

# THINLINE®

HORIZONTAL FAN COILS AND CABINET UNIT HEATERS



- TYPE FC AND FH
- 200 TO 1200 CFM

|                                                   |           |                                            |           |
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\*Standard size units certified in accordance with the Room Fan-Coil Unit certification program, which is based on AHRI Standard 440.



\*All standard units  
All Canadian units

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# Safety Information

## Hazard Identification

### DANGER

Danger indicates a hazardous situation, which will result in death or serious injury if not avoided.

### WARNING

Warning indicates a potentially hazardous situation, which can result in property damage, personal injury, or death if not avoided.

### CAUTION

Caution indicates a potentially hazardous situation, which can result in minor injury or equipment damage if not avoided.

### NOTICE

Notice indicates practices not related to physical injury.

**NOTE:** Indicates important details or clarifying statements for information presented in Figures or Tables.

This manual provides installation, operation, and maintenance information for Daikin Applied Horizontal Fan Coils with a MicroTech® controller.

### DANGER

**LOCKOUT/TAGOUT** all power sources prior to service, pressurizing, de-pressurizing, or powering down the unit. Failure to follow this warning exactly can result in serious injury or death. Disconnect electrical power before servicing the equipment. More than one disconnect may be required to de-energize the unit. Be sure to read and understand the installation, operation, and service instructions within this manual.

### WARNING

Electric shock hazard. Improper handling of this equipment can cause personal injury or equipment damage. This equipment must be properly grounded. Connections to and service of the MicroTech control panel must be performed only by personnel that are knowledgeable in the operation of the equipment being controlled.

### WARNING

Polyester Oil, commonly known as POE oil is a synthetic oil used in many refrigeration systems, and may be present in this Daikin Applied product. POE oil, if ever in contact with PVC/CPVC, will coat the inside wall of PVC/CPVC pipe causing environmental stress fractures. Although there is no PVC/CPVC piping in this product, please keep this in mind when selecting piping materials for your application, as system failure and property damage could result. Refer to the pipe manufacturer's recommendations to determine suitable applications of the pipe.

### CAUTION

Static sensitive components. A static discharge while handling electronic circuit boards can cause damage to the components. Discharge any static electrical charge by touching the bare metal inside the control panel before performing any service work. Never unplug any cables, circuit board terminal blocks, or power plugs while power is applied to the panel.

### NOTICE

Installation and maintenance are to be performed only by licensed, if required by local codes and regulations, or qualified personnel who are familiar with local codes and regulations and are experienced with this type of equipment.

### NOTICE

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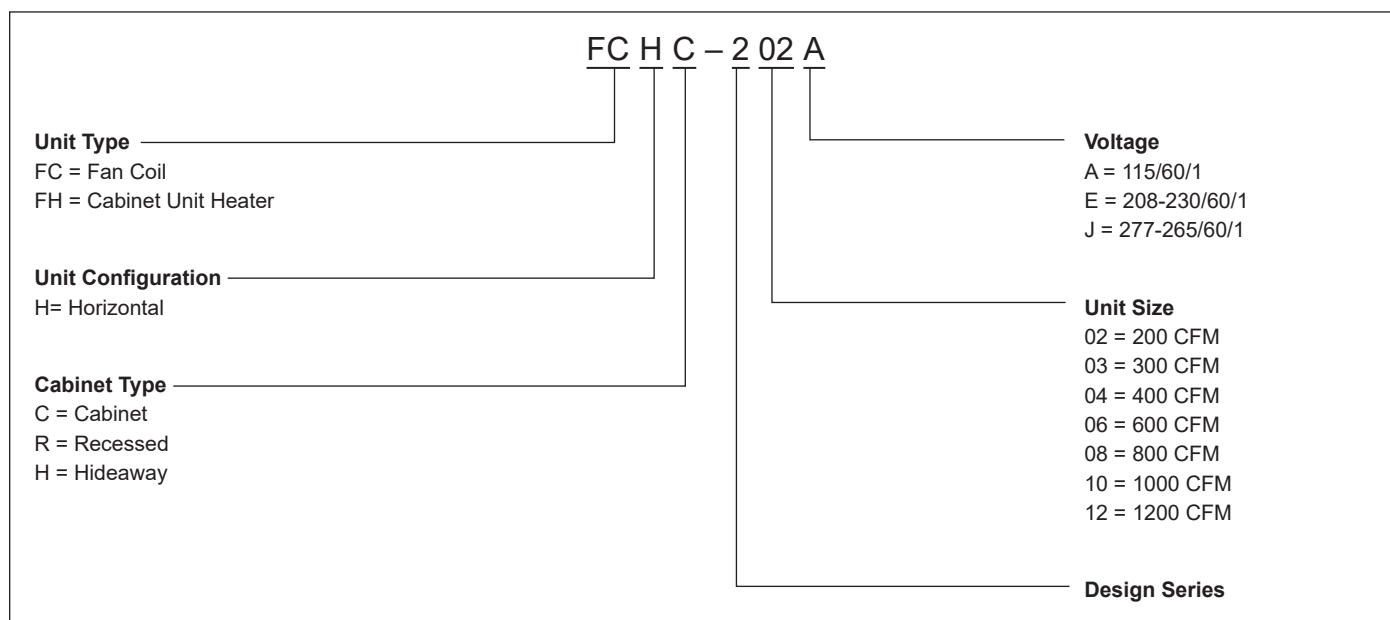
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## Introduction

Daikin Applied ThinLine Horizontal Fan Coils are intended for use in single zone applications. They are available in sizes from 200 to 1200 cfm. [Figure 1](#) describes the main features of these units and can be referred to for component placement. These units are available in two-pipe configurations with one hydronic coil, with or without electric heat.

They are also available in four-pipe configurations with a primary coil and a secondary reheat or preheat coil. A variety of factory-built piping packages are available, either factory or field-installed. Units are available with a variety of thermostat and fan speed control options, including the MicroTech III controller board.

## Nomenclature



**NOTE:** See "Full Nomenclature" on page 48 for complete model number description.

**Figure 1: Model FCHH with Return Plenum**





# Installation

## Operating Limits

This equipment is designed for indoor installation only. Sheltered locations such as attics, garages, etc., will not provide sufficient protection against extremes in temperature and/or humidity, and equipment performance, reliability, and service life may be adversely affected.



### DANGER

Disconnect all electrical power before servicing unit. Electrical shock will cause severe injury or death.



### WARNING

Hazardous Voltage! Use copper conductors only. Unit terminals are not designed to accept other types of conductors. Failure to do so may cause damage to the equipment.



### WARNING

Personal injury hazard. Wear protective gloves to avoid possible cuts and abrasions from exposed edges. Avoid contact with sharp edges



### CAUTION

Cleaning agents may cause serious damage to internal components, such as aluminum coils and electronic controls, etc. Do not operate fan coil while building maintenance cleaning agents are in use.



### CAUTION

Sharp edges and coil surfaces are injury hazards. Avoid contact with them.



### CAUTION

Moving machinery and electrical power hazards may cause severe personal injury or death. Disconnect and lock off power before servicing equipment.

### NOTICE

Installation and maintenance are to be performed only by qualified personnel who are familiar with and in compliance with state, local and national codes and regulations, and experienced with this type of equipment.

## Receiving and Handling

Carefully check equipment against the bill of lading to ensure all items have been received. Before unloading any unit, check the nameplate to make sure the voltage complies with the power supply available.

Inspect all units for damage upon arrival. If a unit has become dirty during shipment, carefully clean it prior to completing the inspection. Daikin Applied is not responsible for physical damage after the unit leaves the factory unless the contract with Daikin Applied states otherwise.

### NOTICE

All units should be carefully inspected for damage when received. Report all loss or shipping damage using a claim form supplied by Daikin Applied.

**VISIBLE LOSS OR DAMAGE:** Any external evidence of loss or damage must be noted on the freight bill or carrier's receipt, and signed by the carrier's agent. Failure to adequately describe such external evidence of loss or damage may result in the carrier's refusal to honor a damage claim.

**CONCEALED LOSS OR DAMAGE:** Concealed loss or damage means loss or damage which does not become apparent until the unit has been unpacked or unwrapped. The contents may be damaged in transit due to rough handling even though the exterior may not show damages. When the damage is discovered, make a written request for inspection by the carrier's agent within **five (5) days** of the delivery date and file a claim with the form provided by Daikin Applied. Refer to the Daikin Applied Freight Policy for further information.

## Storage

Do not stand or transport the machines on end. For storing, each carton is marked with "up" arrows.

Temporary storage at the job site must be indoors, completely sheltered from rain, snow, etc. High or low temperatures naturally associated with weather patterns will not harm the units. Excessively high temperatures, 140°F (60°C) and above, may deteriorate certain plastic materials and cause permanent damage.

## Pre-Installation

Installation and maintenance are to be performed only by qualified personnel who are familiar with and in compliance with state, local and national codes and regulations, and experienced with this type of equipment. Before beginning installation, please read this publication in its entirety. Directions given in this bulletin for right and left sides or coil hand assume a position facing the front (discharge) of the unit.

- To prevent damage, do not operate this equipment for supplementary heating and cooling during the construction period. Doing so will void the warranty.
- Inspect the carton for any specific tagging numbers indicated by the factory per a request from the installing contractor. At this time the voltage, phase and capacity should be checked against the plans.
- Check the packing list and unit identification/tagging numbers against the plans to verify that the unit is being installed in the correct location. The unit data plate is attached to the front of the control box (see [Figure 2](#)). Remove the bottom panel on cabinet units to access it. The panel contains specific information on standard components as listed in "[Nomenclature](#)" on [page 4](#) and starting in "[Full Nomenclature](#)" on [page 48](#).
- Before installation, check the available dimensions of the space where the unit is to be installed against the dimensions of the unit.

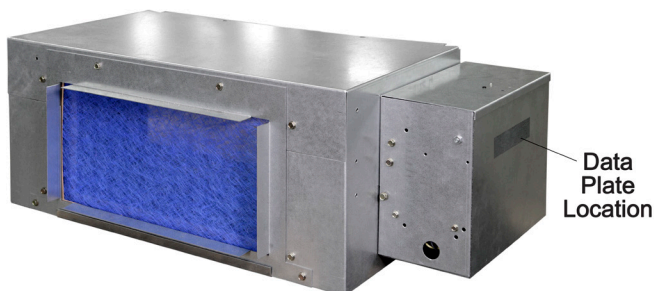
- Note the location and routing of water piping, condensate drain piping, and electrical wiring. The locations of these items should be clearly marked on submittal drawings.
- An installing contractor may find it beneficial to confer with piping, sheet metal, and electrical foremen before installing any unit.

#### NOTICE

Check the unit data plate for correct voltage with the plans before installing the equipment. Also, make sure all electrical ground connections are made in accordance with local code.

- After installation, cover the unit with the shipping carton or other appropriate material for protection during finishing of the building. This is critical while spraying fireproofing material on ceiling beams, bar joists, sandblasting, spray painting and plastering. Damage to the unit due to a failure to protect it during finishing of the building is not covered by the warranty.
- Maximum entering water temperature is 200°F (93°C).

**Figure 2: Data Plate Location**



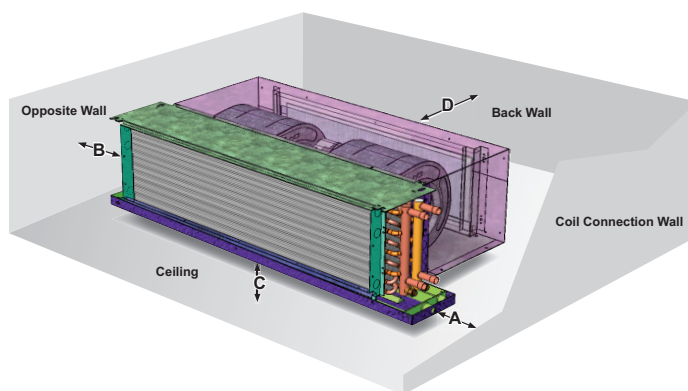
- Air ducts, when used with hideaway units, should be installed in accordance with local and national codes, including National Fire Protection Association standards for the Installation of Air Conditioning and Ventilating Systems and the National Fire Protection Association standards for the Installation of Air Conditioning and Ventilation Systems other than Residence Type.
- Completed installation of hideaway units without return plenum must comply with the requirements of NFPA90B with regard to the use of concealed ceiling spaces as return air plenums.
- When a return air duct is not provided, applicable codes may limit installation to single story buildings.
- A one-inch duct collar is provided on units with a ducted return and/or discharge to attach ductwork. Daikin Applied recommends using galvanized sheet metal ductwork. Slide the sheet metal duct over the duct collar flange of the unit, seal the joint and fasten with sheet metal screws.
- Vibration isolators are generally not needed, if required by local codes, they must be provided by the installing contractor.
- Valve and Piping Packages supplied with the unit should be supported during the installation process. It is advisable to keep the support in place after the unit has been installed and started.

## Recommended Clearance

Cabinet units have removable bottom and side panels for easy access to components for service and maintenance. The fan assembly and main drain pan are easily removable from the bottom for cleaning. See [“Accessing/Removing the Main Fan Deck and Motor Assembly”](#) on page 45 for more information.

Figure 3 shows recommended maintenance clearances for hideaway units. For exposed units use: 24 in [61 cm] on either side (A and B) and 18 in [46 cm] (C) below for bottom panel removal. Units are referred to as either right-hand or left-hand depending upon the piping connection. Hand is designated by facing the front of the unit (airflow discharges from the front or bottom).

**Figure 3: Concealed Hideaway Unit Clearance**



|          |                                                              |
|----------|--------------------------------------------------------------|
| <b>A</b> | 8" (20 cm) Same Side Connection or 24" (61 cm) Opposite Side |
| <b>B</b> | 24" (61 cm)                                                  |
| <b>C</b> | 28" (71 cm)                                                  |
| <b>D</b> | 18" (46 cm) for Hideaway Units Without Plenum                |

## Uncrating and Inspecting the Unit



#### WARNING

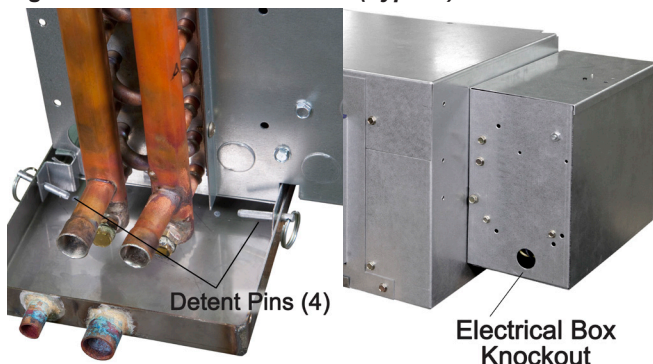
Plastic packaging is a suffocation hazard, dispose of properly. Keep away from children.

1. Carefully remove the packaging, remaining alert to any signs of shipping damage. Be careful not to discard components that may be included with the packaging.
2. If the unit is damaged, file a claim with the carrier. Notify the local Daikin Applied representative immediately.
3. You may want to retain some or all of the packaging to provide jobsite unit location information and temporary protection for the fan coil after installation. Be sure to dispose of plastic packaging and protective cardboard properly, in accordance with local recycling rules and guidelines.
4. Touch up painted panels if necessary. If panels need paint, sanding is not necessary. However, clean the surface of any oil, grease, or dirt residue so the paint will adhere. Purchase factory approved touch up paint from your Daikin Applied Representative or Daikin Applied Service.

# Installing the Unit

1. Consult job blueprints for unit location.
2. Clean area where unit is to be installed, removing all construction dirt and debris.
3. Remove the unit from the shipping carton and plastic covering. Save the carton and plastic to use as a protective cover after the installation is complete.
4. Rotate fan wheels by hand to make sure the wheels rotate freely.
5. Unit is ready for installation. See [“Duct Connections”](#) for more detail.
6. Secure unit in proper position. The top of the unit must be level. If hanger rods are used, “back-up” nuts should be put on the rods to prevent the mounting nuts from loosening. Install the drain pan by releasing the attached cable ties (4) and securing the drain pan to the unit via four detent pins (Figure 4). The drain pan is designed to have a little gradient to ensure proper drainage and operation. Do not level Drain Pan.
7. Water and drain connections can now be made to the unit. Piping must be installed in accordance with local codes and regulations. See [“Piping Connections”](#) for more detail.
8. Vent the coils.
9. All water and drain lines should be well insulated to prevent sweating and heat loss. See [“External Insulating Requirements”](#) on page 15 for more detail.
10. Electrical connections can now be made to the electrical panel or chase, in case the panel is not provided. Unless it is a special-order unit, all electrical connections are made in the main electrical control panel located on the opposite side of the primary panel connections. Electrical power wiring goes through the chase located between the drain pan and coil section. If needed, the power connections may be done through knockouts located on both sides of the unit. See Figure 4.

**Figure 4: Electrical Knockouts (Typical)**



11. The installer shall provide wiring to the unit. Branch circuit overcurrent protection and disconnect should conform to the applicable electrical codes. The motor provided is “thermally protected.” See [“Electrical Connections”](#) on page 22.

12. All panels and doors should be in place and closed before starting up the unit.
13. During summer construction, there is an unusually high amount of moisture in the air; therefore, the initial pulldown should be very gradual (high speed for maximum airflow with reduced GPM and elevated chilled water temperature for reduced capacity). This procedure will reduce the possibility of the unit sweating.

## Piping Connections



### WARNING

Avoid overheating when soldering field connections to the coil to prevent leakage, overheating of the copper tubes, and melting of valves, factory-soldered joints or component gasketing. A quenching cloth is recommended. See Figure 5.

### NOTICE

Venting is required on the return piping for secondary preheat or reheat coils. It is included on factory-built piping packages, but must be added by the installing contractor for field-installed piping. See Figure 6.

- Piping can be steel, copper or PVC, but must comply with local codes.
- Proper ventilation is required for soldering. When soldering, use a quenching cloth to protect fan coil components from overheating damage—melting insulation, also damage to valves, wiring, electronics, sensors, etc. See Figure 5. When Daikin Applied provides valve packages with unions, o-rings are included. When soldering near unions, remove the o-rings before heating.

**Figure 5: Protect Components from Overheating**

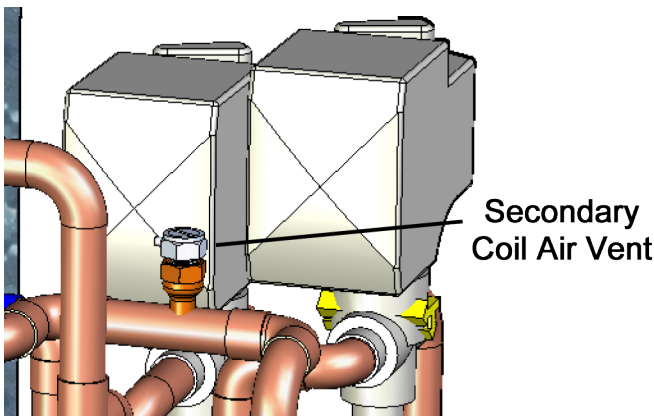


- If sealant compound is not provided for flexible hose fittings, apply Teflon tape to the connections to help prevent leaks.
- Ensure proper insulation of supply and return piping. Proper insulation prevents loss of fan coil capacity, overheating of end compartments, and/or moisture dripping.



- The piping to and from the unit must be protected from outside air and freeze conditions. It must be suitably insulated for condensation and for heat loss or gain. Penetrations entering the unit end compartments must be fitted/sealed for unit integrity.
- Exterior condensate may be an issue if field piping does not have a control valve. Review the supply and return header locations in the dimensions drawings. If using a field-assembled piping package, allow sufficient room to install the secondary drain pan. Uninsulated piping for chilled water should not extend over the edges of the secondary condensate drain pan.
- Supply and return shutoff valves are recommended at each unit. The return valve is used for balancing and should have a “memory stop” so that it can always be closed off, but can only be re-opened to the proper position for the flow required.
- Primary coils are factory-equipped with vents for venting the system, but secondary coils (preheat or reheat) are not. If the unit is not equipped with factory-built piping packages which includes a secondary coil air vent, then vents must be added. See [Figure 6](#).
- Be sure to install control valves on the correct fan coil. Indiscriminate mixing of valves in the field can result in valves improperly sized for the desired flow rate, which can result in poor operation and coil freezes.
- Install control valves so there is at least 2” (51mm) minimum clearance to remove the actuator from the valve body.

**Figure 6: Secondary Coil Air Vent**



- Do not connect a unit to the supply and return piping until the water system has been cleaned and flushed completely. After this is done, the initial connection should have all valves wide open in preparation for water system flushing.
- Automatic flow control devices must not be installed prior to system cleaning and flushing.
- Check local code for any requirement for electrical fittings.

## Drain Piping

- Condensate piping can be steel, copper, or PVC. A means of disconnection must be furnished to facilitate fan deck removal.
- No point of the drain system may be above the drain pan of any unit.
- Pipe insulation is recommended to avoid condensation.
- Suggested slope of the drain pipe is at least 1/8” per foot to facilitate adequate condensate drainage but local code requirement should prevail.
- Slide the pipe over the drain pan nipple and tighten the collar on the pipe with a hose clamp (supplied by installer).
- The drain line should be supported to prevent undue stress on the secondary drain pan. Make sure the drain line is free of kinks.
- Trap drain line according to local codes.

### NOTICE

Traps for exposed units may be located outside the cabinet as there is insufficient space inside the unit.

- Cap overflow drain connection or connect it with clear piping to the point where it can be used as an indicator for a clogged main drain connection.

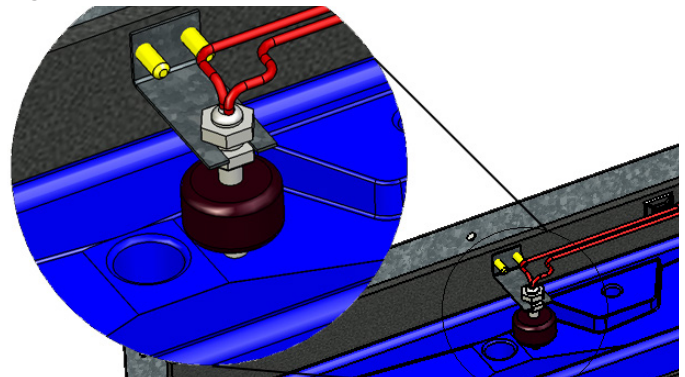
## Condensate Overflow Detection Device

The condensate overflow detection device is a factory-installed option on fan coils. This device has a condensate overflow switch with dry contacts and is connected to the LV board or MicroTech board. See [Figure 7](#).

If you suspect it is not working properly, check to be sure that the float is installed straight up with the proper elevation. See [“Accessing/Removing the Main Fan Deck and Motor Assembly” on page 45](#) for instructions on removing the main drain pan to access the device.

The condensate overflow switch needs to be wired to the proper controller (MicroTech for example) to shut off the fan if excessive water is present in the drain pan.

**Figure 7: Condensate Overflow Switch Installation**





# Chilled Water Pipe Connections

## No Valve Package

- Connect chilled water pipes to the unit. The water supply is on the bottom and water return is on top of the coil header. Connections may be 1/2" nominal sweat (5/8" O.D.), 1/2" FPT adapters, or 3/4" FPT adapters.

## Connecting to a Factory-Installed Valve & Piping Package

To view connection locations for factory-installed valve & piping packages, see ["Factory-Installed Valve and Piping Packages" on page 10](#). Before installing supply and return lines to a factory piping package, review the following items.

- All piping connections are 5/8" O.D.S. (1/2" nominal) female copper connections.
- Supply and return piping should not interfere with the secondary drain pan or condensate line. The installer must provide adequate piping system filtration and water treatment. Daikin Applied Deluxe and Enhanced piping packages include a strainer which prevents debris from entering the coil. Clean the strainer regularly.
- The fan coil ships with brackets and special shipping packaging to adequately support the piping package during shipment. Remove the packaging before connecting to the water piping but leave the support brackets in place during and after the installation.
- Set all valves to the fully open position to prevent damage to the valve seat during brazing. Use a quenching cloth as protection.
- Remove the secondary drain pan, if in place, to prevent exposure to dripping solder or excessive temperatures.
- Solder water piping connections to supply and return end connections. Avoid overheating factory soldered joints to prevent the possibility of leakage.
- Insulate fan coil piping to secondary drain pan connections and any piping that is not above the secondary drain pan.

## Field-Installed Valve & Piping

Review ["Piping Connections" on page 7](#) before beginning. Then carry out the following steps to install valves and piping.

- For units equipped with a secondary coil make sure that an air vent is included in the return line piping. Primary coils are factory-equipped with vents, secondary coils are not. See [Figure 6](#). Valve Package support brackets are included with the secondary coil kits.
- Remove the secondary drain pan, if in place, to prevent exposure to dripping solder or excessive temperatures.

### NOTICE

Field-installed valve and piping packages provided by Daikin Applied include the secondary drain pan. If valve packages by the field, secondary drain pans should be provided by others.

- Slide 1/2" copper tubing or connection couplings (provided by installer) onto the coil connections. Solder the joint using a good-quality, lead-free solder to provide a watertight connection.
- After connections are complete, insulate all piping to the coil connections as necessary to prevent condensate from dripping outside of the secondary drain pan.
- Install the optional secondary drain pan.

## Shutoff/Balancing Valve

Each fan coil should be at least be equipped with shutoff valves on both the supply and return lines for easy serviceability and removal if it becomes necessary. We suggest using a combination shutoff/balancing valves between the main supply line and the fan coil unit. These could be furnished by a 3rd-party as part of a field-installed valve & piping package. The balancing valve installed on the return line is used to adjust the water flow to provide the best performance.

## Automatic Changeover Sensor

Two-pipe changeover units require an automatic changeover switch or pipe sensor that determines heating or cooling mode based on the supply water temperature. On units with a factory-installed valve & piping package, the factory straps the changeover switch or sensor to the piping supply water pipe. See [Figure 8](#). For field-installed Valve Packages, the ACO must be ordered separately.

For a two-pipe system with intermediate supplemental electric heat, a second set is required including a changeover switch. See ["Two-Pipe Systems with Electric Heat" on page 10](#) section for more details.

### NOTICE

A bypass bleed line is installed on all factory provided fan coil valve packages with a 2-way control valve to prevent stagnation of water near the changeover switch (aqua-stat) or changeover sensor (10K pipe sensor). The bleed line allows 3 – 4 gpm of flow to bypass the coil which is necessary for the proper function of the automatic changeover system. All valve packages, cooling and heating, with a 2-way control valve automatically include the bypass bleed line. If the bleed line is unwanted, it may be crimped by the installing contractor to prevent bypass flow.

If the unit does not have a factory-installed valve & piping package, the changeover switch or sensor can be ordered for field installation. The installer should attach the sensor or auto changeover switch parallel to and in direct contact with the supply water pipe.

### NOTICE

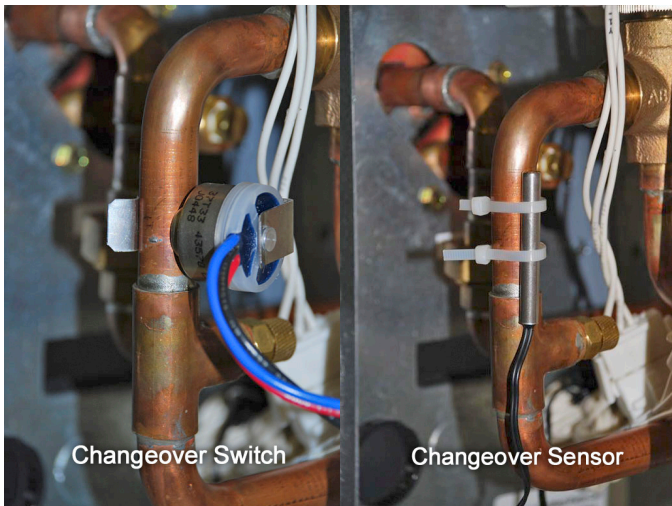
The installer is responsible to ensure the changeover sensor is installed in a location that can sense active water temperature. Otherwise, the unit may fail to sense the correct operating mode and disable temperature control.

When using field-supplied 3-way control valves, install the changeover sensor upstream of the valve and the bypass on the supply water pipe. When using field-supplied two-way control valves install the changeover sensor in a location that will detect active water temperature. The unit must always be able to sense the correct system water temperature, regardless of the control valve position.

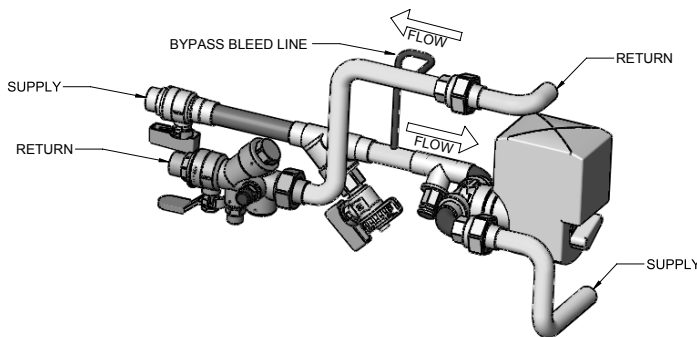
#### NOTICE

The maximum length of the automatic changeover wire cannot exceed 10 feet from the control panel to the sensor. If the wire extends beyond the unit chassis, use shielded conductors to eliminate radio frequency interference (RFI).

**Figure 8: Automatic Changeover Switch and Sensor**



**Figure 9: Bypass Bleed Line**



## Steam Piping Connections

#### CAUTION

**Coil Damage!** In all steam coil installations, the condensate return connections must be at the low point of the coil to ensure condensate flows freely from the coil at all times. Failure to do so may cause physical coil damage from water hammer, unequal thermal stresses, freeze-up and/or corrosion.

Make piping connections to the steam coil per job requirements. (Daikin Applied does not supply steam piping connections.) Install a 1/2", 15-degree swing check vacuum breaker in the unused condensate return trapping as close as possible to the coil. The following procedures are recommended:

- Vent the vacuum breaker line to atmosphere or connect it into the return main at the discharge side of the steam trap.
- Pitch all steam supply and return mains down a minimum of one inch per ten feet in the direction of flow.
- Do not drain the steam mains or takeoff through the coils. Drain the mains ahead of the coils through a steam trap to the return line.
- Overhead returns require one psig of pressure at the steam trap discharge for each two-foot elevation to ensure continuous condensate removal.
- Proper steam trap selection and installation is necessary for satisfactory coil performance and service life. For installation, use the following steps:
  - Position the steam trap discharge at least 12 inches below the condensate return connection. This provides sufficient hydrostatic head pressure to overcome trap losses and ensure complete condensate removal.
  - Daikin Applied recommends using float and thermostatic traps because of gravity drain and continuous discharge operation.
  - Use float and thermostatic traps with atmospheric pressure gravity condensate return, with automatic controls or where the possibility of low pressure supply steam exists.
  - Always install strainers as close as possible to the trap inlet side.

## Two-Pipe Systems with Electric Heat

#### NOTICE

Daikin Applied recommends operating the electric heater at the High motor speed setting.

The electric heating coil is designed to be the total source of heat for the unit. If used for auxiliary intermediate season heating, additional control is required. A second changeover switch is required. For units ordered with intermediate electric heat, the second changeover switch is factory installed.

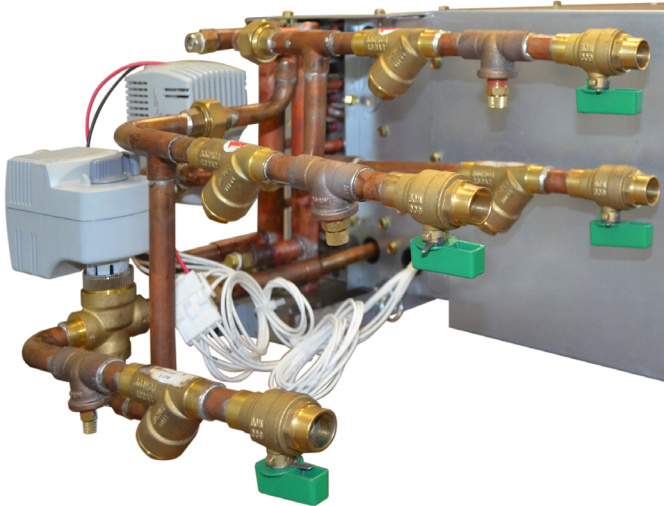
To protect the electric heat elements, an automatic and manual electric heat switch disengages the electric heat to prevent overheating. For information on resetting the manual switch, see [“Electric Heat Over-Temp Reset Button” on page 24](#). For a typical wiring diagram, see [Figure 40](#).

## Factory-Installed Valve and Piping Packages

Factory valve and piping packages are available for both two-pipe and four-pipe systems with either right or left hand connections. Four-pipe systems can be configured with the heating and cooling connections on the same or opposite sides of the unit. Packages can be either factory-installed or factory-assembled and shipped loose with the unit. All factory-assembled packages are fully leak tested. Units are also available without valve and piping packages in either a right-hand or left-hand configurations.

Factory-installed packages are soldered to the coil and wired to the unit control box, MicroTech controller or LV Interface Board. For field-installed packages, chilled and hot water pipes are the only field connections required. Piping is 1/2" nominal copper (5/8" OD).

**Figure 10: Four-Pipe Deluxe Valve and Piping Package**



Pre-determined field connection points are located for easy access. The installing contractor can pre-pipe the building water connections before the units arrive on the jobsite. A label clearly identifies chilled and hot water connection points on every unit.

All chilled water piping and components are located to allow condensate to drain into the secondary drain pan supplied with the valve package. Insulation of the factory piping package is not required.

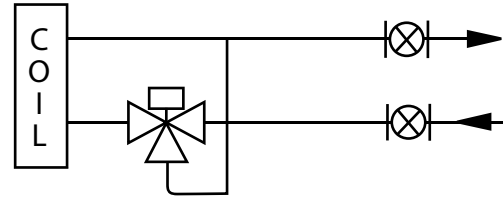
## Available Packages

All factory-installed valve packages are flexible, configurable and fully software-selectable in our Daikin Select Tools™ selection program. Custom valve packages are available also. Numerous piping packages are available to match design configurations. Additional components can be added to meet exact requirements, including P/T ports, unions, and flexible stainless steel hoses.

## Basic Packages

Basic valve and piping packages add control valves to the Shut-Off Only package. All Daikin Applied control valves are factory-mounted in the supply water pipe. See [“Control Valve Options”](#) on [page 12](#) for more information on the variety of control valves available.

**Figure 11: Basic Package**

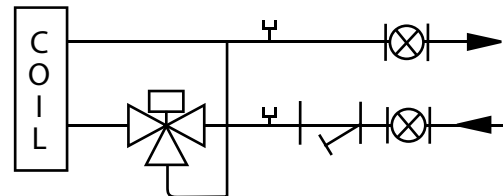


**NOTE:** See [Figure 15](#) for components key.

## Enhanced Packages

Enhanced valve and piping packages add a strainer to the Basic package supply water pipe. The strainer body is cast brass construction with a stainless steel mesh that is easy to remove for cleaning.

**Figure 12: Enhanced Package**



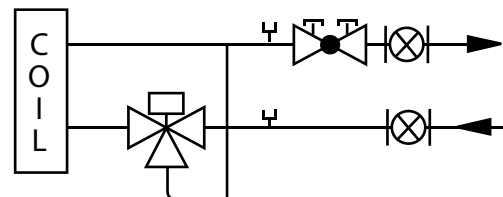
**NOTE:** See [Figure 15](#) for components key.

## Premium Packages

Premium valve and piping packages replace the Basic package a ball valve in the return line with a manual or automatic circuit setter. The manual circuit setter is also known as a manual flow control valve. The auto circuit setter acts as both a flow setting device and a shut-off valve. It allows water flow through the fan coil to be set quickly and accurately. The circuit setter includes a cartridge within the valve body that is sized to allow a specific flow rate through the coil without any action required by a system piping balancer.

P/T ports are included, which are used to measure the temperature or pressure drop across the valve. This pressure drop can be compared to factory supplied tables that relate the pressure drop to a specific flow rate. The manual circuit setter valve also has a memory stop so that the correct setting can be found quickly.

**Figure 13: Premium Package**



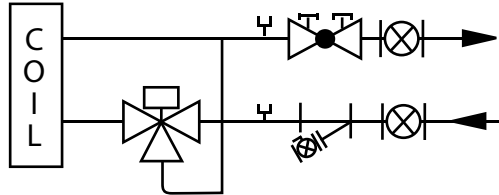
**NOTE:** See [Figure 15](#) for components key.



## Deluxe Packages

Deluxe valve and piping packages add a strainer to the Premium package. The strainer is available with or without an optional draining (blow-off) valve.

Figure 14: Deluxe Package



**NOTE:** See Figure 15 for components key.

Figure 15: Components Key for Schematics

|  |  |                                                                                                                                                    |
|--|--|----------------------------------------------------------------------------------------------------------------------------------------------------|
|  |  | <b>Manual Shutoff Ball Valve:</b> Water shut-off. Handle rotates 90 degrees.                                                                       |
|  |  | <b>Manual Shutoff Ball Valve with Memory Stop:</b> Used on return line for limiting water flow.                                                    |
|  |  | <b>2-Way, ON/OFF Spring Return Valve, (N.C. or N.O.):</b> Turns ON or OFF water flow to the coil in response to 24V or line voltage signal.        |
|  |  | <b>3-Way, ON/OFF Spring Return Valve, (N.C. or N.O.):</b> Diverts water flow to the coil or the bypass in response to 24V or line voltage signal.  |
|  |  | <b>2-Way Modulating Valve (Floating point or proportional):</b> Modulates the flow of water through the coil in response to 24V or 0-10VDC signal. |
|  |  | <b>3-Way Modulating Valve (Floating point or proportional):</b> Modulates the flow of water through the coil in response to 24V or 0-10VDC signal. |
|  |  | <b>PT Port:</b> For connecting a pressure or temperature gauge.                                                                                    |
|  |  | <b>Y-Strainer:</b> Removable screen filters out small particles from supply line during normal system operation.                                   |
|  |  | <b>Manually Adjustable Circuit Setter with Shutoff:</b> Pressure-dependent, ball-type, manual flow control.                                        |
|  |  | <b>Cartridge-Type, Auto-Fixed Circuit Setter:</b> Pressure-compensated, automatic fixed-flow control.                                              |
|  |  | <b>Union:</b> For easy removal of piping from coil.                                                                                                |
|  |  | <b>Bypass Balancing Valve:</b> Adjustable balancing of water flow through the bypass circuit on a 3-way control valve.                             |

**NOTE:** Daikin Applied 3-way valves are equipped with a fixed balance orifice in the bypass line, eliminating the need for a separate balancing valve.

## Control Valve Options

Except for Shut-off Only packages, all valve and piping packages include control valves for controlling water flow. All Daikin Applied control valves are factory assembled and mounted in the supply water pipe downstream of the coil. Several options are available:

### Two-Way Two-Position Valves

These valves will be either Fully-Open or Fully-Closed in response to a line voltage (115, 208-230 or 265-277 VAC) or 24 VAC signal from the Daikin Applied thermostat or MicroTech controller. Some means of relieving pump head pressure should be applied when two-way valves are selected. Normally-Open or Normally-Closed valves are available, both spring-return type.

### Three-Way Two-Position Valves

These valves either allow full water flow through the coil or divert the flow through a bypass line. The valves respond to a line voltage (115, 208-230 or 265-277 VAC) or to 24 VAC signal from the Daikin Applied thermostat or MicroTech controller. All standard three-way valves come with a fixed-balance orifice in a bypass line to compensate for flow balancing in the bypass position, eliminating the need for an additional balancing valve. Normally-Open or Normally-Closed valves are available.

### Two-Way Modulating Valves

These valves modulate the water flow through the coil in response to a signal from the Daikin Applied thermostat or controller. Standard Daikin Applied modulating valves are three-wire floating point valves. Zero to 10 VDC equal percentage proportional valves are also available. The modulating valves are factory mounted in the supply water pipe upstream of the coil. Daikin modulating valves are failed-in-place type.

### Three-Way Modulating Valves

These valves modulate water flow through a coil in response to a signal from a Daikin Applied thermostat or controller. Three-way valves allow water that is directed through the coil to mix with water that is directed through the bypass line. This mixture exits through the leaving water pipe. Modulating valves are three-wire, floating-point valves or 0-10 VDC equal percentage proportional. The modulating valves are factory mounted in the supply water pipe upstream of the coil. Daikin Applied modulating valves are failed-in-place type.

### Selecting Correct Size Modulating Valves

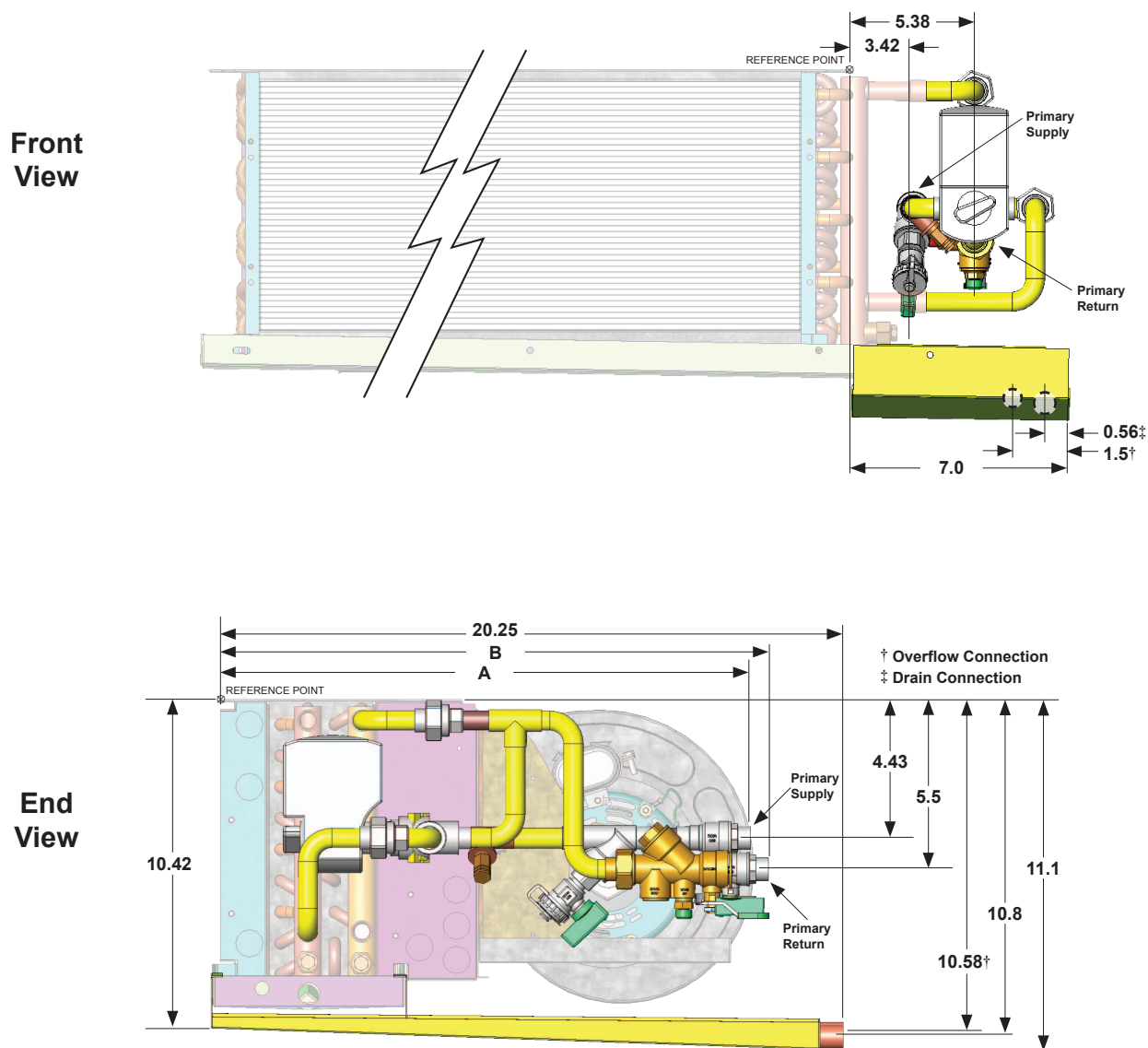
Daikin Applied Tools software automatically selects the best modulating valve size for the unit and coil being considered. By combining the ARI performance data, the coil flow rate and the DP across the water coil, the water coil Cv is calculated and the best matching modulating port size is selected. Valve and piping packages can easily be configured and automatically selected using Daikin Applied Tools.

#### NOTICE

MicroTech controllers do not currently support 0-10 VDC Proportional valves.



**Figure 16: Connecting Pipe Locations: 2-Pipe Cooling or Heating (Deluxe Package Shown)**

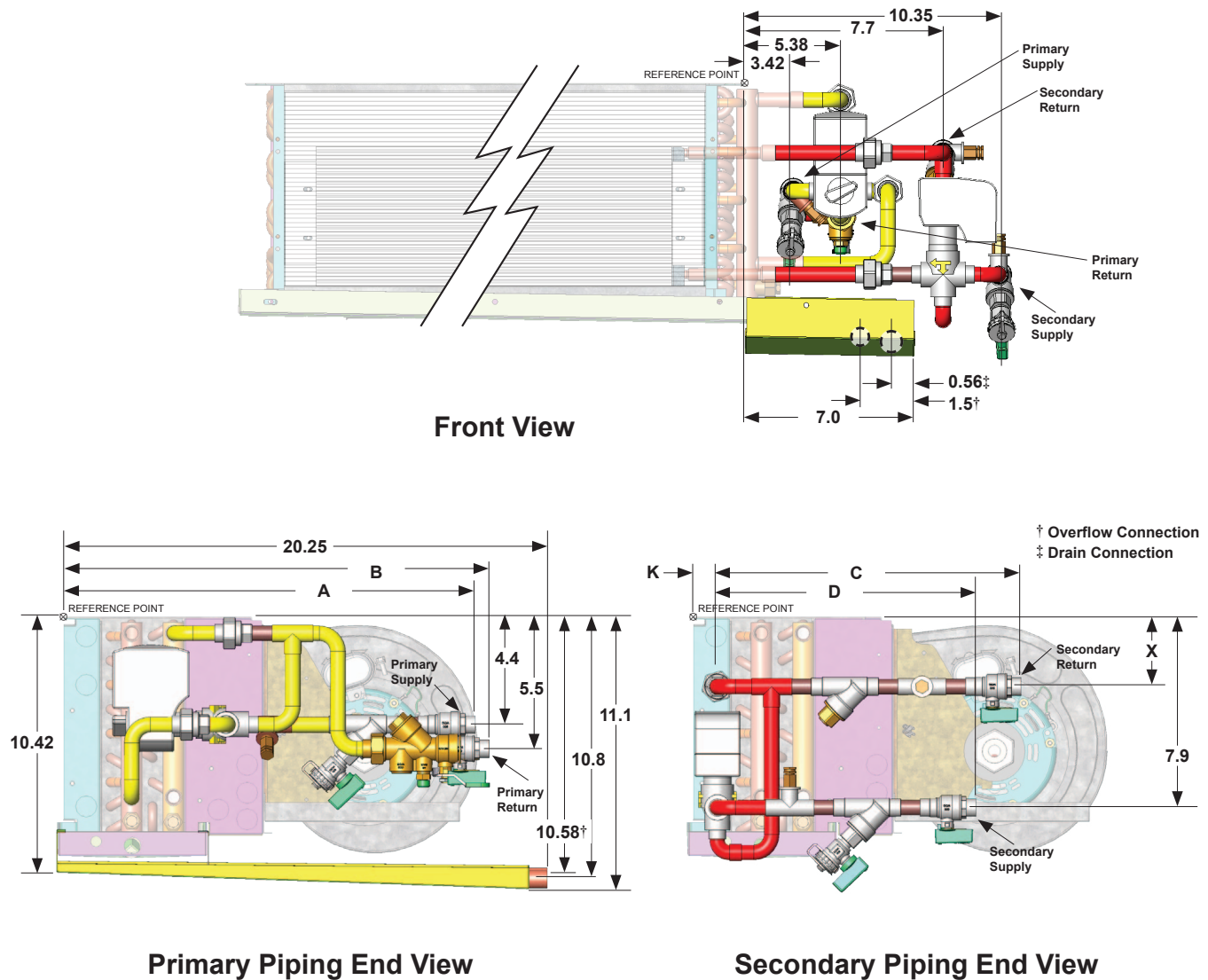


**NOTE:** Factory-installed valve & piping packages (right-hand shown).

| Name                    | Component Description                                             | Primary Package Connections from Reference Point (2- & 3-row Coil) |             |
|-------------------------|-------------------------------------------------------------------|--------------------------------------------------------------------|-------------|
|                         |                                                                   | Supply (A)*                                                        | Return (B)* |
| Basic 2W                | 2Way control valve, shut-off valves                               | 12.2                                                               | 16.2        |
| Basic 3W                | 3Way control valve, shut-off valves                               | 12.2                                                               | 17.0        |
| Enhanced 2W             | 2Way control valve, shut-off valves, strainer                     | 15.8                                                               | 16.3        |
| Enhanced 3W             | 3Way control valve, shut-off valves, strainer                     | 15.8                                                               | 17.0        |
| Premium 2W, auto flow   | 2Way control valve, shut-off valves, auto flow-setter             | 12.3                                                               | 15.8        |
| Premium 2W, manual flow | 2Way control valve, shut-off valves, manual flow-setter           | 12.3                                                               | 16.6        |
| Premium 3W, auto flow   | 3Way control valve, shut-off valves, auto flow-setter             | 12.2                                                               | 14.8        |
| Premium 3W, manual flow | 3Way control valve, shut-off valves, manual flow-setter           | 12.2                                                               | 15.6        |
| Deluxe 2W, auto flow    | 2Way control valve, shut-off valves, strainer, auto flow-setter   | 15.8                                                               | 15.8        |
| Deluxe 2W, manual flow  | 2Way control valve, shut-off valves, strainer, manual flow-setter | 15.8                                                               | 16.6        |
| Deluxe 3W, auto flow    | 3Way control valve, shut-off valves, strainer, auto flow-setter   | 12.2                                                               | 14.8        |
| Deluxe 3W, manual flow  | 3Way control valve, shut-off valves, strainer, manual flow-setter | 12.2                                                               | 15.6        |

**NOTE:** For 4-row Primary Coils add 1" to the dimensions A and B shown.

**Figure 17: Connecting Pipe Locations: 4-Pipe Cooling and Heating, Same-Side (Deluxe Package Shown)**



**NOTE:** Factory-installed valve & piping packages (right-hand shown).

| Name                    | Component Description                                             | Primary Package Connections from Reference Point (2- & 3-row Coil) |             | Secondary Package Length |            | Secondary Coil Connection from Reference Point |            |                   |                       |
|-------------------------|-------------------------------------------------------------------|--------------------------------------------------------------------|-------------|--------------------------|------------|------------------------------------------------|------------|-------------------|-----------------------|
|                         |                                                                   | Supply (A)*                                                        | Return (B)* | Return (C)               | Supply (D) | Preheat (K)                                    | Reheat (K) | High Capacity (X) | Standard Capacity (X) |
| Basic 2W                | 2Way control valve, shut-off valves                               | 12.2                                                               | 16.2        | 6.5                      | 7.1        | 4.53                                           | 1.03       | 0.8               | 2.8                   |
| Basic 3W                | 3Way control valve, shut-off valves                               | 12.2                                                               | 17.0        | 9.0                      | 7.1        |                                                |            |                   |                       |
| Enhanced 2W             | 2Way control valve, shut-off valves, strainer                     | 15.8                                                               | 16.3        | 6.5                      | 10.7       |                                                |            |                   |                       |
| Enhanced 3W             | 3Way control valve, shut-off valves, strainer                     | 15.8                                                               | 17.0        | 9.0                      | 10.7       |                                                |            |                   |                       |
| Premium 2W, auto flow   | 2Way control valve, shut-off valves, auto flow-setter             | 12.3                                                               | 15.8        | 6.1                      | 7.1        |                                                |            |                   |                       |
| Premium 2W, manual flow | 2Way control valve, shut-off valves, manual flow-setter           | 12.3                                                               | 16.6        | 10.6                     | 7.1        |                                                |            |                   |                       |
| Premium 3W, auto flow   | 3Way control valve, shut-off valves, auto flow-setter             | 12.2                                                               | 14.8        | 5.1                      | 7.1        |                                                |            |                   |                       |
| Premium 3W, manual flow | 3Way control valve, shut-off valves, manual flow-setter           | 12.2                                                               | 15.6        | 9.6                      | 7.1        |                                                |            |                   |                       |
| Deluxe 2W, auto flow    | 2Way control valve, shut-off valves, strainer, auto flow-setter   | 15.8                                                               | 15.8        | 6.1                      | 10.7       |                                                |            |                   |                       |
| Deluxe 2W, manual flow  | 2Way control valve, shut-off valves, strainer, manual flow-setter | 15.8                                                               | 16.6        | 10.6                     | 10.7       |                                                |            |                   |                       |
| Deluxe 3W, auto flow    | 3Way control valve, shut-off valves, strainer, auto flow-setter   | 12.2                                                               | 14.8        | 5.1                      | 10.7       |                                                |            |                   |                       |
| Deluxe 3W, manual flow  | 3Way control valve, shut-off valves, strainer, manual flow-setter | 12.2                                                               | 15.6        | 9.6                      | 10.7       |                                                |            |                   |                       |

**NOTE:** For 4-row Primary Coils add 1" to the dimensions A and B shown.

## Duct Connections

Air ducts, when used with hideaway units, should be installed in accordance with local and national codes, including National Fire Protection Association standards for the Installation of Air Conditioning and Ventilating Systems and the National Fire Protection Association standards for the Installation of Air Conditioning and Ventilation Systems other than Residence Type.

A one-inch duct collar is provided on units with a ducted return and/or discharge to attach ductwork. Daikin Applied recommends using galvanized sheet metal ductwork. Slide the sheet metal duct over the duct collar flange of the unit, seal the joint and fasten with sheet metal screws.

## Ductwork Recommendations

Follow the general recommendations listed below when installing the ductwork for the unit.

1. Air ducts should be made of galvanized steel and connected to the flange of the unit with a canvas connector. Insert the duct into the flange and fix with screws. Duct connections must be installed in accordance with national and local codes.
2. Discharge ductwork should run in a straight line, unchanged in size or direction, for a minimum distance of three fan diameters from the unit (approximately 20 in).
3. Avoid making sharp turns when making duct turns and transitions. Use proportional splits, turning vanes, and air scoops when necessary.
4. When possible, construct and orient supply ductwork turns in the same direction as the fan rotation.

## Factory-Installed Fresh Air Damper Module

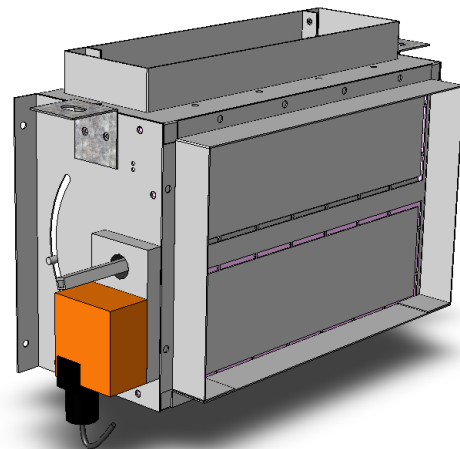
The fresh air damper module with top or rear fresh air inlets is available for concealed, recessed or exposed units. Fresh Air Damper control can be automated or manual. Automatic options include a 2-position control or a full economizer option (MicroTech controller only).

**Manual Damper** – The manual damper is field-adjustable to allow a zero to 25 percent fresh air position.

**Auto Two-Position Damper** – The auto two-position damper is factory set at 25 percent when open. The damper can be set in the field to allow a zero to 50 percent fresh air position.

**Economizer Damper** – The economizer damper is accompanied by a factory-installed and wired modulating actuator. The damper is factory set at 25 percent default minimum and 100 percent maximum opening. The damper is field adjustable using MicroTech III to allow a zero to 100 percent fresh air.

**Figure 18: Factory Installed Dampers**



## External Insulating Requirements

Insulate and vapor-seal surfaces that are colder than the surrounding air dew point to prevent unplanned condensation. Daikin Applied recommends field-insulation in the following areas to prevent potential condensate problems:

- Supply and return water piping connections
- Condensate drain lines and connections
- Fresh air intake duct connections
- Discharge duct connections
- Wall boxes

## Field Installed Accessories

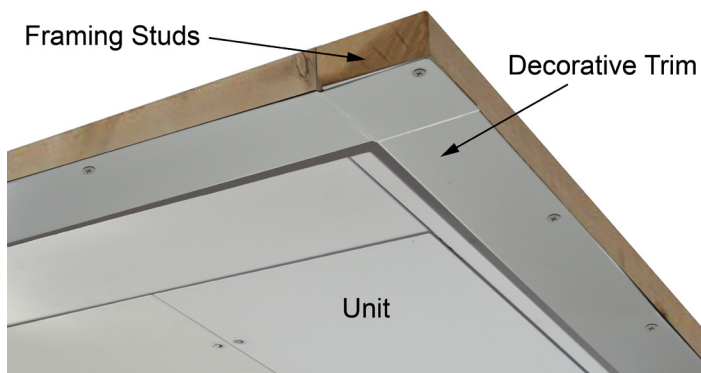
### Decorative Trim Flange for Partially-Recessed Units

A fixed trim flange is used for partially-recessed fan coils (with height restrictions of 14.5 inches or below). Trim Flanges are also used with fan coils featuring a bottom discharge configuration.

The sheetrock location for the unit should be cut to the appropriate size, then framed with steel or wooden studs before the decorative trim flange is installed. See [Figure 50 on page 41](#) for a sample illustration and recommended gaps.

DO NOT secure the Trim Flange without a stud frame to the drywall.

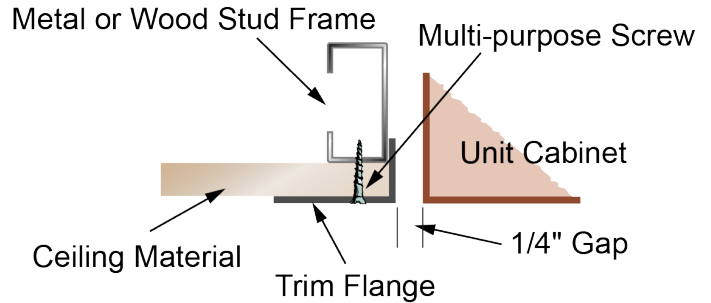
**Figure 19: Decorative Trim Flange**



### Installing Horizontally Recessed Units

1. Using hanging rods, install the fan coil cabinet into the ceiling  $\frac{1}{2}$ " –  $\frac{3}{4}$ " above the drop ceiling panels.
2. The ceiling plate (delivered as an accessory from Daikin Applied) is attached to the panel supports with four (4) 3" screws and fastened tight to the ceiling.

**Figure 20: Trim Flange Securing Detail**



**NOTE:** Max 1/4" all-around gap is recommended between the cabinet unit and the trim flange



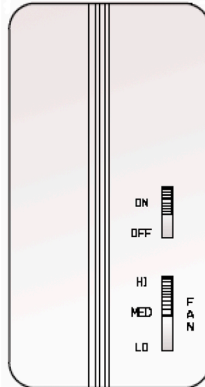
# Controls and Thermostats

## Digital-Ready Controls

A wide variety of control options are available for Daikin Applied ThinLine Horizontal Fan Coils, both unit-mounted and remote-mounted. This section provides a brief overview of these options and their operation. For more complete information, contact your Daikin Applied representative.

## 3-Speed Fan Switch with Manual ON-OFF

This three-speed fan switch (High, Med, Low) with ON-OFF option, shown at the right, is available as unit- or remote-mounted. It operates on low-voltage or line-voltage power and can be provided with a factory-mounted low-voltage interface board, which contains three-24 volt relays with line voltage contactors and terminal connections. The transformer is factory-installed and wired.



### Sequence of operation

- **OFF:** Fan is turned OFF. The motorized fresh-air damper, when supplied, is closed.
- **High, Medium, Low:** Fan runs continuously at the selected speed. The two-position, motorized fresh-air damper, when supplied, is opened.

## Low-Voltage Interface Board or Terminal Strip

A low-voltage interface board or terminal strip is used with any remote (wall mounted) Daikin Applied thermostat or control. They can also be used in conjunction with a field-supplied controller of a building automation system (BAS) control where low voltage is needed to operate the fan coil. They are located in the control box for the unit (see Figure 21).

The LV interface board or terminal strip include:

- Three 24-volt relays with line-voltage contactors to operate the fan motor speeds (LV interface board only).
- Terminal connections for interfacing to:
  - An optional remote-mounted thermostat.
  - Low-voltage actuators for heating and cooling valves.
  - A return air sensor.
  - A pipe temperature sensor for changeover from heating to cooling on two-pipe systems.
- A factory-wired and installed transformer.

See Figure 21 for a list of connecting points. For additional wiring information, see the “Typical Wiring Diagrams” on page 25 or the unit’s wiring diagram, which is attached to the fan coil exterior.

Figure 21: LV Interface Board 24 VAC connections

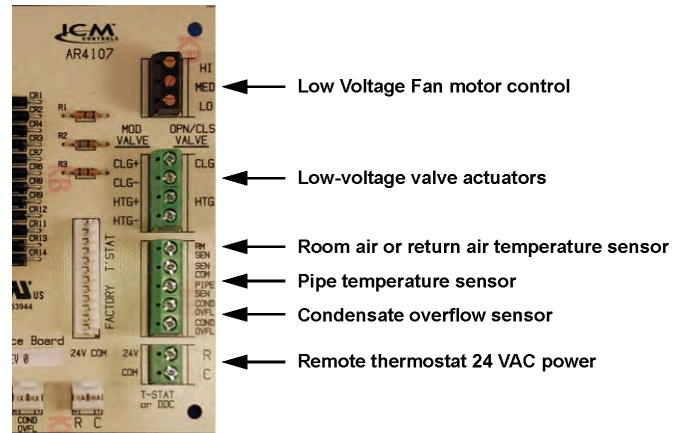
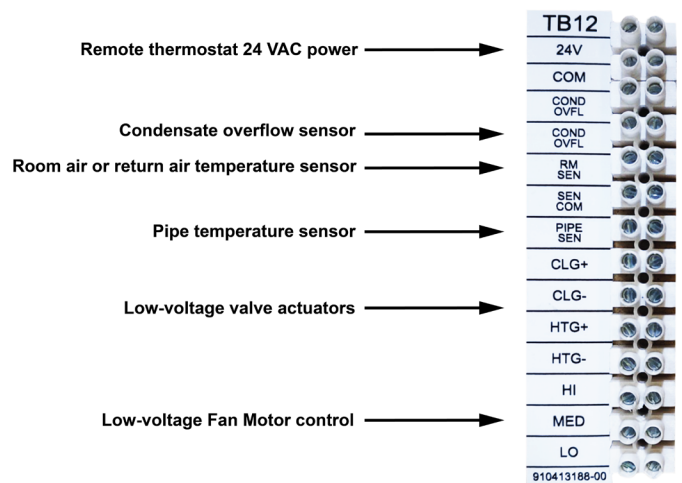


Figure 22: LV Terminal Strip 24 VAC connections



## MT155 Thermostat

The MT155 series thermostat provides ON-OFF control for low-voltage or line-voltage valves and fan motors. This thermostat is designed as a remote-mount with connection to the LV interface board mounted on the fan coil unit. Options include manual or automatic changeover and three-speed fan control for continuous or cycling fan operation. For more details refer to IM 1014.

Two standard control options are available:

- **Continuous fan and ON-OFF valve cycle operation:** The thermostat cycles the valves on and OFF. The fan runs continuously at the manually selected fan speed.
- **ON-OFF fan and ON-OFF valve cycle operation:** The thermostat cycles the fan from the manually selected fan speed to OFF and it cycles the valves ON and OFF.

When the system switch is in the OFF position, the fan coil system including the fan is shut OFF.

**TA155:** A HEAT-OFF-COOL system switch manually selects heating or cooling mode. In the HEAT position, only the heat output cycles with demand. In the COOL position, only the cool output cycles with demand. In the OFF position, heating and cooling outputs are off. Units with a two position system switch or without a system switch must use a load transfer switch when both heating and cooling outputs are used. This prevents control failure and equipment damage caused by direct cycling between loads. For more details refer to IM 1014 and IM 1089.

**TB155:** An ON-OFF system switch enables auto-changeover of heating and cooling modes. In the ON position the thermostat activates heating or cooling outputs dependent upon the relationship between set point and ambient temperature. Heat on to cool on dead band is 4°F. In the OFF position, heating and cooling outputs are OFF. Units without a system switch cycle between heating and cooling with a 4°F dead band. For more details refer to IM 1014 and IM 1089.

**FAN:** Some units have a switch for manual selection of fan speed. On these units fan operation is either internally wired for fan continuous operation or is dependent upon connection to the fan supply input. When internally wired for fan continuous operation, the fan will be OFF when the system switch is OFF. When dependent upon external connections the fan may not be OFF with the system switch in the OFF position. The fan supply input is switched to fan speed outputs (HI-MED-LO).

**Figure 23: MT155 Thermostats**



## Digital Thermostats

Daikin Applied offers a broad range of remote, wall-mounted digital thermostats with the capability to control ON-OFF, 3-wire and proportional modulating valves and Normally-Closed or Normally-Open actuator valves. For more information, refer to Daikin Applied publications ED 18513 and ED 18527.



## T8168 Thermostat-Controller with Digital Display

The T8168 thermostat-controller's single set point technology provides simple accurate temperature settings control with precision digital outputs for valves, fans, relays, and dampers. It supports the following features: auto changeover, heating/cooling with dead band, outputs for three-wire floating, 0-10 VDC, or ON/OFF valves. For more details, including representative wiring diagrams, refer to ED 18513. Note that the T8168 thermostat has replaced both the discontinued MT158 and MT168 thermostats. Archived IM 1015 and IM 1017 for these thermostats can still be found on Daikin's Sales Portal.

## TW180 Thermostat with Digital Display

The TW180 thermostat is a line or low voltage control option for 2 and 4 pipe fan coil units. It supports 1 to 3 fan speeds and can use 24 or 110-277 VAC supply voltage. The TW180 supports the following features: auto changeover, heating/cooling with dead band, and outputs for ON/OFF valves. For more details, including representative wiring diagrams, refer to ED 18513. Note that the TW180 thermostat has replaced both the discontinued T170 and T180 thermostats. Archived IM 846 and IM 1019 for these thermostats can still be found on Daikin's Sales Portal.

**Figure 24: T8168 and TW180 Thermostat**



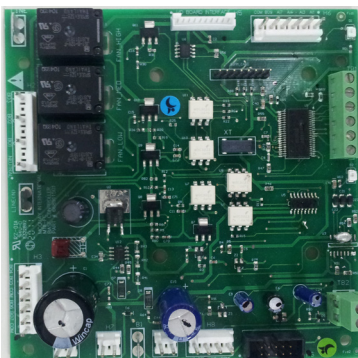
## MicroTech III Controller

### NOTICE

Units equipped with MicroTech III controllers should be used in conjunction with wall-mounted sensors only. Thermostats should not be used with MicroTech controllers.

ThinLine fan coils can be provided with unit-mounted MicroTech controllers and multiple unit- or room-mounted sensors.

MicroTech is a unit-mounted controller able to operate in either a stand-alone non-communicating environment or a communicating environment. To operate in a communicating environment, a board named communication module, is installed on the unit controller. There are two types of communication modules available with MicroTech controllers: LonWorks and BACnet MSTP.



Unit controllers and/or I-O expansion boards have inputs for room or return temperatures, temperature setpoint adjustments, fan speed switches, entering water temperatures, discharge air temperatures, changeover auto switches, low temperature detection, emergency shutdown detection, condensate overflow detection, dirty air filter detection and occupancy. All sensors are software selectable and the controller is configured based on the selection. For units with factory installed MicroTech III controllers, please see OM 1111 for details.

## Sensors

### Room Temperature Sensor with Setpoint Adjustable Module and Fan Speed Control

The Digitally Adjustable sensor provides the ultimate of temperature control and display, simple user interface, alarm annunciation, and alarm reset. The easy to read LCD clearly identifies the system operating mode including occupied/unoccupied mode, fan operation and control, unit status, timed override status, alarm annunciation, and energy savings mode through a series of recognizable icons. Tactile response buttons initiate adjustments for temperature set points, system mode, fan mode, occupancy, tenant override and fault reset functions. The large numeric LCD will display space temperature (°F or °C) with the corresponding setpoint conditions. This sensor is designed for use with BACnet or LonWorks applications. However, it can also be installed as a standalone sensor using factory default set points. For detailed installation instructions and modes of operation, see IM1171.



## MicroTech III Wall-Mounted Room Temperature Sensor with Timed Override

MicroTech III Wall Mounted Room Temperature Sensors provide electronic sensing of room temperatures at wall locations. The sensor features a thermistor (10kΩ), a green LED for unit status and tenant override button.



### Sensor Specifications

- Thermistor resistance (10kΩ) (Conforms to Advance Thermal Products curve 2)
- Ambient Temperature Limits:
  - Shipping and Storage: 40°F to 160°F (–40°C to 71°C)
  - Operating: 40°F to 140°F (4°C to 60°C)
- Locations: NEMA Type 1, Indoor only
- Connections: Color Coded Leads

### Wiring

3-lead NEC Class II low voltage wiring.

1. Do not install the wire cables in the same conduit with power wiring.
2. Never apply external voltage of any type to any terminal or damage will result.
3. Do not exceed ratings of the device. This is a low voltage device.
4. Always use 22-gauge wire and never locate the room temperature sensor more than 250' from the unit.

Wiring must be installed in accordance with the National Electrical Code and all local codes and ordinances, which can require the use of plenum rated cable or conduit.

### Mounting Location

Locate the sensor on a wall where exposure to unrestricted air circulation represents the average temperature of the space. A common mistake is to mount the sensor too close to the supply air diffuser in a room. This causes short cycling of the air conditioning unit and large room temperature swings.

## Installation



### DANGER

This equipment presents hazards of electricity.

Failure to read and follow these instructions can result in property damage, severe personal injury or death.



### CAUTION

Be certain that exposed portions of wires do not come in contact with each other.

1. Turn off power at the main service panel by removing the fuse or switching the appropriate circuit breaker to the OFF position.

- To remove the cover on sensor 669529001, loosen two Allen-wrench set screws located on the underside of the cover.
- Place the wall sensor mounting base against the wall where the sensor will be located. Using the base as a template trace the mounting holes onto the wall.
- Drill a 3/16" hole at each mounting hole mark.
- Insert wall anchors into mounting holes and tap in to the wall surface.
- Feed wires through the back of the sensor mounting base and align sensor mounting holes with wall anchors.
- Use supplied screws to secure sensor base to wall.
- Connect stripped, labeled wires to matching terminals on the temperature sensor. Refer to [Figure 26](#) for wiring details.
- Tighten screws on terminal connections. Gently tug wire to check for secure connections. Confirm that each wire is connected to the proper terminal.
- Seal the hole where the wire enters through the wall behind the temperature sensor, with non-flammable insulation or putty.
- Replace cover on wall temperature sensor by snapping it in place.
- Turn on power to the system at the main service panel.
- Test wall temperature sensor operation as described in "Testing".

**NOTICE**

Mount the sensor five feet above the floor. Do not mount the sensor on an outside wall, in direct sunlight, behind a door, or in an area affected by a vent or duct.

**Utility Box Mounting of Sensor 669529001**

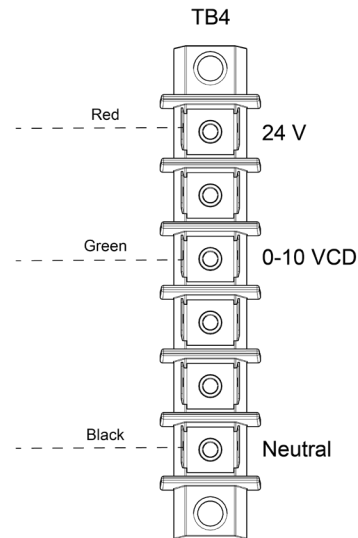
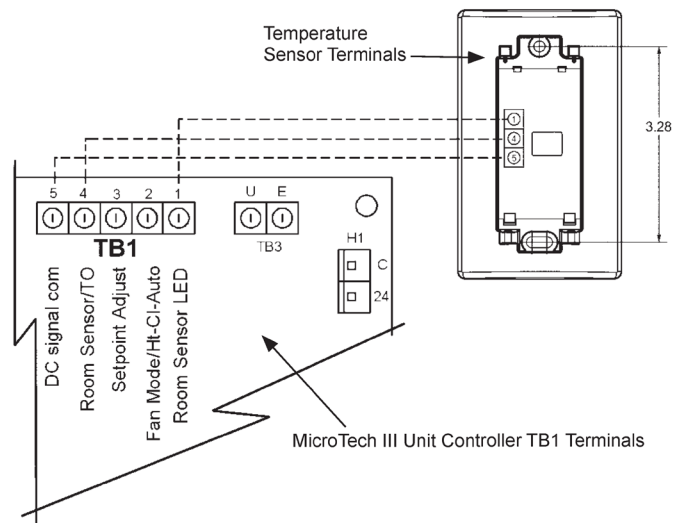
- Feed the cable from the utility box.
- Strip 1/4-inch of insulation from the end of the wires.
- Connect stripped, labeled wires to matching terminals on the temperature sensor base. See [Figure 26](#).
- Tighten screws on terminal connections. Gently tug wire to check for secure connections. Confirm that each wire is connected to the proper terminal.
- Neatly store excess wire back inside the utility box.
- Mount the sensor base to the utility box using two 6-32 x 5/8-inch flat head sheet metal screws provided with the sensor.
- Replace cover on wall temperature sensor by attaching the catches at the top of the cover to the top tabs on the sensor base. Secure the cover to the base by tightening the two Allen wrench set-screws on the bottom of the sensor cover. Do not overtighten.

**NOTICE**

Sensor 669529001 has two Allen wrench set-screws on the underside of the sensor cover to secure it in place. Do not overtighten.

**Wiring**

TB4 is provided when the 0-10VDC motor control option is selected. It provides a place for the field to land the 0-10VDC motor control signal and the 24VAC motor controller power.

**Figure 25: Terminal Block 4 Diagram****Figure 26: Temperature Sensor Wiring to MicroTech III Unit Controller**



### Cool Test

1. Using the building automation system (BMS), adjust room cooling setpoint to 5 degrees below room temperature.
2. Air conditioning should come on within five (5) minutes. Status indicator may come on.
3. Using the BMS, adjust the set temperature 2 degrees above the room temperature and the A/C should turn off. There may be a fan delay on your system.

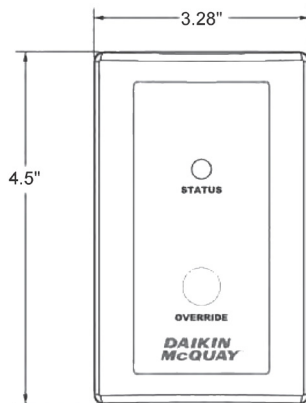
### Heat Test

1. Using the building automation system (BMS), adjust room heating setpoint to 5 degrees above room temperature.
2. Heating should come on within five (5) minutes. Status indicator may come on.
3. Using the BMS, adjust the set temperature 2 degrees above the room temperature and the A/C should turn off. There may be a fan delay on your system.

### Timed Override

Press Override button for more than 3 but less than 10 seconds and Unit will return to Occupied operation until the override time expires (as programmed in BMS).

**Figure 27: MicroTech III Room Temperature Wall Sensor with Timed Override**



## Troubleshooting

| Symptom                              | Remedy                                                                                  |
|--------------------------------------|-----------------------------------------------------------------------------------------|
| No LED illuminated                   | Check for 5 VDC at sensor, LED is dark when 5 VDC is not present                        |
| Unit turns on and off too frequently | Sensor must be located as described in <a href="#">"Mounting Location" on page 19</a> . |

# Electrical

## Electrical Connections

### **WARNING**

A means for disconnect from electrical supply shall be provided according to NEC or local codes. Confirm that the power has been switched OFF before installing or servicing the unit.

Installation and maintenance must be performed only by qualified personnel who are familiar with local codes and regulations, and are experienced with this type of equipment. Wiring connection must be completed according to the wiring diagram on the unit. The unit must be GROUNDED. Installation of all field wiring must comply with NEC and local codes.

Line and voltage wiring must be done in accordance with local codes or the National Electrical Code, whichever is applicable.

Apply correct line voltage to the unit. Power to the unit must be sized correctly. Branch circuit overcurrent protection must be provided per local codes. See the data plate for correct ratings.

## Standard Electrical Connection

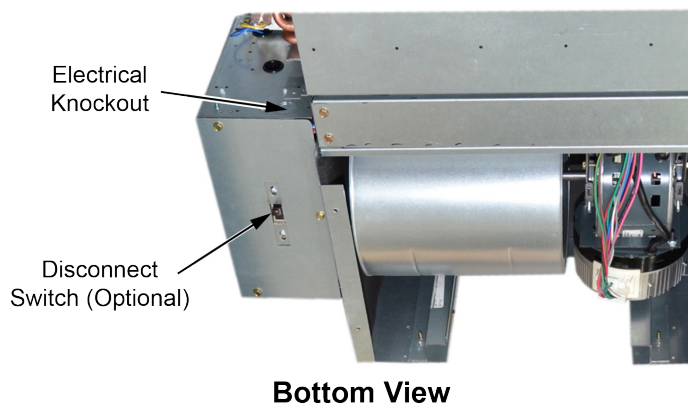
Field electrical power connections are made in the electrical control box, which is mounted to the side of the chassis opposite the primary coil piping connections. See [Figure 28](#). An optional disconnect switch is located in this box.

Units with an electric heat option that have the same voltage as the unit have single-point power connections and bring the power conductors into this same connection box through one of the knockouts. Units with electric heat that has a different voltage should bring the electric heat into one of the knockouts on the chase. See [Figure 28](#).

If provided by the field, low voltage wires should be brought into a knockout located next to the electrical control box. See [Figure 4](#).

Install a strain relief and pass the wires through the strain relief into the control box. Make the connections and reinstall the control box cover.

**Figure 28: Electrical Power Connections**



## Electrical Data

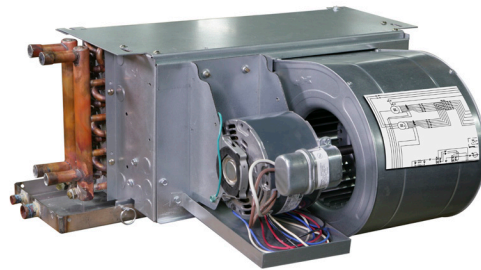
The wiring diagram for the unit is attached to the exterior of the blower housing. See [Figure 29](#). Be sure the available power is the same voltage and phase as that shown on the unit data plate. See [Figure 2](#), for the location of the data plate. See [page 25 through page 31](#) for typical wiring diagrams.

Line and low voltage wiring must be done in accordance with local codes or the National Electrical Code, whichever is applicable.

Apply correct line voltage to the unit. Power wires to the unit must be sized correctly. Branch circuit overcurrent protection must be provided per local codes. See the data plate for correct ratings.

All 208-230V single-phase units are factory wired for 230 V operation. For 208 V operation, the L1 wire connection to the unit transformer (found in the main control box) must be changed. The L1 wire must be disconnected from the 230 V (orange) wire and connected to the 208 V (red) wire. The 230 V wire must then be capped off with a wire nut or male terminal as appropriate. Please refer to the unit wiring diagram.

**Figure 29: Location of the Wiring Diagram.**



## Operating Voltages

Operating voltages are as follows (+/- 10%).

- 115/60/1
- 208-230/60/1
- 265-277/60/1

### **NOTICE**

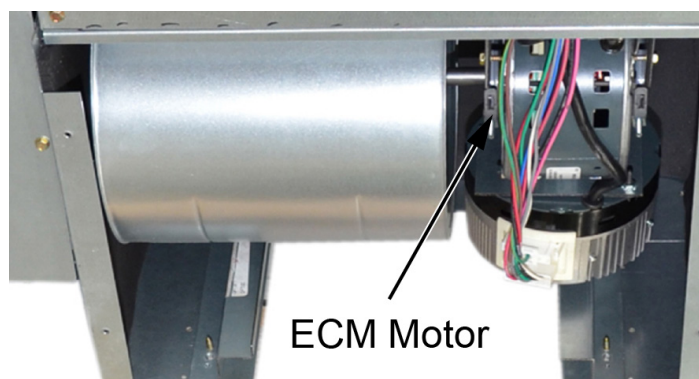
Voltages listed are to show voltage range. However, units operating with overvoltage and undervoltage for extended periods of time will experience premature component failure.

## ECM Blower

If the unit is equipped with an ECM blower, additional steps may be required during the air balancing process. The ECM blower is controlled by a control board. Three-speed taps are provided with an ECM blower: high, medium and low.

The unit has been factory configured to produce PSC equivalent airflow on high speed, with medium speed at 80% and low speed at 60% of full volume. If these settings are acceptable, then no further configuring is necessary. If different speeds are required select a field adjustment ECM.

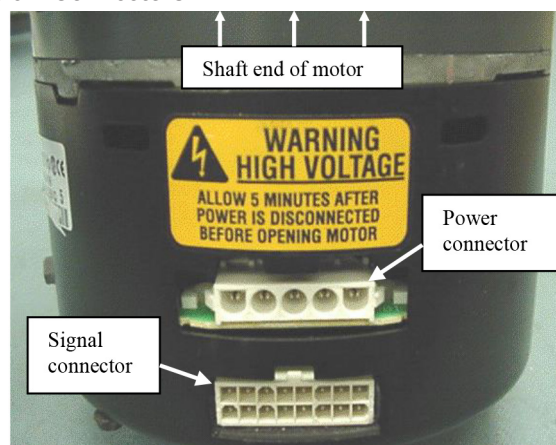
**Figure 30: ECM Blower**



## EC Motor Pin Out Locations

Figure 32 and Figure 33 show the pin locations for both connectors.

**Figure 31: Connectors**



**Figure 32: Power Connector**

|                 |     |                           |  |  |  |
|-----------------|-----|---------------------------|--|--|--|
| Power Connector |     |                           |  |  |  |
|                 | Pin | Description               |  |  |  |
|                 | 1   | JUMPER PIN 1 TO PIN 2 FOR |  |  |  |
|                 | 2   | 120 VAC LINE INPUT ONLY   |  |  |  |
|                 | 3   | CHASSIS GROUND            |  |  |  |
|                 | 4   | AC LINE                   |  |  |  |
|                 | 5   | AC LINE                   |  |  |  |

**Figure 33: Signal Connector**

|                  |     |                   |     |                   |  |  |  |  |
|------------------|-----|-------------------|-----|-------------------|--|--|--|--|
| Signal Connector |     |                   |     |                   |  |  |  |  |
|                  | Pin | Description       | Pin | Description       |  |  |  |  |
|                  | 1   | C1 - Common       | 9   | O                 |  |  |  |  |
|                  | 2   | W/W1 - High Speed | 10  | BK/PWM            |  |  |  |  |
|                  | 3   | C2 - Common       | 11  | HEAT              |  |  |  |  |
|                  | 4   | DELAY             | 12  | R- 24V            |  |  |  |  |
|                  | 5   | COOL              | 13  | EM/W2- Super High |  |  |  |  |
|                  | 6   | Y1 - Low Speed    | 14  | Y/Y2 - Super Low  |  |  |  |  |
|                  | 7   | ADJUST            | 15  | G - Medium Speed  |  |  |  |  |
|                  | 8   | OUT-              | 16  | OUT+              |  |  |  |  |

## Electric Heat Over-Temp Reset Button

### DANGER

Personal Injury Hazard! Power supply can cause electrical shock. Always disconnect power to unit before servicing.

The electric heat options comes with two over-temperature switches. The first resets automatically when the over-temperature condition no longer exists. The second, backup high limit switch must be reset manually.

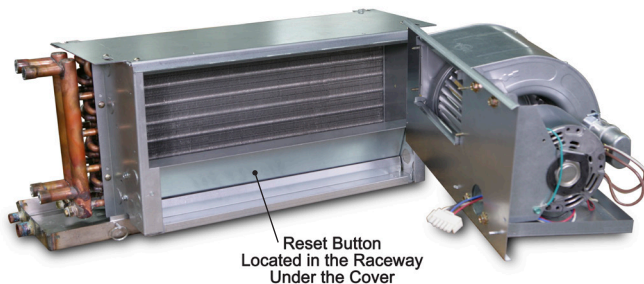
### NOTICE

The need to reset the manual switch may indicate that there are improperly functioning system components. If the switch trips again, contact Daikin Applied Service for help in diagnosing the cause.

To reset the manual switch, carry out the following steps:

1. Disconnect all power to the unit. Verify the power has been disconnected.
2. Remove the raceway access covers (see “[Accessing/Removing the Main Fan Deck and Motor Assembly](#)” on page 45).
3. Access and push in the red reset button in the raceway of the heater assembly. See [Figure 34](#).
4. Reinstall the access cover.
5. Reconnect the power.

**Figure 34: Electric Heat Over-Temp Reset Button Location**



## MicroTech III Controller

### NOTICE

Units equipped with MicroTech III controllers should be used in conjunction with wall-mounted sensors only. Thermostats should not be used with MicroTech controllers.

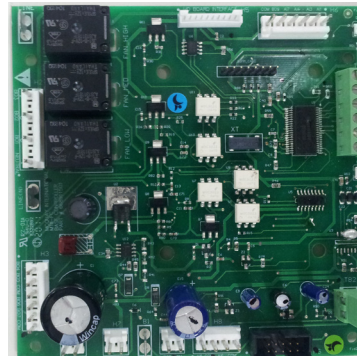
ThinLine fan coils can be provided with unit-mounted MicroTech controllers and multiple unit- or room-mounted sensors.

MicroTech is a unit-mounted controller able to operate in either a stand-alone non-communicating environment or a communicating environment. To operate in a communicating environment, a board named communication module, is installed on the unit controller. There are two types of communication modules available with MicroTech controllers: LonWorks and BACnet MSTP.

Unit controllers and/or I-O expansion boards have inputs for room or return temperatures, temperature setpoint adjustments, fan speed switches, entering water temperatures, discharge air temperatures, changeover auto switches, low temperature detection, emergency shutdown detection, condensate overflow detection, dirty air filter detection and occupancy. All sensors are software selectable and the controller is configured based on the selection.

For units with factory installed MicroTech III controllers, please see OM 1111 for details.

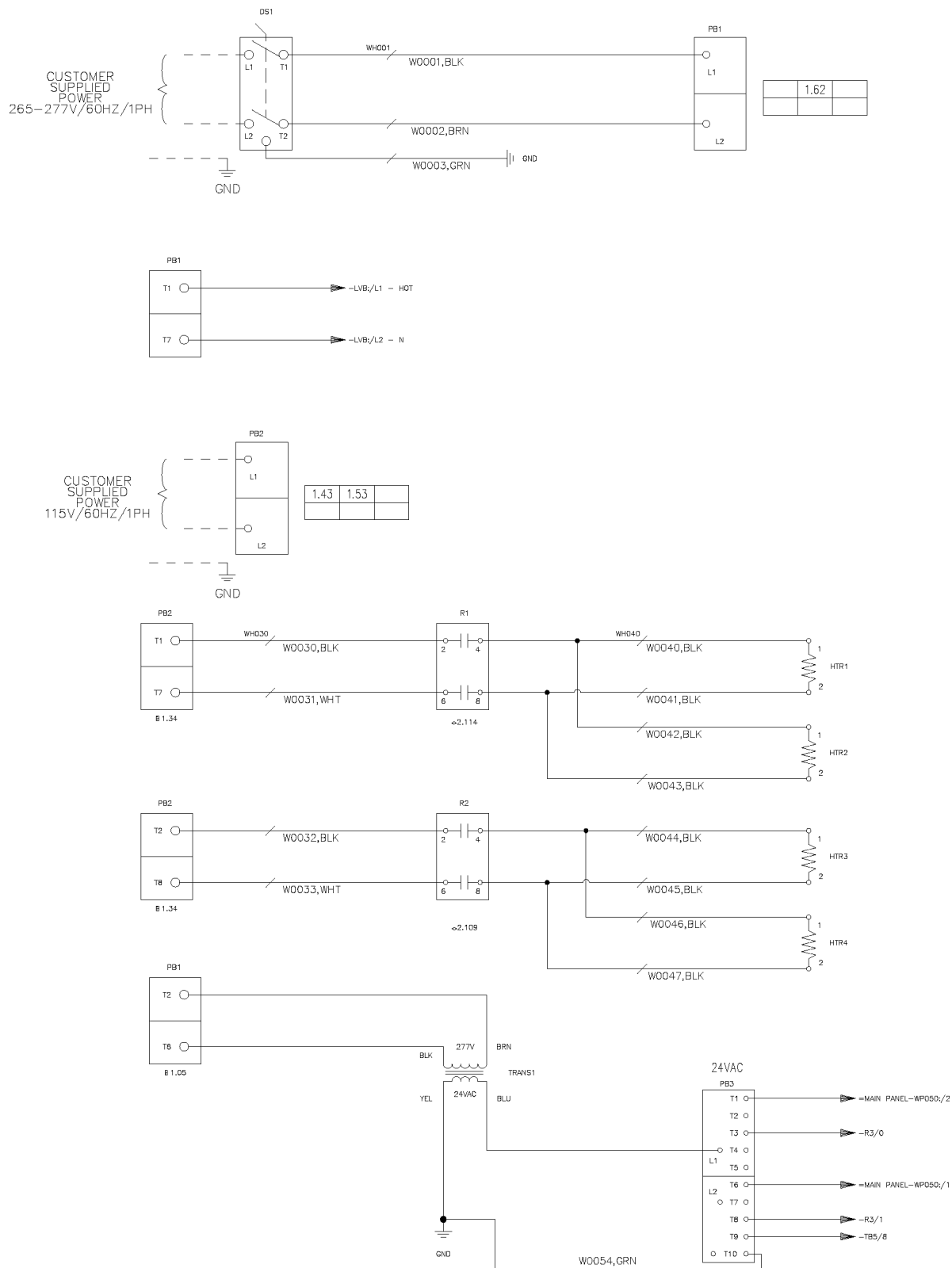
**Figure 35: MicroTech III Control Board**



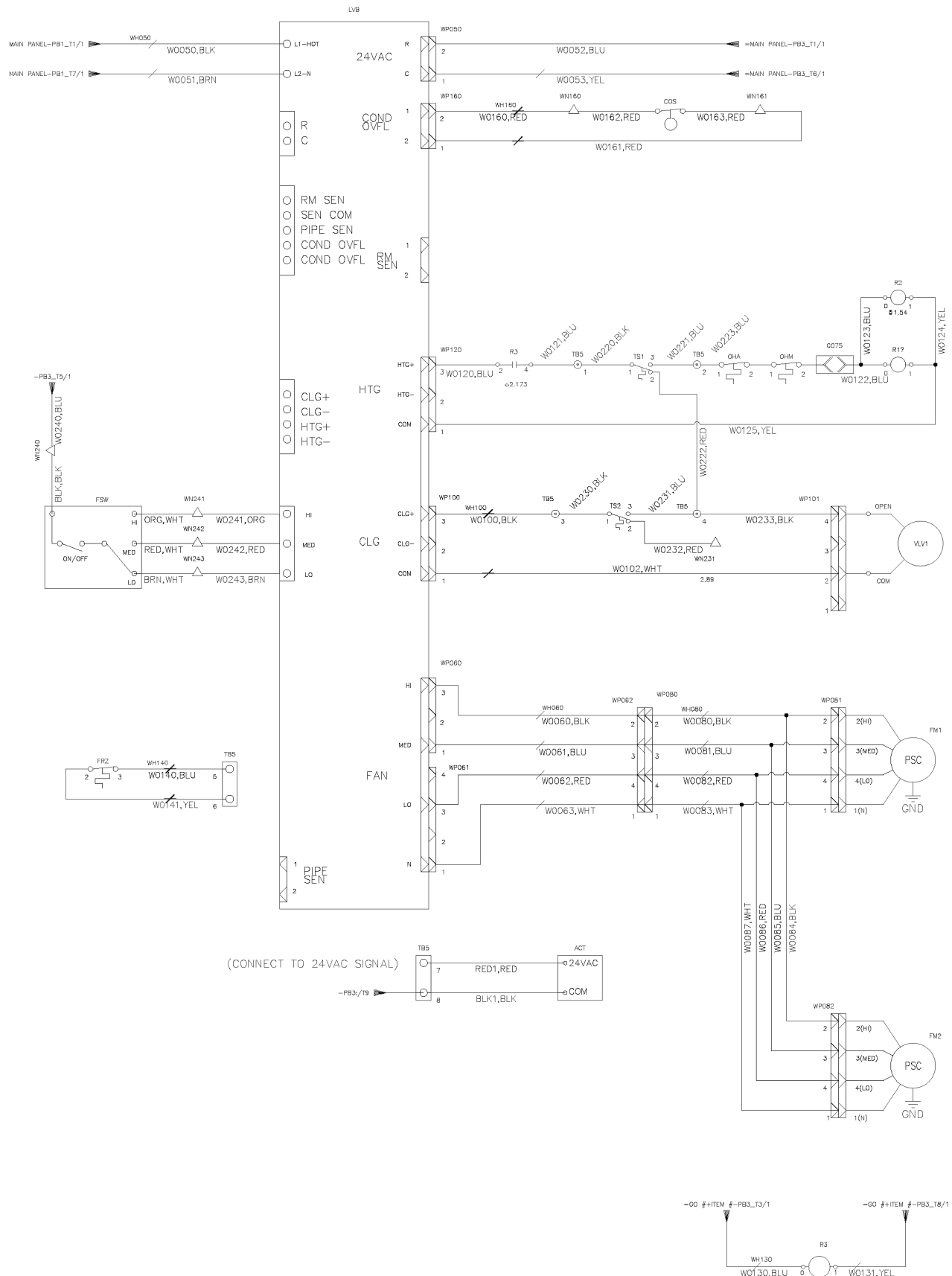


# Typical Wiring Diagrams

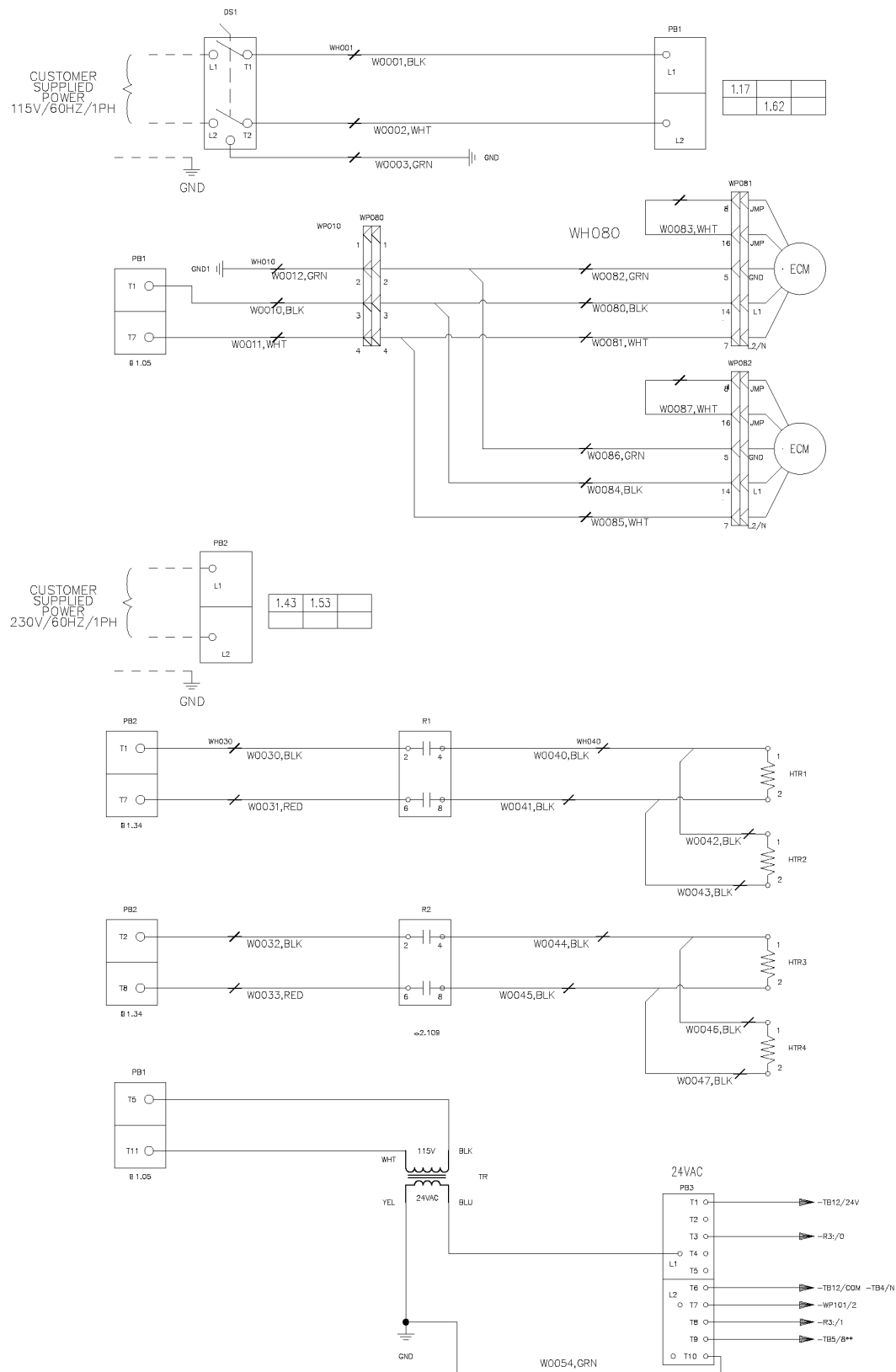
**Figure 36: Fan Coil Wiring Diagram – Typical Low Voltage Interface Board and PSC, Intermediate Electric Heat, F/A Damper, 3-Speed Switch–Unit Mounted**



**Figure 37: Fan Coil Wiring Diagram – Typical Low Voltage Interface Board and PSC, Intermediate Electric Heat, F/A Damper, 3-Speed Switch–Unit Mounted**

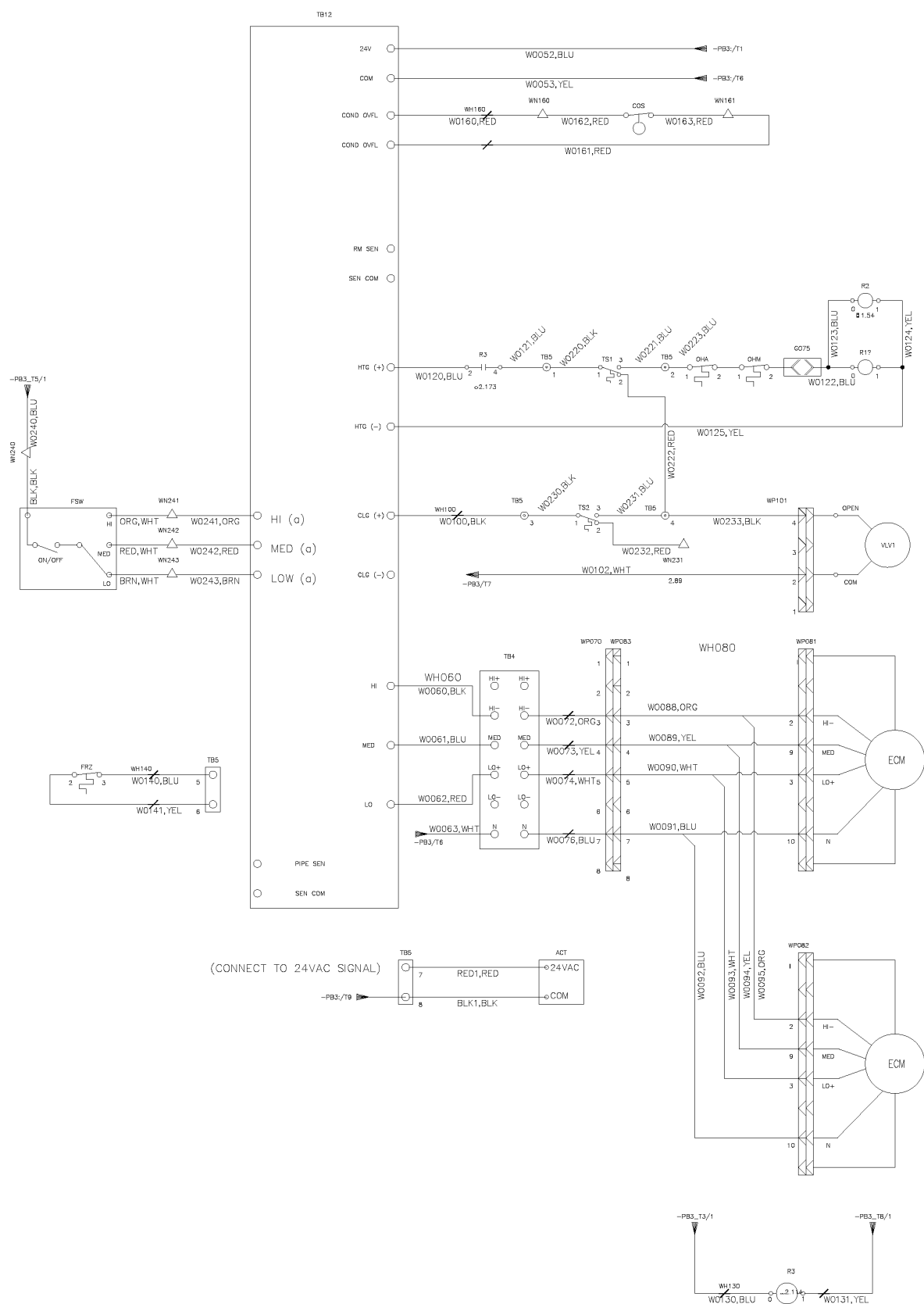


**Figure 38: Fan Coil Wiring Diagram – Typical Low Voltage Terminal Strip and ECM, Intermediate Electric Heat, F/A Damper, 3-Speed Switch–Unit Mounted**



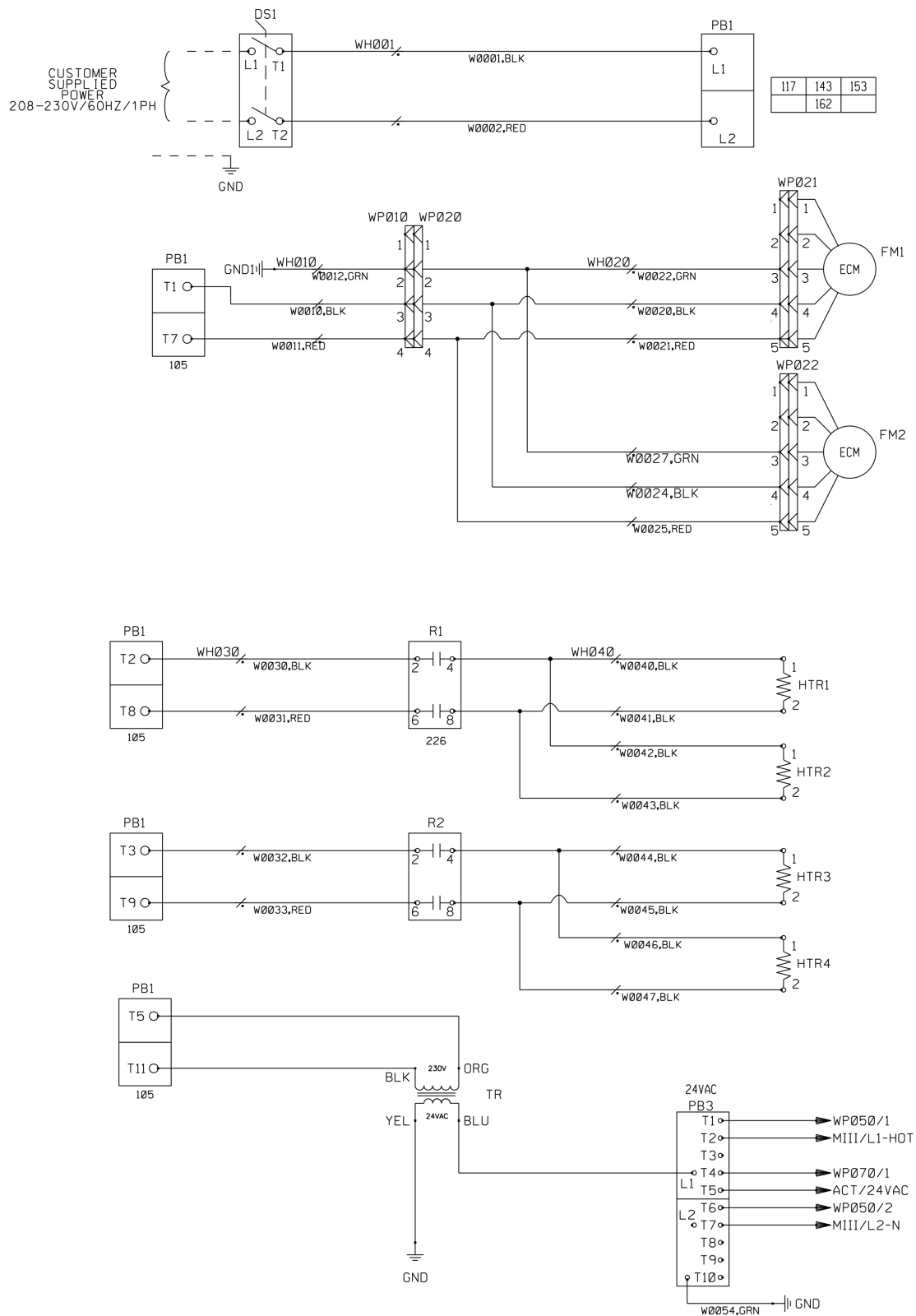
\*\* - THIS CONNECTION IS NEEDED ONLY IF AN AUTO FRESH AIR DAMPER IS INCLUDED.

**Figure 39: Fan Coil Wiring Diagram – Typical Low Voltage Terminal Strip and ECM, Intermediate Electric Heat, F/A Damper, 3-Speed Switch—Unit Mounted**





**Figure 40: Fan Coil Wiring Diagram – Typical MicroTech Controller with ECM and Economizer, Intermediate Electric Heat**



**Figure 41: Fan Coil Wiring Diagram – Typical MicroTech Controller with ECM and Economizer, Intermediate Electric Heat, continued**

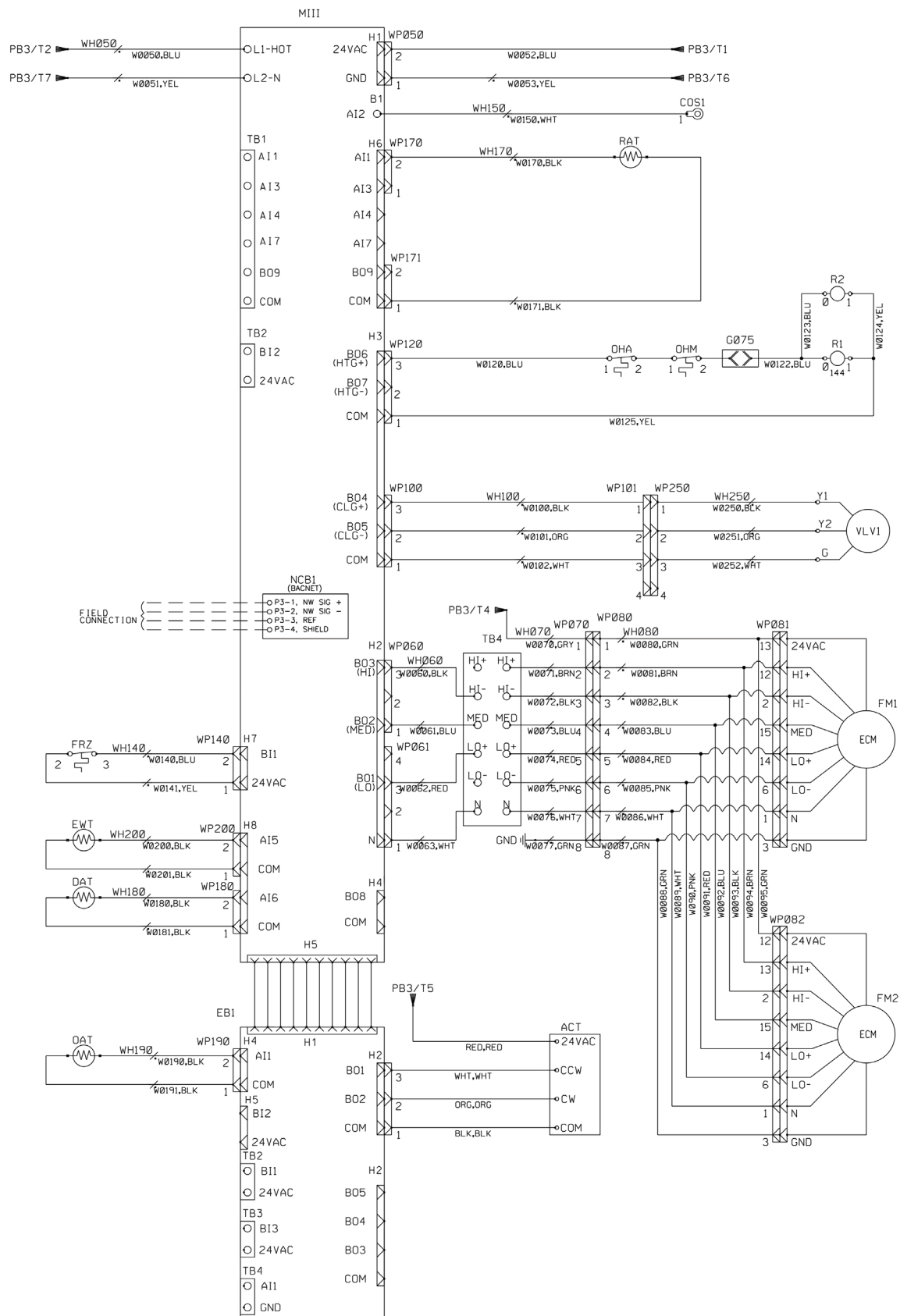
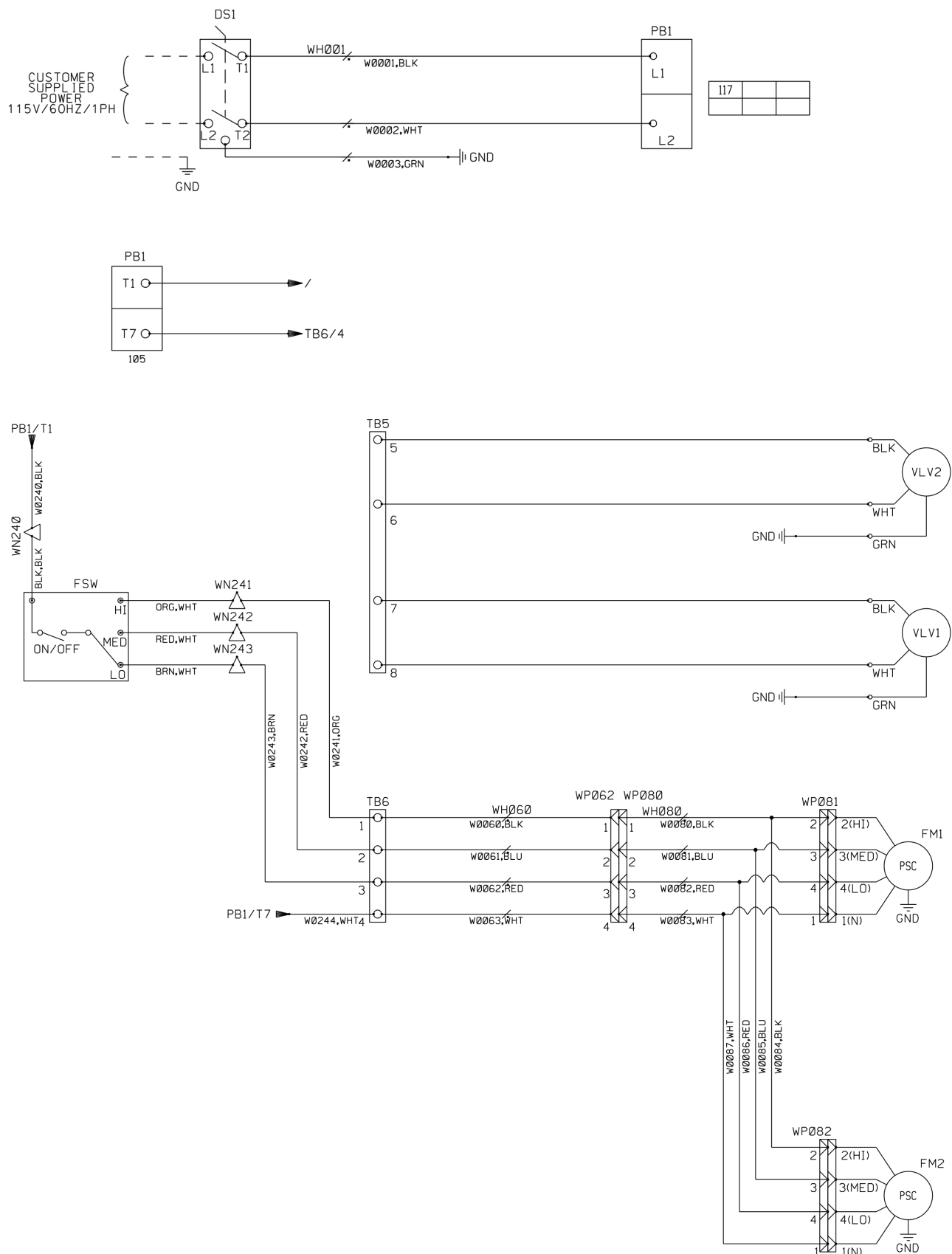


Figure 42: Fan Coil Wiring Diagram – Unit Mounted 3 Speed Switch, Low Voltage Valves



## Legend for “Typical Wiring Diagrams”

| LEGEND        |                                   |               |                                             |
|---------------|-----------------------------------|---------------|---------------------------------------------|
| <b>ACT</b>    | Mixing Box Damper Actuator        | <b>PB1</b>    | Main Power Distribution Block               |
| <b>COS</b>    | Condensate Overflow Switch/Sensor | <b>PB2</b>    | Electric Heat Power Distribution Block      |
| <b>DAT</b>    | Discharge Air Temperature Sensor  | <b>PB3</b>    | 24VAC Power Distribution Block              |
| <b>DS</b>     | Disconnect Switch                 | <b>R1-2</b>   | Electric Heater Power Relay                 |
| <b>EB</b>     | MIII I/O Expansion Board          | <b>R3</b>     | Electric Heater Control Relay               |
| <b>EWT</b>    | Entering Water Temperature        | <b>RAT</b>    | Return Air Temperature Sensor               |
| <b>FM1-2</b>  | Fan Motor                         | <b>TB4</b>    | ECM Motor Control Terminal Block            |
| <b>FRZ</b>    | Freeze Alarm Switch               | <b>TB5</b>    | Intermediate Electric Heat Terminal Block   |
| <b>FSW</b>    | Fan 3-Speed Switch                | <b>TB6</b>    | No Controls Terminal Block                  |
| <b>G075</b>   | Quick Connect Splice              | <b>TR</b>     | Control Transformer                         |
| <b>HTR1-4</b> | Electric Heater Elements          | <b>TS1-2</b>  | Thermal Switch (Intermediate Electric Heat) |
| <b>LVB</b>    | Low Voltage Control Board         | <b>TS3</b>    | Thermal Switch (Automatic Change Over)      |
| <b>MIII</b>   | MIII Control Board                | <b>VLV1-2</b> | Coil Valve Actuator (Primary or Secondary)  |
| <b>NCB</b>    | Network Communication Board       | <b>Wxxx</b>   | Wire                                        |
| <b>OAT</b>    | Outside Air Temperature Sensor    | <b>WHxxx</b>  | Wire Harness                                |
| <b>OHA</b>    | Automatic High Temp Cutout Switch | <b>WNxxx</b>  | Wire Nut                                    |
| <b>OHM</b>    | Manual High Temp Cutout Switch    | <b>WPxxx</b>  | Wire Plug                                   |

**NOTE:** Devices may or may not be on unit.

# Physical Data

**Table 1: Physical Data: Coils, Fans, Motors and Filters**

|                                                                  | Size 02                                                     | Size 03                                      | Size 04                                      | Size 06                                      | Size 08                                       | Size 10                                      | Size 12                                      |
|------------------------------------------------------------------|-------------------------------------------------------------|----------------------------------------------|----------------------------------------------|----------------------------------------------|-----------------------------------------------|----------------------------------------------|----------------------------------------------|
| Primary Coil Data                                                |                                                             |                                              |                                              |                                              |                                               |                                              |                                              |
| Face Area, ft <sup>2</sup> (cm <sup>2</sup> )                    | 1.08 (1004)                                                 | 1.08 (1004)                                  | 1.43 (1323)                                  | 2.11 (1962)                                  | 2.46 (2281)                                   | 3.14 (2917)                                  | 3.83 (3559)                                  |
| Fins/inch (cm)                                                   | 12 (4.7)                                                    | 12 (4.7)                                     | 12 (4.7)                                     | 12 (4.7)                                     | 12 (4.7)                                      | 12 (4.7)                                     | 12 (4.7)                                     |
| Connection Size                                                  | 1/2" Nominal Copper (5/8" OD)                               |                                              |                                              |                                              |                                               |                                              |                                              |
| Coil Dimensions                                                  |                                                             |                                              |                                              |                                              |                                               |                                              |                                              |
| 2-Row<br>L × D × H, in (cm)                                      | 17.3 × 1.7 × 9<br>(43.9 × 4.4 × 22.9)                       | 17.3 × 1.7 × 9<br>(43.9 × 4.4 × 22.9)        | 22.8 × 1.7 × 9<br>(57.9 × 4.4 × 22.9)        | 33.8 × 1.7 × 9<br>(85.9 × 4.4 × 22.9)        | 39.3 × 1.7 × 9<br>(99.8 × 4.4 × 22.9)         | 50.2 × 1.7 × 9<br>(127.6 × 4.4 × 22.9)       | 61.3 × 1.7 × 9<br>(155.7 × 4.4 × 22.9)       |
| 3-Row<br>L × D × H, in (cm)                                      | 17.3 × 2.6 × 9<br>(43.9 × 6.6 × 22.9)                       | 17.3 × 2.6 × 9<br>(43.9 × 6.6 × 22.9)        | 22.8 × 2.6 × 9<br>(57.9 × 6.6 × 22.9)        | 33.8 × 2.6 × 9<br>(85.9 × 6.6 × 22.9)        | 39.3 × 2.6 × 9<br>(99.8 × 6.6 × 22.9)         | 50.2 × 2.6 × 9<br>(127.6 × 6.6 × 22.9)       | 61.3 × 2.6 × 9<br>(155.7 × 6.6 × 22.9)       |
| 4-Row<br>L × D × H, in (cm)                                      | 17.3 × 1.7 × 9<br>(43.9 × 8.8 × 22.9)                       | 17.3 × 3.5 × 9<br>(43.9 × 8.8 × 22.9)        | 22.8 × 3.5 × 9<br>(57.9 × 8.8 × 22.9)        | 33.8 × 3.5 × 9<br>(85.9 × 8.8 × 22.9)        | 39.3 × 3.5 × 9<br>(99.8 × 8.8 × 22.9)         | 50.2 × 3.5 × 9<br>(127.6 × 8.8 × 22.9)       | 61.3 × 3.5 × 9<br>(155.7 × 8.8 × 22.9)       |
| Coil Volume, Gal (L)                                             |                                                             |                                              |                                              |                                              |                                               |                                              |                                              |
| 2-Row                                                            | 0.19 (0.7)                                                  | 0.19 (0.7)                                   | 0.24(0.9)                                    | 0.32 (1.2)                                   | 0.37 (1.4)                                    | 0.46 (1.7)                                   | 0.55 (2.1)                                   |
| 3-Row                                                            | 0.26 (1.0)                                                  | 0.26 (1.0)                                   | 0.32 (1.2)                                   | 0.45 (1.7)                                   | 0.52 (2.0)                                    | 0.64 (2.4)                                   | 0.77 (2.9)                                   |
| 4-Row                                                            | 0.34 (1.3)                                                  | 0.34 (1.3)                                   | 0.43 (1.6)                                   | 0.61 (2.3)                                   | 0.70 (2.6)                                    | 0.87 (3.3)                                   | 1.05 (4.0)                                   |
| Secondary Coil Data: 1-Row Standard Capacity, Hot Water or Steam |                                                             |                                              |                                              |                                              |                                               |                                              |                                              |
| Face Area, ft <sup>2</sup> (cm <sup>2</sup> )                    | 0.61 (567)                                                  | 0.61 (567)                                   | 0.84 (780.1)                                 | 1.3 (1208)                                   | 1.5 (1421)                                    | 1.99 (1845)                                  | 2.44 (2267)                                  |
| Fins/inch (cm)                                                   | 12 (4.7)                                                    | 12 (4.7)                                     | 12 (4.7)                                     | 12 (4.7)                                     | 12 (4.7)                                      | 12 (4.7)                                     | 12 (4.7)                                     |
| L × D × H, in (cm)                                               | 14.7 × .86 × 6<br>(37.3 × 2.2 × 15.2)                       | 14.7 × .86 × 6<br>(37.3 × 2.2 × 15.2)        | 20.2 × .86 × 6<br>(51.3 × 2.2 × 15.2)        | 31.2 × .86 × 6<br>(79.2 × 2.2 × 15.2)        | 36.7 × .86 × 6<br>(93.2 × 2.2 × 15.2)         | 47.7 × .86 × 6<br>(121.1 × 2.2 × 15.2)       | 58.7 × .86 × 6<br>(149.0 × 2.2 × 15.2)       |
| Connection Size                                                  | 1/2" Nominal Copper (5/8" OD)                               |                                              |                                              |                                              |                                               |                                              |                                              |
| Coil Volume, Gal (L)                                             | 0.06 (0.23)                                                 | 0.06 (0.23)                                  | 0.08 (0.30)                                  | 0.11 (0.42)                                  | 0.12 (0.45)                                   | 0.15 (0.57)                                  | 0.18 (0.70)                                  |
| Secondary Coil Data: 1-Row High Capacity, Hot Water or Steam     |                                                             |                                              |                                              |                                              |                                               |                                              |                                              |
| Face Area ft <sup>2</sup> (cm <sup>2</sup> )                     | 0.82 (762)                                                  | 0.82 (762)                                   | 1.12 (1043)                                  | 1.73 (1610)                                  | 2.04 (1894)                                   | 2.65 (2462)                                  | 3.26 (3030)                                  |
| Fins/inch (cm)                                                   | 12 (4.7)                                                    | 12 (4.7)                                     | 12 (4.7)                                     | 12 (4.7)                                     | 12 (4.7)                                      | 12 (4.7)                                     | 12 (4.7)                                     |
| L x D x H, in (cm)                                               | 14.7 x 1.73 x 8<br>(37.3 x 4.4 x 20.3)                      | 14.7 x 1.73 x 8<br>(37.3 x 4.4 x 20.3)       | 20.2 x 1.73 x 8<br>(51.3 x 4.4 x 20.3)       | 31.2 x 1.73 x 8<br>(79.2 x 4.4 x 20.3)       | 36.7 x 1.73 x 8<br>(93.2 x 4.4 x 20.3)        | 47.7 x 1.73 x 8<br>(121.1 x 4.4 x 20.3)      | 58.7 x 1.73 x 8<br>(121.1 x 4.4 x 20.3)      |
| Connection Size                                                  | 1/2" Nominal Copper (5/8" OD)                               |                                              |                                              |                                              |                                               |                                              |                                              |
| Coil Volume, Gal (L)                                             | 0.08 (0.30)                                                 | 0.08 (0.30)                                  | 0.11 (0.42)                                  | 0.14 (0.53)                                  | 0.16 (0.61)                                   | 0.20 (0.76)                                  | 0.24 (0.92)                                  |
| Secondary Coil Data: 2-Row High Capacity, Hot Water              |                                                             |                                              |                                              |                                              |                                               |                                              |                                              |
| Face Area, ft <sup>2</sup> (cm <sup>2</sup> )                    | 1.08 (1004)                                                 | 1.08 (1004)                                  | 1.43 (1323)                                  | 2.11 (1962)                                  | 2.46 (2281)                                   | 3.14 (2917)                                  | 3.83 (3559)                                  |
| Fins/inch (cm)                                                   | 12 (4.7)                                                    | 12 (4.7)                                     | 12 (4.7)                                     | 12 (4.7)                                     | 12 (4.7)                                      | 12 (4.7)                                     | 12 (4.7)                                     |
| L × D × H, in (cm)                                               | 17.3 × 1.73 × 9<br>(43.9 × 4.4 × 22.9)                      | 17.3 × 1.73 × 9<br>(43.9 × 4.4 × 22.9)       | 22.8 × 1.73 × 9<br>(58.0 × 4.4 × 22.9)       | 33.8 × 1.73 × 9<br>(86.0 × 4.4 × 22.9)       | 39.3 × 1.73 × 9<br>(100.0 × 4.4 × 22.9)       | 50.3 × 1.73 × 9<br>(128.0 × 4.4 × 22.9)      | 61.3 × 1.73 × 9<br>(155.7 × 4.4 × 22.9)      |
| Connection Size                                                  | 1/2" Nominal Copper (5/8" OD)                               |                                              |                                              |                                              |                                               |                                              |                                              |
| Coil Volume, Gal (L)                                             | 0.16 (0.6)                                                  | 0.16 (0.6)                                   | 0.22 (0.84)                                  | 0.28 (0.84)                                  | 0.32 (1.22)                                   | 0.40 (1.52)                                  | 0.36 (1.40)                                  |
| Fan/Motor Data                                                   |                                                             |                                              |                                              |                                              |                                               |                                              |                                              |
| Fan Quantity                                                     | 1                                                           | 1                                            | 2                                            | 2                                            | 2                                             | 4                                            | 4                                            |
| Motor Quantity                                                   | 1                                                           | 1                                            | 1                                            | 1                                            | 1                                             | 2                                            | 2                                            |
| Filter Data                                                      |                                                             |                                              |                                              |                                              |                                               |                                              |                                              |
| 1" (25.4 cm) Media                                               | Throwaway (MERV 4), MERV 7*, MERV 13* and Aluminum Washable |                                              |                                              |                                              |                                               |                                              |                                              |
| Quantity                                                         | 1                                                           | 1                                            | 1                                            | 1                                            | 1                                             | 2                                            | 2                                            |
| Hideaway<br>L × D × H, in (cm)                                   | 9.38 x 1.00 x 19.25<br>(23.8 x 2.54 x 48.9)                 | 9.38 x 1.00 x 19.25<br>(23.8 x 2.54 x 48.9)  | 9.38 x 1.00 x 24.75<br>(23.8 x 2.54 x 62.9)  | 9.38 x 1.00 x 35.75<br>(23.8 x 2.54 x 90.8)  | 9.38 x 1.00 x 41.25<br>(23.8 x 2.54 x 104.8)  | 9.38 x 1.00 x 26.00<br>(23.8 x 2.54 x 66.0)  | 9.38 x 1.00 x 31.50<br>(23.8 x 2.54 x 80.0)  |
| Cabinet<br>L × D × H, in (cm)                                    | 10.75 x 1.00 x 20.88<br>(27.3 x 2.54 x 53.0)                | 10.75 x 1.00 x 20.88<br>(27.3 x 2.54 x 53.0) | 10.75 x 1.00 x 24.75<br>(27.3 x 2.54 x 62.9) | 10.75 x 1.00 x 36.38<br>(27.3 x 2.54 x 92.4) | 10.75 x 1.00 x 40.25<br>(27.3 x 2.54 x 102.2) | 10.75 x 1.00 x 25.88<br>(27.3 x 2.54 x 65.7) | 10.75 x 1.00 x 31.75<br>(27.3 x 2.54 x 80.6) |

**NOTE:** \* For use with ECM only

**Table 2: Dry Weights - lbs (kg)\***

| Unit Type | Unit Size |          |          |          |          |          |          |
|-----------|-----------|----------|----------|----------|----------|----------|----------|
|           | S02       | S03      | S04      | S06      | S08      | S10      | S12      |
| FCHC/FCHR | 108 (49)  | 110 (50) | 124 (56) | 139 (63) | 151 (69) | 184 (84) | 196 (89) |
| FCHH      | 30 (14)   | 33 (15)  | 35 (16)  | 45 (20)  | 55 (25)  | 62 (28)  | 65 (30)  |

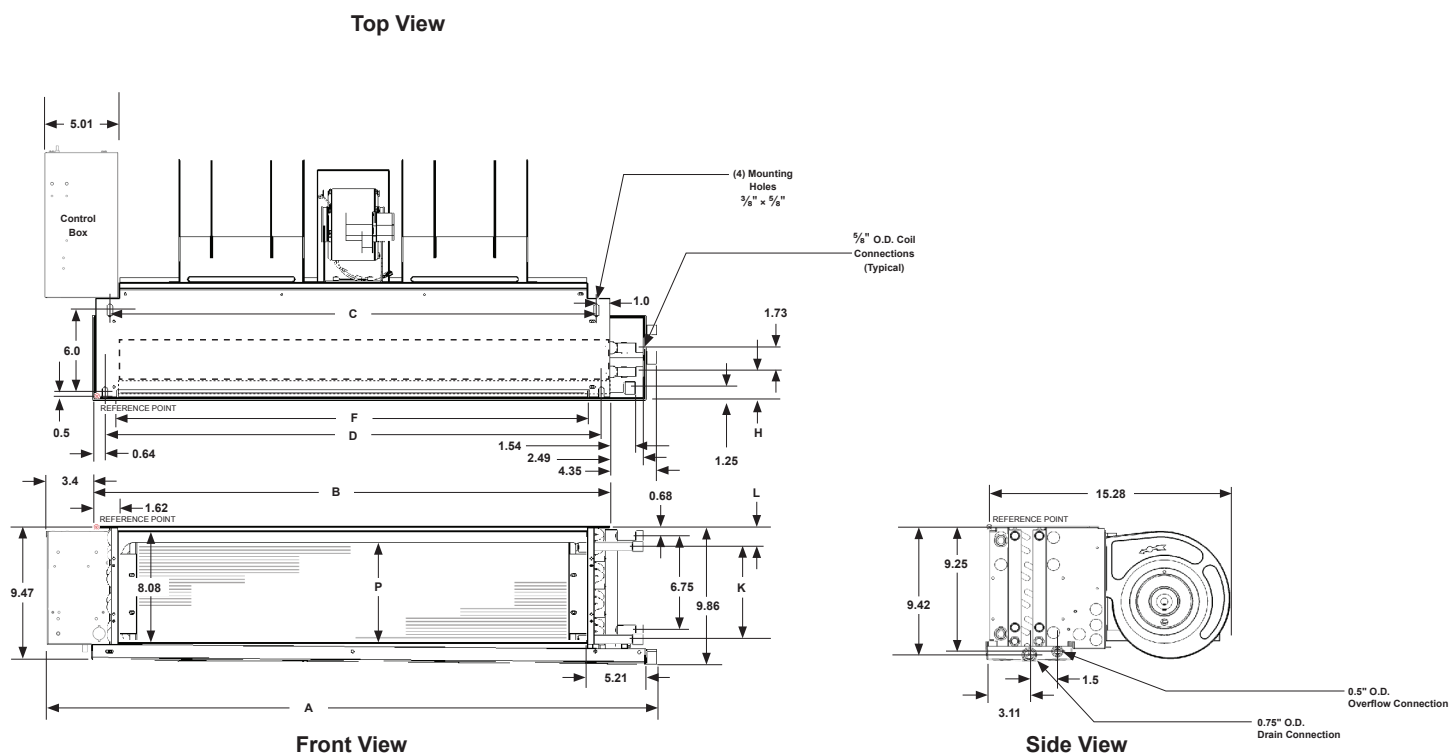
**NOTE:** \*Approximate dry weights do not include plenums, valve packages, hot water coils, electric heaters or other options.



## Unit Dimensions

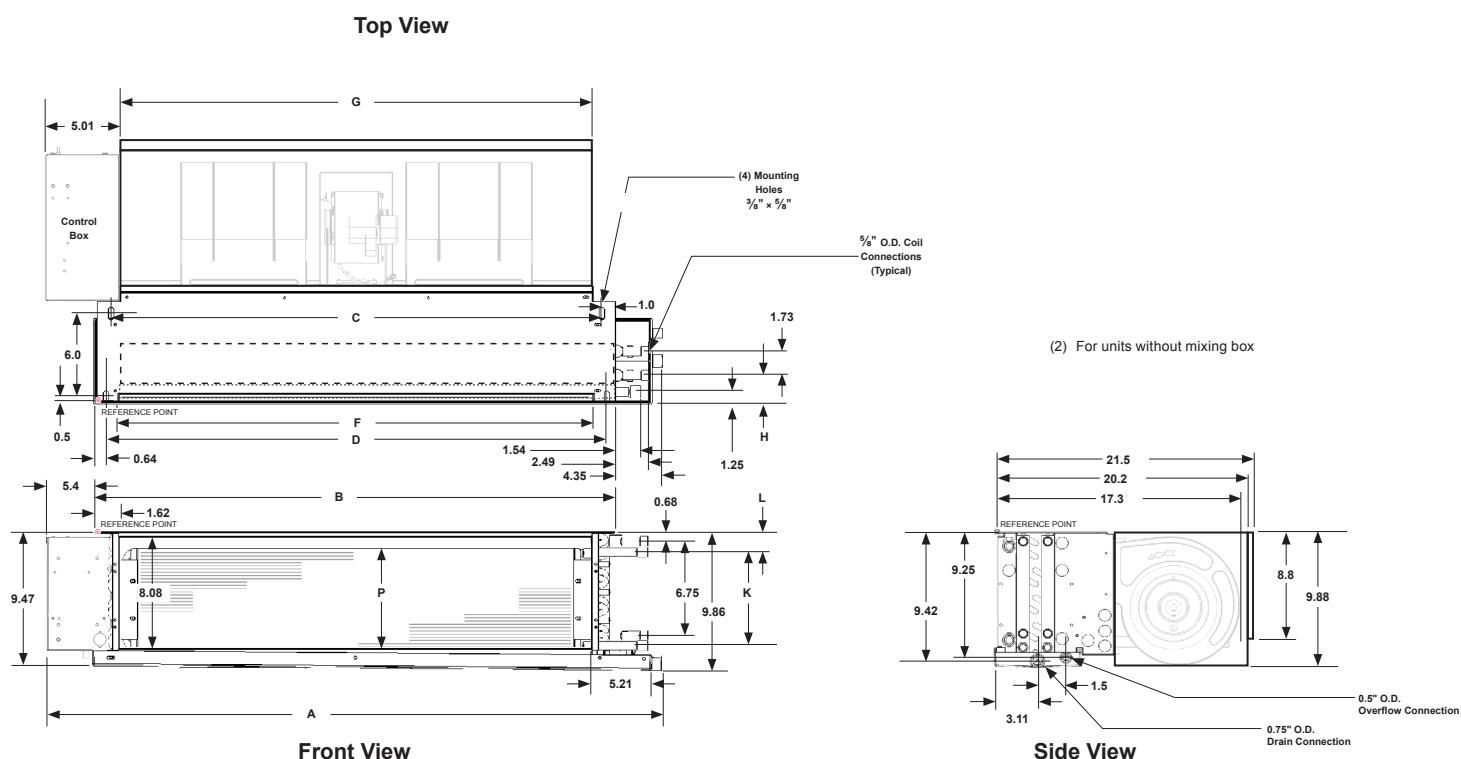
**Figure 43: Dimensions – Hideaway Fan Coil, Front Discharge – Free Return**

Reheat coil shown



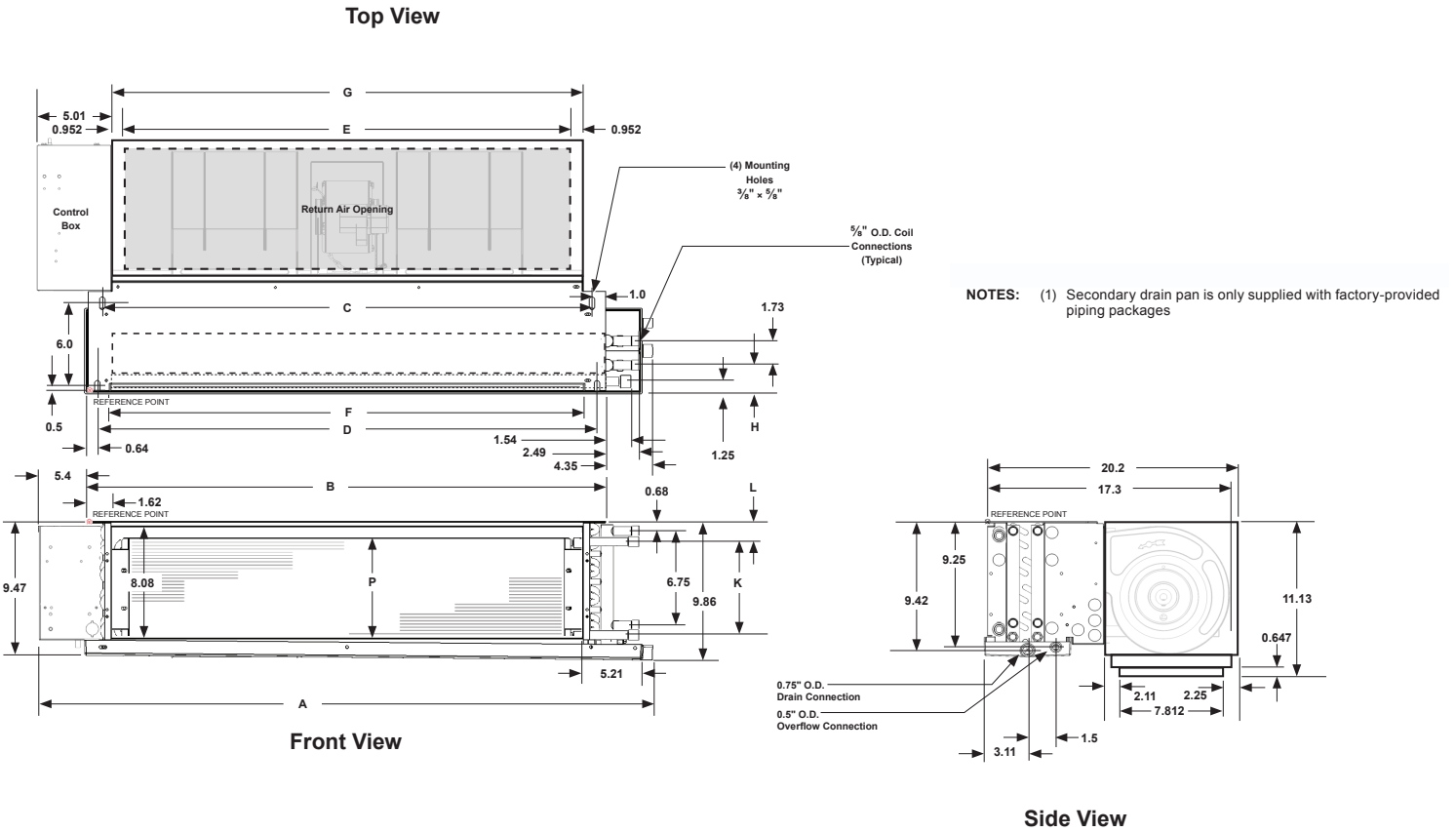
| Dimension                          |   | S02                                                                      | S03         | S04         | S06          | S08          | S10          | S12          |
|------------------------------------|---|--------------------------------------------------------------------------|-------------|-------------|--------------|--------------|--------------|--------------|
|                                    |   | inch (mm)                                                                | inch (mm)   | inch (mm)   | inch (mm)    | inch (mm)    | inch (mm)    | inch (mm)    |
| Overall Unit Width                 | A | 28.48 (723)                                                              | 28.48 (723) | 33.98 (863) | 44.98 (1142) | 50.48 (1282) | 61.48 (1562) | 72.48 (1841) |
| Chassis Width                      | B | 20.63 (524)                                                              | 20.63 (524) | 26.13 (664) | 37.13 (943)  | 42.63 (1083) | 53.63 (1362) | 64.63 (1641) |
| Mounting Hole Distance (Rear)      | C | 18.64 (473)                                                              | 18.64 (473) | 24.14 (613) | 35.14 (892)  | 40.64 (1032) | 51.64 (1312) | 62.44 (1702) |
| Mounting Slot Location (Front)     | D | 19.35 (491)                                                              | 19.35 (491) | 24.85 (631) | 35.85 (911)  | 41.35 (1050) | 52.35 (1330) | 63.35 (1609) |
| Discharge Opening - Width          | F | 17.39 (442)                                                              | 17.39 (442) | 22.84 (581) | 33.89 (867)  | 39.39 (1000) | 50.39 (1280) | 61.39 (1559) |
| Primary Coil Location              | H | 1.81 (46) for 2- or 3-row primary coil; 2.81 (71) for 4-row primary coil |             |             |              |              |              |              |
| Secondary Coil - Standard Capacity | L | 2.86 (73)                                                                |             |             |              |              |              |              |
| Secondary Coil - High Capacity     | L | 0.86 (22)                                                                |             |             |              |              |              |              |
| Secondary Coil - Standard Capacity | K | 5.0 (127)                                                                |             |             |              |              |              |              |
| Secondary Coil - High Capacity     | K | 7.0 (178)                                                                |             |             |              |              |              |              |

Figure 44: Dimensions – Hideaway Fan Coil With Plenum, Front Discharge – Rear Return



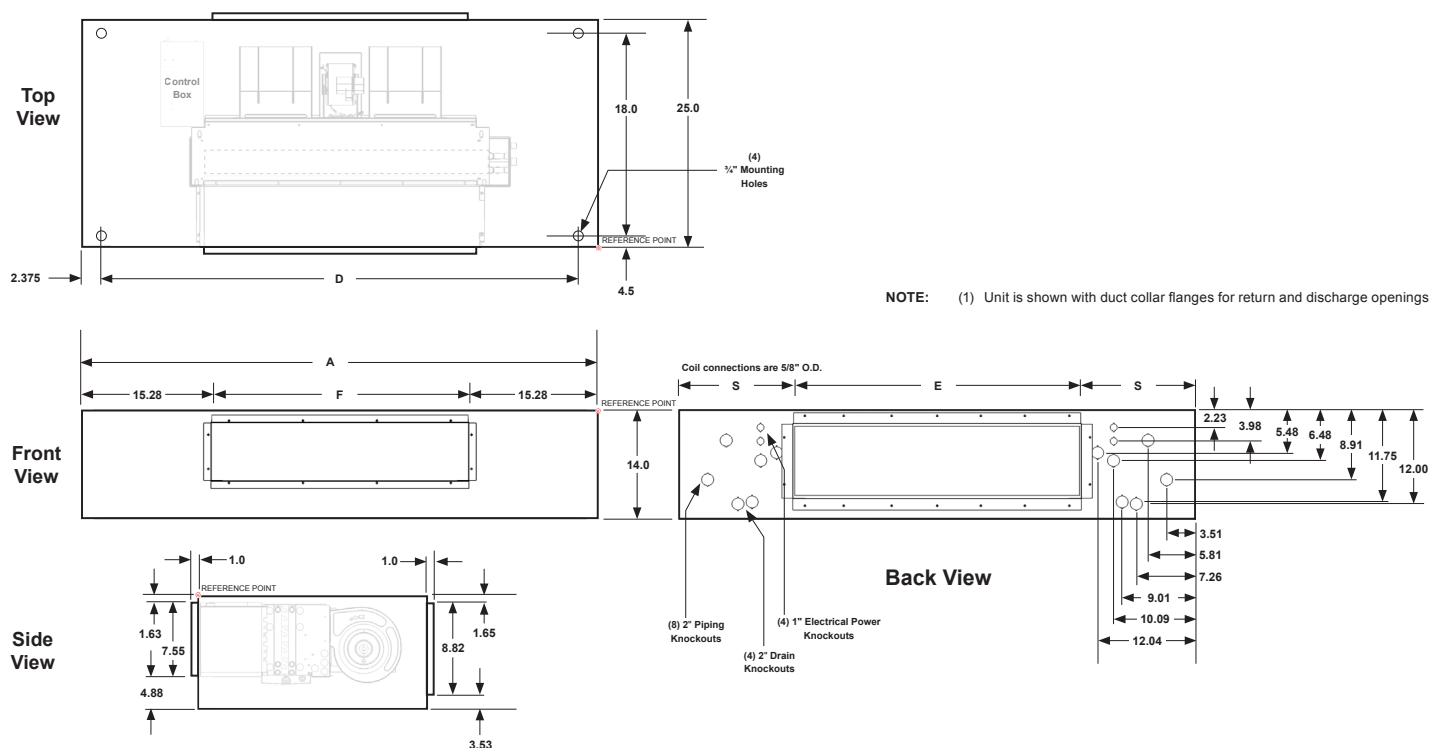
| Dimension                          |   | S02                                                                      | S03         | S04         | S06          | S08          | S10          | S12          |
|------------------------------------|---|--------------------------------------------------------------------------|-------------|-------------|--------------|--------------|--------------|--------------|
|                                    |   | inch (mm)                                                                | inch (mm)   | inch (mm)   | inch (mm)    | inch (mm)    | inch (mm)    | inch (mm)    |
| Overall Unit Width                 | A | 30.48 (771)                                                              | 30.48 (771) | 35.98 (944) | 46.98 (1193) | 52.48 (1333) | 63.48 (1612) | 74.48 (1892) |
| Chassis Width                      | B | 20.63 (524)                                                              | 20.63 (524) | 26.13 (664) | 37.13 (943)  | 42.63 (1083) | 53.63 (1362) | 64.63 (1641) |
| Mounting Hole Distance (Rear)      | C | 18.64 (473)                                                              | 18.64 (473) | 24.14 (613) | 35.14 (892)  | 40.64 (1032) | 51.64 (1312) | 62.44 (1702) |
| Mounting Slot Location (Front)     | D | 19.35 (491)                                                              | 19.35 (491) | 24.85 (631) | 35.85 (911)  | 41.35 (1050) | 52.35 (1330) | 63.35 (1609) |
| Discharge Opening - Width          | F | 17.39 (442)                                                              | 17.39 (442) | 22.84 (581) | 33.89 (867)  | 39.39 (1000) | 50.39 (1280) | 61.39 (1559) |
| Plenum/Return Air Opening - Width  | G | 21.5 (546)                                                               | 21.5 (546)  | 27.0 (686)  | 38.0 (965)   | 43.5 (1105)  | 54.5 (1384)  | 65.5 (1664)  |
| Primary Coil Location              | H | 1.81 (46) for 2- or 3-row primary coil; 2.81 (71) for 4-row primary coil |             |             |              |              |              |              |
| Secondary Coil - Standard Capacity | L | 2.86 (73)                                                                |             |             |              |              |              |              |
| Secondary Coil - High Capacity     |   | 0.86 (22)                                                                |             |             |              |              |              |              |
| Secondary Coil - Standard Capacity | K | 5.0 (127)                                                                |             |             |              |              |              |              |
| Secondary Coil - High Capacity     |   | 7.0 (178)                                                                |             |             |              |              |              |              |

**Figure 45: Dimensions – Hideaway Fan Coil With Plenum, Front Discharge – Bottom Return**



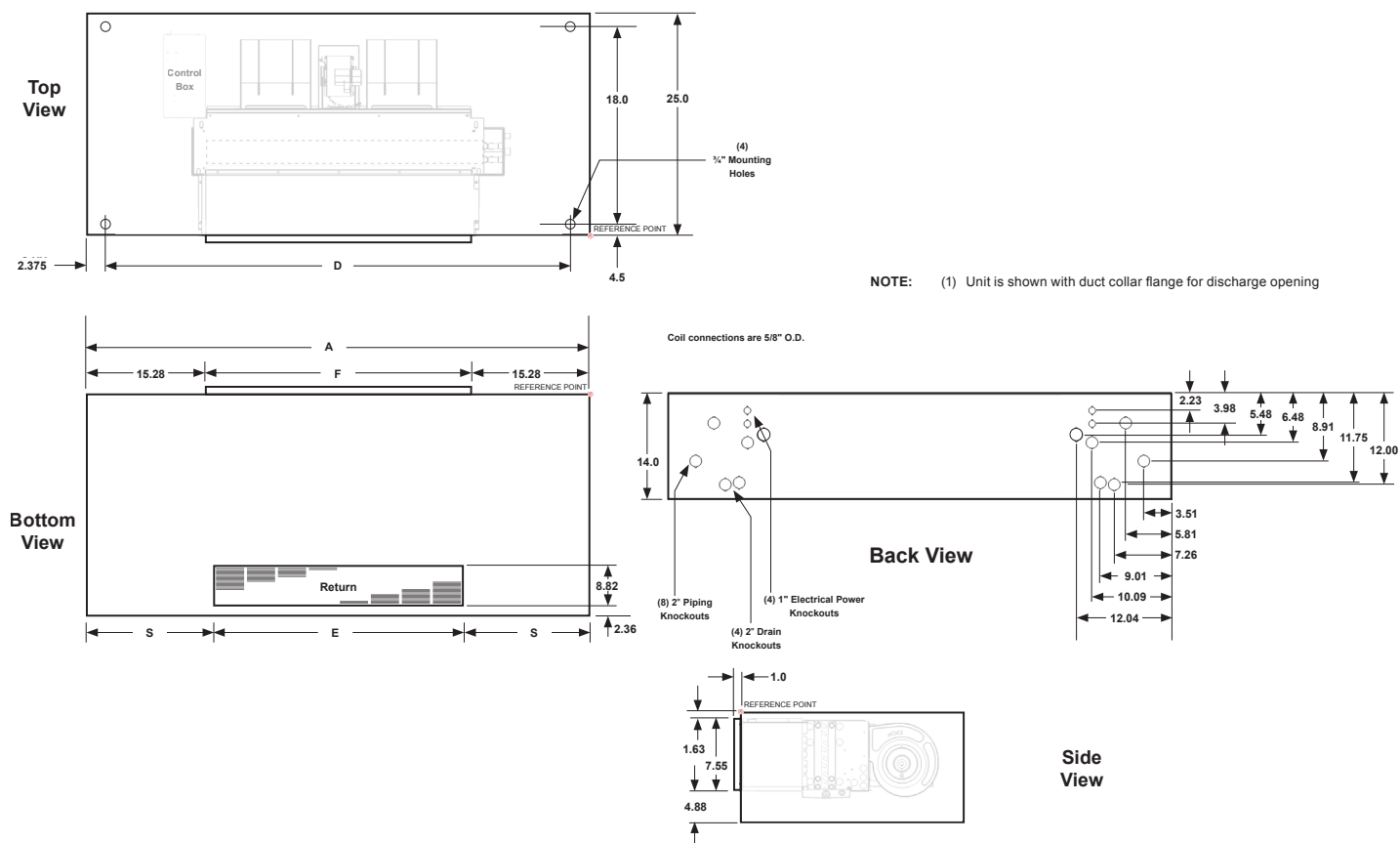
| Dimension                          |   | S02                                                                      | S03         | S04         | S06          | S08          | S10          | S12          |
|------------------------------------|---|--------------------------------------------------------------------------|-------------|-------------|--------------|--------------|--------------|--------------|
|                                    |   | inch (mm)                                                                | inch (mm)   | inch (mm)   | inch (mm)    | inch (mm)    | inch (mm)    | inch (mm)    |
| Overall Unit Width                 | A | 30.48 (771)                                                              | 30.48 (771) | 35.98 (944) | 46.98 (1193) | 52.48 (1333) | 63.48 (1612) | 74.48 (1892) |
| Chassis Width                      | B | 20.63 (524)                                                              | 20.63 (524) | 26.13 (664) | 37.13 (943)  | 42.63 (1083) | 53.63 (1362) | 64.63 (1641) |
| Mounting Hole Distance (Rear)      | C | 18.64 (473)                                                              | 18.64 (473) | 24.14 (613) | 35.14 (892)  | 40.64 (1032) | 51.64 (1312) | 62.44 (1702) |
| Mounting Slot Location (Front)     | D | 19.35 (491)                                                              | 19.35 (491) | 24.85 (631) | 35.85 (911)  | 41.35 (1050) | 52.35 (1330) | 63.35 (1609) |
| Return Air Opening - Width         | E | 17.7 (450)                                                               | 17.7 (450)  | 23.2 (589)  | 34.2 (869)   | 39.7 (1008)  | 50.7 (1288)  | 61.7 (1567)  |
| Discharge Opening - Width          | F | 17.39 (442)                                                              | 17.39 (442) | 22.84 (581) | 33.89 (867)  | 39.39 (1000) | 50.39 (1280) | 61.39 (1559) |
| Plenum Width                       | G | 21.5 (546)                                                               | 21.5 (546)  | 27.0 (686)  | 38.0 (965)   | 43.5 (1105)  | 54.5 (1384)  | 65.5 (1664)  |
| Primary Coil Location              | H | 1.81 (46) for 2- or 3-row primary coil; 2.81 (71) for 4-row primary coil |             |             |              |              |              |              |
| Secondary Coil - Standard Capacity | L | 2.86 (73)                                                                |             |             |              |              |              |              |
| Secondary Coil - High Capacity     | L | 0.86 (22)                                                                |             |             |              |              |              |              |
| Secondary Coil - Standard Capacity | K | 5.0 (127)                                                                |             |             |              |              |              |              |
| Secondary Coil - High Capacity     | K | 7.0 (178)                                                                |             |             |              |              |              |              |

Figure 46: Dimensions – Cabinet Fan Coil, Front Discharge – Rear Return



| Dimension                   |   | S02          | S03          | S04          | S06          | S08          | S10          | S12          |
|-----------------------------|---|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
|                             |   | inch (mm)    | inch (mm)    | inch (mm)    | inch (mm)    | inch (mm)    | inch (mm)    | inch (mm)    |
| Overall Unit Width          | A | 47.64 (1210) | 47.64 (1210) | 53.14 (1350) | 64.14 (1629) | 69.64 (1769) | 80.63 (2048) | 91.64 (2328) |
| Mounting Hole Distance      | D | 40.64 (1032) | 40.64 (1032) | 46.14 (1172) | 57.14 (1451) | 62.64 (1591) | 73.64 (1870) | 84.64 (2150) |
| Return Air Opening - Width  | E | 19.0 (483)   | 19.0 (483)   | 22.9 (581)   | 34.5 (876)   | 38.4 (975)   | 50.0 (1270)  | 61.6 (1565)  |
| Discharge Opening - Width   | F | 17.09 (434)  | 17.09 (434)  | 22.59 (574)  | 33.59 (853)  | 39.09 (993)  | 50.09 (1272) | 61.09 (1552) |
| Return Air Opening Location | S | 14.32 (364)  | 14.32 (364)  | 15.13 (384)  | 14.82 (376)  | 15.63 (397)  | 15.32 (389)  | 15.01 (381)  |

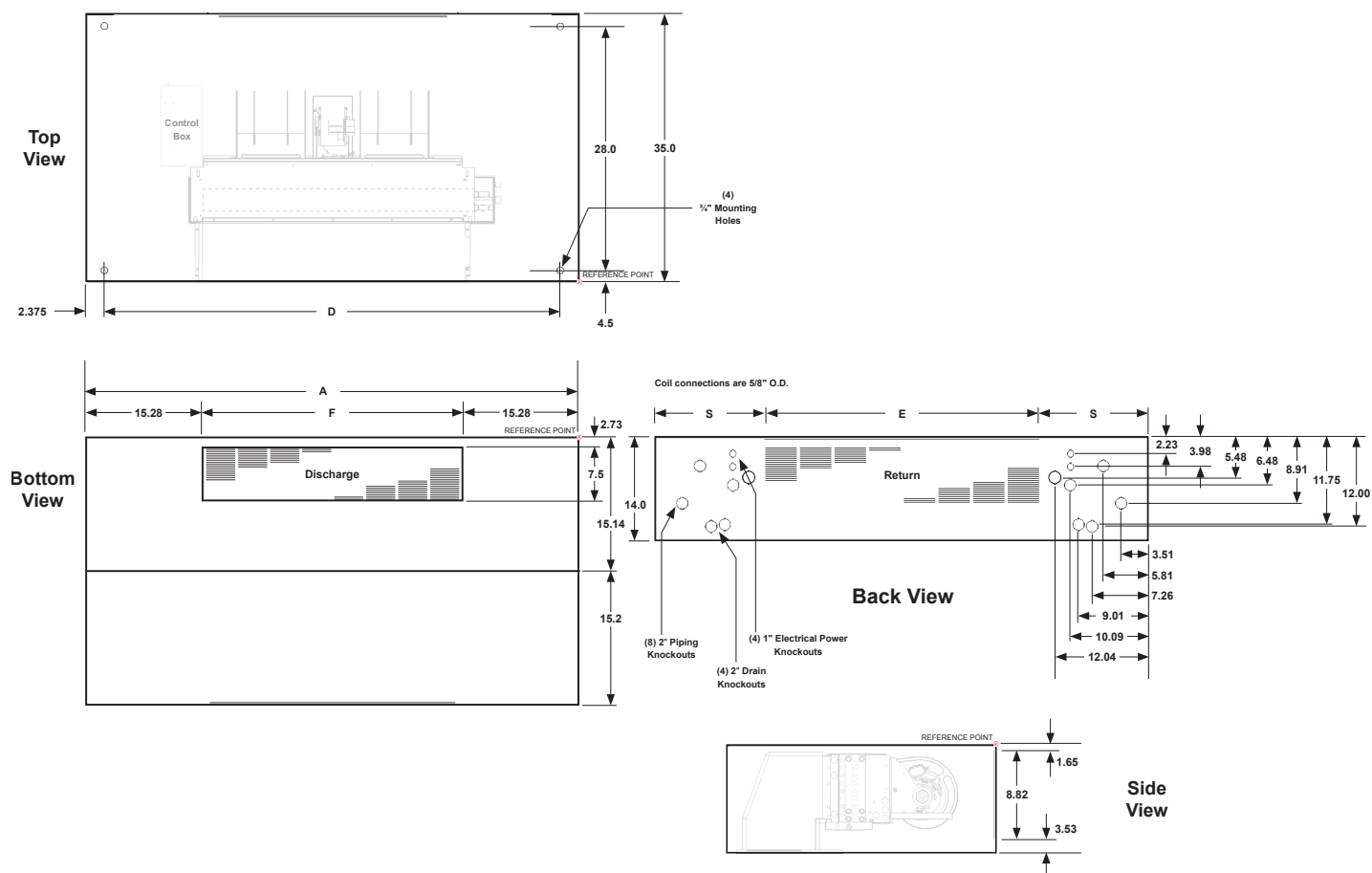
**Figure 47: Dimensions – Cabinet Fan Coil, Front Discharge – Bottom Return**



| Dimension                   |   | S02          | S03          | S04          | S06          | S08          | S10          | S12          |
|-----------------------------|---|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
|                             |   | inch (mm)    | inch (mm)    | inch (mm)    | inch (mm)    | inch (mm)    | inch (mm)    | inch (mm)    |
| Overall Unit Width          | A | 47.64 (1210) | 47.64 (1210) | 53.14 (1350) | 64.14 (1629) | 69.64 (1769) | 80.63 (2048) | 91.64 (2328) |
| Mounting Hole Distance      | D | 40.64 (1032) | 40.64 (1032) | 46.14 (1172) | 57.14 (1451) | 62.64 (1591) | 73.64 (1870) | 84.64 (2150) |
| Return Air Opening - Width  | E | 18.5 (470)   | 18.5 (470)   | 22.88 (581)  | 34.5 (876)   | 38.38 (975)  | 50.0 (1270)  | 61.63 (1565) |
| Discharge Opening - Width   | F | 17.4 (442)   | 17.4 (442)   | 22.98 (588)  | 33.59 (853)  | 39.39 (1001) | 50.39 (1280) | 61.09 (1552) |
| Return Air Opening Location | S | 14.57 (370)  | 14.57 (370)  | 15.13 (384)  | 14.82 (376)  | 15.63 (397)  | 15.32 (389)  | 15.01 (381)  |

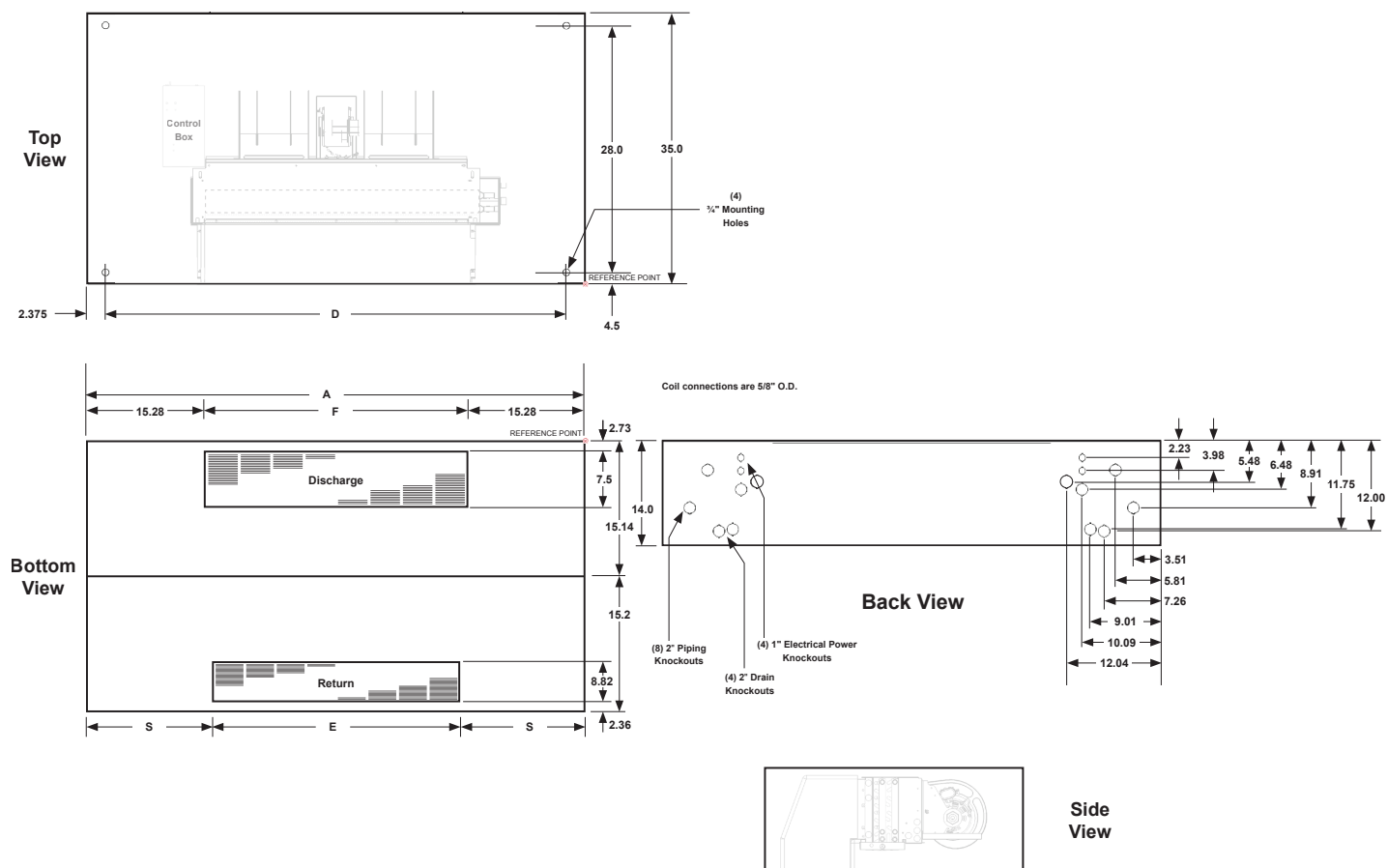


**Figure 48: Dimensions – Cabinet Fan Coil, Bottom Discharge – Rear Return**



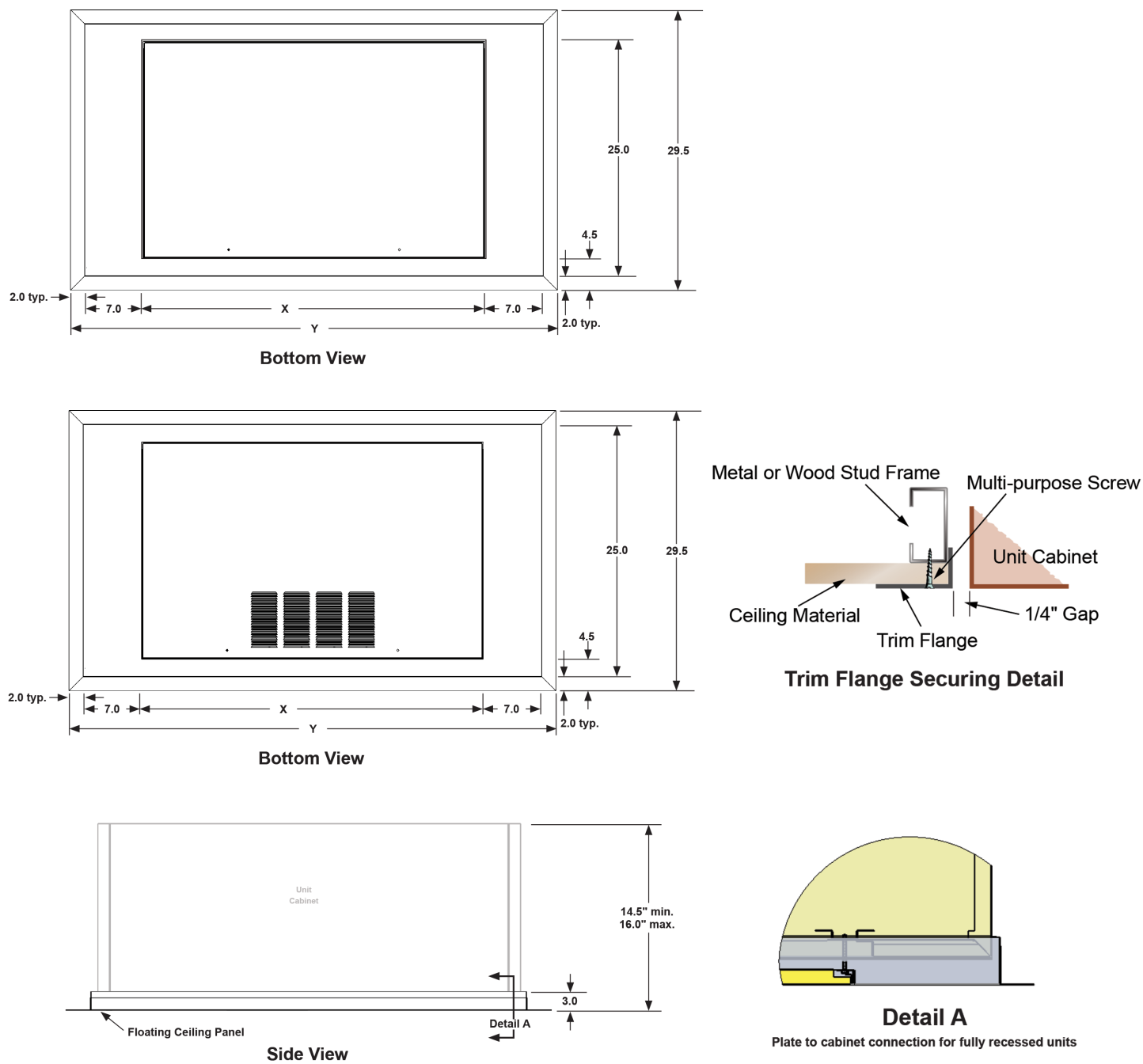
| Dimension                   |   | S02          | S03          | S04          | S06          | S08          | S10          | S12          |
|-----------------------------|---|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
|                             |   | inch (mm)    | inch (mm)    | inch (mm)    | inch (mm)    | inch (mm)    | inch (mm)    | inch (mm)    |
| Overall Unit Width          | A | 47.64 (1210) | 47.64 (1210) | 53.14 (1350) | 64.14 (1629) | 69.64 (1769) | 80.63 (2048) | 91.64 (2328) |
| Mounting Hole Distance      | D | 40.64 (1032) | 40.64 (1032) | 46.14 (1172) | 57.14 (1451) | 62.64 (1591) | 73.64 (1870) | 84.64 (2150) |
| Return Air Opening - Width  | E | 16.22 (412)  | 16.22 (412)  | 21.7 (552)   | 32.72 (831)  | 38.22 (971)  | 49.22 (1250) | 60.22 (1530) |
| Discharge Opening - Width   | F | 17.09 (434)  | 17.09 (434)  | 22.59 (574)  | 33.59 (853)  | 39.09 (993)  | 50.09 (1272) | 61.09 (1552) |
| Return Air Opening Location | S | 14.32 (364)  | 14.32 (364)  | 15.13 (384)  | 14.82 (376)  | 15.63 (397)  | 15.32 (389)  | 15.01 (381)  |

Figure 49: Dimensions – Cabinet Fan Coil, Bottom Discharge – Bottom Return



| Dimension                   |   | S02          | S03          | S04          | S06          | S08          | S10          | S12          |
|-----------------------------|---|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
|                             |   | inch (mm)    | inch (mm)    | inch (mm)    | inch (mm)    | inch (mm)    | inch (mm)    | inch (mm)    |
| Overall Unit Width          | A | 47.64 (1210) | 47.64 (1210) | 53.14 (1350) | 64.14 (1629) | 69.64 (1769) | 80.63 (2048) | 91.64 (2328) |
| Mounting Hole Distance      | D | 40.64 (1032) | 40.64 (1032) | 46.14 (1172) | 57.14 (1451) | 62.64 (1591) | 73.64 (1870) | 84.64 (2150) |
| Return Air Opening - Width  | E | 16.22 (412)  | 16.22 (412)  | 21.7 (552)   | 32.72 (831)  | 38.22 (971)  | 49.22 (1250) | 60.22 (1530) |
| Discharge Opening - Width   | F | 17.09 (434)  | 17.09 (434)  | 22.59 (574)  | 33.59 (853)  | 39.09 (993)  | 50.09 (1272) | 61.09 (1552) |
| Return Air Opening Location | S | 14.32 (364)  | 14.32 (364)  | 15.13 (384)  | 14.82 (376)  | 15.63 (397)  | 15.32 (389)  | 15.01 (381)  |

**Figure 50: Dimensions – Recessed Cabinet Fan Coil with and Without Ceiling Plate**



**NOTE:** For installations with height restrictions below 14", use the fixed trim flange accessory.

| Unit Size | 02-03 | 04    | 06    | 08    | 10    | 12    |
|-----------|-------|-------|-------|-------|-------|-------|
| X         | 33.63 | 39.13 | 50.13 | 55.63 | 66.63 | 77.63 |
| Y         | 51.64 | 57.14 | 68.14 | 74.64 | 84.64 | 95.64 |

# Initial Start-Up

## Cleaning & Flushing the Water System

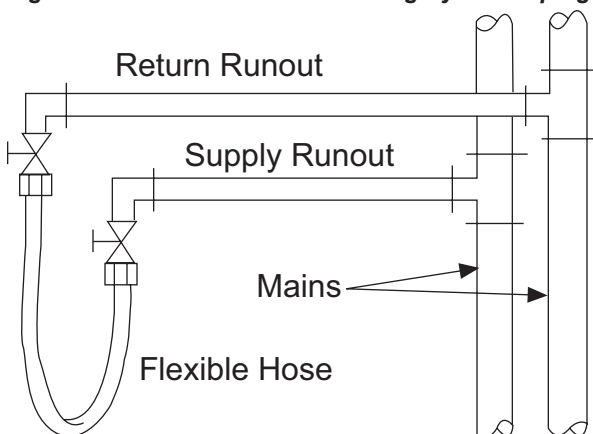
### CAUTION

Units must be checked for water leaks upon initial water system startup. Water leaks may be a result of mishandling or damage during shipping. Failure by the installing contractor to check for leaks upon start-up of the water system could result in property damage

Prior to first operation of any unit, clean and flush the water circulating system of all construction dirt and debris.

1. If units are equipped with water shutoff valves, either electric or pressure operated, connect the supply and return runouts together at each unit location. This will prevent the introduction of dirt into the unit. See [Figure 51](#).
2. Fill the system at the water makeup connection with all air vents open. After filling, close all air vents.
3. Start the main circulator with the pressure reducing valve open.
4. Check vents in sequence to bleed off any trapped air, ensuring circulation through all components of the system.
5. While circulating water, check for any leaks in the unit and surrounding piping and repair as necessary.
6. Drains at the lowest point(s) in the system should be opened for initial flush and blow-down, making sure city water fill valves are set to make up water at the same rate.
7. Check the pressure gauge at pump suction and manually adjust the makeup to hold the same positive steady pressure both before and after opening the drain valves.

**Figure 51: Connections for Flushing System Piping**



8. Flush should continue for at least two hours or longer until the drain water is clean and clear.
9. Shut off the circulator pump and open all drains and vents to completely drain down the system.
10. Short-circuited supply and return run outs should now be connected to the unit supply and return connections. Do not use sealers at the swivel flare connections of hoses.
11. Refill the system with clean water. Test the water using litmus paper for acidity, and treat as required to leave the water slightly alkaline (pH 7.5 to 8.5).
12. Antifreeze may also be added at this time. Use commercial grade antifreeze designed for HVAC systems only. Do not use automotive grade antifreeze. Antifreeze will have an effect on the performance of the unit.

Once the system has been filled with clean water and antifreeze (if used), precautions should be taken to protect the system from contamination.

## Venting Hydronic Coils

### NOTICE

It is not Daikin Applied's policy to make recommendations on what brand or type of water treatment is to be installed and used. It is the responsibility of the general contractor/owner to verify that the water supply to the units is free from contaminants, corrosive agents, chemicals and/or minerals. The general contractor/owner should contact a local water treatment company regarding water quality issues and treatment. A fouled water system will lead to premature component failure.

Hydronic coils require a vent, either manual or automatic, to release air from the unit. Primary coils on all ThinLine fan coils come standard with a coil air vent. It is located on the piping side of the unit, above the coil connections.

Secondary coils on ThinLine units are not equipped with an air vent, but one is included on all factory-supplied valve and piping packages. It is located on the pipe closest to the outlet coil connection. See [Figure 51](#).

Perform the following steps to vent both primary and secondary coils after installing the unit:

- Pressurize the building piping system with water and vent any trapped air at system vents.
- For units with manual air vents, back the set screw out to expel air from the unit and then re-tighten the set screw.
- Automatic air vents should require no adjustment for the coil to vent. However, if the coil does not vent immediately, unscrew the outer portion of the fitting to expel air from the port. If debris has become trapped in the vent, completely remove the outer portion of the fitting and clean.

## Equipment Start Up Check List

### NOTICE

Fan coils must be filled with water before operating a circulating pump. Filling the system properly will result in immediate lubrication of the bearings. The pump bearings should not be allowed to operate dry.

### Receiving and Inspection

- ☐ Unit received undamaged
- ☐ Unit received complete as ordered
- ☐ Parts for field installation received as ordered
- ☐ Unit arrangement/hand correct
- ☐ Unit structural support complete and correct

### Handling and Installation

- ☐ Mounting grommets/isolators used
- ☐ Unit mounted level and square
- ☐ Proper access provided for unit and accessories
- ☐ Proper electrical service provided
- ☐ Proper overcurrent protection provided
- ☐ Proper service switch/disconnect provided
- ☐ Proper chilled water line size to unit
- ☐ Proper hot water line size to unit
- ☐ All services to unit in code compliance
- ☐ All shipping screws and braces removed
- ☐ Unit protected from dirt and foreign matter
- ☐ Install & connect parts for field installation

### Cooling/Heating Connections

- ☐ Protect field-provided valve package components from heat
- ☐ Mount field-provided valve packages
- ☐ Connect field piping to unit
- ☐ Pressure test all piping for leaks
- ☐ Install drain line and traps, as required
- ☐ Insulate all piping, as required
- ☐ Install secondary drain pan under piping, as required

### Ductwork Connections

- ☐ Install ductwork, fittings and grilles, as required
- ☐ Flexible duct connections at unit
- ☐ Proper supply and return grille type and size
- ☐ Control outside air for freeze protection
- ☐ Insulate all ductwork, as required

### Electrical/Controls Connection

- ☐ Refer to unit wiring diagram
- ☐ Connect incoming power service or services
- ☐ Install and connect parts for field installation

### Unit Start-up

- ☐ General visual unit and system inspection
- ☐ Check for proper fan rotation
- ☐ Record electrical supply voltage
- ☐ Check all wiring for secure connections
- ☐ Close all unit isolation valves
- ☐ Flush water systems
- ☐ Fill systems with water
- ☐ Vent water systems, as required
- ☐ All ductwork and grilles in place
- ☐ All unit panels and filters in place
- ☐ Start fans, pumps, chillers, etc.
- ☐ Check for overload conditions of all units
- ☐ Check all ductwork and units for air leaks
- ☐ Balance water systems, as required
- ☐ Balance air systems, as required
- ☐ Record all final settings for future use
- ☐ Check piping and ductwork for vibration
- ☐ Check all dampers for proper operation
- ☐ Verify proper cooling operation
- ☐ Verify proper heating operation
- ☐ Reinstall all covers and access panels
- ☐ Verify proper condensate drainage

# Maintenance

## General Maintenance

Normal maintenance on all units is generally limited to filter changes and cleaning the condensate drain pans. Units are provided with permanently lubricated motors and require no oiling.

Record performance measurements of volts, amps, and water temperature differences (both heating and cooling). A comparison of logged data with start-up and other annual data is useful as an indicator of general equipment condition.

## Filter Changes

Filter changes are required at regular intervals. The time period between changes will depend upon the project requirements. Some applications, such as motels, produce a lot of lint from carpeting and linen changes, and will require more frequent filter changes. Units equipped with a MicroTech III board may have Change Filter indicator lights set to be activated at certain time intervals (60, 90, or 120 days). For units which were not provided with MicroTech board check filters at 60-day intervals for the first year until experience is acquired. If light cannot be seen through the filter when held up to sunlight or a bright light, it should be changed. A more critical standard may be desirable.

Filters can be removed without removing any panels. See [Figure 52](#) or [Figure 53](#). Cabinet units are equipped with large bottom access doors allowing easy access to the filter media from any direction.

## To Remove the Filter

### Bottom return

1. Turn the tabs on the side of the filter frame.
2. Slide your fingers along the bottom of the filter until they reach the rear paperboard edge.
3. Pull the filter out of the unit.

### Rear return

1. To open the filter frame, turn the tabs on the bottom of the filter frame.
2. Feel for the paperboard edge of the filter.
3. Slide the filter down and remove it.

## To Install a New Filter

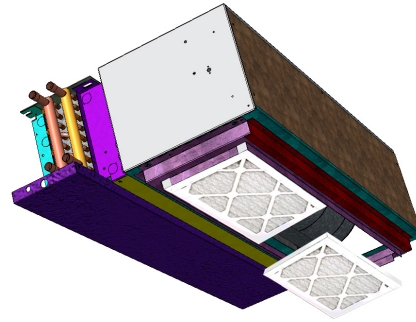
### Bottom return

1. Slide the filter in.
2. Close the tabs of the filter frame by turning them into place.

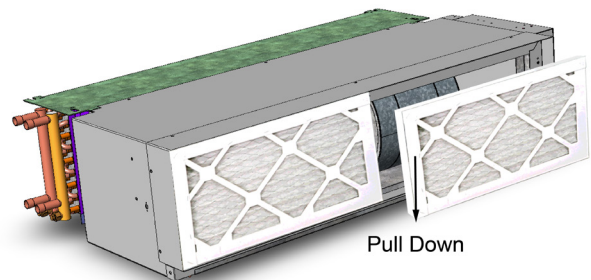
### Rear return

1. Push the filter up until it clears the front lip on the filter housing.
2. Close the tabs of the filter frame by turning them into place.

**Figure 52: Filter Removal for Units with Bottom Returns**



**Figure 53: Filter Removal for Units with Rear Returns**



## Coils

Units provided with the proper type of air filters, even when replaced regularly, may require periodic coil cleaning. Coils may be cleaned in-place by removing the motor/blower assemblies and brushing the entering air face with a soft brush in a parallel motion with the fins. Do not brush perpendicular to the fin orientation, damage may occur. Brushing should be followed by blowing air through the fins with a vacuum cleaner from the leaving air side then removing all debris with the vacuum.

## Electric Resistance Heater Assembly

Electric resistance heaters typically require no periodic maintenance when the unit's air filters are changed properly. Other conditions and equipment in the system may affect the operation and service life of the heaters. The most important operating conditions for an electric heater is airflow and supply voltage. As a rule, Daikin Applied recommends operating the electric heater on the High speed, never on Low. Restricted or insufficient airflow over the elements and/or high supply voltage to the elements will result in the unit overheating. This condition may result in the heater cycling on the high limit thermal cutout and premature failure of the heater.

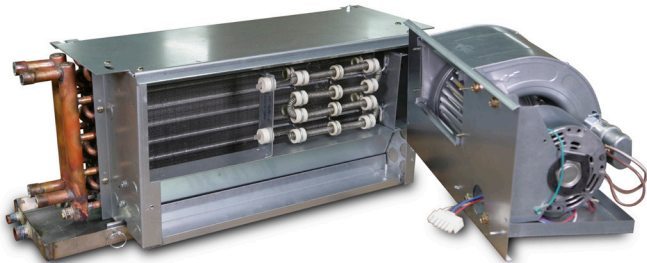
Open-wire type heaters provided with ThinLine fan coils (see [Figure 54](#)) have an automatic reset switch with a back up high limit thermal switch. Automatic reset switches reset after the heater has cooled. High limit thermal switches must be manually reset. The high limit thermal cutout switch and automatic reset



switch are only safety devices, not intended for continuous operation. With proper unit application and normal operation, the high limit thermal devices will not trip.

The need to reset the manual switches indicates there is a problem. Any conditions that causes high limit cutout **MUST** be corrected immediately. High supply voltage causes excessive amperage draw and may result in tripping the circuit breaker or blowing fuses on the incoming power supply.

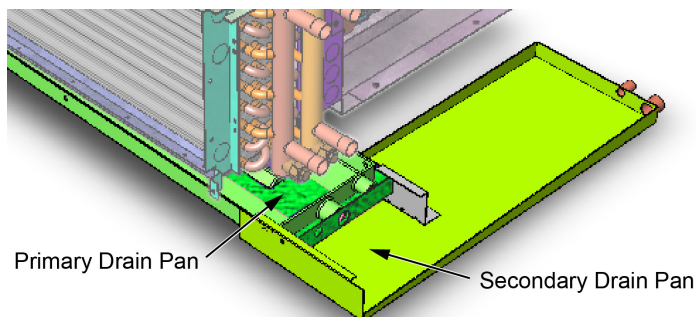
**Figure 54: Exposed Electric Heater Assembly**



## Condensate Drain Pans

The main and secondary condensate drain pans should be checked annually and cleaned and flushed as required. See [Figure 55](#).

**Figure 55: Primary and Secondary Drain Pans**



## Accessing the Secondary Drain Pan

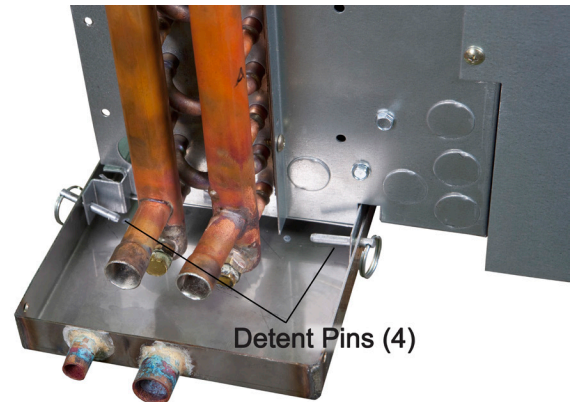
### **DANGER**

Water coils exposed to freezing temperatures should be drained or anti-freeze should be added to the water circuit to avoid freezing.

To access the secondary drain pan (cabinet units), remove the side panel from the side of the unit where the main piping connections are made (this is opposite the control panel side).

1. Remove the 4 detent pins from the drain pan and move the pan to a location for inspection and cleaning.
2. After inspection and cleaning, reinstall the drain pans by reversing the procedure in Step 1.

**Figure 56: Drain Pan Attachment to Coil Section**



## Blower

Dirt and dust should not be allowed to accumulate on the blower wheels or housing (see typical, [Figure 57](#)). Excessive debris can result in an unbalanced blower wheel condition which can damage the wheel and/or motor. The wheel and housing should be cleaned periodically using a brush and vacuum cleaner. Care must be taken to not dislodge the factory balancing weights on the blower blades.

## Accessing/Removing the Main Fan Deck and Motor Assembly

Both the fan deck and the main condensate drain pan are easily removed for access and cleaning as follows.

1. Disconnect electrical power to the unit.
2. Remove the two screws that attach the fan deck to the chassis, see [Figure 58](#) (on sizes 10 and 12 units, there are 4 screws to be removed).
3. Firmly grasp the fan deck and lift upward and off the unit. See [Figure 59](#).
4. Disconnect the fan motor wiring harness by removing the plug where it attaches to the connector on the side of the chassis. See [Figure 59](#).

### **NOTICE**

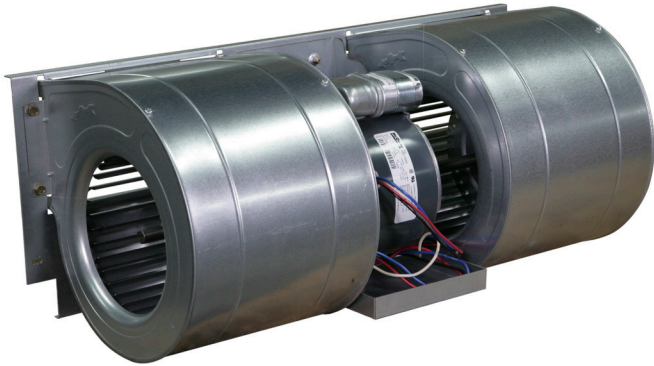
Push the tabs inward on the sides of the plug to free it from the connector base.

5. To reinstall, follow these steps in reverse order.

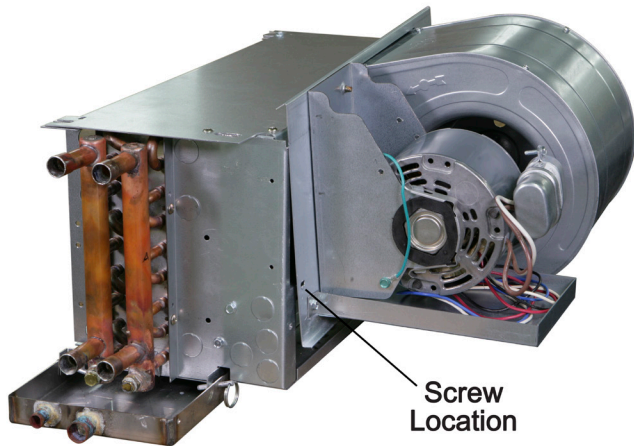
## Monthly Intervals

- Inspect and clean the condensate drain pan to help avoid clogging of drainage by dirt, dust, etc. Inspect drainage piping for proper condensate flow.
- Check and clean the coil. Clean the coil with a low pressure water jet or low pressure air.
- Clean and tighten all the wiring connections.

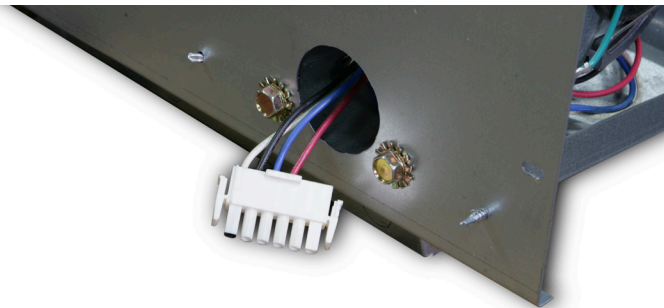
**Figure 57: Fan Housing**



**Figure 58: Removing Fan Deck Assembly**



**Figure 59: Unit Wiring Harness**



## Replacement Parts

Factory replacement parts should be used wherever possible to maintain the unit's performance, service life, operating characteristics and testing agency listings. Replacement parts may be purchased through a local Daikin Applied sales representative.

Contact your local Daikin Applied sales representative or Daikin Applied Parts before attempting any unit modifications. Any modifications not authorized by Daikin Applied could void all factory warranties and result in personal injury and/or unit damage.

When ordering replacement parts the following information must be supplied to ensure proper item identification:

- Unit model number
- Unit serial number
- Unit orientation, hand connection (right or left hand when facing into the airstream)
- Complete part description including any numbers

See replacement parts list for descriptions and part numbers. Contact Daikin Applied for authorization of any returned parts, such as defective parts covered under warranty.

# Appendix

## Limited Product Warranty



### DAIKIN APPLIED AMERICAS INC. LIMITED PRODUCT WARRANTY (United States and Canada)

#### WARRANTY

Daikin Applied Americas Inc. dba Daikin Applied ("Company") warrants to contractor, purchaser and any owner of the product (collectively "Owner") that, subject to the exclusions set forth below Company, at its option, will repair or replace defective parts in the event any product manufactured by Company, including products sold under the brand name Daikin and used in the United States or Canada, proves defective in material or workmanship within twelve (12) months from initial startup or eighteen (18) months from the date shipped by Company, whichever occurs first. Authorized replacement parts are warranted for the remainder of the original warranty. All shipments of such parts will be made FOB factory, freight prepaid and allowed. Company reserves the right to select carrier and method of shipment. In addition, Company provides labor to repair or replace warranty parts during Company normal working hours on products with rotary screw compressors or centrifugal compressors. Warranty labor is not provided for any other products.

Company must receive the Registration and Startup Forms for products containing motor compressors and/or furnaces within ten (10) days of original product startup, or the ship date and the startup date will be deemed the same for determining the commencement of the warranty period and this warranty shall expire twelve (12) months from that date. For additional consideration, Company will provide an extended warranty(ies) on certain products or components thereof. The terms of the extended warranty(ies) are shown on a separate extended warranty statement.

No person (including any agent, sales representative, dealer or distributor) has the authority to expand the Company's obligation beyond the terms of this express warranty or to state that the performance of the product is other than that published by Company.

#### EXCLUSIONS

1. If free warranty labor is available as set forth above, such free labor does not include diagnostic visits, inspections, travel time and related expenses, or unusual access time or costs required by product location.
2. Refrigerants, fluids, oils and expendable items such as filters are not covered by this warranty.
3. This warranty shall not apply to products or parts : (a) that have been opened, disassembled, repaired, or altered, in each case by anyone other than Company or its authorized service representative; (b) that have been subjected to misuse, abuse, negligence, accidents, damage, or abnormal use or service; (c) that have not been properly maintained; (d) that have been operated or installed, or have had startup performed, in each case in a manner contrary to Company's printed instructions; (e) that have been exposed, directly or indirectly, to a corrosive atmosphere or material such as, but not limited to, chlorine, fluorine, fertilizers, waste water, urine, rust, salt, sulfur, ozone, or other chemicals, contaminants, minerals, or corrosive agents; (f) that were manufactured or furnished by others and/or are not an integral part of a product manufactured by Company; or (g) for which Company has not been paid in full.
4. This warranty shall not apply to products with rotary screw compressors or centrifugal compressors if such products have not been started, or if such startup has not been performed, by a Daikin Applied or Company authorized service representative.

#### SOLE REMEDY AND LIMITATION OF LIABILITY

THIS WARRANTY CONSTITUTES THE SOLE WARRANTY MADE BY COMPANY. COMPANY'S LIABILITY TO OWNER AND OWNER'S SOLE REMEDY UNDER THIS WARRANTY SHALL NOT EXCEED THE LESSER OF: (i) THE COST OF REPAIRING OR REPLACING DEFECTIVE PRODUCTS; AND (ii) THE ORIGINAL PURCHASE PRICE ACTUALLY PAID FOR THE PRODUCTS. COMPANY MAKES NO REPRESENTATION OR WARRANTY, EXPRESS OR IMPLIED, REGARDING PREVENTION OF MOLD/MOULD, FUNGUS, BACTERIA, MICROBIAL GROWTH, OR ANY OTHER CONTAMINATES. THIS WARRANTY IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, INCLUDING, WITHOUT LIMITATION, THE IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, AND NON-INFRINGEMENT, WHICH ARE HEREBY DISCLAIMED. IN NO EVENT AND UNDER NO CIRCUMSTANCE SHALL COMPANY BE LIABLE TO OWNER OR ANY THIRD PARTY FOR INCIDENTAL, INDIRECT, SPECIAL, CONTINGENT, CONSEQUENTIAL, DELAY OR LIQUIDATED DAMAGES FOR ANY REASON, ARISING FROM ANY CAUSE WHATSOEVER, WHETHER THE THEORY FOR RECOVERY IS BASED IN LAW OR IN EQUITY, OR IS UNDER A THEORY OF BREACH CONTRACT OR WARRANTY, NEGLIGENCE, STRICT LIABILITY, OR OTHERWISE. THE TERM "CONSEQUENTIAL DAMAGE" INCLUDES, WITHOUT LIMITATION, THOSE DAMAGES ARISING FROM BUSINESS INTERRUPTION OR ECONOMIC LOSS, SUCH AS LOSS OF ANTICIPATED PROFITS, REVENUE, PRODUCTION, USE, REPUTATION, DATA OR CROPS.

#### ASSISTANCE

To obtain assistance or information regarding this warranty, please contact your local sales representative or a Daikin Applied office.

## Full Nomenclature

| 1  | 2  | 3 | 4  | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 |
|----|----|---|----|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| FC | HC | 1 | 02 | A | A | G | M | Y | YY | W  | 3  | 12 | R  | F  | T  | YY | 12 | Y  | Y  | N  | YY | W1 | 12 | R  | F  | T  | Y  |

| Category                     | Code Option | Code | = | Description           |
|------------------------------|-------------|------|---|-----------------------|
| Unit Type                    | 1           | FC   | = | Fan Coil              |
|                              |             | FH   | = | Cabinet Unit Heater   |
| Product Identifier           | 2           | HC   | = | Horizontal, Exposed   |
|                              |             | HC   | = | Horizontal, Concealed |
| Design Series                | 3           | 1    | = | Design 1              |
| Nominal Capacity             | 4           | 02   | = | 200 cfm               |
|                              |             | 03   | = | 300 cfm               |
|                              |             | 04   | = | 400 cfm               |
|                              |             | 06   | = | 600 cfm               |
|                              |             | 08   | = | 800 cfm               |
|                              |             | 10   | = | 1000 cfm              |
| Volts/Hertz/Phase            | 5           | 12   | = | 1200 cfm              |
|                              |             | A    | = | 115/60/1              |
|                              |             | E    | = | 208-230/60/1          |
| Coil Fin Type                | 6           | J    | = | 265-277/60/1          |
|                              |             | A    | = | Aluminum              |
| Coil Casing Material         | 7           | G    | = | Galvanized            |
| Coil Air Vent                | 8           | M    | = | Manual                |
|                              |             | N    | = | Auto                  |
| Coil Coating                 | 9           | Y    | = | None                  |
| Not Currently Used           | 10          | YY   | = | None                  |
| Primary Coil Type            | 11          | C    | = | Chilled Water Only    |
|                              |             | W    | = | CW/HW 2-Pipe          |
|                              |             | H    | = | Hot Water Only        |
|                              |             | S    | = | Steam                 |
| Primary Coil Rows            | 12          | 2    | = | 2 Row                 |
|                              |             | 3    | = | 3 Row                 |
|                              |             | 4    | = | 4 Row                 |
| Primary Coil Fins per Inch   | 13          | 12   | = | 12 Fins per Inch      |
| Primary Coil Connection Head | 14          | L    | = | Left Hand             |
|                              |             | R    | = | Right Hand            |
| Primary Coil Piping Package  | 15          | F    | = | Factory Installed     |
|                              |             | L    | = | Shipped Loose         |
|                              |             | Y    | = | None                  |
| Primary Coil Connection Type | 16          | S    | = | Sweated               |
|                              |             | T    | = | Threaded              |
|                              |             | N    | = | None                  |

| 1  | 2  | 3 | 4  | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 |
|----|----|---|----|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| FC | HC | 1 | 02 | A | A | G | M | Y | YY | W  | 3  | 12 | R  | F  | T  | YY | 12 | Y  | Y  | N  | YY | W1 | 12 | R  | F  | T  | Y  |

| Category                     | Code Option | Code | = | Description                        |
|------------------------------|-------------|------|---|------------------------------------|
| Preheat Coil Type            | 17          | E1   | = | Electric Single Stage              |
|                              |             | M1   | = | Intermediate Electric Single Stage |
|                              |             | W1   | = | Water Standard Capacity            |
|                              |             | W2   | = | Water High Capacity                |
|                              |             | S1   | = | Standard Capacity                  |
|                              |             | S2   | = | High Capacity                      |
|                              |             | YY   | = | None                               |
| Preheat Coil Fins per Inch   | 18          | 12   | = | 12 Fins per Inch                   |
| Preheat Coil Connection Hand | 19          | L    | = | Left Hand                          |
|                              |             | R    | = | Right Hand                         |
|                              |             | Y    | = | None                               |
| Preheat Coil Piping Package  | 20          | F    | = | Factory Installed                  |
|                              |             | L    | = | Shipped Loose                      |
|                              |             | Y    | = | None                               |
| Preheat Coil Connection Type | 21          | S    | = | Sweated                            |
|                              |             | T    | = | Threaded                           |
|                              |             | N    | = | None                               |
| Not Currently Used           | 22          | YY   | = | None                               |
| Reheat Coil Type             | 23          | W1   | = | Water Standard Capacity            |
|                              |             | W2   | = | Water High Capacity                |
|                              |             | S1   | = | Standard Capacity                  |
|                              |             | S2   | = | High Capacity                      |
|                              |             | YY   | = | None                               |
| Reheat Coil Fins Per Inch    | 24          | 12   | = | 12 Fins Per Inch                   |
| Reheat Coil Connection Hand  | 25          | L    | = | Left Hand                          |
|                              |             | R    | = | Right Hand                         |
|                              |             | Y    | = | None                               |
| Reheat Coil Piping Package   | 26          | F    | = | Factory Installed                  |
|                              |             | L    | = | Shipped Loose                      |
|                              |             | Y    | = | None                               |
| Reheat Coil Connection Type  | 27          | S    | = | Sweated                            |
|                              |             | T    | = | Threaded                           |
|                              |             | N    | = | None                               |
| Electric Heat Power Supply   | 28          | A    | = | 115-60-1                           |
|                              |             | E    | = | 208-230/60/1                       |
|                              |             | J    | = | 277-265/60/1                       |
|                              |             | Y    | = | None                               |

| 29  | 30 | 31 | 32  | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46  | 47 | 48   | 49   | 50   | 51 | 52 | 53 | 54 |
|-----|----|----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|-----|----|------|------|------|----|----|----|----|
| 000 | Y  | P  | PSC | S  | 3  | Q  | Y  | MR | Y  | D  | Y  | R  | Y  | Y  | Y  | RL | MOR | Y  | 3MOU | YYYY | 3MOU | Y  | Y  | C  | Y  |

| Category               | Code Option | Code | = | Description                                                                    |
|------------------------|-------------|------|---|--------------------------------------------------------------------------------|
| Electric Heat Wattage  | 29          | 005  | = | 0.5 kW Electric Heat                                                           |
|                        |             | 010  | = | 1.0 kW Electric Heat                                                           |
|                        |             | 015  | = | 1.5 kW Electric Heat                                                           |
|                        |             | 020  | = | 2.0 kW Electric Heat                                                           |
|                        |             | 025  | = | 2.5 kW Electric Heat                                                           |
|                        |             | 030  | = | 3.0 kW Electric Heat                                                           |
|                        |             | 040  | = | 4.0 kW Electric Heat                                                           |
|                        |             | 050  | = | 5.0 kW Electric Heat                                                           |
|                        |             | 060  | = | 6.0 kW Electric Heat                                                           |
|                        |             | 080  | = | 8.0 kW Electric Heat                                                           |
|                        |             | 100  | = | 10.0 kW Electric Heat                                                          |
|                        |             | 000  | = | None                                                                           |
| Not Currently Used     | 30          | YY   | = | None                                                                           |
| Drain Pan Material     | 31          | G    | = | Galvanized                                                                     |
|                        |             | S    | = | Stainless Steel                                                                |
| Blower Motor Type      | 32          | PSC  | = | PSC Motor                                                                      |
|                        |             | ECM  | = | ECM Motor                                                                      |
|                        |             | XXX  | = | Special                                                                        |
| Discharge Conditions   | 33          | S    | = | Standard Static                                                                |
|                        |             | H    | = | High Static                                                                    |
| Motor Speed            | 34          | 3    | = | 3 Speed                                                                        |
| Motor Connections      | 35          | Q    | = | Quick Connect                                                                  |
| Not Currently Used     | 36          | YY   | = | None                                                                           |
| Fresh Air Damper       | 37          | MR   | = | Manual Rear                                                                    |
|                        |             | 2R   | = | Automatic, 2-Position, Rear                                                    |
|                        |             | ER   | = | Automatic, Economizer                                                          |
|                        |             | XX   | = | Special                                                                        |
|                        |             | YY   | = | None                                                                           |
| Not Currently Used     | 38          | YYY  | = | None                                                                           |
| Unit Disconnect Switch | 39          | D    | = | Toggle Disconnect Switch                                                       |
|                        |             | X    | = | Special                                                                        |
|                        |             | Y    | = | None                                                                           |
| Site Control Voltage   | 40          | L    | = | 24V (Low) Voltage                                                              |
|                        |             | H    | = | Line Voltage                                                                   |
| Control Type           | 41          | A    | = | Analog                                                                         |
|                        |             | D    | = | Digital                                                                        |
|                        |             | L    | = | Digital Ready (Low-Voltage Interface Board/Terminal Strips) and 3-Speed Switch |
|                        |             | M    | = | Microtech III                                                                  |
|                        |             | R    | = | Digital Ready (Low-Voltage Interface Board/Terminal Strips)                    |
|                        |             | S    | = | 3-Speed Switch                                                                 |
|                        |             | X    | = | Special                                                                        |
|                        |             | Y    | = | None                                                                           |



| 29                             | 30 | 31 | 32  | 33 | 34 | 35 | 36 | 37 | 38          | 39 | 40 | 41 | 42   | 43 | 44 | 45                                            | 46  | 47 | 48   | 49   | 50   | 51 | 52 | 53 | 54 |
|--------------------------------|----|----|-----|----|----|----|----|----|-------------|----|----|----|------|----|----|-----------------------------------------------|-----|----|------|------|------|----|----|----|----|
| 000                            | Y  | P  | PSC | S  | 3  | Q  | Y  | MR | Y           | D  | Y  | R  | Y    | Y  | Y  | RL                                            | MOR | Y  | 3MOU | YYYY | 3MOU | Y  | Y  | C  | Y  |
| Category                       |    |    |     |    |    |    |    |    | Code Option |    |    |    | Code |    | =  | Description                                   |     |    |      |      |      |    |    |    |    |
| Network Communication Card     |    |    |     |    |    |    |    |    | 42          |    |    |    | Y    |    | =  | None                                          |     |    |      |      |      |    |    |    |    |
| Changeover Type                |    |    |     |    |    |    |    |    | 43          |    |    |    | Y    |    | =  | None                                          |     |    |      |      |      |    |    |    |    |
|                                |    |    |     |    |    |    |    |    |             |    |    |    | A    |    | =  | Auto                                          |     |    |      |      |      |    |    |    |    |
|                                |    |    |     |    |    |    |    |    |             |    |    |    | M    |    | =  | Manual                                        |     |    |      |      |      |    |    |    |    |
|                                |    |    |     |    |    |    |    |    |             |    |    |    | U    |    | =  | User Selectable                               |     |    |      |      |      |    |    |    |    |
| Programmability                |    |    |     |    |    |    |    |    | 44          |    |    |    | Y    |    | =  | None                                          |     |    |      |      |      |    |    |    |    |
| Setpoint Adjustment            |    |    |     |    |    |    |    |    | 45          |    |    |    | YY   |    | =  | None                                          |     |    |      |      |      |    |    |    |    |
|                                |    |    |     |    |    |    |    |    |             |    |    |    | UL   |    | =  | Unit-Mounted, +/- 3 Degrees                   |     |    |      |      |      |    |    |    |    |
|                                |    |    |     |    |    |    |    |    |             |    |    |    | UF   |    | =  | Unit-Mounted, Full Range                      |     |    |      |      |      |    |    |    |    |
|                                |    |    |     |    |    |    |    |    |             |    |    |    | RL   |    | =  | Remote-Mounted, +/- 3 Degrees                 |     |    |      |      |      |    |    |    |    |
|                                |    |    |     |    |    |    |    |    |             |    |    |    | RF   |    | =  | Remote-Mounted, Full Range                    |     |    |      |      |      |    |    |    |    |
| Fan Speed Control              |    |    |     |    |    |    |    |    | 46          |    |    |    | YYY  |    | =  | None                                          |     |    |      |      |      |    |    |    |    |
|                                |    |    |     |    |    |    |    |    |             |    |    |    | MBU  |    | =  | Manual, Off/Low/Med/High, Unit-Mounted        |     |    |      |      |      |    |    |    |    |
|                                |    |    |     |    |    |    |    |    |             |    |    |    | MBR  |    | =  | Manual, Off/Low/Med/High, Re-<br>mote-Mounted |     |    |      |      |      |    |    |    |    |
| Timed Override                 |    |    |     |    |    |    |    |    | 47          |    |    |    | Y    |    | =  | None                                          |     |    |      |      |      |    |    |    |    |
| Valve - Primary Coil           |    |    |     |    |    |    |    |    | 48          |    |    |    | -    |    | =  | See <a href="#">Table 3 on page 53</a> .      |     |    |      |      |      |    |    |    |    |
| Valve - Preheat Coil           |    |    |     |    |    |    |    |    | 49          |    |    |    | -    |    | =  | See <a href="#">Table 3 on page 53</a> .      |     |    |      |      |      |    |    |    |    |
| Valve - Reheat Coil            |    |    |     |    |    |    |    |    | 50          |    |    |    | -    |    | =  | See <a href="#">Table 3 on page 53</a> .      |     |    |      |      |      |    |    |    |    |
| Future Control Function        |    |    |     |    |    |    |    |    | 51          |    |    |    | Y    |    | =  | None                                          |     |    |      |      |      |    |    |    |    |
| Low Temperature Protection     |    |    |     |    |    |    |    |    | 52          |    |    |    | A    |    | =  | Auto                                          |     |    |      |      |      |    |    |    |    |
|                                |    |    |     |    |    |    |    |    |             |    |    |    | Y    |    | =  | None                                          |     |    |      |      |      |    |    |    |    |
|                                |    |    |     |    |    |    |    |    |             |    |    |    | X    |    | =  | Special                                       |     |    |      |      |      |    |    |    |    |
| Condensate Overflow Protection |    |    |     |    |    |    |    |    | 53          |    |    |    | C    |    | =  | Condensate Overflow Protection                |     |    |      |      |      |    |    |    |    |
|                                |    |    |     |    |    |    |    |    |             |    |    |    | Y    |    | =  | None                                          |     |    |      |      |      |    |    |    |    |
|                                |    |    |     |    |    |    |    |    |             |    |    |    | X    |    | =  | Special                                       |     |    |      |      |      |    |    |    |    |
| Discharge Air Thermistor       |    |    |     |    |    |    |    |    | 54          |    |    |    | Y    |    | =  | None                                          |     |    |      |      |      |    |    |    |    |
|                                |    |    |     |    |    |    |    |    |             |    |    |    | X    |    | =  | Special                                       |     |    |      |      |      |    |    |    |    |

| 55                              | 56 | 57          | 58 | 59   | 60 | 61 | 62 | 63                                             | 64 | 65 | 66 | 67 | 68 | 69  | 70 |
|---------------------------------|----|-------------|----|------|----|----|----|------------------------------------------------|----|----|----|----|----|-----|----|
| Y                               | Y  | Y           | Y  | Y    | Y  | S  | 18 | P                                              | I  | 00 | S  | 00 | 00 | 30F | TA |
| Category                        |    | Code Option |    | Code |    | =  |    | Description                                    |    |    |    |    |    |     |    |
| Smoke Input Sensor              |    | 55          |    | Y    |    | =  |    | None                                           |    |    |    |    |    |     |    |
|                                 |    |             |    | X    |    | =  |    | Special                                        |    |    |    |    |    |     |    |
| Occ / Vacant Control Input      |    | 56          |    | Y    |    | =  |    | None                                           |    |    |    |    |    |     |    |
|                                 |    |             |    | X    |    | =  |    | Special                                        |    |    |    |    |    |     |    |
| Filter Status Sensor            |    | 57          |    | Y    |    | =  |    | None                                           |    |    |    |    |    |     |    |
|                                 |    |             |    | X    |    | =  |    | Special                                        |    |    |    |    |    |     |    |
| Fan Status Sensor               |    | 58          |    | Y    |    | =  |    | None                                           |    |    |    |    |    |     |    |
|                                 |    |             |    | X    |    | =  |    | Special                                        |    |    |    |    |    |     |    |
| Future Control Function         |    | 59          |    | Y    |    | =  |    | None                                           |    |    |    |    |    |     |    |
| Future Control Function         |    | 60          |    | Y    |    | =  |    | None                                           |    |    |    |    |    |     |    |
| Cabinet Style                   |    | 61          |    | S    |    | =  |    | Standard                                       |    |    |    |    |    |     |    |
|                                 |    |             |    | T    |    | =  |    | Tamperproof                                    |    |    |    |    |    |     |    |
|                                 |    |             |    | Y    |    | =  |    | None                                           |    |    |    |    |    |     |    |
| Cabinet Gauge                   |    | 62          |    | 16   |    | =  |    | 16 Gauge                                       |    |    |    |    |    |     |    |
|                                 |    |             |    | 18   |    | =  |    | 18 Gauge                                       |    |    |    |    |    |     |    |
|                                 |    |             |    | YY   |    | =  |    | None                                           |    |    |    |    |    |     |    |
|                                 |    |             |    | XX   |    | =  |    | Special                                        |    |    |    |    |    |     |    |
| Cabinet Coating Type            |    | 63          |    | B    |    | =  |    | Powder Coat                                    |    |    |    |    |    |     |    |
|                                 |    |             |    | Y    |    | =  |    | None                                           |    |    |    |    |    |     |    |
| Color - Cabinet                 |    | 64          |    | I    |    | =  |    | Antique Ivory                                  |    |    |    |    |    |     |    |
|                                 |    |             |    | W    |    | =  |    | Off White                                      |    |    |    |    |    |     |    |
|                                 |    |             |    | G    |    | =  |    | Soft Gray                                      |    |    |    |    |    |     |    |
|                                 |    |             |    | C    |    | =  |    | Cupola White                                   |    |    |    |    |    |     |    |
|                                 |    |             |    | P    |    | =  |    | Putty Beige                                    |    |    |    |    |    |     |    |
|                                 |    |             |    | Y    |    | =  |    | None                                           |    |    |    |    |    |     |    |
|                                 |    |             |    | X    |    | =  |    | None                                           |    |    |    |    |    |     |    |
| Cabinet Depth Extension         |    | 65          |    | 00   |    | =  |    | None                                           |    |    |    |    |    |     |    |
| Unit Lineup Position            |    | 66          |    | S    |    | =  |    | Standalone                                     |    |    |    |    |    |     |    |
| Left Hand End Pocket Extension  |    | 67          |    | 00   |    | =  |    | None                                           |    |    |    |    |    |     |    |
|                                 |    |             |    | 04   |    | =  |    | 4 in Extended Length                           |    |    |    |    |    |     |    |
| Right Hand End Pocket Extension |    | 68          |    | 00   |    | =  |    | None                                           |    |    |    |    |    |     |    |
|                                 |    |             |    | 04   |    | =  |    | 4 in Extended Length                           |    |    |    |    |    |     |    |
| Subbase (Not Applicable)        |    | 69          |    | -    |    | =  |    | N/A                                            |    |    |    |    |    |     |    |
| Discharge Air - Outlet          |    | 70          |    | BA   |    | =  |    | Bottom Discharge With Double Deflection Grille |    |    |    |    |    |     |    |
|                                 |    |             |    | BD   |    | =  |    | Bottom Discharge With Duct Collar              |    |    |    |    |    |     |    |
|                                 |    |             |    | BP   |    | =  |    | Open Bottom Discharge                          |    |    |    |    |    |     |    |
|                                 |    |             |    | BS   |    | =  |    | Bottom Discharge With Stamped Louver Grille    |    |    |    |    |    |     |    |
|                                 |    |             |    | FA   |    | =  |    | Front Discharge With Double Deflection Grille  |    |    |    |    |    |     |    |
|                                 |    |             |    | FD   |    | =  |    | Front Discharge With Duct Collar               |    |    |    |    |    |     |    |
|                                 |    |             |    | FP   |    | =  |    | Open Front Discharge                           |    |    |    |    |    |     |    |
|                                 |    |             |    | FS   |    | =  |    | Front Discharge With Stamped Louver Grille     |    |    |    |    |    |     |    |
|                                 |    |             |    | XX   |    | =  |    | Special                                        |    |    |    |    |    |     |    |

| 71                      | 72 | 73  | 74 | 75 | 76 | 77          | 78 |      |  |   |  |                                                                                              |  |  |  |  |  |  |  |
|-------------------------|----|-----|----|----|----|-------------|----|------|--|---|--|----------------------------------------------------------------------------------------------|--|--|--|--|--|--|--|
| FR                      | 1  | YYY | Y  | A  | S  | Y           | 1  |      |  |   |  |                                                                                              |  |  |  |  |  |  |  |
| Category                |    |     |    |    |    | Code Option |    | Code |  | = |  | Description                                                                                  |  |  |  |  |  |  |  |
| Return Air Inlet        |    |     |    |    |    | 71          |    | BS   |  | = |  | Bottom Inlet With Stamped Louver                                                             |  |  |  |  |  |  |  |
|                         |    |     |    |    |    |             |    | BD   |  | = |  | Bottom Inlet With Duct Collar (Plenum)                                                       |  |  |  |  |  |  |  |
|                         |    |     |    |    |    |             |    | RD   |  | = |  | Rear Inlet With Duct Collar (Plenum)                                                         |  |  |  |  |  |  |  |
|                         |    |     |    |    |    |             |    | RS   |  | = |  | Rear Inlet With Stamped Louver                                                               |  |  |  |  |  |  |  |
|                         |    |     |    |    |    |             |    | XX   |  | = |  | Special                                                                                      |  |  |  |  |  |  |  |
|                         |    |     |    |    |    |             |    | YY   |  | = |  | No Plenum (Open Return)                                                                      |  |  |  |  |  |  |  |
| Filter                  |    |     |    |    |    | 72          |    | 1    |  | = |  | 1 in Throwaway Filter                                                                        |  |  |  |  |  |  |  |
|                         |    |     |    |    |    |             |    | 3    |  | = |  | 1 in Throwaway + (1) Extra                                                                   |  |  |  |  |  |  |  |
| Special Options         |    |     |    |    |    | 73          |    | YYY  |  | = |  | None                                                                                         |  |  |  |  |  |  |  |
| Reserved for Future Use |    |     |    |    |    | 74          |    | Y    |  | = |  | None                                                                                         |  |  |  |  |  |  |  |
| Agency Listing          |    |     |    |    |    | 75          |    | A    |  | = |  | ETL, CETL, ARI                                                                               |  |  |  |  |  |  |  |
|                         |    |     |    |    |    |             |    | R    |  | = |  | ETL, CSA                                                                                     |  |  |  |  |  |  |  |
|                         |    |     |    |    |    |             |    | X    |  | = |  | Special                                                                                      |  |  |  |  |  |  |  |
|                         |    |     |    |    |    |             |    | Y    |  | = |  | None                                                                                         |  |  |  |  |  |  |  |
| Packaging               |    |     |    |    |    | 76          |    | S    |  | = |  | Standard                                                                                     |  |  |  |  |  |  |  |
|                         |    |     |    |    |    |             |    | T    |  | = |  | Palletized Based on Tagging and by Floor                                                     |  |  |  |  |  |  |  |
| Extended Warranty       |    |     |    |    |    | 77          |    | Y    |  | = |  | None (standard warranty)                                                                     |  |  |  |  |  |  |  |
|                         |    |     |    |    |    |             |    | 1    |  | = |  | 1 Year Extended Component Warranty<br>(30 Month from Shipment or 24 Month from Installation) |  |  |  |  |  |  |  |
|                         |    |     |    |    |    |             |    | 2    |  | = |  | 2 Year Extended Component Warranty<br>(42 Month from Shipment or 36 Month from Installation) |  |  |  |  |  |  |  |
|                         |    |     |    |    |    |             |    | 3    |  | = |  | 3 Year Extended Component Warranty<br>(54 Month from Shipment or 48 Month from Installation) |  |  |  |  |  |  |  |
|                         |    |     |    |    |    |             |    | 4    |  | = |  | 4 Year Extended Component Warranty<br>(66 Month from Shipment or 60 Month from Installation) |  |  |  |  |  |  |  |
|                         |    |     |    |    |    |             |    | X    |  | = |  | Special                                                                                      |  |  |  |  |  |  |  |
| Product Style           |    |     |    |    |    | 78          |    | 1    |  | = |  | Style 1                                                                                      |  |  |  |  |  |  |  |

Table 3: Model Number Detail — Valve Package Fields 48—50

| Category           | Code | = | Description           |
|--------------------|------|---|-----------------------|
| Coil Valve Type    | Y    | = | None                  |
|                    | 2    | = | Two Way               |
|                    | 3    | = | Three Way             |
| Unpowered Position | Y    | = | None                  |
|                    | C    | = | Closed                |
|                    | O    | = | Open                  |
| Control Type       | Y    | = | None                  |
|                    | E    | = | EOC (Two-Position)    |
|                    | M    | = | Modulating            |
| Actuator Input     | Y    | = | None                  |
|                    | L    | = | Low Voltage (24 Volt) |
|                    | U    | = | Unit Voltage          |
|                    | P    | = | 0-10V Proportional    |
|                    | F    | = | 3 Wire Floating Point |

[illegible]

[illegible]

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