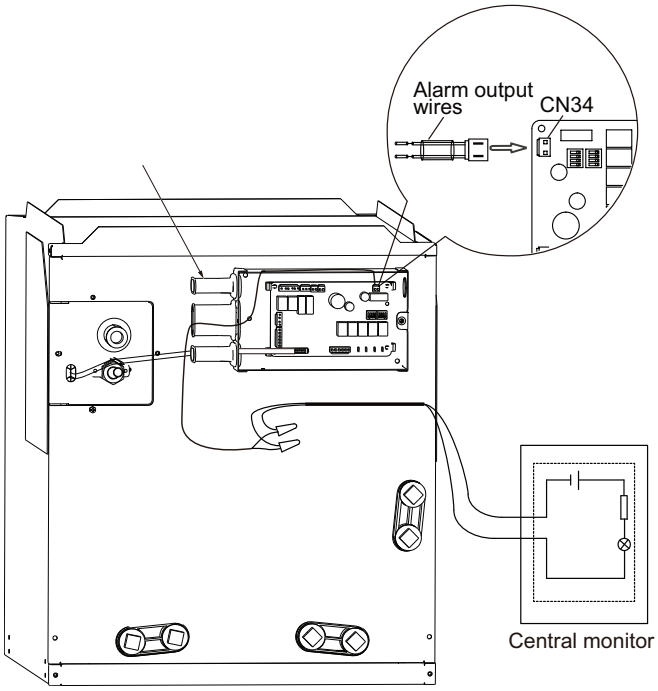


Note: *Wiring diagram is applicable to Trane furnace applications.*

Alarm Wiring

After wiring, tighten the rubber ring for insect protection.

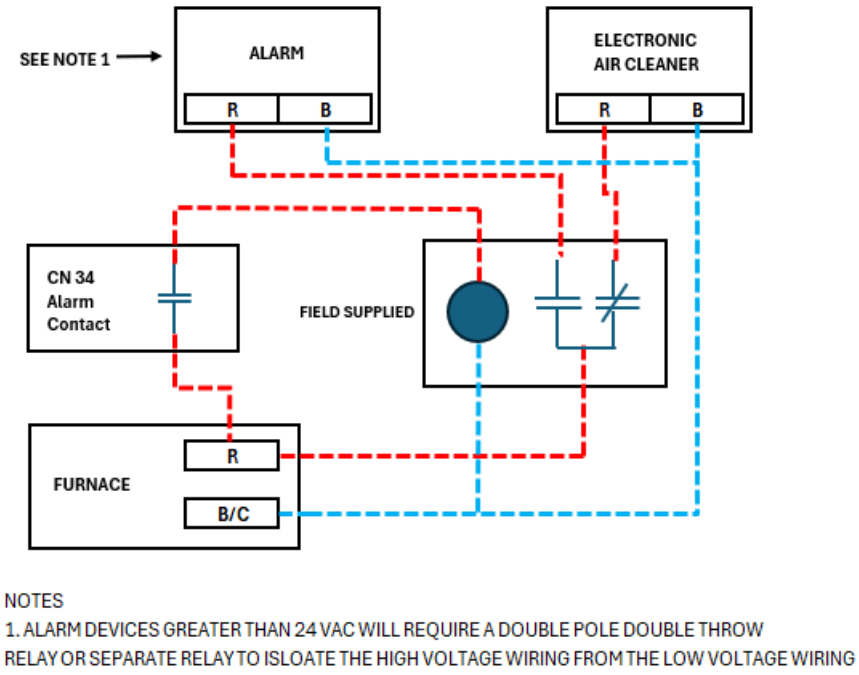
Figure 17. Alarm wiring



Notes:

- *The rated operating condition of ALARM is 24 V AC/1 A or 30 V DC/1A or 250 V AC/1 A.*
- *The type of wiring for ext output should use AWG 18 (Min. AWG 18).*

Figure 18. Mitigation board accessory shutdown and alarm switch

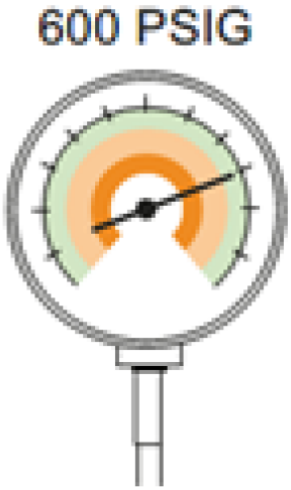


Note: *Rated @ 1 amp 24 V AC / 120 V AC / 240 V AC*

Pressure Test

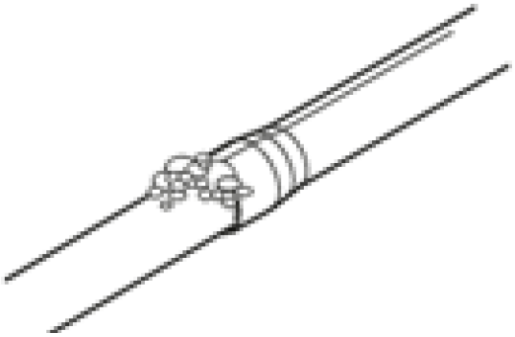
1. Using dry nitrogen, pressurize the field piping and indoor coil to the lower of the maximum operating pressures listed on the name plates of the indoor and outdoor units (likely 600 psi).

Figure 19. Pressure test



2. The test pressure after removal of the pressure source shall be maintained for at least one hour with no decrease of pressure indicated by the test gauge, with the test gauge resolution not exceeding 30 psi.

Figure 20. Check for leaks



3. Check for leaks by using a soapy solution at each field-made joint.

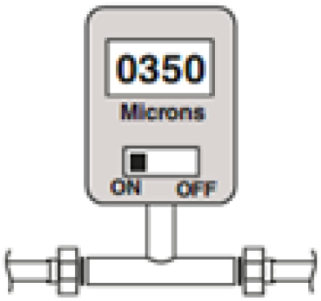
Note: *Remove nitrogen pressure and repair any leaks before continuing.*

Vacuum Test

Important: *Do not open the service valves until the refrigerant lines and indoor coil leak check and evacuation are complete.*

1. Evacuate until the micron gauge reads no higher than 350 microns, then close off the valve to the vacuum pump.

Figure 21. Micron gauge



2. Observe the micron gauge. Evacuation is complete if the micron gauge does not rise above 500 microns in one minute and 1500 microns in ten minutes.
3. Once evacuation is complete, blank off the vacuum pump and micron gauge, and close the valve on the manifold gauge set.

All procedures for charging the system with refrigerant shall be according to the instructions provided by the manufacturer of the outdoor unit.

Important: *Under no circumstances shall potential sources of ignition be used in the searching for or detection of refrigerant leaks.*

After charging the system, all indoor field-made joints of the field piping shall be checked for refrigerant leaks using an electronic leak detector calibrated for R-454B having a sensitivity of five grams per year or better.

Refrigerant Lines

⚠ WARNING

Refrigerant Leakage!

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

Use the nut joining and a new outer o-ring and sealing flange that come with the equipment and meet the ISO 14903 certification.

NOTICE

Equipment Damage!

Failure to follow instructions below could result in equipment damage.

Properly charge the system to avoid performance loss and compressor damage.

⚠ WARNING

Risk of Fire!

Failure to follow instructions below could cause a fire which could result in death, serious injury, and equipment damage.

Confirm the following requirements apply to the room where the air handler is installed.

- **All combustion appliances located in the same room that have continuous pilot lights must be equipped with an effective flame arrest.**
- **All indoor field-made joints of the field piping must be checked for refrigerant leaks after charging using an electronic leak detector calibrated for R-454B with sensitivity of 5 grams per year or better.**
- **The room must be constructed to avoid stagnation or fire hazard in the event of a refrigerant leak.**

⚠ CAUTION

Contamination Risk!

Failure to follow instructions below could result in equipment damage.

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

Keep the coil connections sealed until refrigerant connections are made. See the Installation Instructions for the outdoor unit for details on line sizing, tubing installation, and charging information.

The coil is shipped with nitrogen. Evacuate the system before charging with refrigerant.

Install refrigerant tubing so that it does not block service access to the front of the unit.

Nitrogen should flow through the refrigerant lines while brazing.

Use a brazing shield to protect the cabinet's paint and a wet rag to protect the rubber grommet and TXV seal ring from being damaged by torch flames.

After the refrigerant connections are made, seal the gap around the connections with pressure sensitive gasket.

The pipework, including the piping material, pipe routing, and installation, must be protected from physical damage during operation and service. It should also comply with national and local codes and standards, such as ASHRAE 15, ASHRAE 15.2, IAPMO Uniform Mechanical Code, ICC International Mechanical Code and CSA B52.prior to being covered or enclosed, the pipework should undergo inspection to ensure compliance. All filed joints shall be accessible for inspection prior to being covered or enclosed.

All joints made in the installation between parts of the refrigerating system, with at least one part charged, shall be made in accordance with the following:

- A brazed, welded, or mechanical connection shall be made before opening the valves to permit refrigerant to flow between the refrigerating system parts. A vacuum valve shall be provided to evacuate the interconnecting pipe or any uncharged refrigerating system part.
- Mechanical connectors used indoors shall comply with ISO 14903. When mechanical connectors are reused indoors, sealing parts shall be renewed. When flared joints are reused indoors, the flare part shall be refabricated.
- Refrigerant tubing shall be protected or enclosed to avoid damage.
- Flexible refrigerant connectors (such as connecting lines between the indoor and outdoor unit) that may be displaced during normal operation shall be protected against mechanical damage.

Field-made refrigerant joints indoors shall be tightness tested. The test method shall have a sensitivity of 5 grams per year of refrigerant or better under a pressure of at least 0.25 times the maximum allowable pressure. No leak shall be detected.

After completion of field piping for split systems, the field pipework shall be pressure tested with an inert gas and then vacuum tested prior to refrigerant charging, according to the following requirements.

The minimum test pressure for the low side of the system shall be the low side design pressure and the minimum test pressure for the high side of the system shall be the high side design pressure, unless the high side of the system cannot be isolated from the low side of the system in which case the entire system shall be pressure tested to the low side design pressure.

Compliance is checked according to the installation instructions and a trial installation, if necessary:

- Mechanical joints in compliance with ISO 14903 or UL 207 (U.S. only).
- Welded or brazed joints.

- Joints in enclosures that vent to the unit or to the outside.

After the brazing work is finished, confirm there is no refrigerant leakage. After checking for vapor leaks, insulate the pipe connections.

Note: *It is recommended to install a filter drier, the filter drier should be installed in the liquid line between the outdoor unit's liquid line service valve and the indoor coil's metering device. The filter drier should be compatible with R–454B refrigerant.*

Ductwork

⚠ WARNING

Safety Hazard!

Failure to follow instructions below could result in death or serious injury, and property damage.

Field ductwork must comply with NFPA 90A, NFPA 90B, and local ordinances. Insulate and cover sheet metal ductwork in unconditioned spaces with a vapor barrier. Fibrous ductwork must follow SMACNA standards and meet U/L Standard 181 for Class I Air Ducts. Check local codes for ductwork and insulation requirements.

Duct system must be designed within the range of external static pressure the unit is designed to operate against. Adequate system airflow is important. Confirm supply and return ductwork, grills, special filters, and accessories are accounted for in total resistance.

Design the duct system in accordance with ACCA Manual D Design for Residential Winter and Summer Air Conditioning and Equipment Selection. Latest editions are available from: ACCA Air Conditioning Contractors of America, 1513 16th Street, N.W., Washington, D.C. 20036. If duct system incorporates flexible air duct, confirm pressure drop information (straight length plus all turns) shown in ACCA Manual D is accounted for in the system.

Supply plenum is attached to the 3/4-inch duct flanges supplied with the unit. Attach flanges around the blower outlet.

Secure the supply and return ductwork to the unit flanges. Use proper fasteners for the type of duct used and tape the duct-to-unit joint as required to prevent air leaks.

If appliances connected via an air duct system to one or more rooms are installed in a room with an area less than shown in the Minimum Circulation Airflow table, that room shall be without continuously operating open flames (for example, an operating gas appliance) or other potential ignition sources (for example, an operating electric heater or hot surfaces). A flame-producing device may be installed in the same space if the device is provided with an effective flame arrest.

For appliances connected via an air duct system to one or more rooms, auxiliary devices which may be a potential ignition source shall not be installed in the duct work. Examples of such potential ignition sources are hot surfaces with a temperature exceeding 700°C and electric switching devices.

For appliances connected via an air duct system to one or more rooms, only auxiliary devices approved by the appliance manufacturer or declared suitable with the refrigerant shall be installed in connecting ductwork.

Airflow Performance

Table 8. Airflow performance (CFM vs pressure drop)

Pressure drop characteristics for cooling and heat pump coils								
Pressure drop (inchs of water)								
Model	**0.05**	**0.1**	**0.15**	**0.2**	**0.25**	**0.3**	**0.35**	**0.4***
5MXCA003AC3HCA	307	485	618	729	823	911	991	1063
5MXCB004AC3HCA	327	527	682	810	925	1024	1122	1217
5MXCC005AC3HCA	496	718	924	1102	1259	1398	1530	1651
5MXCB006AC3HCA	456	638	810	953	1077	1191	1284	1390
5MXCC007AC3HCA	505	726	932	1098	1244	1375	1494	1604
5MXCD008AC3HCA	533	857	1105	1319	1509	1675	1824	1956
5MXCC009AC3HCA	439	699	906	1071	1224	1362	1487	1589
5MXCD010AC3HCA	466	764	978	1157	1313	1466	1590	1695

Notes:

1. Data based on wet coil with entering air at 80 deg F DB / 67 deg F WB without air filter.
2. The maximum allowable pressure drop is 0.4 in H_2O.
3. The maximum CFM is the data at 0.4 in H_2O pressure.

Table 9. Maximum airflow setting

Maximum airflow seeting (CFM)				
Model	Upflow	Horizontal Left	Downflow	Horizontal Right
5MXCA003AC3HCA	1200	1050	1050	1200
5MXCB004AC3HCA	1250	1200	1050	1250
5MXCC005AC3HCA	1250	1200	1050	1250
5MXCB006AC3HCA	1575	1400	1400	1575
5MXCC007AC3HCA	1575	1400	1400	1575
5MXCD008AC3HCA	1575	1450	1450	1575
5MXCC009AC3HCA	1850	1750	1750	1850
5MXCD010AC3HCA	2000	1850	1850	2000

Notes:

1. Water blow-off could occur in certain installation positions if the airflow setting exceeds the maximum values listed
2. Airflow should not exceed the specified maximum airflow. Exceeding these CFM limits may result in water blowing from the coil surface and into the ductwork.

Drain Application

Condensate Drain Piping

To provide extra protection from water damage, it is always recommended to install an additional drain pan (provided by the installer) under the entire unit with a separate drain line. The manufacturer is not responsible for any damages due to the failure to follow these recommendations.

Drain Pan Installation

⚠ WARNING

Safety Hazard!

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

Do not use the coil pan shipped with the unit on oil furnaces or any application where the temperature of the drain pan may exceed 275°F. A field fabricated metal drain pan can also be used for these type of applications.

Note: *Use Teflon tape on the drain line connections. Do not use pipe joint compound or PVC/CPVC cement on the drain fitting.*

The coil drain pan has primary and optional secondary drains with 3/4–inch NPT threaded connections. Use either PVC or copper pipe and hand tighten to a torque of approximately 37 in-lb to prevent damage to the drain pan connection. An insertion depth between 0.355 to 0.485 inches (3-5 turns) should be expected at this torque setting.

Use a 3/4–inch NPT threaded fitting for the outside connection and ensure the drain holes are not blocked.

Insulation may be needed for the drain line to prevent sweating. The drain pan has two drain connections on each side to provide flexibility of connection and drainage. Confirm the pan has proper pitch and plug the second connection if it is not used.

If the secondary drain line is required, run the line separately from the primary drain and terminate it where it can be easily seen.

Note: *Water coming from this line means the coil primary drain is plugged and needs clearing.*

Install a trap in the drain line below the bottom of the drain pan. If using a copper drain line, solder a short piece of pipe to the connector before installing a drain fitting. DO NOT over torque the 3/4–inch copper connector to the plastic drain connection. Use a wet rag or heatsink material on the short piece to protect plastic drain pan, complete the rag or heatsink material on the short pieceto protect plastic drain pan, complete the drain line installation (). See as a template for typical drain pipe routing.

Figure 22. Drain line installation

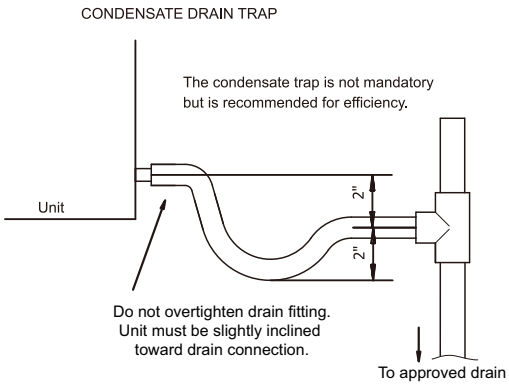
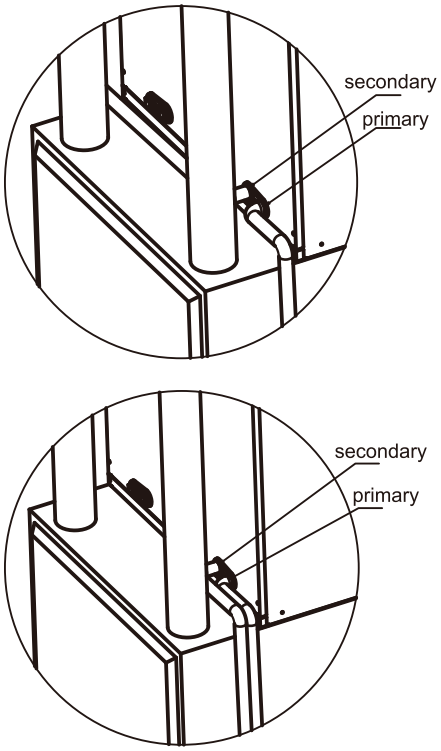


Figure 23. Drain pipe routing



TXV Replacement Instructions

1. Remove the screws and front coil panel.
2. Remove the rubber plugs from the liquid and vapor lines.
3. Unwrap copper strap on sensing bulb and dismount the sensing bulb.
4. Using a backup wrench to loose the nut of TXV.
5. Take off TXV mounting clip ring.
6. Use wet rag to protect pipe in coil, Al-Copper transition section (The black section of vapor line).
7. Braze and take off two pipes from TXV, Be extra care not to overheat the pipes.
8. Wrap the new TXV with a wet rag to prevent overheating. connect and braze pipe to new TXV. While brazing, use nitrogen flow and braze all connections.
9. Replace a new sealing ring to the pipe joint, connect the TXV with pipe joint and tight the nut to 30 ±3 nm.
10. Allow tube to cool and pressurize line sets with 150 PSI of nitrogen to check braze connections for leaks.
11. Use the supplied copper straps to secure the TXV sensing bulb on top of the vapor line as pictured.
12. Use clip ring to hold TXV on mounting plate.
13. Insulate the entire vapor line and sensing bulb. It is also recommended to insulate the TXV and liquid line to prevent condensation in hot humid environments.
14. Replace the front coil panel and secure in place.
15. Follow the steps in the installation guide for vacuum requirements and system start up procedures.
16. Allow system to run for an additional 10 minutes to verify the subcooling and superheat readings.

Disposal

Comply with national regulations.

Components and accessories from the units are not part of ordinary domestic waste.

Complete units, compressors, and motors are only to be disposed of via qualified disposal specialists.

This unit uses flammable refrigerant R-454B. Please contact the dealer to dispose of this unit. Regulations requires that the collection, transportation, and disposal of refrigerants must conform with the regulations governing the collection and destruction of hydrofluorocarbons.

About Trane and American Standard Heating and Air Conditioning

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

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