

THINLINE®

VERTICAL FAN COILS



- FCVC, FCVH, FCVS, FCWC, FHVC, FHVH, FHVS, FHWĈ
- 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 Vertical Fan Coils with a MicroTech® controller.

DANGER

LOCKOUT/TAGOUT all power sources prior to service, pressurizing, depressurizing, 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

QUEBEC DISCLOSURE REGARDING AVAILABILITY OF REPLACEMENT PARTS, REPAIR SERVICES AND INFORMATION FOR MAINTENANCE AND REPAIR: Daikin Applied Americas Inc. (Daikin Applied) does not guarantee the availability of (1) replacement parts; (2) repair services; and (3) information necessary to maintain or repair products, within the meaning of section 39.1 of the Consumer Protection Act, CQLR, c P-40.1 and section 79.18 of the Regulation respecting the application of the Consumer Protection Act, CQLR, c P-40.1, r. 3.

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Introduction

Daikin Applied ThinLine Vertical 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.

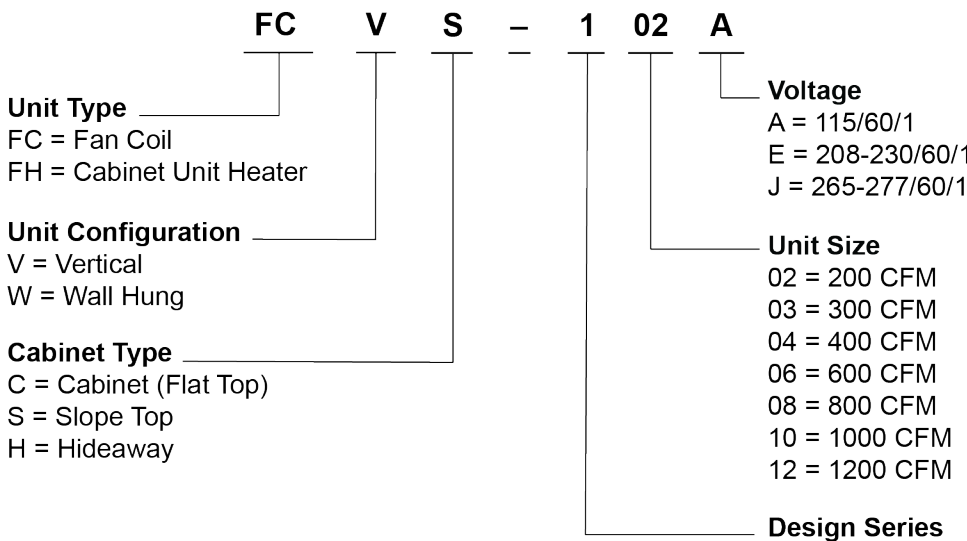
They are also available in four-pipe configurations with a primary coil and a secondary reheat or preheat coil. A variety of factory-built piping packages are available, either factory or field-installed.

Units are available with a variety of thermostat and fan speed control options, which can be mounted on the unit or shipped loose for mounting in the controlled space.

Options include:

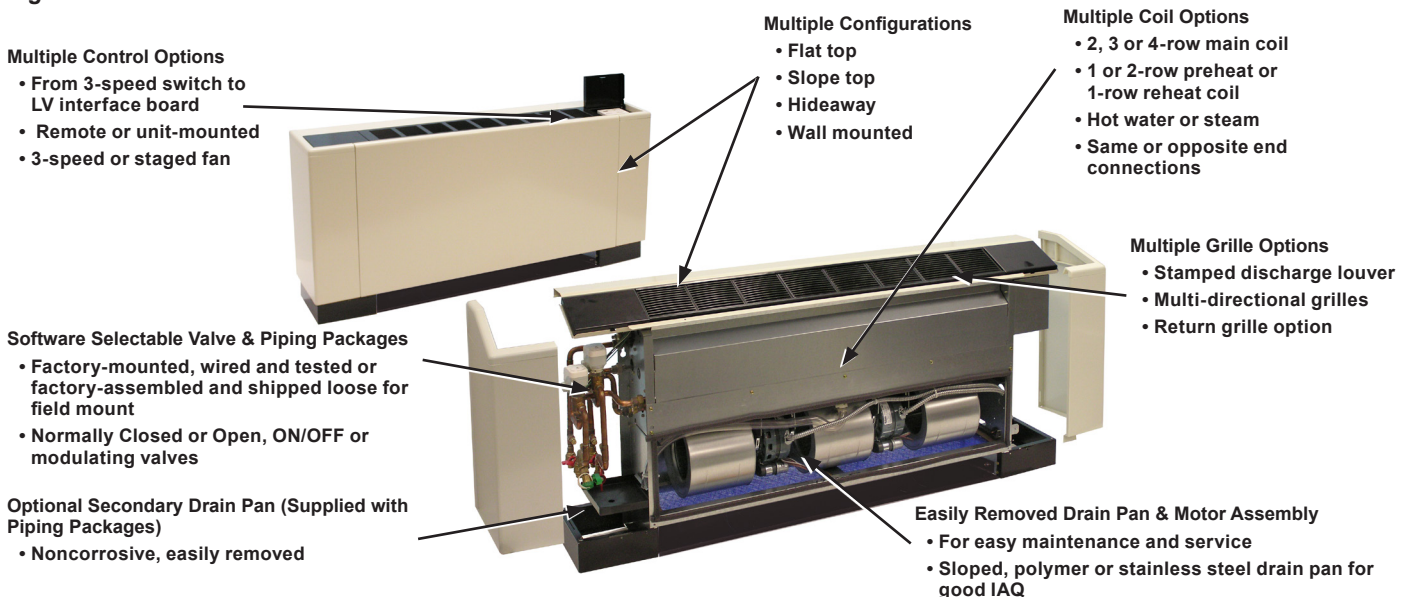
- Four-position fan switch (OFF/LO/MED/HI).
- Manual thermostat with ON/OFF valve control.
- Digital thermostat with a variety of control options, including fan control, ON/OFF or modulating valve control and automatic changeover from heating to cooling on two-pipe systems.
- Low-voltage interface board for connecting a unit to controls provided by others. The controls interface option includes a 24 volt AC transformer and interface terminal strips.
- No Controls, with terminal block connections to the unit's fan motor wiring harness.

Nomenclature



NOTE: See "Full Nomenclature" on page 37 for complete model number description.

Figure 1: Unit Features



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

It is critical that the unit is level to avoid condensate accumulation in the drain pan. This is especially important when using a stainless steel drain pan which does not have a sloped bottom.

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 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 deck plate on the front of the fan coil (see [Figure 2](#)). Remove the front 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 37](#).
- 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.

- The unit is not designed to be free-standing. Install it against a wall or other flat surface that meets fire and electrical codes requirements for heating and cooling devices.
- 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.

Figure 2: Data Plate Location



Fresh Air Box Openings

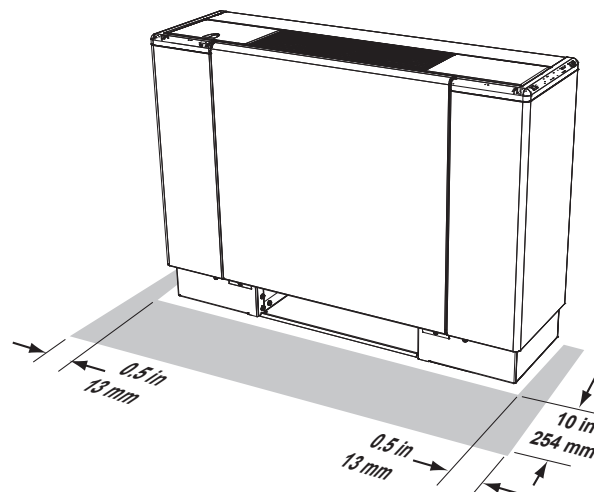
ThinLine Vertical Fan Coils can be installed with an optional fresh air box that is designed to let in outside air while preventing water (such as rain) from getting into the unit itself. If used, prior to unit installation, confirm that the exterior wall opening and the wall box are ready and installed in accordance with the job plans.

Recommended Maintenance Clearance

Cabinet units have removable front and side panels for easy access to components for service and maintenance. The fan assembly and main drain pan are easily removable from the front for cleaning. “[Accessing/Removing the Main Drain Pan and Motor Assembly](#)” on page 35 for more information. Figure 3 shows recommended maintenance clearances: 0.5 in (13 mm) on either

side and 10 in (254 mm) in front. 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 top). Unless it is a special-order unit, the control panel is always on the end opposite the cooling coil pipe connections.

Figure 3: Recommended Maintenance Clearance



Uncrating and Inspecting the Unit

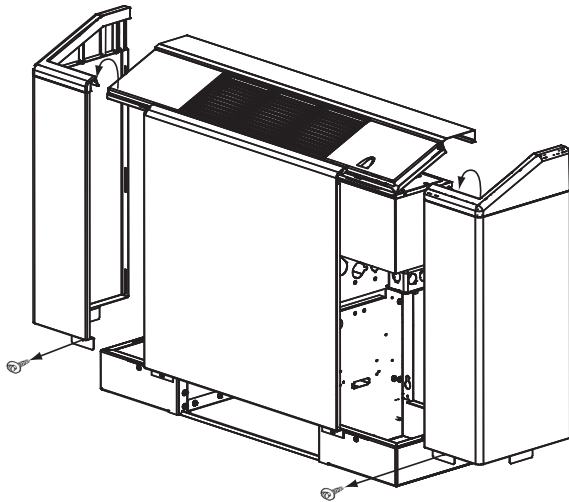


WARNING

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.

Figure 4: Cabinet Side Panel Removal



Mounting Unit to Wall

WARNING

Installation and maintenance are to be performed by qualified personnel who are familiar with local codes and Regulations, and experienced with this type of equipment.

CAUTION

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

CAUTION

It is critical that the unit is level to avoid condensate accumulation in the drain pan. This is especially important when using a stainless steel drain pan which does not have a sloped bottom.

1. Consult job blueprints for unit location.
2. Clean area where unit is to be installed, removing all construction dirt and debris. Remove any moldings at the floor or wall.
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. On cabinet units, remove the screws shown in [Figure 4](#) that secure the right and left cabinet corner panels to the subbase. For ease of installation, you may also remove the center panel. Lift the panels up and out.

NOTICE

Set the unit panels aside where they will not be damaged. Take care not to bend the mounting tabs on the bottom of the panels.

5. STOP! If an outside air damper kit is to be installed, install it now. "[Fresh Air Damper](#)" on [page 15](#) and the IM included with the damper for more information.
6. Position the chassis/subbase against the wall where the unit is to be installed. Make sure that the area under the unit is free of combustible materials such as carpet. For cabinet units, the wall must act to close off the back of the unit.

7. For hideaway units, if you are using Daikin Applied's decorative wallplate, use blocks or other suitable material to raise the unit off the floor a minimum of 1.5 in (38 mm).
8. Make sure electrical and piping connections are in the proper location within the end compartments. The control box is in the end compartment opposite the main coil piping connections. Power to the unit is hooked up through the junction box/disconnect box located under the control box. See "[Unit Dimensions](#)" on [page 28](#) for location information.
9. Use a level to check that the unit is level both front to back and side to side (see [Figure 5](#)). Adjust the unit as needed using the optional leveling legs or shims.
10. The chassis has a series of slots on the back flange to mount the assembly to the wall. Transfer a mark with a marker or pencil to the wall at the mounting hole locations.
11. Insert fasteners through the mounting holes in the chassis and secure the unit to the wall. Do not over-tighten fasteners. It is the installing contractor's responsibility to select the correct fasteners for each unit to meet local codes. At location(s) where no stud is present, secure with a Toggle bolt or equivalent.

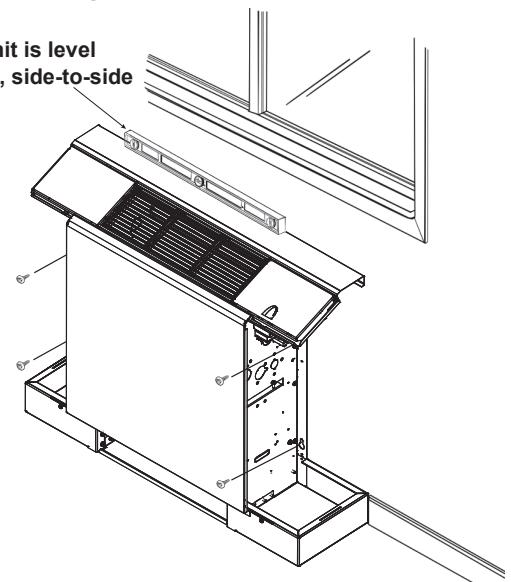
NOTICE

Use a minimum of two fasteners on each side to secure the unit (field supplied).

12. On cabinet units, reinstall the side/quarter panels in reverse order as performed in step 4.
13. If you raised the unit off the floor in step 7, remove the block or other material supporting the bottom of the unit. Make sure the unit is securely fastened to and supported by the wall mounts.
14. Cut out one side and the bottom of the shipping carton, leaving the top and three sides to place over the unit for protection during construction.

Figure 5: Unit Mounting

Make sure unit is level
front-to-back, side-to-side



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.

NOTICE

Do not run screws through the removable front panel on hideaway units.

Ductwork Recommendations

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

1. 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).
2. Avoid making sharp turns when making duct turns and transitions. Use proportional splits, turning vanes, and air scoops when necessary.
3. When possible, construct and orient supply ductwork turns in the same direction as the fan rotation.

Piping Connections

- 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 6](#). When Daikin Applied provides valve packages with unions, o-rings are included. When soldering near unions, remove the o-rings before heating.

Figure 6: 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 drawing beginning on [page 28](#). 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 a factory-built piping packages, which include a vent; a vent must be added. See “[Field-Installed Valve and Piping](#)”.
- 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 freezeups.
- Install control valves so there is at least 2” (51 mm) minimum clearance to remove the actuator from the valve body.
- 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 again.
- Condensate piping can be steel, copper, or PVC. A means of disconnection must be furnished to facilitate fan section removal.
- No point of the drain system may be above the drain pan of the unit.
- Automatic flow control devices must not be installed prior to system cleaning and flushing.
- Check local code for any requirement for electrical fittings.

Connecting to a Factory-Installed Valve and Piping Package

To view connection locations for factory-installed valve & piping packages, see “[Factory-Installed Valve and Piping Packages](#)” on [page 11](#). 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 Deluxe and Enhanced piping packages include a strainer which prevents debris from entering the coil. Clean the strainer regularly.
- Set end valves to the fully open position to prevent damage to the valve seat during brazing.
- 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 cold water piping that is not above the secondary drain pan.

Field-Installed Valve and Piping

Review entire installation manual before beginning. Then carry out the following steps to install valves and piping.

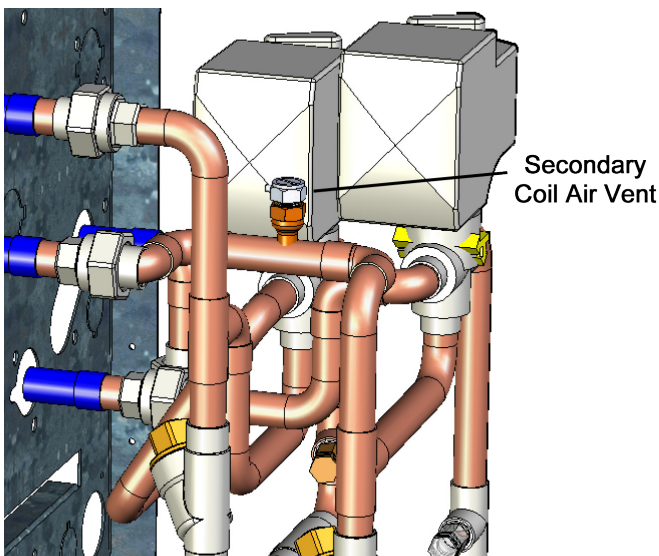
WARNING

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 6.

CAUTION

Venting is required on the return piping for secondary preheater reheat coils. It is included on factory-built piping packages, but must be added by the installing contractor for field-installed piping. See Figure 8.

Figure 7: Secondary Coil Air Vent



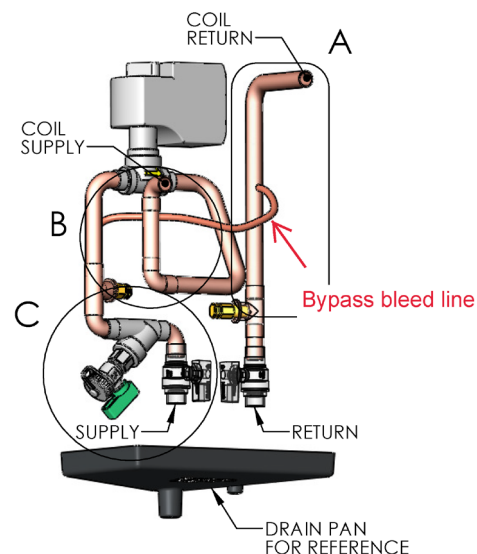
1. For units equipped with a secondary coil make sure that an air vent is included in the return line piping (see Figure 8). Primary coils are factory-equipped with vents for venting the system, but secondary coils (preheat or reheat) are not.
2. Remove the secondary drain pan, if in place, to prevent exposure to dripping solder or excessive temperatures.

NOTICE

Factory-installed valve and piping packages include the secondary drain pan. For other arrangements, the secondary drain pan must be ordered separately.

3. Push the main drain pan condensate hose back inside the end plate to prevent it from getting burned when making sweat connections. Be sure to pull the hoses back through and route to the secondary drain pan when the end panel has cooled.
4. Slide ½" copper tubing or connection couplings (installer provided) onto the coil connections. Solder the joint using a good-quality, lead-free solder to provide a watertight connection.
5. After connections are complete, insulate all piping to the coil connections as necessary to prevent condensate from dripping outside of the secondary drain pan.
6. Install the secondary drain pan.

Figure 8: Bypass Bleed Line



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.

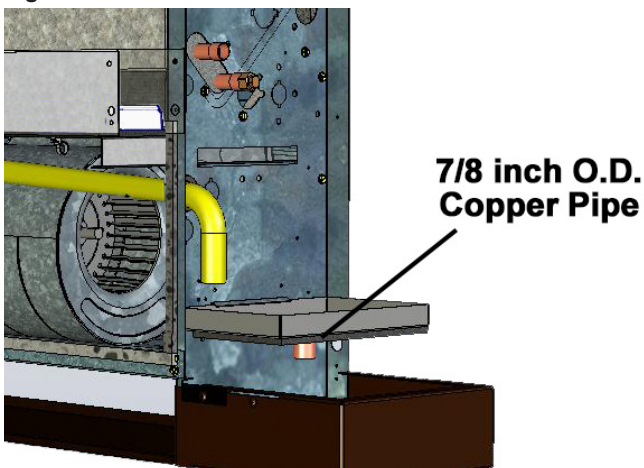
Shutoff/Balancing Valve

Each fan coil should 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 valve 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.

Condensate Drain Connection

1. Connect a copper or plastic pipe to the 7/8 inch pipe on the secondary drain pan. This should be a mechanical connection that allows easy removal of the secondary drain pan when servicing the piping end pocket.
2. Slide the drain pipe over the drain pan nipple and tighten the collar on the pipe with a hose clamp (installer supplied). A drain line pitch of one inch per ten feet of drain line run must be maintained to provide adequate condensate drainage.
3. The drain line should be supported to prevent undue stress on the secondary drain pan. Make sure the drain line is free of kinks and obstructions and the secondary drain pan is level.
4. The installer is responsible for adequately insulating field piping. “[External Insulating Requirements](#)” on page 11 for more information.

Figure 10: Condensate Drain Connection



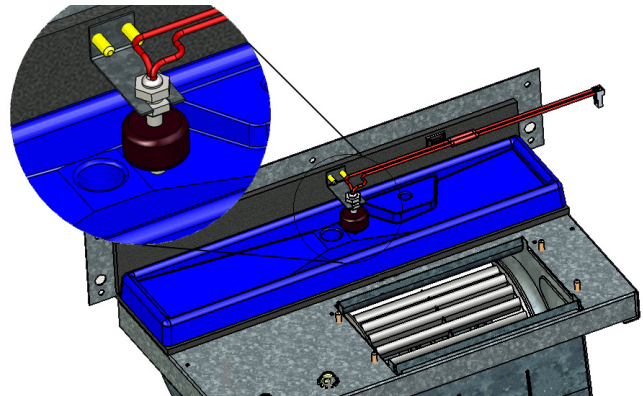
Condensate Overflow Detection Device

The condensate overflow detection device is a factory-installed option on fan coils. This device has a condensate overflow float with dry contacts and is connected to the LV interface board or other controllers. See [Figure 11](#).

If you suspect it is not working properly, check to be sure that the float is installed straight up with the proper elevation. “[Accessing/Removing the Main Drain Pan and Motor Assembly](#)” on page 35 for instructions on removing the main drain pan to access the device.

The condensate overflow switch needs to be wired to the proper controller (T170 for example) to shut off the fan if water is present in the drain pan.

Figure 11: Condensate Overflow Switch Installation

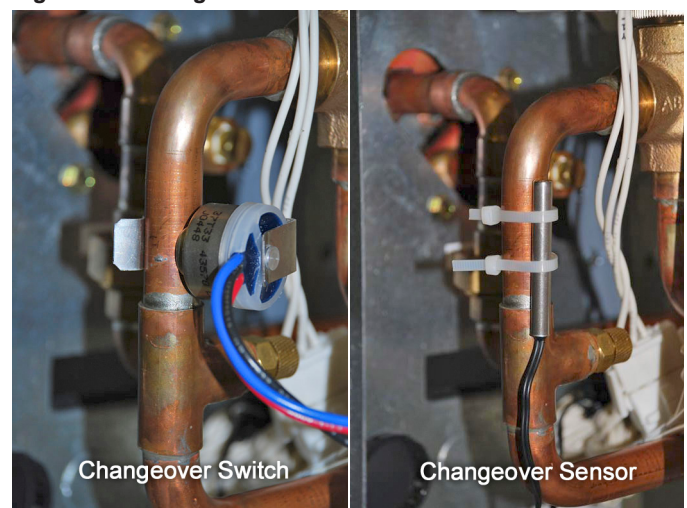


Automatic Changeover Sensor

Two-pipe changeover units require an automatic changeover switch or pipe sensor that determines heating or cooling mode based on the supply water temperature. A switch is provided with a unit-mounted analog thermostat on a two-pipe system. A sensor is provided with any digital control on a two-pipe system. 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 12](#).

For a two-pipe system with intermediate electric heat, a second changeover switch or sensor is required.

Figure 12: Changeover Switch & Sensor Attachment



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 three-way valves, install the changeover sensor upstream of the valve 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 ten 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).

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 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:

1. Vent the vacuum breaker line to atmosphere or connect it into the return main at the discharge side of the steam trap.
2. Pitch all steam supply and return mains down a minimum of one inch per ten feet in the direction of flow.
3. 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.
4. Overhead returns require one psig of pressure at the steam trap discharge for each two-foot elevation to ensure continuous condensate removal.
5. Proper steam trap selection and installation is necessary for satisfactory coil performance and service life. For installation, use the following steps:
 - a. 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.
 - b. Daikin recommends using flat and thermostatic traps because of gravity drain and continuous discharge operation.
 - c. Use float and thermostatic traps with atmospheric-pressure gravity condensate return, with automatic controls or where the possibility of low pressure supply steam exists.
 - d. Always install strainers as close as possible to the trap inlet side.

Two-Pipe Systems with Electric Heat

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 switch or pipe sensor is required. Contact your Daikin representative for more information.

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. "Electric Heat Over-Temp Reset Button" on page 16.

External Insulating Requirements

Insulate and vapor-seal surfaces that are colder than the surrounding air dew point to prevent unplanned condensation. Daikin 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

Factory-Installed Valve and Piping Packages

NOTICE

Deluxe valve packages are shown. All valve packages, regardless of components included, have the similar hookup locations. Left hand connections are shown here. Right hand connection distances are the same. Distances to connections are from the chassis-side panel (visible panel face on the end), back of the unit, and top of lateral/end sub-bases (which has 3.1" of height, not considering height extensions). Dimensions may vary slightly from given values.

Figure 13: Hook Up Locations: 4-Pipe Arrangement with Same-End Connections

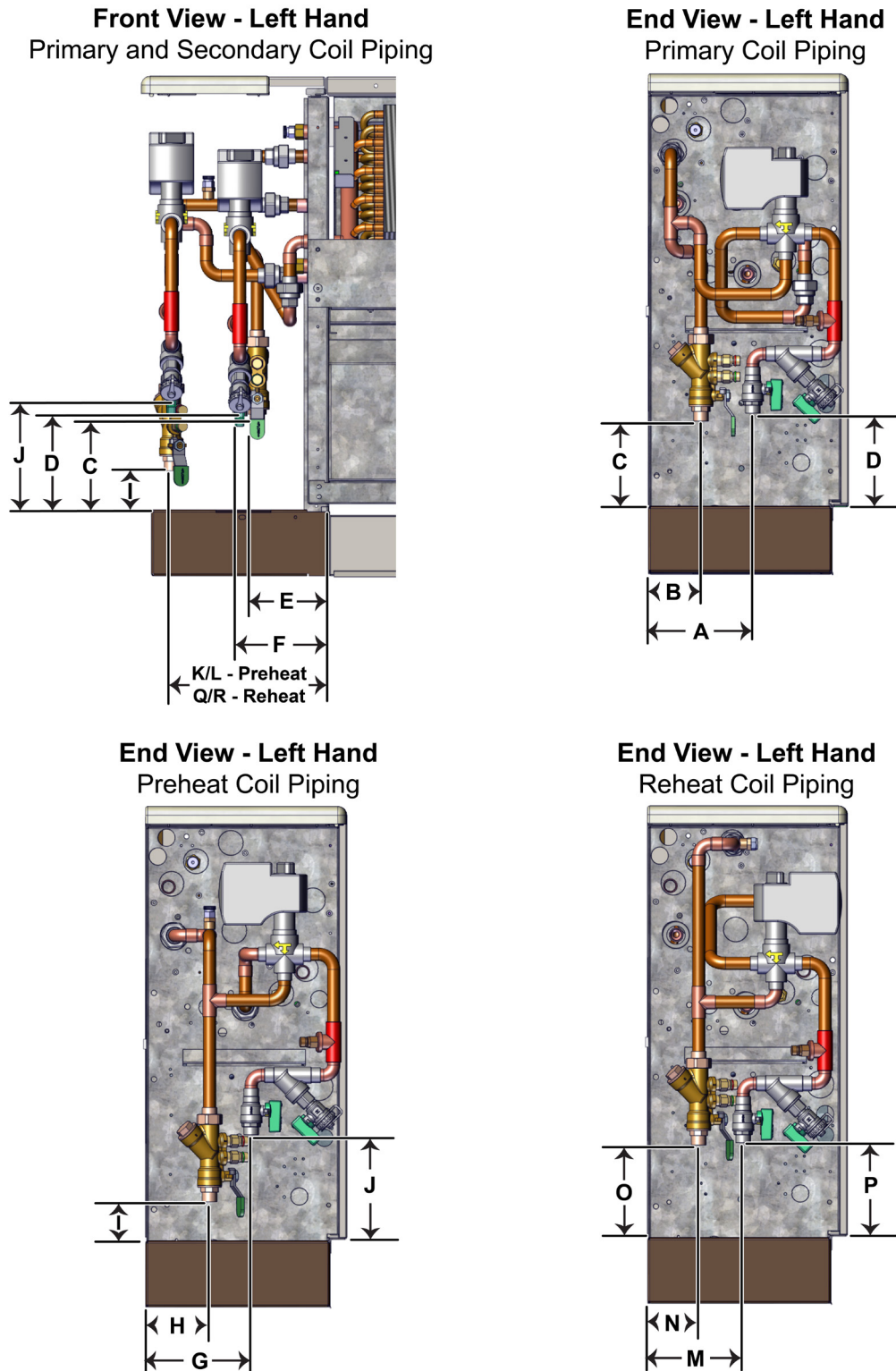


Figure 14: Hook Up Locations: 4-Pipe Arrangement with Opposite-End Preheat

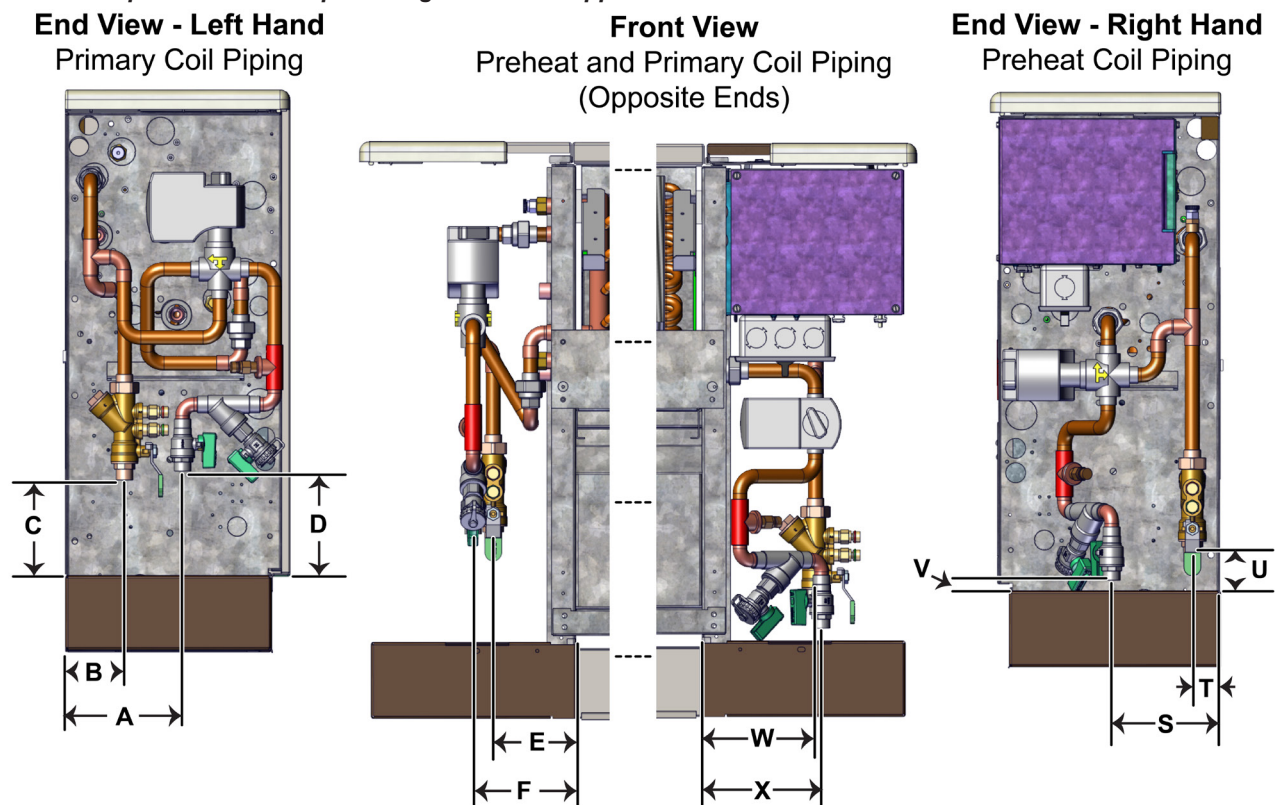


Figure 15: Hook Up Locations: 2-Pipe Arrangement

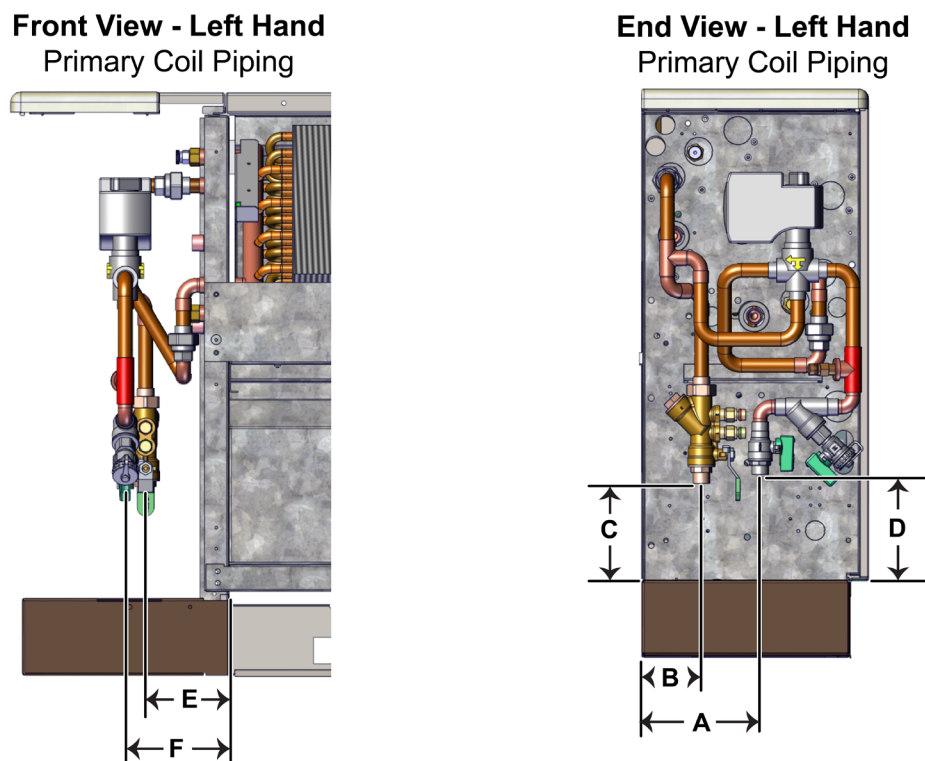


Table 1: Hook Up Location Dimensions as referenced in Figure 13, Figure 14, and Figure 15

Style	Primary		Preheat			Reheat			Preheat (Opposite End)		
	Dimensions										
	B	F	H	K	L	N	Q	R	S	T	V
All Styles	2.7	4.4	3.4	7.8		2.5	7.3		4.9	1.4	0.3

Table 2: Hook Up Location Dimensions as referenced in Figure 13, Figure 14, and Figure 15

	Unions	Style	Primary				Preheat			Preheat (Opposite End)			Reheat			
			Dimensions													
			A	C (Return)	D (Supply)	E	G	I (Return)	J (Supply)	U (Return)	W	X	M	O (Return)	P (Supply)	
2 and 3-Way	With or Without Unions	Deluxe and Enhanced Packages	5.3	-	-	-	-	-	-	-	-	-	-	4.8	-	-
		Premium and Basic Packages	5.7	-	-	-	5.8	-	-	-	-	-	-	5.2	-	-
	Only With Unions	Deluxe Packages	-	-	-	-	-	-	-	-	6.4	3.8	-	-	-	-
2-Way	With or Without Unions	All 2-Way Packages	-	4.8	-	3.8	-	2.1	5.1	0.9	-	-	-	4.1	4.8	
		Deluxe and Enhanced Packages	-	-	5.4	-	5.5	-	-	-	-	-	-	-	-	
		Premium and Basic Packages	-	-	4.7	-	-	-	-	-	-	-	-	-	-	
	Only Without Unions	All 2-Way Packages	-	-	-	-	-	-	-	-	6.4	6.5	-	-	-	
	Only With Unions	Deluxe and Premium Packages	-	-	-	-	-	-	-	-	4.5	-	-	-	-	
		Premium Packages	-	-	-	-	-	-	-	-	-	3.5	-	-	-	
		Basic and Enhanced Packages	-	-	-	-	-	-	-	-	6.4	6.5	-	-	-	
3-Way	With or Without Unions	All 3-Way Packages	-	4.4	4.8	3.6	-	-	5.2	-	-	-	-	4.9	5.0	
		Deluxe and Enhanced Packages	-	-	-	-	5.4	-	-	-	-	-	-	-	-	
		Deluxe and Premium Packages	-	-	-	-	-	1.8	-	1.4	-	-	-	-	-	
		Basic and Enhanced Packages	-	-	-	-	-	3.6	-	0.9	-	-	-	-	-	
	Only With Unions	All 3-Way Packages	-	-	-	-	-	-	-	-	-	4.5	-	-	-	
	Only Without Unions	All 3-Way Packages	-	-	-	-	-	-	-	-	-	6.5	-	-	-	
		Deluxe Packages	-	-	-	-	-	-	-	-	6.4	-	-	-	-	
		Premium, Basic, and Enhanced Packages	-	-	-	-	-	-	-	-	4.5	-	-	-	-	

Accessories

Fresh Air Damper

The fresh air damper may be factory-installed or field-installed. The damper kit provides up to 25% outside air to the fan coil. It consists of an intake with damper blade and insect screen. The damper may be manually controlled through the return air opening or with an optional field-installed damper motor. For detailed installation information, refer to IM 1023.

Operation

To open the damper, reach under the unit and pull the damper handle toward you. To close, push the damper away from you. See [Figure 16](#).

If the damper is difficult to open or moves too freely, you can adjust the tension by tightening or loosening the nuts on its pivot axis. See [Figure 17](#).

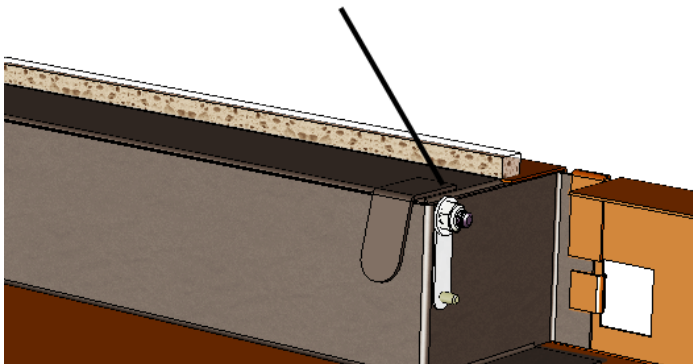
Figure 16: Opening and Closing the Damper



To Open Damper, Reach Under the Unit and Pull the Damper Handle Towards You

Figure 17: Adjusting Damper Tension

To Adjust Damper Position, Loosen or Tighten Nuts on Each End of Damper Axis



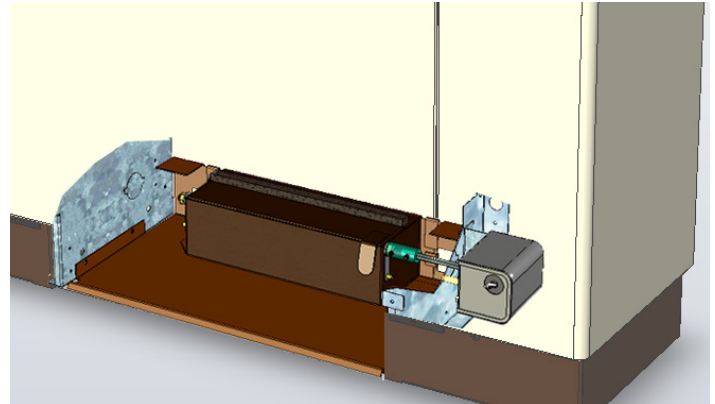
Cold Weather Operation

Unit heaters may experience erratic operation during cold ambient conditions with the outside air damper in the open position.

Fresh Air Damper Motor Kit (Low Voltage)

This damper motor kit is for field installation with the fresh air damper kit. The damper kit must be ordered separately. For detailed installation instructions, refer to IM 1028 of the Addendum. Under most control schemes, the damper motor is set up to open the damper automatically whenever the unit fan is in operation.

Figure 18: Damper Motor Kit Installed in Unit



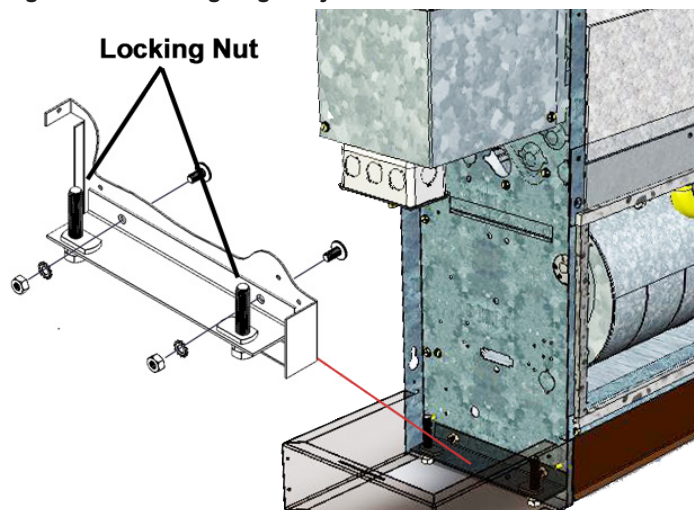
Leveling Legs Option

Field or factory-installed kits are available with 0" to 1" adjustment for positive leveling of floor-mounted units.

Height Adjustment

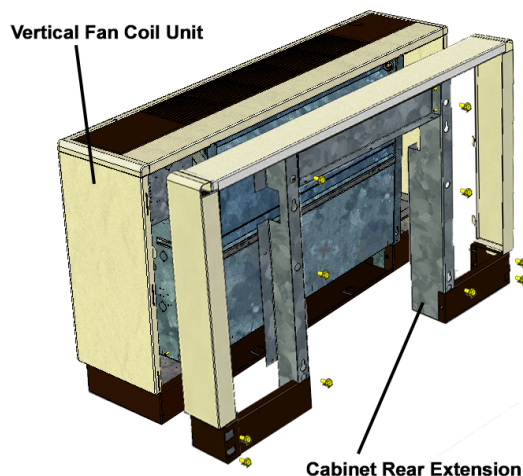
To adjust the height of a leveling leg:

1. Loosen the locking nut on the leveling leg bolt with a 9/16-inch wrench.
2. Turn the leveling leg bolt clockwise to lower the unit or counterclockwise to raise it.
3. When you are finished adjusting the height, hold the leveling leg bolt in place and draw the locking nut up tight against the mounting bracket.

Figure 19: Leveling Legs Adjustment

Cabinet Rear Extension Kit

The field-installed cabinet rear extension option may be utilized to place the fan coil farther out from the wall than the standard cabinet. Refer to IM 1024 for more details.

Figure 20: Cabinet Rear Extension Kit

Electric Heat Over-Temp Reset Button

**DANGER****Personal Injury Hazard.**

Power supply can cause electrical shock. Always disconnect power to unit before servicing.

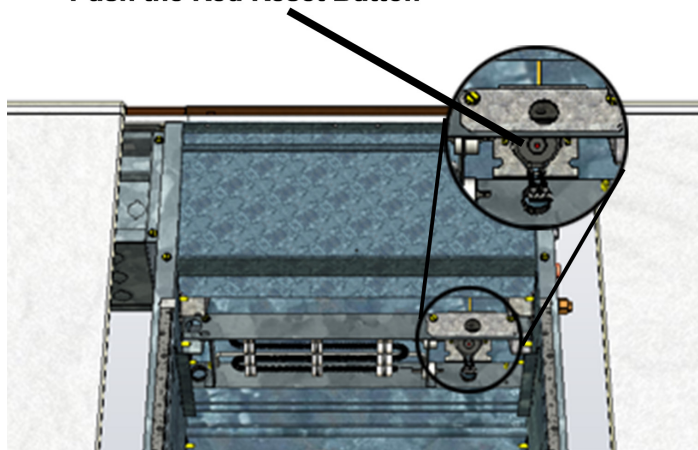
The electric heat options comes with two over-temperature switches. The first resets automatically when the over-temperature condition no longer exists. The second, backup switch must be reset manually.

NOTICE

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

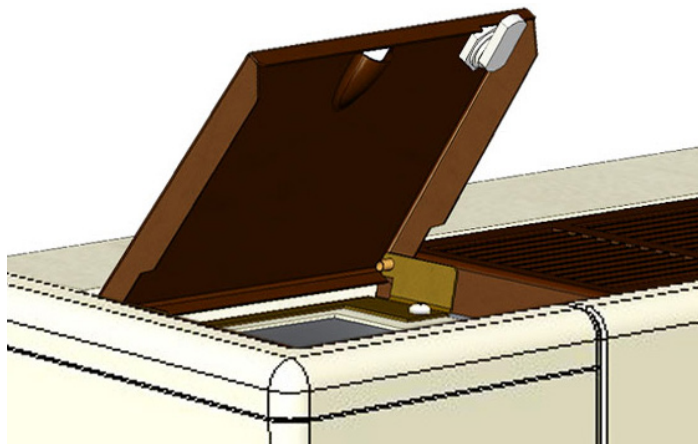
To reset the manual switch, carry out the following steps:

1. Disconnect all power to the unit. Verify the power has been disconnected.
2. Remove the main drain pan and motor assembly from the unit. "Accessing/Removing the Main Drain Pan and Motor Assembly" on page 35.
3. Access and push in the red reset button. See Figure 21.
4. Reinstall the drain pan and motor assembly.
5. Reconnect the power.

Figure 21: Electric Heat Over-Temp Reset Button Location**Push the Red Reset Button**

Key-lock Access Door Kit

The key-lock access door kit (see Figure 22) can be installed on ThinLine cabinet units to prevent access to unit controls. For detailed installation information, refer to IM 1021.

Figure 22: Key-Lock Access Door Kit

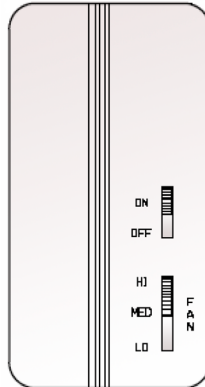
Controls and Thermostats

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 23](#)).

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 23](#) for a list of connecting points. For additional wiring information, see the “[Typical Wiring Diagrams](#)” on [page 21](#) or the unit’s wiring diagram, which is attached to the fan coil exterior.

Figure 23: LV Interface Board 24 VAC connections

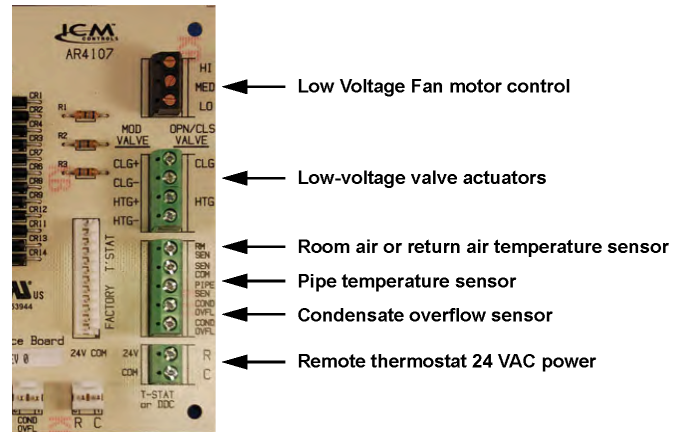
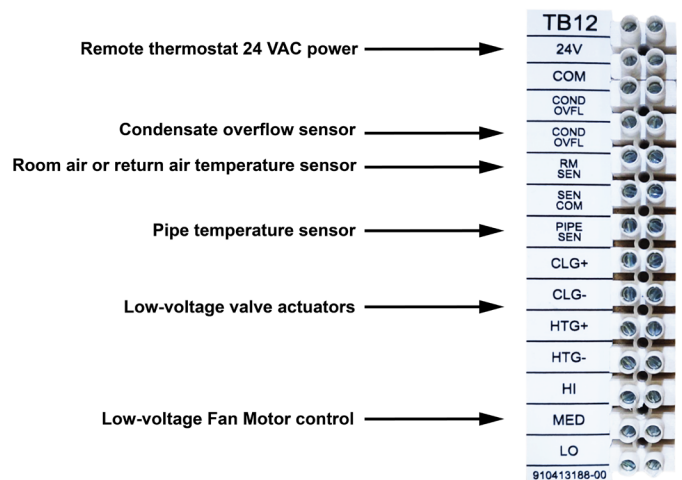


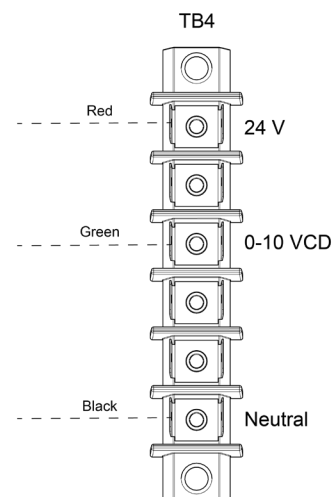
Figure 24: LV Terminal Strip 24 VAC Connections



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



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 26: 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 27: T8168 and TW180 Thermostat



Electrical

Electrical Connections

DANGER

Hazardous Voltage!

The installer must determine and follow all applicable codes and regulations. This equipment presents hazards of electricity, rotating parts, sharp edges, heat and weight. Failure to read and follow instructions can result in property damage, severe personal injury or death.

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.

Standard Electrical Connection

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

Units with an electric heat option that has the same voltage as the unit can bring the power conductors into this same junction box. Units with electric heat that has a different voltage should have the electric heat conductors brought through one of the knockouts on the control box. See [Figure 28](#).

Low voltage wires should be brought into the conduit located next to the field electrical power junction box. See [Figure 28](#).

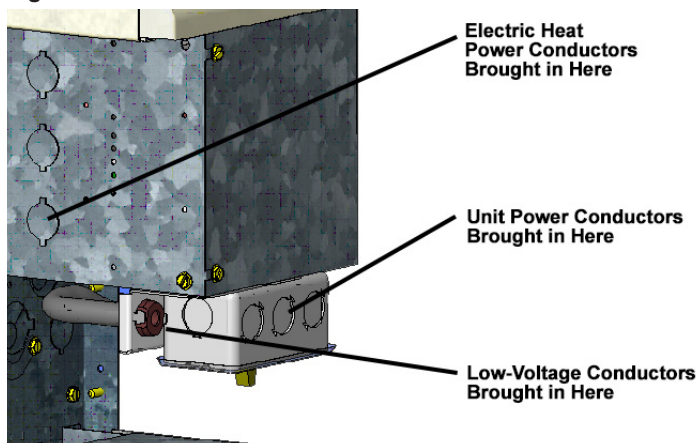
If electrical wiring or conduit comes through the floor, all wires or conduit should be sealed at this point. It will prevent any condensation or water leakage that may occur due to lack of preventive maintenance.

NOTICE

Wiring coming through the wall should be sealed to stop cold air infiltration through the wall cavity, which could affect unit thermostat operation. Wiring coming through the floor should be sealed to prevent condensation or water leakage from reaching live wires.

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

Figure 28: Electrical Power Connections



IM 980-11

Electrical Data

The wiring diagram for the unit is provided within the Installation Manual in a pouch inside of the corner panel on cabinet units. It is attached to the front cover of the unit on hideaway units. 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.

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 volt 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.

Operating Voltages

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

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

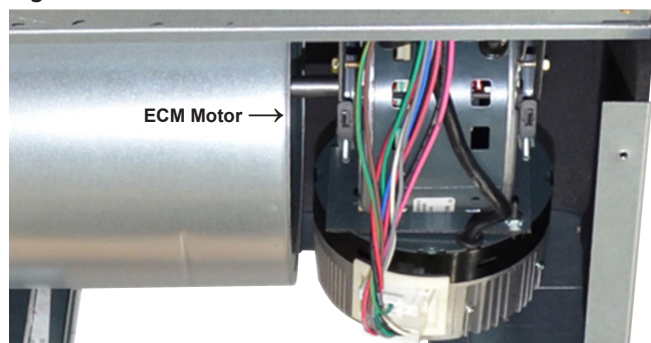
Voltages listed are to show voltage range. However, units operating with overvoltage and undervoltage for extended periods of time will experience premature component failure.

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 taps are provided with an ECM blower: high, medium and low.

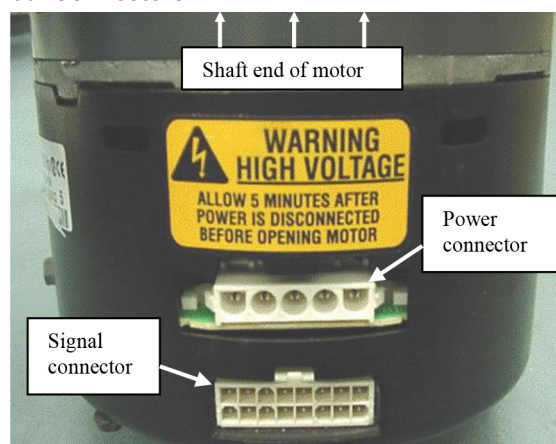
The unit has been factory configured to produce PSC equivalent airflow on high speed, with medium speed at 80% and low speed at 60% of full volume. If these settings are acceptable, then no further configuring is necessary.

Constant CFM, reduced amps and field-adjustable EC motors are available in all sizes of ThinLine products. An EC motor allows for selectable CFM performance depending on the operating mode.

Figure 29: ECM Blower

EC Motor Pin Out Locations

Figure 30 through Figure 32 show the pin locations for both connectors.

Figure 30: Connectors**Figure 31: 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 32: 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+					

Thermostat and Controls



DANGER

READ THE INSTRUCTIONS INCLUDED WITH THE THERMOSTAT/CONTROL CAREFULLY BEFORE ATTEMPTING TO INSTALL, OPERATE OR SERVICE IT.

Failure to observe safety information and comply with instructions could result in PERSONAL INJURY, DEATH AND/ OR PROPERTY DAMAGE.

To avoid electrical shock or damage to equipment, disconnect power before installing or servicing. Use only wiring with insulation rated for full thermostat operating voltage. Use copper wire only. Insulate or wirenut all un-used leads. Any wiring, including the remote probe, may carry the full operating voltage of the thermostat.

To avoid potential fire and/ or explosion do not use in potentially flammable or explosive atmospheres.

Retain the installation instructions for future reference. You must review your application and national and local codes to ensure that your installation will be functional and safe. After wiring and installation are complete, energize the system and check the operation. Adjust the thermostat as necessary to complete at least one cycle. Be sure the thermostat and all other equipment are functioning correctly.

BY OTHERS

CIRCUIT 1

L1 COMMON

S2

WHT, 2

BLK, 1

TBI

TR1

BLU, 7

YEL

BLK

BLK, 111

TC1

TC11

TC12

TC13

TC14

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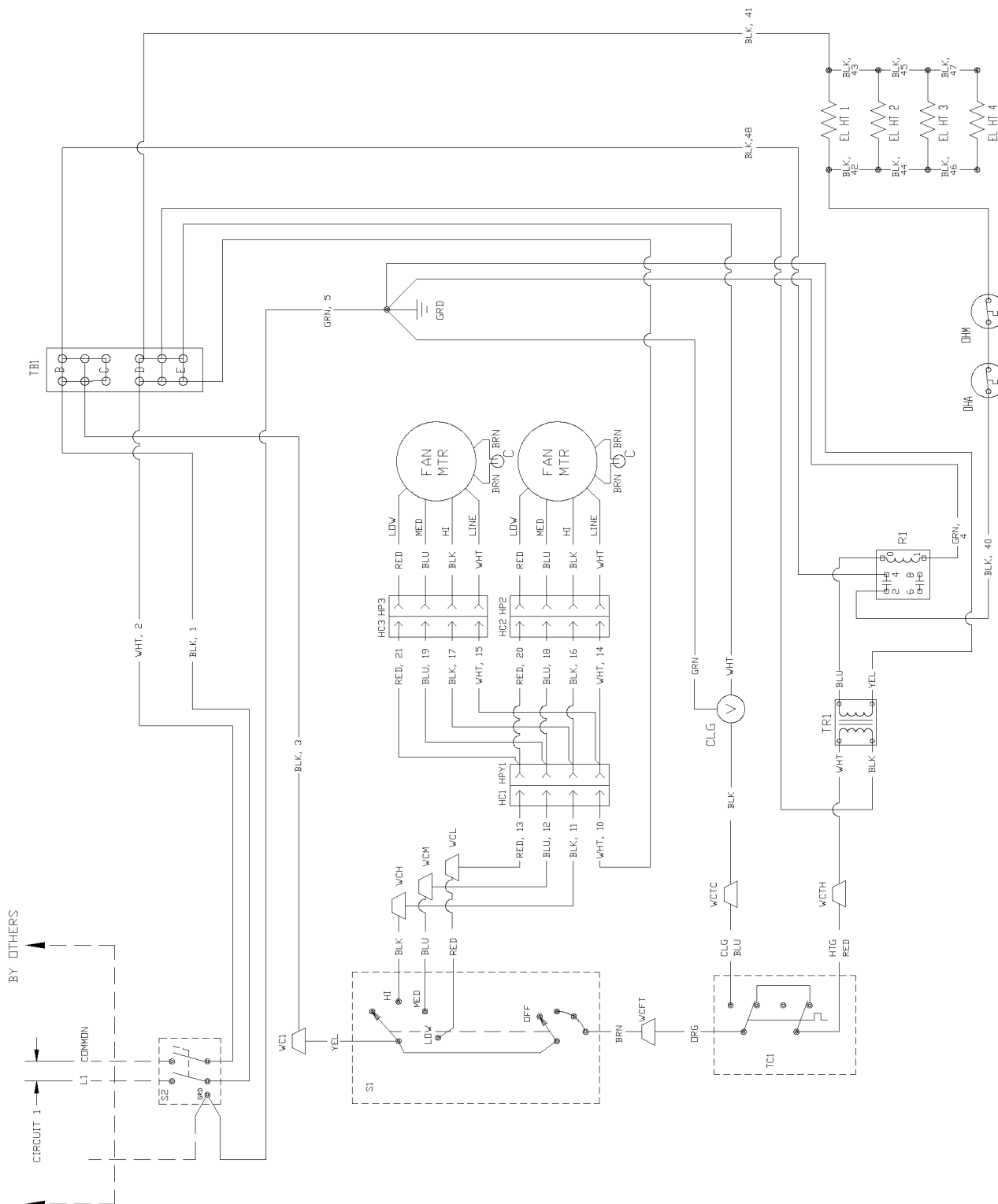
TC402

TC403

TC404</

WWW.DAIKINAPPLIED.COM

Figure 34: Fan Coil Wiring Diagram - Typical with Unit-Mounted Three-Speed Fan Switch



NOTE: All field installed conductors should have an insulation rating of 300 volts or greater.

Figure 35: Fan Coil Wiring Diagram - Typical with Electric Heat and Low-Voltage Interface Board (PSC Only)

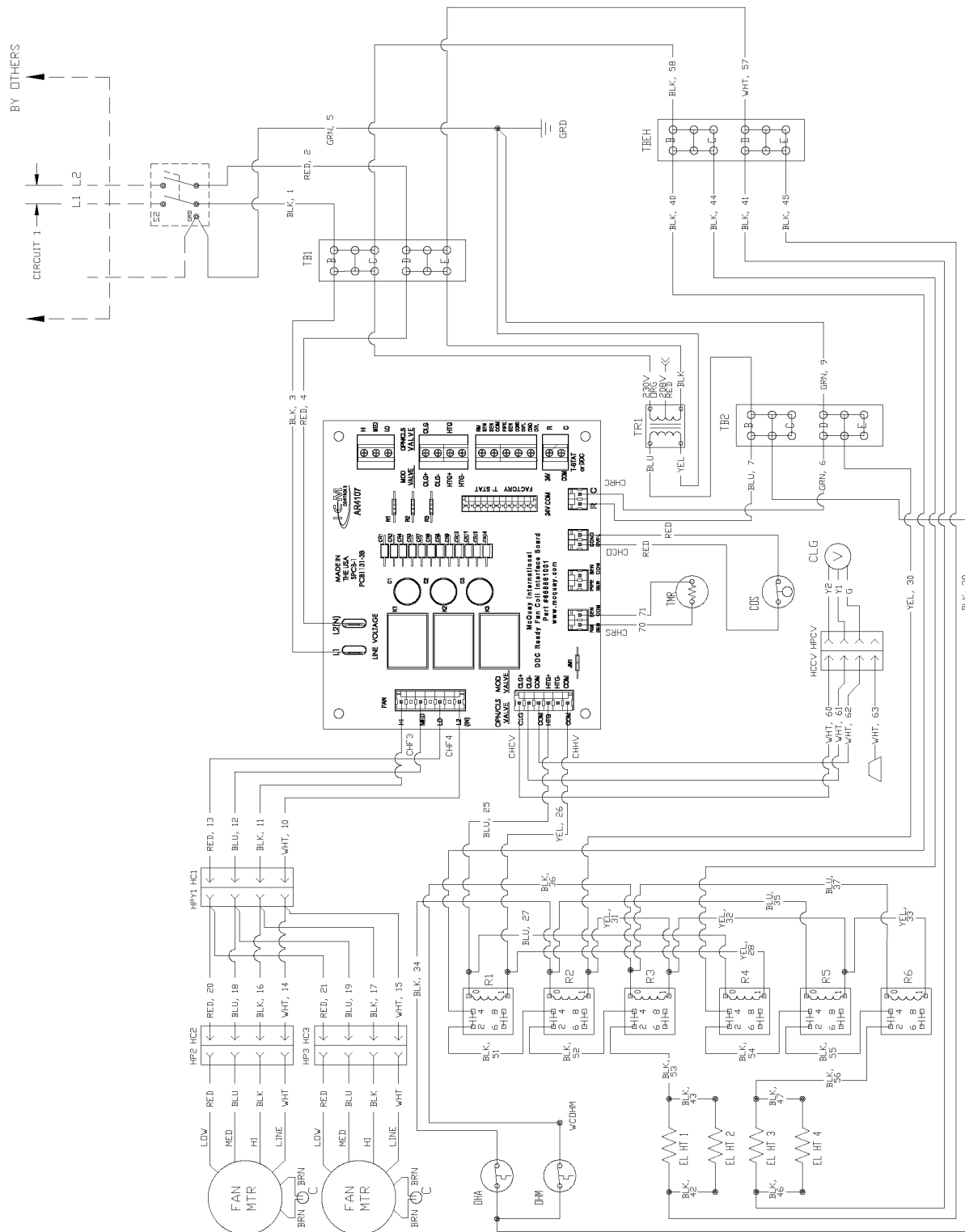
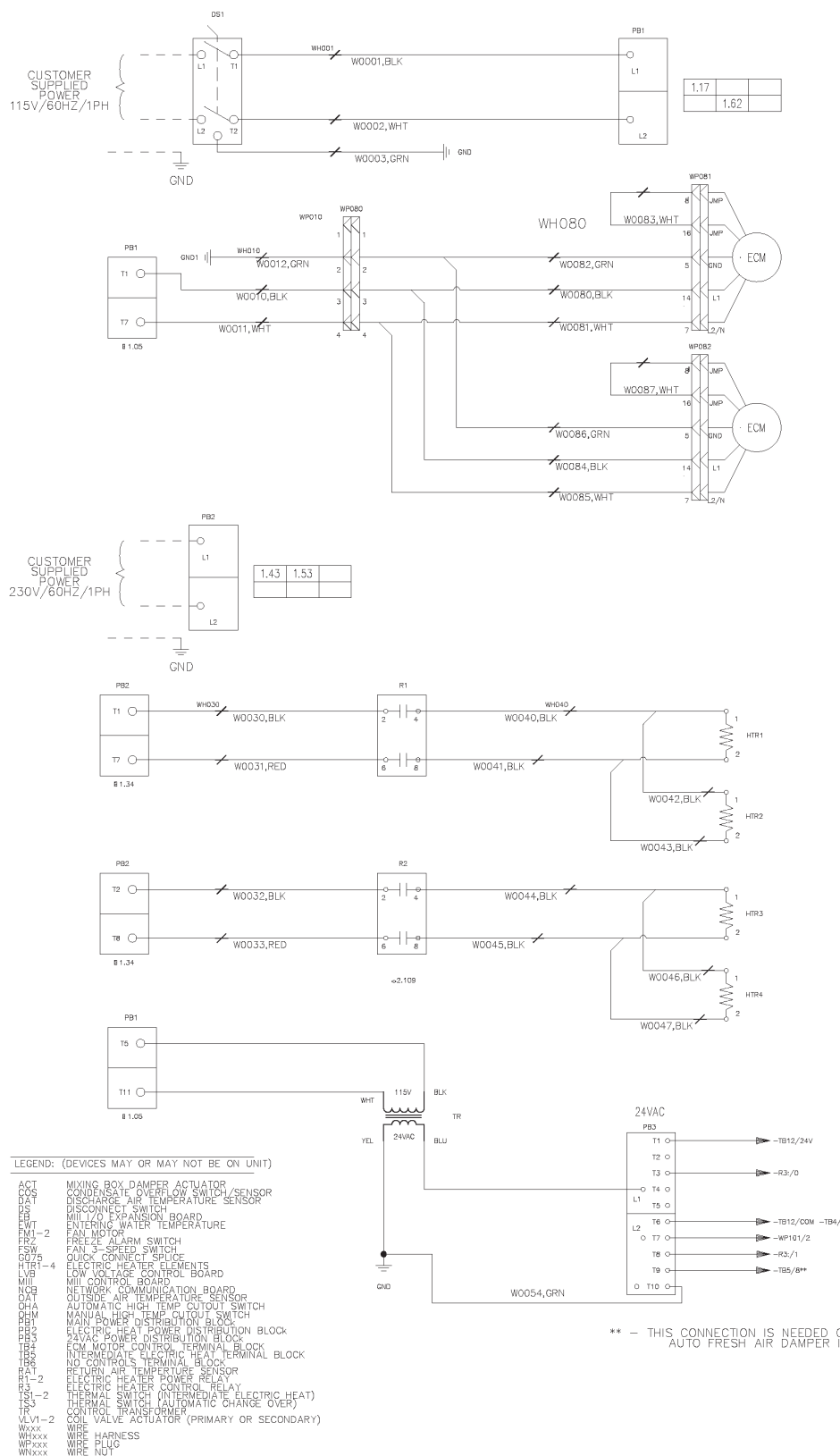


Figure 36: Fan Coil Wiring Diagram – Typical Low Voltage Terminal Strip and ECM, Intermediate Electric Heat, F/A Damper, 3-Speed Switch—Unit Mounted



IM 980-11



Legend for “Typical Wiring Diagrams”

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

NOTE: Devices may or may not be on unit.

Physical Data

Table 3: Physical Data: Coils, Fans, Motors and Filters

	02	03	04	06	08	10	12
Primary Coil Data							
Face Area, ft² (cm²)	0.74 (685)	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 L × D × H, in (cm)	11.8 × 1.7 × 9 (30.0×4.4×22.9)	17.3 × 1.7 × 9 (43.9×4.4×22.9)	22.8 × 1.7 × 9 (57.9×4.4×22.9)	33.8 × 1.7 × 9 (85.9×4.4×22.9)	39.3× 1.7 × 9 (99.8×4.4×22.9)	50.2 × 1.7 × 9 (127.6×4.4×22.9)	61.3 × 1.7 × 9 (155.7×4.4×22.9)
3-Row L × D × H, in (cm)	11.8 × 2.6 × 9 (30×6.6×22.9)	17.3 × 2.6 × 9 (43.9×6.6×22.9)	22.8 × 2.6 × 9 (57.9×6.6×22.9)	33.8 × 2.6 × 9 (85.9×6.6×22.9)	39.3 × 2.6 × 9 (99.8×6.6×22.9)	50.2 × 2.6 × 9 (127.6×6.6×22.9)	61.3 × 2.6 × 9 (155.7×6.6×22.9)
4-Row L × D × H, in (cm)	11.8 × 3.5 × 9 (30.0×8.8×22.9)	17.3 × 3.5 × 9 (43.9×8.8×22.9)	22.8 × 3.5 × 9 (57.9×8.8×22.9)	33.8 × 3.5 × 9 (85.9×8.8×22.9)	39.3 × 3.5 × 9 (99.8×8.8×22.9)	50.2 × 3.5 × 9 (127.6×8.8×22.9)	61.3 × 3.5 × 9 (155.7×8.8×22.9)
Coil Volume, Gal (Liters)							
2-Row	0.15 (0.6)	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	0.20 (0.7)	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	0.26 (1.0)	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, Hot Water or Steam							
Face Area, ft² (cm²)	0.49 (456)	0.72 (669)	0.95 (882)	1.41 (1308)	1.64 (1521)	2.09 (1944)	2.55 (2372)
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)	11.8 × 0.9 × 6 (30.0×2.2×15.2)	17.3 × 0.9 × 6 (43.9×2.2×15.2)	22.8 × 0.9 × 6 (57.9×2.2×15.2)	33.8 × 0.9 × 6 (85.9×2.2×15.2)	39.3 × 0.9 × 6 (99.8×2.2×15.2)	50.2 × 0.9 × 6 (127.6×2.2×15.2)	61.3 × 0.9 × 6 (155.7×2.2×15.2)
Connection Size	1/2" Nominal Copper (5/8" OD)						
Volume, Gal (Liters)	0.04 (0.1)	0.05 (0.2)	0.07 (0.3)	0.10 (0.4)	0.11 (0.4)	0.14 (0.5)	0.17 (0.7)
Secondary Coil Data: 2-Row, Hot Water							
Face Area, ft² (cm²)	0.49 (456)	0.72 (669)	0.95 (882)	1.41 (1308)	1.64 (1521)	2.09 (1944)	2.55 (2372)
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)	11.8 × 1.7 × 6 (30.0×4.4×15.2)	17.3 ×1.7 × 6 (43.9×4.4×15.2)	22.8 × 1.7 × 6 (57.9×4.4×15.2)	33.8 × 1.7 × 6 (85.9×4.4×15.2)	39.3 × 1.7 × 6 (99.8×4.4×15.2)	50.2 × 1.7 × 6 (127.6×4.4×15.2)	61.3 × 1.7 × 6 (155.7×4.4×15.2)
Connection Size	1/2" Nominal Copper (5/8" OD)						
Volume, Gal (Liters)	0.08 (0.3)	0.10 (0.4)	0.13 (0.5)	0.19 (0.7)	0.22 (0.8)	0.29 (1.1)	0.35 (1.3)
Fan/Motor Data							
Fan Quantity	1	1	2	2	3	4	4
Size, Dia" × W" (cm)	6.26 × 6.3 (15.9 × 16)	7.95 × 6.3 (20 × 16)	6.26 × 6.3 (15.9 × 16)	7.95 × 6.3 (20 × 16)	6.26 × 6.3 (15.9 × 16)	6.26 × 6.3 (15.9 × 16)	7.95 × 6.3 (20 × 16)
Motor Quantity	1	1	1	1	2	2	2
Filter Data							
Part Number	668332901	668332902	668332903	668332907	668332905	668332906	668332904
1" (25.4 cm) Media	TA only	TA only	TA only	TA only	TA only	TA only	TA only
Quantity	1	1	1	1	2	2	2
L × D × H, in. (cm)	16 × 8.75 × 1 (40.6 × 22 × 2.5)	21.5 × 8.75 × 1 (54.6 × 22 × 2.5)	27 × 8.75 × 1 (68.5 × 22 × 2.5)	38 × 8.75 × 1 (96.5 × 22 × 2.5)	21.7 × 8.75 × 1 (56.1 × 22 × 2.5)	27.2 × 8.75 × 1 (69.0 × 22 × 2.5)	32.7 × 8.75 × 1 (83.1 × 22 × 2.5)

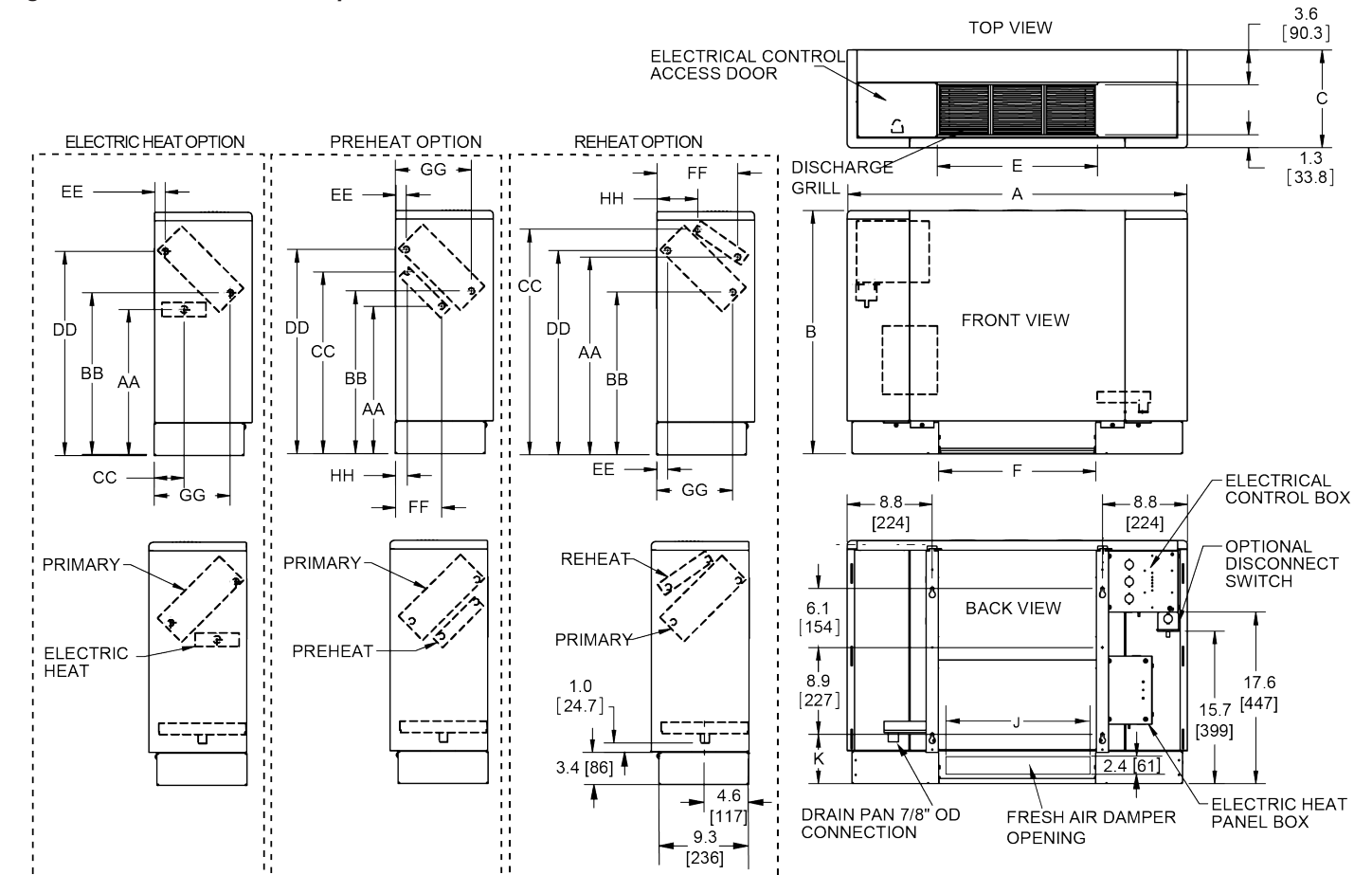
Table 4: Approximate Shipping Weights - lbs (kg)*

Unit Type	Unit Size						
	S02	S03	S04	S06	S08	S10	S12
FCVC, FCVS	84 (38)	95 (43)	108 (49)	131 (60)	152 (69)	177 (80)	202 (92)
FCVH	55 (25)	63 (29)	74 (34)	91 (41)	110 (50)	129 (59)	149 (68)

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

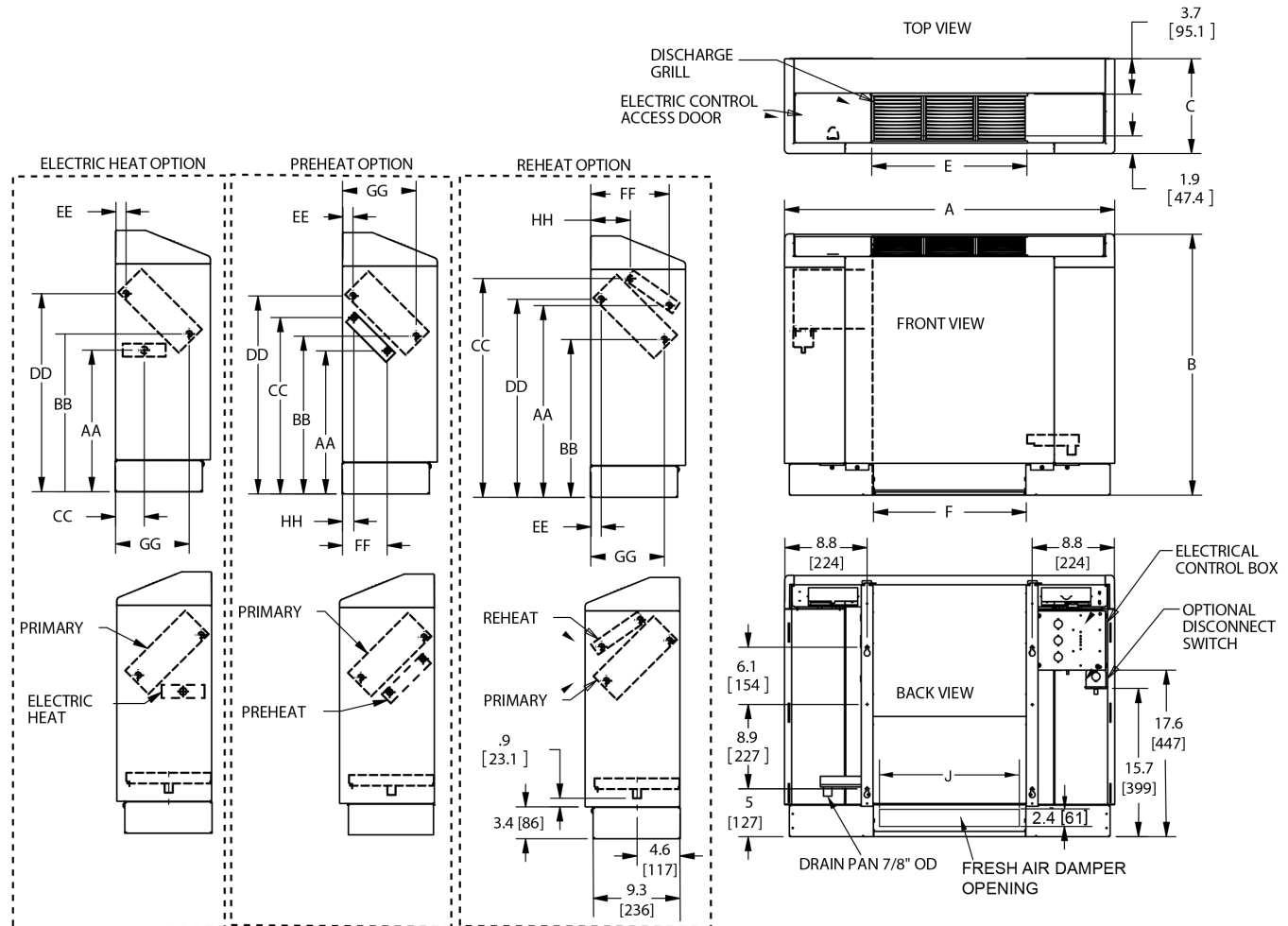
Unit Dimensions

Figure 38: Dimensions: Flat Top Fan Coils



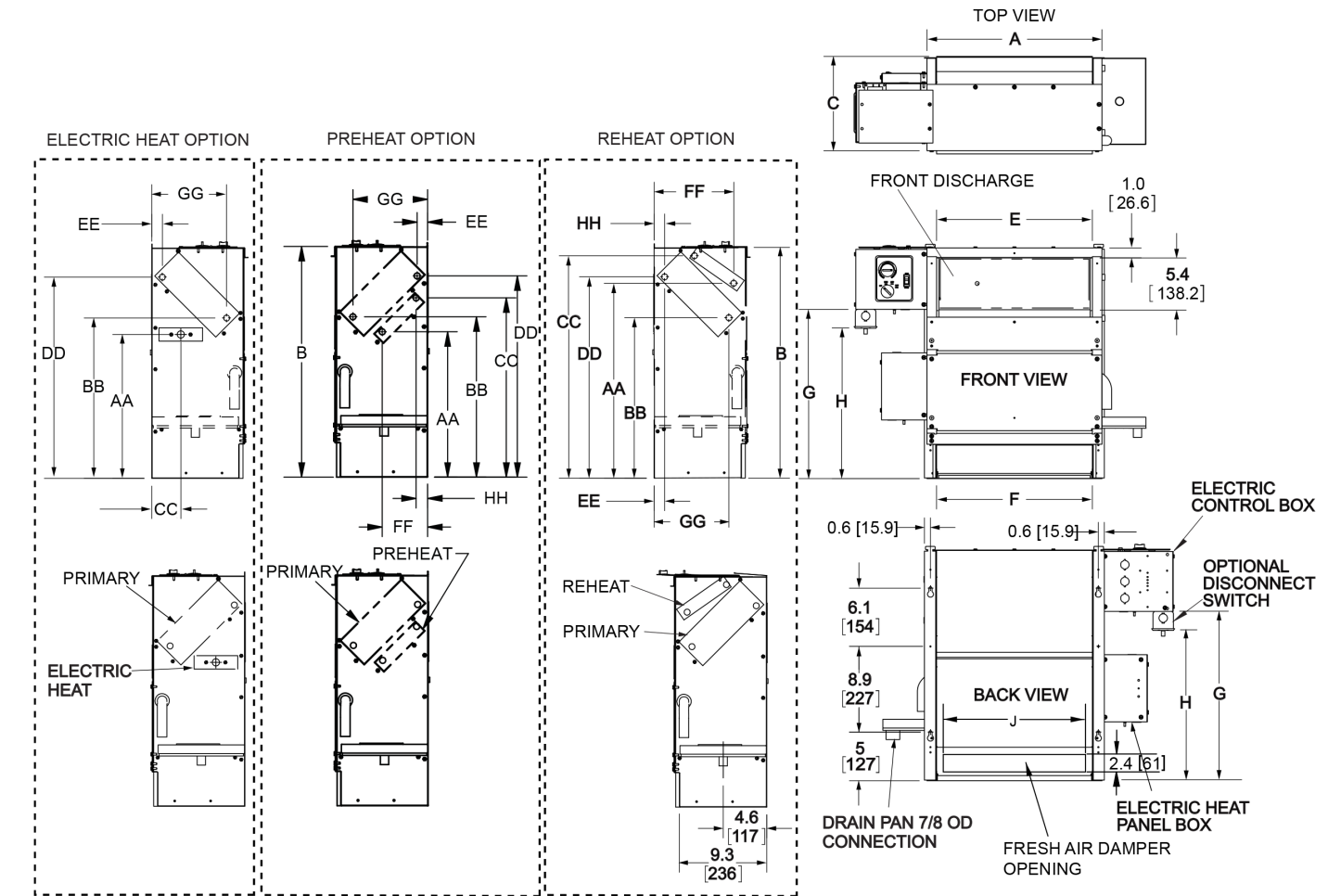
Dimension		S02		S03		S04		S06		S08		S10		S12	
		inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm
Unit Width	A	35.0	889	40.5	1029	46.0	1168	57.0	1448	62.5	1588	73.5	1867	84.5	2146
Unit Height	B	25.0	635	25.0	635	25.0	635	25.0	635	25.0	635	25.0	635	25.0	635
Unit Depth	C	10.0	254	10.0	254	10.0	254	10.0	254	10.0	254	10.0	254	10.0	254
Discharge Grille - Width	E	16.3	414	21.8	554	27.3	693	38.3	973	43.8	1113	54.8	1392	65.8	1671
Return Air Opening - Width	F	16.2	411	21.7	551	27.2	691	38.2	970	43.7	1110	54.7	1389	65.7	1669
Electric Heat Connection	AA	15.1	384	15.1	384	15.1	384	15.1	384	15.1	384	15.1	384	15.1	384
	CC	3.0	76	3.0	76	3.0	76	3.0	76	3.0	76	3.0	76	3.0	76
Primary Coil - Water Return	DD	21	533	21	533	21	533	21	533	21	533	21	533	21	533
	EE	1.1	28	1.1	28	1.1	28	1.1	28	1.1	28	1.1	28	1.1	28
Primary Coil - Water Supply	BB	16.7	424	16.7	424	16.7	424	16.7	424	16.7	424	16.7	424	16.7	424
	GG	7.8	198	7.8	198	7.8	198	7.8	198	7.8	198	7.8	198	7.8	198
Preheat Coil - Water Return	CC	18.7	475	18.7	475	18.7	475	18.7	475	18.7	475	18.7	475	18.7	475
	HH	1.2	30	1.2	30	1.2	30	1.2	30	1.2	30	1.2	30	1.2	30
Preheat Coil - Water Supply	AA	15	381	15	381	15	381	15	381	15	381	15	381	15	381
	FF	4.7	119	4.7	119	4.7	119	4.7	119	4.7	119	4.7	119	4.7	119
Reheat Coil - Water Return	CC	23.2	589	23.2	589	23.2	589	23.2	589	23.2	589	23.2	589	23.2	589
	HH	4.2	107	4.2	107	4.2	107	4.2	107	4.2	107	4.2	107	4.2	107
Reheat Coil - Water Supply	AA	20.3	516	20.3	516	20.3	516	20.3	516	20.3	516	20.3	516	20.3	516
	FF	8.3	211	8.3	211	8.3	211	8.3	211	8.3	211	8.3	211	8.3	211
Fresh Air Damper Width	J	10	254	10	254	16	406	16	406	32	813	32	813	32	813

Figure 39: Dimensions: Slope Top Fan Coils



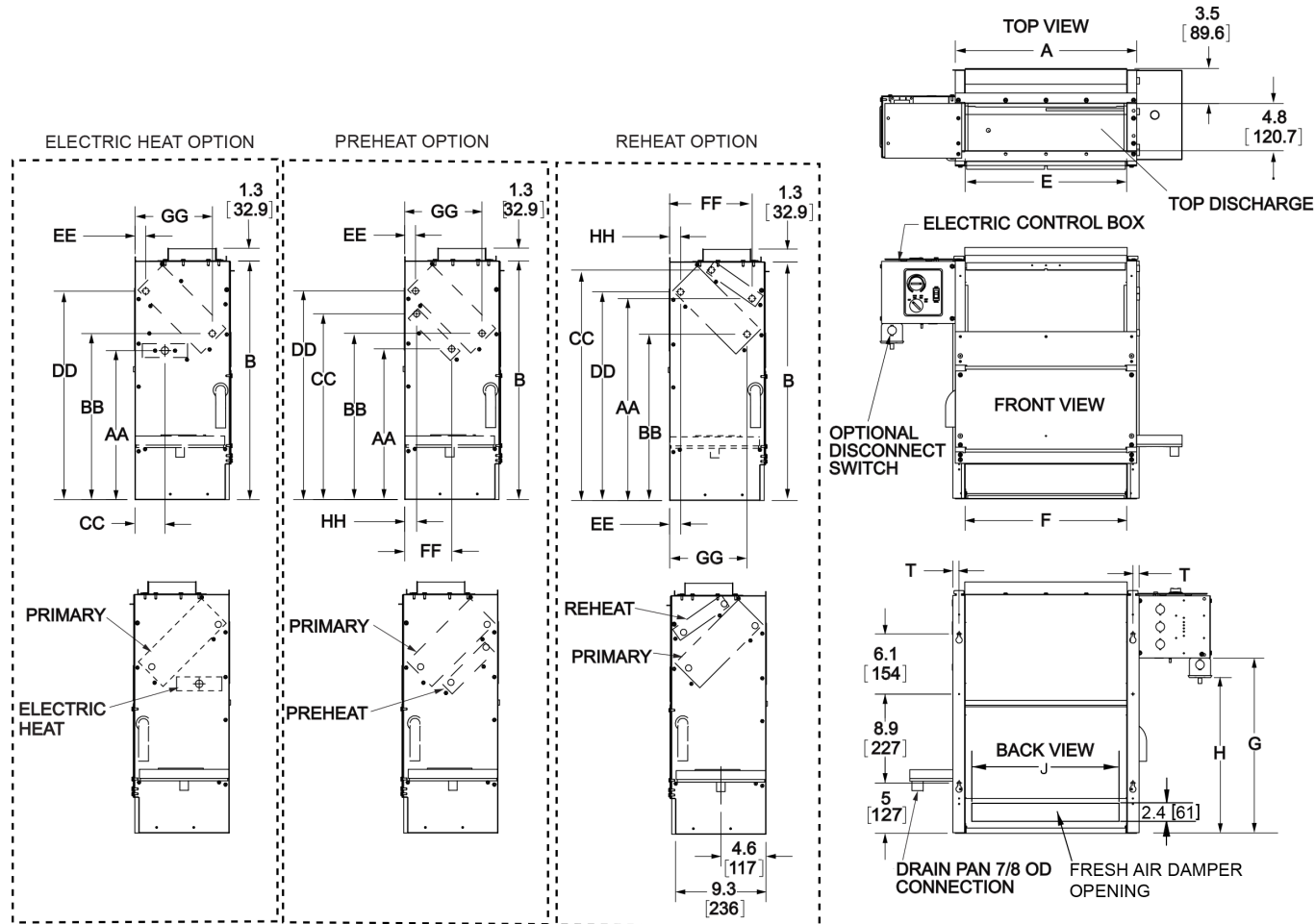
Dimension		S02		S03		S04		S06		S08		S10		S12	
		inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm
Unit Width	A	35.0	889	40.5	1029	46.0	1168	57.0	1448	62.5	1588	73.5	1867	84.5	2146
Unit Height	B	27.6	701	27.6	701	27.6	701	27.6	701	27.6	701	27.6	701	27.6	701
Unit Depth	C	10.0	254	10.0	254	10.0	254	10.0	254	10.0	254	10.0	254	10.0	254
Discharge Grille - Width	E	16.3	414	21.8	554	27.3	693	38.3	973	43.8	1113	54.8	1392	65.8	1671
Return Air Opening - Width	F	16.2	411	21.7	551	27.2	691	38.2	970	43.7	1110	54.7	1389	65.7	1669
Electric Heat Connection	AA	15.1	384	15.1	384	15.1	384	15.1	384	15.1	384	15.1	384	15.1	384
	CC	3.0	76	3.0	76	3.0	76	3.0	76	3.0	76	3.0	76	3.0	76
Primary Coil - Water Return	DD	21	533	21	533	21	533	21	533	21	533	21	533	21	533
	EE	1.1	28	1.1	28	1.1	28	1.1	28	1.1	28	1.1	28	1.1	28
Primary Coil - Water Supply	BB	16.7	424	16.7	424	16.7	424	16.7	424	16.7	424	16.7	424	16.7	424
	GG	7.8	198	7.8	198	7.8	198	7.8	198	7.8	198	7.8	198	7.8	198
Preheat Coil - Water Return	CC	18.7	475	18.7	475	18.7	475	18.7	475	18.7	475	18.7	475	18.7	475
	HH	1.2	30	1.2	30	1.2	30	1.2	30	1.2	30	1.2	30	1.2	30
Preheat Coil - Water Supply	AA	15	381	15	381	15	381	15	381	15	381	15	381	15	381
	FF	4.7	119	4.7	119	4.7	119	4.7	119	4.7	119	4.7	119	4.7	119
Reheat Coil - Water Return	CC	23.2	589	23.2	589	23.2	589	23.2	589	23.2	589	23.2	589	23.2	589
	HH	4.2	107	4.2	107	4.2	107	4.2	107	4.2	107	4.2	107	4.2	107
Reheat Coil - Water Supply	AA	20.3	516	20.3	516	20.3	516	20.3	516	20.3	516	20.3	516	20.3	516
	FF	8.3	211	8.3	211	8.3	211	8.3	211	8.3	211	8.3	211	8.3	211
Fresh Air Damper Width	J	10	254	10	254	16	406	16	406	32	813	32	813	32	813

Figure 40: Dimensions: Hideaway, Front-Discharge Fan Coils



Dimension		S02		S03		S04		S06		S08		S10		S12	
		inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm
Unit Width	A	18.8	475	24.3	617	29.8	757	40.8	1036	46.3	1176	57.3	1455	68.3	1735
Unit Height	B	24.0	610	24.0	610	24.0	610	24.0	610	24.0	610	24.0	610	24.0	610
Unit Depth	C	9.6	243	9.6	243	9.6	243	9.6	243	9.6	243	9.6	243	9.6	243
Discharge Grille - Width	E	16.3	414	21.8	554	27.3	693	38.3	973	43.8	1113	54.8	1392	65.8	1671
Return Air Opening - Width	F	16.2	411	21.7	551	27.2	691	38.2	970	43.7	1110	54.7	1389	65.7	1669
Control Box to Floor	G	17.6	447	17.6	447	17.6	447	17.6	447	17.6	447	17.6	447	17.6	447
Disconnect Switch to Floor	H	15.7	399	15.7	399	15.7	399	15.7	399	15.7	399	15.7	399	15.7	399
Electric Heat Connection	AA	15.1	384	15.1	384	15.1	384	15.1	384	15.1	384	15.1	384	15.1	384
	CC	3.0	76	3.0	76	3.0	76	3.0	76	3.0	76	3.0	76	3.0	76
Primary Coil - Water Return	DD	21	533	21	533	21	533	21	533	21	533	21	533	21	533
	EE	1.1	28	1.1	28	1.1	28	1.1	28	1.1	28	1.1	28	1.1	28
Primary Coil - Water Supply	BB	16.7	424	16.7	424	16.7	424	16.7	424	16.7	424	16.7	424	16.7	424
	GG	7.8	198	7.8	198	7.8	198	7.8	198	7.8	198	7.8	198	7.8	198
Preheat Coil - Water Return	CC	18.7	475	18.7	475	18.7	475	18.7	475	18.7	475	18.7	475	18.7	475
	HH	1.2	30	1.2	30	1.2	30	1.2	30	1.2	30	1.2	30	1.2	30
Preheat Coil - Water Supply	AA	15	381	15	381	15	381	15	381	15	381	15	381	15	381
	FF	4.7	119	4.7	119	4.7	119	4.7	119	4.7	119	4.7	119	4.7	119
Reheat Coil - Water Return	CC	23.2	589	23.2	589	23.2	589	23.2	589	23.2	589	23.2	589	23.2	589
	HH	4.2	107	4.2	107	4.2	107	4.2	107	4.2	107	4.2	107	4.2	107
Reheat Coil - Water Supply	AA	20.3	516	20.3	516	20.3	516	20.3	516	20.3	516	20.3	516	20.3	516
	FF	8.3	211	8.3	211	8.3	211	8.3	211	8.3	211	8.3	211	8.3	211
Fresh Air Damper Width	J	10	254	10	254	16	406	16	406	32	813	32	813	32	813

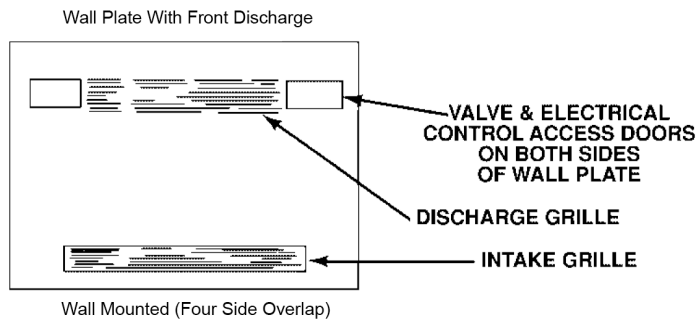
Figure 41: Dimensions: Hideaway, Top-Discharge Fan Coils



Dimension		S02		S03		S04		S06		S08		S10		S12	
		inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm
Unit Width	A	18.8	475	24.3	617	29.8	757	40.8	1036	46.3	1176	57.3	1455	68.3	1735
Unit Height	B	24.0	610	24.0	610	24.0	610	24.0	610	24.0	610	24.0	610	24.0	610
Unit Depth	C	9.6	243	9.6	243	9.6	243	9.6	243	9.6	243	9.6	243	9.6	243
Discharge Grille - Width	E	16.3	414	21.8	554	27.3	693	38.3	973	43.8	1113	54.8	1392	65.8	1671
Return Air Opening - Width	F	16.2	411	21.7	551	27.2	691	38.2	970	43.7	1110	54.7	1389	65.7	1669
Control Box to Floor	G	17.6	447	17.6	447	17.6	447	17.6	447	17.6	447	17.6	447	17.6	447
Disconnect Switch to Floor	H	15.7	399	15.7	399	15.7	399	15.7	399	15.7	399	15.7	399	15.7	399
Electric Heat Connection	AA	15.1	384	15.1	384	15.1	384	15.1	384	15.1	384	15.1	384	15.1	384
	CC	3.0	76	3.0	76	3.0	76	3.0	76	3.0	76	3.0	76	3.0	76
Primary Coil - Water Return	DD	21	533	21	533	21	533	21	533	21	533	21	533	21	533
	EE	1.1	28	1.1	28	1.1	28	1.1	28	1.1	28	1.1	28	1.1	28
Primary Coil - Water Supply	BB	16.7	424	16.7	424	16.7	424	16.7	424	16.7	424	16.7	424	16.7	424
	GG	7.8	198	7.8	198	7.8	198	7.8	198	7.8	198	7.8	198	7.8	198
Preheat Coil - Water Return	CC	18.7	475	18.7	475	18.7	475	18.7	475	18.7	475	18.7	475	18.7	475
	HH	1.2	30	1.2	30	1.2	30	1.2	30	1.2	30	1.2	30	1.2	30
Preheat Coil - Water Supply	AA	15	381	15	381	15	381	15	381	15	381	15	381	15	381
	FF	4.7	119	4.7	119	4.7	119	4.7	119	4.7	119	4.7	119	4.7	119
Reheat Coil - Water Return	CC	23.2	589	23.2	589	23.2	589	23.2	589	23.2	589	23.2	589	23.2	589
	HH	4.2	107	4.2	107	4.2	107	4.2	107	4.2	107	4.2	107	4.2	107
Reheat Coil - Water Supply	AA	20.3	516	20.3	516	20.3	516	20.3	516	20.3	516	20.3	516	20.3	516
	FF	8.3	211	8.3	211	8.3	211	8.3	211	8.3	211	8.3	211	8.3	211
Fresh Air Damper Width	J	10	254	10	254	16	406	16	406	32	813	32	813	32	813

Decorative Wall Plate Dimensions

Figure 42: Wall Plate Dimensions and Kit Part Numbers

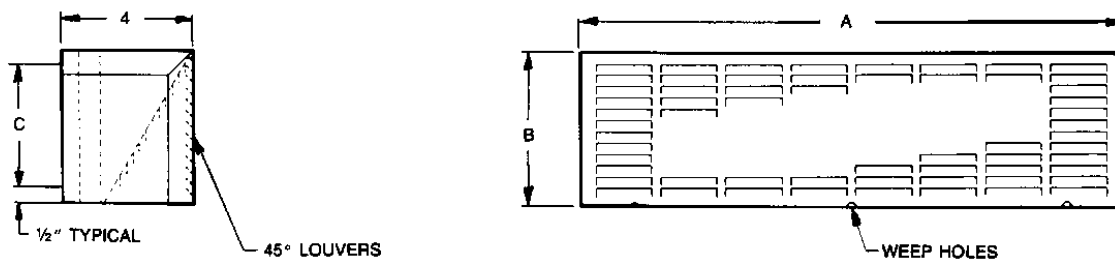


NOTE: Wall plate is designed for use with ThinLine vertical hideaway units mounted a minimum of 1.5 in (38 mm) above the floor. Wall plates for Size 08, 10, and 12 units are in two sections. For installation instructions, see Daikin Applied IM 1022.

Unit Size	Inches (mm)		Kit Part Number	
	Wall Plate	Recommended Wall Opening	Front Discharge	Top Discharge
02	37.25 × 28.81 (946 × 732)	34 × 26 (864 × 660)	668114901	668114908
03	42.75 × 28.81 (1086 × 732)	40 × 26 (1016 × 660)	668114902	668114909
04	48.25 × 28.81 (1226 × 732)	45 × 26 (1143 × 660)	668114903	668114910
06	59.25 × 28.81 (1505 × 732)	56 × 26 (1422 × 660)	668114904	668114911
08	64.75 × 28.81 (1645 × 732)	62 × 26 (1575 × 660)	668114905	668114912
10	75.75 × 28.81 (1924 × 732)	72 × 26 (1828 × 660)	668114906	668114913
12	86.75 × 28.81 (2203 × 732)	84 × 26 (2134 × 660)	668114907	668114914

Fresh Air Intake Box Dimensions

Figure 43: Fresh Air Wall Intake Box Dimensions



Style	Dimensions (Inches)		
	A	B	C
2 Brick × 2 Brick	16 3/4	4 3/4	3 3/4
4 Brick × 4 Brick	33 1/2	4 3/4	3 3/4

NOTE 1: All dimensions are approximate.

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.

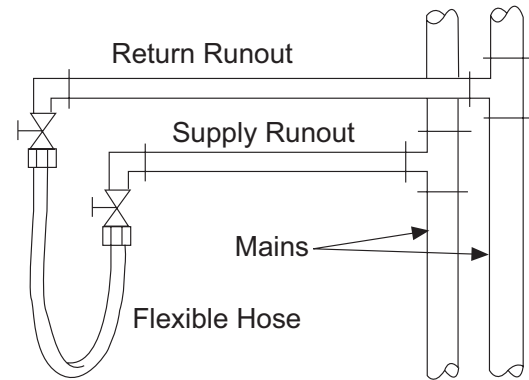
NOTICE

It is Daikin Applied's policy not to make recommendations on water treatment. It is the responsibility of the user to check that the water supply to the units is free of contaminants or corrosive agents, chemicals or minerals. The general contractor or owner should contact a local water treatment company regarding water treatment. A fouled water system will lead to premature component failure.

1. Prior to first operation of any unit, clean and flush the water circulating system of all construction dirt and debris.
2. 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 44](#).
3. Fill the system at the city water makeup connection with all air vents open. After filling, close all air vents.
4. Start the main circulator with the pressure reducing valve open.
5. Check vents in sequence to bleed off any trapped air, ensuring circulation through all components of the system.
6. While circulating water, check and repair any leaks in the unit and surrounding piping.
7. 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.
8. 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.
9. Flush should continue for at least two hours or longer until the drain water is clean and clear.
10. Shut off the circulator pump and open all drains and vents to completely drain down the system.
11. 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.
12. Refill the system with clean water.
13. Test the water using litmus paper for acidity, and treat as required to leave the water slightly alkaline (pH 7.5 to 8.5).
14. 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.

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

Figure 44: Connections for Flushing System Piping



Venting Hydronic Coils

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. See [Figure 45](#).

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 45](#).

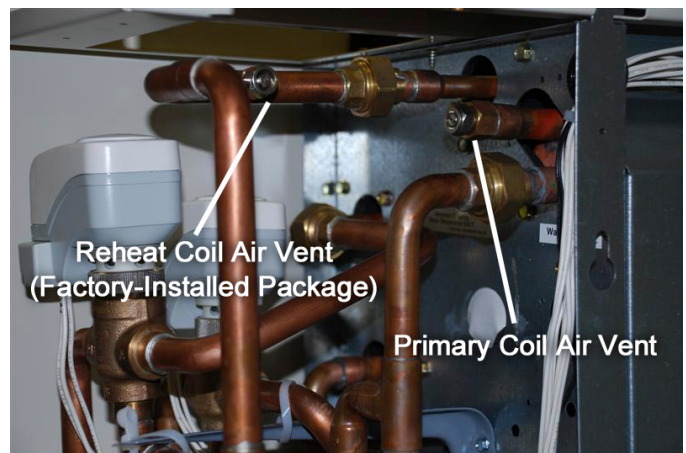
Perform the following steps to vent both primary and secondary coils after installing the unit.

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.

Figure 45: Coil Air Vents



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. 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.

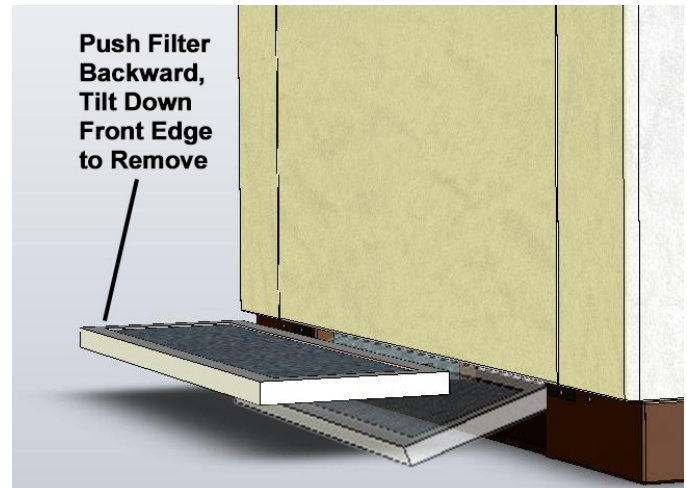
Filters may be removed without removing any panels. See [Figure 46](#). However, if the unit is equipped with a return air grille, this must first be removed to access the filter. To remove the filter:

1. Slide your hands under the front opening on the bottom of the unit and feel for the filter above.
2. Slide your fingers along the bottom of the filter until they reach the rear paperboard edge.
3. Push the paperboard edge backward about a half-inch until the front edge of the filter drops down.
4. Remove the filter from under the unit.

To install a new filter:

1. Slide the filter under the unit and tilt its rear edge upward and into the pocket at the rear of the filter housing.
2. Push the front edge of the filter backward until it clears the front lip on the filter housing, then push it up and into place.

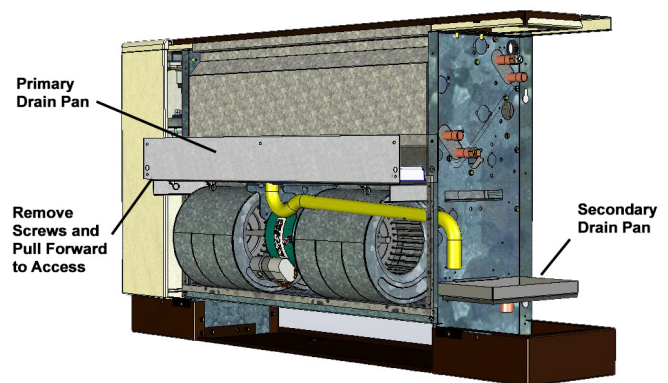
Figure 46: Filter Removal



Condensate Drain Pans

The main and secondary condensate drain pans should be checked annually and cleaned and flushed as required. See [Figure 47](#).

Figure 47: Drain Pan Locations



Accessing the Secondary Drain Pan

To access the secondary drain pan, remove the corner panel from the side of the unit where the main piping connections are made (this is opposite the side where the control access panel is located on units with unit-mounted controls. See [Figure 4](#) on [page 7](#) for a description of how to remove it.

Accessing/Removing the Main Drain Pan and Motor Assembly

The main drain pan is housed in the top of the unit's fan deck. Both the fan deck and the main condensate drain pan are easily removed for access and cleaning as follows.

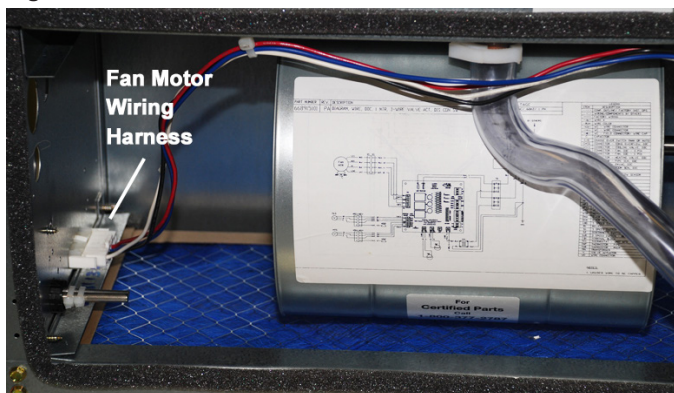
1. Disconnect electrical power to the unit.
2. Remove the two screws that attach the center panel of the unit to the base (see [Figure 4 on page 7](#)).
3. Lift the center panel upward and off the unit.
4. Pull the main condensate drain line out of the side of the chassis where it flows into the secondary drain pan.
5. Disconnect the fan motor wiring harness by removing the plug where it attaches to the connector on the side of the chassis. See [Figure 48](#).

NOTICE

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

6. Remove the screws that attach the fan deck to the unit chassis. See [Figure 47 on page 34](#).
7. Firmly grasp the fan deck, then slide it towards you and out of the unit.
8. The main condensate drain pan sits atop the fan deck and is now easily accessed for cleaning.
9. To reinstall, follow these steps in reverse order.

Figure 48: Motor Connector Location



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	VC	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	VC	=	Vertical Cabinet, Flat Top
		VH	=	Vertical Hideaway
		VS	=	Vertical Cabinet, Slope Top
		WC	=	Wall-Hung Cabinet
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
		A	=	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	VC	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
		W1	=	1-Row Water
		W2	=	2-Row Water
		S1	=	1-Row Steam
		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	=	1-Row Water
		W2	=	1-Row Steam
		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
		000	=	None
Not Currently Used	30	YY	=	None
Drain Pan Material	31	P	=	Plastic, Non-Corrosive
		S	=	Stainless Steel
Blower Motor Type	32	PSC	=	PSC Motor
		XXX	=	Special
Discharge Conditions	33	S	=	Standard 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
Future Control Function	40	Y	=	None
Control Type	41	A	=	Analog
		D	=	Digital
		L	=	Digital Ready (Low-Voltage Interface Board/Terminal Strips) and 3-Speed Switch
		R	=	Digital Ready (Low-Voltage Interface Board/Terminal Strips)
		X	=	Special
		Y	=	None
Network Communication Card	42	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								
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								
														MOU		=	Manual, On/Off, Unit-Mounted								
														MOR		=	Manual, On/Off, Remote-Mounted								
														MAU		=	Manual, Low/Med/High, Unit-Mounted								
														MAR		=	Manual, Low/Med/High, Remote-Mounted								
														MPU		=	Manual, Off/Proportional, Unit-Mounted								
														MPR		=	Manual, Off/Proportional, Remote-Mounted								
														SOU		=	SCR, On/Off, Unit-Mounted								
														SOR		=	SCR, On/Off, Remote-Mounted								
														SAU		=	SCR, Low/Med/High, Unit-Mounted								
														SAR		=	SCR, Low/Med/High, Remote-Mounted								
														SPU		=	SCR, Off/Proportional, Unit-Mounted								
														SPR		=	SCR, Off/Proportional, Remote-Mounted								
Timed Override									47					Y		=	None								
Valve - Primary Coil									48					-		=	See Table 5 on page 43 .								
Valve - Preheat Coil									49					-		=	See Table 5 on page 43 .								
Valve - Reheat Coil									50					-		=	See Table 5 on page 43 .								
Future Control Function									51					Y		=	None								
Low Temperature Protection									52					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							

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				
Color - Cabinet					64		I		=		Antique Ivory				
							W		=		Off White				
							G		=		Soft Gray				
							C		=		Cupola White				
							P		=		Putty Beige				
							Y		=		None				
							X		=		Special				
Cabinet Depth Extension					65		00		=		None				
							04		=		4 in Extended Depth				
							08		=		8 in Extended Depth				
Unit Lineup Position					66		S		=		Standalone				
Left Hand End Pocket Extension					67		00		=		None				
							04		=		4 in Extended Length				
							08		=		8 in Extended Length				
Right Hand End Pocket Extension					68		00		=		None				
							04		=		4 in Extended Length				
							08		=		8 in Extended Length				
Subbase					69		30F		=		3 in Subbase with Leveling Feet				
							30Y		=		3 in Subbase without Leveling Feet				
							XXF		=		Special with Leveling Feet				
							XXY		=		Special without Leveling Feet				
							YYY		=		None				
Discharge Air - Outlet					70		TA		=		Top Discharge with Stamped Louver Grille				
							TB		=		Top Discharge with Multi-Directional Grille				
							TY		=		Top Discharge with No Grille				
							TD		=		Top Discharge with Duct Collar				
							FD		=		Front Discharge with Duct Collar				
							FY		=		Front Discharge with No Duct Collar				
							BD		=		Bottom Discharge with Duct Collar				
							BY		=		Bottom Discharge with No Duct Collar				
							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	FR	=	Front Inlet with Open Return											
						FS	=	Front Inlet with Stamped Louver											
						FT	=	Front Inlet with Toe Space											
						TR	=	Top Inlet with Open Return											
						TS	=	Top Inlet with Stamped Louver											
						BR	=	Bottom Inlet with Open Return											
						BS	=	Bottom Inlet with Stamped Louver											
						BT	=	Bottom Inlet with Toe Space											
						XX	=	Special											
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 (30 Month from Shipment or 24 Month from Installation)											
						2	=	2 Year Extended Component Warranty (42 Month from Shipment or 36 Month from Installation)											
						3	=	3 Year Extended Component Warranty (54 Month from Shipment or 48 Month from Installation)											
						4	=	4 Year Extended Component Warranty (66 Month from Shipment or 60 Month from Installation)											
						X	=	Special											
Product Style					78	1	=	Style 1											

Table 5: Model Number Detail — Coil Valve Fields 49, 50, 51

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

COMPLETE HVAC SYSTEM SOLUTIONS

SELF-CONTAINED | ROOFTOPS | COILS | CONDENSING UNITS
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