

Installation and Maintenance

IM 1027

ThinLine™ 3G Vertical Unit Heaters **Type FHVC, FHVH, FHVS, FHWC Vertical Design**

200 to 1200 cfm

Group: **Applied Systems**

Part Number: 910102986

Date: **October 2013**



Contents

General Information	3	Operating Limits	11
Receiving and Storage	4	Venting Hydronic Coils	11
Pre-Installation	4		11
Fresh Air Box Openings	4	Operation and Maintenance	12
Recommended Maintenance Clearance	5	Controls	12
Duct Connections	5	Manual 4-Position Fan Switch	12
Safety	5	Unit-Mounted, Mechanical Thermostat With 4-Position Fan Switch	12
Installation	6	Digital Thermostats	12
Uncrating and Inspecting the Unit	6	DDC Interface Board	13
Mounting Unit to Wall	6	Accessories	14
Water Piping Connections	7	Fresh Air Damper	14
General Guidelines	7	Leveling Legs Option	14
Connecting to a Factory-Installed Valve & Piping Package	8	Electric Heat Over-Temp Reset Button	15
Field-Installed Valve & Piping	8	General Maintenance	15
Shutoff/Balancing Valve	8	Filter Changes	15
Systems with electric heat	8	Removing the fan & motor assembly	15
Electrical Connections	8	Physical Data	17
Standard Electrical Connection	8	Unit Data	17
Thermostat and Controls	10	Unit Dimensions	18
Initial Startup	10	Wiring Diagrams	22
Cleaning & Flushing the Water System	10	Model Number Description	24

Thinline 3G vertical unit heaters are intended for use in single zone applications. They are available in sizes from 200 to 1200 cfm. [Figure 2](#) describes the main features of these units and can be referred to for component placement. 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 and on/off or modulating valve control.
- DDC interface board for connecting the unit to controls provided by others. The controls interface option includes a 24 volt AC transformer and an interface terminal board.
- No controls, with pigtail connections to the unit's fan motor wiring harness.

Figure 1: Nomenclature (see [Table 4, page 24](#) for complete model number description)

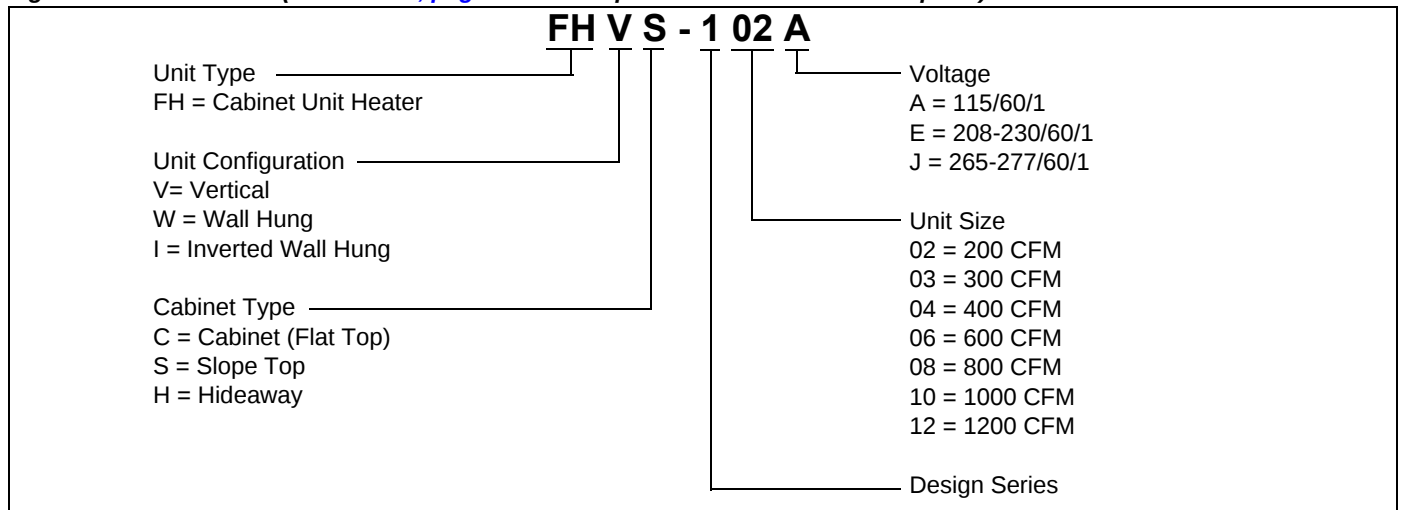
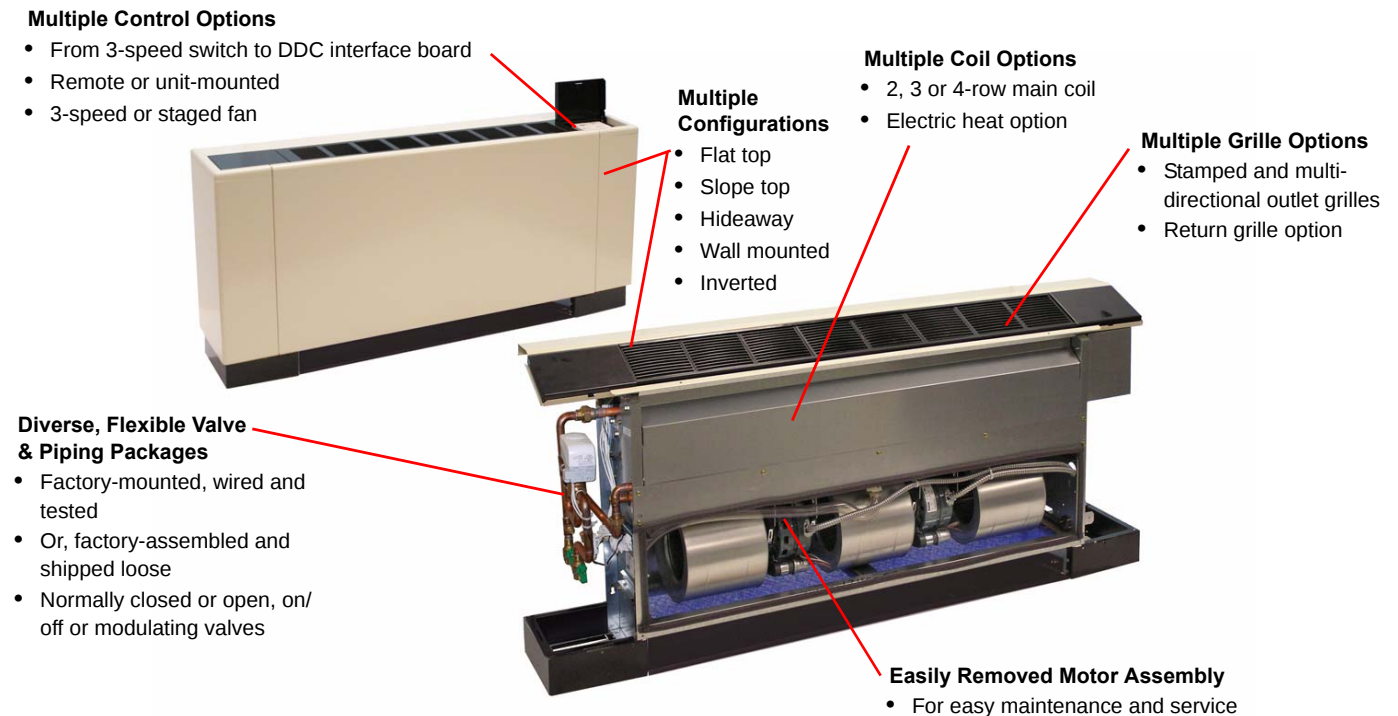


Figure 2: Unit Features



General Information

Receiving and Storage

Upon receipt of the equipment, check carton for visible damage. Make a notation on the shipper's delivery ticket before signing. If there is any evidence of rough handling, immediately open the cartons to check for concealed damage. If any damage is found, notify the carrier within 48 hours to establish your claim and request their inspection and a report. The Warranty Claims Department should then be contacted.

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 indoor, 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 higher, may deteriorate certain plastic materials and cause permanent damage.

IMPORTANT

This product was carefully packed and thoroughly inspected before leaving the factory. Responsibility for its safe delivery was assumed by the carrier upon acceptance of the shipment. Claims for loss or damage sustained in transit must therefore be made upon the carrier as follows:

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. The form required to file such a claim will be supplied by the carrier.

CONCEALED LOSS OR DAMAGE

Concealed loss or damage means loss or damage which does not become apparent until the product has been unpacked. The contents may be damaged in transit due to rough handling even though the carton may not show external damages. When the damage is discovered upon unpacking, make a written request for inspection by the carrier's agent within fifteen (15) days of the delivery date and file a claim with the carrier.

Pre-Installation

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.

- 1 To prevent damage, do not operate this equipment for supplementary heating during the construction period. Doing so will void the warranty.
- 2 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.
- 3 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 unit heater (see [Figure 3](#)). Remove the front panel on cabinet units to access it. The panel contains specific information on standard components as listed in [Figure 1, page 3](#) and in [Table 7, page 26](#).

Figure 3: Data Plate Location



- 4 Before installation, check the available dimensions where the unit is to be installed versus the dimensions of the unit.
- 5 Note the location and routing of water piping, condensate drain piping, and electrical wiring. The locations of these items are clearly marked on submittal drawings.
- 6 The installing contractor will find it beneficial to confer with piping, sheet metal, and electrical foremen before installing any unit.

Note: 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.

- 7 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.
- 8 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 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.

Fresh Air Box Openings

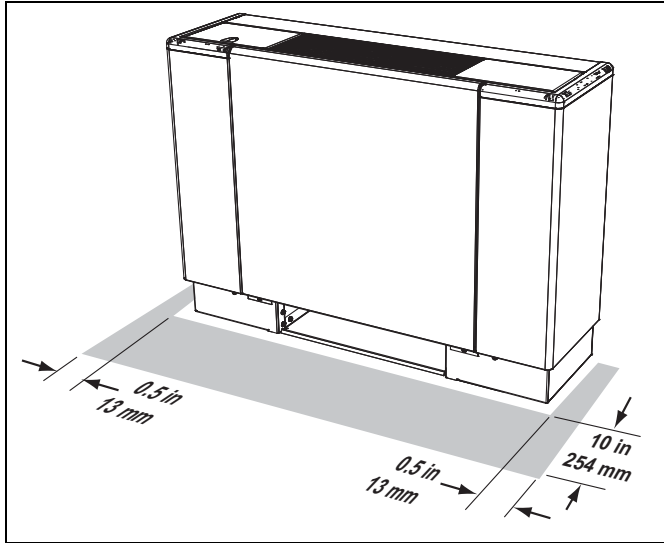
Thinline vertical unit heaters can be installed with an optional fresh air box that is designed to let in outside air while preventing water (such as rain) from getting into the unit itself. If used, prior to unit installation, be sure that the exterior wall opening and the wall box are ready and installed 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 is easily removed from the front for cleaning. See [General Maintenance, page 15](#) for more information.

Figure 4 shows recommended maintenance clearances: 0.5 inches (13 mm) on either side and 10 inches (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 coil pipe connections.

Figure 4: Recommended maintenance clearance



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 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.

Note: 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 inches).

- 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.

Safety

Follow all safety codes. Wear safety glasses and work gloves. Use a quenching cloth for brazing operations. Have a fire extinguisher available. Follow all warnings and cautions in these instructions and attached to the unit. Consult applicable local building codes and National Electrical Codes (NEC) for special requirements.

Recognize safety information. When you see a safety symbol on the unit or in these instructions, be alert to the potential for personal injury. Understand the meanings of the words DANGER, WARNING, and CAUTION. DANGER identifies the most serious hazards that will result in death or severe personal injury; WARNING means the hazards can result in death or severe personal injury; CAUTION identifies unsafe practices that can result in personal injury or product and property damage. Improper installation, adjustment, service, maintenance, or use can cause explosion, fire, electrical shock, or other conditions which may result in personal injury or property damage. This product must be installed only by personnel with the training, experience, skills, and applicable licensing that makes him/her "a qualified professional HVACR installer."

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 unit heater while building maintenance cleaning agents are in use.

Installation

Uncrating and Inspecting the Unit

- 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 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 unit heater after installation. Be sure to dispose of plastic packaging and protective cardboard properly, in accordance with local recycling rules and guidelines.



WARNING

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

- 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 representative or Daikin Factory Service.

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.



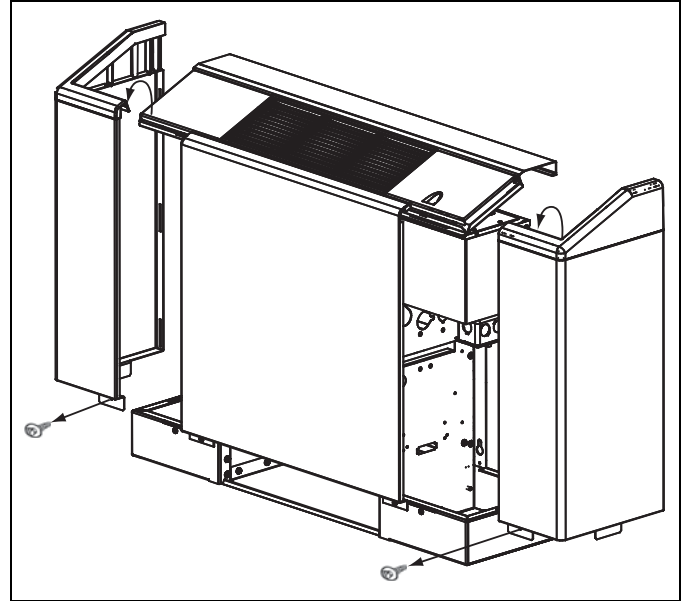
CAUTION

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

- 1 Consult job blueprints for unit location.
- 2 Clean area where unit is to be installed, removing all construction dirt and debris. Remove any mouldings 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 5](#) 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.

Note: 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.

Figure 5: Cabinet Side Panel Removal

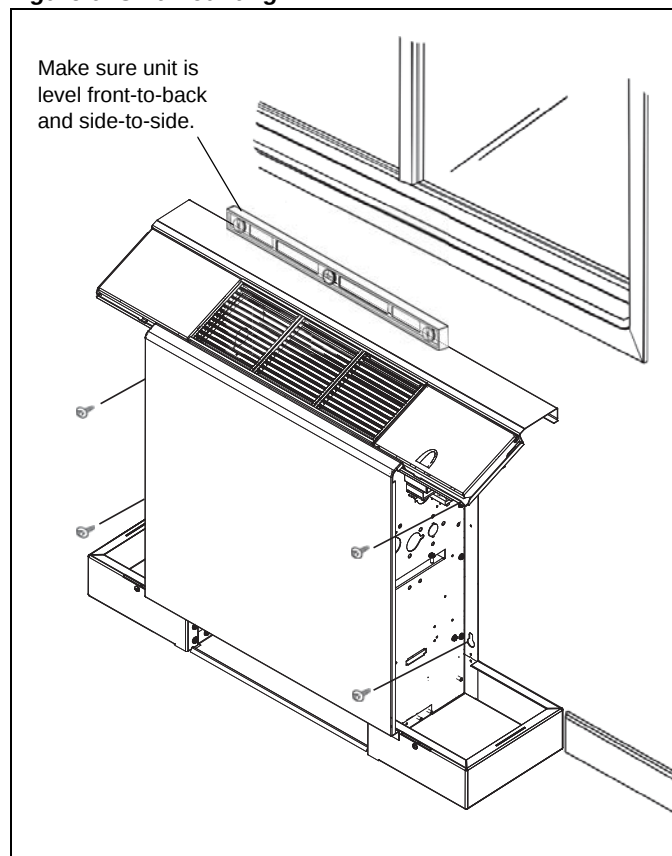


- 5 **STOP!** If an outside air damper kit is to be installed, install it now. See [Figure 17, page 14](#) and the IM included with the damper for more information.
- 6 Position the chassis/subbase against the wall where the unit is to be installed. Make sure that the area under the unit is free of combustible 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 McQuay's decorative wall plate, use blocks or other suitable material to raise the unit off the floor a minimum of 1.5 inches (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 [Figure 23, page 18](#) through [Figure 26, page 21](#) for location information.
- 9 Use a level to check that the unit is level both front to back and side to side (see [Figure 6](#)). 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.

Note: 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 6: Unit Mounting

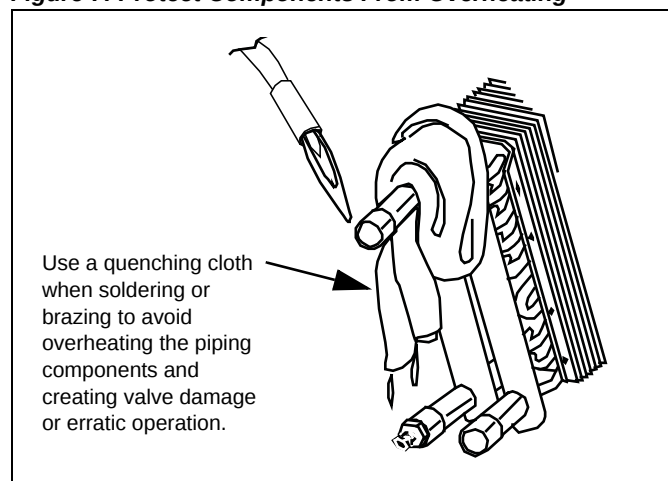


Water Piping Connections

General Guidelines

- 1 Piping can be steel, copper or PVC, but must comply with local codes.
- 2 Proper ventilation is required for soldering. When soldering, use a quenching cloth to protect unit heater components from overheating damage—melting insulation, also damage to valves, wiring, electronics, sensors, etc. See [Figure 7](#). When Daikin provides valve packages with unions, o-rings are included. When soldering near unions, remove the o-rings before heating.

Figure 7: Protect Components From Overheating



- 3 If sealant compound is not provided for flexible hose fittings, apply Teflon tape to the connections to help prevent leaks.
- 4 Ensure proper insulation of supply and return piping. Proper insulation prevents loss of unit heater capacity and overheating of end compartments.
- 5 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.
- 6 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.
- 7 Be sure to install control valves on the correct unit heater. Indiscriminate mixing of valves in the field can result in valves improperly sized for the desired flow rate, which can result in poor operation.
- 8 Install control valves so there is at least 2" (51mm) minimum clearance to remove the actuator from the valve body.
- 9 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.
- 10 Automatic flow control devices must not be installed prior to system cleaning and flushing.
- 11 Check local code for any requirement for electrical fittings.

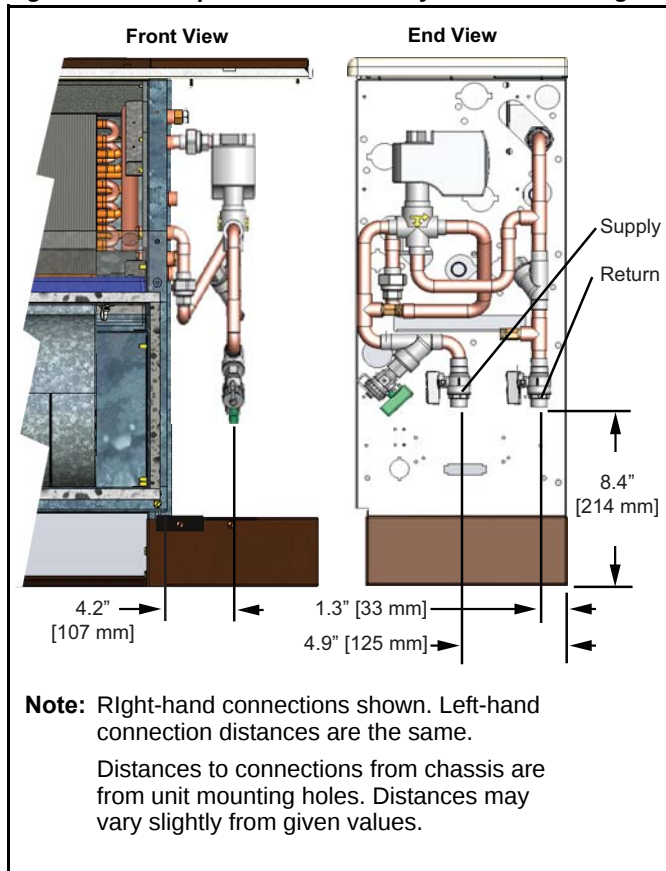
Installation

Connecting to a Factory-Installed Valve & Piping Package

To view connection locations for factory-installed valve & piping packages, see [Figure 8](#). 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.
- The installer must provide adequate piping system filtration and water treatment.
- Daikin deluxe and premium piping packages include a strainer which prevents debris from entering the coil. Clean the strainer regularly.
- The unit heater ships with brackets to adequately support the piping package during shipment. Remove these brackets before connecting water piping to the unit.
- Set end valves to the fully open position to prevent damage to the valve seat during brazing.
- Solder water piping connections to supply and return end connections. Avoid overheating factory soldered joints to prevent the possibility of leakage.

Figure 8: Hook Up Locations: Factory-installed Packages



Field-Installed Valve & Piping

Review [General Guidelines, page 7](#) before beginning. 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.

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 7](#).

Shutoff/Balancing Valve

Each unit heater should be at least equipped with shutoff valves on both the supply and return lines for easy serviceability and removal if it becomes necessary. We suggest using our combination shutoff/balancing valves between the main supply line and the unit heater unit. These can be furnished as part of a factory-installed valve and piping package or they can be installed in the field. The balancing valve installed on the return line is used to adjust the water flow to provide the best performance.

Systems with electric heat

The electric heating coil is designed to be used only when the hot water heat is turned off for the season. To protect the electric heat elements, an automatic and manual electric heat switch disengages the electric heat to prevent overheating. For information on resetting the manual switch, see [Electric Heat Over-Temp Reset Button, page 15](#).

Electrical Connections

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.

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.

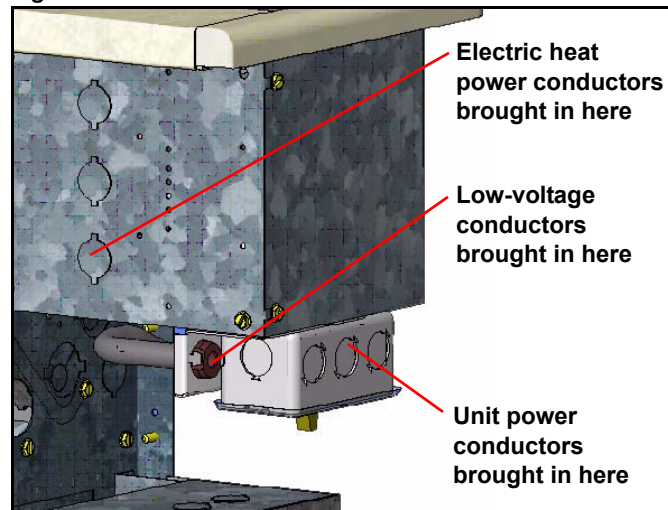
Standard Electrical Connection

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 coil piping connections. See [Figure 9](#). 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 bring the electric heat into one of the knockouts on the control box. See [Figure 9](#).

Low voltage wires should be brought into the conduit located next to the field electrical power junction box. See [Figure 9](#).

Figure 9: Electrical Power Connections



If electrical wiring or conduit comes through the floor, all wires or conduit should be sealed at this point.

Note: 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 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.

Electrical Data

The wiring diagram for the unit is attached to the inside of the corner panel on cabinet units. It is attached to the front cover of the unit on hideaway units. See [Figure 9](#). Be sure the available power is the same voltage and phase as that shown on the unit serial plate. See [Figure 3, page 4](#) for the location of the serial plate.

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

Apply correct line voltage to the unit. Power to the unit must be sized correctly. Branch circuit overcurrent protection must be provided per local codes. See the nameplate 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 via a wire nut or male terminal as appropriate. Please refer to the unit wiring diagram.

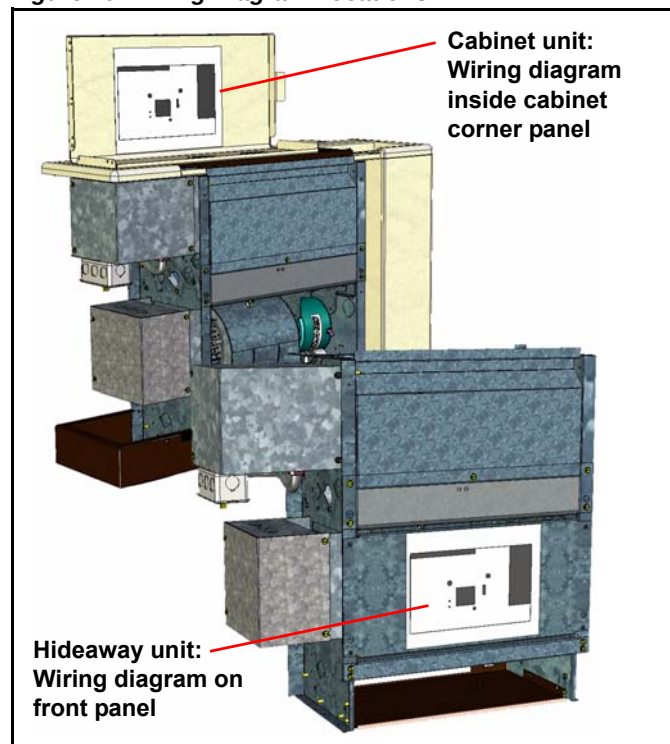
Operating Voltages

Operating voltages are as follows, plus or minus 10%.

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

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

Figure 10: Wiring Diagram Locations



Installation

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.

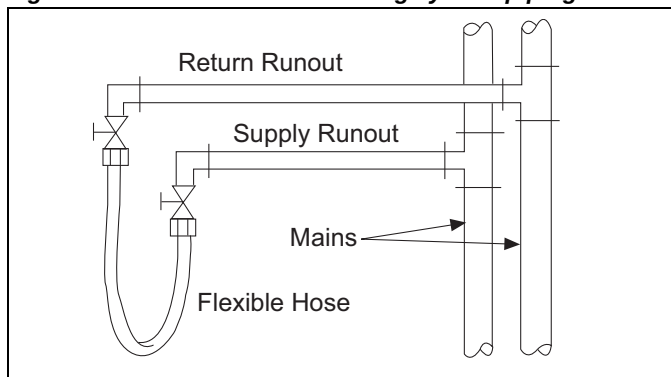
After wiring and installation are complete, energize the system and check the operation. Adjust the thermostat as necessary to complete at least one cycle. Be sure the thermostat and all other equipment are functioning correctly.

Initial Startup

Cleaning & Flushing the Water System

- 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 11](#).

Figure 11: Connections for flushing system piping



- 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.

⚠ 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

- 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 dirty water conditions.

⚠ IMPORTANT

It is McQuay'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.

Operating Limits

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

Venting Hydronic Coils

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

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

- 1** Pressurize the building piping system with water and vent any trapped air at system vents.
- 2** For units with manual air vents, back the set screw out to expel air from the unit and then re-tighten the set screw.
- 3** 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.

Operation and Maintenance

Controls

A wide variety of control options are available for Thinline 3G unit heaters, 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 representative or the installation manual that came with the control.

Manual 4-Position Fan Switch



This four-position fan switch (Off, High, Med, Low) option is available unit or remote-mounted (wall-mounted version picture to right). The unit-mounted option operates on line voltage. The remote-mounted option operates on low-voltage power and may have been provided with a factory-mounted, low-voltage interface board, which contains 3-24 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 (see [Fresh Air Damper](#), page 14).
- **High, Medium, Low:** Fan runs continuously at the selected speed. The two-position, motorized fresh-air damper, when supplied, is opened.

Unit-Mounted, Mechanical Thermostat With 4-Position Fan Switch

This unit-mounted option combines the four-position fan switch described above with a mechanical thermostat. Sequence of operation



- **Fan Switch**
 - **Off:** Fan is turned off. The two-position, motorized fresh-air damper, when supplied, is closed (see [Fresh Air Damper](#), page 14).
 - **High, Medium, Low:** Fan runs continuously at the selected speed. The two-position, motorized fresh-air damper, when supplied, is opened.
- **Thermostat**
 - Cycles the valve(s) open or closed on demand based on occupant-desired level.

Digital Thermostats

Daikin offers a broad range of unit-mounted and 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 the Daikin publication ED 18513.



MT155 Thermostat

The MT155 series thermostat provides on-off control for low-voltage or line-voltage valves and fan motors. This unit is designed for remote-mounting with connection to the DDC interface board which is mounted on the unit. Options three-speed fan control for continuous or cycling fan operation.

Figure 12: MT155 Thermostats



Three standard control options are available:

- **On-off fan cycle operation:** The thermostat cycles the fan from the manually selected fan speed (high, medium or low) to off.
- **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 unit heater system including the fan is shut off.

MT158 and MT168 Thermostat-Controllers with Digital Display

Series MT158 and MT168 microprocessor-based thermostat-controllers combine a proportional integral control algorithm with adaptive logic. They may be unit-mounted or remote-wall mounted.

Figure 13: MT158 and MT168 Thermostats



Heating outputs for the MT158 are individually configurable for three-wire floating control valves or on/off valves in the normally open or normally closed modes.

Heating outputs for the MT168 provide 0-10 Vdc or 4-20 mA. The integrated, three-speed fan control switch is line voltage to allow direct connection to the fan motors. Manual or automatic changeover is provided with remote setback capability from a time clock or facility management system. Features include a Fahrenheit or Celsius digital display.

Two standard control options are available:

- *Continuous fan and modulating (or on-off) valve operation:* The fan runs continuously at the manually selected fan speed (high, medium or low). The controller modulates the valves or, on the MT158, dip-switches can be set to cycle the valves on and off.
- *On-off fan cycle operation and modulating (or on-off) valve operation:* The controller cycles the fan from the manually

selected fan speed to off. The controller modulates the valves or, on the MT158, dip-switches can be set to cycle the valves on and off.

DDC Interface Board

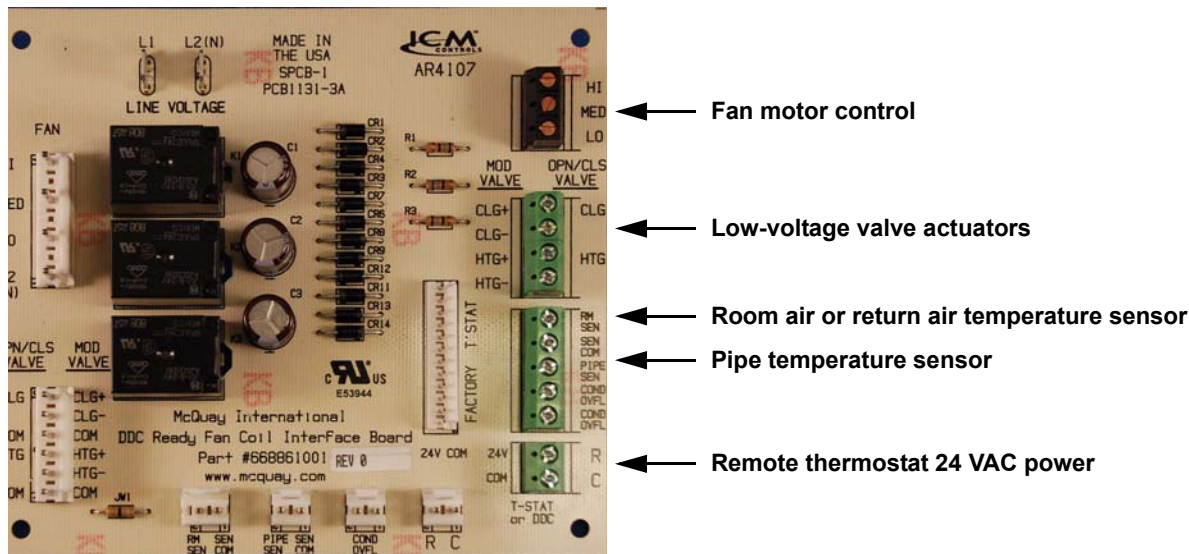
The low-voltage, DDC interface board is used with any remote (wall mounted) Daikin thermostat or control. It can also be used with a building automation system (BAS) control where low voltage is needed to operate the unit heater. It is located in the control box for the unit (see [Figure 9, page 9](#)).

The DDC interface board includes:

- Three 24-volt relays with line-voltage contactors to operate the fan motor speeds.
- Terminal connections for interfacing to:
 - An optional remote-mounted thermostat.
 - Low-voltage, on-off valve actuators.
 - A return air sensor.
- A factory-wired and installed transformer.

See [Figure 14](#) for a list of connecting points to the board. For additional wiring information, see the typical wiring diagram [Figure 28](#) or the unit's wiring diagram, which is attached to the corner panel on cabinet units and to the chassis front cover on hideaway units. (see [Figure 10, page 9](#)).

Figure 14: DDC Interface Board 24 VAC connections



Operation and Maintenance

Accessories

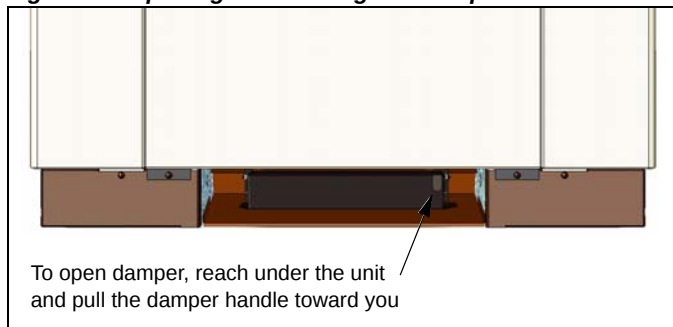
Fresh Air Damper

The fresh air 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 installation information, see Daikin installation manual IM 1023 which is supplied with the damper kit.

Operation

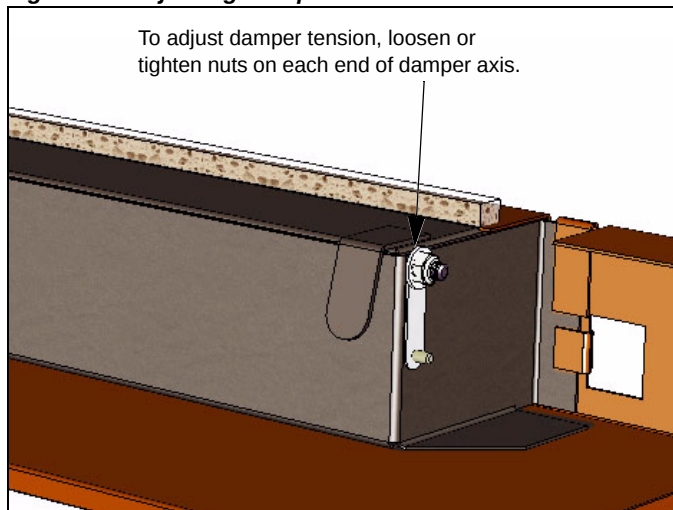
To open the damper, reach under the unit and pull the damper handle toward you. To close, push the damper away from you. See [Figure 15](#).

Figure 15: Opening and Closing the Damper



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 16](#).

Figure 16: Adjusting Damper Tension



Cold Weather Operation

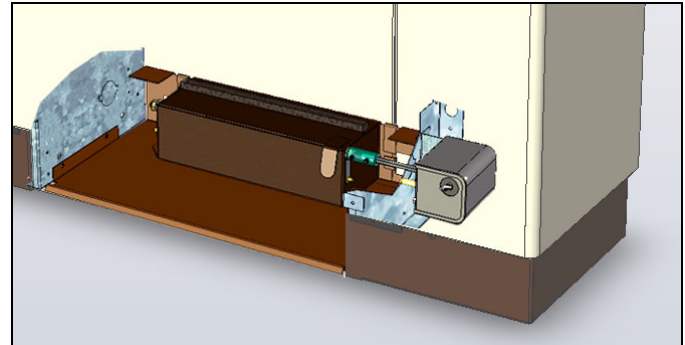
Fan coils may experience erratic operation during cold ambient conditions with the outside air damper in the open position.

Fresh Air Damper Motor Kit

This damper motor kit is for field installation with the fresh air damper kit. The damper kit must be ordered separately. For

installation information, see Daikin installation manual IM 1028, which is supplied with the damper motor kit. Under most control schemes, the damper motor is set up to open the damper automatically whenever the unit fan is in operation.

Figure 17: Damper Motor Kit Installed in Unit



Leveling Legs Option

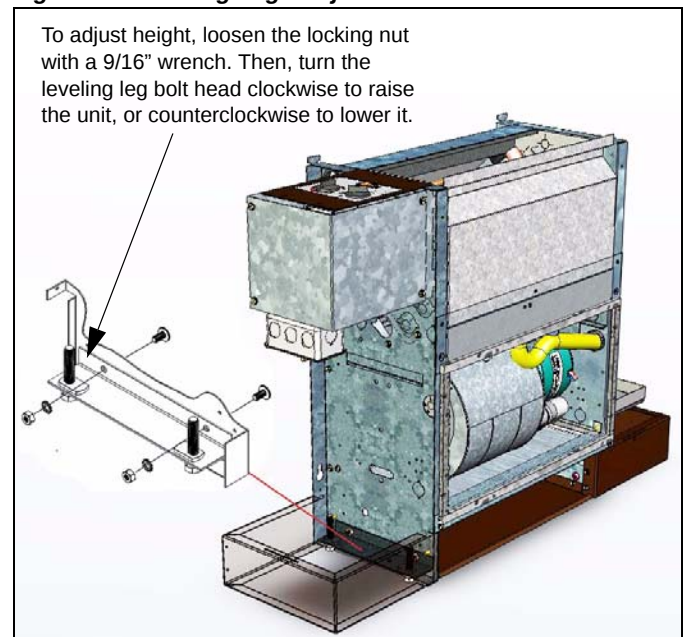
Field or factory-installed kits are available with 0" to 1" adjustment for positive leveling of floor-mounted units.

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 18: Leveling Legs Adjustment



Electric Heat Over-Temp Reset Button

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.

Note: 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.



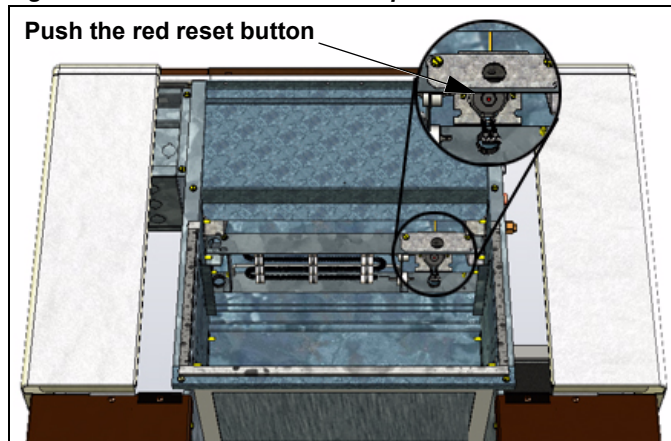
DANGER

Personal Injury Hazard.

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

- 2 Remove the main drain pan and motor assembly from the unit (see [Removing the fan & motor assembly, page 15](#)).
- 3 Access and push in the red reset button. See [Figure 19](#).

Figure 19: Electric Heat Over-Temp Reset Button Location



- 4 Reinstall the drain pan and motor assembly.
- 5 Reconnect the power.

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 even though oil caps may be provided.

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 can be removed without removing any panels.

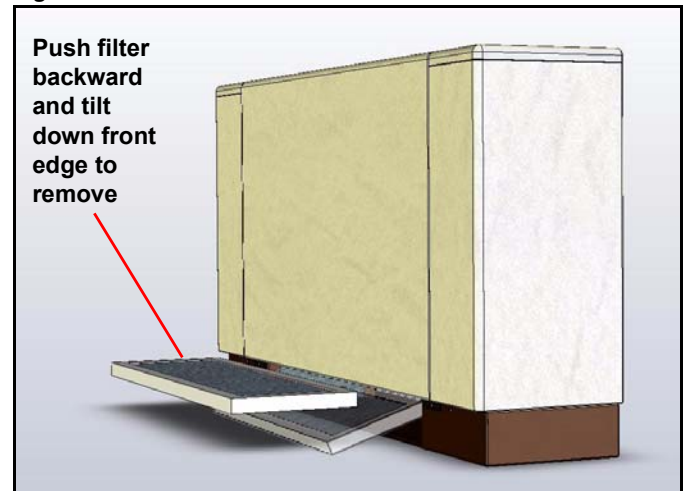
However, if the unit is equipped with a return air grille, this must first be removed to access the filter. To remove the filter:

- 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 back 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 back until it clears the front lip on the filter housing, then push it up and into place.

Figure 20: Filter Removal



Removing the fan & motor assembly

The fan and motor assembly is housed in the top of the unit's fan deck. It is easily removed for access and cleaning as follows.

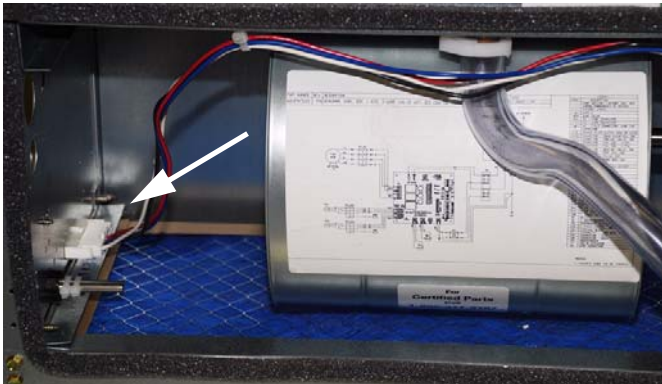
- 1 Disconnect electrical power to the unit.
- 2 Remove the two screws that attach the center panel of the unit to the base (see [Figure 5, page 6](#)).
- 3 Lift the center panel upward and off the unit.

Operation and Maintenance

- 4 Disconnect the fan motor wiring harness by removing the plug where it attaches to the connector on the side of the chassis. See [Figure 21](#).

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

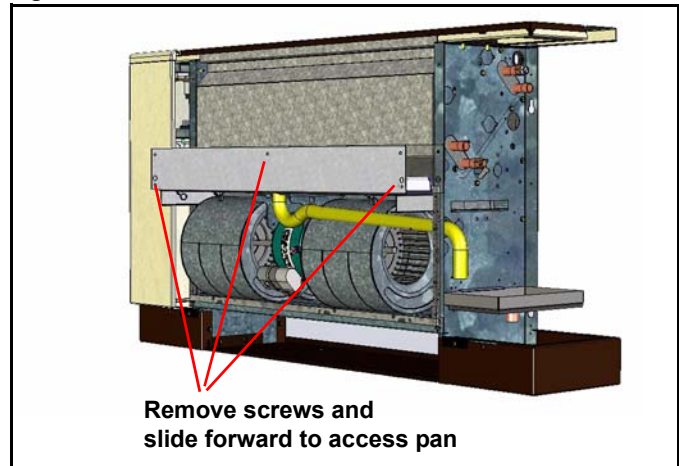
Figure 21: Motor Connector Location



- 5 Remove the five screws shown in [Figure 22](#) that attach the fan deck to the unit chassis.

- 6 Firmly grasp the fan deck, then slide it towards you and out of the unit.
- 7 To reinstall, follow these steps in reverse order.

Figure 22: Drain Pan Locations



Unit Data

Table 1: Unit Data

	02	03	04	06	08	10	12
Coil Data							
Face Area, ft ² (cm ²)	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]
Coil Dimensions							
2-Row L x D x H, in (cm)	11.8 x 1.7 x 9 (30.0x4.4x22.9)	17.3 x 1.7 x 9 (43.9x4.4x22.9)	22.8 x 1.7 x 9 (57.9x4.4x22.9)	33.8 x 1.7 x 9 (85.9x4.4x22.9)	39.3x 1.7 x 9 (99.8x4.4x22.9)	50.2 x 1.7 x 9 (127.6x4.4x22.9)	61.3 x 1.7 x 9 (155.7x4.4x22.9)
3-Row L x D x H, in (cm)	11.8 x 2.6 x 9 (30x6.6x22.9)	17.3 x 2.6 x 9 (43.9x6.6x22.9)	22.8 x 2.6 x 9 (57.9x6.6x22.9)	33.8 x 2.6 x 9 (85.9x6.6x22.9)	39.3 x 2.6 x 9 (99.8x6.6x22.9)	50.2 x 2.6 x 9 (127.6x6.6x22.9)	61.3 x 2.6 x 9 (155.7x6.6x22.9)
4-Row L x D x H, in (cm)	11.8 x 3.5 x 9 (30.0x8.8x22.9)	17.3 x 3.5 x 9 (43.9x8.8x22.9)	22.8 x 3.5 x 9 (57.9x8.8x22.9)	33.8 x 3.5 x 9 (85.9x8.8x22.9)	39.3 x 3.5 x 9 (99.8x8.8x22.9)	50.2 x 3.5 x 9 (127.6x8.8x22.9)	61.3 x 3.5 x 9 (155.7x8.8x22.9)
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)
Fan/Motor Data							
Fan Quantity	1	1	2	2	3	4	4
Size, Dia" x W" (cm)	6.26 x 6.3 (15.9 x 16)	7.95 x 6.3 (20 x 16)	6.26 x 6.3 (15.9 x 16)	7.95 x 6.3 (20 x 16)	6.26 x 6.3 (15.9 x 16)	6.26 x 6.3 (15.9 x 16)	7.95 x 6.3 (20 x 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	Throw-away	Throw-away	Throw-away	Throw-away	Throw-away	Throw-away	Throw-away
Quantity	1	1	1	1	2	2	2
L x D x H, in. (cm)	16 x 8.75 x 1 (40.6 x 22 x 2.5)	21.5 x 8.75 x 1 (54.6 x 22 x 2.5)	27 x 8.75 x 1 (68.5 x 22 x 2.5)	38 x 8.75 x 1 (96.5 x 22 x 2.5)	21.7 x 8.75 x 1 (56.1 x 22 x 2.5)	27.2 x 8.75 x 1 (69.0 x 22 x 2.5)	32.7 x 8.75 x 1 (83.1 x 22 x 2.5)

Table 2:

Table 3: Approximate Shipping Weights - lbs (kg)*

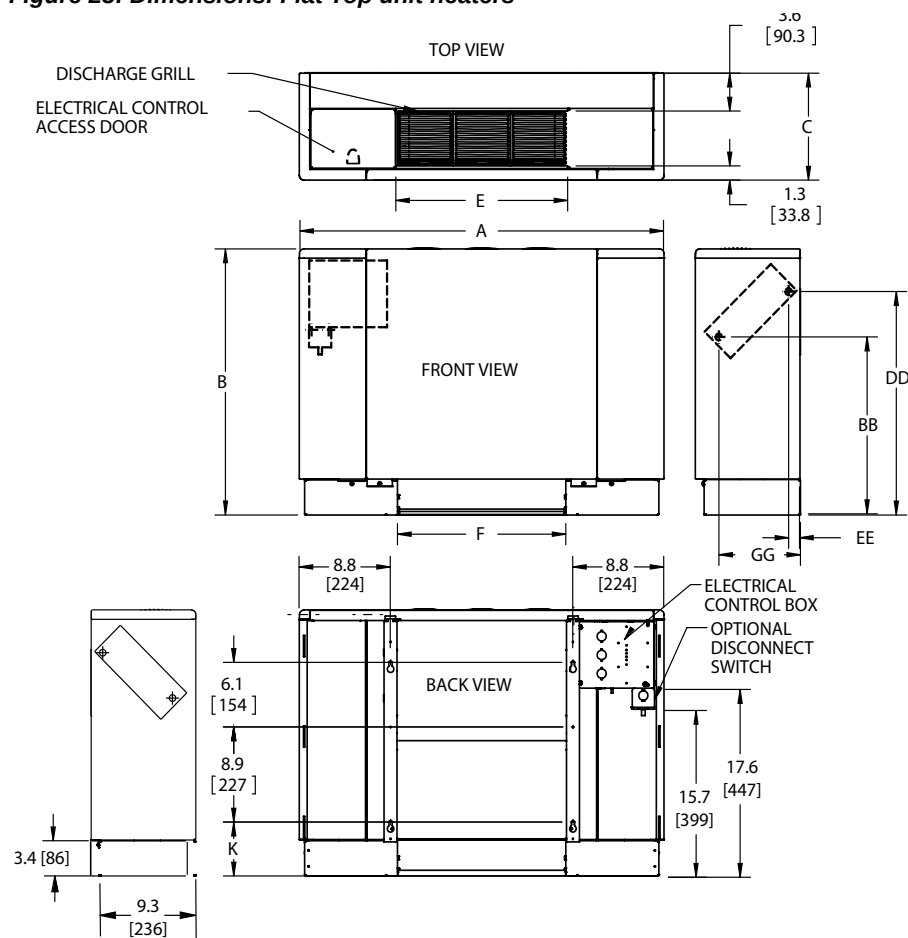
Unit Type	Unit Size						
	S02	S03	S04	S06	S08	S10	S12
FHVC, FHVS	84 (38)	95 (43)	108 (49)	131 (60)	152 (69)	177 (80)	202 (92)
FHVH, FHVI	55 (25)	63 (29)	74 (34)	91 (41)	110 (50)	129 (59)	149 (68)

Note: *Approximate shipping weights do not include valve packages or other options.

Physical Data

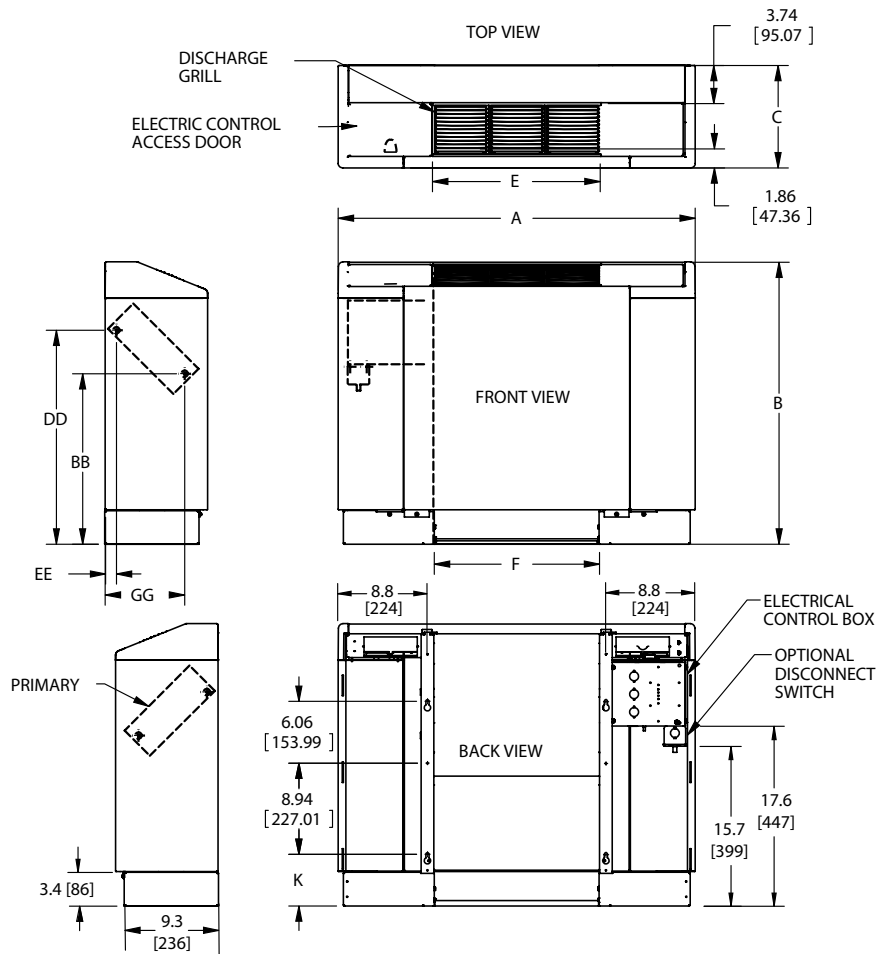
Unit Dimensions

Figure 23: Dimensions: Flat Top unit heaters



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
Floor to Bottom Mtg Hole	K	5	127	5	127	5	127	5	127	5	127	5	127	5	127
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
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

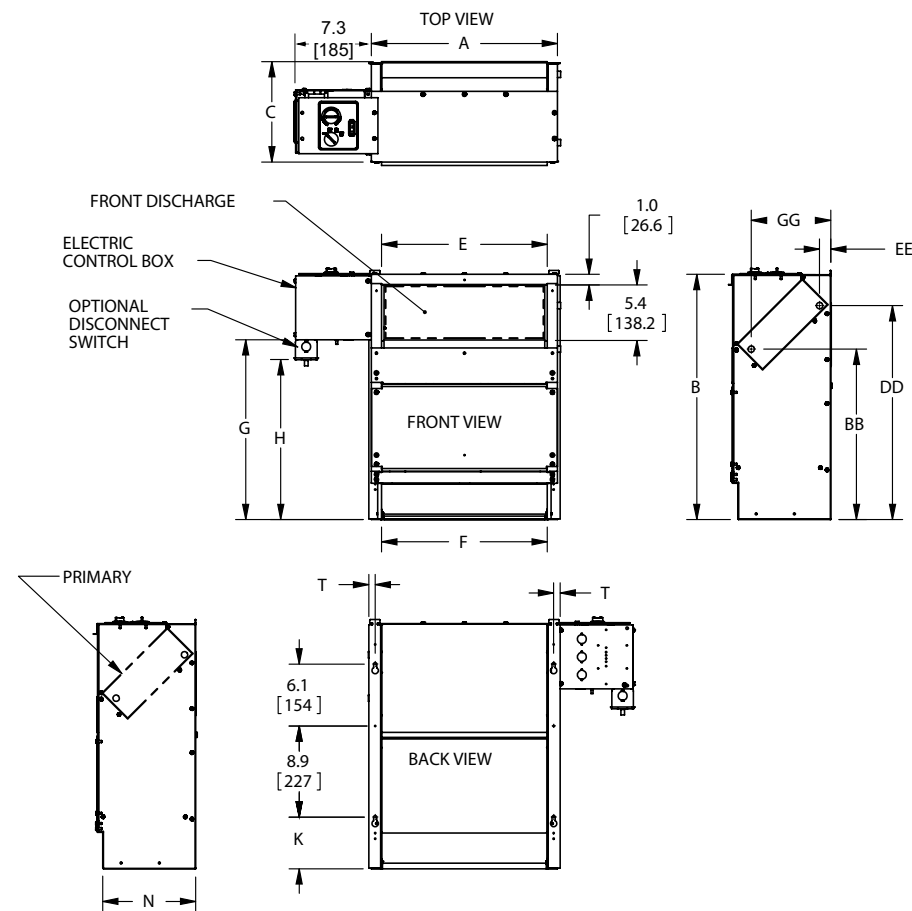
Figure 24: Dimensions: Slope Top unit heaters



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
Floor to Bottom Mtg Hole	K	5	127	5	127	5	127	5	127	5	127	5	127	5	127
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
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

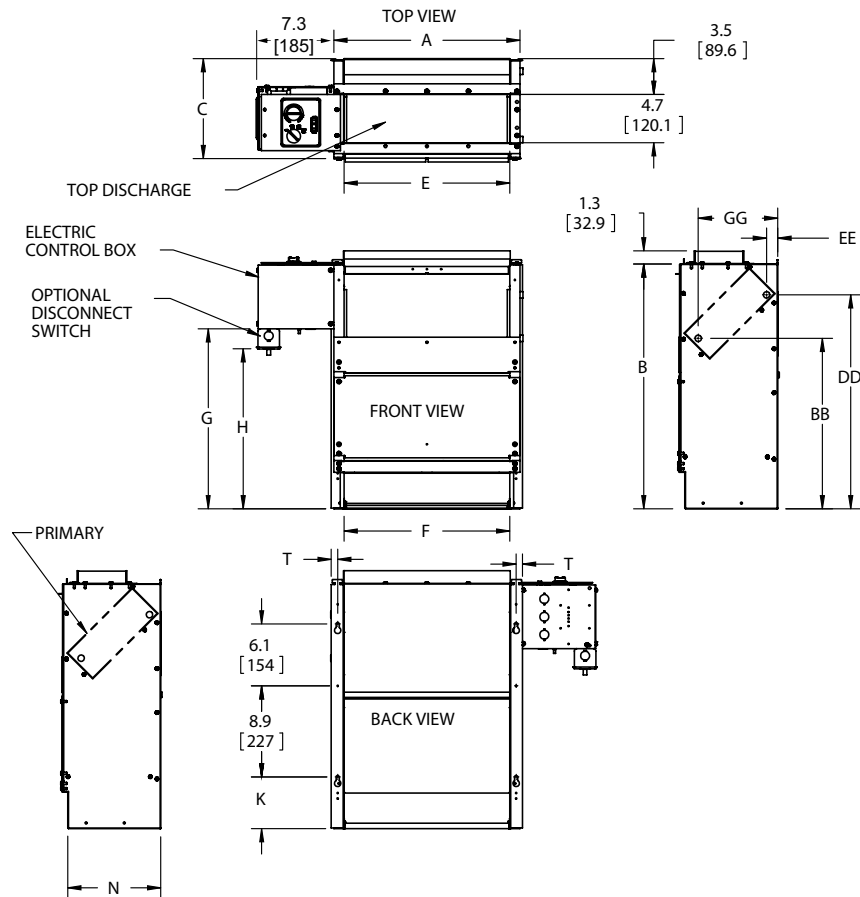
Physical Data

Figure 25: Dimensions: Hideaway, Front-Discharge unit heaters



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
Floor to Bottom Mtg Hole	K	5	127	5	127	5	127	5	127	5	127	5	127	5	127
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
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

Figure 26: Dimensions: Hideaway, Top-Discharge unit heaters



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
Floor to Bottom Mtg Hole	K	5	127	5	127	5	127	5	127	5	127	5	127	5	127
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
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

Wiring Diagrams

Figure 27: Unit Heater Wiring Diagram - Typical with three-speed fan switch

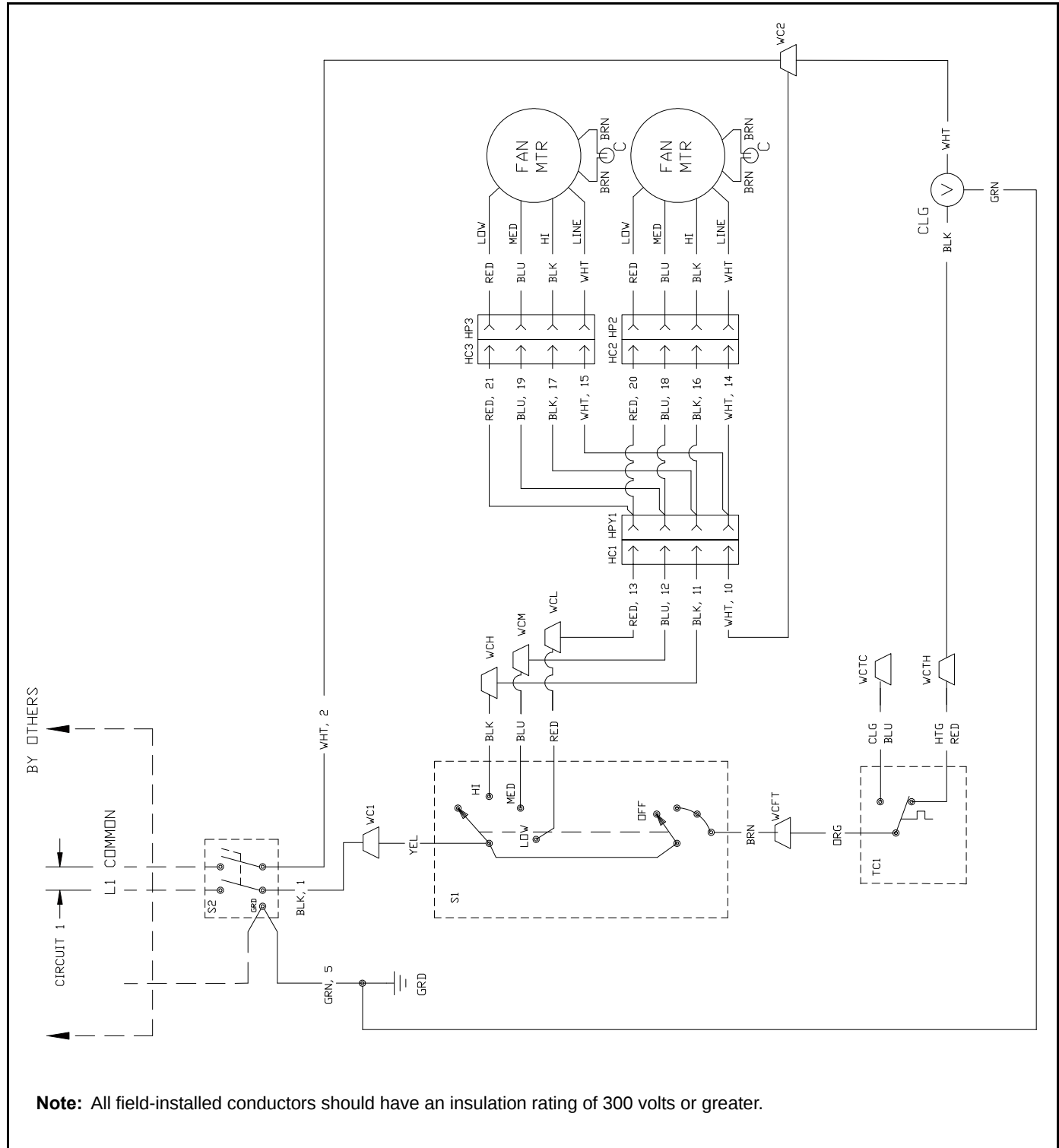
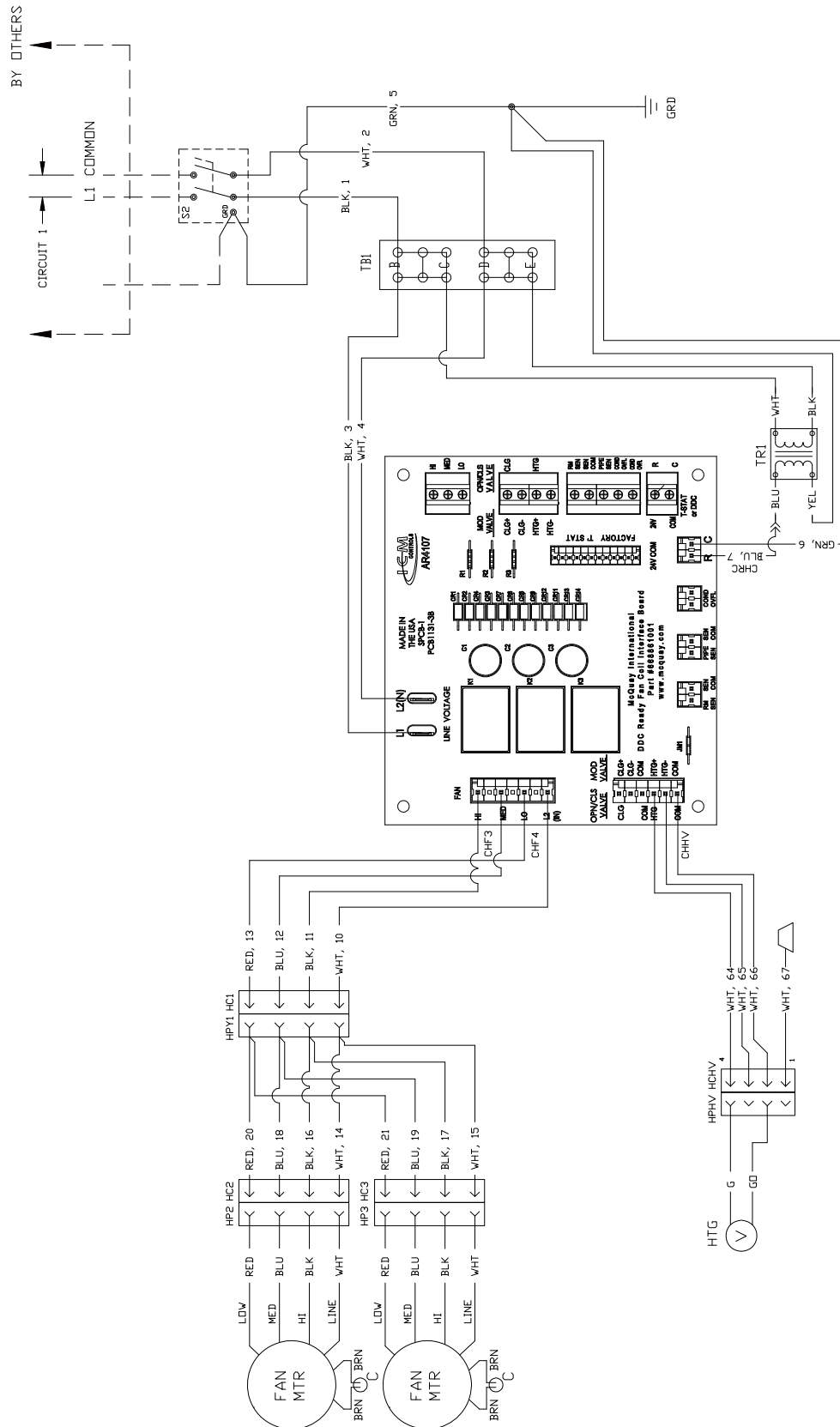


Figure 28: Unit Heater Wiring Diagram - Typical with DDC board



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

Model Number Description

Table 4: Model Number Description: Fields 1 - 21

Field	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
Code	FC	VC	1	02	A	A	G	M	Y	YY	W	3	12	R	F	T	YY	12	Y	Y	N

1 Unit Type

- FC = fan coil
- FH = cabinet unit heater

2 Product Identifier

- IC = inverted wall hung cabinet
- VC = vertical cabinet, flat top
- VH = vertical hideaway
- VS = vertical cabinet, slope top
- WC = wall-hung cabinet

3 Design Series

- 1 = Design 1

4 Unit Size - nominal capacity

- 02 = 200 cfm
- 03 = 300 cfm
- 04 = 400 cfm
- 06 = 600 cfm
- 08 = 800 cfm
- 10 = 1000 cfm
- 12 = 1200 cfm
- 14 = 1400 cfm

5 Volts/Hertz/Phase

- A = 115/60/1
- E = 208-230/60/1
- J = 265-277/60/1

6 Coil fin type

- A = aluminum

7 Coil casing material

- G = galvanized

8 Coil air vent

- M = manual
- A = auto

9 Coil coating

- Y = none

10 Not currently used

- YY = none

11 Primary Coil Type

- C = chilled water only
- W = CW/HW 2-pipe
- H = hot water only

- S = steam

12 Primary Coil Rows

- 2 = 2 row
- 3 = 3 row
- 4 = 4 row

13 Primary Coil Fins Per Inch

- 12 = 12 fins per inch

14 Primary Coil Connection Hand

- L = left hand
- R = right hand

15 Primary Coil Piping Package

- F = factor installed
- L = shipped loose
- Y = none

16 Primary Coil Connection Type

- S = sweated
- T = threaded
- N = none

17 Preheat Coil Type

- E1 = electric single stage
- W1 = 1-row water
- W2 = 2-row water
- S1 = 1-row steam
- S2 = 2-row steam
- YY = none

18 Preheat Coil Fins Per Inch

- 12 = 12 fins per inch

19 Preheat Coil Connection Hand

- L = left hand
- R = right hand
- Y = none

20 Preheat Coil Piping Package

- F = factor installed
- L = shipped loose
- Y = none

21 Preheat Coil Connection Type

- S = sweated
- T = threaded
- N = none

Model Number Description

Table 5: Model Number Description: Fields 21 - 41

Field	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
Code	YY	W1	12	R	F	T	Y	000	Y	P	PSC	S	3	Q	Y	MR	Y	D	Y	R

22 Not currently used

- YY = none

23 Reheat Coil Type

- W1 = 1-row water
- S1 = 1-row steam
- YY = none

24 Reheat Coil Fins Per Inch

- 12 = 12 fins per inch

25 Reheat Coil Connection Hand

- L = left hand
- R = right hand
- Y = none

26 Reheat Coil Piping Package

- F = factor installed
- L = shipped loose
- Y = none

27 Reheat Coil Connection Type

- S = sweated
- T = threaded
- N = none

28 Electric Heat Power Supply

- A = 115-60-1
- E = 208-230/60/1
- J = 277-265/60/1
- Y = None

29 Electric Heat Wattage

- 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

30 Not currently used

- YY = none

31 Drain Pan Material

- P = plastic, non-corrosive
- S = stainless steel

32 Blower Motor Type

- PSC = PSC motor
- XXX = special

33 Discharge Conditions

- S = standard static

34 Motor Speed

- 3 = 3 speed

35 Motor Connections

- Q = quick connect

36 Not currently used

- YY = none

37 Fresh Air Damper

- MR = manual rear
- 2R = automatic, 2-position, rear
- ER = automatic, economizer
- XX = special
- YY = none

38 Not currently used

- YYY = none

39 Unit Disconnect Switch

- D = toggle disconnect switch
- X = special
- Y = none

40 Future Control Function

- Y = none

41 Control Type

- A = analog
- D = digital
- R = DDC Ready
- X = Special
- Y = None

Model Number Description

Table 6: Model Number Description: Fields 43-59

Field	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56
Code	Y	Y	Y	RL	MOR	Y	3MOU	YYYY	3MOU	Y	Y	C	Y	Y	Y

42 Network Communication Card

- Y = none

43 Changeover Type

- Y = none
- A = auto
- M = manual
- U = user selectable

44 Programmability

- Y = none

45 Setpoint Adjustment

- YY = none
- UL = unit-mounted, +/- 3 degrees
- UF = unit-mounted, full range
- RL = remote-mounted, +/- 3 degrees
- RF = remote-mounted, full range

46 Fan Speed Control

- 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

47 Timed Override

- Y = none

48 Valve - Primary Coil

- See [Table 7](#)

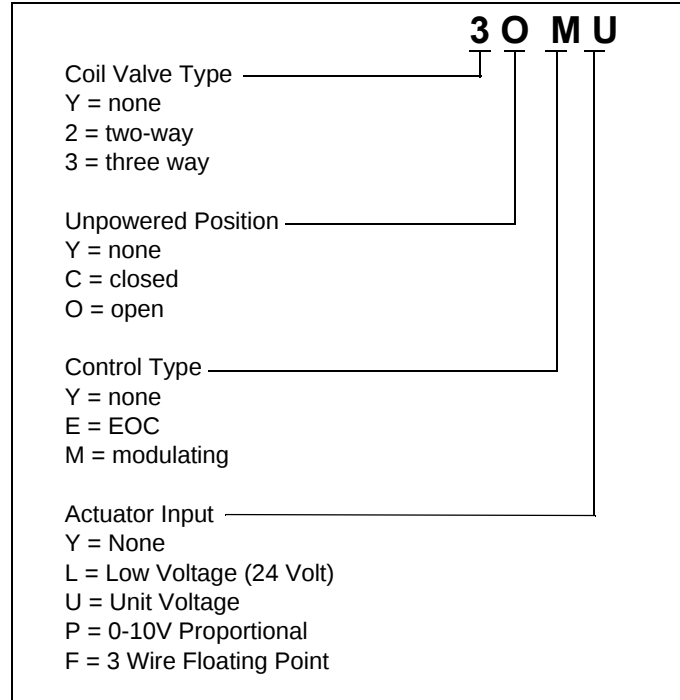
49 Valve - Preheat Coil

- See [Table 7](#)

50 Valve - Reheat Coil

- See [Table 7](#)

Table 7: Model Number Detail: Coil Valve Fields 49, 50, 51



51 Future Control Function

- Y = None

52 Low Temperature Protection

- Y = None
- X = special

53 Condensate Overflow Protection

- C = condensate overflow protection
- Y = None
- X = special

54 Discharge Air Thermistor

- Y = None
- X = special

55 Smoke Input Sensor

- Y = None
- X = special

56 Occ / Vacant Control Input

- Y = None
- X = special

Table 8: Model Number Description: Fields 57 - 72

Field	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72
Code	Y	Y	Y	Y	S	18	P	I	00	S	00	00	30F	TA	FR	1

57 Filter Status Sensor

- Y = None
- X = special

58 Fan Status Sensor

- Y = None
- X = special

59 Future Control Function

- Y = None

60 Future Control Function

- Y = None

61 Cabinet Style

- S = Standard
- T = Tamperproof
- Y = None

62 Cabinet Gauge

- 16 = 16 Gauge
- 18 = 18 Gauge
- YY = None
- XX = Special

63 Cabinet Coating Type

- B = Powder Coat
- Y = None

64 Color- Cabinet

- I = Antique Ivory
- W = Off White
- G = Soft Gray
- C = Cupola White
- P = putty Beige
- Y = None
- X = Special

65 Cabinet Depth Extension

- 00 = None
- 04 = 4 Inch Extended Depth
- 08 = 08 inch Extended Depth

66 Unit Lineup Position

- S = Standalone

67 Left Hand End Pocket Extension

- 00 = None
- 04 = 4 Inch Extended Length
- 08 = 8 inch Extended Length

68 Right Hand End Pocket Extension

- 00 = None
- 04 = 4 Inch Extended Length
- 08 = 8 inch Extended Length

69 Subbase

- 30F = 3" subbase with leveling feet
- 30Y = 3" subbase without leveling feet
- XXF = special with leveling feet
- XXY = special without leveling feet
- YYY = none

70 Discharge Air - Outlet

- 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 Return Air Inlet

- 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

72 Filter

- 1 = 1" Throwaway Filter
- 3 = 1" Throwaway + (1) Extra

Model Number Description

Table 9: Model Number Description: Fields 73 - 78

Field	73	74	75	76	77	78
Code	YYY	Y	A	S	Y	1

73 Special Options

- YYY = none

74 Reserved for future use

- Y = none

75 Agency Listing

- A = ETL, CETL, ARI
- R = ETL, CSA
- X = special
- Y = none

76 Packaging

- S = Standard
- T = palletized based on tagging and by floor

77 Extended Warranty

- 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

78 Product Style

- 1 = Style 1
-

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