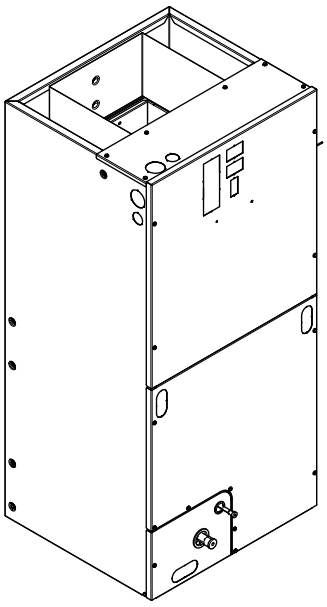
Installation, Operation, and Maintenance

Convertible Air Handlers
2 to 5 Ton

5TEM6B02AV21SA
5TEM6B03AV21SA
5TEM6D04AV31SA
5TEM6D05AV41SA
5TEM6D06AV41SA
5TEM6D07AV51SA



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

⚠ SAFETY WARNING

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

August 2026

AHR-SVX001D-EN

Introduction

Read this manual thoroughly before operating or servicing this unit.

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

Warnings, Cautions, and Notices

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

The three types of advisories are defined as follows:

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

Important Environmental Concerns

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

Important Responsible Refrigerant Practices

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

⚠ WARNING

Proper Field Wiring and Grounding Required!

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

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

⚠ WARNING

Personal Protective Equipment (PPE) Required!

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

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

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

⚠ WARNING

Follow EHS Policies!

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

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

⚠ WARNING

Cancer and Reproductive Harm!

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

⚠ WARNING

Safety Hazard!

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

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

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

⚠ WARNING

Safety Hazard!

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

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

⚠ WARNING

Hazardous Voltage!

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

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

⚠ WARNING

Grounding Required!

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

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

⚠ WARNING

Risk of Fire — Flammable Refrigerant!

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

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

⚠ WARNING

Live Electrical Components!

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

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

⚠ WARNING

Refrigerant under High Pressure!

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

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

⚠ CAUTION

Sharp Edges!

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

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

⚠ CAUTION

Corrosion Hazard!

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

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

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Trademark

Revision History

Content restructured and streamlined.

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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_2 fire extinguisher adjacent to the charging area.
- No person carrying out work in relation to a refrigerating system which involves exposing any pipe work shall use any sources of ignition in such a manner that it may lead to the risk of fire or explosion. All possible ignition sources, including cigarette smoking, should be kept sufficiently far away from the site of installation, repairing, removing and disposal, during which refrigerant can possibly be released to the surrounding space. Prior to work taking place, the area around the equipment is to be surveyed to make sure that there are no flammable hazards or ignition risks. "No Smoking" signs shall be displayed.
- Ensure that the area is in the open or that it is adequately ventilated before breaking into the system or conducting any hot work. A degree of ventilation shall continue during the period that the work is carried out. The ventilation should safely disperse any released refrigerant and preferably expel it externally into the atmosphere.
- The following checks shall be applied to installations using flammable refrigerants:
  - marking to the equipment continues to be visible and legible. Markings and signs that are illegible shall be corrected;
  - refrigerating pipe or components are installed in a position where they are unlikely to be exposed to any substance which may corrode refrigerant containing components, unless the components are constructed of materials which are inherently resistant to being corroded or are suitably protected against being so corroded.

Repairs to Electrical Components

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

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

Initial safety checks shall include:

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

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

Detection of Flammable Refrigerants

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

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

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

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

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

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

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

Removal and Evacuation

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

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

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

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

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

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

Charging Procedures

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

- Ensure that contamination of different refrigerants does not occur when using charging equipment. Hoses or lines shall be as short as possible to minimise the amount of refrigerant contained in them.
- Cylinders shall be kept in an appropriate position according to the instructions.
- Ensure that the refrigerating system is earthed prior to charging the system with refrigerant.
- Label the system when charging is complete (if not already).
- Extreme care shall be taken not to overfill the refrigerating system.

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

See installation instructions below for further details.

Recovery

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

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

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

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

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

Decommissioning

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

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

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

Pre-Installation

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 pains
  - These air handlers have factory installed drain pans and are shipped for upflow applications.
- 208/230 Vac operation
- Variable-speed direct drive blower
- Factory installed R-454B thermal expansion valve
- All aluminum coil
- Bottom return
- Meets the minimum leakage requirements for Florida and California building codes

Optional Accessories

- 4,5,8,10,15,20, and 25 KW single phase electrical heaters
  - Circuit breakers available on single phase 4, 5, 8, 10, 15, 20, and 25 KW heaters
  - Lugs available on single phase 4, 5, 8, and 10 KW heaters
  - Lugs available on three phase 10 and 15 KW heaters
- Single point power entry kit (for 15 and 20 KW heaters)
- Supply duct flange kit - BAYTEMSPFG1A
- Downflow sub-base kits - TAYBASE185, TAYBASE235, TAYBASE260
- Slim fit filter box kit - BAYSF1185AAA, BAYSF1235AAA, BAYSF1265AAA
- Breaker seal kit - TEMBRKSEALKT01A
- Downflow condensate management kit - BAYTEMDFKT1A
- CleanEffects whole house air cleaners - EFD175DLAH000B, EFD215DLAH000B, EFD235DLAH000B
- 120V Unit conversion kits - BAYAH120KT

Installation Recommendations

The 5TEM6 series air handler can be installed in closets, utility rooms, alcoves, basements, crawlspaces, or attics. It supports air conditioning and heat pump applications, is available in several models to match outdoor equipment requirements, and offers field-installed electric resistance heaters.

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.*
- *The coil is pressurized with about 8 to 12 psi of dry air and factory-tested for leaks. Release the pressure by removing the rubber plug on the liquid line; if no pressure is released, check for leaks.*

Notes:

- *The air handlers comply with Code of Federal Regulations, Chapter XX, Part 3280 or equivalent and are suitable for mobile home use.*
- *When installed in unconditioned spaces, condensation may form on the air handler, so all electrical and refrigerant line penetrations must be fully sealed.*
- *The manufacturer recommends using only A.H. R.I.-approved matched indoor and outdoor systems for maximum efficiency, optimal performance, and overall reliability.*
- *There is no declared maximum altitude for operating the appliance.*
- *Charging of the refrigerating system shall be according to the instructions provided by the manufacturer of the outdoor unit.*

Refrigerant Leak Detection System

For all tables in this section, the refrigerant charge is the total system charge marked on the system per the outdoor unit manufacturer’s instructions.

⚠ WARNING

Risk of Fire — Flammable Refrigerant!

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

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

⚠ WARNING

Leak Detection System Installed!

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

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

To protect building occupants, the air handler includes a refrigerant leak detection system consisting of a refrigerant sensor and mitigation control board. It automatically detects indoor coil leaks and initiates actions to reduce the risk of leaked refrigerant ignition, including:

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

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

⚠ WARNING

Risk of Fire!

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

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

For instructions on relocating the refrigerant sensor, see "Unit Conversion Instructions," p. 16.

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 must be according to Table 1, 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 1. Minimum space conditioned by the appliance

Charge (lb)	Altitude (ft)								
	Sea Level-2,000	2,001-4,000	4,001-6,000	6,001-8,000	8,001-10,000	10,001-12,000	12,001-14,000	14,001-15,000	above 15,000
	Minimum Conditioned Space (ft^2)								
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

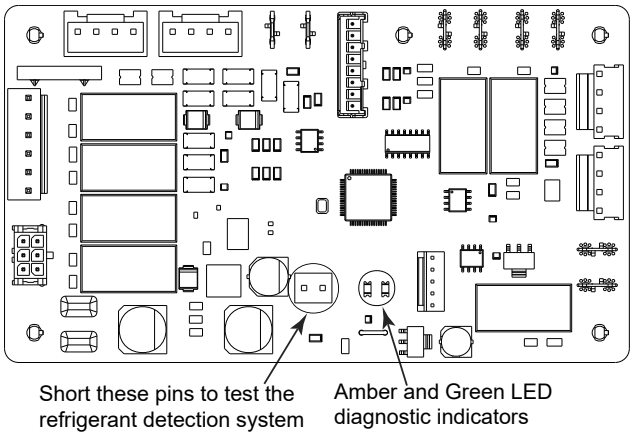
Note: *All air handler models have been factory configured to provide sufficient airflow to dilute leaked refrigerant.*

Verification of Mitigation Actions

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

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 the following figure.

Figure 1. 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 Diagrams," p. 22.
- The diagnostic indicators on the mitigation control board should be checked against the diagnostic codes given in Table 2, p. 11.
- Scan the QR code below for more information on field troubleshooting of the refrigerant leak detection system.

Figure 2. QR code

Table 2. MCB diagnostic code

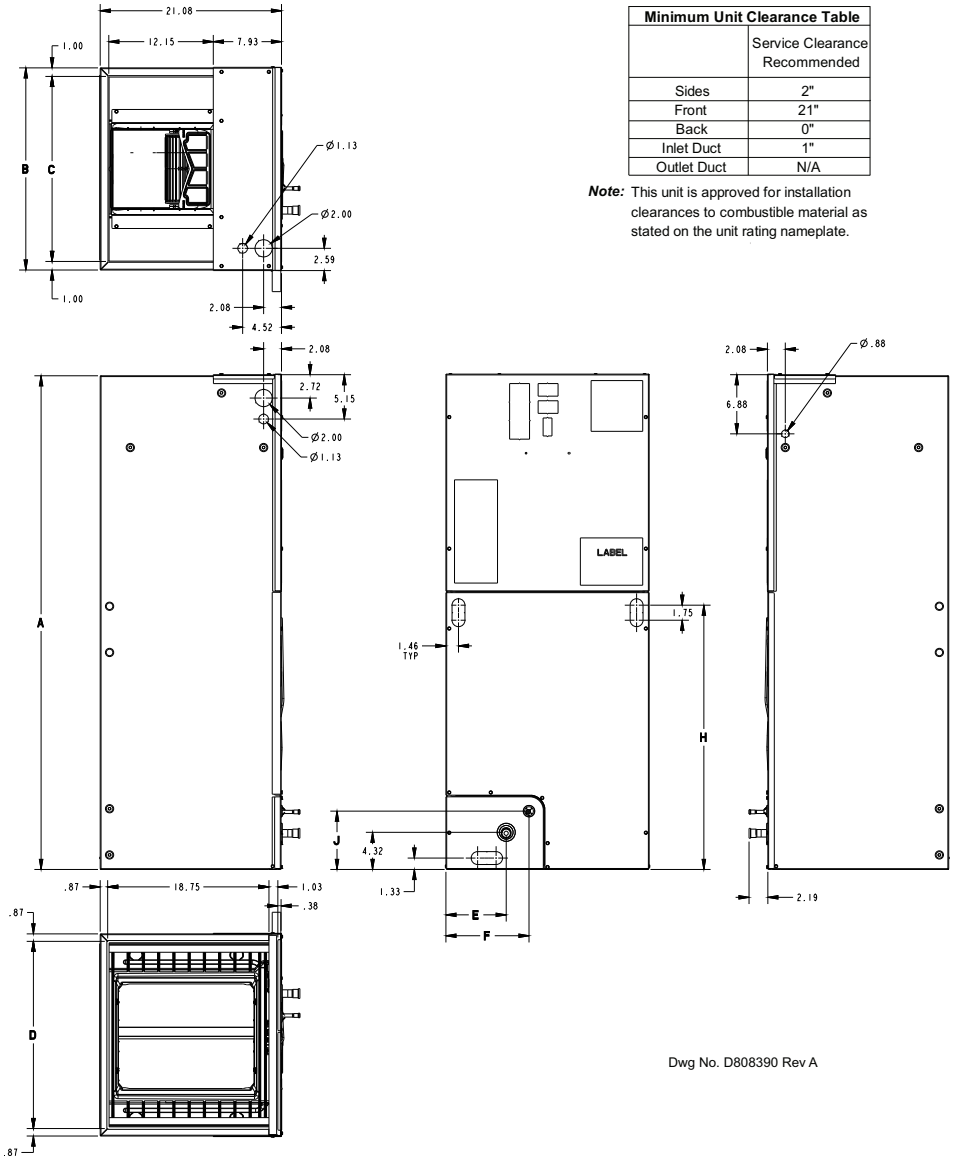
Condition	Green LED
For Software V07.1 and earlier	
Idle or Off	Off
Startup	On
No Active Alarm	Slow Flash
Active Alarm (Refrigerant Leak, Sensor Communication Error, or Sensor Error)	3 Flash
Past Refrigerant Detected Alarm	4 Flash
Past Sensor Communication Error	5 Flash
Past Sensor Error	6 Flash
For Software V9.1 and later	
No Power/Off	Off
Startup	On
Normal Operation	Slow Flash
Active Alarm - Sensor Communication Error	2 Flash
Active Alarm - Refrigerant Leak or Sensor Failure	3 Flash
Past Refrigerant Detected Alarm	4 Flash
Past Sensor Communication or Sensor Error	5, 6, or 7 Flash

Notes:

- *Amber LED diagnostic indicator should always be ON.*
- *Software version is printed on label on control board.*

Dimensional Data

Figure 3. Dimensional data



Minimum Unit Clearance Table	
	Service Clearance Recommended
Sides	2"
Front	21"
Back	0"
Inlet Duct	1"
Outlet Duct	N/A

Note: This unit is approved for installation clearances to combustible material as stated on the unit rating nameplate.

Dwg No. D808390 Rev A

Note: *All dimensions are reference dimensions.*

Table 3. Product dimensions (inch)

Product Dimensions										
Air Handler Model	**A**	**B**	**C**	**D**	**E**	**F**	**H**	**J**	**Flow Control**	**Gas Line Braze**
5TEM6B02, 03	46.77	18.50	16.50	16.75	5.43	7.08	20.07	5.76	TXV	3/4
5TEM6D04, D05	51.27	23.50	21.50	21.75	7.01	9.66	24.58	6.76	TXV	7/8
5TEM6D06, D07	57.40	23.50	21.50	21.75	7.01	9.66	30.71	6.76	TXV	7/8

Installation

Unpacking

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

Check the rating plate to confirm the model number, voltage, and any kits match the order. Notify the manufacturer within 5 days of any discrepancy or missing parts.

Location

Install the air handler in a central location, such as a closet, alcove, utility room, basement, crawl space, or attic. Maintain minimum clearances.

Important: *For electric heat applications, a downflow sub-base may be required. See* *Table 3, p. 12**.*

Equipment must be installed to reduce the risk of igniting leaked refrigerant.

⚠ WARNING

Risk of Fire!

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

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

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

Install the unit level for proper condensate drainage. A rise of up to 1/4 inch across the width or depth is allowed if it slopes toward the drain connections. The unit must be set between level and a 1/4-inch rise.

If installed in a closet or utility room, the space must be large enough and accessible for unit replacement. Service is performed from the front, and 21 inches of clearance is required unless the closet door aligns with the air handler front.

If installed in an unconditioned space such as an attic or crawl space, provide enough air circulation to prevent cabinet moisture during high dew point conditions. Install a drain pan under the entire unit if it is in an unconditioned space or above a finished ceiling.

Duct Work

⚠ WARNING

Ignition Sources in Ductwork!

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

For appliances using A2L refrigerants connected via an air duct system to one or more rooms, only auxiliary devices declared suitable with the refrigerant shall be installed in connecting ductwork.

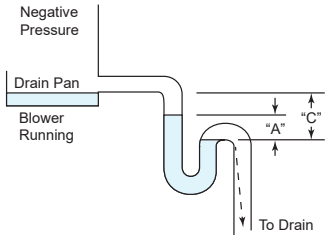
The duct work should be installed in accordance with the:

- NFPA No. 90A "Installation of Air Conditioning and Ventilating systems" and No. 90B "Residential Type Warm Air Heating and Air Conditioning Installation."
- applicable requirements for the particular installation as required by HUD, FHA, VA the applicable building code, local utility, or other governing body.

Condensate Drain

The unit includes primary and auxiliary condensate drains with 3/4-inch NPT connections. The primary drain must be trapped outside the unit and piped per applicable codes. In a properly designed trap (see the figure below), the water column height must be at least equal to the normal negative static pressure between the cooling coil and blower during operation. A greater height is recommended to allow for higher static from dirty filters and water column movement at startup.

Figure 4. Condensate drain



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.

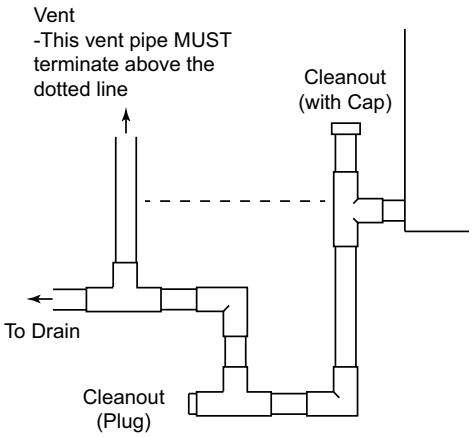
Do not reduce the drain line below the drain pan connection size. Pipe condensate to an open drain or outdoors. All drain lines must slope downward away from the unit at least 1/4 inch per foot for proper drainage.

Important:

- *If a cleanout tee is used, the standpipe 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.)

Figure 5. Condensate drain



Refrigerant Piping

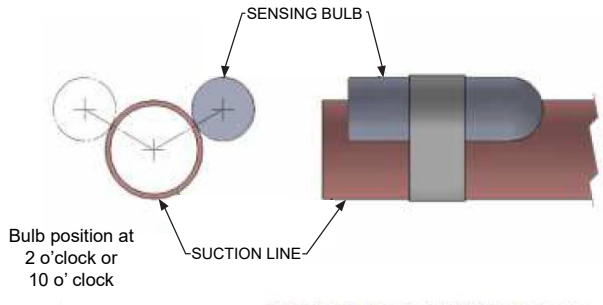
Installation must be protected from physical damage during operation and service and comply with national and local codes and standards. All field joints must remain accessible for inspection before being covered or enclosed.

The indoor coil contains a holding charge of dry air that is released when the sealing plugs are removed.

To protect the TXV, remove the bulb from the tubing inside the unit before brazing the line set connections. Shield painted surfaces during brazing to protect the finish. After brazing, reinstall the TXV bulb and insulate it with 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 and place the bulb at the 10 or 2 o'clock position relative to the floor.*

Figure 6. TXV sensing bulb



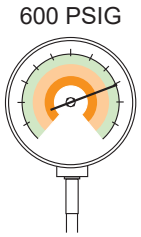
Remove the two red flammable refrigerant warning tags from the line set connections before brazing and replace them afterward.

After field piping is complete for split systems, pressure test with nitrogen and then vacuum test before charging refrigerant, according to the following requirements:

Pressure test:

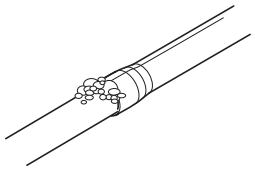
- Using dry nitrogen, pressurize the field piping and indoor coil to the lower of the maximum operating pressures on the indoor and outdoor unit nameplates, likely 600 psi.

Figure 7. Maximum operating pressure



- After removing the pressure source, maintain test pressure for at least 1 hour with no pressure drop on a gauge with resolution not exceeding 30 psi.
- Check each field-made joint for leaks with a soapy solution.

Figure 8. Leak check



•

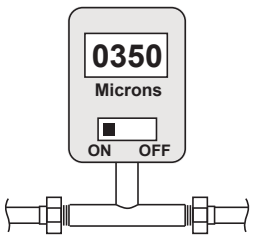
Note: *Remove nitrogen pressure and repair leaks before continuing.*

Vacuum test:

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

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

Figure 9. Micron gauge



- Evacuation is complete if the micron gauge stays at or below 500 microns after 1 minute and 1500 microns after 10 minutes.

- Once evacuation is complete, blank off the vacuum pump and micron gauge and close the valve on the manifold gauge set.

Charge the system according to the outdoor unit manufacturer's instructions.

Important: *Never use potential ignition sources to search for or detect refrigerant leaks.*

After charging, check all indoor field-made joints for leaks with an electronic leak detector calibrated for R-454B with a sensitivity of 5 grams per year or better.

Metering Device

All units are shipped with an internally checked, non-bleed TXV for air conditioning or heat pump operation. Some outdoor models may require a start assist kit; see the outdoor unit for details.

Blower

The unit has a variable-speed motor with a direct-drive blower wheel that provides multiple airflow settings. It is factory set for cooling and heating airflow, with additional settings in the performance tables. Disconnect all power to the unit before adjusting airflow. Verify airflow and evaporator coil temperature drop to ensure adequate airflow.

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

Airflow Adjustment

NOTICE

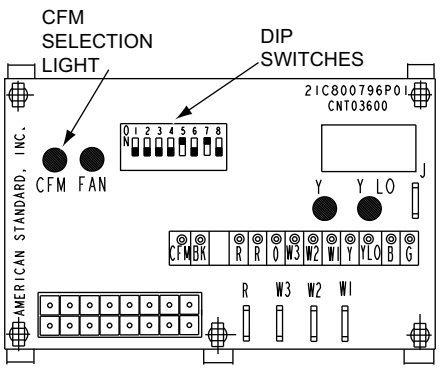
Equipment Damage!

Failure to follow all instructions could result in equipment damage.

Disconnect power to the air handler before changing dip switch positions.

The ECM Fan Control operates the variable-speed motor. A bank of 8 DIP switches, arranged in pairs, sets airflow for outdoor unit size (tons), cooling airflow adjustment, fan off-delay options, and heating airflow adjustment.

Figure 10. ECM fan control



If the airflow needs to be increased or decreased, see the applicable table in "Airflow Performance," p. 24.

Confirm the correct airflow for cooling and heating:

- Switches 1 to 4: Cooling Airflow
- Switches 5 to 6: Fan Off Delay Options
- Switches 7 to 8: Auxiliary Heat

Indoor Blower Timing

Important: *Leave DIP switches 5 and 6 in the as-shipped positions during system startup and checkout. Later, adjust as needed.*

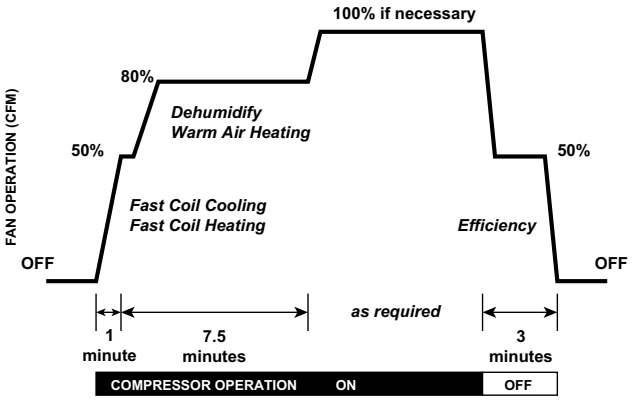
Table 4. Cooling off — delay options

Switch Settings		Selection	Nominal Airflow
5 — OFF	6 — OFF	None	Same
5 — ON	6 — OFF	1.5 Minutes	100% [a]
5 — OFF	6 — ON	3 Minutes	50%
5 — ON	6 — ON	Enhanced [b]	50–100%

[a] Default setting

[b] This ENHANCED MODE selection provides a ramping up and ramping down of the blower speed to provide improved comfort, quietness, and potential energy savings. The graph shows the ramping process.

Figure 11. Enhanced mode



Wiring

Consult the unit and outdoor equipment schematic and pictorial wiring diagrams to verify wiring compatibility and specific requirements.

Install all field wiring to the air handler in accordance with the latest edition of National Electrical Code NFPA 70 and all local codes. Check the unit rating plate for rated voltage, minimum circuit ampacity, and maximum over current protection. Supply power wiring must use only copper conductors rated at least 75°C (167°F). Size copper supply wires to National Electrical Code or local code requirements, whichever is more stringent.

Provide a disconnect in the fixed wiring to disconnect the air handler from the power supply. The disconnect must open all poles and comply with national, state, and local codes.

The unit is factory wired for 230/240 VAC, 60 Hz, single-phase operation. If operating at 208 VAC, 60 Hz, follow the indoor unit wiring diagram instructions to change the low-

voltage transformer to 208 VAC operation. Verify the unit is properly grounded.

Do not run Class 2 low-voltage control wiring in conduit with power wiring. It must be separated from power wiring unless Class 1 wire with the proper voltage rating is used.

Use 18 AWG color-coded low-voltage control wiring rated at least 105°C. For runs longer than 100 ft, use 16 AWG wire. Maintain separation between control wiring and power wiring.

Air Filter

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

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

Thermostat

Select a thermostat commonly used with HP or AC heating/cooling with electric heat. It energizes the fan on a demand for heat or cool. Install the thermostat on an inside wall, away from drafts, lights, or other heat sources, in a location with sufficient air circulation from rooms it controls.

Sequence of Operation Cooling

- **Cooling (cooling only)**

  When the thermostat calls for cooling, the circuit from R to G is completed. The blower motor is energized directly by the ECM fan control, which receives the 24Vac signal from the thermostat.

  The circuit from R to Y is complete, energizing the compressor contactor of the outdoor unit. The contactor closes and starts the compressor and condenser fan motor.

- **Cooling (heat pump)**

  When the thermostat calls for cooling, the circuit from R to G is completed. The blower motor is energized directly by the ECM fan control, which receives the 24Vac signal from the thermostat.

  The circuit from R to Y is complete, energizing the compressor contactor of the outdoor unit. The contactor closes and starts the compressor and condenser fan motor.

  Circuit R to O energizes the reversing valve to the cooling position.

- **Heating (heat pump)**

  When the thermostat calls for heating, the circuit from R to G is completed and the blower motor is energized directly by the ECM fan control, which receives the 24Vac signal from the thermostat.

  The circuit from R to Y is complete, energizing the compressor contactor of the outdoor unit. The contactor closes and starts the compressor and condenser fan motor.

  In the heating mode, the reversing valve of the outdoor unit is not energized.

  If the indoor temperature continues to fall, the R to W circuit is completed energizing the electric heat contactor(s).

- **Heating (electric heat only)**

  Note: *The thermostat must be setup to bring the blower on when the electric heat is energized.*

  When the thermostat calls for heating, the circuit from R to G is completed and the blower motor is energized directly by the ECM fan control, which receives the 24Vac signal from the thermostat. The circuit from R to W is completed energizing the heating contactor(s).

- **Defrost**

  During defrost, supplemental heat is provided by connecting the X2 (black) wire from the outdoor unit to W1 or W2 at the indoor unit. This prevents cold air from being discharged from the indoor unit during defrost.

Operational and Checkout Procedures

To ensure proper function of the Refrigerant Leak Detection System, all procedures in the "Refrigerant Leak Detection System," p. 9 section of this manual must be verified.

For optimal performance, operate all units and make charge adjustments according to the outdoor unit's Service Facts document. After installation, check the entire system against the checkout list at the back of this document. See "Checkout Procedures," p. 31.

Maintenance

Inspect, clean, or replace system air filters at least monthly. Before returning the unit to service, verify all access panels are properly replaced and secured. Although this product is designed for dependable service, schedule maintenance by trained service personnel at least annually, including inspection and testing of electrical and refrigerant components. Clean the heat transfer surface. The blower motor is permanently lubricated for normal operation.

Unit Conversion Instructions

⚠ WARNING

Risk of Fire!

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

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

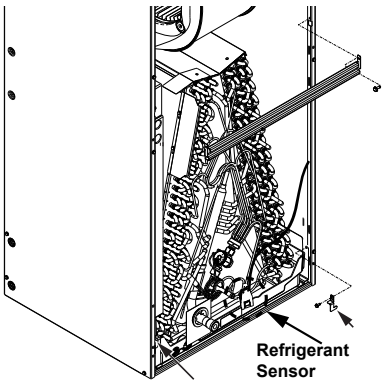
Horizontal Left

Important: *For horizontal applications, airflow restrictions apply for condensate blow off. See "Airflow Performance," p. 24.*

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

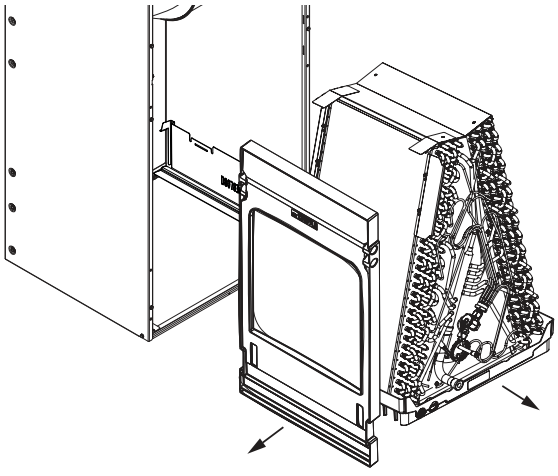
1. Remove the front panels from the air handler. The coil and line set panel do not need to be separated.
2. Remove the fasteners on both sides of the coil. Retain the coil containing brackets and screws. See Figure 12, p. 17
3. See for coil bracket options. Proceed to Step 11. if using coil support brackets without tabs. Proceed to Step 4. if using coil support bracketswith tabs.
4. Remove the two screws holding the center horizontal bracket and rotate out of place. Retain parts. See Figure 12, p. 17

Figure 12. Horizontal bracket and refrigerant sensor



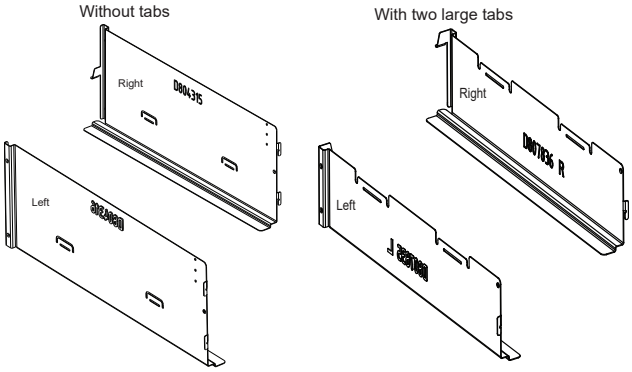
5. Pull refrigerant sensor up and away from the primary drain pan and remove it from the pan. Detach the sensor and clip from the wire harness and move it out of the way.
6. Slide the Coil assembly out.

Figure 13. Coil assembly and horizontal drain pan



7. Bend the two tabs on the right coil support bracket. Tabs should be bent inward so they are parallel to the bottom flange.

Figure 14. Coil support brackets

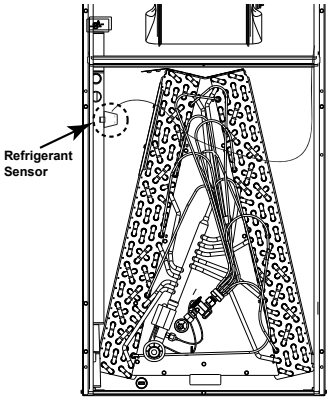


8. Slide the coil assembly back into the air handler cabinet.

Important: *When reinstalling coil in Step 8., it is important that the coil corner locks in place under the rear tab in the side bracket to support the coil weight horizontally. There are 2 additional tabs for added support.*

9. Replace the center horizontal bracket from Step 4.
10. Replace coil retaining brackets and screws from Step 2.
11. Secure sensor to secondary pan using provided clip. Sensor should be positioned close to secondary drain lines.
12. Position extra wire length in the secondary drain pan.

Figure 15. Horizontal left refrigerant sensor location



13. Replace all panels.

Downflow

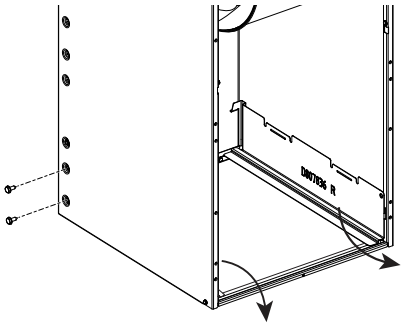
Important: *For downflow applications, airflow restrictions apply for condensate blow off. See "Airflow Adjustment," p. 10.*

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

1. Remove the front panels from the air handler. The coil and line set panel do not need to be separated.

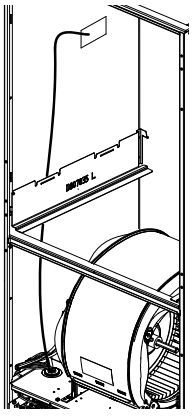
2. Remove the fasteners on both sides of the coil. See Figure 12, p. 17.
3. Remove the two screws holding the center horizontal bracket and rotate out of place. Retain parts. See Figure 12, p. 17.
4. Pull refrigerant sensor up and away from the primary drain pan and remove it from the pan. Detach the 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. See Figure 13, p. 17.
6. On both sides of the cabinet, remove the screws that hold the coil support brackets and retain for later use. Seal the holes to prevent air leakage.
7. Rotate and lift the two coil support brackets to remove from front slots in cabinet.

Figure 16. Coil support brackets



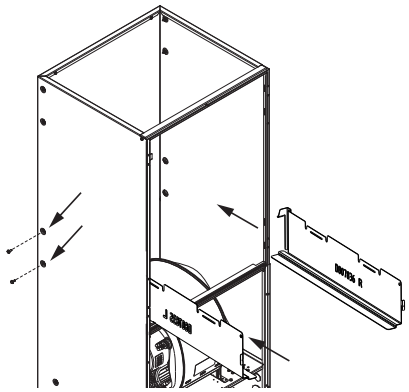
8. Rotate the unit into the downflow orientation.
9. Pre-drill four clearance holes in the cabinet at dimples located below the location the screws were removed for the coil support brackets. There are two holes per side. See Figure 18, p. 18 for hole locations.
10. Replace the center horizontal bracket removed in Step 3. Use the screws retained from Step 3. to attach.
11. Place coil support brackets into the slots and rotate into place. Push downward to lock into place. Refrigerant sensor wire harness should be routed between coil support bracket and the insulation.

Figure 17. Refrigerant sensor wire harness



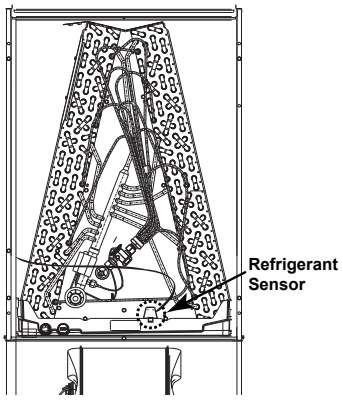
12. Secure each bracket with the screws that were previously removed.

Figure 18. Coil support brackets and clearance holes



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

Figure 19. Downflow refrigerant sensor location



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

Horizontal Right

Important: *For horizontal applications, airflow restrictions apply for condensate blow off. See "Airflow Performance," p. 24.*

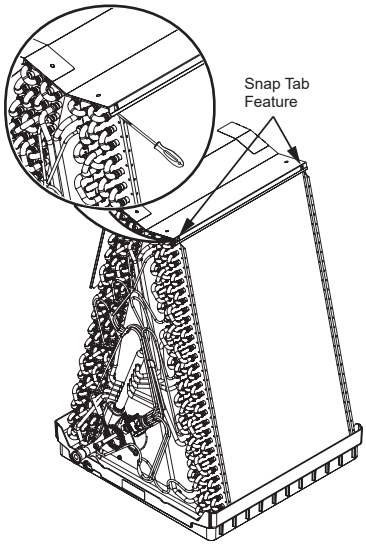
Follow the conversion steps when installing the air handler in horizontal right configuration.

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. See Figure 12, p. 17 .

3. Remove the two screws holding the center horizontal bracket and rotate out of place. Retain parts. See Figure 12, p. 17.
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. Make note of the horizontal drain pan orientation (up/down).
6. Slide the coil assembly out. See Figure 13, p. 17

   Important: *For horizontal right applications on some models, the top panel assembly of the coil must be rotated for proper condensate management. See Figure 22, p. 19 and Figure 23, p. 19.*
7. If rotating the top panel assembly is required, position a flathead tip underneath the top baffle flange and pivot the screwdriver downward to release the front tab as shown below.
8. Repeat for right rear tab to release top baffle assembly from coil.

Figure 20. Top baffle



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

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

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

Figure 21. Top baffle and water diverter brackets

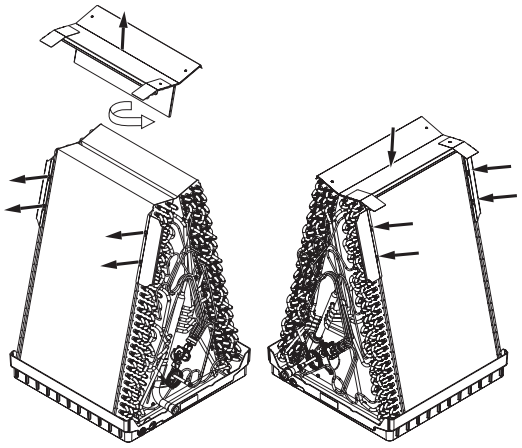


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Figure 22. 5TEM6B02AV21SA/5TEM6B03AV21SA

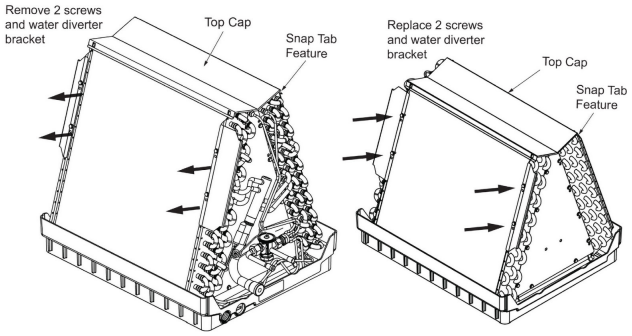
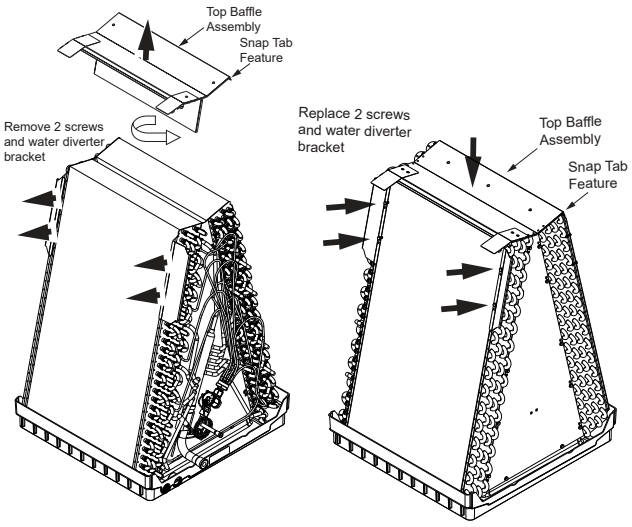


Figure 23. 5TEM6D04AV31SA/5TEM6D05AV41SA/ 5TEM6D06AV41SA/5TEM6D07AV51SA

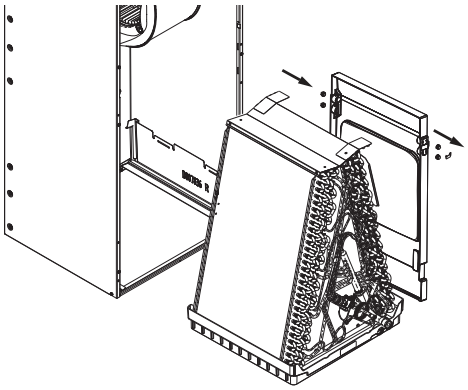


11. To allow the horizontal pan to slide in on the right, cut and remove the zip tie holding the sensor wire harness on the right side of the coil cabinet.
12. Relocate the horizontal drain pan from the left side of the coil to the right side.

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.

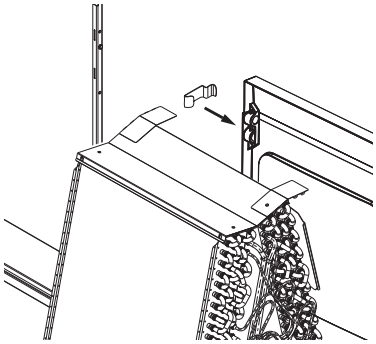
    Important: *When reinstalling coil in Step 17., it is important that the coil corner locks in place under the rear tab in the side bracket to support the coil weight horizontally. There are two additional tabs for added support.*

Figure 24. Coil assembly and horizontal drain pan



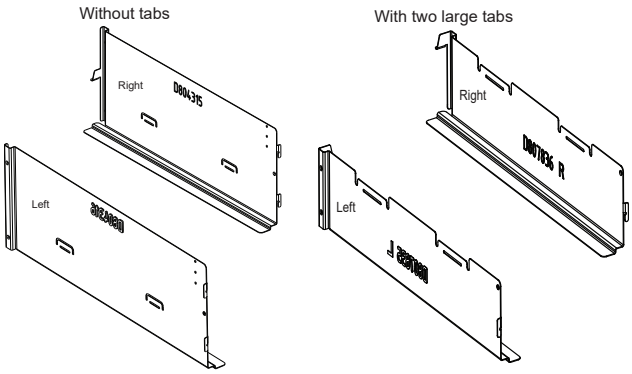
14. Reinstall the drain pan support bracket. The bracket should be located between the two drain plugs as shown.

Figure 25. Drain pan support bracket



15. See Figure 26, p. 20 for coil bracket options. Proceed to Step 16.if using coil support brackets without tabs. Proceed to Step 17. if using coil support brackets with tabs.
16. Bend the two tabs on the Left Coil Support Bracket. Tabs should be bent inward so they are parallel to the bottom flange.

Figure 26. Coil support brackets

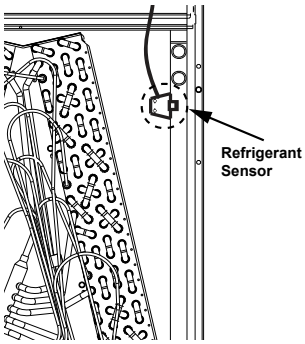


17. Slide the coil assembly back into the air handler cabinet.

    Important: *Make sure that the coil corner locks in place under the rear tab and two additional tabs along the length of the drain pan in the side left bracket to support the coil weight in the horizontal right position.*

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

Figure 27. Horizontal right refrigerant sensor location

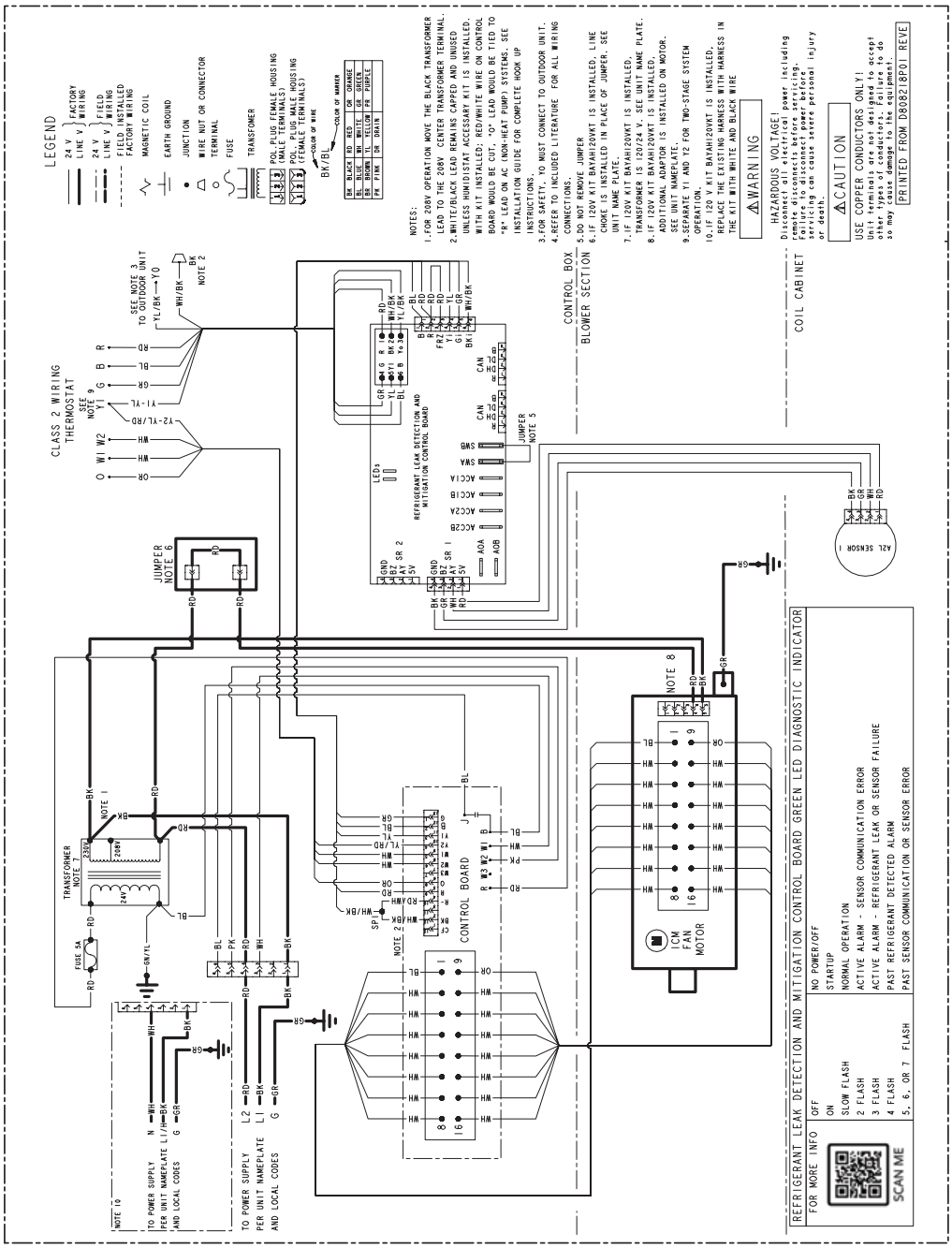


22. Replace all panels.

Installation — Electrical

Wiring Diagram

Figure 28. Wiring diagram



Note: *For refrigerant leak detection and mitigation control board diagnostic flash codes, see* *Table 2, p. 11*.

Field Wiring Diagrams

Figure 29. Single stage

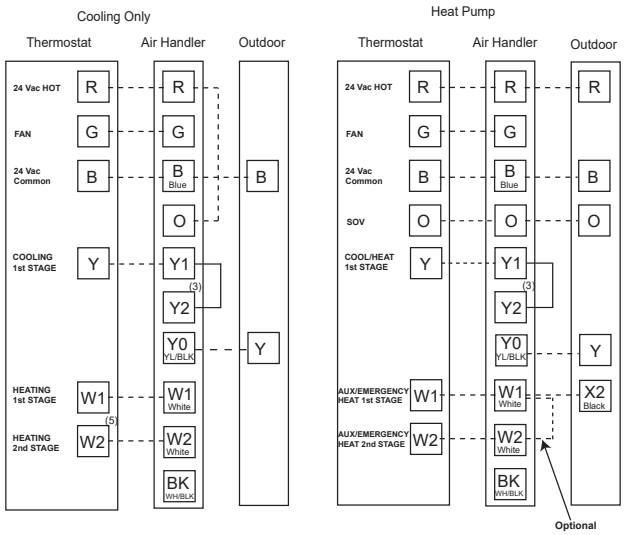


Figure 30. 2–Stage indoor airflow

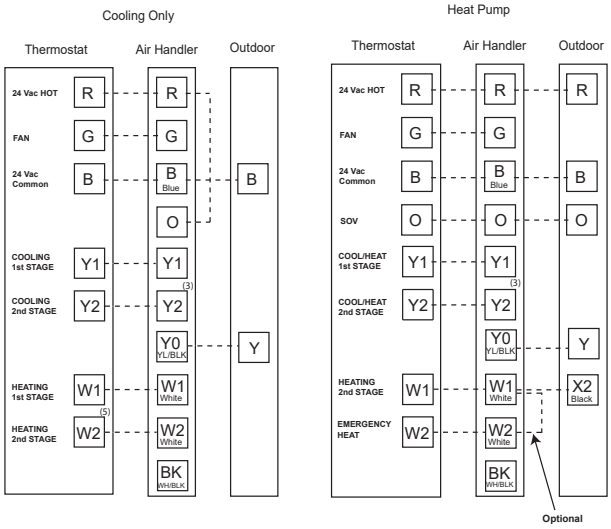
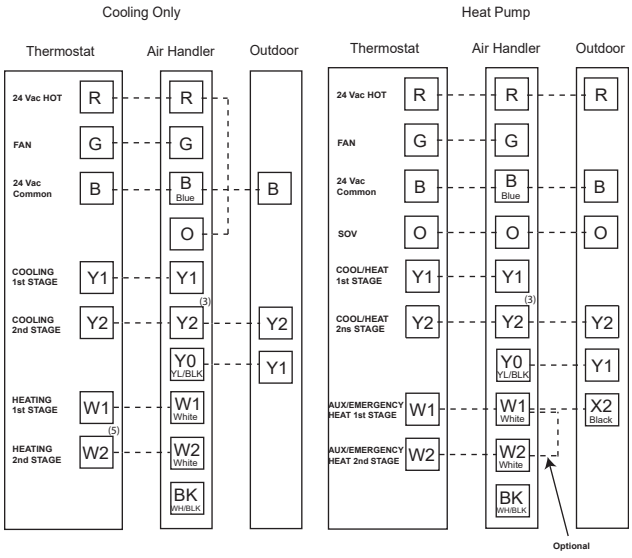


Figure 31. 2–Stage, 2–step



Notes:

1. *Units with pigtails require wirenuts for connections.*
2. *Cap all unused wires.*
3. *When BK is used with PWM-enabled Comfort Control, do not connect Y2 at the air handler.*
4. *When BK is used, cut the jumper between R and BK on the control board. See wiring schematic for details.*
5. *In AC systems for multiple stages of electric heat, jumper W1 and W2 together if comfort control has only one stage of heat.*

External Switches and Accessories

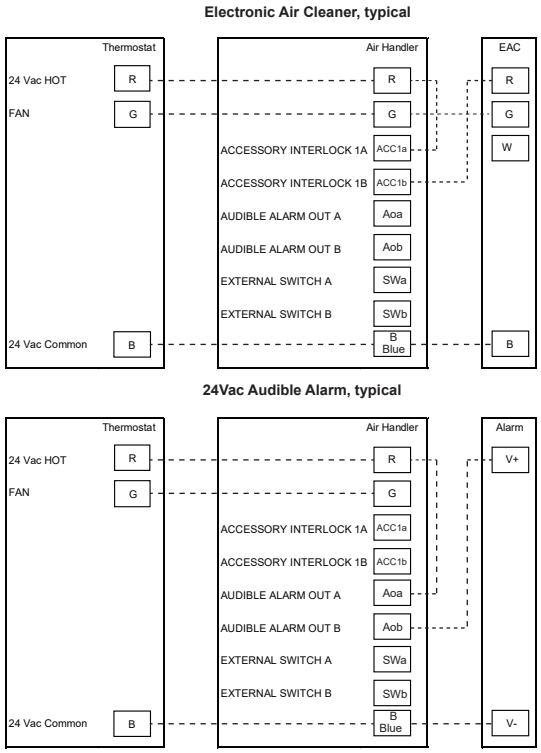
The following optional connections are available on the mitigation control board. See Figure 32, p. 23.

- 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-inch (Aoa/Aob) or 1/4-inch (ACC1, ACC2) female spade connections.

Figure 32. Accessories diagram



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

Figure 33. Instructions for CleanEffects or AccuClean electronic air cleaners

SCAN ME

Performance and Electrical Data

Airflow Performance

Table 5. 5TEM6B02AV21SA cooling airflow performance, wet coil, no filter, no heater

Outdoor Unit Size (Tons)	Speed Setting	Airflow Setting (CFM/ Ton)	DIP Switch Setting				Airflow (CFM)/Power (Watts) by External Static Pressure				
			SW1	SW2	SW3	SW4	0.1	0.3	0.5	0.7	0.9
1.5	Low	353	ON	ON	OFF	ON	524/49	517/83	482/111	418/133	326/148
	Normal	401	ON	ON	OFF	OFF	608/60	604/99	580/134	535/167	471/197
	High	451	ON	ON	ON	OFF	683/76	683/119	664/160	626/198	571/233
2	Low	343	OFF	ON	OFF	ON	693/78	693/122	674/164	638/202	583/237
	Normal	390	OFF	ON	OFF	OFF	787/98	791/149	780/197	753/241	712/284
	High	439	OFF	ON	ON	OFF	883/126	889/181	877/233	847/285	801/333
2.5	Low	300	ON	OFF	OFF	ON	757/91	760/140	746/186	716/229	671/269
	Normal[(a)]	340	ON	OFF	OFF	OFF	863/119	867/173	854/224	826/273	781/319
	High	383	ON	OFF	ON	OFF	950/151	963/213	945/265	896/310	818/345

[(a)] Factory default setting.

Table 6. 5TEM6B02AV21SA heating airflow performance, no filter, no heater

Outdoor Unit Size (Tons)	Speed Setting	Airflow Setting (CFM/ Ton)	DIP Switch Setting				Airflow (CFM)/Power (Watts) by External Static Pressure				
			SW1	SW2	SW3	SW4	0.1	0.3	0.5	0.7	0.9
1.5	Low	394	ON	ON	OFF	ON	594/53	596/91	568/125	525/160	456/186
	Normal	448	ON	ON	OFF	OFF	677/68	681/110	662/152	627/192	573/226
	High	493	ON	ON	ON	OFF	744/81	749/127	739/175	709/219	665/257
2	Low	393	OFF	ON	OFF	ON	791/91	796/139	792/191	764/238	726/278
	Normal	446	OFF	ON	OFF	OFF	892/120	900/171	894/228	865/283	815/325
	High	491	OFF	ON	ON	OFF	987/147	1013/201	983/260	961/322	913/365
2.5	Low	350	ON	OFF	OFF	ON	878/115	886/166	880/222	851/276	810/321
	Normal[(a)]	398	ON	OFF	OFF	OFF	101/151	989/205	998/264	974/328	926/371
	High	437	ON	OFF	ON	OFF	1108/185	1092/241	1108/300	1072/372	1024/412

[(a)] Factory default setting.

Table 7. 5TEM6B03AV21SA cooling airflow performance, wet coil, no filter, no heater

Outdoor Unit Size (Tons)	Speed Setting	Airflow Setting (CFM/ Ton)	DIP Switch Setting				Airflow (CFM)/Power (Watts) by External Static Pressure				
			SW1	SW2	SW3	SW4	0.1	0.3	0.5	0.7	0.9
1.5	Low	353	ON	ON	OFF	ON	479/39	455/68	440/95	395/121	331/143
	Normal	401	ON	ON	OFF	OFF	577/52	553/86	548/119	509/149	454/176
	High	451	ON	ON	ON	OFF	672/67	647/106	652/144	620/179	571/212
2	Low	343	OFF	ON	OFF	ON	686/69	685/110	667/148	635/184	588/218
	Normal	390	OFF	ON	OFF	OFF	796/92	799/137	788/181	763/223	724/264
	High	439	OFF	ON	ON	OFF	892/116	899/165	892/215	872/263	837/312

Table 7. 5TEM6B03AV21SA cooling airflow performance, wet coil, no filter, no heater (continued)

Outdoor Unit Size (Tons)	Speed Setting	Airflow Setting (CFM/ Ton)	DIP Switch Setting				Airflow (CFM)/Power (Watts) by External Static Pressure				
			SW1	SW2	SW3	SW4	0.1	0.3	0.5	0.7	0.9
2.5	Low	300	ON	OFF	OFF	ON	749/82	751/125	738/166	710/206	668/244
	Normal	340	ON	OFF	OFF	OFF	867/109	874/157	866/205	843/252	805/299
	High	383	ON	OFF	ON	OFF	965/139	976/191	972/244	954/298	922/353
3	Low	310	OFF	OFF	OFF	ON	940/131	950/182	945/234	926/286	892/339
	Normal[(a)]	330	OFF	OFF	OFF	OFF	993/149	956/202	1002/257	985/313	953/370

[(a)] Factory default setting.

Table 8. 5TEM6B03AV21SA heating airflow performance, no filter, no heater

Outdoor Unit Size (Tons)	Speed Setting	Airflow Setting (CFM/ Ton)	DIP Switch Setting				Airflow (CFM)/Power (Watts) by External Static Pressure				
			SW1	SW2	SW3	SW4	0.1	0.3	0.5	0.7	0.9
1.5	Low	394	ON	ON	OFF	ON	571/44	574/82	544/113	502/137	441/171
	Normal	448	ON	ON	OFF	OFF	677/60	682/99	668/138	618/170	572/206
	High	493	ON	ON	ON	OFF	746/75	752/116	739/160	712/200	674/237
2	Low	393	OFF	ON	OFF	ON	799/86	806/128	799/175	773/220	740/259
	Normal	446	OFF	ON	OFF	OFF	902/111	911/157	912/210	891/260	861/308
	High	491	OFF	ON	ON	OFF	995/131	994/181	986/242	984/293	954/352
2.5	Low	350	ON	OFF	OFF	ON	887/106	895/152	895/204	873/254	843/300
	Normal	398	ON	OFF	OFF	OFF	1004/135	1004/186	998/246	996/298	965/359
	High	437	ON	OFF	ON	OFF	1089/160	1079/215	1064/282	1079/332	1040/408
3	Low	325	OFF	OFF	OFF	ON	986/131	987/180	984/239	997/291	947/349
	Normal[(a)]	346	OFF	OFF	OFF	OFF	1042/146	1038/198	1029/262	1034/313	1001/380

[(a)] Factory default setting.

Table 9. 5TEM6D04AV31SA/5TEM6D05AV41SA cooling airflow performance, wet coil, no filter, no heater

Outdoor Unit Size (Tons)	Speed Setting	Airflow Setting (CFM/ Ton)	DIP Switch Setting				Airflow (CFM)/Power (Watts) by External Static Pressure				
			SW1	SW2	SW3	SW4	0.1	0.3	0.5	0.7	0.9
2.5	Low	300	ON	ON	OFF	ON	717/47	714/97	698/142	669/183	629/219
	Normal	341	ON	ON	OFF	OFF	801/61	815/116	812/167	792/216	756/262
	High	384	ON	ON	ON	OFF	890/76	922/136	933/195	922/252	890/308
3	Low	319	OFF	ON	OFF	ON	887/75	919/135	929/194	918/251	886/306
	Normal	363	OFF	ON	OFF	OFF	1106/135	1149/202	1173/272	1176/342	1160/414
	High	408	OFF	ON	ON	OFF	1218/175	1263/249	1287/323	1291/401	1274/480
3.5	Low	315	ON	OFF	OFF	ON	1117/139	1161/207	1184/227	1188/348	1172/420
	Normal	357	ON	OFF	OFF	OFF	1233/179	1277/255	1300/331	1301/407	1281/484
	High	402	ON	OFF	ON	OFF	1323/209	1365/294	1379/372	1365/443	1326/505

Table 9. 5TEM6D04AV31SA/5TEM6D05AV41SA cooling airflow performance, wet coil, no filter, no heater (continued)

Outdoor Unit Size (Tons)	Speed Setting	Airflow Setting (CFM/ Ton)	DIP Switch Setting				Airflow (CFM)/Power (Watts) by External Static Pressure				
			SW1	SW2	SW3	SW4	0.1	0.3	0.5	0.7	0.9
4	Low	308	OFF	OFF	OFF	ON	1223/176	1268/250	1291/326	1294/403	1277/482
	Normal[a]	350	OFF	OFF	OFF	OFF	1317/208	1354/293	1378/371	1370/441	1310/503
	High	394	OFF	OFF	ON	OFF	1473/281	1493/372	1468/435	1400/471	1294/482

[a] Factory default setting.

Table 10. 5TEM6D04AV31SA/5TEM6D05AV41SA heating airflow performance, no filter, no heater

Outdoor Unit Size (Tons)	Speed Setting	Airflow Setting (CFM/ Ton)	DIP Switch Setting				Airflow (CFM)/Power (Watts) by External Static Pressure				
			SW1	SW2	SW3	SW4	0.1	0.3	0.5	0.7	0.9
2.5	Low	341	ON	ON	OFF	ON	798/53	815/108	810/158	799/211	761/255
	Normal	379	ON	ON	OFF	OFF	873/64	906/124	917/179	912/240	881/292
	High	417	ON	ON	ON	OFF	1018/101	1061/165	1083/229	1087/296	1069/361
3	Low	381	OFF	ON	OFF	ON	1138/135	1186/204	1215/275	1222/347	1212/422
	Normal	424	OFF	ON	OFF	OFF	1232/165	1278/239	1309/317	1314/393	1295/467
	High	466	OFF	ON	ON	OFF	1306/186	1343/265	1373/348	1376/428	1332/483
3.5	Low	348	ON	OFF	OFF	ON	1199/156	1248/228	1280/303	1285/377	1276/457
	Normal	386	ON	OFF	OFF	OFF	1279/179	1319/255	1349/337	1353/415	1319/477
	High	425	ON	OFF	ON	OFF	1382/218	1415/301	1429/389	1399/442	1333/484
4	Low	338	OFF	OFF	OFF	ON	1279/179	1319/255	1350/337	1353/415	1319/477
	Normal[a]	375	OFF	OFF	OFF	OFF	1393/222	1426/307	1437/395	1402/444	1332/484
	High	413	OFF	OFF	ON	OFF	1488/265	1505/352	1411/425	1370/522	1295/349

[a] Factory default setting.

Table 11. 5TEM6D06AV41SA/5TEM6D07AV51SA cooling airflow performance, no filter, no heater

Outdoor Unit Size (Tons)	Speed Setting	Airflow Setting (CFM/ Ton)	DIP Switch Setting				Airflow (CFM)/Power (Watts) by External Static Pressure				
			SW1	SW2	SW3	SW4	0.1	0.3	0.5	0.7	0.9
3	Low	324	ON	ON	OFF	ON	993/101	1003/149	997/197	974/246	935/295
	Normal	368	ON	ON	OFF	OFF	1077/122	1095/175	1096/227	1079/280	1045/332
	High	423	ON	ON	ON	OFF	1233/173	1258/236	1264/297	1254/356	1227/413
3.5	Low	314	OFF	ON	OFF	ON	1074/121	1092/174	1092/226	1075/279	1040/331
	Normal	357	OFF	ON	OFF	OFF	1208/164	1232/225	1239/284	1228/342	1200/399
	High	411	OFF	ON	ON	OFF	1453/258	1479/333	1490/405	1487/474	1468/539
4	Low	298	ON	OFF	OFF	ON	1134/135	1157/191	1162/249	1149/302	1118/357
	Normal	339	ON	OFF	OFF	OFF	1346/217	1371/286	1380/352	1373/416	1351/478
	High	389	ON	OFF	ON	OFF	1605/371	1633/401	1647/481	1648/556	1635/626

Table 11. 5TEM6D06AV41SA/5TEM6D07AV51SA cooling airflow performance, no filter, no heater (continued)

Outdoor Unit Size (Tons)	Speed Setting	Airflow Setting (CFM/ Ton)	DIP Switch Setting				Airflow (CFM)/Power (Watts) by External Static Pressure				
			SW1	SW2	SW3	SW4	0.1	0.3	0.5	0.7	0.9
5	Low	305	OFF	OFF	OFF	ON	1565/301	1592/383	1606/461	1605/534	1591/603
	Normal[a]	347	OFF	OFF	OFF	OFF	1754/414	1791/499	1794/582	1788/665	1798/745
	High[b]	399	OFF	OFF	ON	OFF	1993/557	1997/645	1968/707	1906/743	1811/753

[a] Factory default setting.

[b] Airflow must not exceed 1800 cfm in horizontal right, horizontal left, and downflow applications due to condensate blowoff. The 5 ton high tap will not be used in these applications.

Table 12. 5TEM6D06AV41SA/5TEM6D07AV51SA heating airflow performance, no filter, no heater

Outdoor Unit Size (Tons)	Speed Setting	Airflow Setting (CFM/ Ton)	DIP Switch Setting				Airflow (CFM)/Power (Watts) by External Static Pressure				
			SW1	SW2	SW3	SW4	0.1	0.3	0.5	0.7	0.9
3	Low	360	ON	ON	OFF	ON	1058/108	1074/159	1079/11	1067/264	1031/315
	Normal	400	ON	ON	OFF	OFF	1139/128	1159/183	1176/242	1166/296	1136/351
	High	440	ON	ON	ON	OFF	1292/183	1318/248	1333/314	1328/375	1307/436
3.5	Low	348	OFF	ON	OFF	ON	1162/136	1183/193	1199/253	1190/308	1162/364
	Normal	387	OFF	ON	OFF	OFF	1336/199	1364/267	1378/335	1375/398	1356/461
	High	426	OFF	ON	ON	OFF	1509/261	1544/341	1557/417	1559/489	1550/558
4	Low	338	ON	OFF	OFF	ON	1332/197	1360/265	1375/333	1371/397	1352/459
	Normal	375	ON	OFF	OFF	OFF	1521/265	1556/346	1569/422	1571/495	1563/564
	High	413	ON	OFF	ON	OFF	1667/341	1714/426	1726/510	1725/587	1724/665
5	Low	326	OFF	OFF	OFF	ON	1650/330	1694/415	1707/497	1707/574	1705/651
	Normal[a]	362	OFF	OFF	OFF	OFF	1805/423	1846/509	1855/597	1831/660	1811/729
	High	398	OFF	OFF	ON	OFF	1980/515	1991/604	1992/694	1923/723	1851/753

[a] Factory default setting.

Electrical Data

Table 13. Electrical data – model 5TEM6B02AV21SA

Heater Model No.	No. of Circuits/ Phases	240 Volt					208 Volt				
		Capacity		Heater Amps per Circuit	Minimum Circuit Ampacity	Maximum Overload Protection	Capacity		Heater Amps per Circuit	Minimum Circuit Ampacity	Maximum Overload Protection
		kW	BTUH				kW	BTUH			
No Heater				2.8[a]	4	15			2.8[a]	4	15
BAYHTR1504BRK BAYHTR1504LUG	1/1	3.84	13100	16.0	24	25	2.88	9800	13.8	21	25
BAYHTR1505BRK BAYHTR1505LUG	1/1	4.80	16400	20.0	29	30	3.60	12300	17.3	25	25
BAYHTR1508BRK BAYHTR1508LUG	1/1	7.68	26200	32.0	44	45	5.76	19700	27.7	38	40
BAYHTR1510BRK BAYHTR1510LUG	1/1	9.60	32800	40.0	54	60	7.20	24600	34.6	47	50
BAYHTR1517BRK Circuit 1[b]	2/1	9.60	32800	40.0	54	60	7.20	24600	34.6	47	50
BAYHTR1517BRK Circuit 2		4.80	16400	20.0	25	25	3.60	12300	17.3	22	25

Table 13. Electrical data – model 5TEM6B02AV21SA (continued)

Heater Model No.	No. of Circuits/ Phases	240 Volt					208 Volt				
		Capacity		Heater Amps per Circuit	Minimum Circuit Ampacity	Maximum Overload Protection	Capacity		Heater Amps per Circuit	Minimum Circuit Ampacity	Maximum Overload Protection
		kW	BTUH				kW	BTUH			
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

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

Table 14. Electrical data – model 5TEM6B03AV21SA

Heater Model No.	No. of Circuits/ Phases	240 Volt					208 Volt				
		Capacity		Heater Amps per Circuit	Minimum Circuit Ampacity	Maximum Overload Protection	Capacity		Heater Amps per Circuit	Minimum Circuit Ampacity	Maximum Overload Protection
		kW	BTUH				kW	BTUH			
No Heater				4.3(a)	5	15			4.3(a)	5	15
BAYHTR1504BRK BAYHTR1504LUG	1/1	3.84	13100	16.0	25	25	2.88	9800	13.8	23	25
BAYHTR1505BRK BAYHTR1505LUG	1/1	4.80	16400	20.0	30	30	3.60	12300	17.3	27	30
BAYHTR1508BRK BAYHTR1508LUG	1/1	7.68	26200	32.0	45	45	5.76	19700	27.7	40	40
BAYHTR1510BRK BAYHTR1510LUG	1/1	9.60	32800	40.0	55	60	7.20	24600	34.6	49	50
BAYHTR1517BRK Circuit 1 (b)	2/1	9.60	32800	40.0	55	60	7.20	24600	34.6	49	50
BAYHTR1517BRK Circuit 2		4.80	16400	20.0	25	25	3.60	12300	17.3	22	25
BAYHTR3510LUG	1/3	9.60	32800	23.1	34	35	7.20	24600	20.0	30	30
BAYHTR3517LUG	1/3	14.40	49100	34.6	48	50	10.80	36900	30.0	42	45

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

Table 15. Electrical data – model 5TEM6D04AV31SA/5TEM6D05AV41SA

Heater Model No.	No. of Circuits/ Phases	240 Volt					208 Volt				
		Capacity		Heater Amps per Circuit	Minimum Circuit Ampacity	Maximum Overload Protection	Capacity		Heater Amps per Circuit	Minimum Circuit Ampacity	Maximum Overload Protection
		kW	BTUH				kW	BTUH			
No Heater				4.3(a)	5	15			4.3(a)	5	15
BAYHTR1504BRK BAYHTR1504LUG	1/1	3.84	13100	16.0	25	25	2.88	9800	13.8	23	25
BAYHTR1505BRK BAYHTR1505LUG	1/1	4.80	16400	20.0	30	30	3.60	12300	17.3	27	30
BAYHTR1508BRK BAYHTR1508LUG	1/1	7.68	26200	32.0	45	45	5.76	19700	27.7	40	40
BAYHTR1510BRK BAYHTR1510LUG	1/1	9.60	32800	40.0	55	60	7.20	24600	34.6	49	50
BAYHTR1517BRK Circuit 1(b)	2/1	9.60	32800	40.0	55	60	7.20	24600	34.6	49	50
BAYHTR1517BRK Circuit 2		4.80	16400	20.0	25	25	3.60	12300	17.3	22	25
BAYHTR1523BRK Circuit 1(b)	2/1	9.60	32800	40.0	55	60	7.20	24600	34.6	49	50
BAYHTR1523BRK Circuit 2		9.60	32800	40.0	50	50	7.20	24600	34.6	43	45
BAYHTR3510LUG	1/3	9.60	32800	23.1	34	35	7.20	24600	20.0	30	30
BAYHTR3517LUG	1/3	14.40	49100	34.6	48	50	10.80	36900	30.0	42	45

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

Table 16. Electrical data – model 5TEM6D06AV41SA/5TEM6D07AV51SA

Heater Model No.	No. of Circuits/ Phases	240 Volt					208 Volt				
		Capacity		Heater Amps per Circuit	Minimum Circuit Ampacity	Maximum Overload Protection	Capacity		Heater Amps per Circuit	Minimum Circuit Ampacity	Maximum Overload Protection
		kW	BTUH				kW	BTUH			
No Heater				6.8[a]	9	15			6.8[a]	9	15
BAYHTR1504BRK BAYHTR1504LUG	1/1	3.84	13100	16.0	29	30	2.88	9800	13.8	26	30
BAYHTR1505BRK BAYHTR1505LUG	1/1	4.80	16400	20.0	34	35	3.60	12300	17.3	30	30
BAYHTR1508BRK BAYHTR1508LUG	1/1	7.68	26200	32.0	49	50	5.76	19700	27.7	43	45
BAYHTR1510BRK BAYHTR1510LUG	1/1	9.60	32800	40.0	59	60	7.20	24600	34.6	52	60
BAYHTR1517BRK Circuit 1[b]	2/1	9.60	32800	40.0	59	60	7.20	24600	34.6	52	60
BAYHTR1517BRK Circuit 2		4.80	16400	20.0	25	25	3.60	12300	17.3	22	25
BAYHTR1523BRK Circuit 1[b]	2/1	9.60	32800	40.0	59	60	7.20	24600	34.6	52	60
BAYHTR1523BRK Circuit 2		9.60	32800	40.0	50	50	7.20	24600	34.6	43	45
BAYHTR1525BRK Circuit 1[b]	4/1	6.00	20500	25.0	40	40	4.50	15400	21.6	36	40
BAYHTR1525BRK Circuit 2		6.00	20500	25.0	31	35	4.50	15400	21.6	27	30
BAYHTR1525BRK Circuit 3		6.00	20500	25.0	31	35	4.50	15400	21.6	27	30
BAYHTR1525BRK Circuit 4		6.00	20500	25.0	31	35	4.50	15400	21.6	27	30
BAYHTR3510LUG	1/3	9.60	32800	23.1	36	40	7.20	24600	20.0	33	35
BAYHTR3517LUG	1/3	14.40	49100	34.6	51	60	10.80	36900	30.0	45	45

[a] Motor Amps

[b] MCA and MOP for circuit 1 contains the motor amps

Minimum Airflow CFM

Table 17. Minimum airflow CFM

Heater	5TEM6B02AV21SA / 5TEM6B03AV21SA		5TEM6D04AV31SA / 5TEM6D05AV41SA		5TEM6D06AV41SA / 5TEM6D07AV51SA	
	With Heat Pump	Without Heat Pump	With Heat Pump	Without Heat Pump	With Heat Pump	Without Heat Pump
BAYHTR1504BRK, BAYHTR1504LUG, BAYHTR1505BRK, BAYHTR1505LUG	660	500	875	675	1200	975
BAYHTR1508BRK, BAYHTR1508LUG	780	600	950	820	1350	975
BAYHTR1510BRK, BAYHTR1510LUG	780	600	1000	820	1350	975
BAYHTR1517BRK	1050	850	1000	820	1365	975
BAYHTR3510LUG	780	600	875	820	1300	975
BAYHTR3517LUG	900	850	1000	950	1365	1120
BAYHTR1523BRK	–	–	1300	1140	1365	1300
BAYHTR1525BRK	–	–	–	–	1810	1505

Table 18. Airflow performance with auxiliary heat

Airflow Settings	DIP Switch Settings		Nominal Airflow		
	Switch 7	Switch 8	5TEM6B02AV21SA / 5TEM6B03AV21SA	5TEM6D04AV31SA / 5TEM6D05AV41SA	5TEM6D06AV41SA / 5TEM6D07AV51SA
Low	ON	ON	601	696	1000
Med-Lo	OFF	ON	661	825	1130
Med-Hi	ON	OFF	781	1150	1354
High	OFF	OFF	973	1298	1596

Heater Pressure Drop Table

Table 19. Heat pressure drop

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

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.

- ☐ All wiring connections are tight and properly secured.
- ☐ Voltage and running current are within limits.
- ☐ All refrigerant lines (internal and external to equipment) are isolated, secure, and not in direct contact with each other or structure.
- ☐ All braze connections have been checked for leaks. A vacuum of 350 microns provides confirmation that the refrigeration system is leak free and dry.
- ☐ If unit is installed in any orientation other than upflow, refrigerant sensor is properly relocated.
- ☐ 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.
- ☐ Ductwork is sealed and insulated.
- ☐ 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.
- ☐ Supply registers and return grilles are open, unobstructed, and air filter is installed.
- ☐ Indoor blower and outdoor fan are operating smoothly and without obstruction.
- ☐ Indoor blower motor set on correct speed setting to deliver required CFM. Blower and fan set screws are tight.
- ☐ Cover panels are in place and properly tightened.
- ☐ System functions safely and properly in all modes.
- ☐ Refrigerant leak detection system mitigating actions are verified.
- ☐ All refrigerant safety procedures have been verified.
- ☐ Owner has been instructed on use of system and given manual.

About Trane and American Standard Heating and Air Conditioning

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