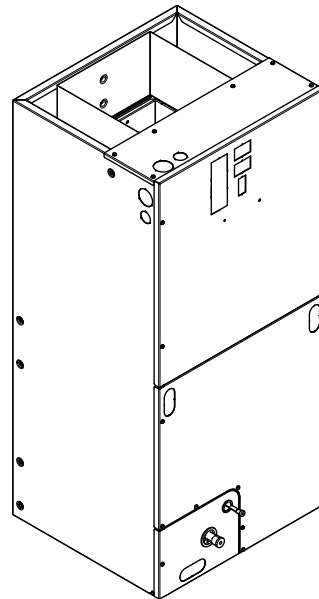




# Installation, Operation, and Maintenance

## Variable Speed Convertible Air Handlers 2 – 5 Ton

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



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

**Note:** 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.

**Note:** This unit can be used in Link Communicating mode or 24 volt mode.

**Note:** Use Diagnostics App to configure blower delays, accessories, ect. in 24 volt mode.

### **⚠ 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.

# SAFETY SECTION

**Important:** This document contains a wiring diagram, a parts list, and service information. This is customer property and is to remain with this unit. Please return to service information pack upon completion of work.

**Important:** These instructions do not cover all variations in systems nor provide for every possible contingency to be met in connection with the installation. Should further information be desired or should particular problems arise which are not covered sufficiently for the purchaser's purposes, the matter should be referred to your installing dealer or local distributor.

## ⚠ WARNING

### SAFETY HAZARD!

This air handler shall only be connected to an outdoor unit suitable for use with refrigerant R-454B.

## ⚠ WARNING

### HAZARDOUS VOLTAGE!

Failure to follow this Warning could result in property damage, severe personal injury, or death.

Disconnect all electric power, including remote disconnects before servicing. Follow proper lockout/tagout procedures to ensure the power cannot be inadvertently energized.

## ⚠ CAUTION

### GROUNDING REQUIRED!

Failure to inspect or use proper service tools may result in equipment damage or personal injury. 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

### SAFETY HAZARD!

Children should be supervised to ensure that they do not play with the appliance.

## ⚠ WARNING

### RISK OF FIRE!

Flammable refrigerant used. To be repaired only by trained service professional. Do not puncture refrigerant tubing.

Dispose of properly in accordance with federal or local regulations. Flammable refrigerant used.

## ⚠ WARNING

### LIVE ELECTRICAL COMPONENTS!

Failure to follow this Warning could result in property damage, severe personal injury, or death.

Follow all electrical safety precautions when exposed to live electrical components. It may be necessary to work with live electrical components during installation, testing, servicing, and troubleshooting of this product.

## ⚠ WARNING

### PRESSURIZED REFRIGERANT!

Failure to follow this Warning could result in personal injury

System contains oil and refrigerant under high pressure. Recover refrigerant to relieve pressure before opening the system. Do not use non-approved refrigerants or refrigerant substitutes or refrigerant additives.

## ⚠ CAUTION

### SHARP EDGE HAZARD!

Failure to follow this Caution could result in property damage or personal injury.

Be careful of sharp edges on equipment or any cuts made on sheet metal while installing or servicing.

## ⚠ CAUTION

### HAZARDOUS VAPORS!

Failure to follow this caution could result in property damage or personal injury.

Equipment corrosion damage. To prevent shortening its service life, the air handler should not be used 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, varnish, stains, adhesives, cleaning compounds, and cement creates a corrosive condition which may cause rapid deterioration of the cabinet and internal components.



**⚠ CAUTION****COIL IS PRESSURIZED!**

- Coil is pressurized with approximately 8–12 psi dry air and factory checked for leaks.
- Carefully release the pressure by removing the rubber plug on the liquid line.
- If no pressure is released, check for leaks.

**⚠ WARNING****SAFETY HAZARD!**

This appliance 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.

**⚠ WARNING****WARNING!**

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).

**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.

**Important:** 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.

**Note:** 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."

**Note:** 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.

**Note:** 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.

**Note:** There is no declared maximum altitude for operating the appliance.

**Note:** Charging of the refrigerating system shall be according to the instructions provided by the manufacturer of the outdoor unit.

**Features****Table 1. 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 THE FLORIDA AND CALIFORNIA BUILDING CODES

**Table 2. Optional Accessories**

- 4,5,8,10,15,20, and 25 KW SINGLE PHASE ELECTRIC 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
- 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

# Table of Contents

|                                           |    |                                      |    |
|-------------------------------------------|----|--------------------------------------|----|
| Information on Servicing .....            | 5  | Field Wiring .....                   | 17 |
| Prior to Beginning Work.....              | 5  | Replacement AHC configuration – 24   |    |
| Repairs to Electrical Components .....    | 5  | volt mode .....                      | 25 |
| Detection of Flammable Refrigerants ..... | 5  | Button Press AHC Configuration       |    |
| Removal and Evacuation .....              | 6  | Method: Method #2.....               | 26 |
| Charging Procedures .....                 | 6  | Replacement AHC configuration — LINK |    |
| Recovery.....                             | 6  | Communicating Mode:.....             | 26 |
| Decommissioning .....                     | 7  | Performance Data .....               | 27 |
| Outline Drawing .....                     | 8  | Electrical Data .....                | 31 |
| Wiring Diagram .....                      | 9  | Minimum Airflow CFM .....            | 33 |
| Refrigerant Leak Detection System .....   | 10 | Heater Pressure Drop Table .....     | 34 |
| Minimum Conditioned Space.....            | 10 | Unit Conversion Instructions .....   | 35 |
| Airflow Adjustment .....                  | 11 | Checkout Procedures .....            | 41 |
| Verification of Mitigation Actions .....  | 11 | Troubleshooting.....                 | 42 |
| Installation Instructions.....            | 12 | Notices .....                        | 43 |

# 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.

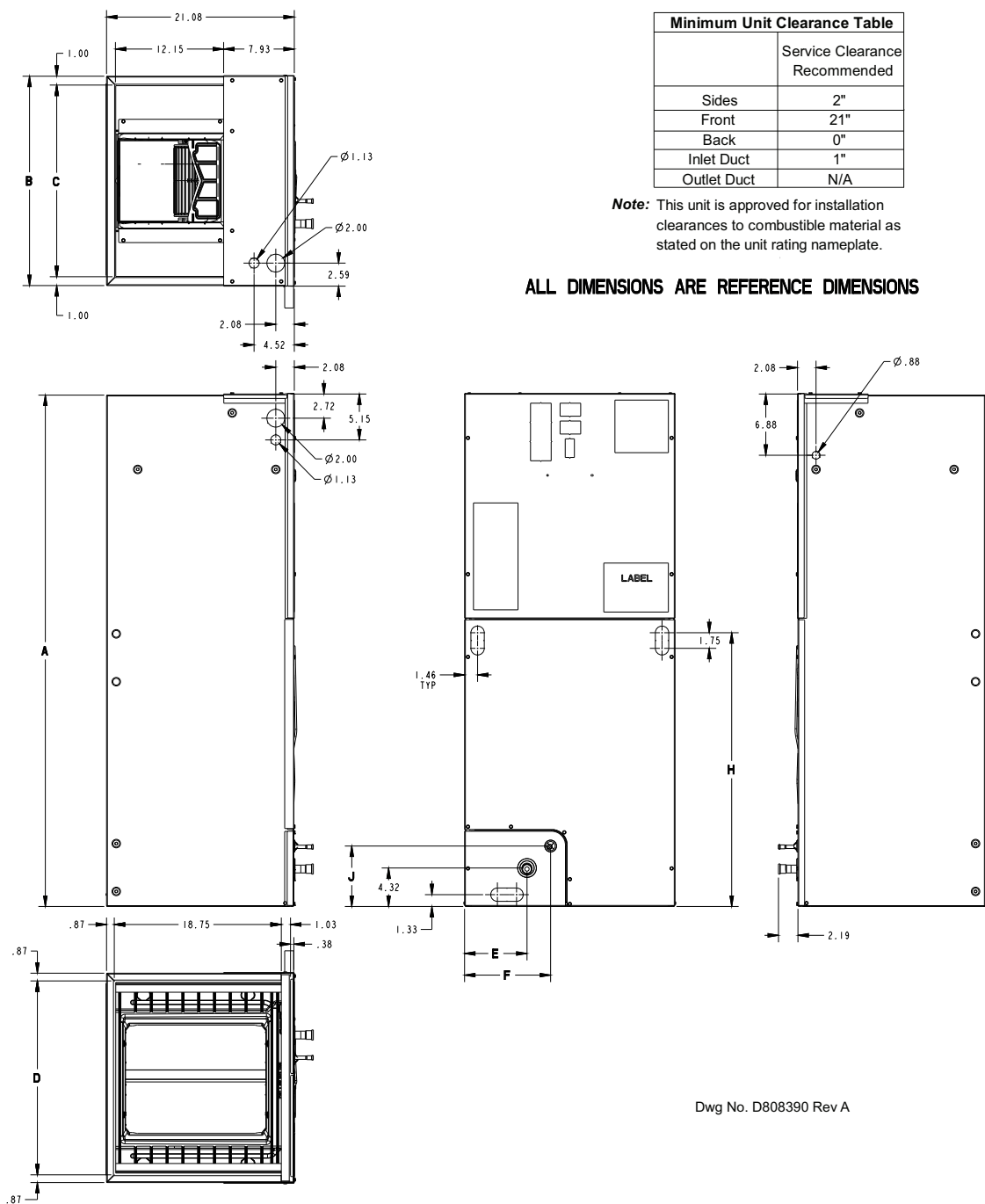
## Decommissioning

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 decommissioned 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



| PRODUCT DIMENSIONS           |       |       |       |       |      |      |       |      |              |                |
|------------------------------|-------|-------|-------|-------|------|------|-------|------|--------------|----------------|
| Air Handler Model            | A     | B     | C     | D     | E    | F    | H     | J    | Flow Control | Gas Line Braze |
| STEMCB02, 03                 | 46.77 | 18.50 | 16.50 | 16.75 | 5.43 | 7.08 | 20.07 | 5.76 | TXV          | 3/4            |
| STEMCB04, 05                 | 51.27 | 23.50 | 21.50 | 21.75 | 7.01 | 9.66 | 24.58 | 6.76 | TXV          | 7/8            |
| STEMCB06, 07                 | 57.40 | 23.50 | 21.50 | 21.75 | 7.01 | 9.66 | 30.71 | 6.76 | TXV          | 7/8            |
| All dimensions are in inches |       |       |       |       |      |      |       |      |              |                |

## 18-GF80D1-1A-EN





# 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 used. To be repaired only by trained service professional. Do not puncture refrigerant tubing.

Dispose of properly in accordance with federal or local regulations. Flammable refrigerant used.

## ⚠ WARNING

### LEAK DETECTION SYSTEM!

LEAK DETECTION SYSTEM installed. Unit must be powered except for service.

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!

If installing the unit in any other orientation other than upflow, the refrigerant sensor must be relocated. See [Unit Conversion Instructions, p. 35](#).

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 3, p. 10](#). 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 3. Minimum Space Conditioned by the Appliance**

|             | Altitude (ft)                                |                 |                 |                 |                  |                   |                   |                   |                 |
|-------------|----------------------------------------------|-----------------|-----------------|-----------------|------------------|-------------------|-------------------|-------------------|-----------------|
|             | sea level-<br>2,000                          | 2,001-<br>4,000 | 4,001-<br>6,000 | 6,001-<br>8,000 | 8,001-<br>10,000 | 10,001-<br>12,000 | 12,001-<br>14,000 | 14,001-<br>15,000 | above<br>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

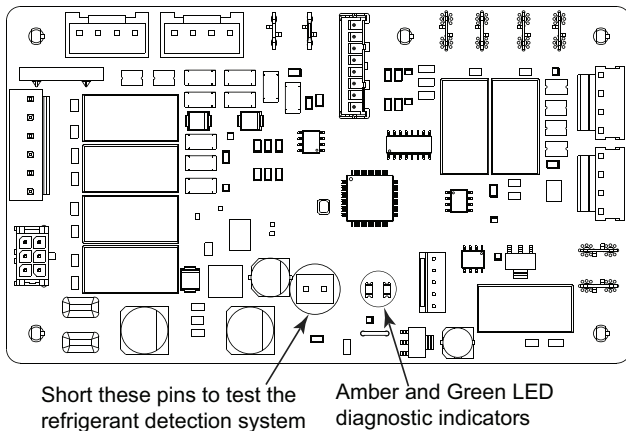
**Note:** All 5TEMC model air handlers have been factory configured to provide sufficient airflow to dilute leaked refrigerant.

## Verification of Mitigation Actions

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

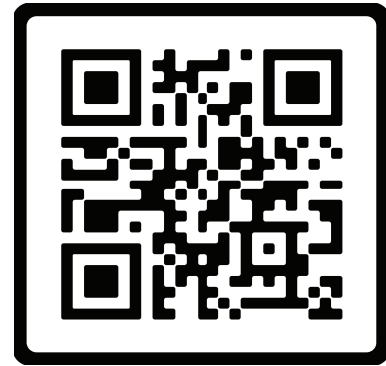
The test can be initiated by shorting the two test pins on the header of the mitigation control board inside of the unit. The mitigating actions will continue for approximately 5 minutes. See [Figure 1, p. 11](#) below.

**Figure 1. Refrigerant Leak Detection 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. 17](#) section of this manual.
- The diagnostic indicators on the mitigation control board should be checked against the diagnostic codes given in [Table 4, p. 11](#) below.
- Scan the QR code below for more information on field troubleshooting of the refrigerant leak detection system.



**Table 4. MCB Diagnostic Code Table**

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

| Green LED  | Status Condition                                                                                    |
|------------|-----------------------------------------------------------------------------------------------------|
| Off        | No Power/Off                                                                                        |
| On         | 24V Mode Active, Normal Operation                                                                   |
| Slow Blink | Normal Operation                                                                                    |
| 3 Flash    | Active Mitigation Alarm - Refrigerant Leak Detected, Loss of Sensor Communication or Sensor Failure |
| 4 Flash    | Past Refrigerant Leak Detected, Normal Operation                                                    |
| 5 Flash    | Past Sensor Communication Error, Normal Operation                                                   |
| 6 Flash    | Past Sensor Failure or Error, Normal Operation                                                      |

**Note:** All past alarm flash codes will remain present for 30 days post occurrence.

# 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!**

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 are equipped with an effective flame arrest.
- All indoor field-made joints of the field piping have been checked for refrigerant leaks after charging using an electronic leak detector calibrated for R-454B having a sensitivity of 5 grams per year or better.
- The room is constructed to ensure that should any refrigerant leak it will not stagnate and create a fire hazard.

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 this warning could result in serious injury, death, or property damage.

**Auxiliary devices which may be a potential ignition source, such as hot surfaces or electric switching devices, shall not be installed in the connecting ductwork unless they have been approved by the manufacturer or declared suitable with the refrigerant used.**

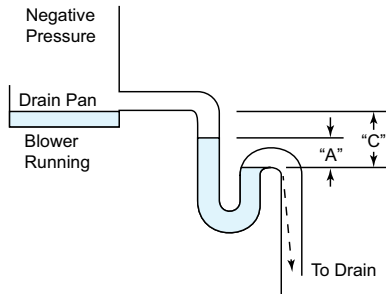
The duct work should be installed in accordance with the NFPA No. 90A "Installation of Air Conditioning and Ventilating systems" and No. 90B "Residential Type Warm Air Heating and Air Conditioning Installation."

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.



Proper operation of condensate trap under normal operating conditions.

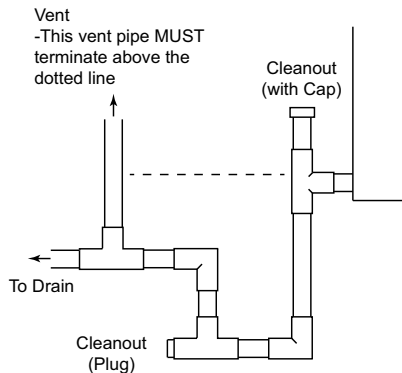
"A" height of water column equals negative static pressure existing in system.

"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

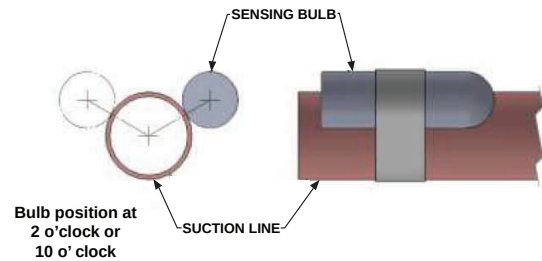
Pipe-work including piping material, pipe routing, and installation shall include protection from physical damage in operation and service, and be in compliance with national and local codes and standards. All field joints shall be accessible for inspection prior to being covered or enclosed.

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.

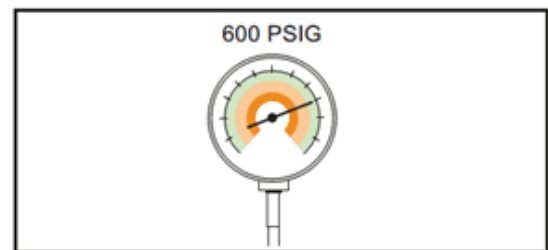


The two flammable refrigerant red warning tags on the line set connections should be removed prior to brazing and replaced once brazing is complete.

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:

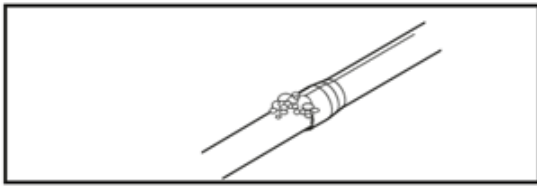
## Pressure test:

- 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.

## Installation Instructions

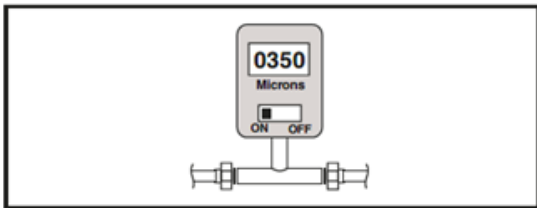


**Note:** Remove nitrogen pressure and repair any leaks before continuing.

### 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. 10](#) 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. 41](#).

### 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

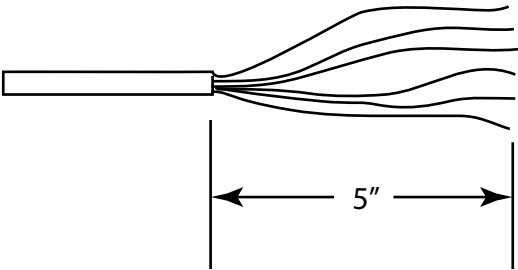
5TEMC can be used in either Link Communicating mode or 24 volt mode. In Link Communicating mode, all configurations are made by using the configuration menu in the User Interface (UX360) or from the Diagnostic Mobile App. In 24 volt mode, basic

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 5. Low Voltage Maximum Wire Length**

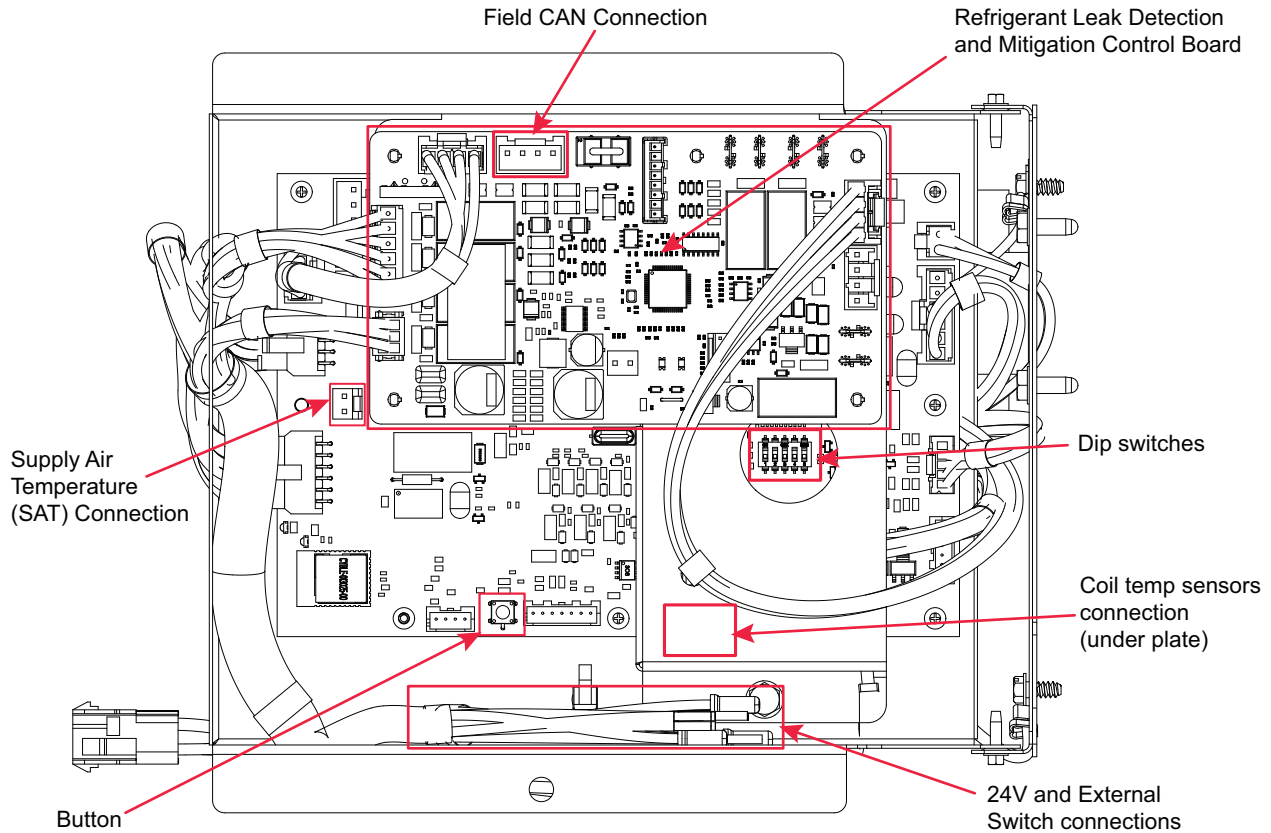
|                                                                                                                                                                                                                                                                                                                                                                       |                                     |                  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|------------------|
| <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> | <b>Control Wire – Communicating</b> |                  |
|                                                                                                                                                                                                                                                                                                                                                                       | WIRE SIZE                           | MAX. WIRE LENGTH |
|                                                                                                                                                                                                                                                                                                                                                                       | 18 AWG                              | 500 FT. Combined |
|                                                                                                                                                                                                                                                                                                                                                                       | <b>Control Wire – 24 Volt</b>       |                  |
|                                                                                                                                                                                                                                                                                                                                                                       | WIRE SIZE                           | MAX. WIRE LENGTH |
|                                                                                                                                                                                                                                                                                                                                                                       | 18 AWG                              | 100 FT. Combined |

**Table 6. 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> |  |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|



- 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

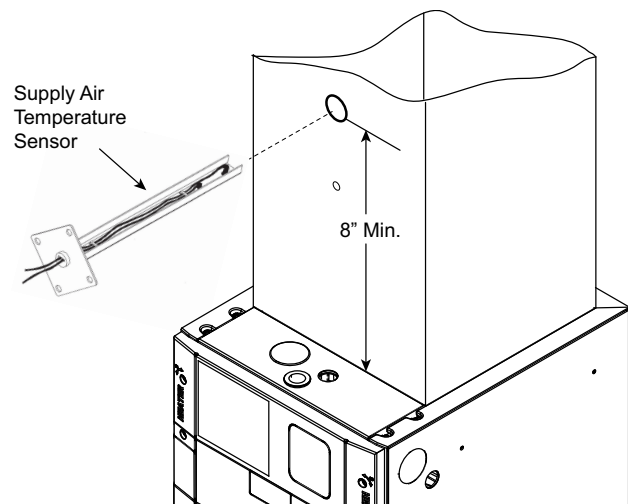
The Supply Air Temperature (SAT) Sensor must be mounted a minimum of 8" above the edge of the supply duct (additional distance is preferred when possible). Locate the SAT Sensor in an area of the discharge air duct where less air turbulence is expected. Avoid dead air areas where representative discharge 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 7. 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.

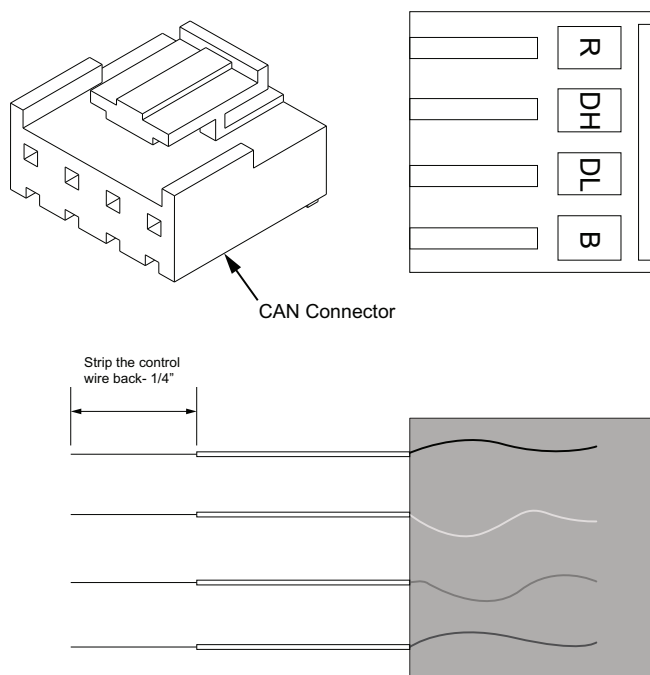
| Wire Colors |       |
|-------------|-------|
| R           | Red   |
| DH          | White |
| DL          | Green |
| B           | Blue  |

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.

1. Strip the Red, White, Green and Blue thermostat wires back 1/4".
2. Insert the wires into the connector in the correctly colored locations.
3. **When you feel it release, allow each wire to slide in further.**
4. 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.
5. Connectors are ONE TIME USE. If a 18 ga. Thermostat wire gets broken off inside of the connector, the connector will need replaced.
6. 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.



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

Table 8. Link Communicating Low Voltage Hook-Up Diagrams

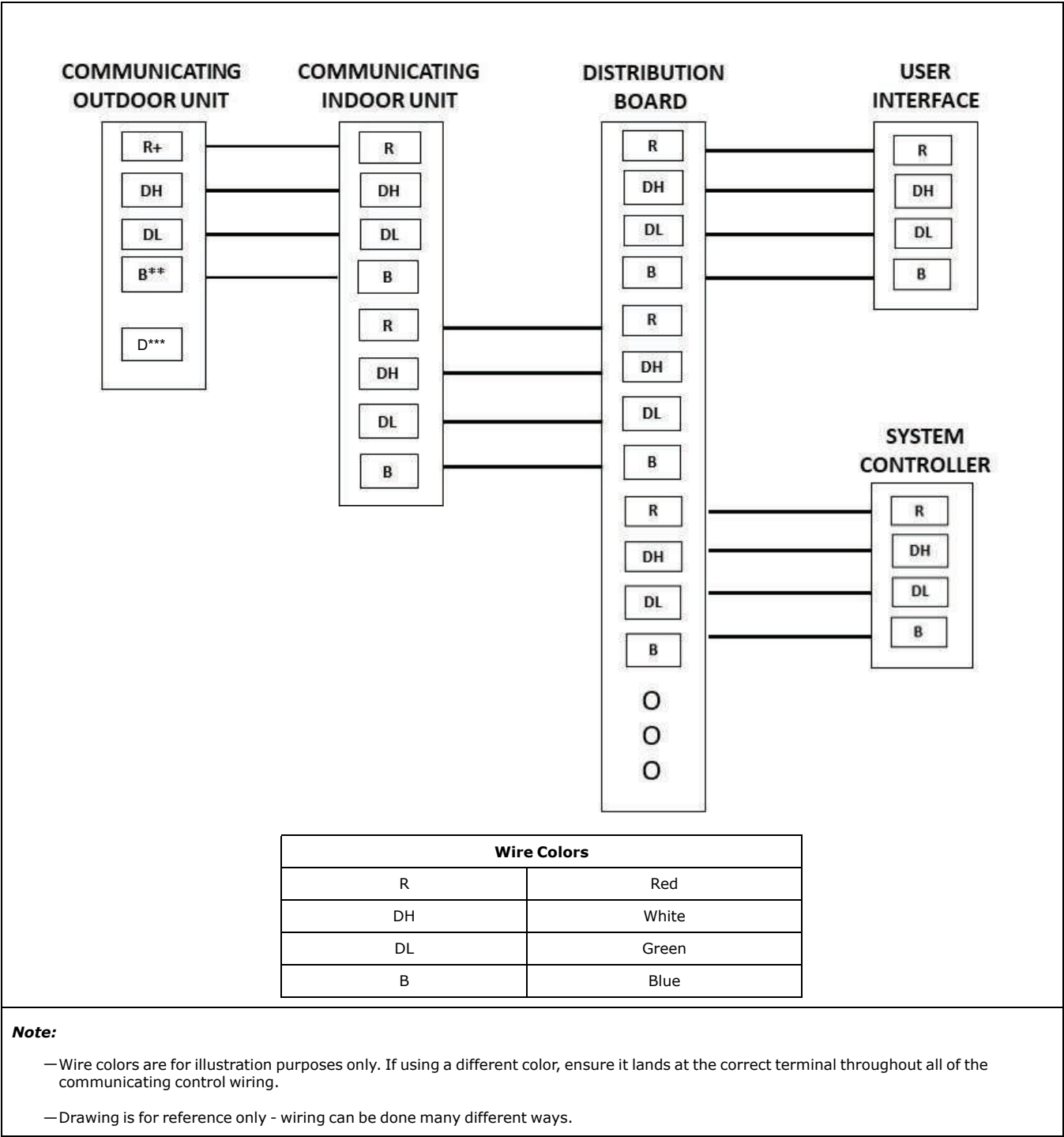


Table 9. 24 Volt Low Voltage Wiring

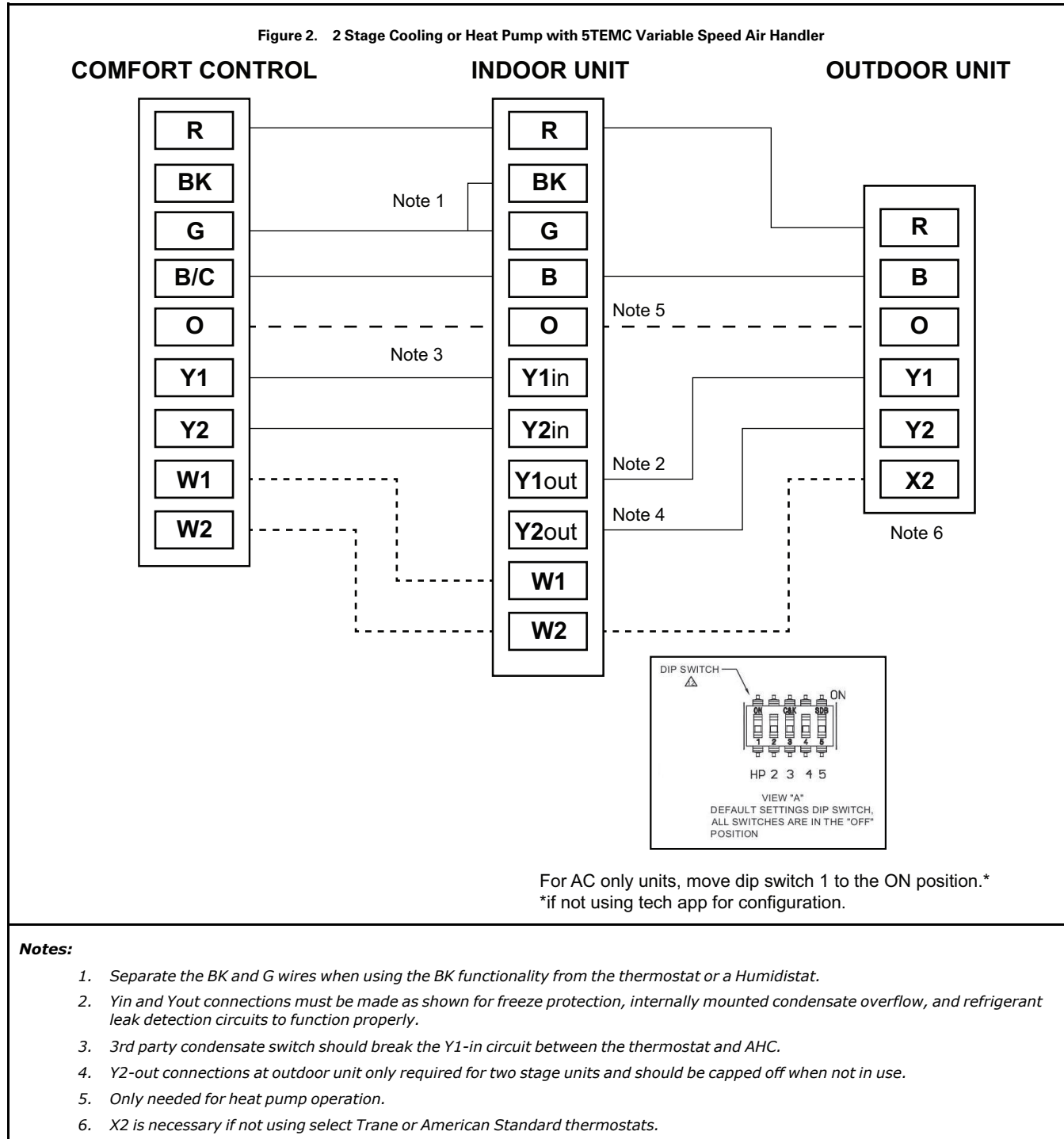
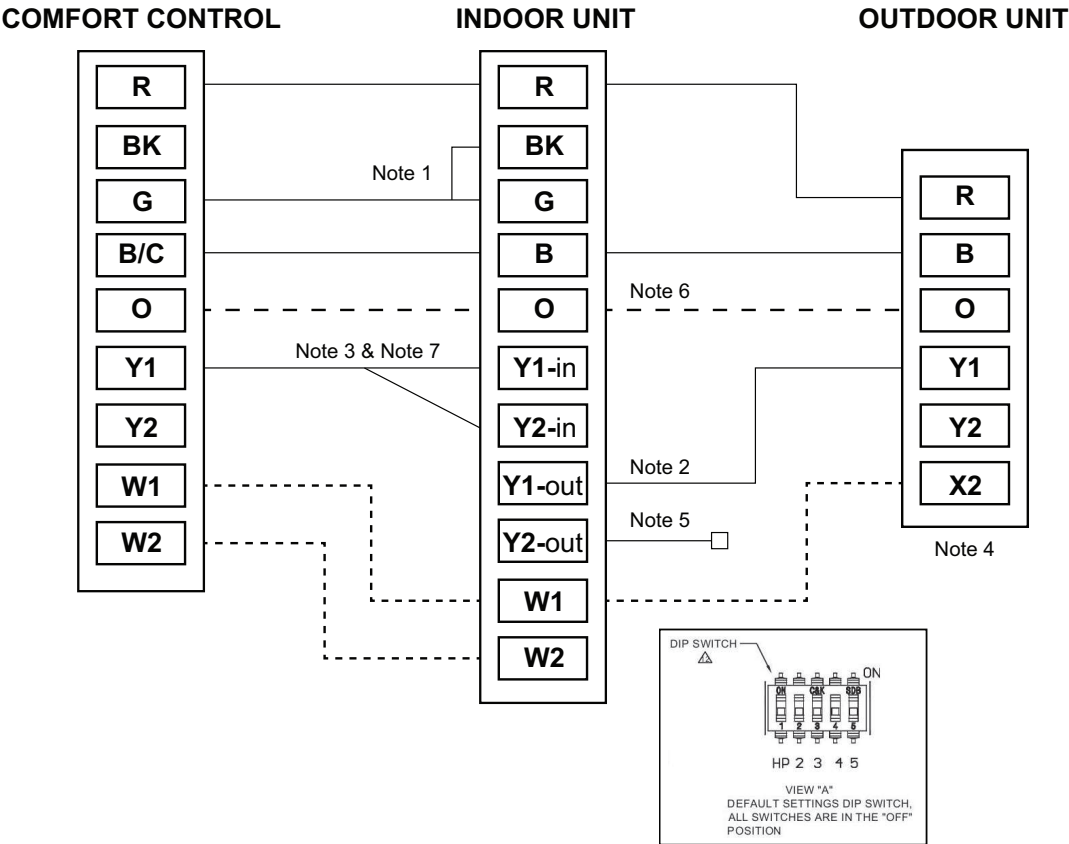


Figure 3. 1 Stage Cooling or Heat Pump with 5TEMC Variable Speed Air Handler



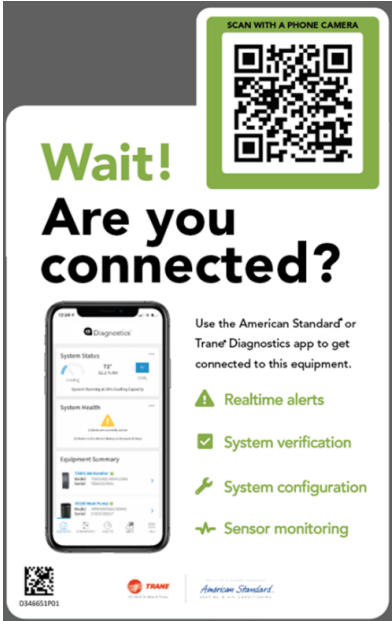
For AC only units, move dip switch 1 to the ON position.\*  
\*if not using tech app for configuration.

**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. 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.

| 5TEMC 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 10. 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> |  |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|

**Table 11. External Switches and Accessories**

|                           |                                                                                     |  |
|---------------------------|-------------------------------------------------------------------------------------|--|
| <p><b>Black Wires</b></p> | <p><b>Ext Switch 1</b><br/>External condensate, Smoke Detector</p>                  |  |
| <p><b>White Wires</b></p> | <p><b>Ext Switch 2</b><br/>External condensate, Smoke Detector</p>                  |  |
| <p><b>Blue Wires</b></p>  | <p><b>Accessory 1</b><br/>EAC, Humidifier (Fan assist/ Bypass) Steam Humidifier</p> |  |
| <p><b>Green Wires</b></p> | <p><b>Accessory 2</b><br/>EAC, Humidifier (Fan Assist/ Bypass) Steam Humidifier</p> |  |

Use stripped wire connections in control box when connecting a humidifier, external switch, or other accessory to the air handler.

- 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.
- Accessory 1 and 2 are dry contacts and need source voltage provided from either the accessory or internally.

The external switches and accessories can be configured through the Smart Thermostat or the Diagnostics Mobile App.

**Note:** See step 2 of **Low Voltage Hook-up Instructions** for switch location.

**Note:** Accessories can be configured in the UX360 User Interface or Diagnostics Mobile App.

**Note:** Accessories need configured using the Diagnostics Mobile App in 24 volt mode. There are no defaults in 24 volt mode.

The following optional connections are available on the mitigation control board (see hook-up diagrams [Figure 4, p. 24](#)):

- 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.

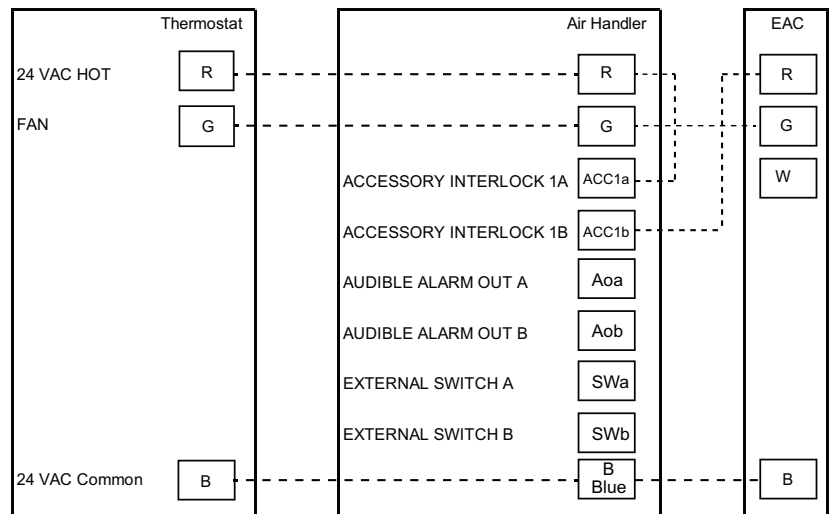
**Figure 4. Accessories Diagram**



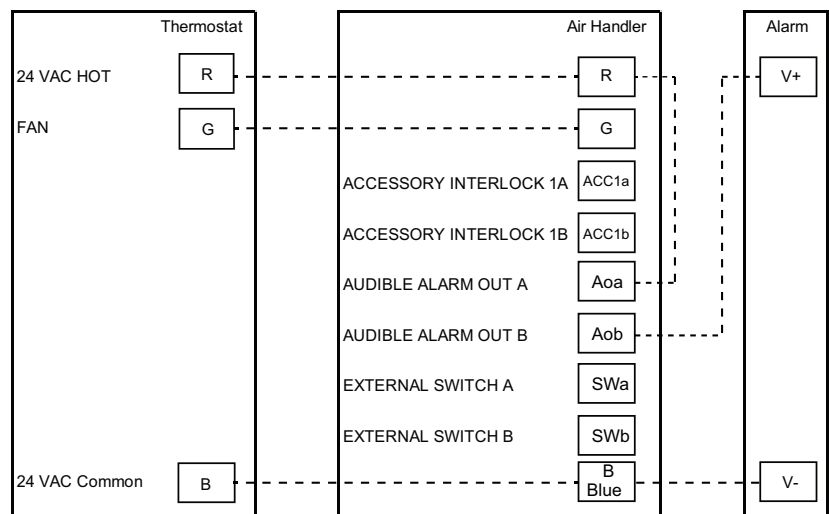
SCAN ME

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**



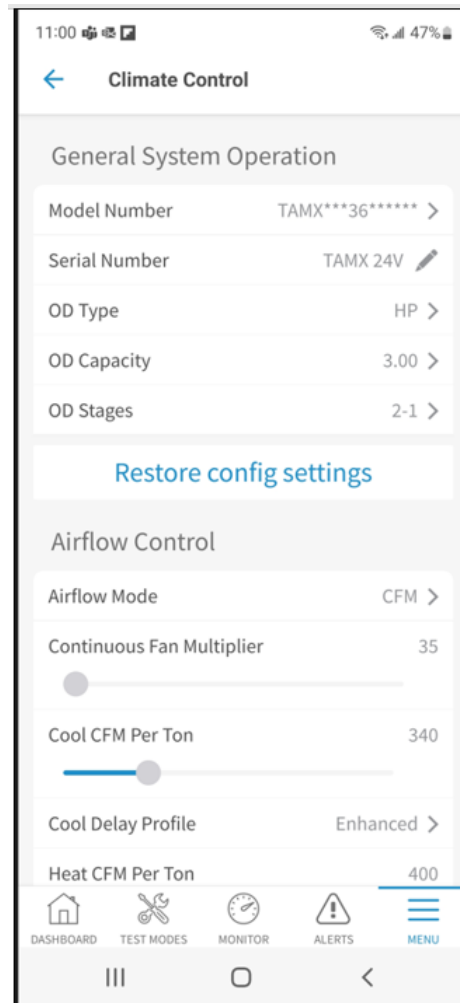
# Replacement AHC configuration – 24 volt mode

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 12. 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<br>8 press - 5TEMCB03AV31DA<br>9 press - 5TEMCD04AV31DA<br>10 press - 5TEMCD05AV41DA<br>11 press - 5TEMCD06AV41DA<br>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

| 5STEMCB02AV21DA AIRFLOW PERFORMANCE CONSTANT CFM MODE / CONSTANT TORQUE MODE                                                                                                                                                                                                                                                                                                   |                         |                                         |                                                  |           |           |           |           |                         |                            |                          |     |     |     |     |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|-----------------------------------------|--------------------------------------------------|-----------|-----------|-----------|-----------|-------------------------|----------------------------|--------------------------|-----|-----|-----|-----|
| OUTDOOR MULTIPLIER (TONS)                                                                                                                                                                                                                                                                                                                                                      | COOLING AIRFLOW SETTING | AIRFLOW POWER                           | EXTERNAL STATIC PRESSURE (Constant CFM / 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 |
| 1.5 tons                                                                                                                                                                                                                                                                                                                                                                       | 290 CFM/ton             | CFM<br>430 / 538<br>Watts<br>50 / 39    | 430 / 415                                        | 430 / 264 | 430 / NA  | 430 / NA  | 430 / NA  | 290 CFM/ton             | CFM<br>434<br>Watts<br>34  | 419                      | 419 | 403 | 384 |     |
|                                                                                                                                                                                                                                                                                                                                                                                | 350 CFM/ton             | CFM<br>520 / 620<br>Watts<br>60 / 53    | 520 / 514                                        | 520 / 398 | 520 / NA  | 510 / NA  | 510 / NA  | 350 CFM/ton             | CFM<br>521<br>Watts<br>44  | 512                      | 514 | 500 | 485 |     |
|                                                                                                                                                                                                                                                                                                                                                                                | 400 CFM/ton             | CFM<br>590 / 688<br>Watts<br>75 / 67    | 590 / 593                                        | 590 / 493 | 590 / NA  | 175 / NA  | 175 / NA  | 400 CFM/ton             | CFM<br>595<br>Watts<br>56  | 589                      | 595 | 584 | 573 |     |
|                                                                                                                                                                                                                                                                                                                                                                                | 450 CFM/ton             | CFM<br>670 / 758<br>Watts<br>85 / 85    | 670 / 671                                        | 660 / 581 | 660 / NA  | 660 / NA  | 660 / NA  | 450 CFM/ton             | CFM<br>668<br>Watts<br>71  | 667                      | 675 | 668 | 660 |     |
|                                                                                                                                                                                                                                                                                                                                                                                | 290 CFM/ton             | CFM<br>570 / 670<br>Watts<br>60 / 63    | 570 / 573                                        | 570 / 469 | 570 / NA  | 568 / NA  | 568 / NA  | 290 CFM/ton             | CFM<br>575<br>Watts<br>53  | 569                      | 573 | 561 | 549 |     |
| 2 tons                                                                                                                                                                                                                                                                                                                                                                         | 350 CFM/ton             | CFM<br>690 / 781<br>Watts<br>85 / 91    | 690 / 696                                        | 690 / 609 | 690 / 518 | 680 / NA  | 680 / NA  | 350 CFM/ton             | CFM<br>693<br>Watts<br>76  | 693                      | 702 | 696 | 689 |     |
|                                                                                                                                                                                                                                                                                                                                                                                | 400 CFM/ton             | CFM<br>790 / 875<br>Watts<br>110 / 122  | 790 / 798                                        | 790 / 720 | 780 / 639 | 780 / 555 | 780 / 555 | 400 CFM/ton             | CFM<br>791<br>Watts<br>103 | 795                      | 805 | 803 | 798 |     |
|                                                                                                                                                                                                                                                                                                                                                                                | 450 CFM/ton             | CFM<br>890 / 971<br>Watts<br>145 / 161  | 890 / 899                                        | 880 / 827 | 880 / 754 | 880 / 680 | 880 / 680 | 450 CFM/ton             | CFM<br>889<br>Watts<br>138 | 895                      | 902 | 899 | 891 |     |
|                                                                                                                                                                                                                                                                                                                                                                                | 290 CFM/ton             | CFM<br>720 / 823<br>Watts<br>90 / 104   | 720 / 741                                        | 710 / 659 | 710 / 573 | 710 / 481 | 710 / 481 | 290 CFM/ton             | CFM<br>717<br>Watts<br>82  | 718                      | 728 | 723 | 717 |     |
|                                                                                                                                                                                                                                                                                                                                                                                | 350 CFM/ton             | CFM<br>870 / 963<br>Watts<br>140 / 157  | 860 / 892                                        | 873 / 819 | 860 / 746 | 850 / 671 | 850 / 671 | 350 CFM/ton             | CFM<br>865<br>Watts<br>128 | 871                      | 879 | 876 | 869 |     |
| 2.5 tons †                                                                                                                                                                                                                                                                                                                                                                     | 390 † CFM/ton           | CFM<br>958 / 1075<br>Watts<br>147 / 170 | 975 / 1000                                       | 946 / 878 | 871 / 711 | 802 / 617 | 802 / 617 | 390 † CFM/ton           | CFM<br>958<br>Watts<br>138 | 979                      | 957 | 878 | 822 |     |
|                                                                                                                                                                                                                                                                                                                                                                                | 400 CFM/ton             | CFM<br>980 / 1100<br>Watts<br>157 / 181 | 993 / 1019                                       | 958 / 889 | 875 / 714 | 801 / 616 | 801 / 616 | 400 CFM/ton             | CFM<br>980<br>Watts<br>146 | 998                      | 969 | 882 | 821 |     |
|                                                                                                                                                                                                                                                                                                                                                                                | 450 CFM/ton             | CFM<br>980 / 1100<br>Watts<br>157 / 181 | 213 / 205                                        | 280 / 219 | 357 / 205 | 418 / 196 | 418 / 196 | 450 CFM/ton             | CFM<br>980<br>Watts<br>146 | 202                      | 268 | 351 | 422 |     |
|                                                                                                                                                                                                                                                                                                                                                                                |                         |                                         | 993 / 1019                                       | 958 / 889 | 875 / 714 | 801 / 616 | 801 / 616 |                         |                            | 998                      | 969 | 882 | 821 |     |
|                                                                                                                                                                                                                                                                                                                                                                                |                         |                                         | 213 / 205                                        | 280 / 219 | 357 / 205 | 418 / 196 | 418 / 196 |                         |                            | 202                      | 268 | 351 | 422 |     |
| <div><div>† Factory Setting</div><div>Status LED will blink once per 100 CFM requested. In torque mode, actual airflow may be lower.</div><div><div>Torque mode will reduce airflow when static is above approximately 0.3" water column.</div><div>All heating modes default to Constant CFM.</div><div>Cooling airflow values are with wet coil, no filter</div></div></div> |                         |                                         |                                                  |           |           |           |           |                         |                            |                          |     |     |     |     |

| 5TEMCB03AV31DA 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                                      |     |  |  |  |
| 1.5 tons                           | 290 CFM/ton                                                                                              | CFM           | 430/538                                                   | 430/415   | 430/264  | 430/NA   | 430/NA   | 290                     | CFM           | 434                      | 419  | 419  | 403  | 384                                      |     |  |  |  |
|                                    | 350 CFM/ton                                                                                              | Watts         | 50/39                                                     | 75/48     | 95/43    | 110/NA   | 145/NA   | CFM/ton                 | Watts         | 34                       | 64   | 96   | 130  | 167                                      |     |  |  |  |
|                                    | 400 CFM/ton                                                                                              | CFM           | 520/620                                                   | 520/514   | 520/398  | 520/NA   | 510/NA   | 350                     | CFM           | 521                      | 512  | 514  | 500  | 485                                      |     |  |  |  |
|                                    | 450 CFM/ton                                                                                              | Watts         | 60/53                                                     | 90/64     | 120/61   | 135/NA   | 175/NA   | CFM/ton                 | Watts         | 44                       | 77   | 112  | 153  | 196                                      |     |  |  |  |
|                                    | 290 CFM/ton                                                                                              | CFM           | 590/688                                                   | 590/593   | 590/493  | 590/NA   | 590/NA   | 400                     | CFM           | 595                      | 589  | 595  | 584  | 573                                      |     |  |  |  |
|                                    | 350 CFM/ton                                                                                              | Watts         | 75/67                                                     | 105/80    | 140/80   | 160/NA   | 205/NA   | CFM/ton                 | Watts         | 56                       | 91   | 127  | 173  | 222                                      |     |  |  |  |
| 2 tons                             | 290 CFM/ton                                                                                              | CFM           | 670/758                                                   | 670/671   | 660/581  | 660/NA   | 660/NA   | 450                     | CFM           | 668                      | 667  | 675  | 668  | 660                                      |     |  |  |  |
|                                    | 350 CFM/ton                                                                                              | Watts         | 85/85                                                     | 125/100   | 160/102  | 190/NA   | 235/NA   | CFM/ton                 | Watts         | 71                       | 107  | 145  | 196  | 250                                      |     |  |  |  |
|                                    | 400 CFM/ton                                                                                              | CFM           | 570/670                                                   | 570/573   | 570/469  | 570/NA   | 568/NA   | 290                     | CFM           | 575                      | 569  | 573  | 561  | 549                                      |     |  |  |  |
|                                    | 450 CFM/ton                                                                                              | Watts         | 60/63                                                     | 90/76     | 125/75   | 165/NA   | 215/NA   | CFM/ton                 | Watts         | 53                       | 87   | 123  | 167  | 215                                      |     |  |  |  |
|                                    | 290 CFM/ton                                                                                              | CFM           | 690/781                                                   | 690/696   | 690/609  | 690/518  | 680/NA   | 350                     | CFM           | 693                      | 693  | 702  | 696  | 689                                      |     |  |  |  |
|                                    | 350 CFM/ton                                                                                              | Watts         | 85/91                                                     | 120/107   | 160/110  | 210/98   | 259/NA   | CFM/ton                 | Watts         | 76                       | 113  | 152  | 204  | 259                                      |     |  |  |  |
| 2.5 tons                           | 290 CFM/ton                                                                                              | CFM           | 790/875                                                   | 790/798   | 790/720  | 780/639  | 780/555  | 400                     | CFM           | 791                      | 795  | 805  | 803  | 798                                      |     |  |  |  |
|                                    | 350 CFM/ton                                                                                              | Watts         | 110/122                                                   | 150/140   | 195/145  | 250/137  | 301/115  | CFM/ton                 | Watts         | 103                      | 143  | 184  | 240  | 301                                      |     |  |  |  |
|                                    | 400 CFM/ton                                                                                              | CFM           | 890/971                                                   | 890/899   | 880/827  | 880/754  | 880/680  | 450                     | CFM           | 889                      | 895  | 902  | 899  | 891                                      |     |  |  |  |
|                                    | 450 CFM/ton                                                                                              | Watts         | 145/161                                                   | 185/181   | 235/189  | 295/184  | 347/184  | CFM/ton                 | Watts         | 138                      | 181  | 226  | 284  | 347                                      |     |  |  |  |
|                                    | 290 CFM/ton                                                                                              | CFM           | 720/823                                                   | 720/741   | 710/659  | 710/573  | 710/481  | 290                     | CFM           | 717                      | 718  | 728  | 723  | 717                                      |     |  |  |  |
|                                    | 350 CFM/ton                                                                                              | Watts         | 90/104                                                    | 140/120   | 170/124  | 220/115  | 260/91   | CFM/ton                 | Watts         | 82                       | 120  | 159  | 212  | 269                                      |     |  |  |  |
| 2.5 tons                           | 290 CFM/ton                                                                                              | CFM           | 870/963                                                   | 860/892   | 873/819  | 860/746  | 850/671  | 350                     | CFM           | 865                      | 871  | 879  | 876  | 869                                      |     |  |  |  |
|                                    | 350 CFM/ton                                                                                              | Watts         | 140/157                                                   | 182/177   | 235/185  | 280/180  | 330/161  | CFM/ton                 | Watts         | 128                      | 170  | 214  | 272  | 335                                      |     |  |  |  |
|                                    | 400 CFM/ton                                                                                              | CFM           | 969/1087                                                  | 985/1011  | 993/921  | 992/809  | 1000/770 | 390                     | CFM           | 969                      | 989  | 1004 | 999  | 1026                                     |     |  |  |  |
|                                    | 450 CFM/ton                                                                                              | Watts         | 143/166                                                   | 198/191   | 262/205  | 329/189  | 399/187  | CFM/ton                 | Watts         | 134                      | 188  | 250  | 323  | 402                                      |     |  |  |  |
|                                    | 290 CFM/ton                                                                                              | CFM           | 993/1114                                                  | 1008/1035 | 1017/943 | 1015/828 | 1022/787 | 400                     | CFM           | 993                      | 1013 | 1028 | 1023 | 1049                                     |     |  |  |  |
|                                    | 350 CFM/ton                                                                                              | Watts         | 152/176                                                   | 208/200   | 273/214  | 341/196  | 413/194  | CFM/ton                 | Watts         | 142                      | 197  | 261  | 335  | 416                                      |     |  |  |  |
| 3 tons †                           | 290 CFM/ton                                                                                              | CFM           | 993/1114                                                  | 1008/1035 | 1017/943 | 1015/828 | 1022/787 | 450                     | CFM           | 993                      | 1013 | 1028 | 1023 | 1049                                     |     |  |  |  |
|                                    | 350 CFM/ton                                                                                              | Watts         | 152/176                                                   | 208/200   | 273/214  | 341/196  | 413/194  | CFM/ton                 | Watts         | 142                      | 197  | 261  | 335  | 416                                      |     |  |  |  |
|                                    | 400 CFM/ton                                                                                              | CFM           | 868/974                                                   | 884/907   | 891/826  | 893/729  | 894/688  | 290                     | CFM           | 868                      | 888  | 901  | 900  | 917                                      |     |  |  |  |
|                                    | 450 CFM/ton                                                                                              | Watts         | 111/128                                                   | 163/156   | 220/173  | 281/162  | 345/162  | CFM/ton                 | Watts         | 142                      | 197  | 261  | 335  | 416                                      |     |  |  |  |
|                                    | 290 CFM/ton                                                                                              | CFM           | 993/1114                                                  | 1008/1035 | 1017/943 | 1015/828 | 1022/787 | 350                     | CFM           | 993                      | 1013 | 1028 | 1023 | 1049                                     |     |  |  |  |
|                                    | 350 CFM/ton                                                                                              | Watts         | 152/176                                                   | 208/200   | 273/214  | 341/196  | 413/194  | CFM/ton                 | Watts         | 142                      | 197  | 261  | 335  | 416                                      |     |  |  |  |
| 3 tons †                           | 290 CFM/ton                                                                                              | CFM           | 993/1114                                                  | 1008/1035 | 1017/943 | 1015/828 | 1022/787 | 390 †                   | CFM           | 993                      | 1013 | 1028 | 1023 | 1049                                     |     |  |  |  |
|                                    | 350 CFM/ton                                                                                              | Watts         | 152/176                                                   | 208/200   | 273/214  | 341/196  | 413/194  | CFM/ton                 | Watts         | 142                      | 197  | 261  | 335  | 416                                      |     |  |  |  |
|                                    | 400 CFM/ton                                                                                              | CFM           | 993/1114                                                  | 1008/1035 | 1017/943 | 1015/828 | 1022/787 | 400                     | CFM           | 993                      | 1013 | 1028 | 1023 | 1049                                     |     |  |  |  |
|                                    | 450 CFM/ton                                                                                              | Watts         | 152/176                                                   | 208/200   | 273/214  | 341/196  | 413/194  | CFM/ton                 | Watts         | 142                      | 197  | 261  | 335  | 416                                      |     |  |  |  |
|                                    | 290 CFM/ton                                                                                              | CFM           | 993/1114                                                  | 1008/1035 | 1017/943 | 1015/828 | 1022/787 | 450                     | CFM           | 993                      | 1013 | 1028 | 1023 | 1049                                     |     |  |  |  |
|                                    | 350 CFM/ton                                                                                              | Watts         | 152/176                                                   | 208/200   | 273/214  | 341/196  | 413/194  | CFM/ton                 | Watts         | 142                      | 197  | 261  | 335  | 416                                      |     |  |  |  |
| † Factory Setting                  | Torque mode will reduce airflow when static is above approximately 0.3" water column.                    |               |                                                           |           |          |          |          |                         |               |                          |      |      |      | 416                                      |     |  |  |  |
|                                    | Status LED will blink once per 100 CFM requested. In torque mode, actual airflow may be lower.           |               |                                                           |           |          |          |          |                         |               |                          |      |      |      |                                          | 416 |  |  |  |
|                                    | In horizontal and downflow applications, airflow should be limited to 1000 CFM due to condensate blowoff |               |                                                           |           |          |          |          |                         |               |                          |      |      |      |                                          | 416 |  |  |  |
|                                    | All heating modes default to Constant CFM. Cooling airflow values are with wet coil. no filter           |               |                                                           |           |          |          |          |                         |               |                          |      |      |      |                                          | 416 |  |  |  |

- † 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 1000 CFM due to condensate blowoff.
- Torque mode will reduce airflow when static is above approximately 0.3" water column.
- All heating modes default to Constant CFM.
- Cooling airflow values are with wet coil, no filter

| 5STEMCD04AV31DA & 5STEMCD05AV41DA 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                                                                                   |  |  |  |  |  |
|                                                                                                           |                         | 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                                                                                   |  |  |  |  |  |
|                                                                                                           |                         | 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                                                                                                    |                         | 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                                                                                  |  |  |  |  |  |
|                                                                                                           |                         | 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                                                                                   |  |  |  |  |  |
|                                                                                                           |                         | 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                                                                                  |  |  |  |  |  |
|                                                                                                           |                         | 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                                                                                  |  |  |  |  |  |
|                                                                                                           |                         | 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                                                                                  |  |  |  |  |  |
| 4 tons †                                                                                                  |                         | 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                                                                                  |  |  |  |  |  |
|                                                                                                           |                         | 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                                                                                  |  |  |  |  |  |
|                                                                                                           |                         | Watts         | 178/227                                                   | 229/254   | 288/274   | 367/288   | 420/299   | CFM/ton                 | Watts         | 178                      | 229  | 288  | 367  | 420                                                                                   |  |  |  |  |  |
| 4 tons †                                                                                                  | 400                     | CFM           | 1416/1471                                                 | 1424/1383 | 1399/1303 | 1380/1230 | 1370/1163 | 400                     | CFM           | 1416                     | 1424 | 1399 | 1303 | 1370                                                                                  |  |  |  |  |  |
|                                                                                                           |                         | 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                                                                                  |  |  |  |  |  |
|                                                                                                           |                         | 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 †                                                                                                  |                         | 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                                                                                  |  |  |  |  |  |
|                                                                                                           |                         | 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                                                                                  |  |  |  |  |  |
|                                                                                                           |                         | 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                                                                                  |  |  |  |  |  |
|                                                                                                           |                         | Watts         | 431/435                                                   | 505/468   | 584/492   | 617/510   | 520/570   | CFM/ton                 | Watts         | 431                      | 505  | 584  | 617  | 520                                                                                   |  |  |  |  |  |
| † Factory Setting                                                                                         |                         |               |                                                           |           |           |           |           |                         |               |                          |      |      |      | Torque mode will reduce airflow when static is above approximately 0.3" water column. |  |  |  |  |  |
| 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 1700 CFM due to condensate blowoff. |                         |               |                                                           |           |           |           |           |                         |               |                          |      |      |      | Cooling airflow values are with wet coil, no filter                                   |  |  |  |  |  |

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

† 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" 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 13. Electrical Data**

| STEMCB02AV21DA HEATER DATA |                            |          |       |                               |                                |                                   |          |       |                               |                                |                                   |
|----------------------------|----------------------------|----------|-------|-------------------------------|--------------------------------|-----------------------------------|----------|-------|-------------------------------|--------------------------------|-----------------------------------|
| Heater Model No.           | No. of Circuits/<br>Phases | 240 Volt |       |                               |                                |                                   | 208 Volt |       |                               |                                |                                   |
|                            |                            | Capacity |       | Heater<br>Amps per<br>Circuit | Minimum<br>Circuit<br>Ampacity | Maximum<br>Overload<br>Protection | Capacity |       | Heater<br>Amps per<br>Circuit | Minimum<br>Circuit<br>Ampacity | Maximum<br>Overload<br>Protection |
|                            |                            | kW       | BTUH  |                               |                                |                                   | kW       | BTUH  |                               |                                |                                   |
| No Heater                  |                            |          |       | 2.8 *                         | 4                              | 15                                |          |       | 2.8 *                         | 4                              | 15                                |
| BAYHTR1504BRK              | 1/1                        | 3.84     | 13100 | 16.0                          | 24                             | 25                                | 2.88     | 9800  | 13.8                          | 21                             | 25                                |
| BAYHTR1504LUG              |                            |          |       |                               |                                |                                   |          |       |                               |                                |                                   |
| BAYHTR1505BRK              | 1/1                        | 4.80     | 16400 | 20.0                          | 29                             | 30                                | 3.60     | 12300 | 17.3                          | 25                             | 25                                |
| BAYHTR1505LUG              |                            |          |       |                               |                                |                                   |          |       |                               |                                |                                   |
| BAYHTR1508BRK              | 1/1                        | 7.68     | 26200 | 32.0                          | 44                             | 45                                | 5.76     | 19700 | 27.7                          | 38                             | 40                                |
| BAYHTR1508LUG              |                            |          |       |                               |                                |                                   |          |       |                               |                                |                                   |
| BAYHTR1510BRK              | 1/1                        | 9.60     | 32800 | 40.0                          | 54                             | 60                                | 7.20     | 24600 | 34.6                          | 47                             | 50                                |
| BAYHTR1510LUG              |                            |          |       |                               |                                |                                   |          |       |                               |                                |                                   |
| BAYHTR1517BRK              | 2/1                        | 9.60     | 32800 | 40.0                          | 54                             | 60                                | 7.20     | 24600 | 34.6                          | 47                             | 50                                |
| Circuit 1 <sup>(a)</sup>   |                            |          |       |                               |                                |                                   |          |       |                               |                                |                                   |
| BAYHTR1517BRK              | 2/1                        | 4.80     | 16400 | 20.0                          | 25                             | 25                                | 3.60     | 12300 | 17.3                          | 22                             | 25                                |
| Circuit 2                  |                            |          |       |                               |                                |                                   |          |       |                               |                                |                                   |
| BAYHTR3510LUG              | 1/3                        | 9.60     | 32800 | 23.1                          | 32                             | 35                                | 7.20     | 24600 | 20.0                          | 28                             | 30                                |
| BAYHTR3517LUG              | 1/3                        | 14.40    | 49100 | 34.6                          | 46                             | 50                                | 10.80    | 36900 | 30.0                          | 41                             | 45                                |

\* = Motor Amps

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

**Table 14. Electrical Data**

| STEMCB03AV31DA HEATER DATA |                            |          |       |                               |                                |                                   |          |       |                               |                                |                                   |
|----------------------------|----------------------------|----------|-------|-------------------------------|--------------------------------|-----------------------------------|----------|-------|-------------------------------|--------------------------------|-----------------------------------|
| Heater Model No.           | No. of Circuits/<br>Phases | 240 Volt |       |                               |                                |                                   | 208 Volt |       |                               |                                |                                   |
|                            |                            | Capacity |       | Heater<br>Amps per<br>Circuit | Minimum<br>Circuit<br>Ampacity | Maximum<br>Overload<br>Protection | Capacity |       | Heater<br>Amps per<br>Circuit | Minimum<br>Circuit<br>Ampacity | Maximum<br>Overload<br>Protection |
|                            |                            | kW       | BTUH  |                               |                                |                                   | kW       | BTUH  |                               |                                |                                   |
| No Heater                  |                            |          |       | 3.9 *                         | 5                              | 15                                |          |       | 3.9 *                         | 5                              | 15                                |
| BAYHTR1504BRK              | 1/1                        | 3.84     | 13100 | 16.0                          | 25                             | 25                                | 2.88     | 9800  | 13.8                          | 22                             | 25                                |
| BAYHTR1504LUG              |                            |          |       |                               |                                |                                   |          |       |                               |                                |                                   |
| BAYHTR1505BRK              | 1/1                        | 4.80     | 16400 | 20.0                          | 30                             | 30                                | 3.60     | 12300 | 17.3                          | 27                             | 30                                |
| BAYHTR1505LUG              |                            |          |       |                               |                                |                                   |          |       |                               |                                |                                   |
| BAYHTR1508BRK              | 1/1                        | 7.68     | 26200 | 32.0                          | 45                             | 45                                | 5.76     | 19700 | 27.7                          | 39                             | 40                                |
| BAYHTR1508LUG              |                            |          |       |                               |                                |                                   |          |       |                               |                                |                                   |
| BAYHTR1510BRK              | 1/1                        | 9.60     | 32800 | 40.0                          | 55                             | 60                                | 7.20     | 24600 | 34.6                          | 48                             | 50                                |
| BAYHTR1510LUG              |                            |          |       |                               |                                |                                   |          |       |                               |                                |                                   |
| BAYHTR1517BRK              | 2/1                        | 9.60     | 32800 | 40.0                          | 55                             | 60                                | 7.20     | 24600 | 34.6                          | 48                             | 50                                |
| Circuit 1 <sup>(a)</sup>   |                            |          |       |                               |                                |                                   |          |       |                               |                                |                                   |
| BAYHTR1517BRK              | 2/1                        | 4.80     | 16400 | 20.0                          | 25                             | 25                                | 3.60     | 12300 | 17.3                          | 22                             | 25                                |
| Circuit 2                  |                            |          |       |                               |                                |                                   |          |       |                               |                                |                                   |
| 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                                |

\* = Motor Amps

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

## Electrical Data

**Table 15. Electrical Data**

| <b>STEMCD04AV31DA, STEMCD05AV41DA HEATER DATA</b> |                            |          |       |                         |                          |                             |          |       |                         |                          |                             |
|---------------------------------------------------|----------------------------|----------|-------|-------------------------|--------------------------|-----------------------------|----------|-------|-------------------------|--------------------------|-----------------------------|
| Heater Model No.                                  | No. of Circuits/<br>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 *                   | 5                        | 15                          |          |       | 3.9 *                   | 5                        | 15                          |
| BAYHTR1504BRK<br>BAYHTR1504LUG                    | 1/1                        | 3.84     | 13100 | 16.0                    | 25                       | 25                          | 2.88     | 9800  | 13.8                    | 22                       | 25                          |
| BAYHTR1505BRK<br>BAYHTR1505LUG                    | 1/1                        | 4.80     | 16400 | 20.0                    | 30                       | 30                          | 3.60     | 12300 | 17.3                    | 27                       | 30                          |
| BAYHTR1508BRK<br>BAYHTR1508LUG                    | 1/1                        | 7.68     | 26200 | 32.0                    | 45                       | 45                          | 5.76     | 19700 | 27.7                    | 39                       | 40                          |
| BAYHTR1510BRK<br>BAYHTR1510LUG                    | 1/1                        | 9.60     | 32800 | 40.0                    | 55                       | 60                          | 7.20     | 24600 | 34.6                    | 48                       | 50                          |
| BAYHTR1517BRK<br>Circuit 1 (a)                    | 2/1                        | 9.60     | 32800 | 40.0                    | 55                       | 60                          | 7.20     | 24600 | 34.6                    | 48                       | 50                          |
| BAYHTR1517BRK<br>Circuit 2                        |                            | 4.80     | 16400 | 20.0                    | 25                       | 25                          | 3.60     | 12300 | 17.3                    | 22                       | 25                          |
| BAYHTR1523BRK<br>Circuit 1 (a)                    | 2/1                        | 9.60     | 32800 | 40.0                    | 55                       | 60                          | 7.20     | 24600 | 34.6                    | 48                       | 50                          |
| BAYHTR1523BRK<br>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                          |

\* = Motor Amps

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

**Table 16. Electrical Data**

| <b>STEMCD06AV41DA, STEMCD07AV51DA HEATER DATA</b> |                            |          |       |                         |                          |                             |          |       |                         |                          |                             |
|---------------------------------------------------|----------------------------|----------|-------|-------------------------|--------------------------|-----------------------------|----------|-------|-------------------------|--------------------------|-----------------------------|
| Heater Model No.                                  | No. of Circuits/<br>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 *                   | 7                        | 15                          |          |       | 5.7 *                   | 7                        | 15                          |
| BAYHTR1504BRK<br>BAYHTR1504LUG                    | 1/1                        | 3.84     | 13100 | 16.0                    | 27                       | 30                          | 2.88     | 9800  | 13.8                    | 24                       | 25                          |
| BAYHTR1505BRK<br>BAYHTR1505LUG                    | 1/1                        | 4.80     | 16400 | 20.0                    | 32                       | 35                          | 3.60     | 12300 | 17.3                    | 29                       | 30                          |
| BAYHTR1508BRK<br>BAYHTR1508LUG                    | 1/1                        | 7.68     | 26200 | 32.0                    | 47                       | 50                          | 5.76     | 19700 | 27.7                    | 42                       | 45                          |
| BAYHTR1510BRK<br>BAYHTR1510LUG                    | 1/1                        | 9.60     | 32800 | 40.0                    | 57                       | 60                          | 7.20     | 24600 | 34.6                    | 50                       | 50                          |
| BAYHTR1517BRK<br>Circuit 1 (a)                    | 2/1                        | 9.60     | 32800 | 40.0                    | 57                       | 60                          | 7.20     | 24600 | 34.6                    | 50                       | 50                          |
| BAYHTR1517BRK<br>Circuit 2                        |                            | 4.80     | 16400 | 20.0                    | 25                       | 25                          | 3.60     | 12300 | 17.3                    | 22                       | 25                          |
| BAYHTR1523BRK<br>Circuit 1 (a)                    | 2/1                        | 9.60     | 32800 | 40.0                    | 57                       | 60                          | 7.20     | 24600 | 34.6                    | 50                       | 50                          |
| BAYHTR1523BRK<br>Circuit 2                        |                            | 9.60     | 32800 | 40.0                    | 50                       | 50                          | 7.20     | 24600 | 34.6                    | 43                       | 45                          |
| BAYHTR1525BRK<br>Circuit 1 (a)                    | 4/1                        | 6.00     | 20500 | 25.0                    | 38                       | 40                          | 4.50     | 15400 | 21.6                    | 34                       | 35                          |
| BAYHTR1525BRK<br>Circuit 2                        |                            | 6.00     | 20500 | 25.0                    | 31                       | 35                          | 4.50     | 15400 | 21.6                    | 27                       | 30                          |
| BAYHTR1525BRK<br>Circuit 3                        |                            | 6.00     | 20500 | 25.0                    | 31                       | 35                          | 4.50     | 15400 | 21.6                    | 27                       | 30                          |
| BAYHTR1525BRK<br>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                          |

\* = Motor Amps

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

# Minimum Airflow CFM

| STEMCB02AV21DA, STEMCB03AV31DA |                            |                   |
|--------------------------------|----------------------------|-------------------|
| 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               |

| STEMCD04AV31DA, STEMCD05AV41DA                             |                            |                   |
|------------------------------------------------------------|----------------------------|-------------------|
| 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              |

| STEMCD06AV41DA, STEMCD07AV51DA |                            |                   |
|--------------------------------|----------------------------|-------------------|
| 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              |

**Note:** Heater model number digits "+++" are LUG or BRK.



# Heater Pressure Drop Table

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

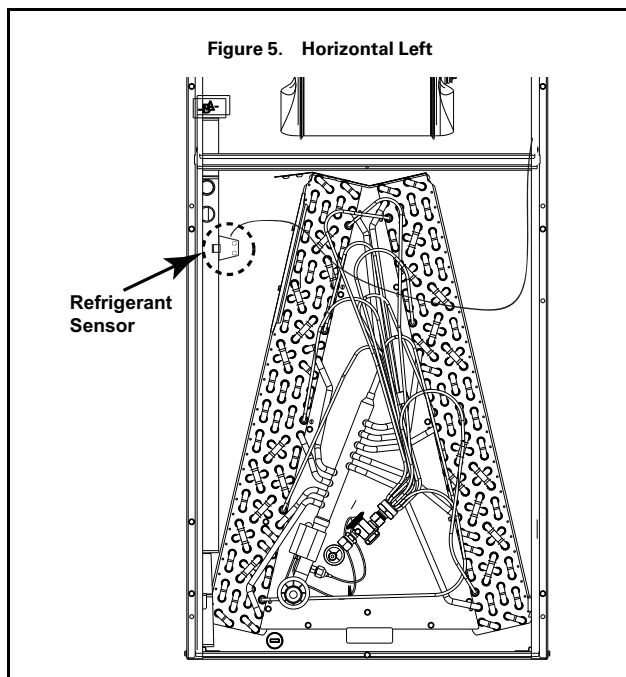
If installing the unit in any other orientation other than upflow, the refrigerant sensor must be relocated.

#### 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.



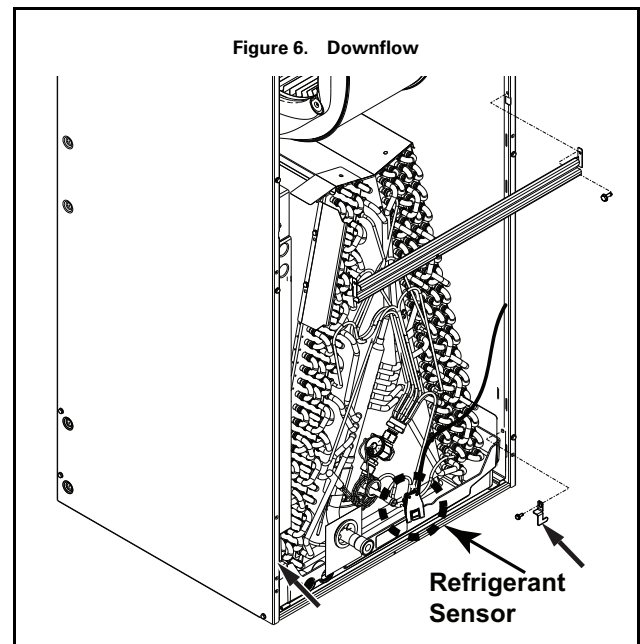
4. Replace all panels.

#### Downflow

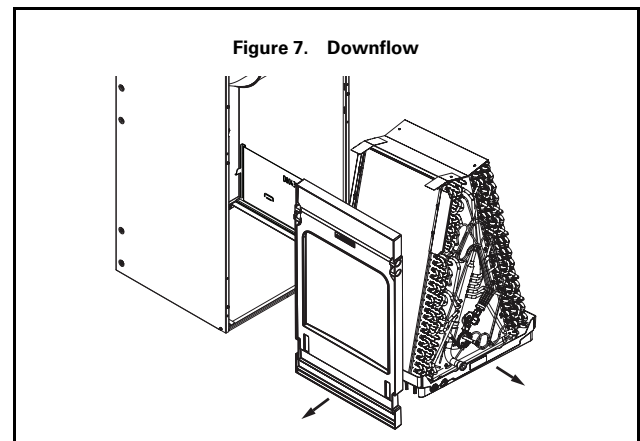
**Important:** For downflow applications, airflow restrictions apply for condensate blow off. Refer to Air Flow Performance Tables in this manual.

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.

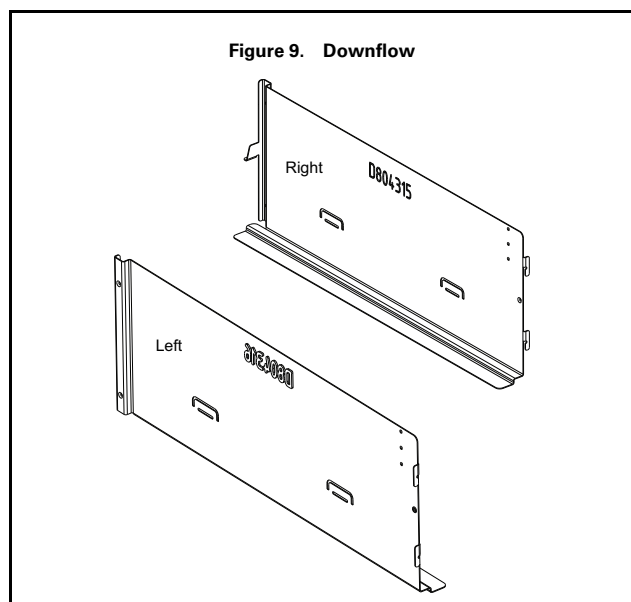
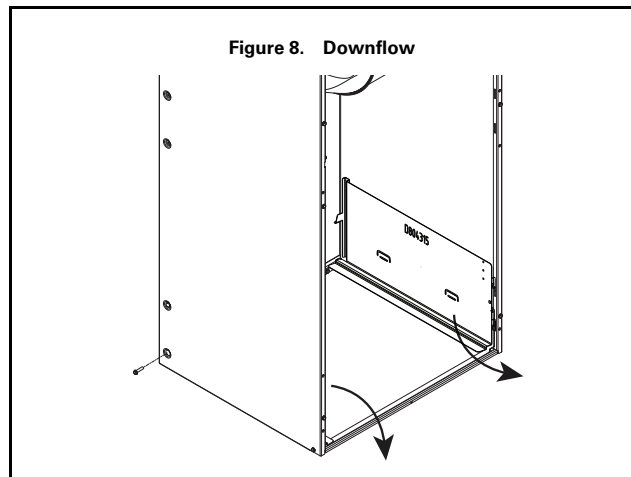


4. Pull refrigerant sensor up and away from the primary drain pan and remove it from the pan. Detach the sensor and clip from the wire harness and move it out of the way.
5. Slide the coil assembly out. Remove and discard the horizontal drain pan.

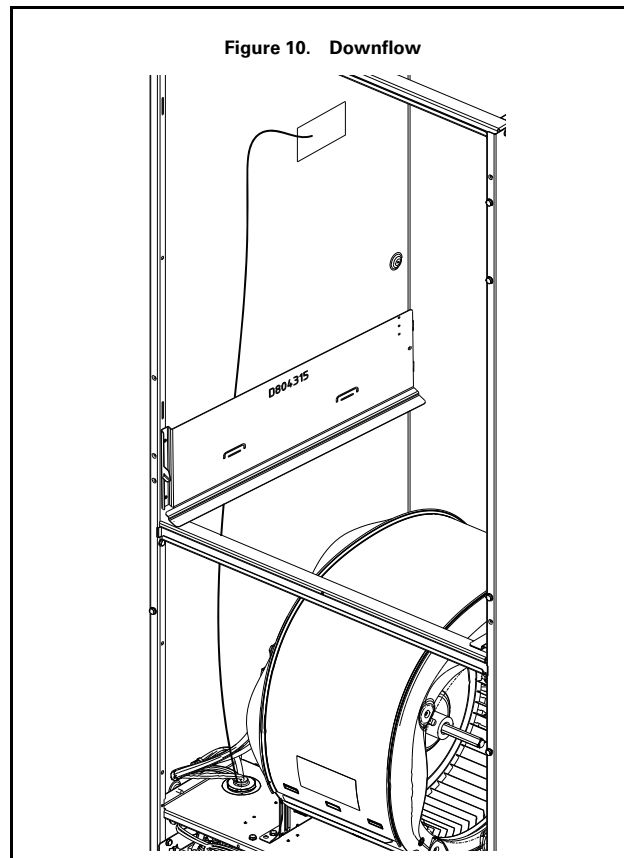


## Unit Conversion Instructions

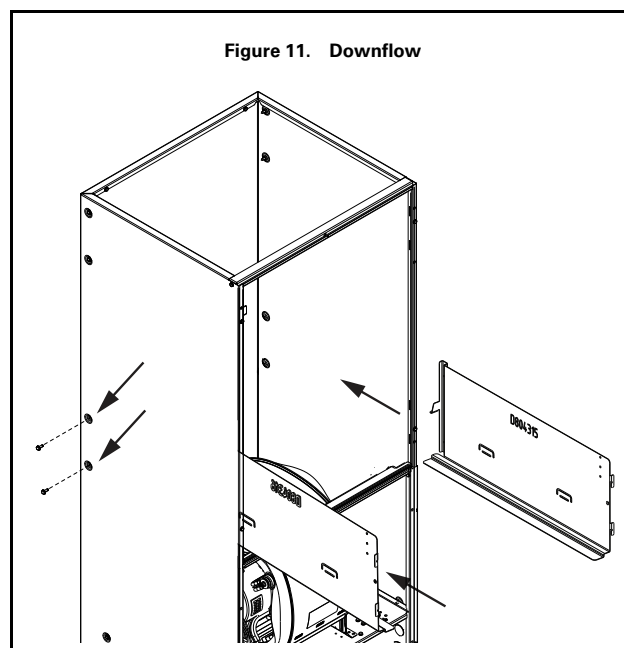
6. On both sides of the cabinet, remove the screws that hold the coil support brackets and retain for later use. Seal the holes to prevent air leakage.
7. Rotate and lift the two coil support brackets to remove from front slots in cabinet.



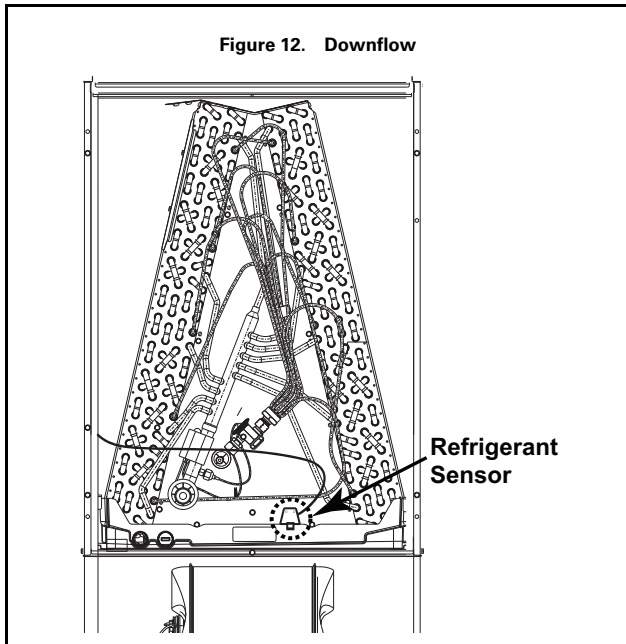
8. Rotate the unit into the downflow orientation.
9. Pre-drill four clearance holes in the cabinet at dimples located below the location the screws were removed for the coil support brackets. There are two holes per side. See location of holes.
10. Replace the center horizontal bracket removed in Step 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.



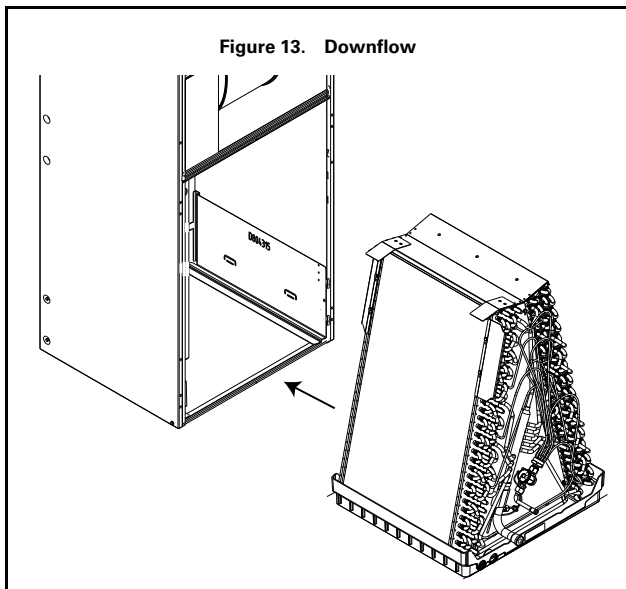
12. Secure each bracket with the screws that were previously removed.



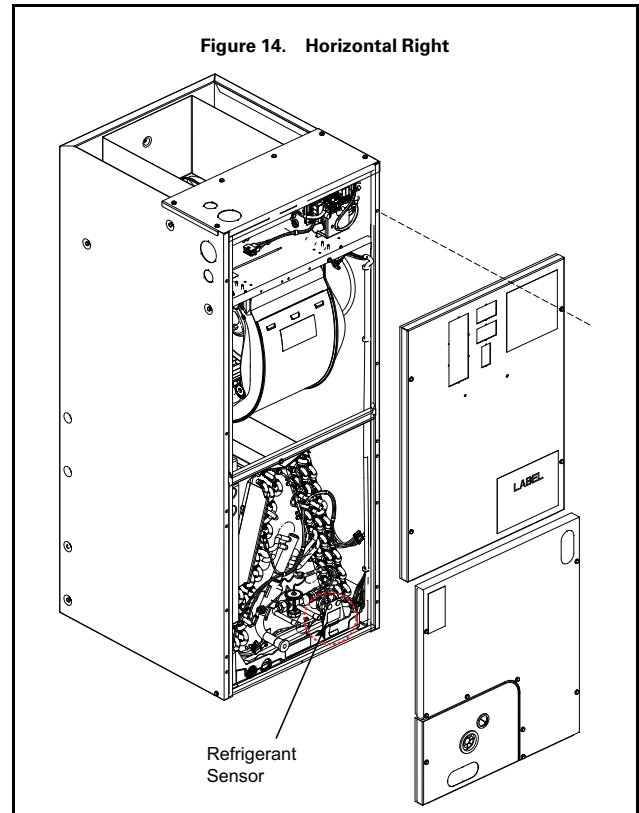
13. Slide the coil assembly back into the air handler cabinet as shown.



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.



16. Replace all panels.



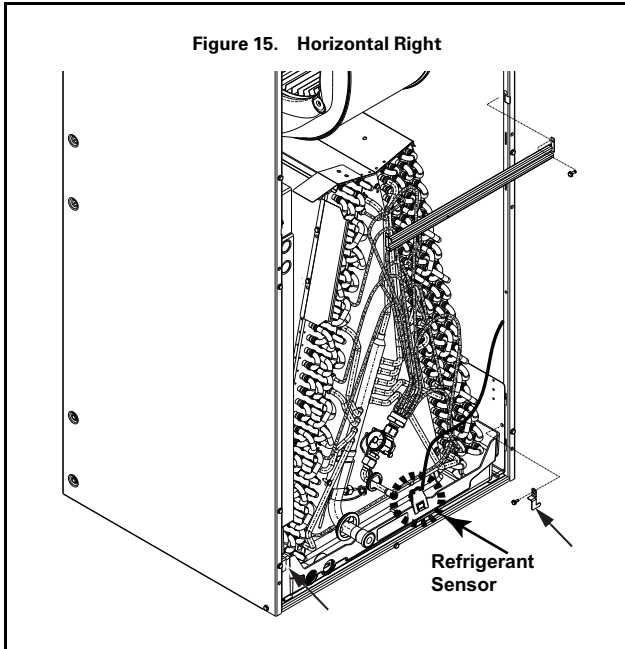
## Horizontal Right

**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.

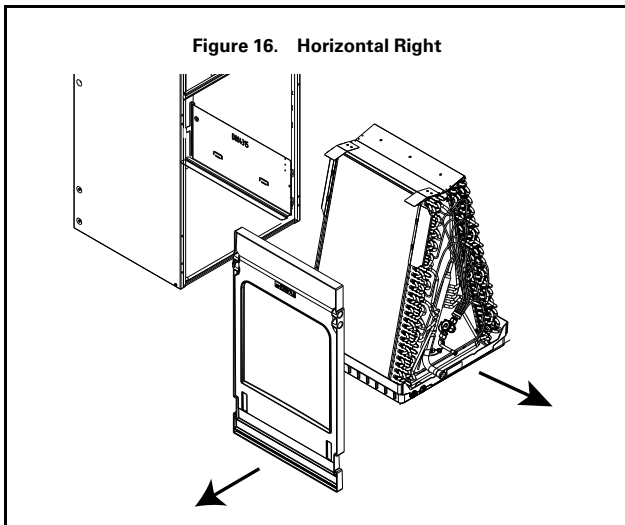
1. Remove the front panels from the air handler. The coil and line set panel do not need to be separated.
2. Remove the fasteners on both sides of the coil. Retain the coil retaining brackets and screws.
3. Remove the two screws holding the center horizontal bracket and rotate out of place. Retain parts.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



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

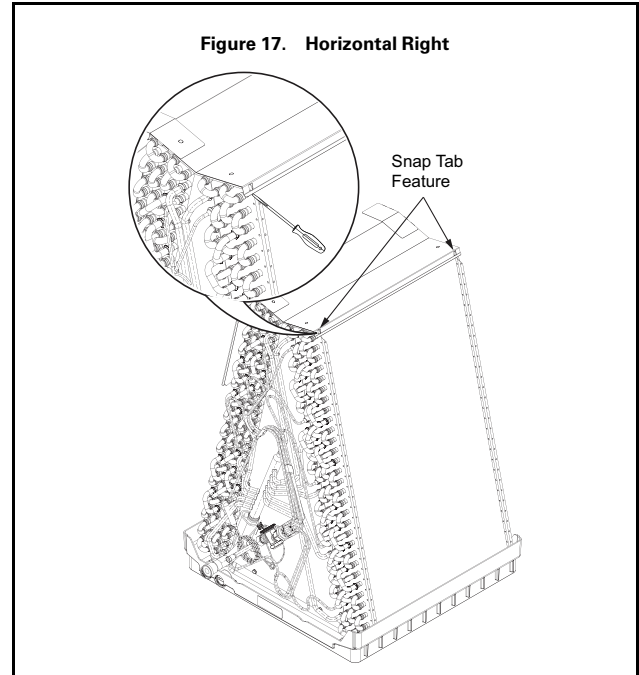
Figure 16. Horizontal Right



**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 17. Horizontal Right



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 18. Horizontal Right

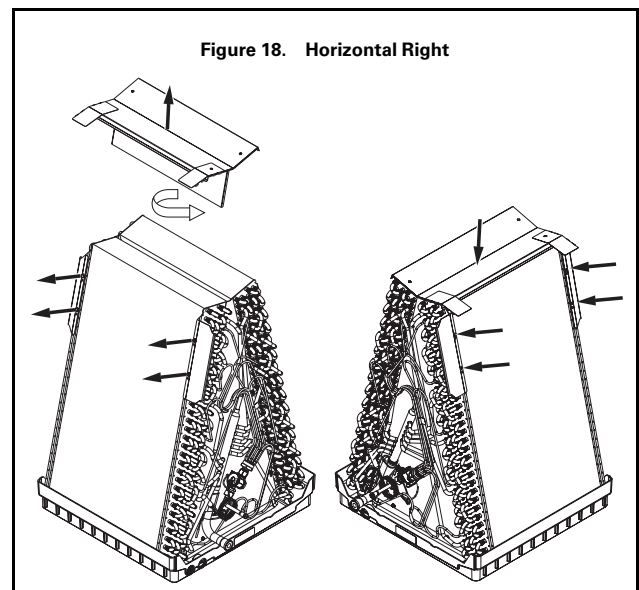


Figure 19. 5TEM6B02AV21SA/ 5TEM6B03AV21SA

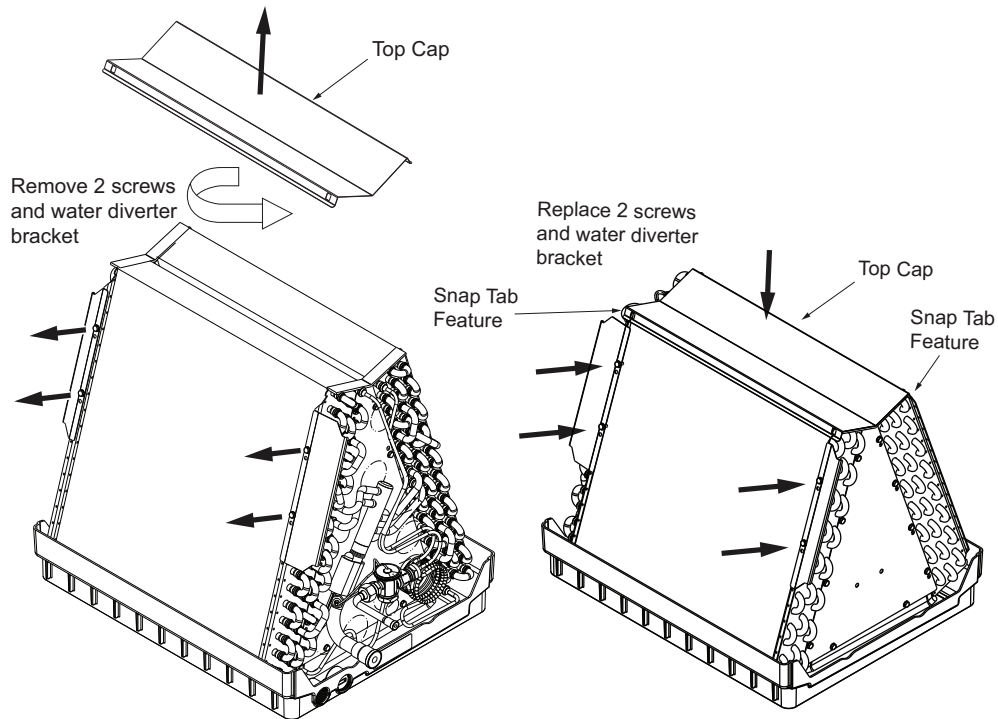
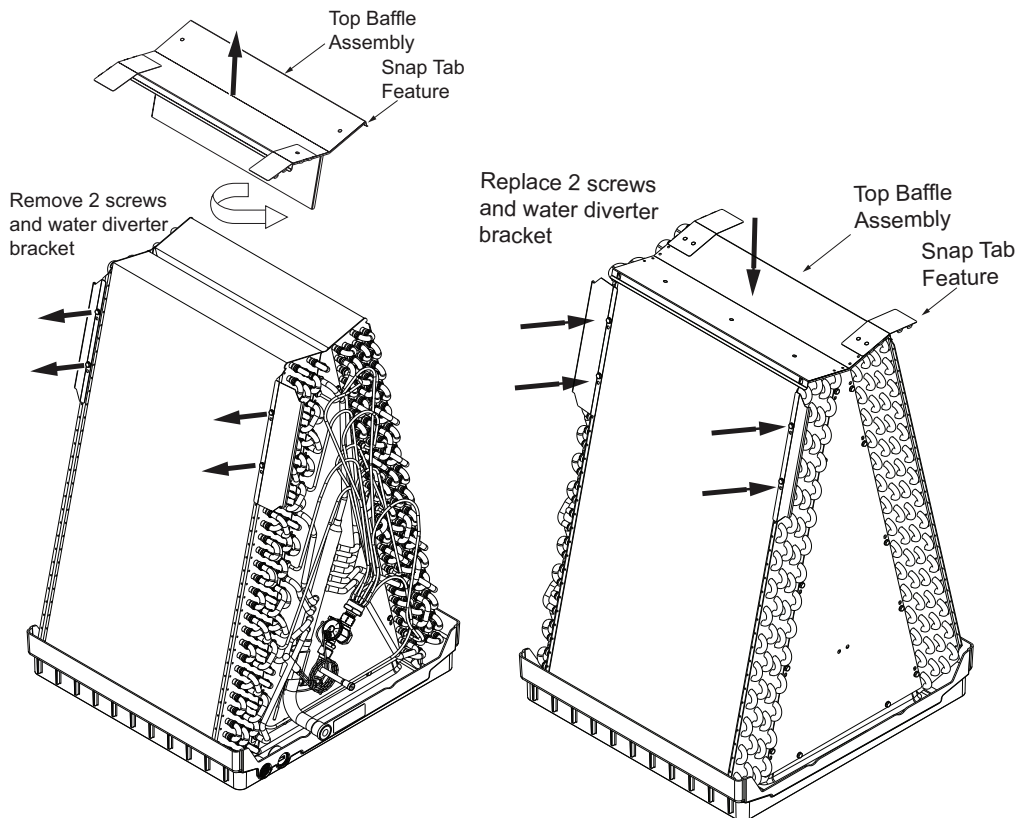


Figure 20. 5TEM6D04AV31SA/ 5TEM6D05AV41SA/ 5TEM6D06AV41SA/ 5TEM6D07AV51SA

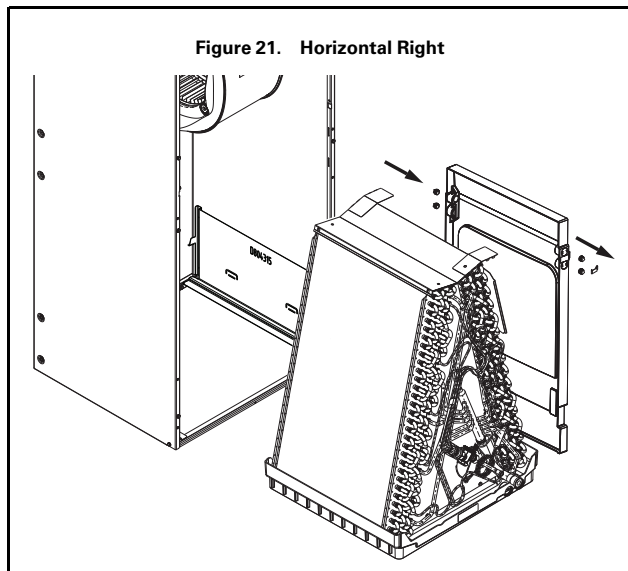




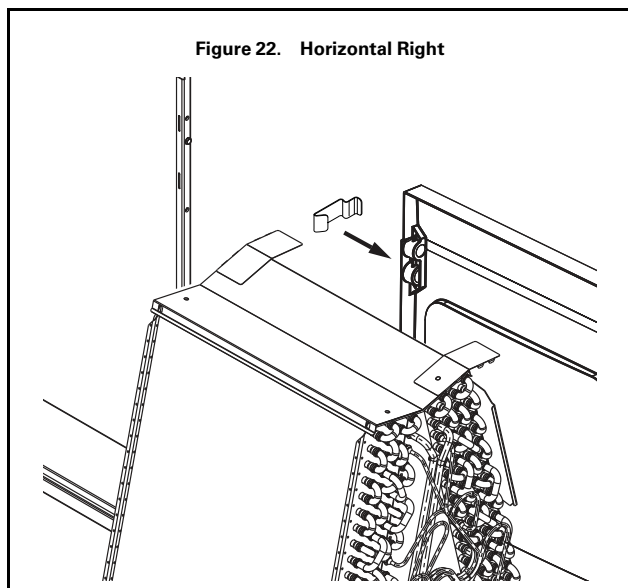
## Unit Conversion Instructions

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.



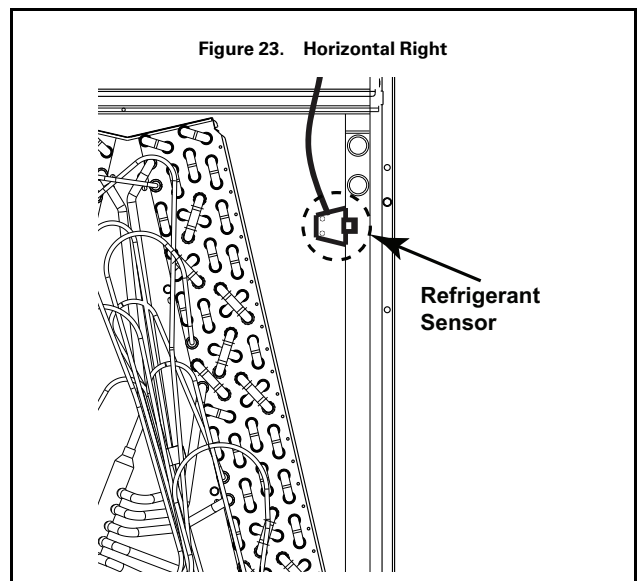
14. Reinstall the drain pan support bracket. The bracket should be located between the two drain plugs as shown.



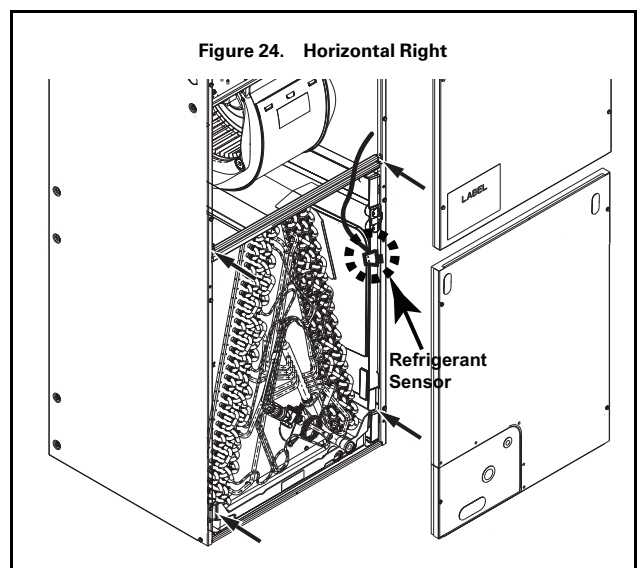
15. Slide the coil assembly back into the air handler cabinet.

**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.



20. Replace all 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.

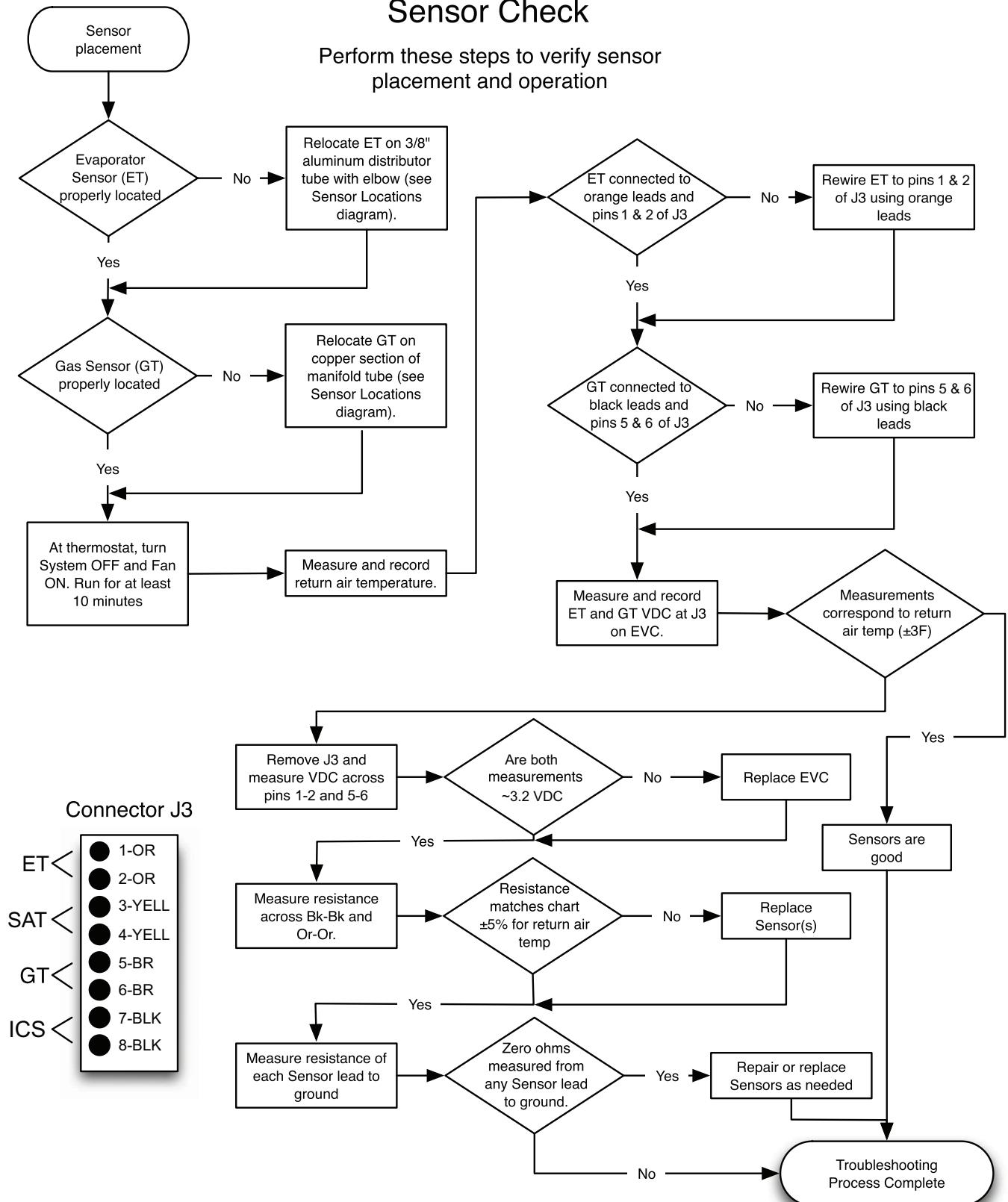
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <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 braze 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> |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|



# Troubleshooting

## Sensor Check

Perform these steps to verify sensor placement and operation



# 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.*

## About Trane and American Standard Heating and Air Conditioning

Trane and American Standard create comfortable, energy efficient indoor environments for residential applications. For more information, please visit [www.trane.com](http://www.trane.com) or [www.americanstandardair.com](http://www.americanstandardair.com).



The manufacturer has a policy of continuous data improvement and it reserves the right to change design and specifications without notice. We are committed to using environmentally conscious print practices.