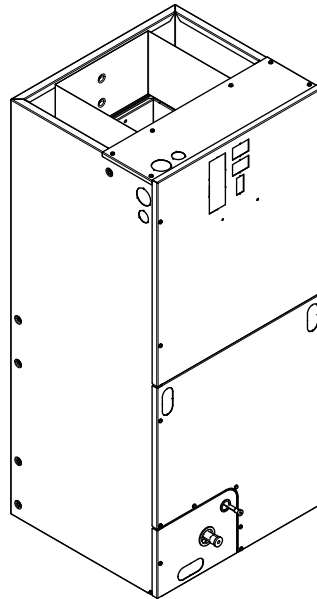


# Installation, Operation, and Maintenance

## Variable Speed Convertible Air Handlers 2 to 5 Ton

5TEMCB02AV21DA  
5TEMCB03AV31DA  
5TEMCD04AV31DA  
5TEMCD05AV41DA  
5TEMCD06AV41DA  
5TEMCD07AV51DA



**Note:** Graphics in this document are for representation only. Actual model may differ in appearance.

### **⚠ 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.

# 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](http://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****Safety Hazard!**

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

Connect the air handler to an outdoor unit suitable for use with R-454B refrigerant only.

**⚠ WARNING****Hazardous Voltage!**

Failure to disconnect power before servicing could result in death or serious injury.

Disconnect all electric power, including remote disconnects before servicing. Follow proper lockout/tagout procedures to ensure the power can not be inadvertently energized. Verify that no power is present with a voltmeter.

**⚠ WARNING****Grounding Required!**

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

- Reconnect all grounding devices.
- All parts of this product that are capable of conducting electrical current are grounded.
- If grounding wires, screws, straps, clips, nuts, or washers used to complete a path to ground are removed for service, they must be returned to their original position and properly fastened.

**⚠ 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****Live Electrical Components!**

Failure to follow all electrical safety precautions when exposed to live electrical components could result in death or serious injury.

When it is necessary to work with live electrical components, have a qualified licensed electrician or other individual who has been properly trained in handling live electrical components perform these tasks.

**⚠ 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 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.

**⚠ CAUTION****Sharp Edges!**

Failure to follow instructions below could result in minor to moderate injury.

The service procedure described in this document involves working around sharp edges. To avoid being cut, technicians **MUST** put on all necessary Personal Protective Equipment (PPE), including gloves and arm guards.

### **⚠ CAUTION**

#### **Corrosion Hazard!**

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

To prevent shortening its service life, do not use air handler during the finishing phases of construction or remodeling. The low return air temperatures can lead to the formation of condensate. Condensate in the presence of chlorides and fluorides from paint and other components creates a corrosive condition which may cause rapid deterioration of the cabinet and internal components.

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## Trademark

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## Revision History

Removed duplicate airflow table and added correct data for 5TEMCD06AV41DA and 5TEMCD07AV51DA.

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# General Information

## Diagnostic Mobile App



The Diagnostics Mobile App is available by scanning a QR code located inside this unit or by searching for the Link Diagnostics App in the App Store.

### Notes:

- This unit can be used in Link Communicating mode or 24 volt mode.
- Use Diagnostics App to configure blower delays, and accessories in 24 volt mode.

## Standard Features

- Multi-position upflow, downflow, horizontal left, and horizontal right
- Painted finish on galvanized steel exterior with fully insulated cabinet that meets R4.2 value
- Sturdy polycarbonate drain pans
  - These air handlers have factory installed drain pans and are shipped for upflow applications.
- 208/230 Vac operation
- Variable-speed direct drive blower
- Factory installed R-454B thermal expansion valve
- All aluminum coil
- Bottom return
- Meets the minimum leakage requirements for Florida and California building codes

## Optional Accessories

- 4,5,8,10,15,20, and 25 KW single phase electrical heaters
  - Circuit breakers available on single phase 4, 5, 8, 10, 15, 20, and 25 KW heaters
  - Lugs available on single phase 4, 5, 8, and 10 KW heaters
  - Lugs available on three phase 10 and 15 KW heaters
- Single point power entry kit (for 15 and 20 KW heaters)
- Supply duct flange kit
- Supply duct flange kit - BAYTEMSPFG1A
- Downflow sub-base kits - TAYBASE185, TAYBASE235, TAYBASE260
- Slim fit filter box kit - BAYSF1185AAA, BAYSF1235AAA, BAYSF1265AAA
- Breaker seal kit - TEMBRKSEALKT01A

- Downflow condensate management kit - BAYTEMDFKT1A
- CleanEffects whole house air cleaners - EFD175DLAH000B, EFD215DLAH000B, EFD235DLAH000B
- Supply air temperature sensor - BAYSENSC360

## Installation Recommendations

The 5TEMC series air handler is designed for installation in a closet, utility room, alcove, basement, crawlspace or attic. These versatile units are applicable to air conditioning and heat pump applications. Several models are available to meet the specific requirements of the outdoor equipment. Field installed electric resistance heaters are available.

### Important:

- Installation of this unit shall be made in accordance with the National Electric Code, NFPA No. 90A and 90B, and any other local codes or utilities requirements.
- Air handlers do not require repositioning of the coil, drain pan, or refrigerant sensor for upflow applications. Horizontal left applications require sensor repositioning only. Horizontal right and downflow applications require coil, drain pan, and sensor repositioning. See coil conversion instructions section for details.

### Notes:

- Air handlers have been evaluated in accordance with the Code of Federal Regulations, Chapter XX, Part 3280 or the equivalent. "SUITABLE FOR MOBILE HOME USE."
- Condensation may occur on the surface of the air handler when installed in an unconditioned space. When units are installed in unconditioned spaces, verify that all electrical and refrigerant line penetrations on the air handler are sealed completely.
- The manufacturer recommends installing ONLY A.H.R.I approved, matched indoor and outdoor systems. Some of the benefits of installing approved matched indoor and outdoor split systems are maximum efficiency, optimum performance, and the best overall system reliability.
- There is no declared maximum altitude for operating the appliance.
- Charging of the refrigerating system shall be according to the instructions provided by the manufacturer of the outdoor unit.

# Information on Servicing

All replacement parts shall be in accordance with the manufacturer's specifications.

## Prior to Beginning Work

Prior to beginning work on systems containing flammable refrigerants, safety checks are necessary to ensure that the risk of ignition is minimized. For repair to the refrigerating system, the following shall be completed prior to conducting work on the system:

- Work shall be undertaken under a controlled procedure to minimize the risk of a flammable gas or vapor being present while the work is being performed.
- All maintenance staff and others working in the local area shall be instructed on the nature of work being carried out. Work in confined spaces shall be avoided.
- The area shall be checked with an appropriate refrigerant detector prior to and during work, to ensure the technician is aware of potentially toxic or flammable atmospheres. Ensure that the leak detection equipment being used is suitable for use with all applicable refrigerants, i.e., non-sparking, adequately sealed or intrinsically safe.
- If any hot work is to be conducted on the refrigerating equipment or any associated parts, appropriate fire extinguishing equipment shall be available to hand. Have a dry powder or CO<sub>2</sub> fire extinguisher adjacent to the charging area.
- No person carrying out work in relation to a refrigerating system which involves exposing any pipe work shall use any sources of ignition in such a manner that it may lead to the risk of fire or explosion. All possible ignition sources, including cigarette smoking, should be kept sufficiently far away from the site of installation, repairing, removing and disposal, during which refrigerant can possibly be released to the surrounding space. Prior to work taking place, the area around the equipment is to be surveyed to make sure that there are no flammable hazards or ignition risks. "No Smoking" signs shall be displayed.
- Ensure that the area is in the open or that it is adequately ventilated before breaking into the system or conducting any hot work. A degree of ventilation shall continue during the period that the work is carried out. The ventilation should safely disperse any released refrigerant and preferably expel it externally into the atmosphere.
- The following checks shall be applied to installations using flammable refrigerants:
  - marking to the equipment continues to be visible and legible. Markings and signs that are illegible shall be corrected;
  - refrigerating pipe or components are installed in a position where they are unlikely to be exposed to

any substance which may corrode refrigerant containing components, unless the components are constructed of materials which are inherently resistant to being corroded or are suitably protected against being so corroded.

## Repairs to Electrical Components

Where electrical components are being changed, they shall be fit for the purpose and to the correct specification. At all times the manufacturer's maintenance and service guidelines shall be followed. If in doubt, consult the manufacturer's technical department for assistance.

Repair and maintenance to electrical components shall include initial safety checks and component inspection procedures. If a fault exists that could compromise safety, then no electrical supply shall be connected to the circuit until it is satisfactorily dealt with. If the fault cannot be corrected immediately but it is necessary to continue operation, an adequate temporary solution shall be used. This shall be reported to the owner of the equipment, so all parties are advised.

Initial safety checks shall include:

- that capacitors are discharged; this shall be done in a safe manner to avoid possibility of sparking;
- that no live electrical components and wiring are exposed while charging, recovering or purging the system;
- that there is continuity of earth bonding.

Check that cabling will not be subject to wear, corrosion, excessive pressure, vibration, sharp edges or any other adverse environmental effects. The check shall also take into account the effects of aging or continual vibration from sources such as compressors or fans.

## Detection of Flammable Refrigerants

Under no circumstances shall potential sources of ignition be used in the searching for or detection of refrigerant leaks. A halide torch (or any other detector using a naked flame) shall not be used.

The following leak detection method is deemed acceptable for all refrigerant systems:

- Electronic leak detectors may be used to detect refrigerant leaks but, in the case of flammable refrigerants, the sensitivity may not be adequate, or may need re-calibration. (Detection equipment shall be calibrated in a refrigerant-free area.) Ensure that the detector is not a potential source of ignition and is suitable for the refrigerant used. Leak detection equipment shall be set at a percentage of the LFL of

the refrigerant and shall be calibrated to the refrigerant employed, and the appropriate percentage of gas (25 % maximum) is confirmed.

Example of leak detection fluids is **bubble method**.

If a leak is suspected, all naked flames shall be removed/ extinguished.

If a leakage of refrigerant is found which requires brazing, all of the refrigerant shall be recovered from the system, or isolated (by means of shut off valves) in a part of the system remote from the leak.

## Removal and Evacuation

When breaking into the refrigerant circuit to make repairs - or for any other purpose - conventional procedures shall be used. However, for flammable refrigerants it is important that best practice be followed, since flammability is a consideration. The following procedure shall be adhered to:

- safely remove refrigerant following local and national regulations;
- evacuate;
- purge the circuit with inert gas (optional for A2L);
- evacuate (optional for A2L);
- continuously flush or purge with inert gas when using flame to open circuit;
- and open the circuit.

The refrigerant charge shall be recovered into the correct recovery cylinders if venting is not allowed by local and national codes. For appliances containing flammable refrigerants, the system shall be purged with oxygen-free nitrogen to render the appliance safe for flammable refrigerants.

This process might need to be repeated several times. Compressed air or oxygen shall not be used for purging refrigerant systems.

For appliances containing flammable refrigerants, refrigerants purging shall be achieved by breaking the vacuum in the system with oxygen-free nitrogen and continuing to fill until the working pressure is achieved, then venting to atmosphere, and finally pulling down to a vacuum (optional for A2L). This process shall be repeated until no refrigerant is within the system (optional for A2L). When the final oxygen-free nitrogen charge is used, the system shall be vented down to atmospheric pressure to enable work to take place.

The outlet for the vacuum pump shall not be close to any potential ignition sources, and ventilation shall be available.

## Charging Procedures

In addition to conventional charging procedures, the following requirements shall be followed.

- Ensure that contamination of different refrigerants does not occur when using charging equipment. Hoses or lines shall be as short as possible to minimise the

amount of refrigerant contained in them.

- Cylinders shall be kept in an appropriate position according to the instructions.
- Ensure that the refrigerating system is earthed prior to charging the system with refrigerant.
- Label the system when charging is complete (if not already).
- Extreme care shall be taken not to overfill the refrigerating system.

Prior to recharging the system, it shall be pressure-tested with the appropriate purging gas. The system shall be leak-tested on completion of charging but prior to commissioning. A follow up leak test shall be carried out prior to leaving the site.

See installation instructions below for further details.

## Recovery

When removing refrigerant from a system, either for servicing or decommissioning, it is recommended good practice that all refrigerants are removed safely.

When transferring refrigerant into cylinders, ensure that only appropriate refrigerant recovery cylinders are employed. Ensure that the correct number of cylinders for holding the total system charge is available. All cylinders to be used are designated for the recovered refrigerant and labelled for that refrigerant (i.e., special cylinders for the recovery of refrigerant). Cylinders shall be complete with pressure-relief valve and associated shut-off valves in good working order. Empty recovery cylinders are evacuated and, if possible, cooled before recovery occurs.

The recovery equipment shall be in good working order with a set of instructions concerning the equipment that is at hand and shall be suitable for the recovery of the flammable refrigerant. If in doubt, the manufacturer should be consulted. In addition, a set of calibrated weighing scales shall be available and in good working order. Hoses shall be complete with leak-free disconnect couplings and in good condition.

The recovered refrigerant shall be processed according to local legislation in the correct recovery cylinder, and the relevant waste transfer note arranged. Do not mix refrigerants in recovery units and especially not in cylinders.

If compressors or compressor oils are to be removed, ensure that they have been evacuated to an acceptable level to make certain that flammable refrigerant does not remain within the lubricant. The compressor body shall not be heated by an open flame or other ignition sources to accelerate this process. When oil is drained from a system, it shall be carried out safely.

## Decommissioning

Before carrying out this procedure, it is essential that the technician is completely familiar with the equipment and all

its detail. It is recommended good practice that all refrigerants are recovered safely. Prior to the task being carried out, an oil and refrigerant sample shall be taken in case analysis is required prior to re-use of recovered refrigerant. It is essential that electrical power is available before the task is commenced.

1. Become familiar with the equipment and its operation.
2. Isolate system electrically.
3. Before attempting the procedure, ensure that:
  - a. mechanical handling equipment is available, if required, for handling refrigerant cylinders;
  - b. all personal protective equipment is available and being used correctly;
  - c. the recovery process is supervised at all times by a competent person;
  - d. recovery equipment and cylinders conform to the appropriate standards.
4. Pump down refrigerant system, if possible.
5. If a vacuum is not possible, make a manifold so that refrigerant can be removed from various parts of the system.
6. Make sure that cylinder is situated on the scales before recovery takes place.
7. Start the recovery machine and operate in accordance with instructions.
8. Do not overfill cylinders (no more than 80 % volume liquid charge).
9. Do not exceed the maximum working pressure of the cylinder, even temporarily.
10. When the cylinders have been filled correctly and the process completed, make sure that the cylinders and the equipment are removed from site promptly and all isolation valves on the equipment are closed off.
11. Recovered refrigerant shall not be charged into another refrigerating system unless it has been cleaned and checked.

Equipment shall be labelled stating that it has been de-commissioned and emptied of refrigerant. The label shall be dated and signed. For appliances containing flammable refrigerant, ensure that there are labels on the equipment stating the equipment contains flammable refrigerant.

# Outline Drawing

Figure 1. Dimensions

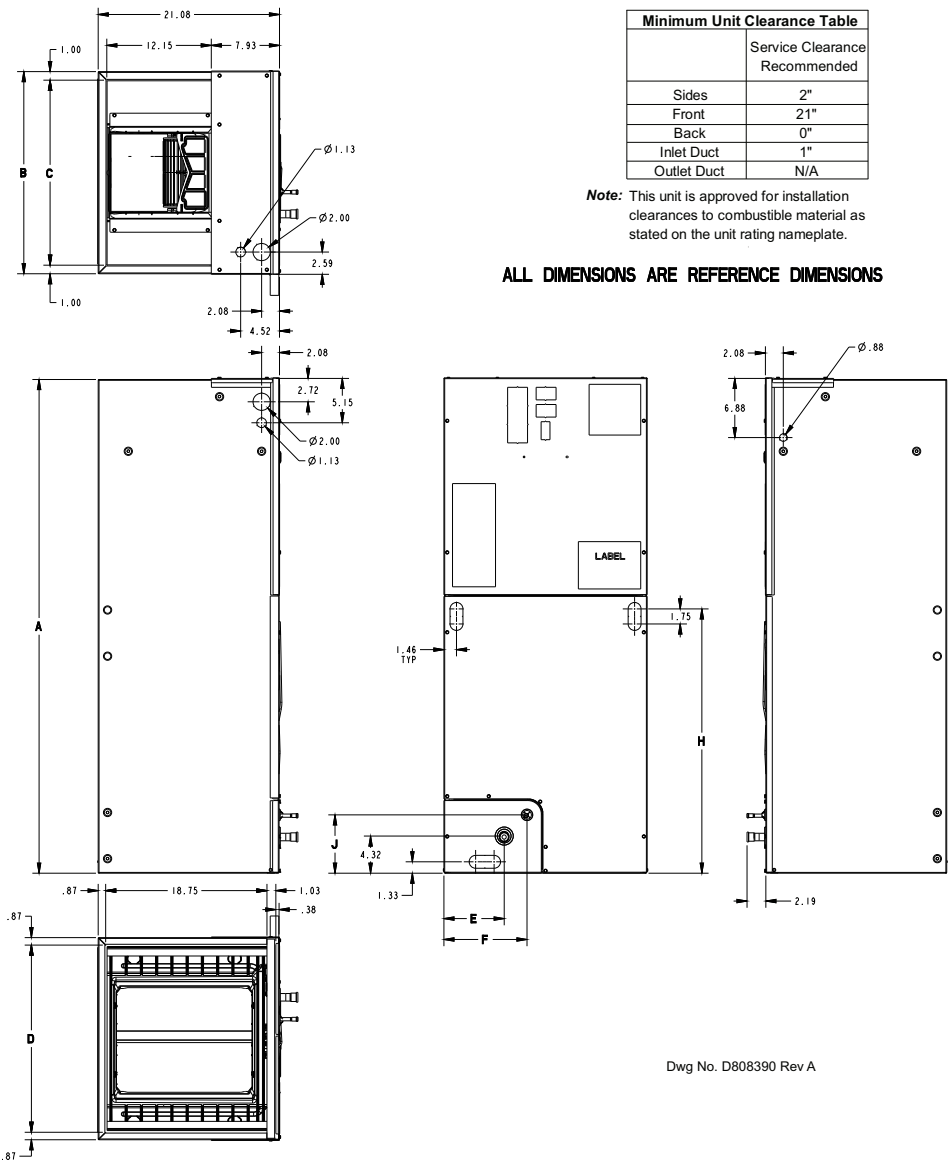


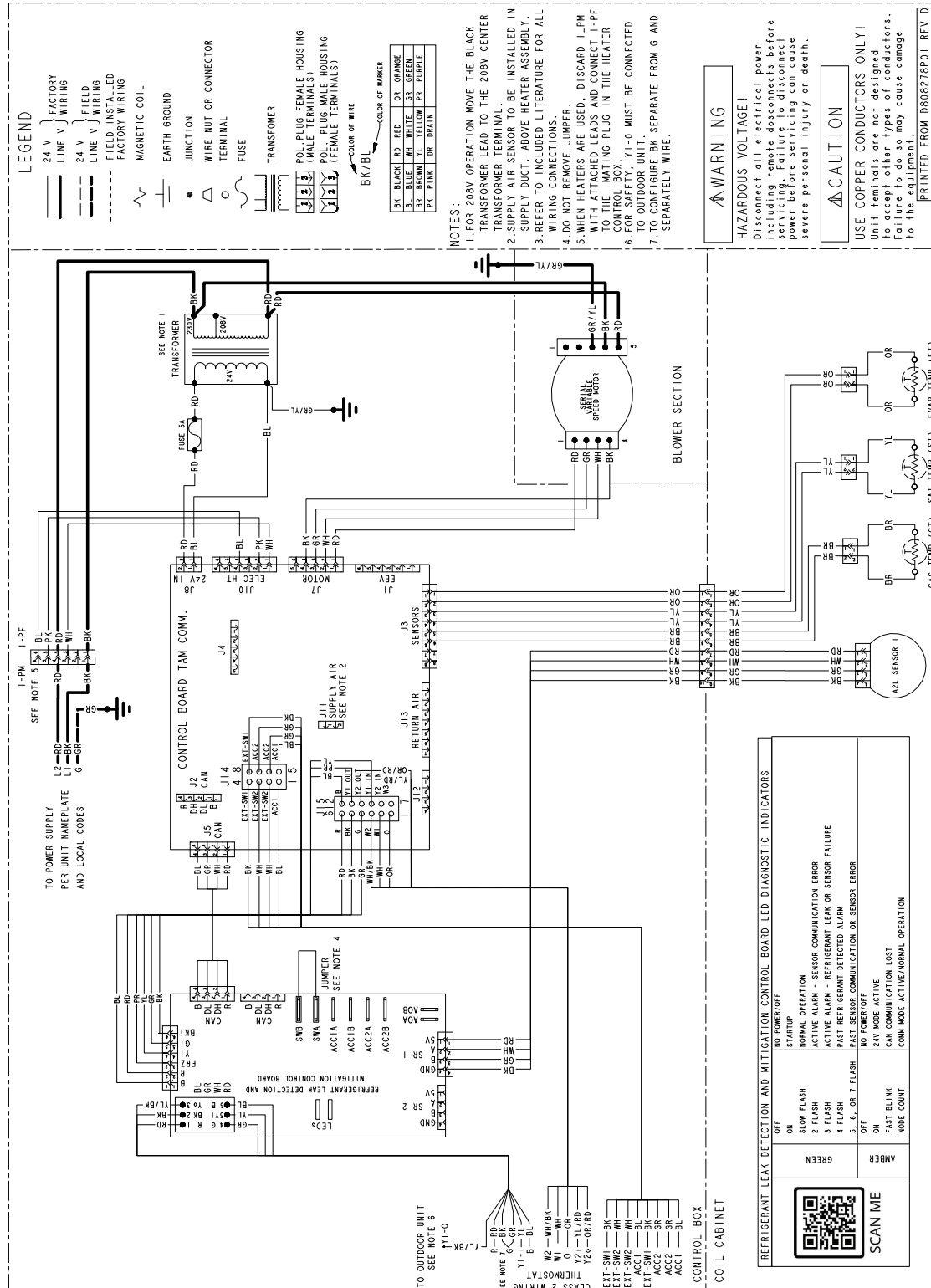
Table 1. Product dimensions for 5TEM

PRODUCT DIMENSIONS										
Air Handler Model	A	B	C	D	E	F	H	J	Flow Control	Gas Line Braze
5TEMCB02, 03	46.77	18.50	16.50	16.75	5.43	7.08	20.07	5.76	TXV	3/4
5TEMCD04, 05	51.27	23.50	21.50	21.75	7.01	9.66	24.58	6.76	TXV	7/8
5TEMCD06, 07	57.40	23.50	21.50	21.75	7.01	9.66	30.71	6.76	TXV	7/8

**Note:** All dimensions are in inches.

# Wiring Diagram

Figure 2. Wiring diagram



**Note:** For refrigerant and leak detection and mitigation control board diagnostic flash codes, see .

# Refrigerant Leak Detection System

For all tables contained in this section of the manual, the refrigerant charge is the total system charge which is marked on the system according to the instructions provided by the manufacturer of the outdoor unit.

## ⚠ 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

### 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.

To ensure safety of the building occupants, the air handler is equipped with a refrigerant leak detection system. The system is comprised of a refrigerant sensor and a mitigation control board. The system automatically detects leaks in the indoor coil and initiates actions to mitigate the risk of ignition of the leaked refrigerant, including:

- Turning on the blower of the indoor unit to dilute leaked refrigerant;

- Fully opening any zoning dampers, when applicable;
- Turning off the compressor of the outdoor unit;
- De-energizing potential sources of ignition connected to the system;
- Energizing an audible alarm, if so equipped.

Examples of potential ignition sources that are de-energized include electrostatic air cleaners.

## ⚠ WARNING

### Risk of Fire!

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

Relocate the refrigerant sensor if installing the unit in any other orientation other than upflow.

Refrigerant sensors for refrigerant leak detection systems shall only be replaced as specified by the manufacturer.

## Minimum Conditioned Space

The installer must verify that the total space conditioned by the system is large enough to safely dilute any leaked refrigerant in the event of a refrigerant leak of the indoor coil.

The minimum space conditioned by the appliance shall be according to [Table 2, p. 12](#). The conditioned space includes any parts of the space connected via an air duct system. The altitude of installation is the altitude above sea level of the site where the equipment is installed.

**Table 2. Minimum space conditioned by the appliance**

	Altitude (ft)								
	sea level- 2,000	2,001-4,000	4,001-6,000	6,001-8,000	8,001-10,000	10,001- 12,000	12,001- 14,000	14,001- 15,000	above 15,000
Charge (lb)	Minimum Conditioned Space (ft <sup>2</sup> )								
4	63	66	70	74	79	85	91	94	98
5	79	83	88	93	99	106	113	118	122
6	95	100	105	112	119	127	136	141	147
7	110	116	123	130	138	148	159	165	171
8	126	133	140	149	158	169	181	188	196
9	142	149	158	167	178	190	204	212	220
10	158	166	175	186	198	211	227	235	245
11	173	183	193	205	218	232	249	259	269
12	189	199	211	223	237	254	272	282	294
13	205	216	228	242	257	275	295	306	318
14	221	232	246	260	277	296	318	330	343
15	236	249	263	279	297	317	340	353	367
16	252	266	281	298	317	338	363	377	392
17	268	282	298	316	336	359	386	400	416
18	284	299	316	335	356	380	408	424	440
19	299	315	333	353	376	402	431	447	465
20	315	332	351	372	396	423	454	471	489

## Airflow Adjustment

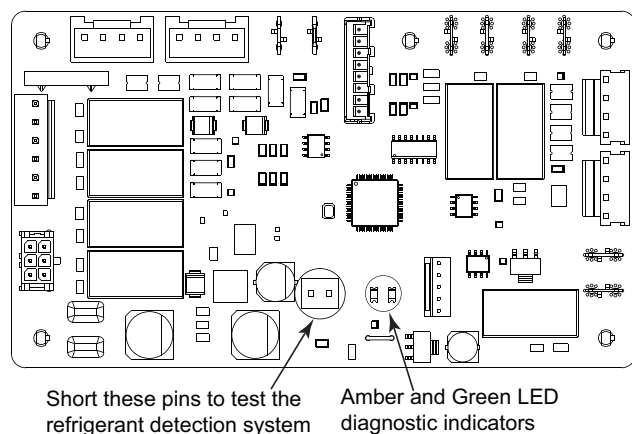
**Note:** All 5TEMC model air handlers have been factory configured to provide sufficient airflow to dilute leaked refrigerant.

## Verification of Mitigation Actions

After installation, the installer must verify that the refrigerant leak detection system actuates all mitigating actions listed above.

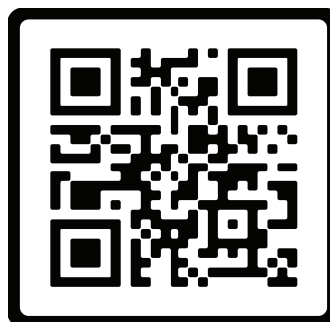
The test can be initiated by shorting the two test pins on the header of the mitigation control board inside of the unit. The mitigating actions will continue for approximately 5 minutes. See [Figure 3, p. 13](#) below.

**Figure 3. Mitigation control board**



If any of the mitigating actions are not actuated by the system during the test, please check the following:

- All field wiring connections should be checked against the diagrams in the “[Field Wiring](#),” [p. 20](#) section of this manual.
- The diagnostic indicators on the mitigation control board should be checked against the diagnostic codes given in [Table 3, p. 14](#) below.
- Scan the QR code below for more information on field troubleshooting of the refrigerant leak detection system.



## Refrigerant Leak Detection System

**Table 3. MCB diagnostic code table**

**For Software V07.1 and earlier**

Condition	Green LED
Idle or Off	Off
Startup	On
No Active Alarm	Slow Flash
Active Alarm (Refrigerant Leak, Sensor Communication Error, or Sensor Error)	3 Flash
Past Refrigerant Detected Alarm	4 Flash
Past Sensor Communication Error	5 Flash
Past Sensor Error	6 Flash

Condition	Amber LED
No Power/Off	Off
24V Mode Active	On
Communication Mode is Active/Normal Operation	Node Count
CAN Communication lost	Fast Blink

**For Software V9.1 and later**

Green LED	Status Condition
No Power/Off	Off
Startup	On
Normal Operation	Slow Flash
Active Alarm - Sensor Communication Error	2 Flash
Active Alarm - Refrigerant Leak or Sensor Failure	3 Flash
Past Refrigerant Detected Alarm	4 Flash
Past Sensor Communication or Sensor Error	5, 6, or 7 Flash

Condition	Amber LED
No Power/Off	Off
24V Mode Active	On
Communication Mode is Active/Normal Operation	Node Count
CAN Communication lost	Fast Blink

**Notes:**

- For 24V systems, the software version can be determined by looking at the printed label on the control board.
- For communicating systems, the software version can be found in the UI or Tech App.

# Installation Instructions

## 1. Unpacking

Carefully unpack the unit and inspect the contents for damage. If any damage is found at the time of delivery, proper notification and claims should be made with the carrier.

Check the rating plate to assure model number and voltage, plus any kits match with what you ordered. The manufacturer should be notified within 5 days of any discrepancy or parts shortage.

## 2. Location

The air handler should be centrally located and may be installed in a closet, alcove, utility room, basement, crawl space or attic. Minimum clearances must be met.

**Important:** *The downflow sub-base may be required with electric heat applications. See minimum clearance table.*

Equipment shall be installed in such a way which reduces the likelihood of ignition of leaked refrigerant.

### 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.

The unit should be installed in a level position to ensure proper condensation drainage. Up to an additional 1/4" rise over the width or depth of the unit is allowed to create additional sloping towards the drain. Unit must be positioned between level and 1/4" rise, sloping toward the drain connections.

When the unit is installed in a closet or utility room, the room should be large enough, and have an opening to allow replacement of the unit. All servicing is done from the front and a clearance of 21" is needed for service unless the closet door aligns with the front of the air handler.

If you are installing the unit in an unconditioned space such as an attic or crawl space, you must ensure that the area provides sufficient air circulation to prevent moisture collection on the cabinet during high dew point conditions. A drain pan must be installed under the entire unit when it is installed in or above a finished ceiling or in an unconditioned space.

## 3. Duct Work

### WARNING

#### Risk of Fire!

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

Only approved auxiliary devices listed in this manual and declared suitable with the refrigerant must be installed in the connecting ductwork. Devices that may be potential ignition sources, such as hot surfaces or electric switching devices, must not be installed unless approved by the manufacturer or declared suitable with the refrigerant used.

The duct work should be installed in accordance with the NFPA No. 90A "Installation of Air Conditioning and Ventilating systems" and No. 90B "Residential Type Warm Air Heating and Air Conditioning Installation."

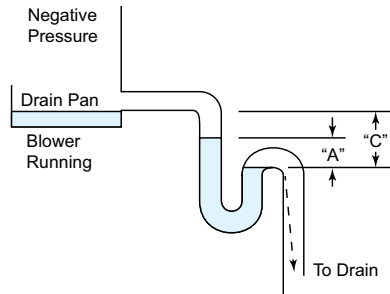
The duct work should be insulated in accordance with the applicable requirements for the particular installation as required by HUD, FHA, VA the applicable building code, local utility or other governing body.

## 4. Condensate Drain

The unit is supplied with primary and auxiliary condensate drains that have 3/4" NPT connections. The primary drain must be trapped outside the unit and piped in accordance with applicable building codes.

The figure shows the operation of a properly designed trap under normal operating conditions when the blower is running and the condensate is draining. Note the difference in height of the water column must at least equal the normal negative static pressure existing during operation between the cooling coil and blower. It is advisable to have the difference in water column height somewhat greater than the normal maximum operating static to allow for greater static caused by dirty filters or for the bounce of the water column on start up.

## Installation Instructions



Proper operation of condensate trap under normal operating conditions.

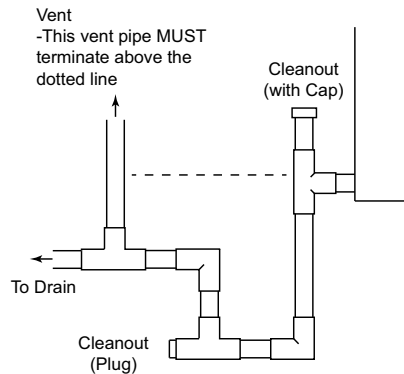
"A" height of water column equals negative static pressure existing in system.

"C" dimension should at least equal two times the maximum negative static pressure that can occur in system.

Do not reduce the drain line size less than the connection size on the drain pan. Condensate should be piped to an open drain or to the outside. All drains must pitch downward away from the unit a minimum of 1/4" per foot of line to ensure proper drainage.

### Important:

- If cleanout Tee is used, stand pipe must be sealed/capped.
- If a vent Tee is used, it must be downstream from the trap.



Insulate the primary drain line to prevent sweating where dew point temperatures may be met. (Insulation is optional depending on climate and application needs.)

## 5. Refrigerant Piping

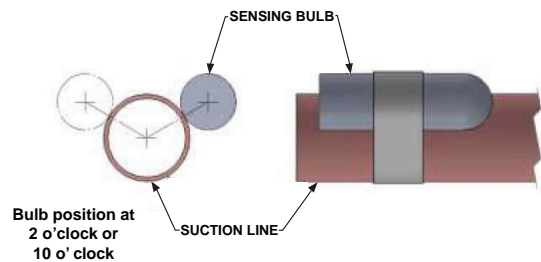
Pipe-work including piping material, pipe routing, and installation shall include protection from physical damage in operation and service, and be in compliance with national and local codes and standards. All field joints shall be accessible for inspection prior to being covered or enclosed.

There is a holding charge of dry air in the indoor coil that will be evacuated when the sealing plugs are removed.

To protect the TXV, remove the TXV bulb from the tubing inside the unit before brazing the line set connections. Painted areas of the unit must be shielded during brazing to protect the finish.

After brazing, replace the TXV bulb and insulate it using the provided adhesive-backed insulation.

**Note:** For optimal performance, the TXV bulb can be located and insulated on the vapor line outside the unit. Pass the bulb and line through an opening in the line set panel. Place the bulb at the 10 or 2 o'clock position on the line, relative to the floor.

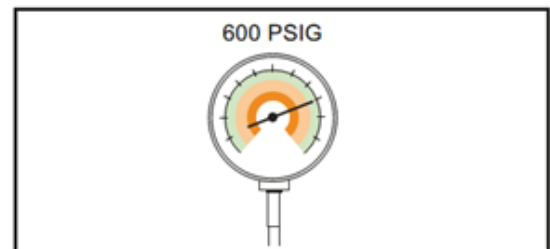


The two flammable refrigerant red warning tags on the line set connections should be removed prior to brazing and replaced once brazing is complete.

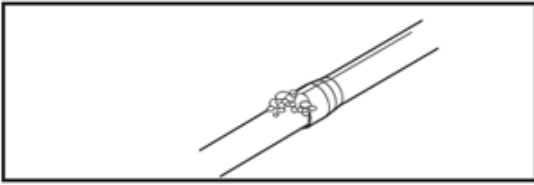
After completion of field piping for split systems, the field pipework shall be pressure tested with nitrogen and then vacuum tested prior to refrigerant charging, according to the following requirements:

### Pressure test:

- 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).



- The test pressure after removal of the pressure source shall be maintained for at least one (1) hour with no decrease of pressure indicated by the test gauge, with the test gauge resolution not exceeding 30 psi.
- Check for leaks by using a soapy solution at each field-made joint.

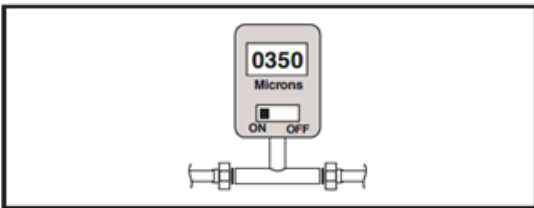


**Note:** Remove nitrogen pressure and repair any leaks before continuing.

## Vacuum test:

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

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



- Observe the micron gauge. Evacuation is complete if the micron gauge does not rise above 500 microns in one (1) minute and 1500 microns in ten (10) minutes.
- 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 5 grams per year or better.

## 6. Metering Device

All units are shipped and installed with an internally-checked, non-bleed TXV designed for air conditioning or heat pump operation. Some outdoor models may require a start assist kit. See outdoor unit for more information.

## 7. Blower

This unit is supplied with a variable speed motor with a direct drive blower wheel which can obtain various air flows. The unit is shipped with factory set cooling and

heating air flows. Performance tables are available for additional airflow settings. Disconnect all power to the unit before making any adjustments to the airflow settings. Be sure to check the air flow and the temperature drop across the evaporator coil to ensure sufficient air flow.

**Note:** For optimal performance, seal the seams of the front panels using an appropriate tape to reduce air leakage.

## 8. Wiring

Consult all schematic and pictorial wiring diagrams of this unit and the outdoor equipment to determine compatibility of wiring connections and to determine specific requirements.

All field wiring to the air handler should be installed in accordance with the latest edition of the National Electric Code NFPA No. 70 and any local codes. Check rating plates on unit for rated volts, minimum circuit ampacity and maximum over current protection. Supply circuit power wiring must be 75 degree C (167 degree F) minimum copper conductors only. Copper supply wires shall be sized to the National Electric Code or local code requirements, whichever is more stringent.

To allow disconnection of the air handler from the power supply, a disconnection from the supply mains having a contact separation in all poles must be incorporated into the fixed wiring in accordance with national, state, and local codes.

The unit is shipped wired for 230/240 Volt AC 60 HZ 1 Phase Operation. If the unit is to be operated at 208 VAC 60HZ, follow the instructions on the indoor unit wiring diagram to change the low voltage transformer to 208 VAC operation (Ensure unit is properly grounded).

Class 2 low voltage control wiring should not be run in conduit with power wiring and must be separated from power wiring unless class 1 wire with proper voltage rating is used.

Low voltage control wiring should be 18 Awg, color coded (105 degree C minimum). For lengths longer than 100ft., 16 Awg wire should be used. Make certain that separation of control wiring and power wiring has been maintained.

## 9. Air Filter

To protect the coil, blower and other internal parts from excessive dirt and dust an air filter must be installed before air enters the evaporator coil. A remote filter must be installed. Consult the filter manufacturer for proper sizing and maximum velocity requirements.

**Important:** Air filters shall meet the test requirements in UL 900.

## 10. Thermostat

**Note:** When in communicating mode, the system controller (SC360) controls indoor airflow.

Install the thermostat on an inside wall, away from drafts, lights or other heat sources in a location that has sufficient air circulation from other rooms being controlled by the thermostat.

### 11. Sequence of Operation

**TEMC** can be used in either Link Communicating mode or 24 volt mode. In Link Communicating mode, all configurations are made by using the configuration menu in the User Interface (UX360) or from the Diagnostic Mobile App. In 24 volt mode, basic operation is configured from the factory with no defaults for accessories. All configurations for blower delays, accessories etc., need accomplished using the Diagnostic Mobile App.

#### Abbreviations

- AHC = Air Handler Control

**Note:** When in communicating mode, the system controller (SC360) controls indoor airflow.

**Note:** Use variable speed outdoor Sequence of Operation in conjunction with the 5TEMC Sequence of Operation.

The installing and servicing technician should have an understanding of the sequence of operation to be able to properly setup and diagnose functions of the air handler.

**See unit, electric heat, and field wiring diagrams for additional information.**

#### Continuous Fan

**Important:** If the indoor air exceeds 60% relative humidity or simply feels uncomfortably humid, it is recommended that the indoor fan only be used in the AUTO mode.

1. When a fan request is received from the thermostat, the AHC sends a command to the serial communicating blower motor to run. Airflow can be adjusted through the thermostat.
2. Humidity Control – When enabled at the thermostat, this feature will disable any blower off delays and disable continuous fan mode when the humidity is above the dehumidification set point. This will help prevent coil condensation from being evaporated back into the air stream.

#### Cooling Mode

1. When a request for 1st stage cooling is received, the AHC sends a command to the serial communicating blower motor to run at 1st stage cooling airflow.
2. When a request for 2nd stage cooling is received, the AHC sends a command to the serial communicating blower motor to run at 100 % cooling airflow.
3. When a request for cooling is removed, the AHC will turn off the blower motor after any user selected

fan-off delays have expired.

**Note:** Delay profiles found in the UX360 User Interface or Diagnostics Mobile App may change blower motor timing and actual airflow demand.

#### Heat pump (compressor only)

1. When a request for 1st stage heat is received, the AHC sends a command to the serial communicating blower motor to run at 1st stage heating airflow.
2. When a request for 2nd stage mechanical heat is received, the AHC sends a command to the serial communicating blower motor to run at 100 % heating airflow.
3. When a request for heat pump is removed, the AHC will turn off the blower motor after any user selected fan-off delays have expired.

**Note:** Delay profiles found in the UX360 User Interface or Diagnostics Mobile App may change blower motor timing and actual airflow demand.

#### Electric Heat

1. When a request for electric heat is received, the AHC will energize the on board 24 volt relays per the amount of heat requested from the thermostat and the size of the heater installed.
2. The AHC sends a command to the serial communicating blower motor to run proper airflow and close the blower interlock relay on the AHC.

#### Defrost

1. The OD unit will initiate defrost and send a message to the AHC.
2. Electric heat will be energized to help temper the air.

#### Freeze Protection

1. The AHC control has the ability to sense when the indoor coil is beginning to ice. If this event should occur, the AHC will send a message to de-energize the OD unit.
2. The indoor blower motor will continue running to aid in defrosting the coil.
3. After 5 minutes, the OD will be turned back on.

### 12. Operational and Checkout Procedures

To ensure proper function of the Refrigerant Leak Detection System, all procedures in the “Refrigerant Leak Detection System,” p. 12 section of this manual must be verified.

To obtain proper performance, all units must be operated and charge adjustments made in accordance with procedures found in the Service Facts document of the outdoor unit.

After installation has been completed, it is recommended that the entire system be checked against the checkout list located at the back of this document. See “Checkout Procedures,” p. 44.

### 13. Maintenance

The system air filter(s) should be inspected, cleaned or replaced at least monthly. Make certain that the access panels are replaced and secured properly before placing the unit back in operation. This product is designed for dependable service; however, periodic maintenance should be scheduled and conducted by

trained professional service personnel. This service should be conducted at least annually, and should include testing and inspection of electrical and refrigerant components. The heat transfer surface should be cleaned. The blower motor is permanently lubricated for normal operating conditions.

# Field Wiring

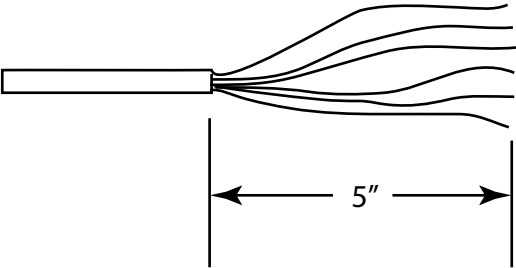
5TEMC can be used in either Link Communicating mode or 24 volt mode. In Link Communicating mode, all configurations are made by using the configuration menu in the User Interface (UX360) or from the Diagnostic Mobile

App. In 24 volt mode, basic operation is configured from the factory with no defaults for accessories. All configurations for blower delays, accessories etc., need accomplished using the Diagnostic Mobile App.

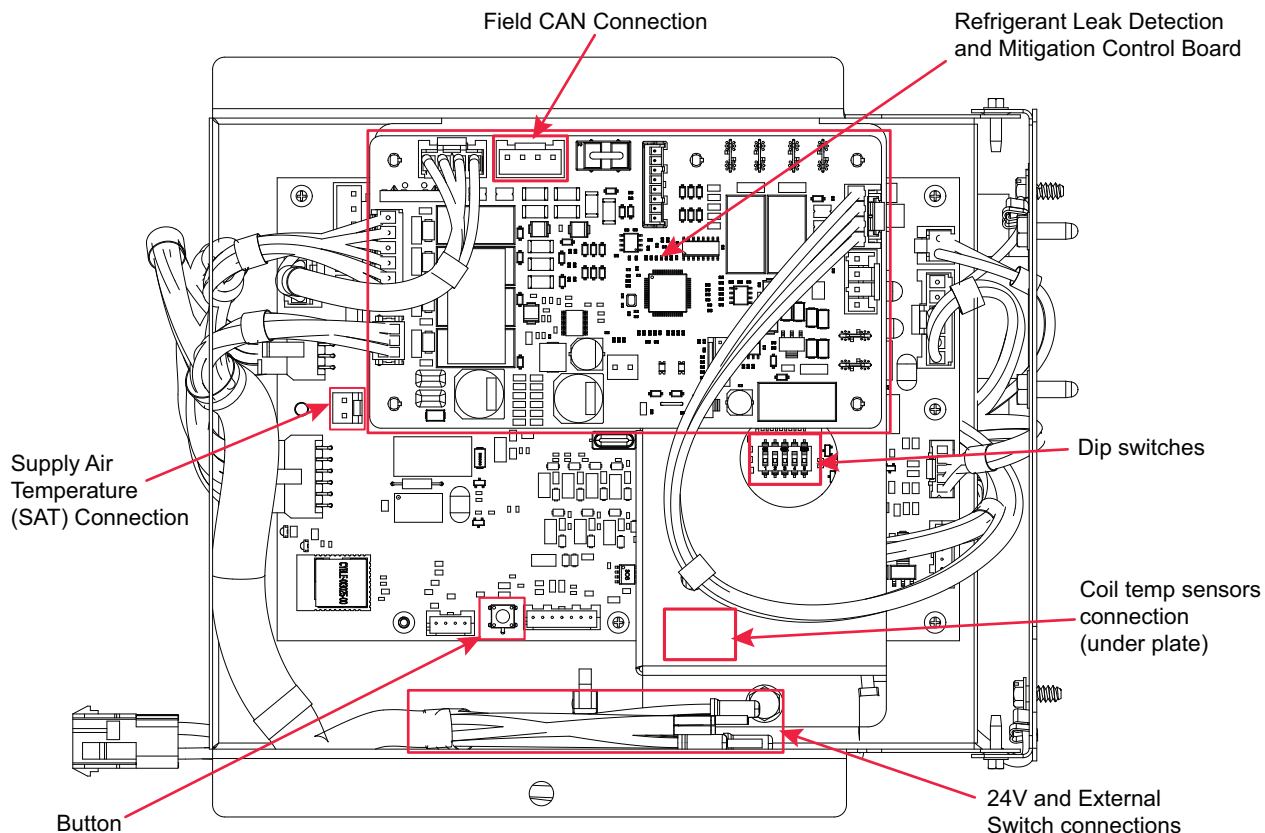
**Table 4. Low voltage maximum wire length**

<p>The Low Voltage Maximum Wire Length table defines the size and combined total maximum length of the low voltage wiring from the outdoor unit, to the indoor unit, and to the thermostat.</p> <p><b>Note:</b> <i>The use of color coded low voltage wire is recommended to simplify connections between the outdoor unit, the control, and the indoor unit.</i></p>	Control Wire — Communicating	
	WIRE SIZE	MAX. WIRE LENGTH
	18 AWG	500 FT. Combined
	Control Wire — 24 Volt	
	WIRE SIZE	MAX. WIRE LENGTH
	18 AWG	100 FT. Combined

**Table 5. Low voltage hook-up instructions**

<p><b>Note:</b> <i>Strain relief must be provided on the inside of the air handler cabinet for the low voltage wiring. Field supplied thermostat wires may be either wire tied to the control box or routed through the adhesive hook supplied in the doc pack.</i></p> <p>1. Remove the external sheathing of the wiring approximately 5".</p>	
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2. Secure the sheathed wiring to the control box using the factory supplied wire ties attached to the control box.



### 3. Mount Supply Air Temperature Sensor

The Supply Air Temperature (SAT) Sensor must be mounted a minimum of 8" above the edge of the supply duct (additional distance is preferred when possible). Locate the SAT Sensor in an area of the discharge air duct where less air turbulence is expected. Avoid dead air areas where representative discharge air temperatures may not exist.

The plug on the SAT Sensor harness plugs directly onto the AHC Board.

**Note:** Supply Air Temp Sensor (SAT) is used in Link Communicating mode and is optional in 24 volt mode.

**Note:** Supply Air Temp Sensor (SAT) ships with SC360 System Controller.

**Note:** Supply Air Sensor kit is BAYSENSC360.

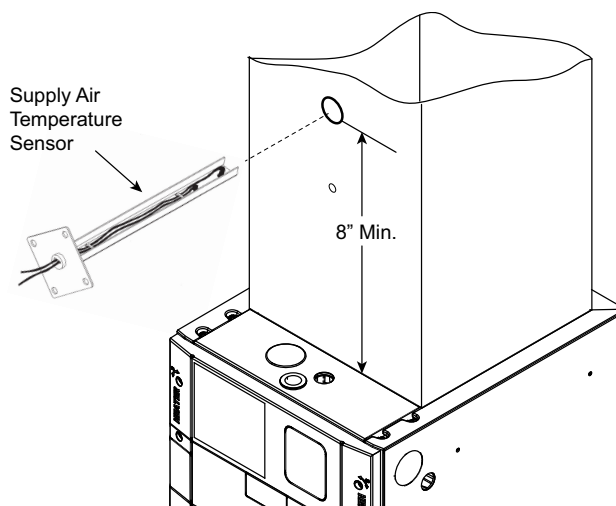


Table 6. Link communicating low voltage wire connectors

Link mode uses simple connectors for low voltage connections. These connections are color coded which makes the installation easier and quicker.

Wire Colors	
R	Red
DH	White
DL	Green
B	Blue

Do the following to make the connections from the actual thermostat wire to the connector.

**Note:** These connectors are necessary at the communicating outdoor unit, communicating indoor unit, distribution board(s), system controller and communicating accessories.

- Strip the Red, White, Green and Blue thermostat wires back 1/4".
- Insert the wires into the connector in the correctly colored locations.
- When you feel it release, allow each wire to slide in further.**
- Pull back on the wires individually and slightly and check if the wires are seated properly. If each wire does not pull out for all four wires, the connection is complete.
- Connectors are ONE TIME USE. If a 18 ga. Thermostat wire gets broken off inside of the connector, the connector will need replaced.
- Wire colors are for illustration purposes only. If using a different color, ensure it lands at the correct terminal throughout all of the communicating control wiring.

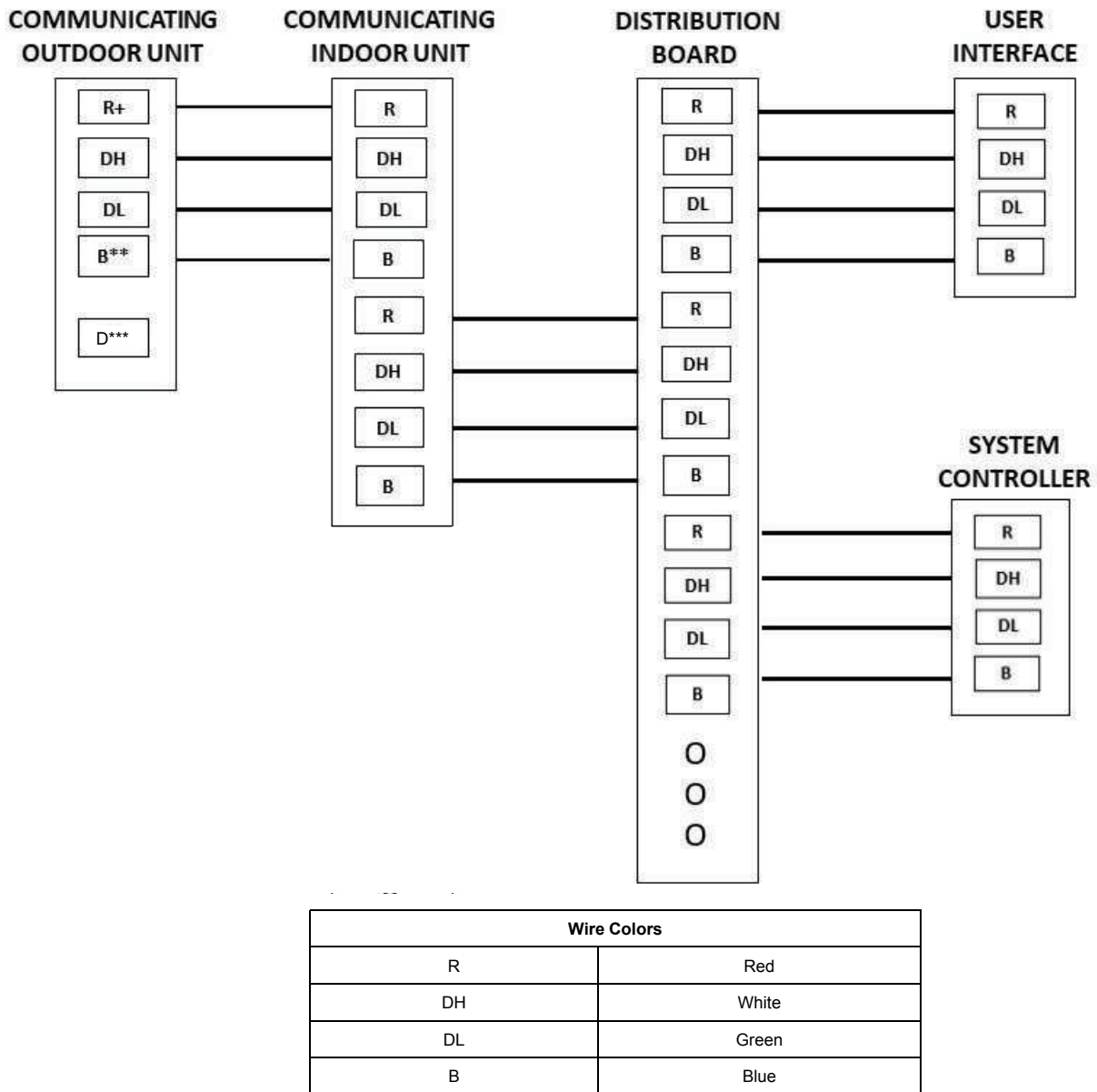
Connect the CAN connector into the male coupling on the low voltage harness at the Outdoor unit.

CAN Connector

Strip the control wire back- 1/4"

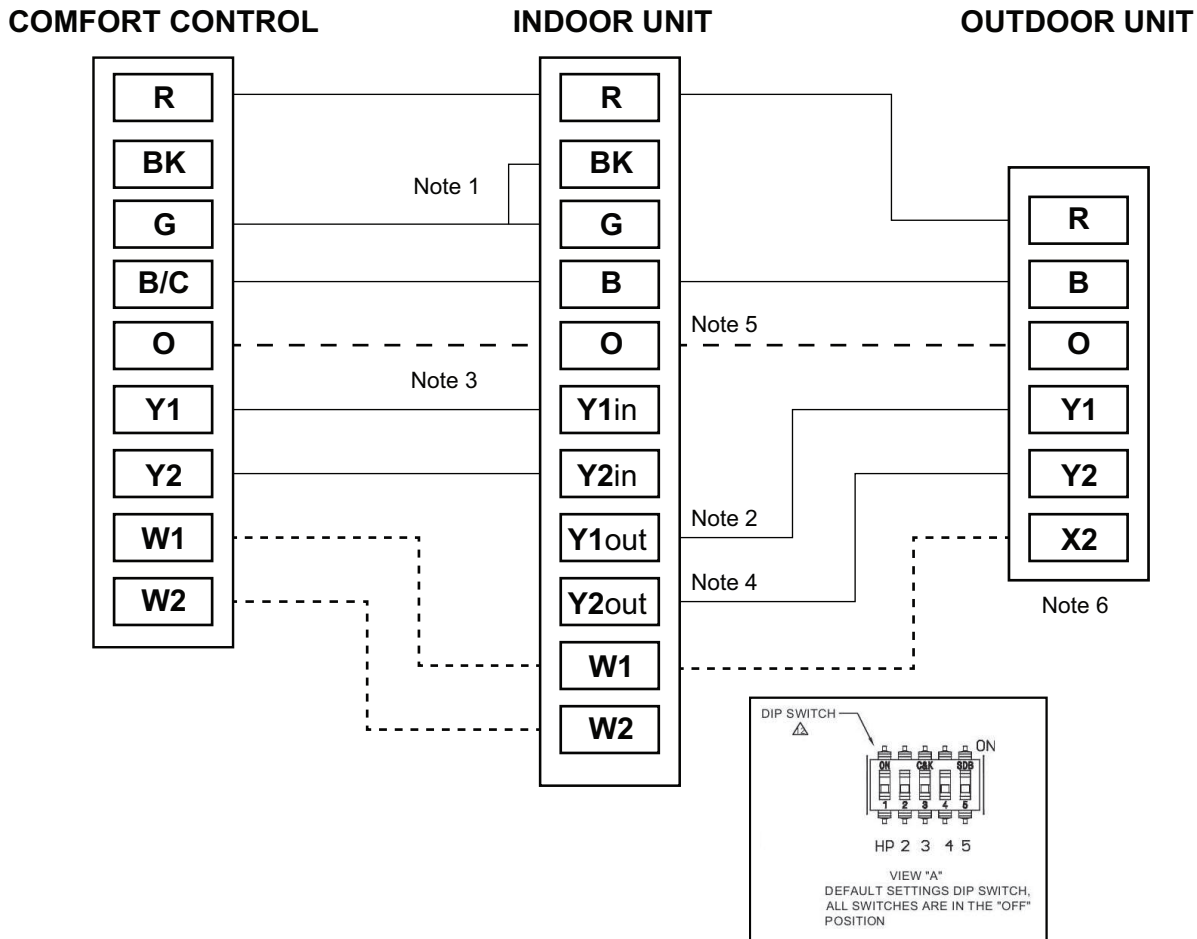
**Note:** For use with 18 ga. solid core thermostat wire.

Figure 4. Link communicating low voltage connection diagrams

**Notes:**

- Wire colors are for illustration purposes only. If using a different color, ensure it lands at the correct terminal throughout all of the communicating control wiring.
- Drawing is for reference only - wiring can be done many different ways.

Figure 5. 24 Volt low voltage wiring - 2 Stage cooling or heat pump with 5TEM variable speed air handler

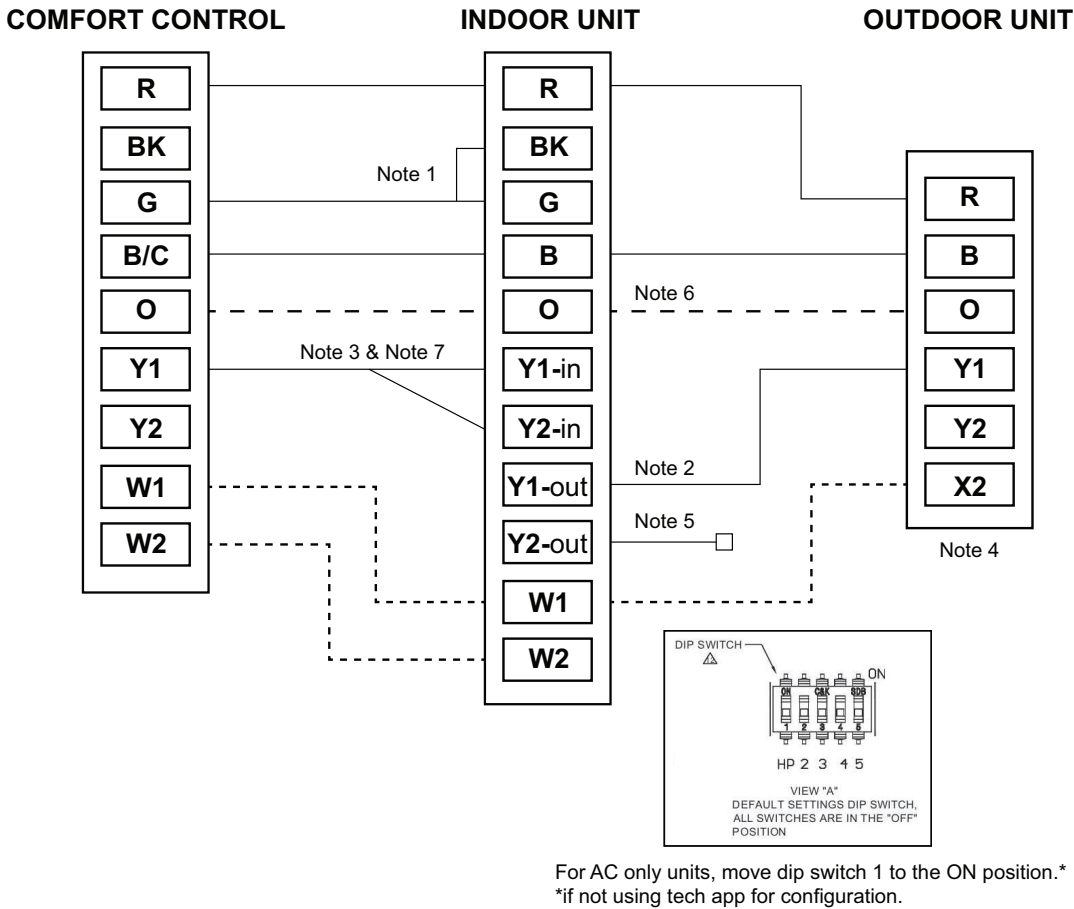


For AC only units, move dip switch 1 to the ON position.\*  
\*if not using tech app for configuration.

## Notes:

1. Separate the BK and G wires when using the BK functionality from the thermostat or a Humidistat.
2. Yin and Yout connections must be made as shown for freeze protection, internally mounted condensate overflow, and refrigerant leak detection circuits to function properly.
3. 3rd party condensate switch should break the Y1-in circuit between the thermostat and AHC.
4. Y2-out connections at outdoor unit only required for two stage units and should be capped off when not in use.
5. Only needed for heat pump operation.
6. X2 is necessary if not using select Trane or American Standard thermostats.

**Figure 6. 24 Volt low voltage wiring - 1 Stage cooling or heat pump with 5TEMC variable speed air handler**

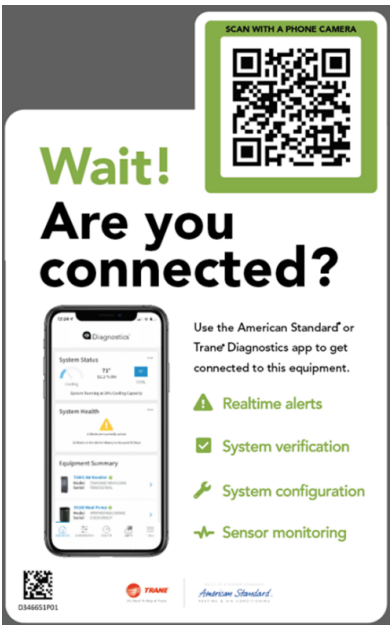


**Notes:**

1. *Separate the BK and G wires when using the BK functionality from the thermostat or a Humidistat.*
2. *Yin and Yout connections must be made as shown for freeze protection, internally mounted condensate overflow, and refrigerant leak detection circuits to function properly.*
3. *3rd party condensate switch should break the Y1-in circuit between the thermostat and AHC.*
4. *X2 is necessary if not using select Trane or American Standard thermostats.*
5. *For single speed operation, use Y1-out and cap off Y2-out wire.*
6. *Only needed for heat pump operation.*
7. *For single stage outdoor operation, must connect Y1-in and Y2-in for full airflow.*

STEMC 24 Volt Wire Harness Colors			
R	Red	Y2out	Orange/Red
B	Blue	G	Green
O	Orange	BK	Black
Y1in	Yellow	W1	White
Y2in	Yellow/Red	W2	White/Black
Y1out	Yellow/ Black	—	—

**Table 7. Get the app:**

<p>The Diagnostics Mobile App can be found in your device App Store when searching for Trane Diagnostics or American Standard Diagnostics. A QR code can be scanned which sends you directly to the location:</p>	
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**Table 8. External switches and accessories**

<p>Use stripped wire connections in control box when connecting a humidifier, external switch, or other accessory to the air handler.</p> <ul style="list-style-type: none"> <li>External switch 1 and 2 do have 24 volts AC source voltage and are to be connected to Normally Closed (NC) contacts on the external device.</li> <li>Accessory 1 and 2 are dry contacts and need source voltage provided from either the accessory or internally.</li> </ul> <p>The external switches and accessories can be configured through the Smart Thermostat or the Diagnostics Mobile App.</p> <p><b>Note:</b> See step 2 of <b>Low Voltage Connection Instructions</b> for switch location.</p> <p><b>Note:</b> Accessories can be configured in the UX360 User Interface or Diagnostics Mobile App.</p> <p><b>Note:</b> Accessories need configured using the Diagnostics Mobile App in 24 volt mode. There are no defaults in 24 volt mode.</p>	<table border="1"> <tr> <td><b>Black Wires</b></td><td><b>Ext Switch 1</b> External condensate, Smoke Detector</td></tr> <tr> <td><b>White Wires</b></td><td><b>Ext Switch 2</b> External condensate, Smoke Detector</td></tr> <tr> <td><b>Blue Wires</b></td><td><b>Accessory 1</b> EAC, Humidifier (Fan assist/ Bypass) Steam Humidifier</td></tr> <tr> <td><b>Green Wires</b></td><td><b>Accessory 2</b> EAC, Humidifier (Fan Assist/ Bypass) Steam Humidifier</td></tr> </table>	<b>Black Wires</b>	<b>Ext Switch 1</b> External condensate, Smoke Detector	<b>White Wires</b>	<b>Ext Switch 2</b> External condensate, Smoke Detector	<b>Blue Wires</b>	<b>Accessory 1</b> EAC, Humidifier (Fan assist/ Bypass) Steam Humidifier	<b>Green Wires</b>	<b>Accessory 2</b> EAC, Humidifier (Fan Assist/ Bypass) Steam Humidifier
<b>Black Wires</b>	<b>Ext Switch 1</b> External condensate, Smoke Detector								
<b>White Wires</b>	<b>Ext Switch 2</b> External condensate, Smoke Detector								
<b>Blue Wires</b>	<b>Accessory 1</b> EAC, Humidifier (Fan assist/ Bypass) Steam Humidifier								
<b>Green Wires</b>	<b>Accessory 2</b> EAC, Humidifier (Fan Assist/ Bypass) Steam Humidifier								

The following optional connections are available on the mitigation control board (see connection diagrams [Figure 7, p. 27](#)):

- ACC1 and ACC2 accessory connections. Use when connecting an accessory to the air handler that could be considered a source of ignition (ex. electronic air cleaner).
- Aoa/Aob audible alarm connections. Use when configuring an audible alarm on the refrigerant detection system of the air handler.

ACC1, ACC2, and Aoa/Aob are dry contacts and need source voltage provided from either the accessory or the unit's control wiring.

Connect using field-supplied 3/16" (Aoa/Aob) or 1/4" (ACC1, ACC2) female spade connections.

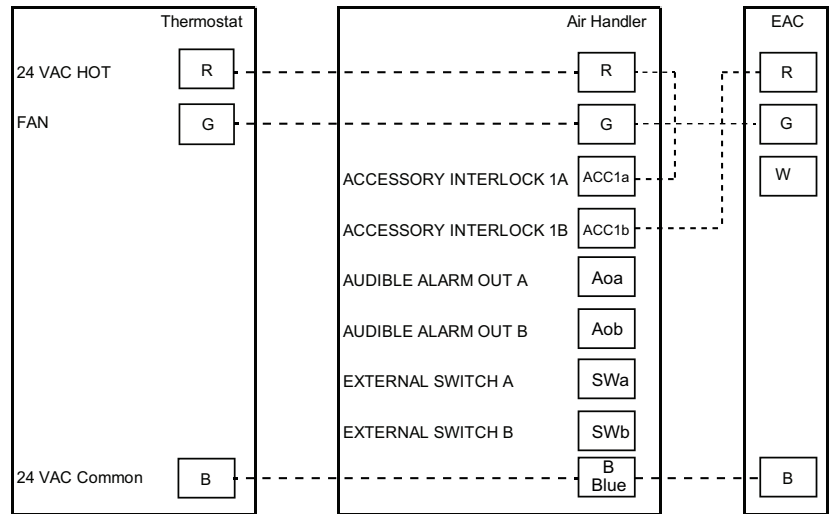
Figure 7. Accessories diagram



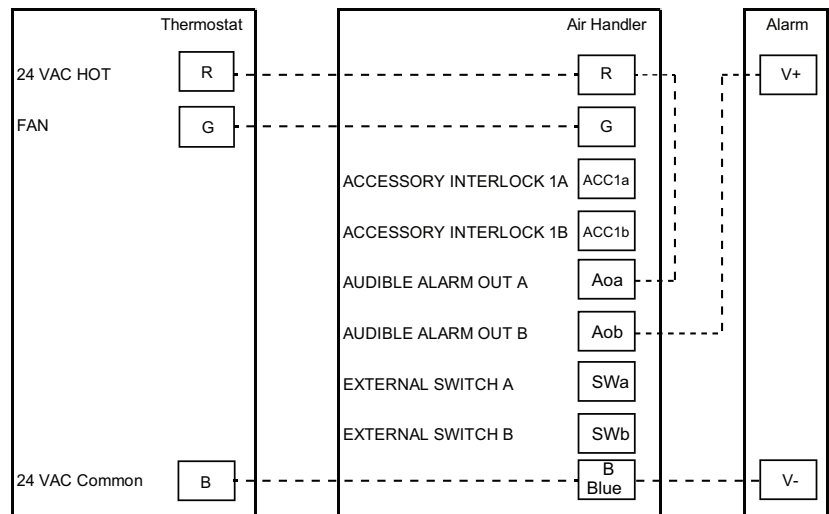
SCAN ME

Scan QR code to view instructional videos on field wiring for CleanEffects or AccuClean electronic air cleaners.

**Electronic Air Cleaner, typical**



**24VAC Audible Alarm, typical**



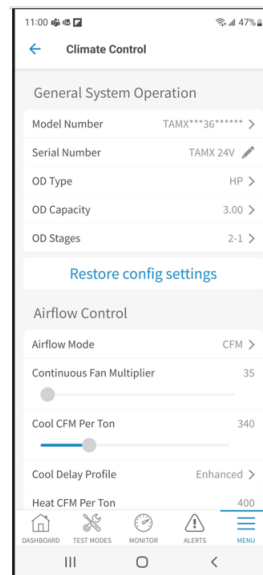
# Replacement AHC configuration – 24 volt mode

Replacement AHC boards need programmed and will not run without configuration **IN 24 Volt Mode**. There are 2 ways to perform the configuration. 1 of the methods is required to get the unit running. Combining 2 or more methods will result in unwanted operation.

1. The most complete configuration will be accomplished using the Diagnostics Mobile App. In this app, there are configurations for the model number, blower delays and accessories.
2. There is a Button Press method is to configure the size of the Air Handler and is accomplished by pressing the S1 button on the bottom of the control board in a sequence explained in this document.

***Only 1 of these methods should be used.***

## Method #1:



# Button Press AHC Configuration Method: Method #2

**Table 9. Configuration for replacement AHC**

Replacement AHC will need to be configured for unit size. Airflow will be set at 400 cfm/ton based on unit size configuration. These configurations can be done through the Diagnostics Mobile App with no manual steps or can be done manually without the Diagnostics Mobile App.		
Step	Manual Program Unit Model Size	Red LED Status
1	Hold BLE button for 5 seconds and release.	Red LED will be off
2	1 Red flash that indicates system is ready to program.	1 Red LED flash alerts user that it is now able to program
3	If configuration is present, Red LED will flash based on the configuration.	Red LED will be off if no configuration is present
4	5 quick Red LED flashes.	5 quick Red LED flashes
5	Start programming by clicking BLE button.	7 press - 5TEMCB02AV21DA 8 press - 5TEMCB03AV31DA 9 press - 5TEMCD04AV31DA 10 press - 5TEMCD05AV41DA 11 press - 5TEMCD06AV41DA 12 press - 5TEMCD07AV51DA
6	After the last button press, Red LED will flash 1 time to acknowledge programming.	Red LED will now flash the number of times you pressed to confirm your configuration. If you programmed the wrong size, within 2 seconds, start step 5 over
7	Red LED will announce successful programming.	Red LED will turn on for 5 seconds announcing the configuration has been stored in NV memory correctly. Red LED will be on for only 2 seconds if not stored properly. Programming is complete.

## Replacement AHC configuration — LINK Communicating Mode:

The system controller (SC360) will load important parameters in communicating mode and no interaction is necessary when replacing the AHC. IF the AHC and the System Controller (SC360) need replaced at the same time- contact your local FSR or technical support agent.

# Performance Data

Table 10. Model 5STEMCB02AV21DA

5STEMCB02AV21DA Airflow Performance														
Outdoor Multiplier (Tons)	Cooling Airflow Setting	Airflow Power	External Static Pressure (Constant Cfm / Constant Torque)				Constant CFM Mode / Constant		Heating Airflow Setting	Airflow Power	External Static Pressure			
			0.1	0.3	0.5	0.7	0.9	0.1			0.3	0.5	0.7	0.9
1.5 Tons	290	CFM	430 / 538	430 / 415	430 / 264	430 / NA	430 / NA	290	CFM	434	419	419	403	384
	CFM/ton	Watts	50 / 39	75 / 48	95 / 43	110 / NA	145 / NA	CFM/ton	Watts	34	64	96	130	167
	350	CFM	520 / 620	520 / 514	520 / 398	520 / NA	510 / NA	350	CFM	521	512	514	500	485
	CFM/ton	Watts	60 / 53	90 / 64	120 / 61	135 / NA	175 / NA	CFM/ton	Watts	44	77	112	153	196
	400	CFM	590 / 688	590 / 593	590 / 493	590 / NA	590 / NA	400	CFM	595	589	595	584	573
	CFM/ton	Watts	75 / 67	105 / 80	140 / 80	160 / NA	205 / NA	CFM/ton	Watts	56	91	127	173	222
	450	CFM	670 / 758	670 / 671	660 / 581	660 / NA	660 / NA	450	CFM	668	667	675	668	660
	CFM/ton	Watts	85 / 85	125 / 100	160 / 102	190 / NA	235 / NA	CFM/ton	Watts	71	107	145	196	250
	290	CFM	570 / 670	570 / 573	570 / 469	570 / NA	568 / NA	290	CFM	575	569	573	561	549
	CFM/ton	Watts	60 / 63	90 / 76	125 / 75	165 / NA	215 / NA	CFM/ton	Watts	53	87	123	167	215
2 Tons	350	CFM	690 / 781	690 / 696	690 / 609	690 / 518	680 / NA	350	CFM	693	693	702	696	689
	CFM/ton	Watts	85 / 91	120 / 107	160 / 110	210 / 98	259 / NA	CFM/ton	Watts	76	113	152	204	259
	400	CFM	790 / 875	790 / 798	790 / 720	780 / 639	780 / 555	400	CFM	791	795	805	803	798
	CFM/ton	Watts	110 / 122	150 / 140	195 / 145	250 / 137	301 / 115	CFM/ton	Watts	103	143	184	240	301
	450	CFM	890 / 971	890 / 899	880 / 827	880 / 754	880 / 680	450	CFM	889	895	902	899	891
	CFM/ton	Watts	145 / 161	185 / 181	235 / 189	295 / 184	347 / 184	CFM/ton	Watts	138	181	226	284	347
	290	CFM	720 / 823	720 / 741	710 / 659	710 / 573	710 / 481	290	CFM	717	718	728	723	717
	CFM/ton	Watts	90 / 104	140 / 120	170 / 124	220 / 115	260 / 91	CFM/ton	Watts	82	120	159	212	269
	350	CFM	870 / 963	860 / 892	873 / 819	860 / 746	850 / 671	350	CFM	865	871	879	876	869
	CFM/ton	Watts	140 / 157	182 / 177	235 / 185	280 / 180	330 / 161	CFM/ton	Watts	128	170	214	272	335
2.5 Tons †	390 †	CFM	958 / 1075	975 / 1000	946 / 878	871 / 711	802 / 617	390 †	CFM	958	979	957	878	822
	CFM/ton	Watts	147 / 170	203 / 195	269 / 211	342 / 197	403 / 189	CFM/ton	Watts	138	192	257	336	406
	400	CFM	980 / 1100	993 / 1019	958 / 889	875 / 714	801 / 616	400	CFM	980	998	969	882	821
	CFM/ton	Watts	157 / 181	213 / 205	280 / 219	357 / 205	418 / 196	CFM/ton	Watts	146	202	268	351	422
	450	CFM	980 / 1100	993 / 1019	958 / 889	875 / 714	801 / 616	450	CFM	980	998	969	882	821
	CFM/ton	Watts	157 / 181	213 / 205	280 / 219	357 / 205	418 / 196	CFM/ton	Watts	146	202	268	351	422
	• Torque mode will reduce airflow when static is above approximately 0.3-inch water column.													
• † Factory Setting														
• Status LED will blink once per 100 CFM requested. In torque mode, actual airflow may be lower.														
• All heating modes default to Constant CFM.														
• Cooling airflow values are with wet coil, no filter.														

- † Factory Setting
- Status LED will blink once per 100 CFM requested. In torque mode, actual airflow may be lower.
- Torque mode will reduce airflow when static is above approximately 0.3-inch water column.
- All heating modes default to Constant CFM.
- Cooling airflow values are with wet coil, no filter.

Table 11. Model 5TEMCB03AV/31DA

STEMCB03AV/31DA Airflow Performance														
Outdoor Multiplier (Tons)	Cooling Airflow Setting	Airflow Power	External Static Pressure (Constant Cfm / Torque)				Constant CFM Mode / Constant		Heating Airflow Setting	Airflow Power	External Static Pressure			
			0.1	0.3	0.5	0.7	0.9	0.1			0.3	0.5	0.7	
1.5 Tons	290 CFM/ton	CFM	430 / 538	430 / 415	430 / 264	430 / NA	430 / NA	290	CFM	434	419	419	403	
	350 CFM/ton	Watts	50 / 39	75 / 48	95 / 43	110 / NA	145 / NA	CFM/ton	Watts	34	64	96	130	
	400 CFM/ton	Watts	60 / 53	90 / 64	120 / 61	135 / NA	175 / NA	350	CFM	521	512	514	500	
	400 CFM/ton	Watts	590 / 688	590 / 593	590 / 493	590 / NA	590 / NA	CFM/ton	Watts	44	77	112	153	
	450 CFM/ton	Watts	75 / 67	105 / 80	140 / 80	160 / NA	205 / NA	400	CFM	595	589	595	584	
	450 CFM/ton	Watts	670 / 758	670 / 671	660 / 581	660 / NA	660 / NA	CFM/ton	Watts	56	91	127	173	
2 Tons	290 CFM/ton	Watts	85 / 85	125 / 100	160 / 102	190 / NA	235 / NA	450	CFM	668	667	675	668	
	290 CFM/ton	Watts	570 / 670	570 / 573	570 / 469	570 / NA	568 / NA	CFM/ton	Watts	71	107	145	196	
	350 CFM/ton	Watts	60 / 63	90 / 76	125 / 75	165 / NA	215 / NA	290	CFM	575	569	573	561	
	350 CFM/ton	Watts	690 / 781	690 / 696	690 / 609	690 / 518	680 / NA	CFM/ton	Watts	53	87	123	167	
	400 CFM/ton	Watts	85 / 91	120 / 107	160 / 110	210 / 98	259 / NA	350	CFM	693	693	702	696	
	400 CFM/ton	Watts	790 / 875	790 / 798	790 / 720	780 / 639	780 / 555	CFM/ton	Watts	76	113	152	204	
2.5 Tons	290 CFM/ton	Watts	110 / 122	150 / 140	195 / 145	250 / 137	301 / 115	400	CFM	791	795	805	803	
	350 CFM/ton	Watts	890 / 971	890 / 899	880 / 827	880 / 754	880 / 680	CFM/ton	Watts	103	143	184	240	
	400 CFM/ton	Watts	145 / 161	185 / 181	235 / 189	295 / 184	347 / 184	450	CFM	889	895	902	899	
	290 CFM/ton	Watts	720 / 823	720 / 741	710 / 659	710 / 573	710 / 481	CFM/ton	Watts	138	181	226	284	
	350 CFM/ton	Watts	90 / 104	140 / 120	170 / 124	220 / 115	260 / 91	290	CFM	717	718	728	723	
	350 CFM/ton	Watts	870 / 963	860 / 892	873 / 819	860 / 746	850 / 671	CFM/ton	Watts	82	120	159	212	
3 Tons †	290 CFM/ton	Watts	140 / 157	182 / 177	235 / 185	280 / 180	330 / 161	350	CFM	865	871	879	876	
	390 CFM/ton	Watts	969 / 1087	985 / 1011	993 / 921	992 / 809	1000 / 770	CFM/ton	Watts	128	170	214	272	
	400 CFM/ton	Watts	143 / 166	198 / 191	262 / 205	329 / 189	399 / 187	390	CFM	969	989	1004	999	
	400 CFM/ton	Watts	993 / 1114	1008 / 1035	1017 / 943	1015 / 828	1022 / 787	CFM/ton	Watts	134	188	250	323	
	450 CFM/ton	Watts	152 / 176	208 / 200	273 / 214	341 / 196	413 / 194	400	CFM	993	1013	1028	1023	
	450 CFM/ton	Watts	993 / 1114	1008 / 1035	1017 / 943	1015 / 828	1022 / 787	CFM/ton	Watts	142	197	261	335	
3 Tons †	290 CFM/ton	Watts	993 / 1114	1008 / 1035	1017 / 943	1015 / 828	1022 / 787	450	CFM	993	1013	1028	1023	
	350 CFM/ton	Watts	152 / 176	208 / 200	273 / 214	341 / 196	413 / 194	CFM/ton	Watts	142	197	261	335	
	390 † CFM/ton	Watts	993 / 1114	1008 / 1035	1017 / 943	1015 / 828	1022 / 787	390 †	CFM	993	1013	1028	1023	
	400 CFM/ton	Watts	152 / 176	208 / 200	273 / 214	341 / 196	413 / 194	CFM/ton	Watts	142	197	261	335	
	400 CFM/ton	Watts	993 / 1114	1008 / 1035	1017 / 943	1015 / 828	1022 / 787	400	CFM	993	1013	1028	1023	
	450 CFM/ton	Watts	152 / 176	208 / 200	273 / 214	341 / 196	413 / 194	CFM/ton	Watts	142	197	261	335	
3 Tons †	290 CFM/ton	Watts	993 / 1114	1008 / 1035	1017 / 943	1015 / 828	1022 / 787	450	CFM	993	1013	1028	1023	
	350 CFM/ton	Watts	152 / 176	208 / 200	273 / 214	341 / 196	413 / 194	CFM/ton	Watts	142	197	261	335	
	390 † CFM/ton	Watts	993 / 1114	1008 / 1035	1017 / 943	1015 / 828	1022 / 787	390 †	CFM	993	1013	1028	1023	
	400 CFM/ton	Watts	152 / 176	208 / 200	273 / 214	341 / 196	413 / 194	CFM/ton	Watts	142	197	261	335	
	400 CFM/ton	Watts	993 / 1114	1008 / 1035	1017 / 943	1015 / 828	1022 / 787	400	CFM	993	1013	1028	1023	
	450 CFM/ton	Watts	152 / 176	208 / 200	273 / 214	341 / 196	413 / 194	CFM/ton	Watts	142	197	261	335	
<div>† Factory Setting</div> <div>• Status LED will blink once per 100 CFM requested. In torque mode, actual airflow may be lower.</div> <div>• In horizontal and downflow applications, airflow should be limited to 1000 CFM due to condensate blowoff.</div> <div>• Torque mode will reduce airflow when static is above approximately 0.3-inch water column.</div> <div>• All heating modes default to Constant CFM.</div> <div>• Cooling airflow values are with wet coil, no filter.</div>														

Table 12. Models 5TEMCD04AV31DA and 5TEMCD05AV41DA

5TEMCD04AV31DA 5TEMCD05AV41DA Airflow Performance														Constant CFM Mode / Constant Torque Mode				
Outdoor Multiplier (Tons)	Cooling Airflow Setting	Airflow Power	External Static Pressure (Constant Cfm / Constant Torque)					Heating Airflow Setting	Airflow Power	External Static Pressure								
			0.1	0.3	0.5	0.7	0.9			0.1	0.3	0.5	0.7	0.9				
2.5 Tons	290	CFM	735 / 837	727 / 702	700 / 593	673 / 415	660 / 415	290	CFM	735	727	700	673	660				
	CFM/ton	Watts	59 / 72	96 / 90	138 / 105	176 / 123	215 / 148	CFM/ton	Watts	59	96	138	176	215				
	350	CFM	883 / 972	884 / 849	882 / 746	881 / 657	870 / 577	350	CFM	883	884	882	881	870				
	CFM/ton	Watts	82 / 103	124 / 123	170 / 138	223 / 152	270 / 168	CFM/ton	Watts	82	124	170	223	270				
	400	CFM	1007 / 1084	1016 / 971	1033 / 874	1020 / 788	1010 / 711	400	CFM	1007	1016	1033	1020	1010				
3 Tons	CFM/ton	Watts	109 / 136	154 / 158	204 / 174	269 / 187	320 / 200	CFM/ton	Watts	109	154	204	269	320				
	450	CFM	1133 / 1198	1146 / 1093	1176 / 1001	1140 / 919	1130 / 845	450	CFM	1133	1146	1176	1140	1130				
	CFM/ton	Watts	143 / 177	192 / 202	246 / 220	321 / 233	375 / 244	CFM/ton	Watts	143	192	246	321	375				
	290	CFM	878 / 993	879 / 872	876 / 771	874 / 682	865 / 602	290	CFM	878	879	876	874	865				
	CFM/ton	Watts	82 / 108	123 / 129	169 / 144	221 / 157	270 / 173	CFM/ton	Watts	82	123	169	221	270				
3.5 Tons	350	CFM	1057 / 1154	1068 / 1045	1091 / 952	1070 / 869	1060 / 793	350	CFM	1057	1068	1091	1070	1060				
	CFM/ton	Watts	122 / 160	168 / 184	220 / 201	289 / 213	340 / 225	CFM/ton	Watts	122	168	220	289	340				
	400	CFM	1209 / 1289	1223 / 1190	1255 / 1102	1210 / 1024	1190 / 952	400	CFM	1209	1223	1255	1210	1190				
	CFM/ton	Watts	168 / 216	219 / 243	277 / 262	355 / 276	410 / 287	CFM/ton	Watts	168	219	277	355	410				
	450	CFM	1364 / 1426	1375 / 1334	1393 / 1253	1340 / 1179	1330 / 1110	450	CFM	1364	1375	1393	1340	1330				
3.5 Tons	CFM/ton	Watts	230 / 287	286 / 317	350 / 339	429 / 355	480 / 367	CFM/ton	Watts	230	286	350	429	480				
	290	CFM	1022 / 1123	1031 / 1012	1050 / 917	1030 / 832	1030 / 756	290	CFM	1022	1031	1050	1030	1030				
	CFM/ton	Watts	113 / 148	158 / 172	209 / 188	275 / 201	325 / 213	CFM/ton	Watts	113	158	209	275	325				
	350	CFM	1235 / 1312	1249 / 1214	1242 / 1128	1230 / 1050	1220 / 978	350	CFM	1235	1249	1242	1230	1220				
	CFM/ton	Watts	178 / 227	229 / 254	288 / 274	367 / 288	420 / 299	CFM/ton	Watts	178	229	288	367	420				
3.5 Tons	400	CFM	1416 / 1471	1424 / 1383	1399 / 1303	1380 / 1230	1370 / 1163	400	CFM	1416	1424	1399	1303	1370				
	CFM/ton	Watts	254 / 314	313 / 263	378 / 368	455 / 385	510 / 398	CFM/ton	Watts	254	313	378	455	510				
	450	CFM	1601 / 1618	1591 / 1536	1547 / 1462	1500 / 1394	1390 / 1330	450	CFM	1601	1591	1547	1500	1390				
	CFM/ton	Watts	356 / 420	423 / 454	497 / 480	553 / 500	520 / 514	CFM/ton	Watts	356	423	497	553	520				
	290	CFM	1168 / 1276	1182 / 1175	1182 / 1087	1170 / 1007	1160 / 935	290	CFM	1168	1182	1182	1170	1160				
4 Tons †	CFM/ton	Watts	155 / 209	204 / 235	260 / 254	337 / 268	390 / 279	CFM/ton	Watts	155	204	260	337	390				
	350 †	CFM	1416 / 1492	1424 / 1404	1399 / 1325	1380 / 1252	1370 / 1185	350 †	CFM	1416	1424	1399	1380	1370				
	CFM/ton	Watts	254 / 326	313 / 357	378 / 381	455 / 398	510 / 411	CFM/ton	Watts	254	313	378	455	510				
	400	CFM	1628 / 1616	1614 / 1535	1534 / 1461	1500 / 1393	1390 / 1329	400	CFM	1628	1614	1534	1500	1390				
	CFM/ton	Watts	373 / 435	441 / 468	517 / 492	568 / 510	520 / 524	CFM/ton	Watts	373	441	517	568	520				
4 Tons †	450	CFM	1714 / 1605	1686 / 1525	1550 / 1452	1500 / 1385	1390 / 1321	450	CFM	1714	1686	1550	1500	1390				
	CFM/ton	Watts	431 / 435	505 / 468	584 / 492	617 / 510	520 / 570	CFM/ton	Watts	431	505	584	617	520				
<ul style="list-style-type: none"><li>† Factory Setting</li><li>Status LED will blink once per 100 CFM requested. In torque mode, actual airflow may be lower.</li><li>In horizontal and downflow applications, airflow should be limited to 1700 CFM due to secondary blowoff.</li><li>Torque mode will reduce airflow when static is above approximately 0.3-inch water column.</li><li>All heating modes default to Constant CFM.</li><li>Cooling airflow values are with wet coil, no filter.</li></ul>																		

- † Factory Setting
- Status LED will blink once per 100 CFM requested. In torque mode, actual airflow may be lower.
- In horizontal and downflow applications, airflow should be limited to 1700 CFM due to condensate blowoff.
- Torque mode will reduce airflow when static is above approximately 0.3-inch water column.
- All heating modes default to Constant CFM.
- Cooling airflow values are with wet coil, no filter.

Table 13. Models 5TEMCD06AV41DA and 5TEMCD07AV51DA

5TEMCD06AV41DA 5TEMCD07AV51DA Airflow Performance														
Outdoor Multiplier (Tons)	Cooling Airflow Setting	Airflow Power	External Static Pressure (Constant Cfm / Constant Torque)					Heating Airflow Setting	Airflow Power	Constant CFM Mode / Constant Torque Mode				
			0.1	0.3	0.5	0.7	0.9			0.1	0.3	0.5	0.7	0.9
3 tons	290 CFM/ton	CFM	864 / 1015	856 / 883	851 / 772	850 / 676	820 / 590	290 CFM/ton	CFM	864	856	851	843	822
	350 CFM	Watts	80 / 96	119 / 121	170 / 141	217 / 160	276 / 182	350 CFM/ton	Watts	76	119	168	219	276
	400 CFM/ton	CFM	1037 / 1179	1037 / 1059	1040 / 957	1030 / 866	1030 / 784	400 CFM/ton	CFM	1037	1037	1040	1039	1032
	450 CFM/ton	Watts	120 / 137	170 / 164	224 / 185	265 / 204	334 / 221	450 CFM/ton	Watts	110	158	213	271	334
	290 CFM	CFM	1184 / 1317	1187 / 1207	1193 / 1110	1180 / 1024	1190 / 945	290 CFM	CFM	1184	1187	1193	1196	1197
	350 CFM/ton	Watts	160 / 180	215 / 209	275 / 233	325 / 251	380 / 268	350 CFM/ton	Watts	149	200	260	324	393
3.5 tons	450 CFM	CFM	1334 / 1457	1336 / 1354	1343 / 1263	1340 / 1181	1340 / 1105	450 CFM/ton	CFM	1334	1336	1343	1348	1353
	400 CFM/ton	Watts	205 / 232	265 / 265	335 / 290	395 / 310	460 / 327	400 CFM/ton	Watts	198	254	318	388	461
	290 CFM	CFM	1015 / 1147	1000 / 1025	1000 / 921	1000 / 829	1000 / 746	290 CFM/ton	CFM	1003	1002	1004	1002	992
	350 CFM/ton	Watts	115 / 128	160 / 155	205 / 176	255 / 194	309 / 212	350 CFM/ton	Watts	103	149	203	260	322
	400 CFM	CFM	1210 / 1341	1210 / 1231	1210 / 1136	1210 / 1050	1210 / 971	400 CFM/ton	CFM	1209	1212	1218	1222	1224
	450 CFM/ton	Watts	165 / 188	220 / 218	280 / 241	335 / 260	395 / 277	450 CFM/ton	Watts	157	208	269	334	403
4 tons	400 CFM	CFM	1380 / 1503	1380 / 1403	1390 / 1314	1390 / 1233	1390 / 1159	400 CFM/ton	CFM	1384	1386	1393	1397	1402
	450 CFM/ton	Watts	195 / 252	285 / 286	355 / 312	420 / 332	485 / 349	450 CFM/ton	Watts	217	275	340	412	487
	290 CFM	CFM	1560 / 1667	1560 / 1575	1570 / 1492	1570 / 1416	1579 / 1345	290 CFM/ton	CFM	1563	1563	1566	1566	1564
	350 CFM/ton	Watts	295 / 332	365 / 369	440 / 398	515 / 421	595 / 439	350 CFM/ton	Watts	293	362	429	507	588
	400 CFM	CFM	1140 / 1304	1140 / 1192	1140 / 1095	1140 / 1008	1150 / 929	400 CFM/ton	CFM	1144	1147	1152	1155	1154
	450 CFM/ton	Watts	145 / 175	200 / 204	255 / 227	310 / 246	365 / 263	450 CFM/ton	Watts	138	188	247	309	376
5 tons †	350 CFM	CFM	1380 / 1525	1380 / 1426	1390 / 1338	1390 / 1257	1390 / 1183	350 CFM/ton	CFM	1384	1386	1393	1397	1402
	400 CFM/ton	Watts	220 / 262	285 / 295	355 / 322	420 / 343	485 / 360	400 CFM/ton	Watts	217	275	340	412	487
	290 CFM	CFM	1590 / 1711	1590 / 1621	1590 / 1539	1590 / 1464	1600 / 1394	290 CFM/ton	CFM	1589	1588	1591	1589	1585
	350 CFM/ton	Watts	305 / 356	380 / 267	455 / 356	535 / 267	610 / 466	350 CFM/ton	Watts	305	376	444	522	604
	400 CFM	CFM	1790 / 1898	1790 / 1816	1800 / 1741	1800 / 1670	1810 / 1604	400 CFM/ton	CFM	1800	1794	1791	1773	1745
	450 CFM/ton	Watts	410 / 474	495 / 597	585 / 548	670 / 575	760 / 597	450 CFM/ton	Watts	419	509	575	660	749
5 tons †	290 CFM	CFM	1430 / 1571	1440 / 1475	1440 / 1388	1440 / 1309	1440 / 1236	290 CFM/ton	CFM	1435	1436	1442	1446	1450
	350 † CFM	Watts	240 / 283	310 / 318	375 / 345	445 / 367	515 / 384	350 † CFM/ton	Watts	237	297	364	437	514
	400 CFM/ton	CFM	1740 / 1851	1740 / 1767	1750 / 1690	1750 / 1619	1760 / 1552	400 CFM/ton	CFM	1747	1742	1740	1728	1707
	450 CFM/ton	Watts	380 / 442	465 / 482	550 / 514	635 / 541	720 / 562	450 CFM/ton	Watts	388	472	539	623	710
	290 CFM	CFM	2000 / 2087	2000 / 2012	2010 / 1942	1980 / 1873	1870 / 317	290 CFM/ton	CFM	2015	2007	1995	1951	1877
	450 CFM/ton	Watts	540 / 619	635 / 663	735 / 700	810 / 729	810 / 378	450 CFM/ton	Watts	559	679	739	810	810
5 tons †	290 CFM	CFM	2260 / 2141	2210 / 2068	2100 / 1999	1980 / 903	1870 / 315	290 CFM/ton	CFM	2125	2117	2100	2038	1932
	450 CFM/ton	Watts	745 / 686	810 / 729	810 / 766	810 / 359	810 / 405	450 CFM/ton	Watts	641	779	810	810	810

- † Factory Setting
- Status LED will blink once per 100 CFM requested. In torque mode, actual airflow may be lower.
- All heating modes default to Constant CFM.
- In horizontal and downflow applications, airflow should be limited to 1800 CFM due to condensation issues.
- Cooling airflow values are with wet coil, no filter.

- † Factory Setting
- Status LED will blink once per 100 CFM requested. In torque mode, actual airflow may be lower.
- In horizontal and downflow applications, airflow should be limited to 1800 CFM due to condensate blowoff.
- Torque mode will reduce airflow when static is above approximately 0.3-inch water column.
- All heating modes default to Constant CFM.
- Cooling airflow values are with wet coil, no filter.

# Electrical Data

*Note: Heater size needs to be set in Configuration Menu.*

**Table 14. Model 5TEMCB02AV21DA**

5TEMCB02AV21DA Heater Data											
Heater Model No.	No. of Circuits/ Phases	240 Volt					208 Volt				
		Capacity		Heater Amps per Circuit	Minimum Circuit Ampacity	Maximum Overload Protection	Capacity		Heater Amps per Circuit	Minimum Circuit Ampacity	Maximum Overload Protection
		kW	BTUH				kW	BTUH			
No Heater	—	—	—	2.8(a)	4	15	—	—	2.8(a)	4	15
BAYHTR1504BRK	1/1	3.84	13100	16.0	24	25	2.88	9800	13.8	21	25
BAYHTR1504LUG	1/1	4.80	16400	20.0	29	30	3.60	12300	17.3	25	25
BAYHTR1505BRK	1/1	7.68	26200	32.0	44	45	5.76	19700	27.7	38	40
BAYHTR1505LUG	1/1	9.60	32800	40.0	54	60	7.20	24600	34.6	47	50
BAYHTR1510BRK	2/1	9.60	32800	40.0	54	60	7.20	24600	34.6	47	50
BAYHTR1510LUG	2/1	4.80	16400	20.0	25	25	3.60	12300	17.3	22	25
BAYHTR1517BRK Circuit 1 (b)	1/3	9.60	32800	23.1	32	35	7.20	24600	20.0	28	30
BAYHTR1517BRK Circuit 2	1/3	14.40	49100	34.6	46	50	10.80	36900	30.0	41	45

(a) Motor Amps

(b) MCA and MOP for circuit 1 contains the motor amps

**Table 15. Model 5TEMCB03AV31DA**

5TEMCB03AV31DA Heater Data											
Heater Model No.	No. of Circuits/ Phases	240 Volt					208 Volt				
		Capacity		Heater Amps per Circuit	Minimum Circuit Ampacity	Maximum Overload Protection	Capacity		Heater Amps per Circuit	Minimum Circuit Ampacity	Maximum Overload Protection
		kW	BTUH				kW	BTUH			
No Heater	—	—	—	3.9(a)	5	15	—	—	3.9(a)	5	15
BAYHTR1504BRK	1/1	3.84	13100	16.0	25	25	2.88	9800	13.8	22	25
BAYHTR1504LUG	1/1	4.80	16400	20.0	30	30	3.60	12300	17.3	27	30
BAYHTR1505BRK	1/1	7.68	26200	32.0	45	45	5.76	19700	27.7	39	40
BAYHTR1505LUG	1/1	9.60	32800	40.0	55	60	7.20	24600	34.6	48	50
BAYHTR1508BRK	2/1	9.60	32800	40.0	55	60	7.20	24600	34.6	48	50
BAYHTR1508LUG	2/1	4.80	16400	20.0	25	25	3.60	12300	17.3	22	25
BAYHTR1510BRK	1/3	9.60	32800	23.1	33	35	7.20	24600	20.0	29	30
BAYHTR1510LUG	1/3	14.40	49100	34.6	48	50	10.80	36900	30.0	42	45

(a) Motor Amps

(b) MCA and MOP for circuit 1 contains the motor amps

**Table 16. Models 5TEMCD04AV31DA and 5TEMCD05AV41DA**

5TEMCD04AV31DA and 5TEMCD05AV41DA Heater Data											
Heater Model No.	No. of Circuits/ Phases	240 Volt					208 Volt				
		Capacity		Heater Amps per Circuit	Minimum Circuit Ampacity	Maximum Overload Protection	Capacity		Heater Amps per Circuit	Minimum Circuit Ampacity	Maximum Overload Protection
		kW	BTUH				kW	BTUH			
No Heater	—	—	—	3.9(a)	5	15	—	—	3.9(a)	5	15
BAYHTR1504BRK	1/1	3.84	13100	16.0	25	25	2.88	9800	13.8	22	25
BAYHTR1504LUG	1/1	4.80	16400	20.0	30	30	3.60	12300	17.3	27	30
BAYHTR1505BRK	1/1	7.68	26200	32.0	45	45	5.76	19700	27.7	39	40
BAYHTR1505LUG	1/1	9.60	32800	40.0	55	60	7.20	24600	34.6	48	50

Table 16. Models 5TEMCD04AV31DA and 5TEMCD05AV41DA (continued)

5TEMCD04AV31DA and 5TEMCD05AV41DA Heater Data											
Heater Model No.	No. of Circuits/ Phases	240 Volt					208 Volt				
		Capacity		Heater Amps per Circuit	Minimum Circuit Ampacity	Maximum Overload Protection	Capacity		Heater Amps per Circuit	Minimum Circuit Ampacity	Maximum Overload Protection
		kW	BTUH				kW	BTUH			
BAYHTR1517BRK Circuit 1 <sup>(b)</sup>	2/1	9.60	32800	40.0	55	60	7.20	24600	34.6	48	50
BAYHTR1517BRK Circuit 2		4.80	16400	20.0	25	25	3.60	12300	17.3	22	25
BAYHTR1523BRK Circuit 1 <sup>(b)</sup>	2/1	9.60	32800	40.0	55	60	7.20	24600	34.6	48	50
BAYHTR1523BRK Circuit 2		9.60	32800	40.0	50	50	7.20	24600	34.6	43	45
BAYHTR3510LUG	1/3	9.60	32800	23.1	33	35	7.20	24600	20.0	29	30
BAYHTR3517LUG	1/3	14.40	49100	34.6	48	50	10.80	36900	30.0	42	45

<sup>(a)</sup> Motor Amps<sup>(b)</sup> MCA and MOP for circuit 1 contains the motor amps

Table 17. Models 5TEMCD06AV41DA and 5TEMCD07AV51DA

5TEMCD06AV41DA and 5TEMCD07AV51DA Heater Data											
Heater Model No.	No. of Circuits/ Phases	240 Volt					208 Volt				
		Capacity		Heater Amps per Circuit	Minimum Circuit Ampacity	Maximum Overload Protection	Capacity		Heater Amps per Circuit	Minimum Circuit Ampacity	Maximum Overload Protection
		kW	BTUH				kW	BTUH			
No Heater	—	—	—	5.7 <sup>(a)</sup>	7	15	—	—	5.7 <sup>(a)</sup>	7	15
BAYHTR1504BRK BAYHTR1504LUG	1/1	3.84	13100	16.0	27	30	2.88	9800	13.8	24	25
BAYHTR1505BRK BAYHTR1505LUG	1/1	4.80	16400	20.0	32	35	3.60	12300	17.3	29	30
BAYHTR1508BRK BAYHTR1508LUG	1/1	7.68	26200	32.0	47	50	5.76	19700	27.7	42	45
BAYHTR1510BRK BAYHTR1510LUG	1/1	9.60	32800	40.0	57	60	7.20	24600	34.6	50	50
BAYHTR1517BRK Circuit 1 <sup>(b)</sup>	2/1	9.60	32800	40.0	57	60	7.20	24600	34.6	50	50
BAYHTR1517BRK Circuit 2		4.80	16400	20.0	25	25	3.60	12300	17.3	22	25
BAYHTR1523BRK Circuit 1 <sup>(b)</sup>	2/1	9.60	32800	40.0	57	60	7.20	24600	34.6	50	50
BAYHTR1523BRK Circuit 2		9.60	32800	40.0	50	50	7.20	24600	34.6	43	45
BAYHTR1525BRK Circuit 1 <sup>(b)</sup>	4/1	6.00	20500	25.0	38	40	4.50	15400	21.6	34	35
BAYHTR1525BRK Circuit 2		6.00	20500	25.0	31	35	4.50	15400	21.6	27	30
BAYHTR1525BRK Circuit 3		6.00	20500	25.0	31	35	4.50	15400	21.6	27	30
BAYHTR1525BRK Circuit 4		6.00	20500	25.0	31	35	4.50	15400	21.6	27	30
BAYHTR3510LUG	1/3	9.60	32800	23.1	35	40	7.20	24600	20.0	31	35
BAYHTR3517LUG	1/3	14.40	49100	34.6	50	60	10.80	36900	30.0	44	45

<sup>(a)</sup> Motor Amps<sup>(b)</sup> MCA and MOP for circuit 1 contains the motor amps

# Minimum Airflow CFM

**Table 18. Models 5TEMCB02AV21DA and 5TEMCB03AV31DA**

Heater	Minimum Heater Airflow CFM	
	With Heat Pump	Without Heat Pump
BAYHTR1504+++ , BAYHTR1505+++	650	600
BAYHTR1508+++ , BAYHTR1510+++	850	700
BAYHTR1517BRK, BAYHTR3517LUG	1000	850
BAYHTR3510LUG	850	700

**Table 19. Models 5TEMCD04AV31DA and 5TEMCD05AV41DA**

Heater	Minimum Heater Airflow CFM	
	With Heat Pump	Without Heat Pump
BAYHTR1504+++ , BAYHTR1505+++	675	675
BAYHTR1508+++ , BAYHTR1510+++ , BAYHTR1517BRK, BAYHTR3510LUG	950	900
BAYHTR3517LUG	1050	950
BAYHTR1523BRK	1500	1300

**Table 20. Models 5TEMCD06AV41DA and 5TEMCD07AV51DA**

Heater	Minimum Heater Airflow CFM	
	With Heat Pump	Without Heat Pump
BAYHTR1504+++ , BAYHTR1505+++	900	800
BAYHTR1508+++ , BAYHTR3510LUG	1200	1000
BAYHTR1510+++	1350	1000
BAYHTR1517BRK, BAYHTR3517LUG	1400	1100
BAYHTR1523BRK	1430	1300
BAYHTR1525BRK	1850	1600

# Heater Pressure Drop Table

Table 21. Heater pressure drop

Airflow CFM	Number of Racks					Heater Racks	
	1	2	3	4		Heater Model	No. of Racks
	Air Pressure Drop — Inches W.G.						
1800	0.02	0.04	0.06	0.14		BAYHTR1504	1
1700	0.02	0.04	0.06	0.14		BAYHTR1505	1
1600	0.02	0.04	0.06	0.13		BAYHTR1508	2
1500	0.02	0.04	0.06	0.12		BAYHTR1510	2
1400	0.02	0.04	0.06	0.12		BAYHTR1517	3
1300	0.02	0.04	0.05	0.11		BAYHTR3510	3
1200	0.01	0.04	0.05	0.10		BAYHTR3517	3
1100	0.01	0.03	0.05	0.09		BAYHTR1523	4
1000	0.01	0.03	0.04	0.09		BAYHTR1525	4
900	0.01	0.03	0.04	0.08		—	—
800	0.01	0.03	—	—		—	—
700	0.01	0.02	—	—		—	—
600	0.01	0.02	—	—		—	—

# Unit Conversion Instructions

## ⚠ WARNING

### Risk of Fire!

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

Relocate the refrigerant sensor if installing the unit in any other orientation other than upflow.

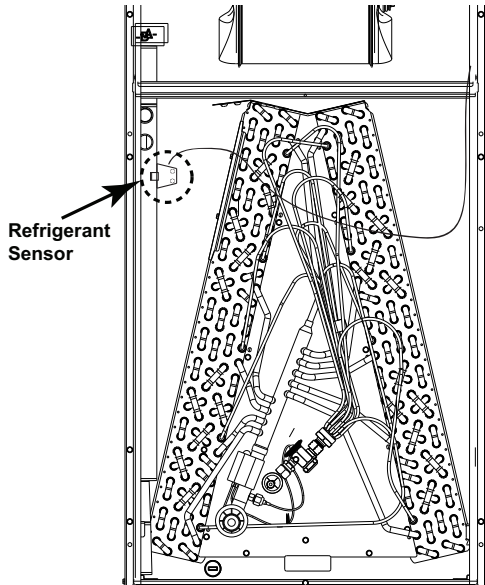
### Horizontal Left Sensor Relocation

**Important:** For horizontal applications, airflow restrictions apply for condensate blow off. Refer to Air Flow Performance Tables in this manual.

Follow the conversion steps when installing the air handler in horizontal left configuration.

1. Remove the front panels from the air handler. The coil and line set panel do not need to be separated.
2. Pull refrigerant sensor and clip up and away from the primary drain pan and remove it from the pan. Secure sensor to secondary pan using provided clip. Sensor should be positioned close to secondary drain lines.
3. Position extra wire length in the secondary drain pan.

**Figure 8. Refrigerant sensor location**



4. Replace all panels.

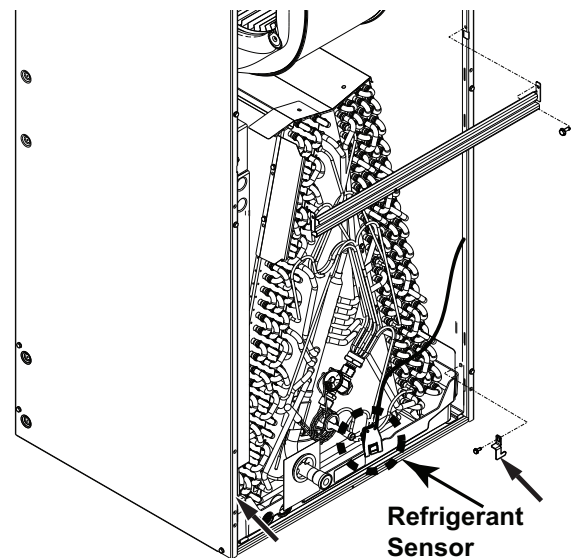
### Downflow

**Important:** For downflow applications, airflow restrictions apply for condensate blow off. Refer to Air Flow Performance Tables in this manual.

Follow the conversion steps when installing the air handler in downflow configuration.

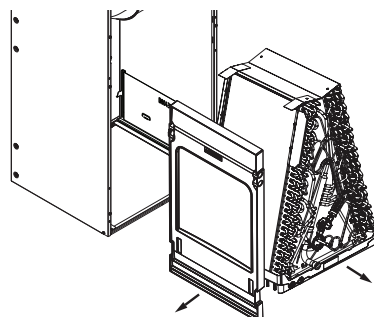
1. Remove the front panels panel from the air handler. The coil and line set panel do not need to be separated.
2. Remove the fasteners on both sides of the coil.
3. Remove the two screws holding the center horizontal bracket and rotate out of place. Retain parts.

**Figure 9. Horizontal bracket and refrigerant sensor**



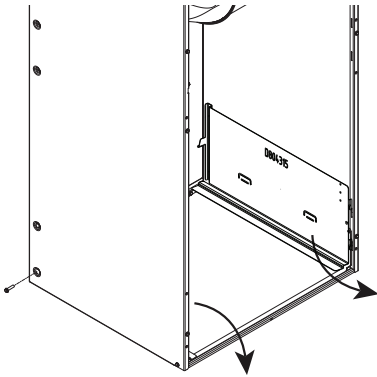
4. Pull refrigerant sensor up and away from the primary drain pan and remove it from the pan. Detach the sensor and clip from the wire harness and move it out of the way.
5. Slide the coil assembly out. Remove and discard the horizontal drain pan.

**Figure 10. Coil assembly and horizontal drain pan**

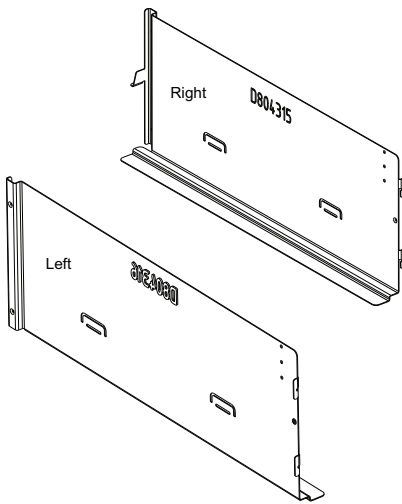


6. On both sides of the cabinet, remove the screws that hold the coil support brackets and retain for later use. Seal the holes to prevent air leakage.
7. Rotate and lift the two coil support brackets to remove from front slots in cabinet.

**Figure 11. Coil support brackets**

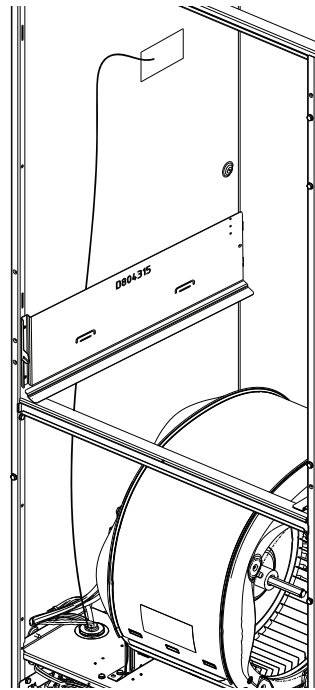


**Figure 12. Coil support brackets**



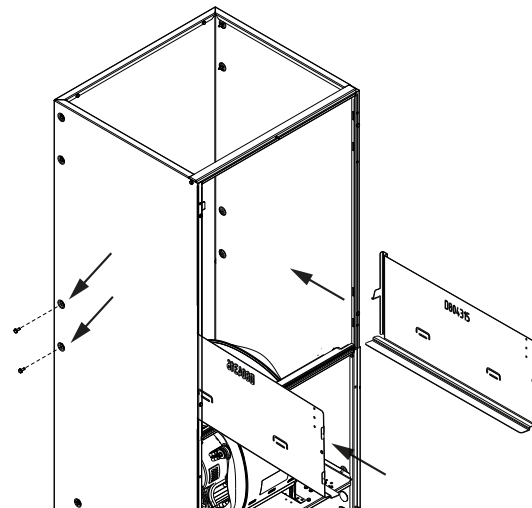
8. Rotate the unit into the downflow orientation.
9. Pre-drill four clearance holes in the cabinet at dimples located below the location the screws were removed for the coil support brackets. There are two holes per side. See location of holes.
10. Replace the center horizontal bracket removed in [Step 3](#). Use the screws retained from [Step 3](#) to attach.
11. Place coil support brackets into the slots and rotate into place. Push downward to lock into place. Refrigerant sensor wire harness should be routed between coil support bracket and the insulation.

**Figure 13. Refrigerant sensor wire harness**



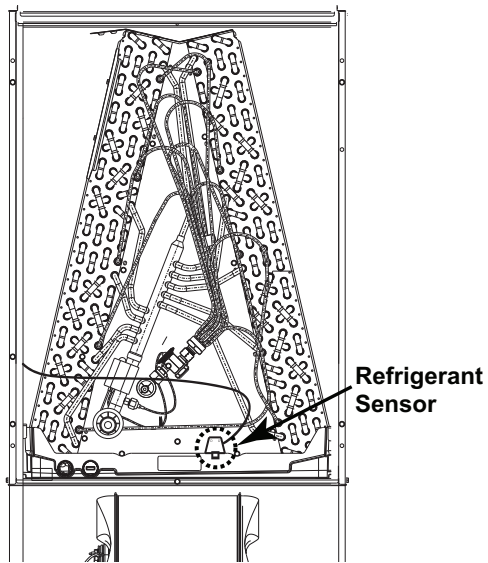
12. Secure each bracket with the screws that were previously removed.

**Figure 14. Coil support brackets**



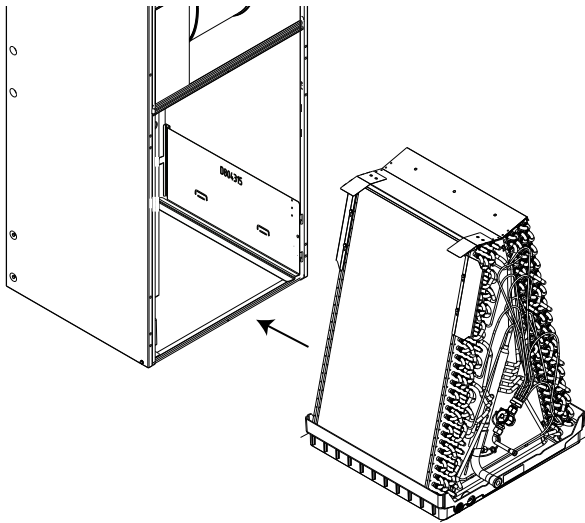
13. Slide the coil assembly back into the air handler cabinet as shown.

**Figure 15. Refrigerant sensor location**



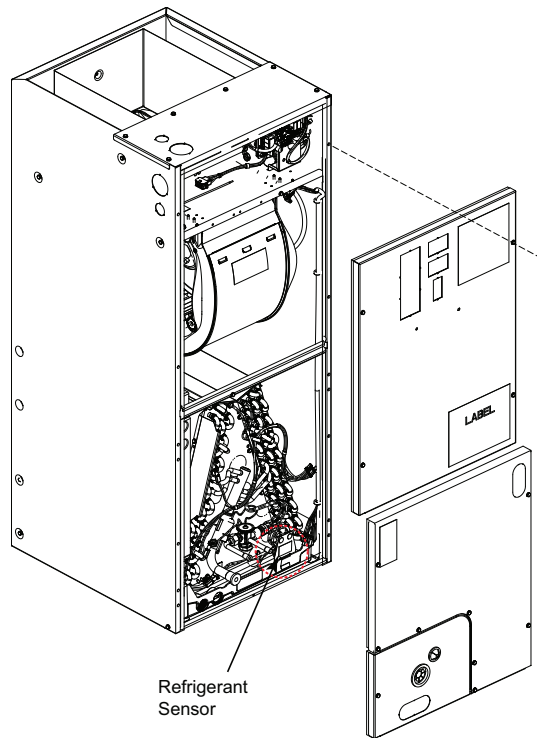
14. Clip refrigerant sensor back onto primary drain pan (as shown in figure above) and reconnect the sensor to the wire harness. Position extra wire length next to the coil.
15. Remove the appropriate knock out for the condensate piping.

**Figure 16. Coil assembly**



16. Replace all panels.

**Figure 17. Front panels**



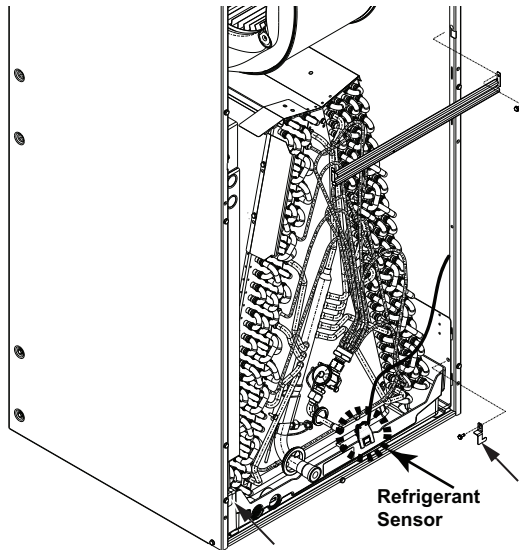
## Horizontal Right

**Important:** For horizontal applications, airflow restrictions apply for condensate blow off. Refer to Air Flow Performance Tables in this manual.

Follow the conversion steps when installing the air handler in horizontal right configuration.

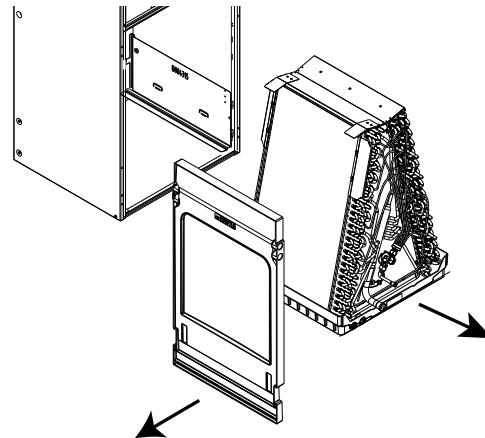
1. Remove the front panels from the air handler. The coil and line set panel do not need to be separated.
2. Remove the fasteners on both sides of the coil. Retain the coil retaining brackets and screws.
3. Remove the two screws holding the center horizontal bracket and rotate out of place. Retain parts.
4. Pull refrigerant sensor up and away from the primary drain pan and remove it from the pan. Detach the sensor and clip from the wire harness and move it out of the way.

**Figure 18. Horizontal bracket and refrigerant sensor**



5. Make note of the horizontal drain pan orientation (up/down).
6. Slide the coil assembly out.

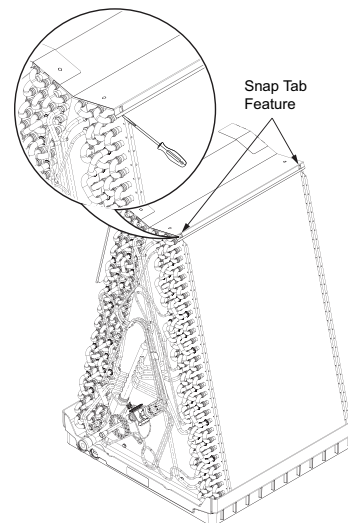
**Figure 19. Coil assembly and horizontal drain pan**



**Important:** For Horizontal Right applications, ON SOME MODELS the top panel assembly of the coil must be rotated for proper condensate management.

7. On the right side of the top baffle, position a flathead tip underneath the top baffle flange and pivot the screwdriver downward to release the front tab as shown below.
8. Repeat for right rear tab to release top baffle assembly from coil.

**Figure 20. Top baffle**

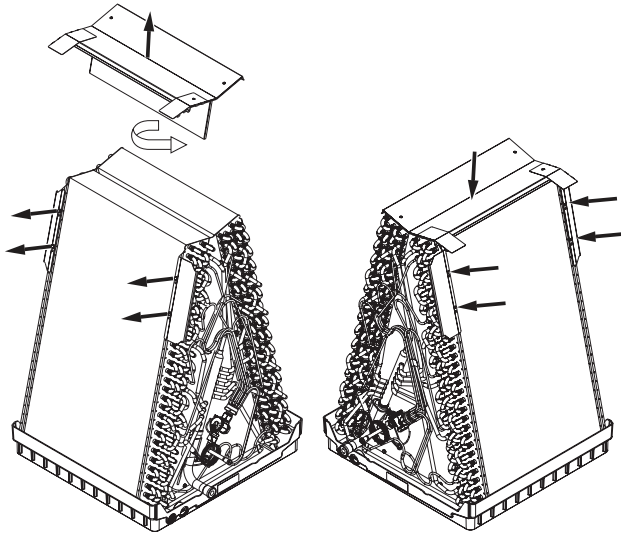


9. Rotate 180 degrees and snap all four corner tabs to lock in place.
10. Remove left side water diverter brackets and screws and reinstall on the right side.

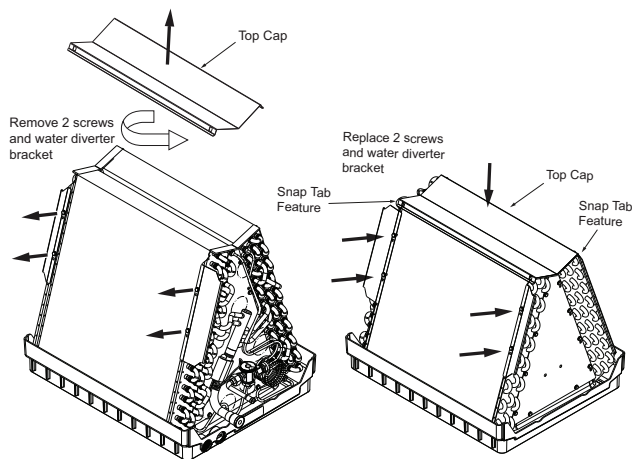
The coil slabs are different and the mount hole locations will vary. See the illustrations on the following pages that correspond to the unit tonnage to see the correct mounting position of the water diverter bracket.

**Important:** The water diverter brackets are not symmetrical and will vary by tonnage.

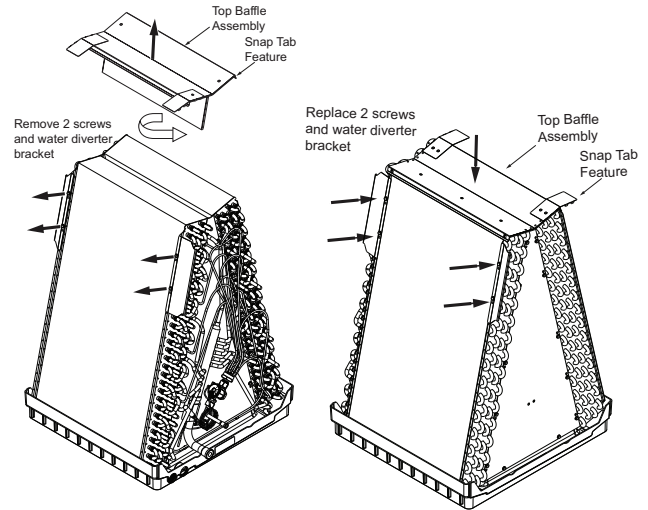
**Figure 21. Top baffle and water diverter brackets**



**Figure 22. 5TEMCB02AV21DA/5TEMCB03AV31DA**



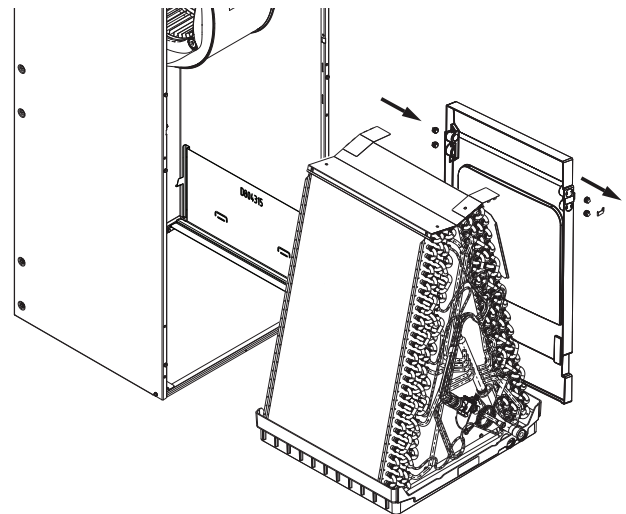
**Figure 23. 5TEMCD04AV31DA/5TEMCD05AV41DA/5TEMCD06AV41DA/5TEMCD07AV51DA**



11. To allow the horizontal pan to slide in on the right, cut and remove the zip tie holding the sensor wire harness on the right side of the coil cabinet.
12. Relocate the horizontal drain pan from the left side of the coil to the right side.
13. Remove the drain pan support bracket. Do not discard. Remove the two drain plugs from the front of the drain pan and insert them in the drains at the rear of the drain pan.

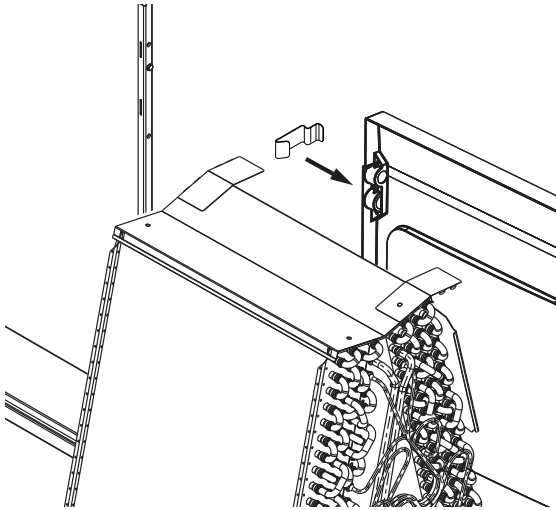
**Important:** When reinstalling coil in [Step 13](#), it is important that the coil corner locks in place under the tab in the side bracket to support the coil weight horizontally.

**Figure 24. Coil assembly and horizontal drain pan**



14. Reinstall the drain pan support bracket. The bracket should be located between the two drain plugs as shown.

**Figure 25. Drain pan support bracket**

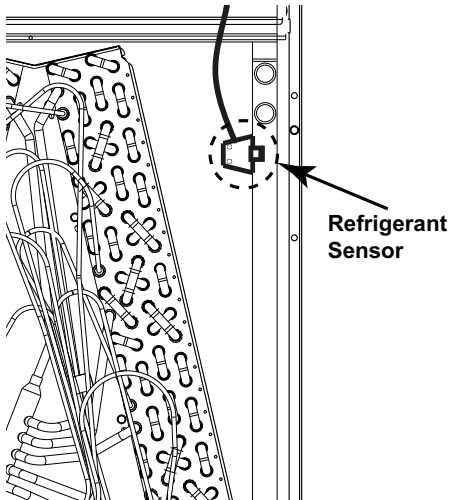


15. Slide the coil assembly back into the air handler cabinet.

**Important:** Make sure that the coil corner locks in place under the tab in the side left bracket to support the coil weight in the horizontal right position.

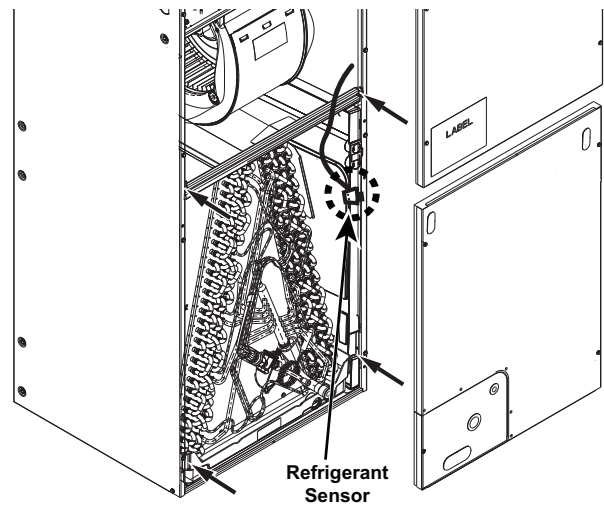
16. Replace the center horizontal bracket using screws removed earlier in [Step 3](#).
17. Replace the two coil retaining brackets removed in a previous step.
18. Rotate unit into horizontal right position.
19. Install sensor onto secondary drain pan using the provided clip. Sensor should be positioned close to the drain lines. Reconnect the sensor to the wire harness and position extra wire length in the drain pan.

**Figure 26. Refrigerant sensor location**



20. Replace all panels.

**Figure 27. Front panels**



# Checkout Procedures

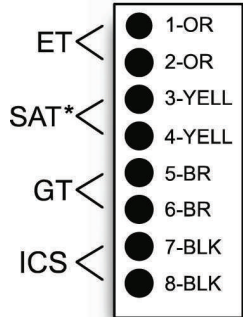
The final phase of the installation is the system Checkout Procedures. The following list represents the most common items covered in a Checkout Procedure. Confirm all requirements in this document have been met.

<ul style="list-style-type: none"> <li><input type="checkbox"/> All wiring connections are tight and properly secured.</li> <li><input type="checkbox"/> Voltage and running current are within limits.</li> <li><input type="checkbox"/> All refrigerant lines (internal and external to equipment) are isolated, secure, and not in direct contact with each other or structure.</li> <li><input type="checkbox"/> All brazed connections have been checked for leaks. A vacuum of 350 microns provides confirmation that the refrigeration system is leak free and dry.</li> <li><input type="checkbox"/> If unit is installed in any orientation other than upflow, refrigerant sensor is properly relocated.</li> <li><input type="checkbox"/> Final unit inspection to confirm factory tubing has not shifted during shipment. Adjust tubing if necessary so tubes do not rub against each other or any component when unit runs.</li> <li><input type="checkbox"/> Ductwork is sealed and insulated.</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> All drain lines are clear with joints properly sealed. Pour water into drain pan to confirm proper drainage. Provide enough water to ensure drain trap is primed.</li> <li><input type="checkbox"/> Supply registers and return grilles are open, unobstructed, and air filter is installed.</li> <li><input type="checkbox"/> Indoor blower and outdoor fan are operating smoothly and without obstruction.</li> <li><input type="checkbox"/> Indoor blower motor set on correct speed setting to deliver required CFM. Blower and fan set screws are tight.</li> <li><input type="checkbox"/> Cover panels are in place and properly tightened.</li> <li><input type="checkbox"/> System functions safely and properly in all modes.</li> <li><input type="checkbox"/> Refrigerant leak detection system mitigating actions are verified.</li> <li><input type="checkbox"/> All refrigerant safety procedures have been verified.</li> <li><input type="checkbox"/> Owner has been instructed on use of system and given manual.</li> </ul>
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## AHR-SVX004B-EN

## 45

### Connector J3



\*- Some models do not have sat temp sensor

# Notices

## FCC Notice

Contains FCC ID: WAP3025

*This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. The antenna(s) used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be collocated or operating in conjunction with any other antenna or transmitter. This equipment has been tested and found to comply with the limits for Class B Digital Device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures.*

- *Reorient or relocate the receiving antenna*
- *Increase the separation between the equipment and receiver*
- *Connect the equipment into an outlet on a circuit different from that to which the receiver is connected*
- *Consult the dealer or an experienced radio/TV technician for help*

*Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.*

## IC Notice

Contains IC ID: 7922A-3025

*This device complies with Industry Canada license exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.*

*Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes: (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.*



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