INSTALLATION & MAINTENANCE MANUAL

IM 1267-9

OCTOBER 2025

PRECISELINE®

HORIZONTAL AND VERTICAL INDOOR AIR HANDLERS

- MODELS BCHD, BCVD, BCAD, BCHE, BCHU, BCVE, BCVU, BCVL, BCVR
- SIZES 006 – 100 (600 TO 10,000 CFM)

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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 situations, which can result in property damage, personal injury, or death if not avoided.

⚠ CAUTION

Caution indicates a potentially hazardous situations, 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 PRECISELINE AIR HANDLER with a MicroTech® controller.

Smoke Control and Management Systems

⚠ WARNING

Improper smoke or fume air handling can result in severe personal injury or death.

A registered professional engineer must design and approve the air conditioner and air handler application to make sure smoke and fume control meet local fire codes and NFPA requirements for the specific building application. Due to the wide variation in building design and ambient operating conditions into which our products can be applied, we do not represent or warrant that our products will be fit and sufficient for smoke and fume control and management purposes. The owner and building designer must consult a registered professional engineer to satisfy themselves in this regard.

The system design and installation must follow accepted industry practice, such as described in the ASHRAE Handbook, the National Electric Code, and other applicable standards. The installation of this equipment must be in accordance with regulations of authorities having jurisdiction and all applicable codes. It is the responsibility of the installer to determine and follow the applicable codes.

Consider Before Operation

⚠ DANGER

Improper ground may result in severe injury or death.

Check grounding nut tightness before connecting power to the external junction box.

⚠ DANGER

LOCKOUT/TAGOUT all power sources prior to service, pressurizing, de-pressuring, 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

Improper installation and maintenance can cause equipment damage or personal injury.

Installation and maintenance must be performed by qualified personnel familiar with applicable codes and regulations, and experienced with this type of equipment.

⚠ 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

Polyolester 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

PreciseLine units are not designed to be weather resistant; DO NOT install outdoors.

⚠ 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 must be performed only by licensed personnel (if required by local codes and regulations) or by qualified individuals who are familiar with local codes and experienced with this type of equipment.

UL Compliance Statements

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

Children shall not be allowed to play on or with equipment.

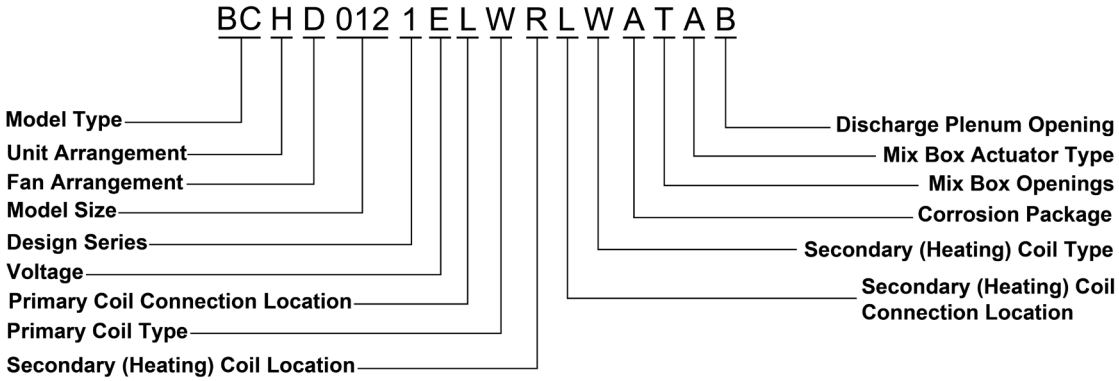
NOTICE
Unit/equipment must be installed in a location that is not accessible to the general public.

Unit Labels

Pictogram warning and informational labels may be present on the unit. Consult the table below for reference.

Label	Description
	Read the technical manual for service instructions
	Pressurized medium present
	Ultraviolet (UV) radiation present
	Read the technical manual for instructions

Nomenclature



Category	Code	Description
Model Type	BC	Daikin Applied Air Handler
Unit Arrangement	H	Horizontal
	V	Vertical
	A	AVD / Compact Vertical (Sizes 006-020)
Fan Arrangement	D	Draw Thru Forward-Curved Fan
	E	Draw Thru Plenum Fan, End Discharge
	U	Draw Thru Plenum Fan, Up Discharge
	R	Draw Thru Supply Fan / Direct Drive Plenum Fan, Right Side Discharge
	L	Draw Thru Supply Fan / Direct Drive Plenum Fan, Left Side Discharge
Model Size	006	Nominal 600 CFM
	008	Nominal 800 CFM
	010	Nominal 1,000 CFM
	012	Nominal 1,200 CFM
	016	Nominal 1,600 CFM
	018	Nominal 1,800 CFM
	020	Nominal 2,000 CFM
	030	Nominal 3,000 CFM
	040	Nominal 4,000 CFM
	050	Nominal 5,000 CFM
	060	Nominal 6,000 CFM
	080	Nominal 8,000 CFM
	100	Nominal 10,000 CFM
Design Series	1	1st Vintage
Voltage	A	115/60/1
	E	208/60/1
	G	460/60/1
	K	230/60/1
	P	277/60/1
	D	208/60/3
	L	230/60/3
	T	460/60/3
	W	575/60/3
Primary Coil Connection Location	L	Left Hand (Air Back of the Head)
	R	Right Hand (Air Back of the Head)
	C	Center

Category	Code	Description
Primary Coil Type	W	Water / Glycol
	D	DX / R-410A
	V	VRV
Secondary (Heating) Coil Location	P	Preheat
	R	Reheat
	Y	None
Secondary (Heating) Coil Connection Location	L	Left Hand (Air Back of the Head)
	R	Right Hand (Air Back of the Head)
	Y	None
	C	Center
Secondary (Heating) Coil Type	W	Hot Water / Glycol
	Y	None
	S	Steam
Corrosion Package	A	(Coil Casing) Stainless / (Fin Coating) None / (Drip Pan Corrosion Pkg.) Stainless
	Y	(Coil Casing) Galvanized / (Fin Coating) None / (Drip Pan Corrosion Pkg.) Galvanized
Mix Box Openings	T	Top + Rear
	B	Bottom + Rear
	E	Economizer Top Return/End Top EA/End Bottom OA
	Y	None
Mix Box Actuator Type	T	ON/OFF
	A	0-10V M
	C	On/Off Controller
	M	Manual
	Y	None
Discharge Plenum Opening	B	Bottom
	T	Top
	E	End
	Y	None - No Discharge Plenum
	R	Right Hand (Air Back of the Head)
	L	Left Hand (Air Back of the Head)
	F	Field Cut-Out (Has a Plenum)

NOTE: Not all code options shown.

Installation

Operating Limits

Environmental 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.

NOTICE
Altitude Limits: Maximum applied altitude not to exceed 15,000 ft (4,572 m).

NOTICE
Entering water temperatures above 200°F (93°C) are not recommended as PreciseLine's coils are tested and rated to 200°F (93°C) in accordance with UL 1995.

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.

PreciseLine air handler units are thoroughly inspected before leaving the factory. Install units carefully to prevent damage.

All fans are dynamically balanced before leaving the factory. Carefully inspect fans for rough handling that can cause misalignment or a damaged shaft.

When in transit (i.e., not stored in a warehouse):

- Horizontal unit sizes 006-020 may be stacked 3 units high for transit.
- Vertical unit sizes 006-020 may be stacked for transit 4 units high without external filter rack and 3 units with external filter rack.
- Never stack unit sizes 030-100.

Storing the Unit

Store unit on a level surface. If air handling units are to be stored for any period of time, it is important to rotate the motor shaft (quarterly, as a minimum) to prevent permanent distortion of drive components.

Store units indoors in a clean, dry environment on a level surface. Moisture, debris, and minerals can cause permanent damage to the cabinet and components. Do not allow coverings to trap moisture on the galvanized surface.

When in a warehouse (i.e., not in transit):

- Horizontal unit sizes 006-020 can be stored 3 units high.
- Vertical unit sizes 006-020 can be stored 6 units high without an external filter rack, and 5 units high with one.
- Do not stack unit sizes 030 and larger.

Using a Forklift

⚠ CAUTION
For unit sizes 060-100, never lift combined unit sections using a forklift. Always lift unit sections individually when using a forklift. Using a forklift to transport combined unit sections may result in unit damage.

When using a forklift to transport units, make sure that forklift tongs enter from the ends of the pallet, not the sides. In cases where one end is heavier, enter the pallet from the heavier side (e.g., for vertical units with a mixing box, enter from the side opposite the mixing box). For unit sizes 060-100, always lift unit sections individually. Never lift combined unit sections of large units.

NOTICE
The unit is shipped in a protective plastic coating with cardboard supports. Plastic and cardboard will need to be removed before installation.

Figure 1: Using a Forklift for Unit Sizes 006-020 on a Pallet

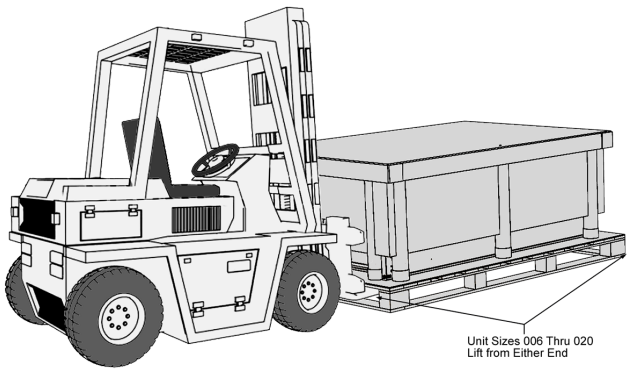


Figure 2: Using a Forklift for Unit Sizes 030-050 on a Pallet

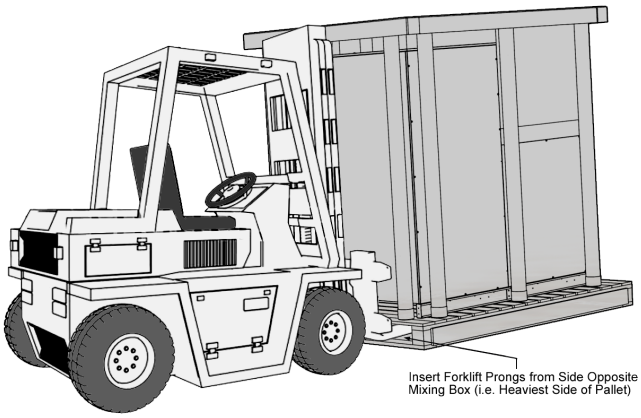
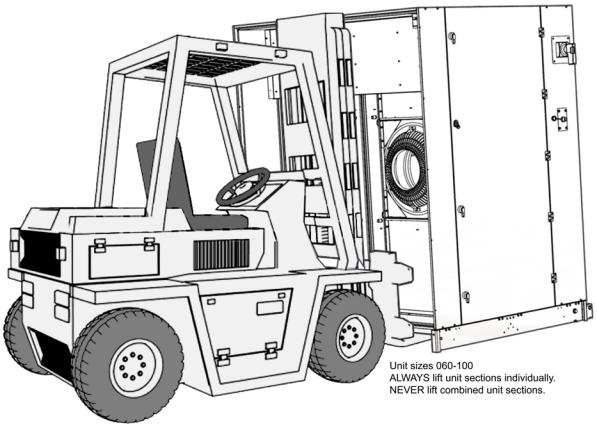


Figure 3: Using a Forklift for Unit Sections (Unit Sizes 060-100)



Optional Mixing Box and Discharge Plenum Removal

⚠ CAUTION

Sharp edges can cause personal injury. Avoid contact with them. Use care and wear protective clothing, safety glasses and gloves when handling parts and servicing unit.

NOTICE

It is recommended all bottom screws be removed first. If the unit must be turned over or tilted up to access the bottom screws, care must be used to avoid damage.

All PreciseLine mixing boxes ship attached, and horizontal units ship with pre-attached discharge plenums. However, the discharge plenum and/or mixing box may be removed if necessary to navigate constricted passageways. Detachment of these components requires removal of the screws on the sides, top and bottom of the unit as shown in Figure 4 through Figure 6. If the unit must be turned over or tilted up to access the bottom screws, care must be used to avoid damage. Fasteners in units with baserails must also be removed (Figure 7 on page 8).

Figure 4: Horizontal Size 020 Unit - Disassembling Optional Mixing Box and Discharge Plenum Example

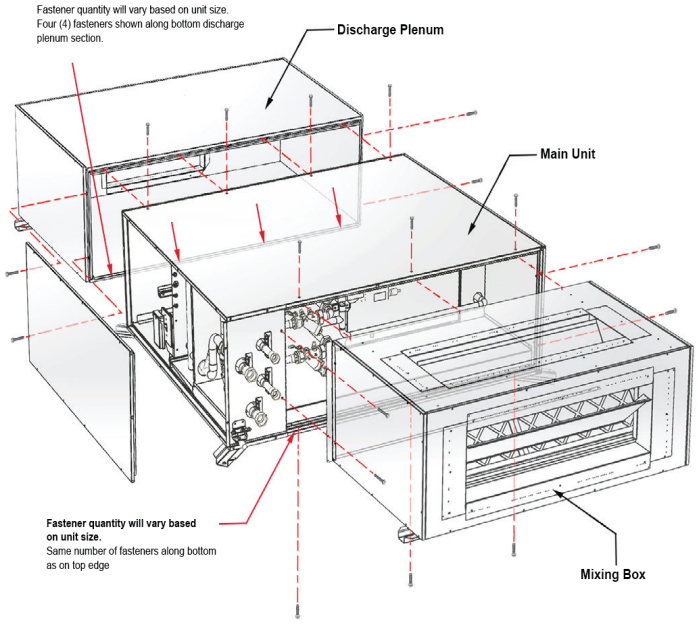


Figure 5: Vertical Size 040 Unit - Disassembling Optional Mixing Box and Discharge Plenum Example

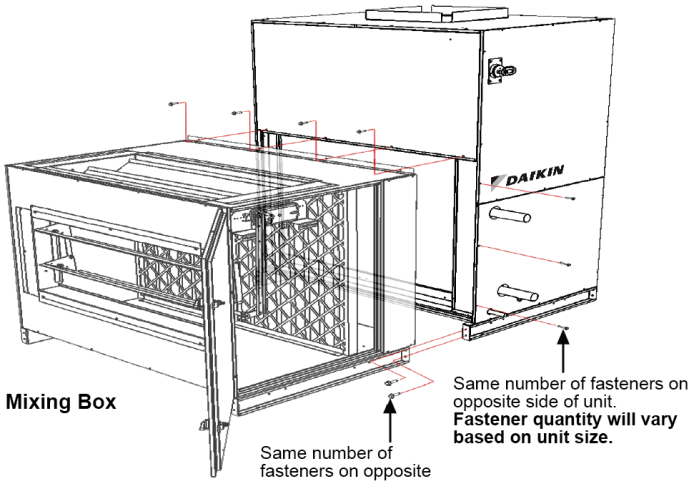


Figure 6: Size 060-100 Section Disassembly - Cabinetry

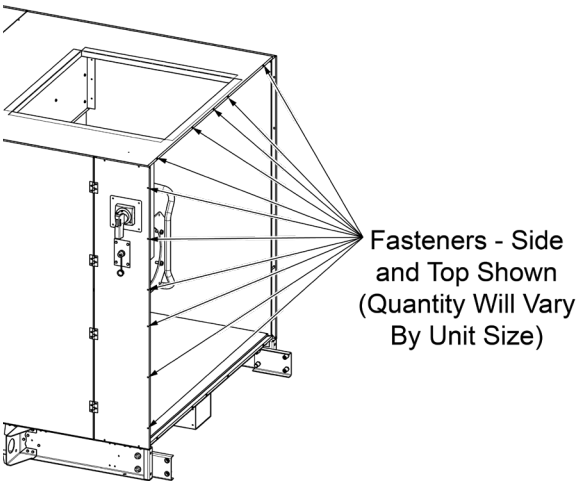
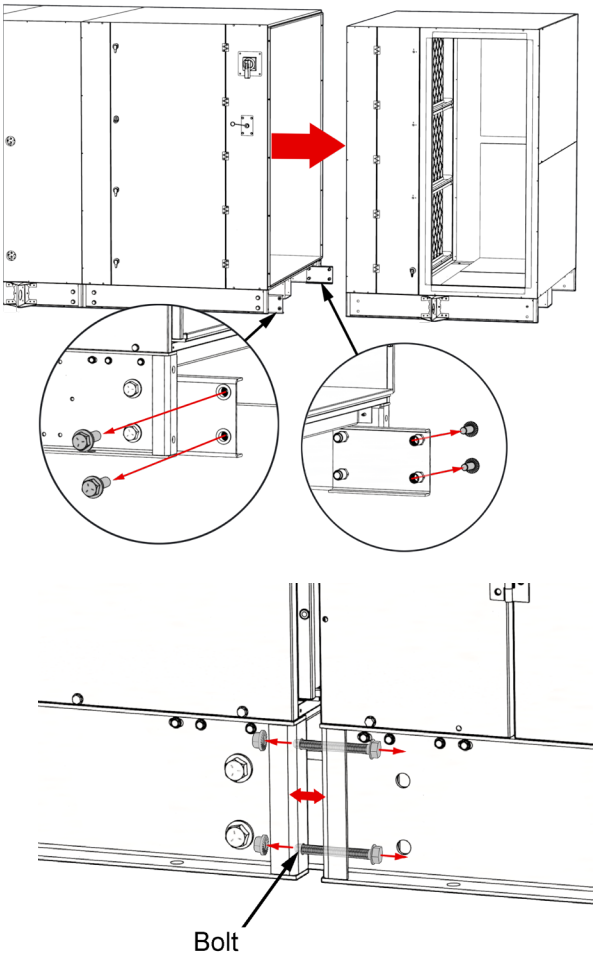


Figure 7: Base Rail Section Disassembly for Unit Sizes 060-100

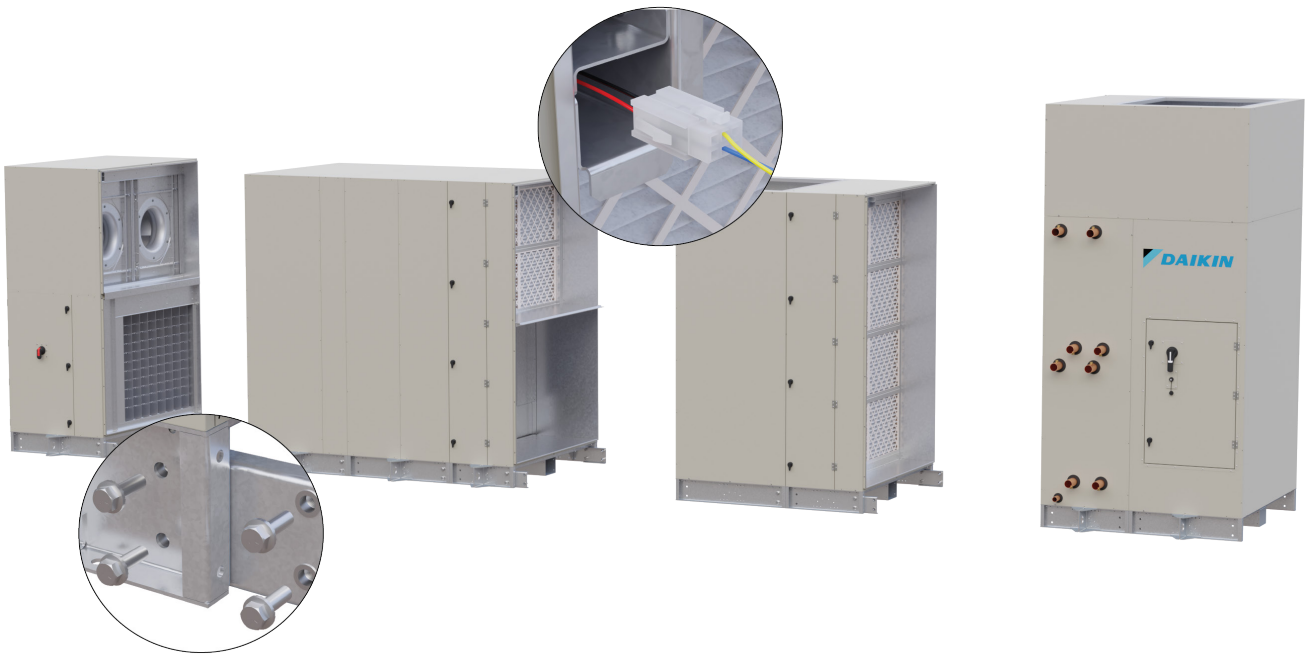


Cabinet Section Disassembly for Vertical Unit Sizes 060-100

On vertical unit sizes 060-100 units, all cabinet sections can be detached from each other for installation purposes (see Figure 6 and Figure 8 for section reference). Base rail and cabinet fasteners need to be removed as shown in the following images.

There are wires spanning the length of the unit, routed through a cable chase on the upper edge of the unit's access side. For section disassembly, wires running through the wire chase may need to be temporarily disconnected (via quick-connect) and pulled out. Quick-connects are located between the Coil Section and the section immediately upstream of it.

Figure 8: Vertical Sizes 060-100 Section Disassembly - Top Rail and Base Rail



Lifting Guidance

Daikin Applied equipment is designed to withstand the loads of the lifting and rigging process resulting from ASME Standard P30.1 - Planning for Load Handling Activities or equivalent. Lifting guidance is intended for installations of newly delivered equipment. If moving previously installed equipment for re-location or disposal, consideration should be given to unit condition. Equipment should also be drained as unit weight and center of gravity values do not reflect the addition of water for lifting.

⚠ DANGER

Improper rigging, lifting, or moving of a unit can result in unit damage, property damage, severe personal injury, or death. See the as-designed, certified dimensioned drawings included in the job submittal for the weights and center of gravity of the unit. If the drawings are not available, consult the local Daikin Applied sales office for assistance.

Installation is to be performed only by qualified personnel who are familliar with local codes and regulations, and experienced with this type of equipment. Lifting equipment and mechanisms must be determined by the Lifting Director per the current version of ASME Standard P30.1 or equivalent and must be suited for the load capacity. Daikin Applied is not a licensed nor certified rigging specialist. Therefore it is the customer's responsibility to consult a certified rigging contractor to rig, lift, and move components and subcomponents properly and safely as needed.

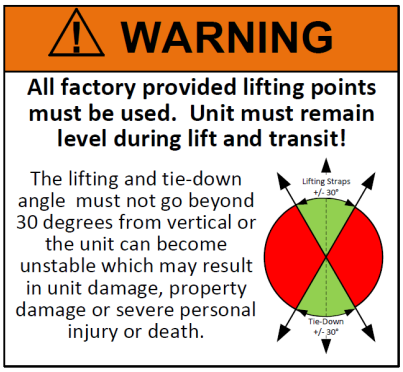
⚠ WARNING

The lifting angle must not go beyond 30 degrees from vertical or the unit can become unstable which may result in unit damage, property damage, severe personal injury, or death.

⚠ CAUTION

When around sharp edges, wear appropriate Personal Protective Equipment (PPE), such as gloves, protective clothing, foot wear, eye protection, etc. to prevent personal injury.

Figure 9: Illustration of Allowed Angle Label

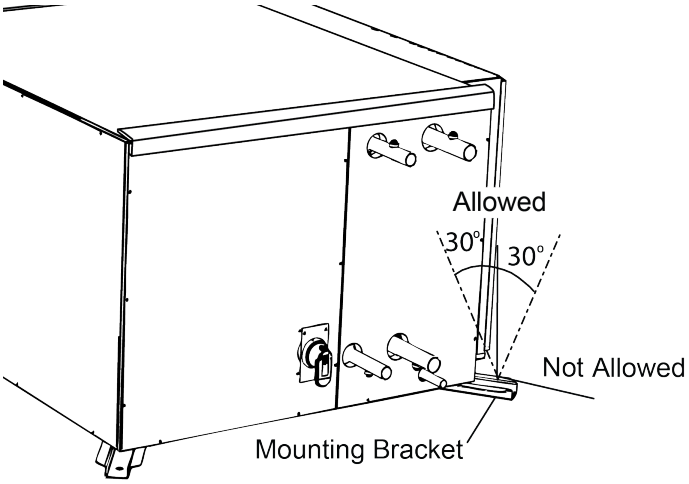


Rigging (Unit Sizes 006-050)

Unit sizes 006-050 have mounting brackets on the unit main section (Figure 10) which can be used when lifting. If a field-installed mixing box and/or an optional discharge plenum is attached, adjust to balance the unit properly. Before hoisting into position, test lift for stability and balance. Avoid twisting or uneven lifting of the unit.

Engagement with each bracket is to be as close to vertical as possible. The maximum allowable lift angle at any lift point is 30 degrees from vertical as shown in Figure 9. If the lift angle shifts beyond 30° from vertical on any of the lift points, the lift shall not proceed until a plan and rigging can be secured that will correct the angle of lift.

Figure 10: Allowed Angle for Mounting Bracket - Size 030-050 Shown



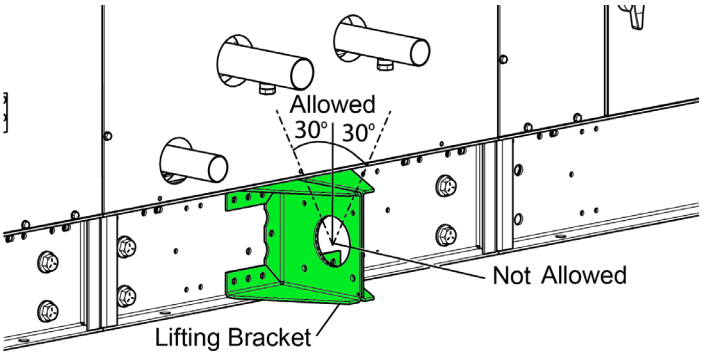
Rigging (Unit Sizes 060-100)

PreciseLine air handlers for sizes 060-100 ship completely assembled. The unit must be rigged as it ships from the factory. Do not assemble sections or modules at the site before rigging, as final assembly should be completed at point of installation.

Unit sizes 060-100 have lifting brackets with 2" (51 mm) diameter holes found on the sides of the unit base (Figure 11) which can be used when lifting. See the as-designed certified drawings for specific lifting points on this product model.

Engagement with each bracket is to be as close to vertical as possible. The maximum allowable lift angle at any lift point is 30 degrees from vertical as shown in Figure 9. If the lift angle shifts beyond 30° from vertical on any of the lift points, the lift shall not proceed until a plan and rigging can be secured that will correct the angle of lift.

Figure 11: Allowed Angle for Lifting Bracket - Size 060-100 Shown



Lifting Equipment

Lifting equipment is supplied by the user or their designate. This is typically selected around the unit certified information of the equipment to be lifted and the available lifting equipment planned to be at the site where the lift is to take place. It is the responsibility of the Lifting Director to follow a standard practice of lift planning and equipment selection, like that found in the ASME P30 series of standards. Lifting plan and equipment must ensure that the only contact with the unit is at each lifting bracket.

⚠ CAUTION

Lifting mechanisms must not make contact with the unit beyond the lifting bracket. Extreme care must be used when rigging the unit to prevent damage to the control panels, unit handles, unit piping, and unit frame.

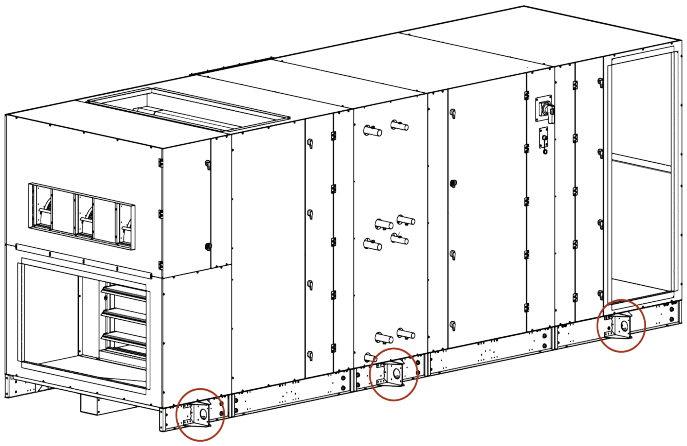
Lifting Points

Lifting points are predetermined by design. When lifting, all factory installed lifting brackets must be used. Unit must remain level throughout the entire lifting event. Level is defined as one end being no more than 0.25″ per foot of unit length to the opposite end.

⚠ WARNING

Be aware that the center of gravity may not necessarily be in the geometric center of the unit. No additional items can be added to a lift with the unit as it may affect the center of gravity and cause unit damage, property damage, severe personal injury, or death. Refer to as-designed, certified drawings for weight, center of gravity location, and details specific to unit configuration.

Figure 12: Typical Lifting Point Locations (6 Points)



Unit Location and Clearances

Service Clearances

Leave adequate space around the unit for piping, coils, and drains. Always have access to at least one side of the unit for regular service and maintenance. Refer to images on the following pages for servicing space requirements. Routine maintenance includes filter replacement and drain pan inspection/cleaning. Provide sufficient space on the controls access side of the unit for filter replacement, drain pan cleaning and coil removal, if necessary. For routine maintenance, remove service panels on either side of the unit. See Figure 26 on page 17. Allow sufficient space for service panel removal and to meet the service clearance requirement of the section it accesses. Service panels are not interchangeable with service panels on the opposite side of the unit. Leave at least 42" (1.07 m) of clearance in front of electrical power devices (starters, VFDs, disconnect switches, and combination devices) mounted behind service panels.

Figure 13: Clearance for Filter Access from Top - Unit Sizes 030-050

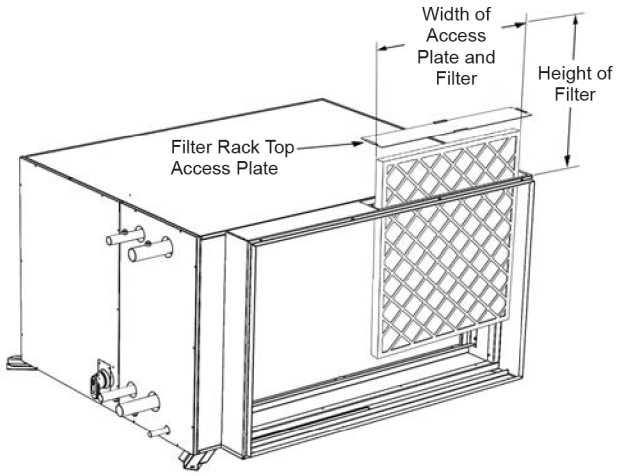


Figure 14: Clearance and Access Requirements for Horizontal Units - Unit Sizes 006-050

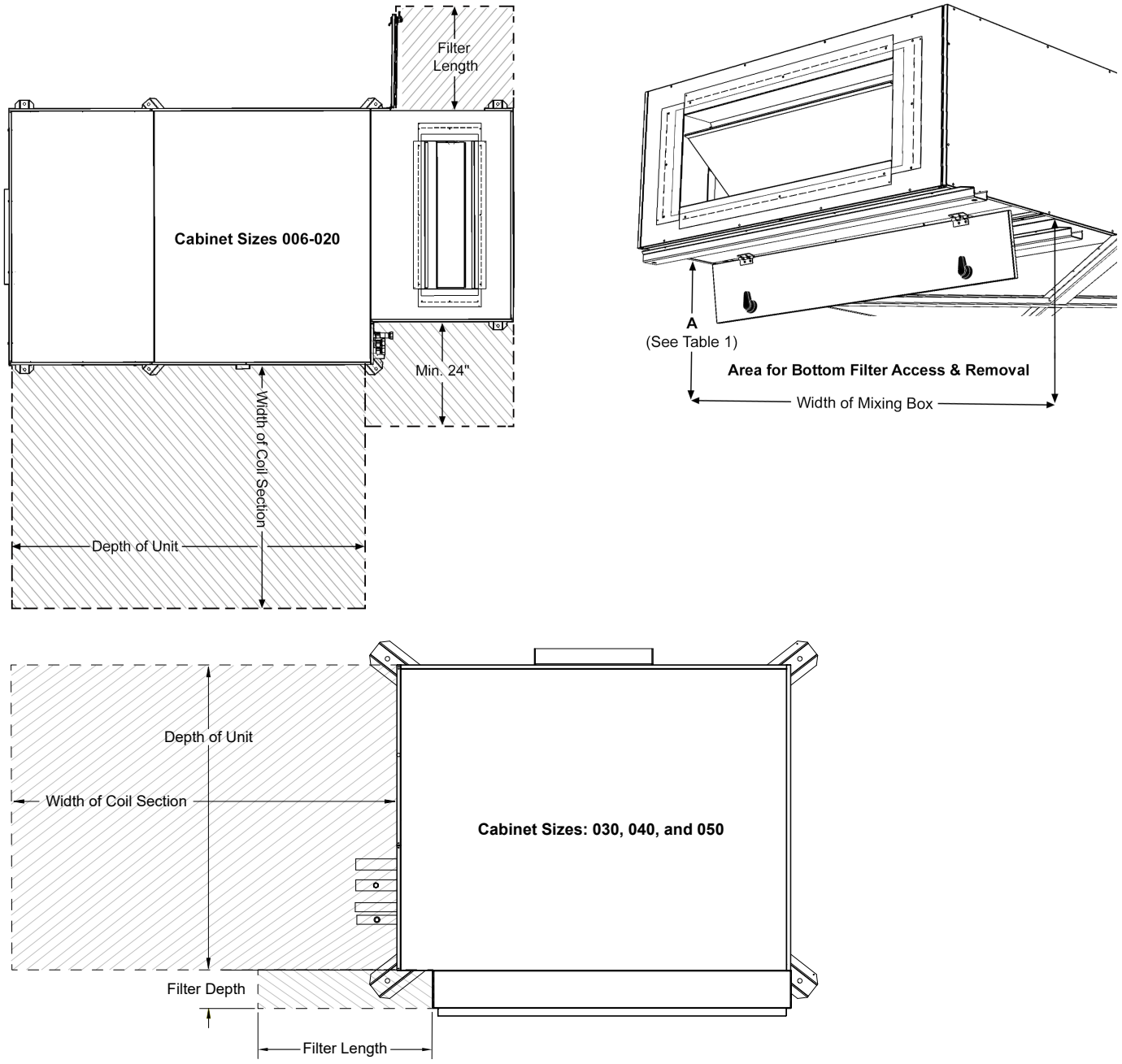


Table 1: Bottom Filter Access Clearance

	Unit Size (in)									
	006	**008**	**010**	**012**	**016**	**018**	**020**	**030**	**040**	**050**
Cabinet Clearance	30L × 15W × 18H	30L × 20W × 18H	30L × 28W × 18H	30L × 28W × 18H	30L × 36.5W × 18H	30L × 45W × 18H	30L × 45W × 18H	33L × 49W × 26H	33L × 54W × 30H	33L × 61W × 32H
A	18.00	18.00	18.00	18.00	18.00	18.00	18.00	24.00	28.00	30.00

Figure 15: Horizontal Clearance and Access Requirements for Unit Sizes 060-100

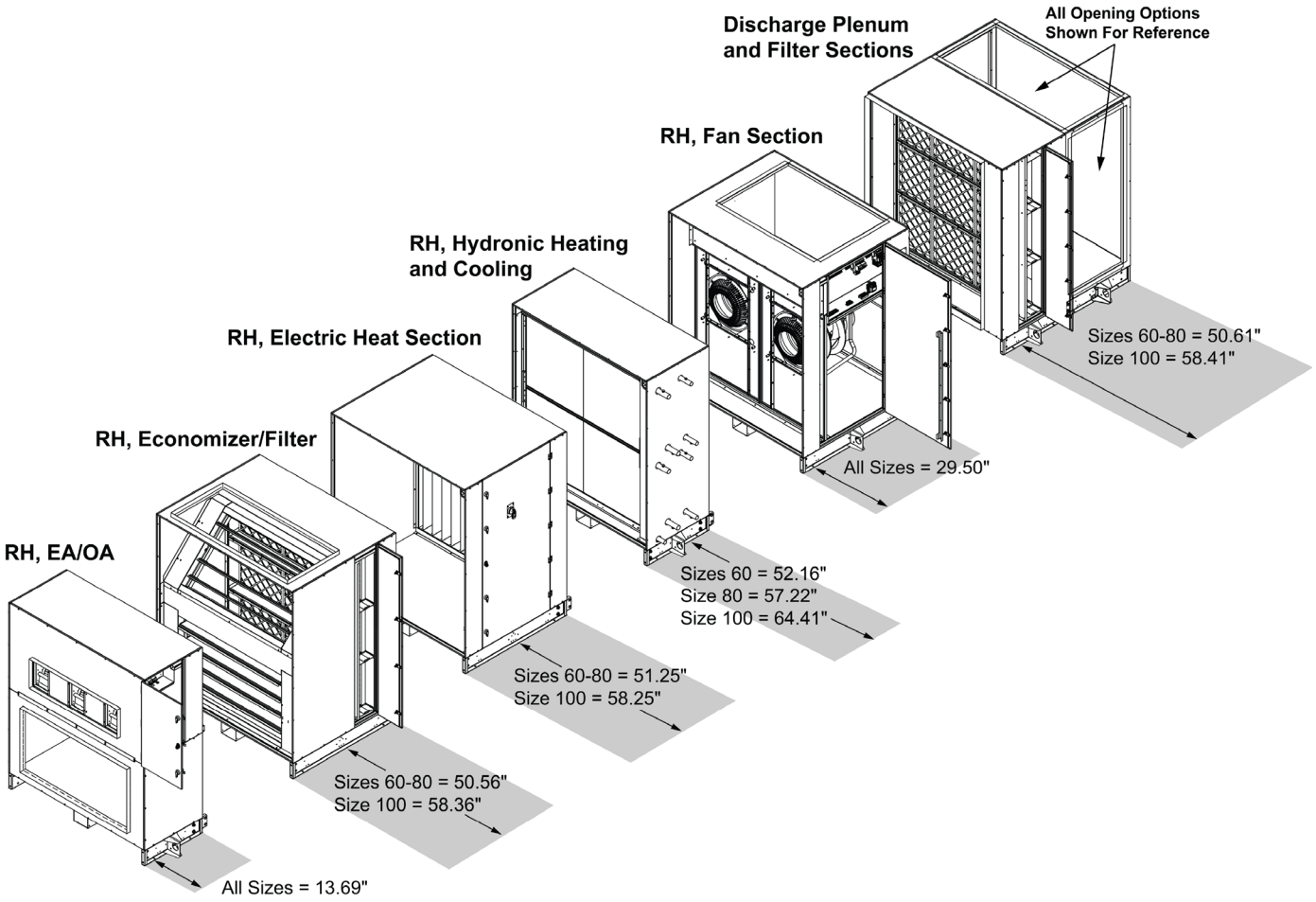
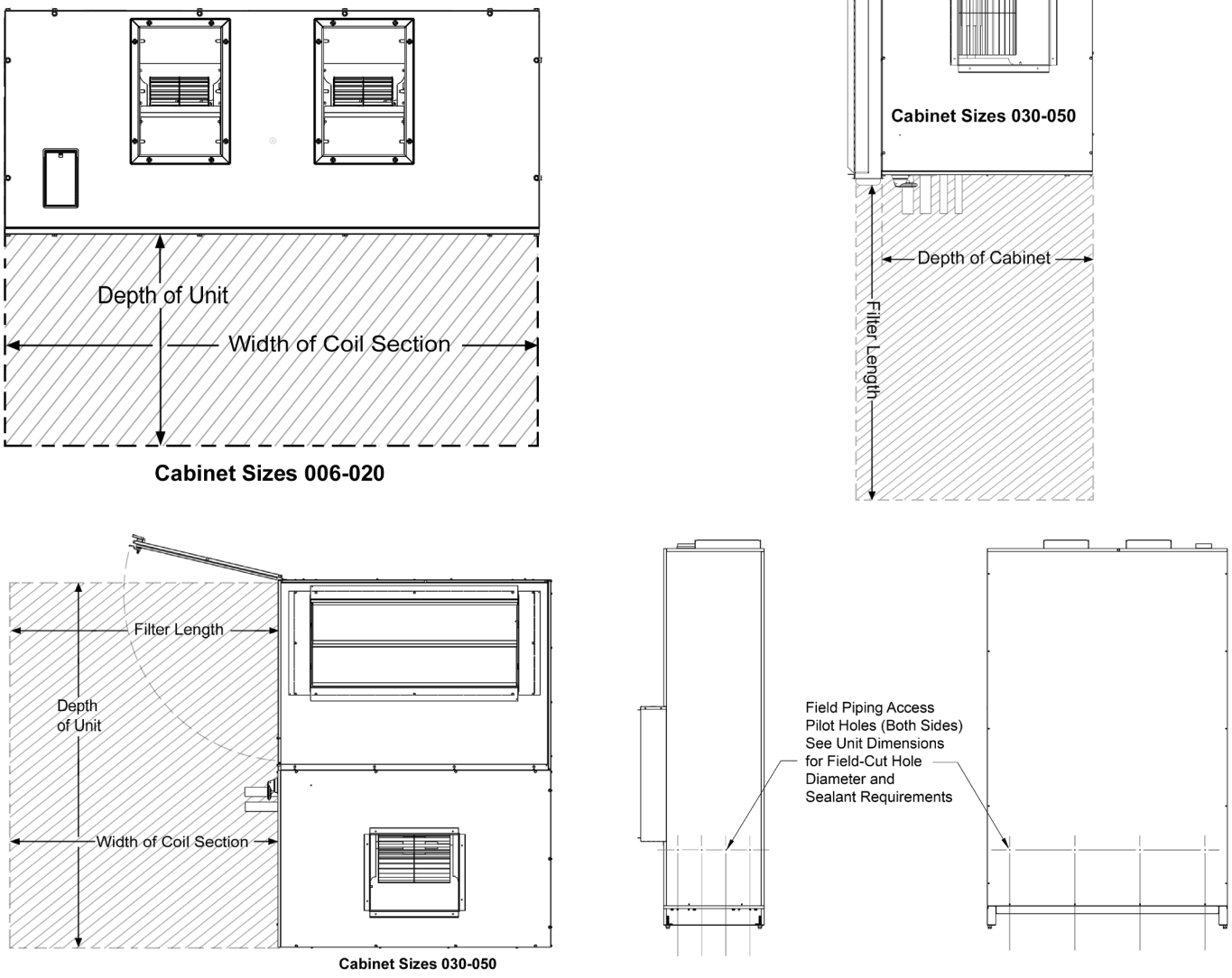
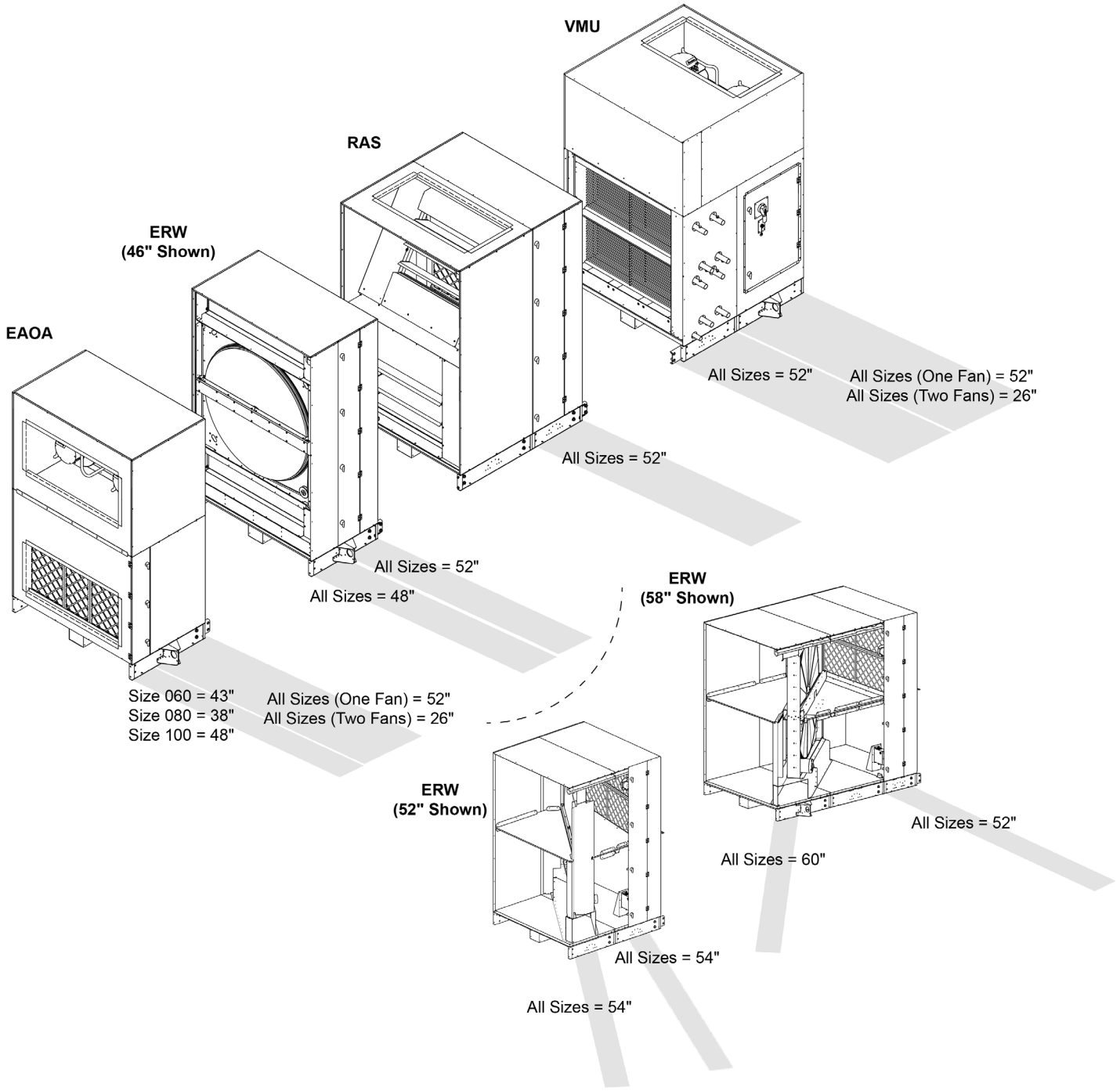


Figure 16: Clearance and Access Requirements for Vertical Unit Sizes 006-050



NOTE: AVD units require field-cut holes on the sides or back, depending on piping orientation. These holes should either be drilled prior to unit installation, or a clearance of 24" (0.61 m) should be left on the side requiring field work.

Figure 17: Vertical Clearance and Access Requirements for Unit Sizes 060-100



Hanging Unit from Ceiling (Horizontal Units)

⚠ WARNING

Do not suspend the unit from the top. The unit top will not support the weight of the unit. Equipment damage and severe personal injury can result.

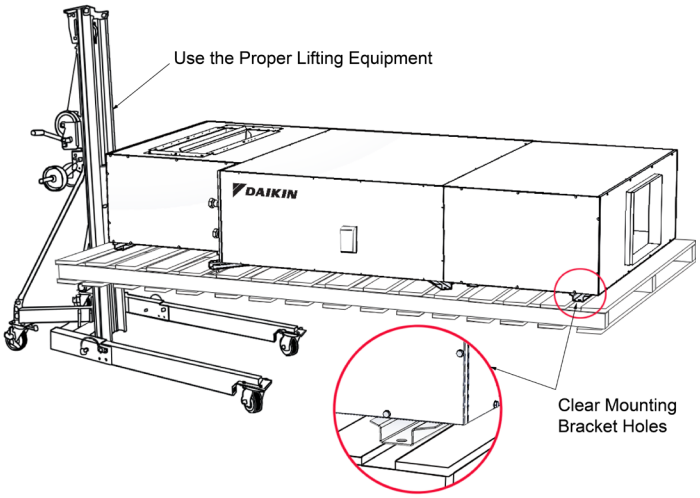
Positioning the Unit

Before hanging, the unit should be rigged and completely assembled. The PreciseLine air handler main section should be positioned on the pallet to permit access to mounting holes in the structural cross bracing under the unit. The entire unit is then lifted on the pallet (Figure 18) and secured with minimum 1/2″ threaded rod, washers, and lock nuts through all support bracing. If the pallet is not available, the fully assembled unit may be supported by the main section, while lifting into place. In this case, the main section must be secured with the threaded rod before the mixing box or discharge plenum.

⚠ CAUTION

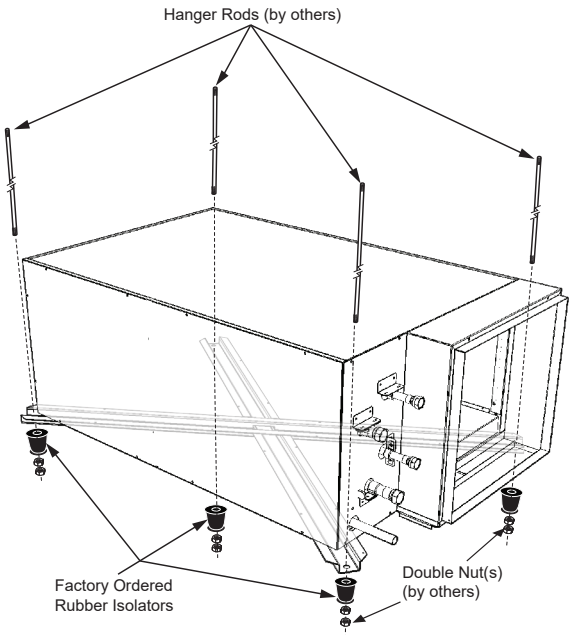
To avoid damage to the unit cabinet, use non-abrasive protective materials between lifting mechanisms and unit cabinet to keep from contacting the frame, connections, or panels.

Figure 18: Use The Proper Lifting Equipment



Vibration Isolation (Accessory)

Figure 19: Ceiling Hung with Rubber Isolators - Unit Sizes 006-050 (Sizes 006-020 shown).



Mounting the Unit on the Floor

Vertical units are all floor-mounted, and horizontal units may be floor-mounted as well.

Unit Leveling

Install the unit on a flat and level surface (or verify that unit is level when hanging from the ceiling). Where the surface irregularities allow the equipment to distort, shim the appropriate base rails to straighten the unit. Distorted units can cause misfit between sections, cabinet leaks, binding of the doors and access panels and prevent proper draining of drain pans.

Vertical units size 006-020 and horizontal units 060-100 come with leveling legs, which can be adjusted to level the units.

Figure 20: 2-Fan Leveling Legs for Size 020 Units

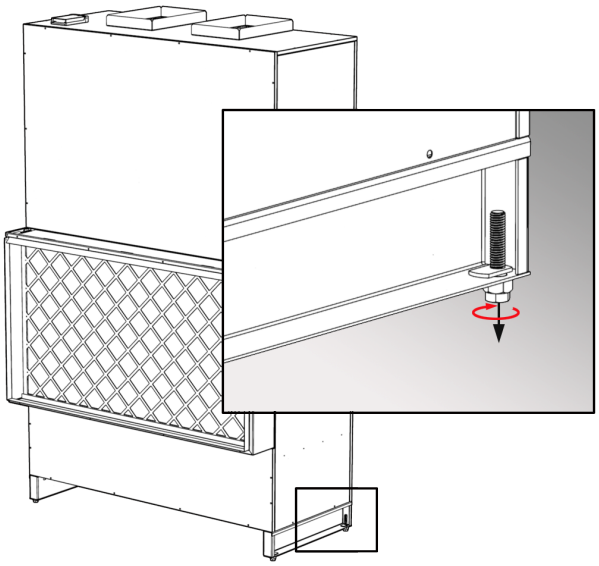
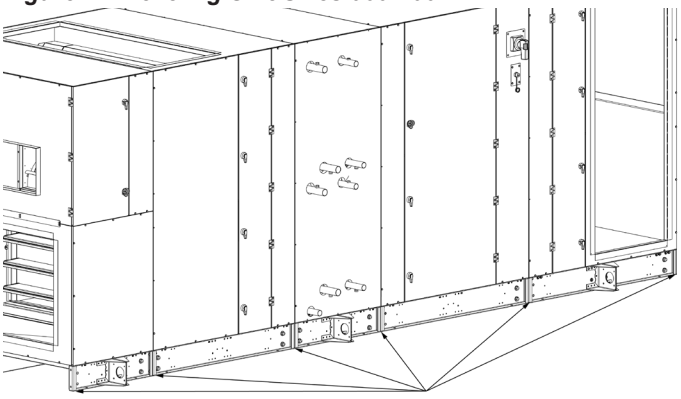


Figure 21: Leveling Unit Sizes 060-100



Mounting holes on the base rails may be used to attach the unit securely to the floor.

Figure 22: Mounting Rail Holes for Size 040 Units

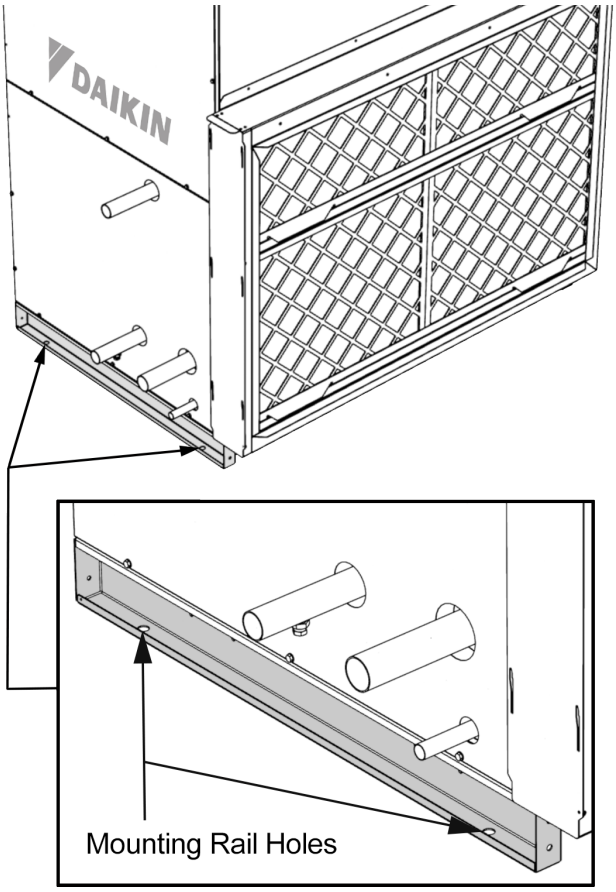
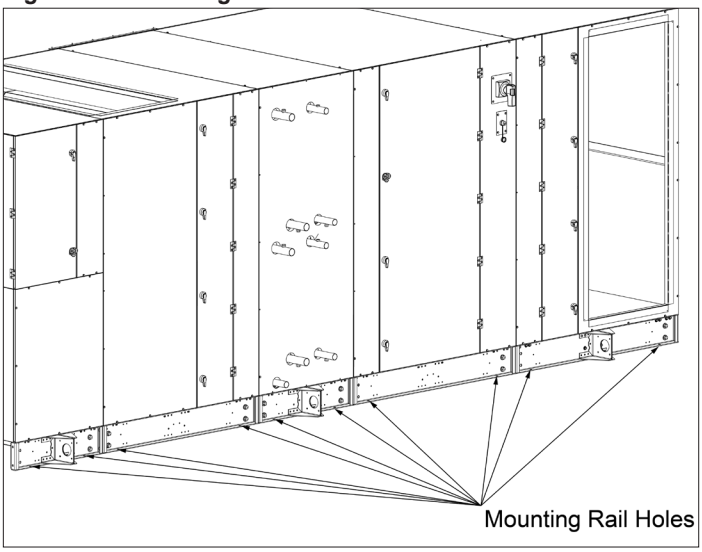


Figure 23: Mounting Rail Holes for Sizes 060-100 Units



Base rail holes for unit sizes 060-100 are 0.5” in diameter.

Table 2: Widths Between Base Rail Holes

Dimension	Sizes 060-080	Size 100
A (width from each base rail hole)	52.75”	59.75”

Figure 24: Base Rail Hole Width

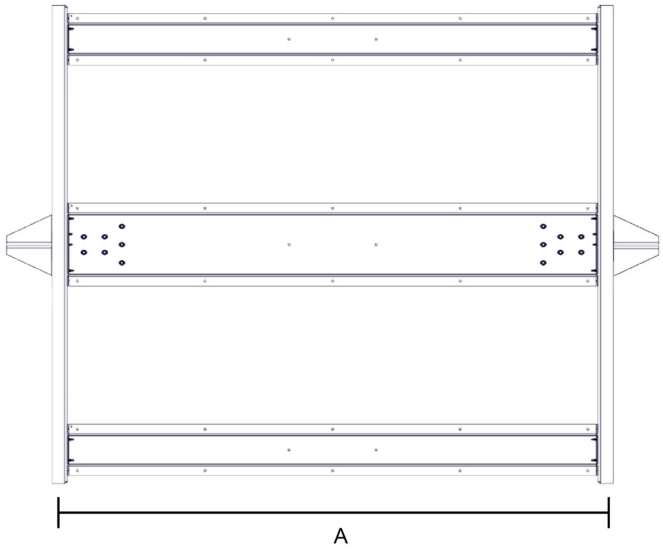
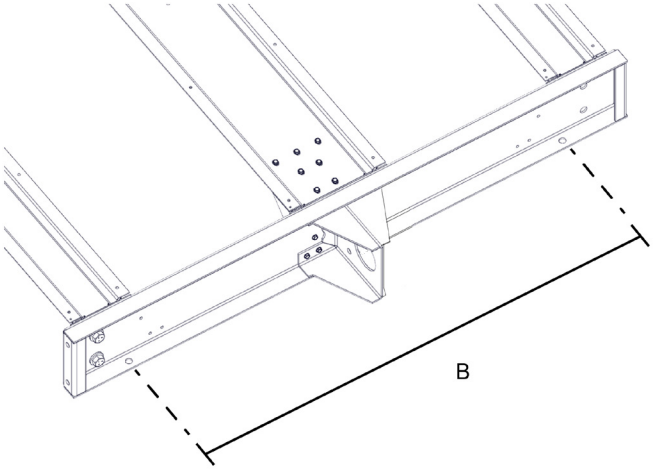


Table 3: Base Rail Hole Lengths

Dimension	Base Rail Length				
	26"	28"	30"	46"	48"
B (length from each base rail hole)	16"	18"	20"	36"	38"

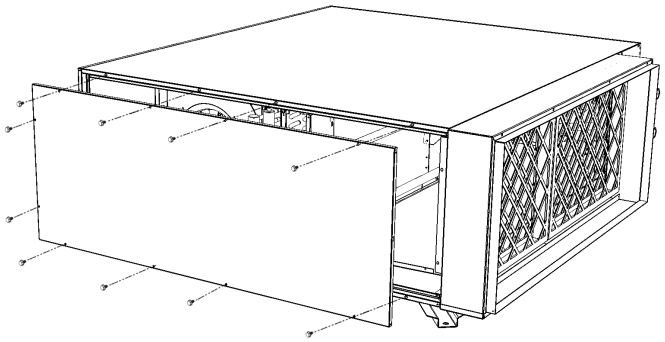
Figure 25: Base Rail Hole Length



Panels and Doors

PreciseLine air handlers have hinged access doors or screw-on panels that can be easily removed and handled. To gain access through a side panel, remove the fasteners along the sides of the panel and lift the panel off. Note that the number of fasteners will vary based on unit size.

Figure 26: Panel Removal (Sizes 006-020 Horizontal)



To open the hinged filter access door, rotate the latch handle(s) 1/4 turn as shown in Figure 27.

Figure 27: Mixing Box Filter Access Door (Sizes 006-020 and Sizes 030-050 Horizontal)

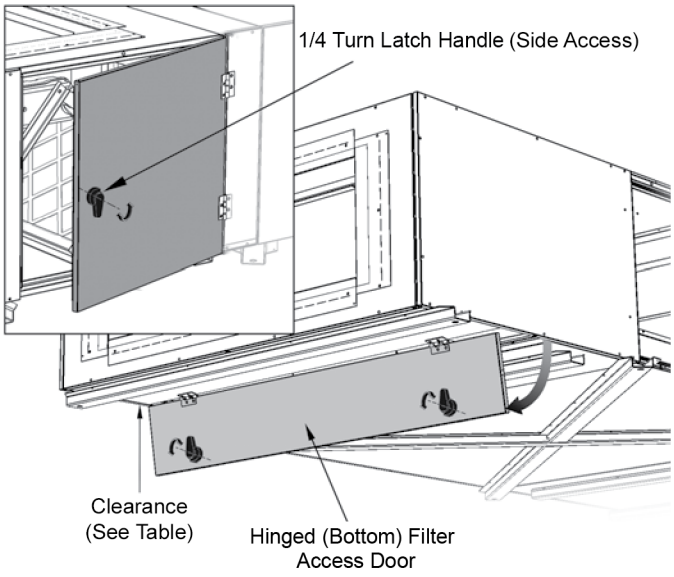


Table 4: Bottom Filter Access Clearance

Unit Size	006 – 020	030	040	050
Clearance	18 in	24 in	28 in	30 in

Figure 28: Door Access Types (Sizes 060-100)

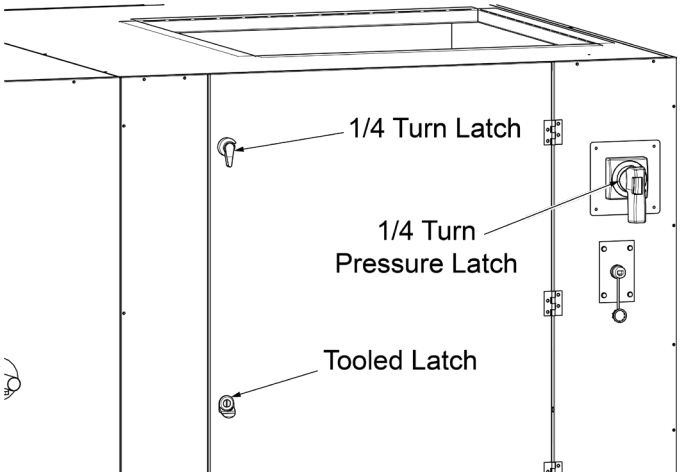


Figure 29: Side Filter Access (Sizes 030-050 Horizontal)

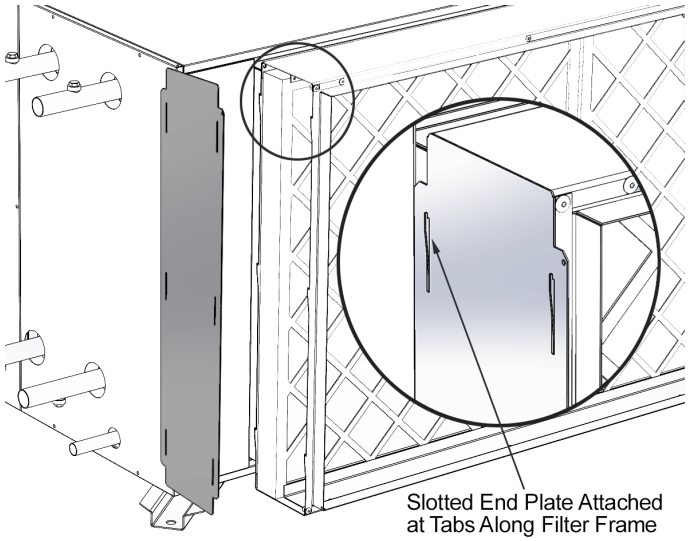


Figure 30: Top Filter Access (Sizes 030-050 Horizontal)

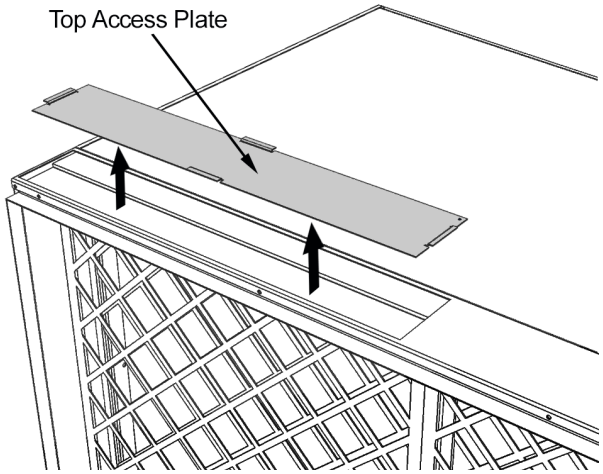


Figure 31: Bottom Filter Access (Sizes 030-050 Horizontal)

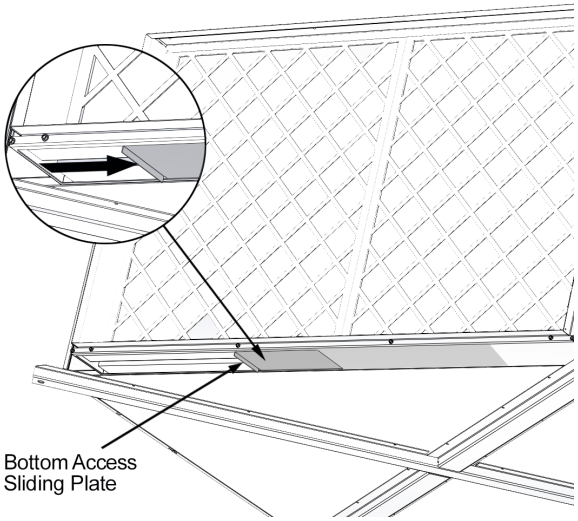


Figure 32: Mixing Box Filter Access Door (Sizes 030-050 Vertical)

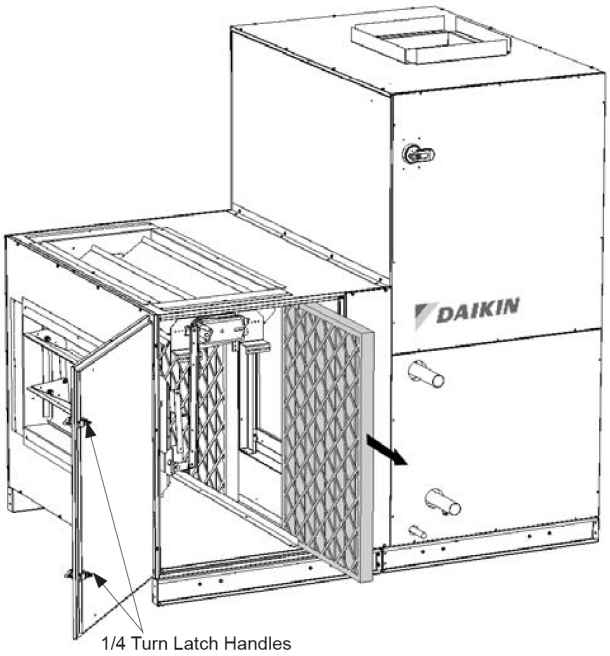


Figure 33: Accessing Internal Filter (Sizes 006-020 Vertical)

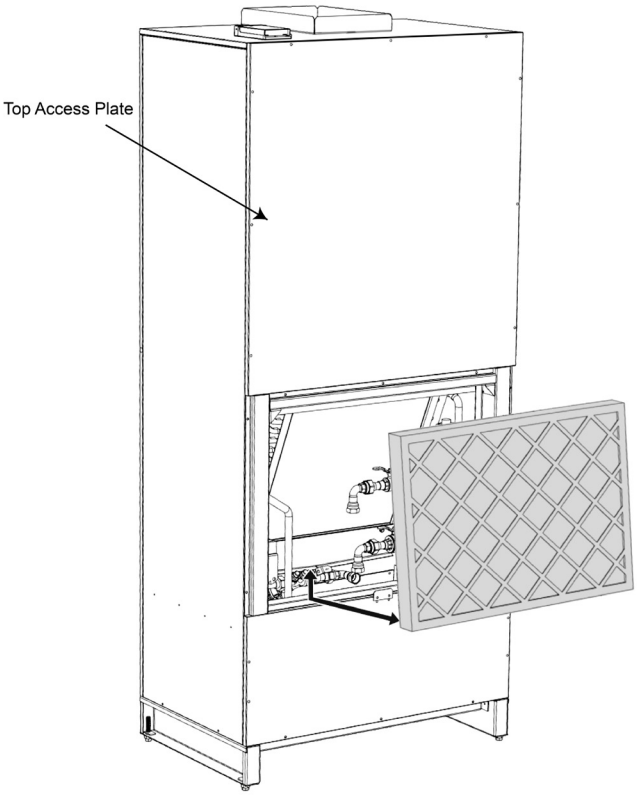


Figure 34: Filter Side Access (Sizes 030-050 Vertical)

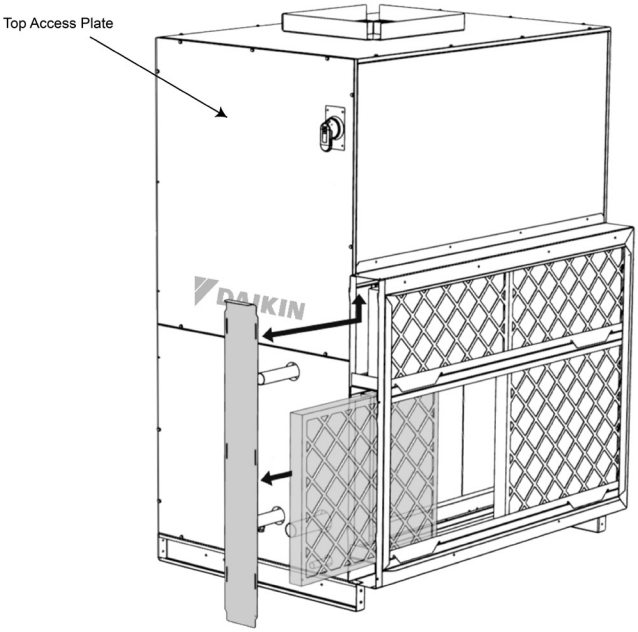
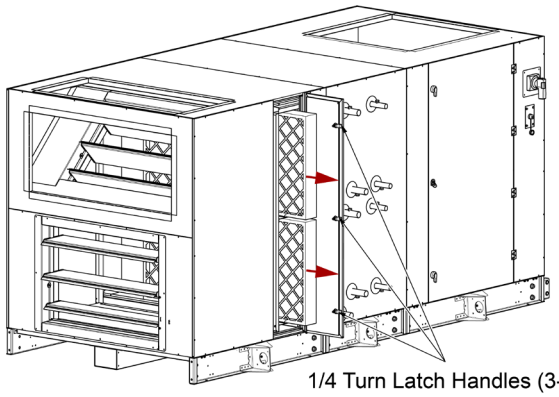


Figure 35: Top Access filter Removal (Sizes 006-020 Vertical)

Figure 36: Filter Side Access (Sizes 060-100)



Piping and Coils

Follow applicable piping design, sizing, and installation information presented in ASHRAE Handbooks in the design and installation of piping. Observe all local codes and industry standards. Do not apply undue stress at the connection to the coil headers. Support pipe work independently of the coils.

NOTICE

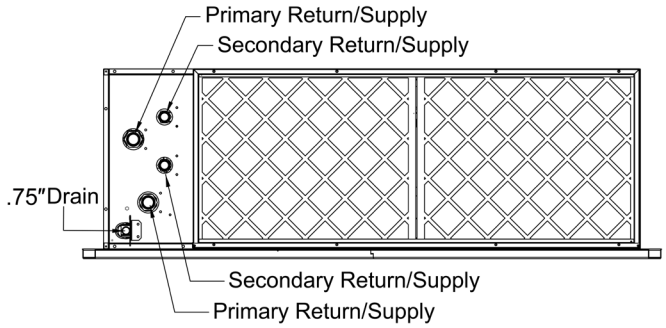
Water coils shall not exceed an internal pressure of 500 psig.

Horizontal Hydronic Cooling/Heating Coil Connections

Hydronic coil guidelines are listed below.

1. Horizontal units have hydronic coil stubs extend through the panel of the cabinet as a default, with field connections made outside the cabinet. Stub locations are the same for preheat and reheat coils. All stubs are labeled on the panel.
2. Supply and return connections are copper FPT on unit sizes 006 through 020 and copper sweat on sizes 030 through 100. See Table 46 and Table 47 on page 48.
3. When making threaded connections, do not apply undue stress to the stub. Use a backup wrench to avoid damaging the braze joint between the stub and the valve package or coil. When making sweat connections the cabinet and valves must be protected from heat damage. Use wet cloths or a heat shield to prevent heat from soldering from burning the paint and insulation around the stub.
4. Entering air below 40°F is not recommended. Extended periods of temperatures below freezing can cause some components to function improperly.
5. If fresh air and return air are to be heated by a hot water coil, take care in the design of the system to provide thorough mixing before air enters the coil.

Figure 37: Horizontal Coil Connections, Unit Size 006 - 020



NOTE: Left hand unit shown. Right hand unit connections are the same but opposite.

Horizontal Hydronic Coils with No Valve Package

Hydronic coil guidelines for units selected with the “No Valve Package - Threaded Connections” option are listed below. Refer to Table 6 on page 21 for connection size and type.

1. The supply and return coil stubs terminate inside the cabinet over the drip pan so all field connections are made inside the cabinet. All stubs are factory labeled.
2. Internal hydronic coil connections are SWT.
3. Piping penetration holes must be field drilled and must be completely within the drill area on one of the factory designated panels. (See Figure 38 below and Figure 39 on page 21) The diameter of the hole should be no more than 1/2″ (12.7 mm) larger than the pipe and gap around the pipe should be sealed after installation.
4. When making the sweat connection the cabinet, coil and drain pan must be protected from heat damage. Use wet cloths or a heat shield to prevent the heat from soldering from burning the paint and insulation around the stub.

Figure 38: Size 006 - 020 Hydronic Coil Drill Area - Front

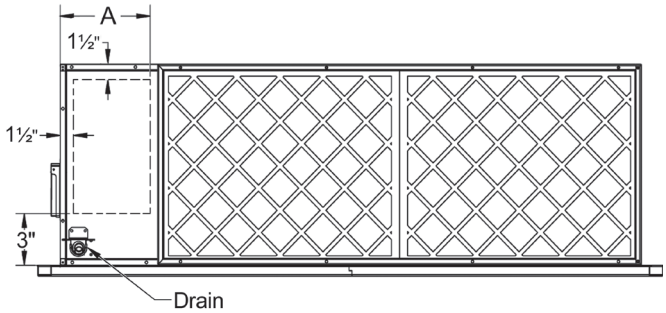


Table 5: Size 006-020 Hydronic Coil Drill Area Dimensions

Unit Size	006	008	010	012	016	018	020
A	7.13	7.80	7.62		7.53		

NOTE: Dimensions shown in inches.

Figure 39: Size 006 - 020 Hydronic Coil Drill Areas – Top and Right Side

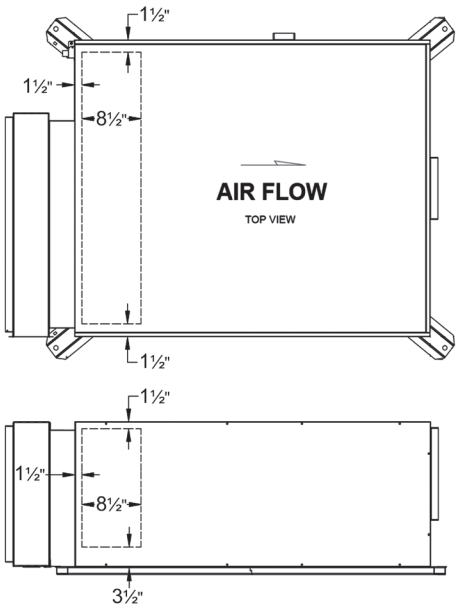
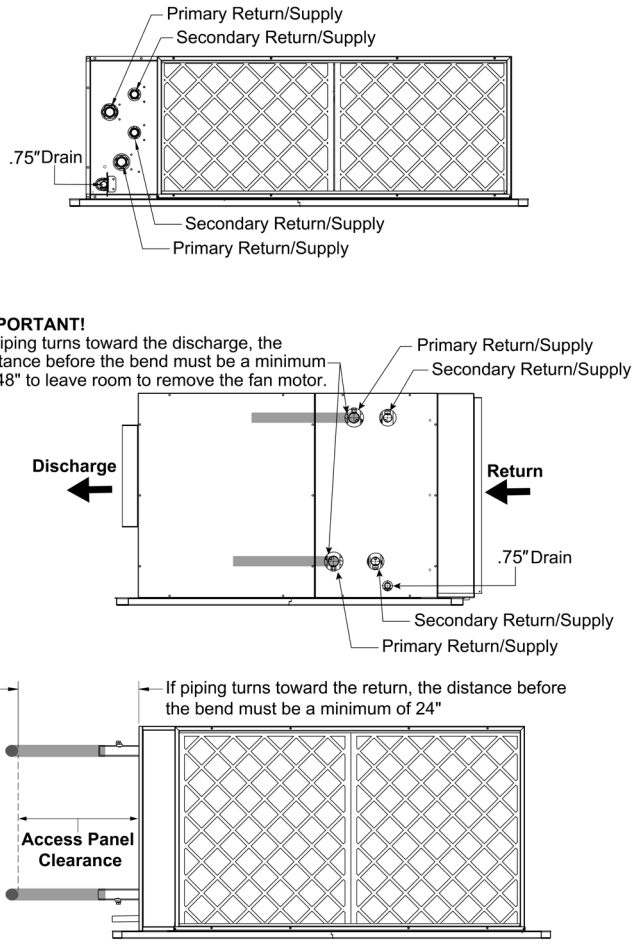


Figure 40: Field Pipe Connections, Unit Sizes 030, 040, 050



NOTE 1: Preheat coil option shown.

NOTE 2: Left hand unit shown. Right hand unit connections are the same but opposite.

AVD Hydronic Coils

All AVD units (vertical units sizes 006-020) have coil connections located in the unit. The connections are FPT as default, and SWT if selected. There are pilot holes on both sides and the back of the unit. Piping penetration holes must be field drilled in the location of the pilot holes. The diameter of the hole should be no more than 1/2″ (12.7 mm) larger than the pipe, and the gap around the pipe should be sealed after installation.

Figure 41: AVD-020 Field-Cut Hole Locations

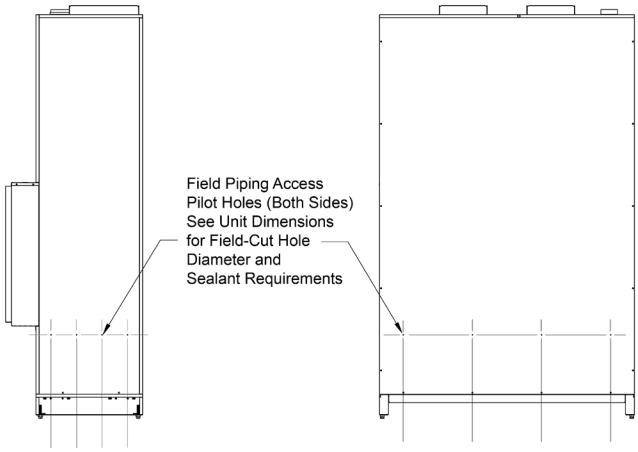


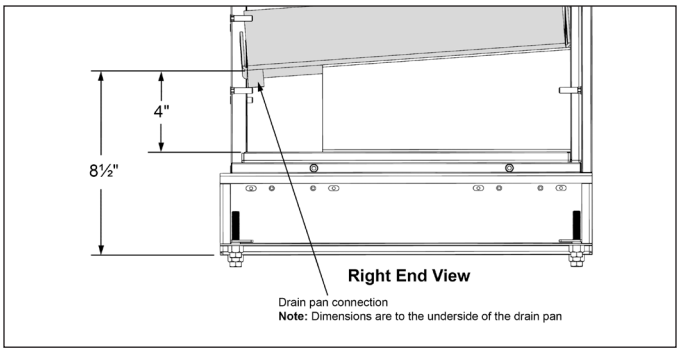
Table 6: Hydronic Coil Connection Size and Type with No Piping Option

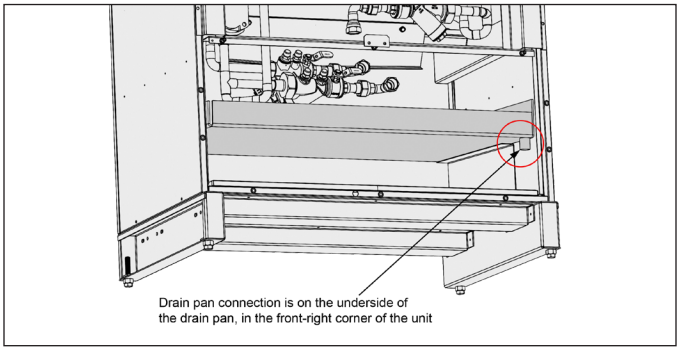
Unit Size	006	008	010	012	016	018	020
Connection Type	SWT (OD)						
2-Row Cooling	0.625	0.625	0.625	0.625	0.875	0.875	0.875
4-Row Cooling	0.625	0.625	0.875	0.875	0.875	1.125	1.125
6-Row Cooling	0.625	0.875	0.875	0.875	1.125	1.125	1.125
8-Row Cooling	—	—	—	—	—	—	—
1-Row Heating	0.625	0.625	0.625	0.625	0.625	0.625	0.625
2-Row Heating	0.625	0.625	0.625	0.625	0.875	0.875	0.875

NOTE: Dimensions shown in inches.

Drain Pan Piping

The drain pan requires a field-drilled hole made on the sides or back, in-between the drain pan and bottom panel of the unit. The drain pan connection is in the front-right corner, and must be piped to the field-drilled hole. A P-trap is not included, and must be added in the field. The drain pan is fully removable, both for cleaning and for ease of installation.

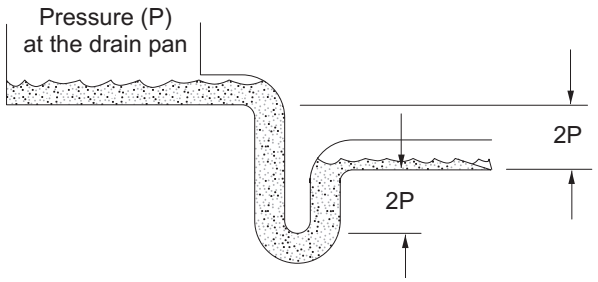




Condensate Drain Pan Traps

The condensate drain stub for unit sizes 006-050 is 0.75 in (19.1 mm) OD. The condensate drain stub for unit sizes 060-100 is 1.138 (28.9 mm) OD. Drain lines and traps should run full size from the drain pan stub. Drain pans should have traps to allow condensate from coils to drain freely. The trap depth and distance between the trap outlet and the drain pan outlet should be twice the static pressure in the drain pan section under normal operation for the trap to remain sealed. Refer to Figure 42.

Figure 42: Allow Adequate Distance Between Trap Outlet and Drain Outlet



Condensate Overflow Switch

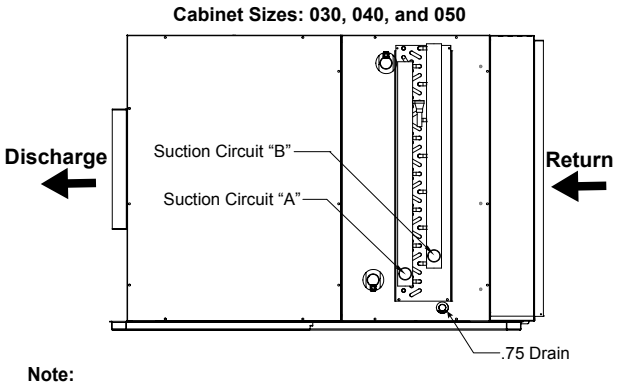
The optional condensate overflow switch must be field wired to a controller and should be field tested to verify proper operation. To test, fill drain pan with water to within 1/4″ (6.35 mm) of top of pan and verify that the normally closed switch opens. If a normally closed overflow switch is required for the control sequence, the action of the factory installed switch can be reversed in the field. To reverse the action, remove the float retainer from the bottom of the guide pin, turn the float upside down and replace the retainer. Test the modified switch as described above to verify the switch closes when water rises to within 1/4″ (6.35 mm) of the top of the pan.

Direct Expansion (DX) Coils

Direct expansion coil connection guidelines are listed below.

1. On unit sizes 006 - 020 the coil distributor and suction connections are inside the cabinet on the right-hand side of the unit (air hitting back-of-head). On unit sizes 30 - 100 the distributor connection is inside the cabinet and the suction line connection is outside the cabinet.
2. For connections inside the cabinet, piping penetration holes must be field drilled and must be completely within the drill area on the factory designated panel. The diameter of the hole should be no more than 1/2″ (12.7 mm) larger than the pipe and gap around the pipe should be sealed after installation.
3. The liquid line penetration should be made after the thermal expansion valve has been installed such that the hole aligns with the elbow off the bottom of the valve. The thermal expansion valve should be located directly below the distributor and connected to it with a short (2” maximum) section of straight pipe.
3. The thermostat expansion valve must be an external equalizer tube type. The equalization tube must be connected to suction header for proper function. (See page 53)
4. Use care when piping up the system, making sure all joints are tight and all lines are dry and free of foreign material. For typical refrigerant piping, see the condensing unit product manual.

Figure 43: DX Interlaced Coil, Unit Sizes 030, 040, 050



Note:
Left hand unit shown, right hand unit values same as left but opposite.

Figure 44: Horizontal Units Sizes 006 - 020 DX Coil Drill Area

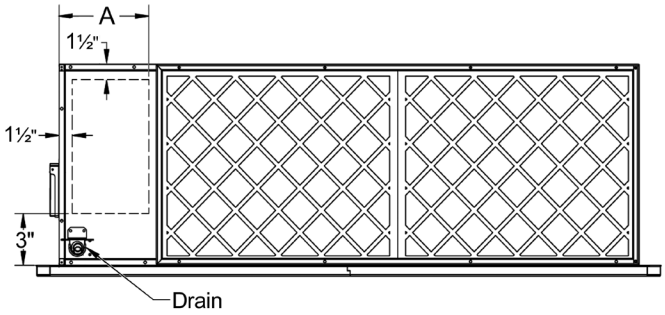


Table 7: Horizontal Units Sizes 006-020 DX Coil Drill Area Dimensions

Unit Size	006	008	010	012	016	018	020
A	7.13	7.80	7.62		7.53		

NOTE: Dimensions shown in inches.

Figure 45: Horizontal Units Sizes 006 - 020 DX Coil with Reheat or Preheat Drill Area

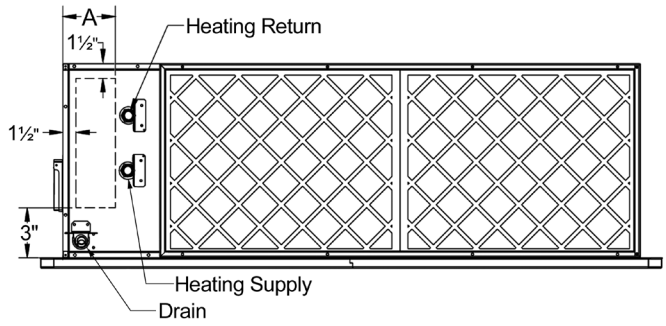


Table 8: Horizontal Units Sizes 006-020 DX Coil with Reheat or Preheat Drill Area Dimensions

Unit Size	006	008	010	012	016	018	020
A	4.38	5.05	4.87		4.78		

NOTE: Dimensions shown in inches.

Figure 46: Horizontal Units Size 030 - 050 – DX Only and DX with Preheat Drill Area

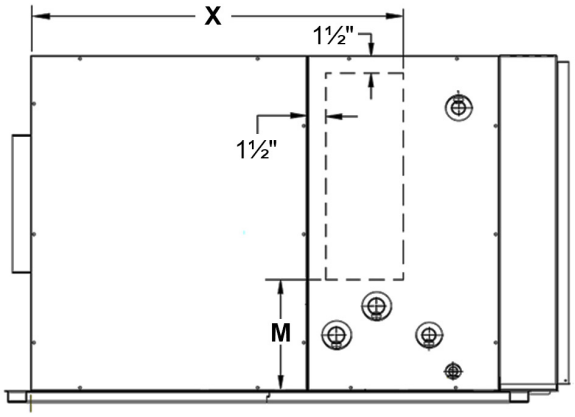


Figure 47: Sizes 030 - 050 Drill Area – DX with Reheat

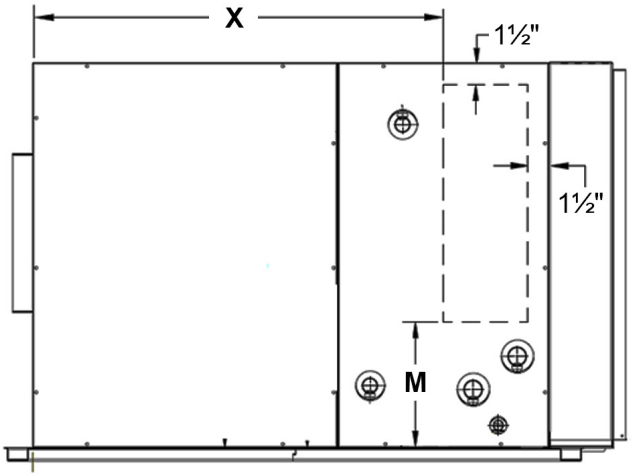
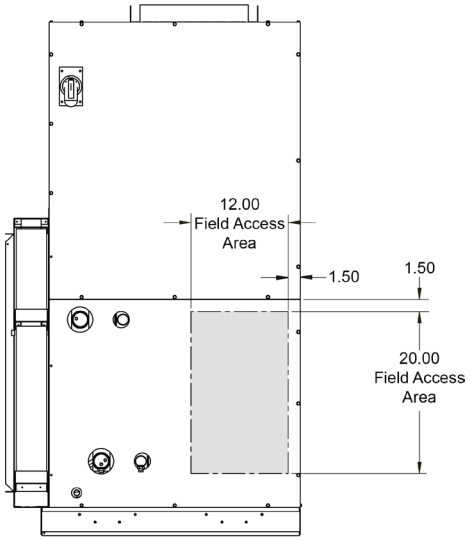


Figure 48: Vertical Units Sizes 030-050 DX Coil Drill Area



Right Side View

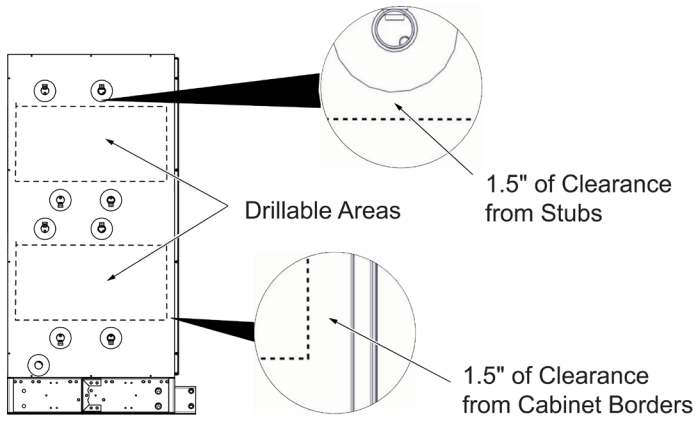
Table 9: Horizontal Drill Area Locations – DX Only and DX with Preheat

Unit Size	X	M
Single Circuit DX Primary Only		
30	29.18	6.35
40	32.18	6.35
50	32.18	6.35
Interlaced DX Primary Only		
30	29.18	11.35
40	32.18	11.35
50	32.18	9.35
Single Circuit DX Primary with 1 Row Hydronic Preheat		
30	29.18	6.62
40	32.18	7.62
50	32.18	6.62
Interlaced DX Primary with 1 Row Hydronic Preheat		
30	29.18	7.35
40	32.18	7.62
50	32.18	7.35
Single Circuit DX Primary with 2 Row Hydronic Preheat		
30	29.18	6.65
40	32.18	6.62
50	32.18	6.62
Interlaced DX Primary with 2 Row Hydronic Preheat		
30	29.18	7.35
40	32.18	7.35
50	32.18	7.35

Table 10: Horizontal Drill Area Locations – DX with Reheat

Unit Size	X	M
Single Circuit DX Primary with 1 Row Hydronic Reheat		
30	27.13	6.61
40	30.14	7.65
50	30.14	6.62
Interlaced DX Primary with 1 Row Hydronic Reheat		
30	27.13	7.35
40	30.14	7.62
50	30.14	7.35
Single Circuit DX Primary with 2 Row Hydronic Reheat		
30	27.13	6.62
40	30.14	6.62
50	30.14	6.62
Interlaced DX Primary with 2 Row Hydronic Reheat		
30	27.13	7.35
40	30.14	7.35
50	30.14	7.35

Figure 49: Horizontal Units Size 060 - 100 Drill Area - DX Coil Drill Area



Factory Installed Valve Package

The optional factory installed deluxe valve package includes a temperature control valve, a ball shut off valve with supply strainer, P/T port and clean out, and an automatic flow control valve with ball shut off and P/T ports. The temperature control valve is a flow ball valve with SS ball and stem and is selectable as 2-way or 3-way. The valve flow coefficient and connection ports are appropriately sized for the selected flow rate. The control actuator can be configured for spring return on-off normally closed to the coil, spring return on-off normally open to the coil, or non-spring return 0-10VDC modulating control. A strainer and ball shut off valve assembly and an automatic flow control valve and shut off assembly are also available. The piping schematics are shown in Figure 50 through Figure 56. The control valve wiring diagrams are shown in Figure 57 and Figure 58 and valve package component part numbers are listed in Table 12 on page 26 through Table 14 on page 28.

On vertical unit sizes 006 and 008, the control valve can be selected as either 2-way or 3-way, N.O. or N.C., and have a manually adjustable Cv ranging from 0.5 to 5.9. These valves are located on the supply side, adjacent to the coil, in contrast with other configurations being located on the return side. See Figure 51 on page 25.

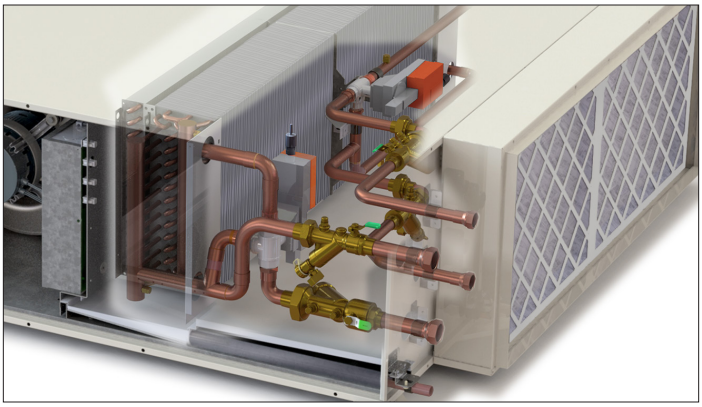


Figure 50: Basic 2-Way Valve Package

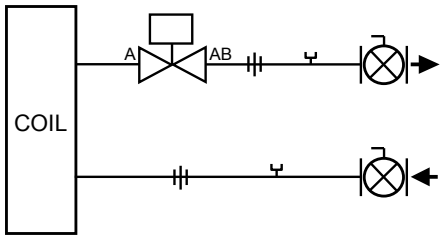


Figure 51: Basic 2-Way Valve Package Available for Vertical Unit Sizes 006-008 with Manually Adjustable Cv

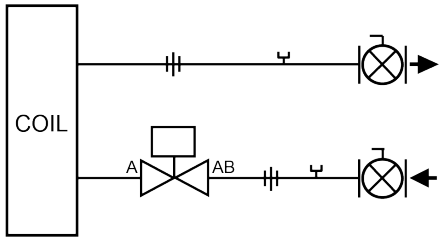


Figure 52: Basic 3-Way Valve Package

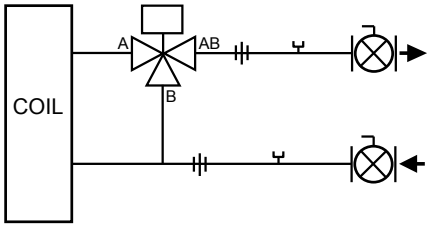


Figure 53: Deluxe 2-Way Valve Package (Auto CS)

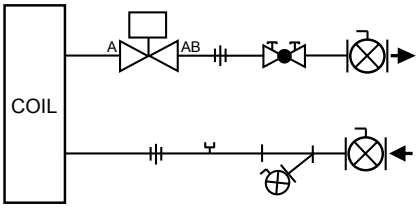


Figure 54: Deluxe 3-Way Valve Package (Auto CS)

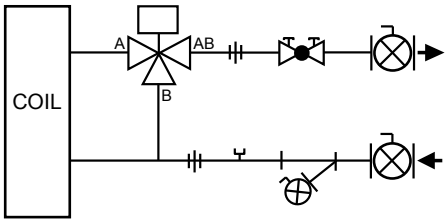


Figure 55: Deluxe 2-Way Valve Package (Manual CS)

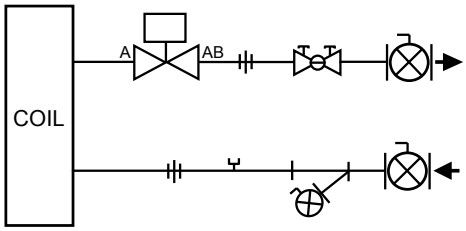


Figure 56: Deluxe 3-Way Valve Package (Manual CS)

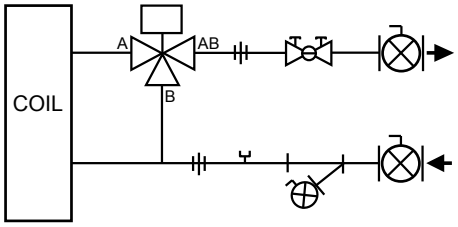


Table 11: Components Key for Schematics

	**Manual Shutoff Ball Valve with Memory Stop:** Used on return line for limiting water flow.
	**2-Way, ON/OFF Valve:** Turn ON or OFF water flow to the coil in response to 24V or line voltage signal.
	**3-Way, ON/OFF Valve:** Bypass water flow away from coil in response to 24V or line voltage signal. Includes fixed orifice for balancing.
	**PT Port:** For connecting a pressure or temperature gauge.
	**Y-Strainer:** Removable screen filters out small particles from supply line during normal system operation.
	**Auto Circuit Setter:** Pressure-compensated, automatic flow control.
	**Manual Circuit Setter:** Pressure-compensated, manual flow control.
	**Union:** For easy removal of piping from coil.

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

Figure 57: ON/OFF Control Valve Wiring (Table 12 below)

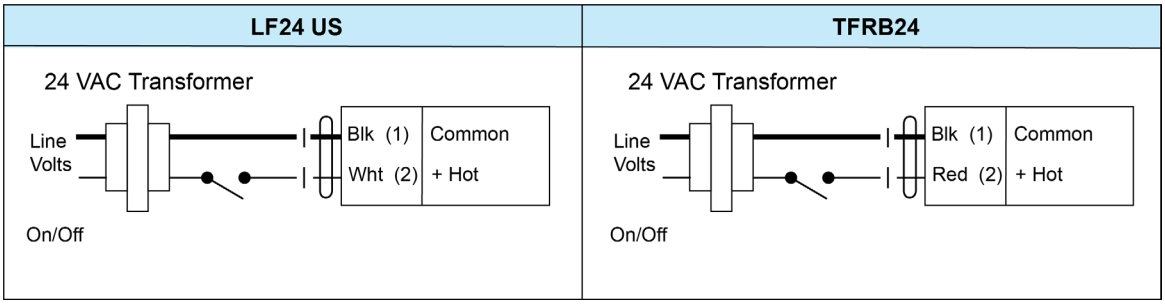
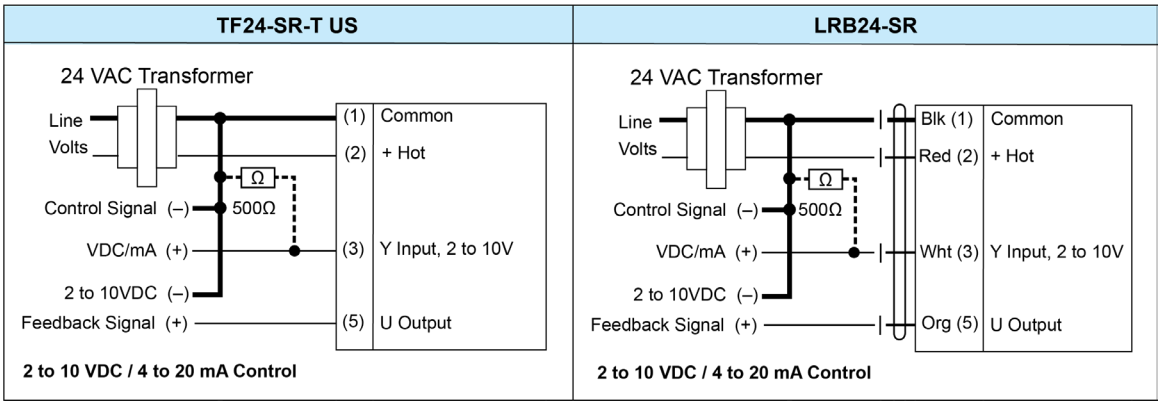


Figure 58: Modulating Control Valve Wiring (Table 13 on page 27)



Control Valve Parts Lists

Table 12: ON/OFF Control Valve Part List

Daikin Applied P/N	Valve Type	Size	Cv	Control Type	Control Voltage	Spring Return	Normal State
263940312	2 Way	0.5 FPT	1.9	On/Off	24VAC	Yes	Normally Closed
263940304	2 Way	0.5 FPT	1.9	On/Off	24VAC	Yes	Normally Open
263940313	2 Way	0.5 FPT	16	On/Off	24VAC	Yes	Normally Closed
263940305	2 Way	0.5 FPT	16	On/Off	24VAC	Yes	Normally Open
263940314	2 Way	0.75 FPT	24	On/Off	24VAC	Yes	Normally Closed
263940306	2 Way	0.75 FPT	24	On/Off	24VAC	Yes	Normally Open
263940315	2 Way	1.0 FPT	30	On/Off	24VAC	Yes	Normally Closed
263940307	2 Way	1.0 FPT	30	On/Off	24VAC	Yes	Normally Open
263940308	3 Way	0.5 FPT	1.9	On/Off	24VAC	Yes	Normally Closed
263940300	3 Way	0.5 FPT	1.9	On/Off	24VAC	Yes	Normally Open
263940309	3 Way	0.5 FPT	16	On/Off	24VAC	Yes	Normally Closed
263940301	3 Way	0.5 FPT	16	On/Off	24VAC	Yes	Normally Open
263940310	3 Way	0.75 FPT	24	On/Off	24VAC	Yes	Normally Closed
263940302	3 Way	0.75 FPT	24	On/Off	24VAC	Yes	Normally Open
263940311	3 Way	1.0 FPT	30	On/Off	24VAC	Yes	Normally Closed
263940303	3 Way	1.0 FPT	30	On/Off	24VAC	Yes	Normally Open
910264701	2-Way	0.5 SWT	5.9	On/Off	24VAC	Yes	Normally Open
910282475	2-Way	0.5 SWT	5.9	On/Off	24VAC	Yes	Normally Closed
910282487	3-Way	0.5 SWT	2.7	On/Off	24VAC	Yes	Normally Open
910259925	3-Way	0.5 SWT	2.7	On/Off	24VAC	Yes	Normally Closed

Table 13: Modulating Control Valve Part List

Daikin Applied P/N	Valve Type	Size	Cv	Control Type	Control Voltage	Spring Return	Normal State
263940901	2 Way	0.50 FPT	0.3	Modulating	0-10VDC	No	N/A
263940902	2 Way	0.50 FPT	0.46	Modulating	0-10VDC	No	N/A
263940903	2 Way	0.50 FPT	0.8	Modulating	0-10VDC	No	N/A
263940904	2 Way	0.50 FPT	1.2	Modulating	0-10VDC	No	N/A
263940905	2 Way	0.50 FPT	1.9	Modulating	0-10VDC	No	N/A
263940906	2 Way	0.50 FPT	3	Modulating	0-10VDC	No	N/A
263940907	2 Way	0.50 FPT	4.7	Modulating	0-10VDC	No	N/A
263940908	2 Way	0.50 FPT	10	Modulating	0-10VDC	No	N/A
263940909	2 Way	0.50 FPT	16	Modulating	0-10VDC	No	N/A
263941001	2 Way	0.75 FPT	4.7	Modulating	0-10VDC	No	N/A
263941002	2 Way	0.75 FPT	7.4	Modulating	0-10VDC	No	N/A
263941003	2 Way	0.75 FPT	14	Modulating	0-10VDC	No	N/A
263941101	2 Way	0.75 FPT	24	Modulating	0-10VDC	No	N/A
263941201	2 Way	1.00 FPT	7.4	Modulating	0-10VDC	No	N/A
263941202	2 Way	1.00 FPT	10	Modulating	0-10VDC	No	N/A
263941203	2 Way	1.00 FPT	30	Modulating	0-10VDC	No	N/A
263940501	3 Way	0.50 FPT	0.3	Modulating	0-10VDC	No	N/A
263940502	3 Way	0.50 FPT	0.46	Modulating	0-10VDC	No	N/A
263940503	3 Way	0.50 FPT	0.8	Modulating	0-10VDC	No	N/A
263940504	3 Way	0.50 FPT	1.2	Modulating	0-10VDC	No	N/A
263940505	3 Way	0.50 FPT	1.9	Modulating	0-10VDC	No	N/A
263940506	3 Way	0.50 FPT	3	Modulating	0-10VDC	No	N/A
263940507	3 Way	0.50 FPT	4.7	Modulating	0-10VDC	No	N/A
263940508	3 Way	0.50 FPT	10	Modulating	0-10VDC	No	N/A
263940509	3 Way	0.50 FPT	16	Modulating	0-10VDC	No	N/A
263940601	3 Way	0.75 FPT	4.7	Modulating	0-10VDC	No	N/A
263940602	3 Way	0.75 FPT	7.4	Modulating	0-10VDC	No	N/A
263940701	3 Way	0.75 FPT	14	Modulating	0-10VDC	No	N/A
263940702	3 Way	0.75 FPT	24	Modulating	0-10VDC	No	N/A
263940801	3 Way	1.00 FPT	7.4	Modulating	0-10VDC	No	N/A
263940802	3 Way	1.00 FPT	10	Modulating	0-10VDC	No	N/A
263940803	3 Way	1.00 FPT	30	Modulating	0-10VDC	No	N/A
910282477	2-Way	0.50 FPT	5.9	Modulating	0-10VDC	No	N/A

Table 14: Autoflow Valve Part List

GPM	0.5"	0.75"	1.0"
0.50	263578301	263578401	–
0.75	263578302	263578402	–
1.00	263578303	263578403	–
1.50	263578304	263578404	–
2.00	263578305	263578405	–
2.50	263578306	263578406	–
3.00	263578307	263578407	–
3.50	263578308	263578408	–
4.00	263578309	263578409	–
4.50	263578310	263578410	–
5.00	263578311	263578411	–
5.50	263578312	263578412	–
6.00	263578313	263578413	–
7.00	263578314	263578414	263578501
8.00	263578315	263578415	263578502
9.00	263578316	263578416	263578503
10.00	–	–	263578504
10.50	263578317	263578417	–
11.00	263578318	263578418	–
12.00	263578319	263578419	–
15.00	–	–	263578505
18.00	–	–	263578506
20.00	–	–	263578507
25.00	–	–	263578508
30.00	–	–	263578509

Table 15: Strainer Part List

CV	0.5"	0.75"	1.0"
5.5	263940136	–	–
9.0	–	263940135	263940137

Table 16: Manual Circuit Setter Part List

Valve Size	Daikin Applied P/N
1/2	263922380
3/4	263922370
1	263922360

Table 17: Isolation Ball Valve Part List

Valve Size	Daikin Applied P/N
1/2	910244107
3/4	910244097
1	910244108

Manual Circuit Setter Flow Charts

Figure 59: Manual Circuit Setter Flow Chart – 1/2" Valves

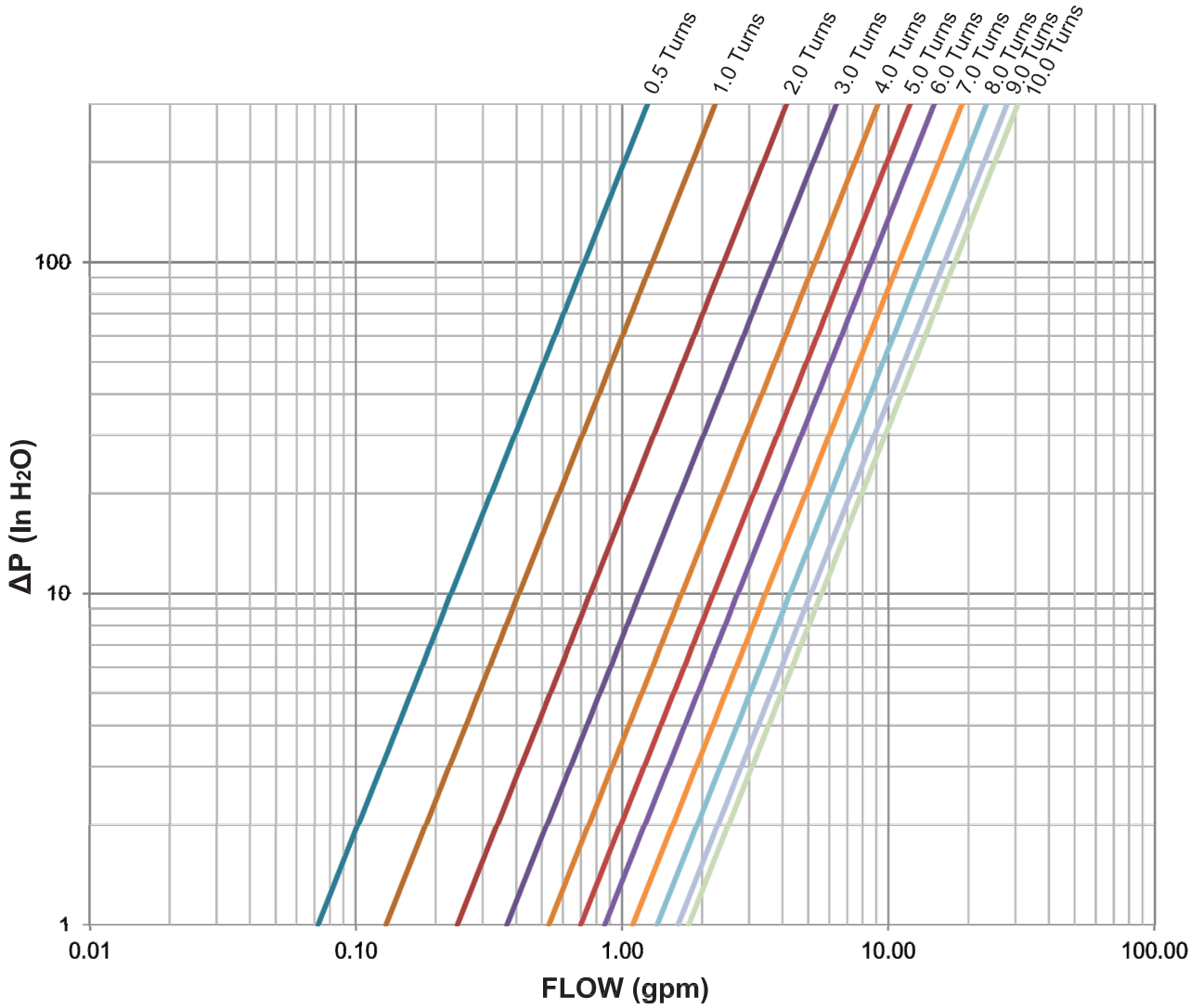
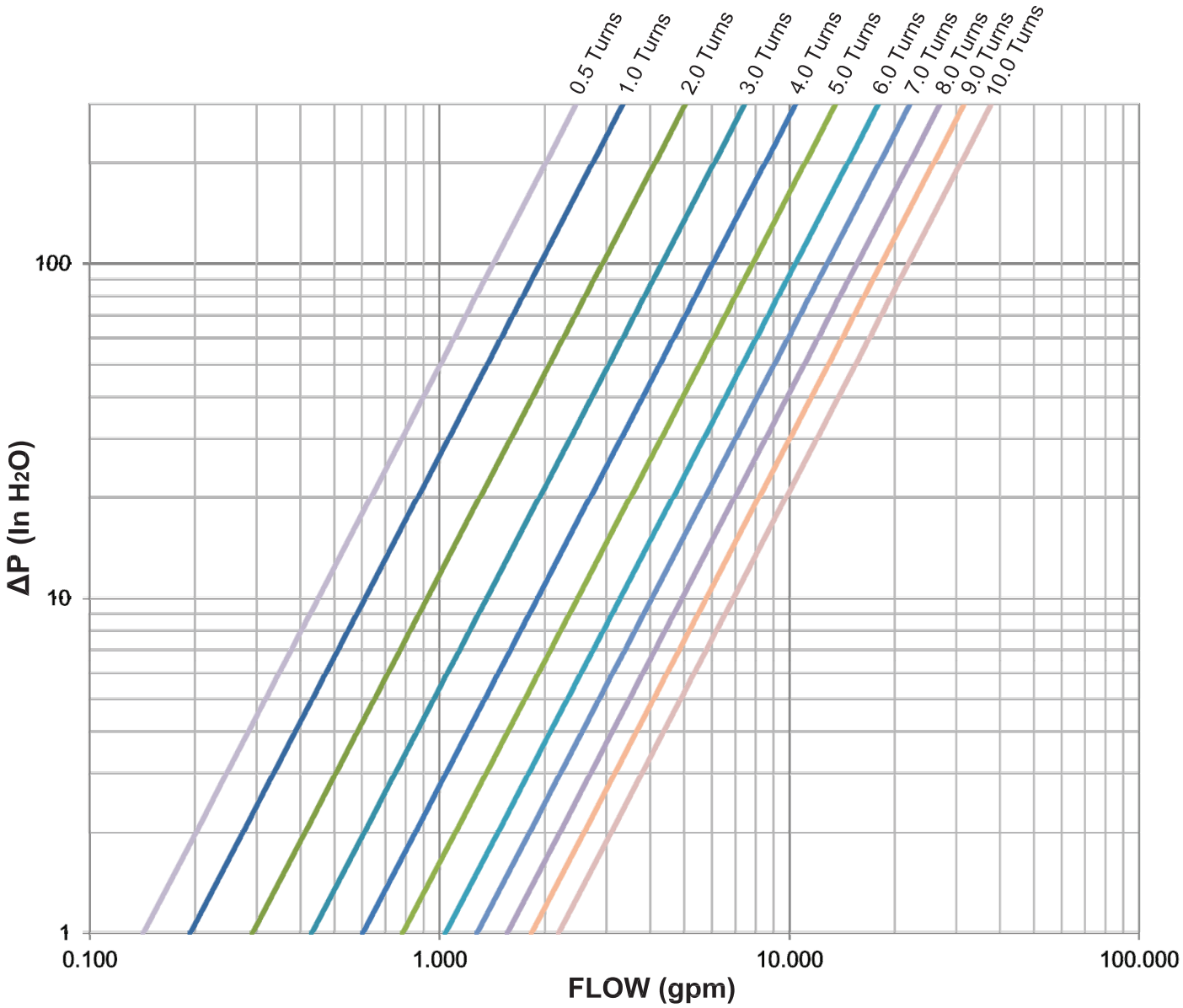


Figure 60: Manual Circuit Setter Flow Chart – 3/4" and 1" Valves



Electric Heat

The factory installed electric heat section (if equipped) consists of an open coil heater rack mounted to the unit's primary coil in the preheat position for horizontal units or reheat position for vertical units. Electric heat is designed to operate only when the supply fan is running, heating the air as it passes through the heating elements. The electric heat section consists of the mounting rack, electric elements, contactor, optional SCR module, and the manual and automatic reset thermal limits. Electric heat comes pre-wired to the main control box for a single point (or 2-point on unit sizes 060-100) power connection to the unit.

The temperature of the air leaving the unit (LAT) which is dependent on the entering air temperature (EAT), electric heat capacity (kW), and the air volume (CFM), must not exceed 125°F. The minimum allowable air volume for various combinations of EAT and kW are provided beginning on Table 19 on page 32 or may be calculated using the equation below.

LAT = (kW × 3145.622 ÷ CFM) + EAT

Electric Heat Safety

Overcurrent Protection

Optional factory provided over current protection is available on all units with a maximum operating current less than or equal to 48 amps. This protection is provided with fuses located on the unit main power circuit. Units with a maximum operating current greater than 48 amps will come with factory installed fusing on the electric heat circuit.

Thermal (Over Temperature) Protection

All units with electric heat are provided with at least two thermal protection devices. The primary thermal protection device is an automatic limit switch. The switch will reset itself when the temperature drops below a certain level. The secondary thermal protection device is a manual reset thermal cutout. This switch opens at a certain level but must be reset manually after the over temperature issue has been resolved. Units provided with the SCR type electric heat control have an additional automatic thermal protection built into the SCR controller.

Field-Installed Electric Heat

When installing a post electric heat section in the field, ensure that the heater rack is securely mounted in the designated position of the unit's air stream. Electric heat must only operate when the supply fan is running, allowing the air to be heated as it passes through the elements.

The field-installed electric heat kit consists of the mounting rack, electric heating elements, contactors, optional SCR module, and manual and automatic reset thermal limits. The installer must connect the electric heat section to the controller using wire terminals 222 through 236. The power supply for the electric heat must be provided from a separate source, independent of the unit's main power connection.

For MicroTech applications, wire the electric heat using Table 18 below. For non-MicroTech units, the terminals indicated in Table 18 will be available for use with a third-party controller or can optionally be wired directly from your third-party controller to the heating element. See electric heat installation instructions included with the electric heater for more information.

Table 18: Electric Heat Terminal Connections

	MicroTech Terminal		Electric Heat Terminal	Signal
Staged Electric Heat	TB2 or TB3	222C	C	Electric Heat Control Signal
		222	C1	Electric Heat Stage 1
		223	C2	Electric Heat Stage 2
		224	C3	Electric Heat Stage 3
		225	C4	Electric Heat Stage 4
SCR Electric Module	TB2 or TB3	222	T1	Electric Heat Signal (0-10VDC)
		236	T2	Electric Heat Reference

Table 19: Horizontal Minimum Allowable Air Volume with Electric Heat (Unit Sizes 006-020)

Unit Size	006	008	010	012	016	018	020
kW	Air Volume - CFM						
0.41	300	400	600	600	800	1000	1000
0.5	300	400	600	600	800	1000	1000
0.82	300	400	600	600	800	1000	1000
1	300	400	600	600	800	1000	1000
1.64	300	400	600	600	800	1000	1000
2	300	400	600	600	800	1000	1000
2.45	300	400	600	600	800	1000	1000
3	300	400	600	600	800	1000	1000
3.27	300	400	600	600	800	1000	1000
4	300	400	600	600	800	1000	1000
4.09	300	400	600	600	800	1000	1000
4.91	300	400	600	600	800	1000	1000
5	300	400	600	600	800	1000	1000
6	-	400	600	600	800	1000	1000
6.54	-	400	600	600	800	1000	1000
7.36	-	425	600	600	800	1000	1000
8	-	460	600	600	800	1000	1000
8.18	-	470	600	600	800	1000	1000
9	-	515	600	600	800	1000	1000
9.81	-	570	600	600	800	1000	1000
10	-	575	600	600	800	1000	1000
10.6	-	-	-	-	800	1000	1000
11	-	-	-	-	800	1000	1000
11.3	-	-	-	-	800	1000	1000
12	-	-	-	-	800	1000	1000
13	-	-	-	-	800	1000	1000

Table 20: Horizontal Minimum Allowable Air Volume With Electric Heat (Unit Sizes 030-100)

Unit Size	Forward-Curved Fan Units			Plenum Fan Units					
	030	040	050	030	040	050	060	080	100
kW	Air Volume - CFM			Air Volume - CFM					
7.36	1500	2000	2500	1800	2400	3000	-	-	-
9	1500	2000	2500	1800	2400	3000	-	-	-
15	1500	2000	2500	1800	2400	3000	-	-	-
17	-	-	-	-	-	-	3600	-	-
18	1500	2000	2500	1800	2400	3000	-	-	-
19	-	-	-	-	-	-	3600	-	-
20	-	-	-	-	-	-	3600	-	-
21	1500	2000	2500	1800	2400	3000	-	-	-
24	1500	2000	2500	1800	2400	3000	-	-	-
25	-	-	-	-	-	-	-	4800	-
28.9	-	-	-	-	-	-	-	4800	6000
30	-	2000	2500	-	2400	3000			
32	-	-	-	-	-	-	-	4800	6000
34.4	-	-	-	-	-	-	3600	-	-
36	-	2060	2500	-	2400	3000	-	-	-
38	-	-	-	-	-	-	3600	-	-
39	-	2250	2500	-	2400	3000	-	-	-
40	-	-	-	-	-	-	3600	-	-
43.4	-	-	-	-	-	-	-	4800	6000
48	-	-	-	-	-	-	-	4800	6000
50	-	-	-	-	-	-	-	4800	-
57	-	-	-	-	-	-	3600	4800	6000
60	-	-	-	-	-	-	3600	-	-
63	-	-	-	-	-	-	3603	4800	6000
65	-	-	-	-	-	-	-	4800	6000
75	-	-	-	-	-	-	4290	4800	-
95	-	-	-	-	-	-	5433	6000	6000
105	-	-	-	-	-	-	-	6005	-
133	-	-	-	-	-	-	-	-	7607

NOTE: Limits are based on greater value of either:
1. 250 FPM face velocity across the electric heating coil or
2. Entering Air of 70°F and a maximum of 125°F LAT

Table 21: Vertical Minimum Allowable Air Volume With Electric Heat

Unit Size	006	008	012	016	020
kW	Air Volume - CFM				
0.82	300	-	-	-	-
1	300	400	-	-	-
1.64	-	400	600	-	-
2	300	400	600	800	1000
2.45	300	-	-	-	-
3	300	-	-	-	-
3.27	-	400	600	800	1000
4	300	400	600	800	1000
4.8	-	400	600	-	-
4.91	300	-	-	-	-
6	345	-	-	-	-
6.54	-	400	600	800	1000
8	-	460	600	800	1000
8.18	-	470	600	800	1000
9.6	-	550	600	800	1000
10	-	575	600	800	1000
12	-	-	-	800	1000
19.2	-	-	-	-	1100

Unit Size	Forward-Curved Fan Units			Plenum Fan Units		
	030	040	050	030	040	050
kW	Air Volume - CFM			Air Volume - CFM		
6.8	1500	2000	2500	1800	2400	3000
9	1500	2000	2500	1800	2400	3000
11.3	1500	2000	2500	1800	2400	3000
13.5	1500	2000	2500	1800	2400	3000
15	1500	2000	2500	1800	2400	3000
18	1500	2000	2500	1800	2400	3000
21	1500	2000	2500	1800	2400	3000
24	1500	2000	2500	1800	2400	3000
39	2235	2235	2500	1800	2400	3000

NOTE: Limits are based on greater value of either:
1. 250 FPM face velocity across the electric heating coil or
2. Entering Air of 70°F and a maximum of 125°F LAT

Table 22: Horizontal Electric Heat kW Options by Unit Size

Unit Size	Voltage	Horizontal kW												
006	120/60/1	0.5	1.0	2.0	3.0	4.0	-	-	-	-	-	-	-	-
	208/60/1	0.4	0.8	1.6	2.5	3.3	4.1	4.9	-	-	-	-	-	-
	230/60/1	0.5	1.0	2.0	3.0	4.0	5.0	6.0	-	-	-	-	-	-
	277/60/1	-	1.0	2.0	3.0	4.0	5.0	6.0	-	-	-	-	-	-
	460/60/1	-	1.0	-	3.0	-	-	6.0	-	-	-	-	-	-
008	120/60/1	0.5	1.0	2.0	3.0	4.0	5.0	-	-	-	-	-	-	-
	208/60/1	0.4	0.8	1.6	2.5	3.3	4.1	4.9	6.5	8.2	-	-	-	-
	230/60/1	0.5	1.0	2.0	3.0	4.0	5.0	6.0	8.0		10.0	-	-	-
	277/60/1	0.5	1.0	2.0	3.0	4.0	5.0	6.0	8.0	-	10.0	-	-	-
	460/60/1	-	-	2.0	-	4.0	5.0	-	8.0	-	10.0	-	-	-
010	120/60/1	0.5	1.0	2.0	3.0	4.0	5.0	-	-	-	-	-	-	-
	208/60/1	0.4	0.8	1.6	2.5	3.3	4.1	4.9	6.5	8.2	-	-	-	-
	230/60/1	0.5	1.0	2.0	3.0	4.0	5.0	6.0	8.0	-	10.0	-	-	-
	277/60/1	0.5	1.0	2.0	3.0	4.0	5.0	6.0	8.0	-	10.0	-	-	-
	460/60/1	-	-	2.0	-	4.0	5.0	-	8.0	-	10.0	-	-	-
012	120/60/1	0.5	1.0	2.0	3.0	4.0	5.0	-	-	-	-	-	-	-
	208/60/1	0.4	0.8	1.6	2.5	3.3	4.1	4.9	6.5	8.2	-	-	-	-
	230/60/1	0.5	1.0	2.0	3.0	4.0	5.0	6.0	8.0	-	10.0	-	-	-
	277/60/1	0.5	1.0	2.0	3.0	4.0	5.0	6.0	8.0	-	10.0	-	-	-
	460/60/1	-	-	2.0	-	4.0	5.0	-	8.0	-	10.0	-	-	-
016	120/60/1	-	1.0	2.0	-	4.0	5.0	-	-	-	-	-	-	-
	208/60/1	-	0.8	1.6	-	3.3	-	4.9	6.5	8.2	-	-	-	-
	230/60/1	-	1.0	2.0	-	4.0	-	6.0	8.0	-	10.0	-	-	-
	277/60/1	-	1.0	2.0	-	4.0	-	6.0	8.0	-	10.0	-	12.0	13.0
	460/60/1	-	-	-	-	4.0	-	-	8.0	-	10.0	12.0	16.0	20.0
018	120/60/1	-	1.0	2.0	-	4.0	5.0	-	-	-	-	-	-	-
	208/60/1	-	0.8	1.6	-	3.3	-	4.9	6.5	8.2	9.0	-	-	-
	230/60/1	-	1.0	2.0	-	4.0	-	6.0	8.0	-	10.0	11.0	-	-
	277/60/1	-	1.0	2.0	-	4.0	-	6.0	8.0	-	10.0	-	12.0	13.0
	460/60/1	-	-	-	-	4.0	-	-	8.0	-	10.0	12.0	17.0	20.0
020	120/60/1	-	1.0	2.0	-	4.0	5.0	-	-	-	-	-	-	-
	208/60/1	-	0.8	1.6	-	3.3	-	4.9	6.5	8.2	9.0	-	-	-
	230/60/1	-	1.0	2.0	-	4.0	-	6.0	8.0	-	10.0	11.0	-	-
	277/60/1	-	1.0	2.0	-	4.0	-	6.0	8.0	-	10.0	-	12.0	13.0
	460/60/1	-	-	-	-	4.0	-	-	8.0	-	10.0	12.0	-	20.0
030	208/60/3	6.8	11.3	13.5	-	-	-	-	-	-	-	-	-	-
	240/60/3	9.0	15.0	18.0	-	-	-	-	-	-	-	-	-	-
	460/60/3	9.0	15.0	18.0	21.0	24.0	-	-	-	-	-	-	-	-
	575/60/3	9.0	15.0	18.0	21.0	24.0	-	-	-	-	-	-	-	-
040	208/60/3	6.8	11.3	13.5	-	-	-	-	-	-	-	-	-	-
	240/60/3	9.0	15.0	18.0	-	-	-	-	-	-	-	-	-	-
	460/60/3	9.0	15.0	18.0	21.0	24.0	30.0	36.0	39.0	-	-	-	-	-
	575/60/3	9.0	15.0	18.0	21.0	24.0	30.0	36.0	39.0	-	-	-	-	-
050	208/60/3	6.8	11.3	13.5	-	-	-	-	-	-	-	-	-	-
	240/60/3	9.0	15.0	18.0	-	-	-	-	-	-	-	-	-	-
	460/60/3	9.0	15.0	18.0	21.0	24.0	30.0	36.0	39.0	-	-	-	-	-
	575/60/3	9.0	15.0	18.0	21.0	24.0	30.0	36.0	39.0	-	-	-	-	-
060	208/60/3	17.2	-	-	-	34.4	-	-	57	-	-	-	-	-
	240/60/3	19	-	-	-	38	-	-	63	-	-	-	-	-
	460/60/3	-	20	-	-	-	40	-	63	-	75	-	-	-
	575/60/3	-	20	-	-	-	40	-	63	-	75	-	-	-
080	208/60/3	-	-	-	28.9	-	-	43.4	57	-	-	-	-	-
	240/60/3	-	-	-	32	-	-	48	63	-	-	-	-	-
	460/60/3	-	-	25	-	-	-	50	-	-	75	-	105	-
	575/60/3	-	-	25	-	-	-	50	-	-	-	95	105	-
100	208/60/3	-	-	-	28.9	-	-	43.4	57	-	-	-	-	-
	240/60/3	-	-	-	32	-	-	48	63	-	-	-	-	-
	460/60/3	-	-	-	32	-	-	-	-	65	-	95	-	133
	575/60/3	-	-	-	32	-	-	-	-	65	-	95	-	133

Table 23: Vertical Electric Heat kW Options by Unit Size

Unit Size	Voltage	Vertical kW												
006	120/60/1	-	1	2	-	4	-	-	-	-	-	-	-	-
	208/60/1	-	0.8	-	2.5	3.3	-	4.9	-	-	-	-	-	-
	230/60/1	-	1.0	-	3.0	4.0	-	6.0	-	-	-	-	-	-
	277/60/1	-	1.0	-	3.0	4.0	-	6.0	-	-	-	-	-	-
	460/60/1	-	1.0	-	3.0	-	-	6.0	-	-	-	-	-	-
008	120/60/1	-	1.0	2.0	-	4.0	-	-	-	-	-	-	-	-
	208/60/1	-	-	1.6	-	3.3	-	-	6.5	8.2	-	-	-	-
	230/60/1	-	-	2.0	-	4.0	-	-	8.0	-	10.0	-	-	-
	277/60/1	-	-	2.0	-	4.0	-	-	8.0	-	10.0	-	-	-
	460/60/1	-	-	2.0	-	4.0	5.0	-	8.0	-	10.0	-	-	-
012	120/60/1	-	-	2.0	-	4.0	-	-	-	-	-	-	-	-
	208/60/1	-	-	1.6	-	3.3	-	-	6.5	8.2	-	-	-	-
	230/60/1	-	-	2.0	-	4.0	-	-	8.0	-	10.0	-	-	-
	277/60/1	-	-	2.0	-	4.0	-	-	8.0	-	10.0	-	-	-
	460/60/1	-	-	2.0	-	4.0	5.0	-	8.0	-	10.0	-	-	-
016	120/60/1	-	-	2.0	-	4.0	-	-	-	-	-	-	-	-
	208/60/1	-	-	-	-	3.3	-	-	6.5	8.2	-	-	-	-
	230/60/1	-	-	-	-	4.0	-	-	8.0	-	10.0	-	-	-
	277/60/1	-	-	-	-	4.0	-	-	8.0	-	10.0	12.0	-	-
	460/60/1	-	-	-	-	4.0	-	-	8.0	-	10.0	12.0	-	-
020	120/60/1	-	-	2.0	-	4.0	-	-	-	-	-	-	-	-
	208/60/1	-	-	-	-	3.3	-	-	6.5	8.2		-	-	-
	230/60/1	-	-	-	-	4.0	-	-	8.0	-	10.0	-	-	-
	277/60/1	-	-	-	-	4.0	-	-	8.0	-	10.0	12.0	-	-
	460/60/1	-	-	-	-	4.0	-	-	8.0	-	10.0	12.0	-	20.0
030	208/60/3	6.8	11.3	13.5	-	-	-	-	-	-	-	-	-	-
	240/60/3	9.0	15.0	18.0	-	-	-	-	-	-	-	-	-	-
	460/60/3	9.0	15.0	-	21.0	24.0	-	-	-	-	-	-	-	-
	575/60/3	9.0	15.0	-	21.0	24.0	-	-	-	-	-	-	-	-
040	208/60/3	6.8	11.3	13.5	-	-	-	-	-	-	-	-	-	-
	240/60/3	9.0	15.0	18.0	-	-	-	-	-	-	-	-	-	-
	460/60/3	9.0	15.0	-	21.0	24.0	-	-	39.0	-	-	-	-	-
	575/60/3	9.0	15.0	-	21.0	24.0	-	-	39.0	-	-	-	-	-
050	208/60/3	6.8	11.3	13.5	-	-	-	-	-	-	-	-	-	-
	240/60/3	9.0	15.0	18.0	-	-	-	-	-	-	-	-	-	-
	460/60/3	9.0	15.0	-	21.0	24.0	-	-	39.0	-	-	-	-	-
	575/60/3	9.0	15.0	18.0	21.0	24.0	-	-	39.0	-	-	-	-	-

Table 24: Vertical Defrost Electric Heat kW Options by Unit Size - Sizes 060-100

Unit Size	Voltage	Vertical kW												
060	208/60/3	15	30	50	-	-	-	-	-	-	-	-	-	-
	240/60/3	15	30	50	-	-	-	-	-	-	-	-	-	-
	460/60/3	15	30	50	59	70	-	-	-	-	-	-	-	-
	575/60/3	15	30	50	59	70	-	-	-	-	-	-	-	-
080	208/60/3	15	30	50	59	-	-	-	-	-	-	-	-	-
	240/60/3	15	30	50	59	-	-	-	-	-	-	-	-	-
	460/60/3	15	30	50	59	70	90	-	-	-	-	-	-	-
	575/60/3	15	30	50	59	70	90	-	-	-	-	-	-	-
100	208/60/3	15	30	50	59	-	-	-	-	-	-	-	-	-
	240/60/3	15	30	50	59	-	-	-	-	-	-	-	-	-
	460/60/3	15	30	50	59	70	90	110	-	-	-	-	-	-
	575/60/3	15	30	50	59	70	90	110	-	-	-	-	-	-

Table 25: Vertical Defrost Electric Heat kW Options by Unit Size - Sizes 060-100

Unit Size	Voltage	Vertical kW												
060	208/60/3	15	30	50	60	70	90	110	125	-	-	-	-	-
	240/60/3	15	30	50	60	70	90	110	125	-	-	-	-	-
	460/60/3	15	30	50	60	70	90	110	125	150	-	-	-	-
	575/60/3	15	30	50	60	70	90	110	125	150	-	-	-	-
080	208/60/3	15	30	50	60	70	90	110	125	-	-	-	-	-
	240/60/3	15	30	50	60	70	90	110	125	-	-	-	-	-
	460/60/3	15	30	50	60	70	90	110	125	150	175	200	-	-
	575/60/3	15	30	50	60	70	90	110	125	150	175	200	-	-
100	208/60/3	15	30	50	60	70	90	110	125	-	-	-	-	-
	240/60/3	15	30	50	60	70	90	110	125	-	-	-	-	-
	460/60/3	15	30	50	60	70	90	110	125	150	175	200	250	-
	575/60/3	15	30	50	60	70	90	110	125	150	175	200	250	-

Table 26: Horizontal Unit - Heater Amps

Horizontal Heater Amps											
kW	120V/1Ø	230V/1Ø	277V/1Ø	460V/1Ø	kW	240V/3Ø	460V/3Ø	575V/3Ø	kW	208V/1Ø†	208V/3Ø†
0.5	4.17	2.17	1.81	-	**0.5**	1.20	0.63	0.50	**0.41**	1.97	-
1	8.33	4.35	3.61	2.17	**1**	2.41	1.26	1.00	**0.82**	3.94	-
2	16.67	8.70	7.22	4.35	**2**	4.81	2.51	2.01	**1.64**	7.88	-
3	25.00	13.04	10.83	6.52	**3**	7.22	3.77	3.01	**2.45**	11.78	-
4	33.33	17.39	14.44	8.70	**4**	9.62	5.02	4.02	**3.27**	15.72	-
5	41.67	21.74	18.05	10.87	**5**	12.03	6.28	5.02	**4.09**	19.66	-
6	-	26.09	21.66	13.04	**6**	14.43	7.53	6.02	**4.91**	23.61	-
8	-	34.78	28.88	17.39	**8**	19.25	10.04	8.03	**6.54**	31.44	-
10	-	43.48	-	21.74	**9**	21.65	11.30	9.04	**6.80**	-	35.38
11	-	47.83	39.71	-	**10**	24.06	12.55	10.04	**8.18**	39.33	-
12	-	-	43.32	26.09	**11**	26.46	13.81	11.04	**9.00**	43.27	-
13	-	-	46.93	-	**12**	28.87	15.06	12.05	**9.81**	47.16	-
18	-	-	-	39.13	**13**	31.27	16.32	13.05	**10.63**	51.11	-
21	-	-	-	45.65	**15**	36.08	18.83	15.06	**11.30**	-	54.33
					18	43.30	22.59	18.07	**13.50**	-	64.90
					19	45.70	-	-	**17.2**	-	47.70
					20	-	24.10	19.20	**28.9**	-	80.30
					21	-	26.36	21.09	**34.4**	-	95.40
					24	-	30.12	24.10	**43.4**	-	120.50
					25	-	30.10	-	**57**	-	158.10
					30	-	37.65	30.12			
					36	-	45.18	36.15			
					39	-	48.95	39.16			
					40	-	48.1	38.5			
					48	115.5	-	-			
					50	-	60.1	-			
					60	-	72.2	57.7			
					63	151.6	-	-			
					65	-	-	62.5			
					75	-	90.2	72.2			
					95	-		91.4			
					105	-	126.3	1.1			
					133	-	160	128			

NOTE: † Indicates that 208V single and three phase applications make use of a de-rated 230/240V heater.

Table 27: Vertical Unit - Heater Amps - Sizes 006-050

Vertical Heater Amps (Sizes 006-050)											
kW	**115V/1Ø**	**230V/1Ø**	**277V/1Ø**	**480V/1Ø**	**kW**	**240V/3Ø**	**480V/3Ø**	**600V/3Ø**	**kW**	**208V/1Ø†**	**208V/3Ø†**
1	8.7	4.3	3.6	2.1	**9**	21.7	10.8	8.7	**0.82**	3.9	-
2	17.4	8.7	7.2	4.2	**15**	36.1	18.0	14.4	**1.64**	7.9	-
3	-	13.0	10.8	6.3	**18**	43.3	-	-	**2.45**	11.8	-
4	34.8	17.4	14.4	8.3	**21**	-	25.3	20.2	**3.27**	15.7	-
5	-	-	-	10.87	**24**	-	28.9	23.1	**4.09**	19.7	-
6	-	26.1	21.7	12.5	**39**	-	46.9	37.5	**4.91**	23.6	-
8	-	34.8	28.9	16.7					**6.54**	31.5	-
10	-	43.5	36.1	20.83					**6.80**	-	18.8
12	-	-	43.3	25.0					**8.18**	39.3	-
19.2	-	-	-	40.0					**11.3**	-	31.3
									13.5	-	37.5

NOTE: † Indicates that 208V single and three phase applications make use of a de-rated 230/240V heater.

Table 28: Vertical Unit - Defrost Heater Amps - Sizes 060-100

Vertical Heater Amps (Sizes 060-100)				
kW	**208V/3Ø**	**230V/3Ø**	**480V/3Ø**	**575V/3Ø**
15	34.05	37.65	18.83	15.06
30	68.10	75.31	37.65	30.12
50	113.51	125.51	62.76	50.20
59	133.94	148.10	74.05	59.24
70	-	-	87.86	70.29
90	-	-	112.96	90.37
110	-	-	138.06	110.45

NOTE: † Indicates that 208V single and three phase applications make use of a de-rated 230/240V heater.

Table 29: Vertical Unit - Post Heater Amps - Sizes 060-100

Vertical Heater Amps (Sizes 060-100)				
kW	**208V/3Ø**	**230V/3Ø**	**480V/3Ø**	**575V/3Ø**
15	34.05	37.65	18.83	15.06
30	68.10	75.31	37.65	30.12
50	113.51	125.51	62.76	50.20
59	136.21	150.61	75.31	60.25
70	158.91	175.72	87.86	70.29
90	204.31	225.92	112.96	90.37
110	249.71	276.12	138.06	110.45
125	283.76	313.78	156.89	125.51
150	-	-	188.27	150.61
175	-	-	219.64	175.72
200	-	-	251.02	200.82
250	-	-	313.78	251.02

NOTE: † Indicates that 208V single and three phase applications make use of a de-rated 230/240V heater.

Energy Recovery Wheel

System Description

Units equipped with an energy recovery wheel (ERW), provide energy recovery by drawing outside air across one half of the enthalpy wheel while drawing exhaust air across the other half of the wheel. During winter conditions, latent and sensible heat is transferred from the hotter and moist exhaust air to the colder and dry outside air. During summer conditions, latent and sensible heat is transferred from the hotter and moist outside air to the cooler and dry exhaust air. Energy recovery control consists of starting and stopping an exhaust fan, modulating the speed of the exhaust fan, starting and stopping an ERW, optionally controlling the speed of the ERW, and opening and closing a set of bypass dampers (46″ ERW size only). The outdoor dampers are controlled in the normal manner.

Definitions

The following are descriptions of various components related to the ERW construction (Figure 61):

Bearing, external - The wheel and bearing rotate on the shaft, no field lubrication is required.

Brush seal - The seal used for both the circumferential seal and the inner seal in the cassettes. They are constructed of nylon brush and configured to seal against the ERW band (circumferential seal) and against the wheel face (inner seal). These seals are full contact seals, have an integral clip, and are clipped to the cassette face panel cutout (circumferential) or to the (inner) post.

Cassette - The steel structure that houses the rotor. Cassettes are of punched sheet metal panel construction.

Hub - The center support of an ERW.

Media - The chemical composite part of the ERW which actually performs the heat exchange.

Purge - A small segment of supply air defined by the gap between the inner seal on the outdoor air edge of the center post and the supply air edge of the center post. The purge angle is adjustable. The purge captures the small amount of supply air captive in the ERW when the wheel moves from return to supply and routes it to return to minimize cross contamination.

Rotor - The part of an ERW that performs the energy exchange and consists of the wheel media, hub, spokes, and band.

Arrangements

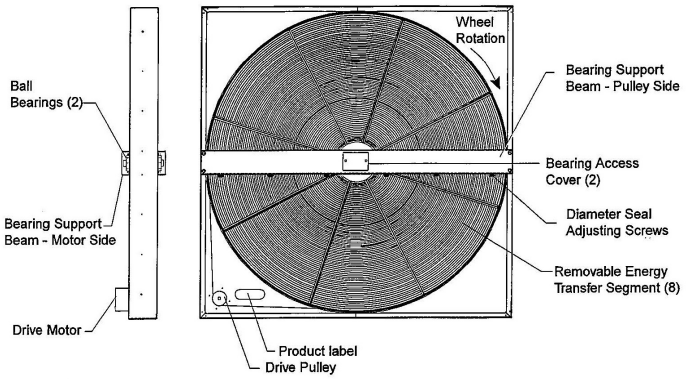
Two arrangements are offered for the ERW:

1. Single ERW without economizer (100% outdoor air unit).
2. Single ERW with economizer and bypass (Figure 61). This arrangement is available with the 46″ ERW on all unit sizes.

Wheel Construction

Your Daikin Applied ERW is delivered completely assembled and ready to run. The wheel is built to provide many years of trouble free service following proper installation and performance of the minimal maintenance requirements.

Figure 61: Wheel Construction (Side-by-Side)



Purge and Pressurization

Pressurization is critical to minimize crossover from exhaust to supply and to allow the purge to operate.

Figure 62: Purge and Pressurization

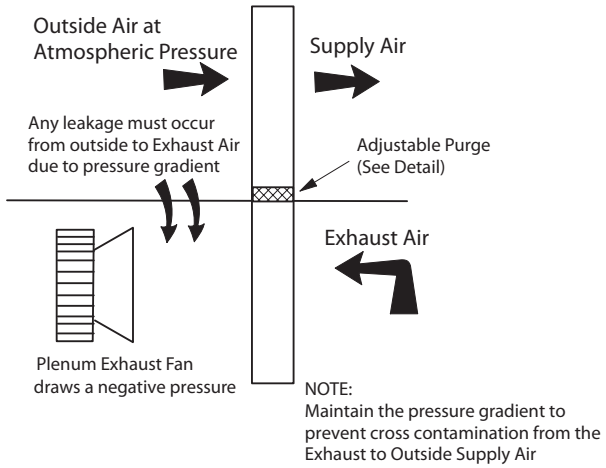
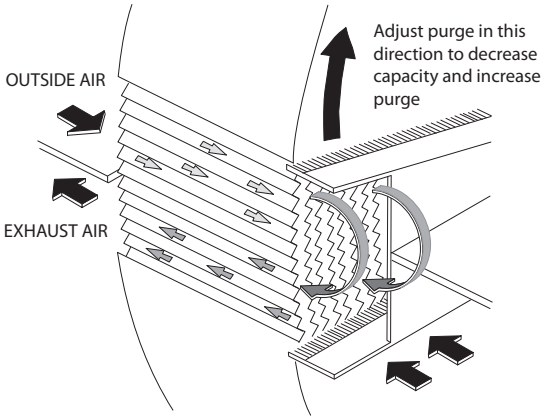


Figure 63: Purge Detail



Drive Motor

The ERW comes standard with a constant speed drive motor which is pre-wired to turn in the proper direction.

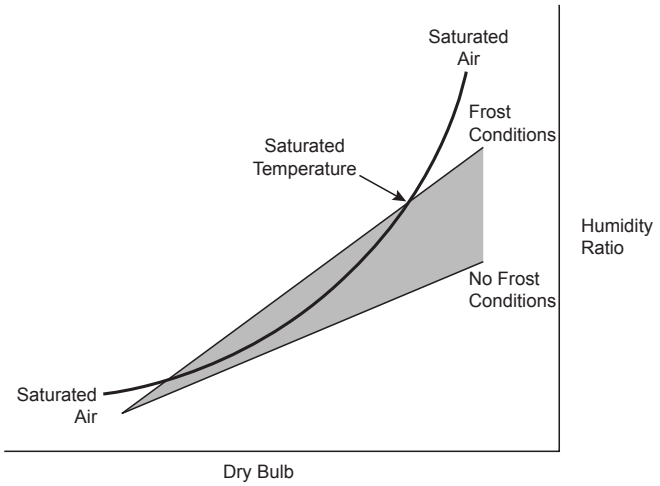
Frost Protection Option

During extremely cold winter conditions, exhaust air stream may freeze the ERW causing damage. To circumvent this possibility, Daikin Applied offers four factory installed frost protection options with the MicroTech system: defrost on/off, constant speed frost prevention, variable speed frost prevention, and preheat.

Defrost ON/OFF Control (Standard)

With this method the ERW is stopped periodically for a defrost time duration when the outdoor air temperature is below an outdoor frost temperature threshold setpoint.

Figure 64: Frost Prevention Psychrometric Chart



Constant Speed Frost Prevention

When there is a threat of frost on the ERW, the wheel is jogged so that less enthalpy transfer occurs and frosting of the wheel is avoided. Frosting can occur on the ERW when the exhaust air leaving the wheel is saturated. This condition occurs when two lines intersect on a psychrometric chart, and it does not occur when these two lines do not intersect (see Figure 64).

Variable Speed Frost Prevention

When there is a threat of frost on the ERW, the wheel is slowed down so that less enthalpy transfer occurs and frosting of the wheel is avoided. Frosting can occur on the ERW when the exhaust air leaving the wheel is saturated. This condition occurs when two lines intersect on a psychrometric chart, and it does not occur when these two lines do not intersect (see Figure 64).

Energy Recovery Exhaust Hoods

Units with the optional energy recovery section have one or two exhaust hoods (depending on model). Each hood is shipped in three pieces, consisting of one top and two sides. Install exhaust hood over the barometric relief dampers by installing two sides first and then install the top.

Variable Speed Frequency Control

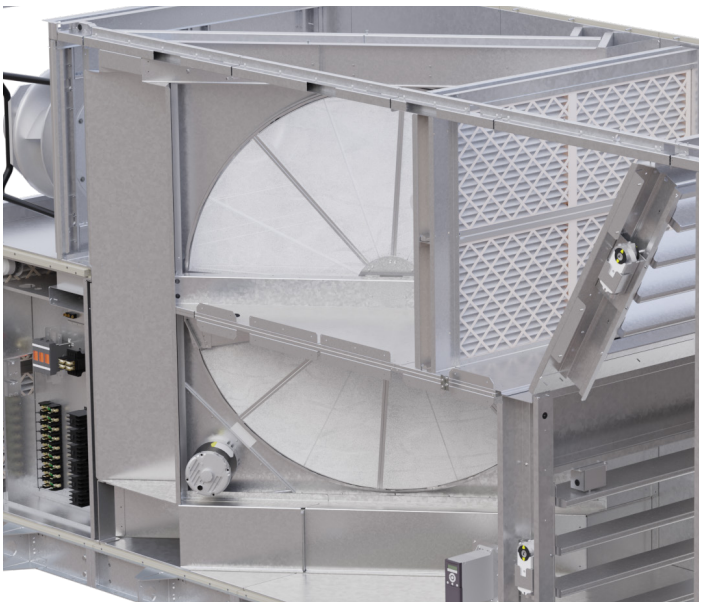
A variable frequency drive is included with the frost protection option and it controls the speed of the ERW. The unit has also been programmed for the recommended range of wheel speed operation. Typical wheel speed is 45 RPM, but the programming can allow for wheel speeds above or below 45 RPM. Check all factory settings to make sure they are consistent with the application. Refer to OM 1357 for additional details.

ERW speed will be controlled by exhaust temperature measurement.

Slide-Out Wheel

The wheel can be pulled out to facilitate cleaning and servicing (Figure 65). Unplug the control wires before sliding the wheel out of position.

Figure 65: Slide-Out Energy Recovery Wheel



Physical Data

Component Weights

Table 30: Horizontal Component Weights (Sizes 006-050)

Component	Rows	FPI	Weight — lbs (kg)									
			006	008	010	012	016	018	020	030	040	050
Coil (Wet)	1	12	6 (3)	7 (4)	9 (5)	9 (5)	10 (5)	11 (5)	11 (5)	20 (10)	26 (12)	33 (15)
	1	16	7 (4)	7 (4)	9 (5)	9 (5)	11 (5)	12 (6)	12 (6)	21 (10)	28 (13)	35 (16)
	2	12	9 (5)	10 (5)	13 (6)	13 (6)	17 (8)	19 (9)	19 (9)	33 (15)	43 (20)	53 (25)
	2	16	9 (5)	11 (5)	14 (7)	14 (7)	18 (9)	21 (10)	21 (10)	36 (17)	46 (21)	57 (26)
	4	12	13 (6)	16 (8)	23 (11)	23 (11)	28(13)	35 (16)	35 (16)	57 (26)	77 (35)	93 (43)
	4	16	14 (7)	17 (8)	24 (11)	24 (11)	30 (14)	38 (18)	38 (18)	61 (28)	84 (39)	101 (46)
	6	12	18 (9)	23 (11)	31 (15)	31 (15)	41 (19)	49 (23)	49 (23)	78 (36)	106 (49)	128 (59)
	6	16	19 (9)	25 (12)	34 (16)	34 (16)	44 (20)	54 (25)	54 (25)	85 (39)	115 (53)	140 (64)
	8	12	-	-	-	-	-	-	-	100 (46)	134 (61)	164 (75)
	8	16	-	-	-	-	-	-	-	109 (50)	147 (67)	179 (82)
Coil (Dry)	1	12	5 (3)	6 (3)	7 (4)	7 (4)	8 (4)	9(5)	9(5)	16 (8)	20 (10)	25 (12)
	1	16	5 (3)	6 (3)	7 (4)	7 (4)	8 (4)	10 (5)	10 (5)	17 (8)	22 (10)	27 (13)
	2	12	7 (4)	8 (4)	10 (5)	10 (5)	12 (6)	14 (7)	14 (7)	24 (11)	32 (15)	39 (18)
	2	16	7 (4)	8 (4)	11 (5)	11 (5)	14 (7)	16 (8)	16 (8)	27 (13)	35 (16)	43 (20)
	4	12	10 (5)	12 (6)	16 (8)	16 (8)	20 (10)	25 (12)	25 (12)	41 (19)	55 (25)	65 (30)
	4	16	11 (5)	13 (6)	18 (9)	18 (9)	23 (11)	28 (13)	28 (13)	46 (21)	61 (28)	73 (34)
	6	12	13 (6)	16 (8)	23 (11)	23 (11)	29 (14)	35 (16)	35 (16)	56 (26)	75 (35)	91 (42)
	6	16	14 (7)	18 (9)	25 (12)	25 (12)	33 (15)	40 (19)	40 (19)	63 (29)	84 (39)	102 (47)
	8	12	-	-	-	-	-	-	-	72 (33)	95 (44)	116 (53)
	8	16	-	-	-	-	-	-	-	81 (37)	107 (49)	131 (60)
DX Normal	3	12	9(5)	11 (5)	15 (7)	15 (7)	19 (9)	23 (11)	23 (11)	38 (18)	49 (23)	60 (28)
	3	16	10 (5)	12 (6)	17 (8)	17 (8)	21 (10)	25 (12)	25 (12)	42 (20)	54 (25)	66 (30)
DX Interlaced	3	12	-	-	-	-	-	-	-	36 (17)	47 (22)	58 (27)
	3	16	-	-	-	-	-	-	-	40 (19)	52 (24)	64 (30)
Standard Cabinet (FC Fans)	-	-	180 (82)	260 (118)	324 (147)	324 (147)	440 (200)	530 (241)	530 (241)	490 (223)	585 (266)	730 (332)
Standard Cabinet (Plenum Fans)	-	-	-	-	-	-	-	-	-	457 (208)	618 (281)	743 (338)
Mixing Box	-	-	22 (10)	32 (15)	40 (18)	40 (18)	54 (25)	54 (25)	65 (30)	68 (31)	72 (33)	90 (41)
Discharge Plenum	-	-	20 (9)	29 (13)	36 (16)	36 (16)	49 (22)	49 (22)	59 (27)	63 (29)	67 (30)	81 (37)
Primary Valve Package	-	-	6 (3)	6 (3)	9 (4)	9 (4)	10 (5)	12 (5)	12 (5)	-	-	-
Heating Valve Package	-	-	4 (2)	4 (2)	6 (3)	6 (3)	6 (3)	8 (4)	8 (4)	-	-	-
VRV	3	12	9 (5)	11 (5)	15 (7)	15 (7)	18 (9)	22(10)	22 (10)	-	47 (22)	58 (27)
	3	10	-	-	-	-			-	36 (16)	-	-

Table 31: Horizontal Component Weights (Sizes 060-100)

Component	Rows	FPI	Weight — lbs (kg)		
			060	080	100
Coil (Wet)	1	12	40 (18)	52 (24)	66 (30)
	1	16	42 (19)	56 (25)	70 (32)
	2	12	66 (30)	86 (39)	106 (48)
	2	16	72 (33)	92 (42)	114 (52)
	4	12	114 (52)	154 (70)	186 (84)
	4	16	122 (55)	168 (76)	20 (9)
	6	12	156 (71)	20 (9)	24 (11)
	6	16	170 (77)	22 (10)	28 (13)
	8	12	20 (9)	26 (12)	32 (15)
	8	16	20 (9)	28 (13)	34 (15)
Coil (Dry)	1	12	32 (15)	40 (18)	50 (23)
	1	16	34 (15)	44 (20)	54 (24)
	2	12	48 (22)	64 (29)	78 (35)
	2	16	54 (24)	70 (32)	86 (39)
	4	12	82 (37)	110 (50)	130 (59)
	4	16	92 (42)	122 (55)	146 (66)
	6	12	112 (51)	150 (68)	182 (83)
	6	16	126 (57)	168 (76)	20 (9)
	8	12	144 (65)	190 (86)	22 (10)
	8	16	162 (73)	20 (9)	26 (12)
DX Normal	3	12	76 (34)	98 (44)	120 (54)
	3	16	84 (38)	108 (49)	132 (60)
DX Interlaced	3	12	72 (33)	94 (43)	116 (53)
	3	16	80 (36)	104 (47)	128 (58)
VRV	3	12	-	94 (43)	116 (53)
	3	10	72 (33)	-	-
Discharge Plenum	-	-	239 (108)	250 (113)	270 (122)
Discharge Plenum with Post Filter	-	-	307 (139)	352 (160)	378 (171)
Fan Section	-	-	422 (191)	415 (188)	457 (207)
Single Supply Fan Weight	-	-	110 (50)	110 (50)	110 (50)
Dual Supply Fan Weight	-	-	220 (100)	220 (100)	220 (100)
Coil Section	-	-	130 (59)	140 (64)	166 (75)
Prefilter	-	-	234 (106)	263 (119)	267 (121)
Mixbox	-	-	380 (172)	439 (199)	460 (209)
Economizer	-	-	406 (184)	454 (206)	479 (217)
Electric Heat	-	-	329 (149)	332 (151)	362 (164)
Exhaust Air/Outdoor Air	-	-	333 (151)	377 (171)	422 (191)

Table 32: Vertical Component Weights (Sizes 006-050)

Component	Rows	FPI	Weight—lbs (kg)							
			006	008	012	016	020	030	040	050
Coil (Wet)	1	12	6 (3)	8 (4)	9 (5)	12 (6)	13 (6)	22 (10)	28 (13)	38 (18)
	1	14	7 (4)	8 (4)	10 (5)	12 (6)	13 (6)	22 (10)	29 (14)	39 (18)
	1	16	7 (4)	8 (4)	10 (5)	12 (6)	14 (7)	23 (11)	30 (14)	40 (19)
	2	12	10 (5)	11 (5)	14 (7)	19 (9)	21 (10)	36 (17)	47 (22)	59 (27)
	2	14	10 (5)	11 (5)	14 (7)	19 (9)	22 (10)	37 (17)	48 (22)	61 (28)
	2	16	10 (5)	11 (5)	15 (7)	20 (10)	23 (11)	39 (18)	50 (23)	63 (29)
	4	12	13 (6)	17 (8)	23 (11)	30 (14)	37 (17)	61 (28)	80 (37)	101 (46)
	4	14	14 (7)	17 (8)	24 (11)	32 (15)	39 (18)	63 (29)	83 (38)	105 (48)
	4	16	14 (7)	18 (9)	25 (12)	33 (15)	40 (19)	65 (30)	86 (40)	109 (50)
	6	12	18 (9)	23 (11)	32 (15)	44 (20)	52 (24)	87 (40)	109 (50)	138 (63)
	6	14	18 (9)	24 (11)	33 (15)	45 (21)	54 (25)	90 (41)	113 (52)	143 (65)
	6	16	19 (9)	25 (12)	34 (16)	47 (22)	56 (26)	94 (43)	118 (54)	149 (68)
	8	12	-	-	-	-	-	109 (50)	137 (63)	174 (79)
	8	14	-	-	-	-	-	114 (52)	143 (65)	181 (83)
	8	16	-	-	-	-	-	119 (54)	150 (69)	189 (86)
Coil (Dry)	1	12	5 (3)	6 (3)	7 (4)	9 (5)	10 (5)	17 (8)	22 (10)	29 (14)
	1	14	5 (3)	6 (3)	8 (4)	9 (5)	10 (5)	18 (9)	23 (11)	30 (14)
	1	16	5 (3)	6 (3)	8 (4)	10 (5)	11 (5)	19 (9)	24 (11)	31 (15)
	2	12	7 (4)	8 (4)	10 (5)	14 (7)	16 (8)	27 (13)	35 (16)	44 (20)
	2	14	8 (4)	9 (5)	11 (5)	15 (7)	17 (8)	28 (13)	36 (17)	46 (21)
	2	16	8 (4)	9 (5)	11 (5)	15 (7)	17 (8)	30 (14)	38 (18)	48 (22)
	4	12	10 (5)	12 (6)	17 (8)	22 (10)	27 (13)	44 (20)	56 (26)	71 (33)
	4	14	10 (5)	13 (6)	18 (9)	23 (11)	28 (13)	46 (21)	59 (27)	75 (35)
	4	16	11 (5)	14 (7)	19 (9)	25 (12)	30 (14)	49 (23)	63 (29)	79 (36)
	6	12	13 (6)	17 (8)	23 (11)	31 (15)	37 (17)	61 (28)	77 (35)	97 (44)
	6	14	14 (7)	18 (9)	24 (11)	33 (15)	39 (18)	65 (30)	81 (37)	103 (47)
	6	16	14 (7)	19 (9)	25 (12)	35 (16)	42 (20)	68 (31)	86 (40)	109 (50)
	8	12	-	-	-	-	-	77 (35)	97 (44)	122 (56)
	8	14	-	-	-	-	-	82 (38)	103 (47)	130 (59)
	8	16	-	-	-	-	-	86 (40)	109 (50)	138 (63)
DX Normal	3	12	9 (5)	11 (5)	15 (7)	20 (10)	24 (11)	-	-	-
	3	14	9 (5)	12 (6)	16 (8)	21 (10)	25 (12)	-	-	-
	3	16	9 (5)	12 (6)	17 (8)	22 (10	26 (12)	-	-	-
	6	12	14 (7)	19 (9)	26 (12)	35 (16)	42 (20)	67 (31)	85 (39)	107 (49)
	6	14	15 (7)	20 (10)	27 (13)	37 (17)	44 (20)	71 (33)	90 (41)	113 (52)
	6	16	16 (8)	21 (10)	28 (13)	39 (18)	47 (22)	74 (34)	94 (43)	119 (54)
DX Interlaced	3	12	-	-	-	-	-	36 (17)	48 (22)	60 (28)
	3	14	-	-	-	-	-	38 (18)	50 (23)	63 (29)
	3	16	-	-	-	-	-	40 (19)	52 (24)	66 (30)
	6	12	-	-	-	-	-	64 (30)	84 (39)	107 (49)
	6	14	-	-	-	-	-	68 (31)	89 (41)	113 (52)
	6	16	-	-	-	-	-	71 (33)	93 (43)	119 (54)
Standard Cabinet (FC Fans)	-	-	119 (54)	119 (54)	119 (54)	170 (78)	170 (78)	315 (143)	336 (153)	373 (170)
Standard Cabinet (Plenum Fans)	-	-	-	-	-	-	-	272 (124)	332 (151)	340 (155)
Mixing Box	-	-	-	-	-	-	-	88 (40)	97 (44)	105 (48)
Discharge Plenum	-	-	20 (10)	23 (11)	25 (12)	33 (15)	35 (16)	48 (22)	52 (24)	56 (26)
Primary Valve Package	-	-	6 (3)	6 (3)	9 (4)	10 (5)	12 (5)	-	-	-
Heating Valve Package	-	-	4 (2)	4 (2)	6 (3)	6 (3)	8 (4)	-	-	-

Table 33: Vertical Component Weights (Sizes 060-100)

Component	Weight — lbs (kg)		
	060	080	100
Fan Supply Section	233 (106)	217 (98)	213 (97)
Single Supply Fan Weight	172 (78)	172 (78)	172 (78)
Dual Supply Fan Weight	272 (123)	272 (123)	272 (123)
Coil Section	221 (100)	271 (123)	279 (126)
Prefilter	98 (44)	101 (46)	123 (56)
Mixing box	653 (296)	637 (289)	635 (288)
Economizer End	691 (313)	669 (303)	658 (298)
Economizer	691 (313)	658 (298)	646 (293)
Post-Electric Heater	560 (254)	560 (254)	560 (254)
Exhaust Air/Outdoor Air	359 (163)	360 (163)	356 (162)
Single EA Fans	191 (87)	191 (87)	191 (87)
Dual EA Fans	315 (143)	315 (143)	315 (143)

Table 34: Vertical 3/8 in Coil Weights (Sizes 060-100)

	Unit Size	Coil Type	Rows	Circuit Pattern	Coil Weight lbs (kg)	
					12 FPI	16 FPI
Cooling	060	CW	2	Half	47.4 (21.5)	50.3 (22.8)
		CW	4	Half	65.7 (29.8)	71.5 (32.4)
		CW	4	Three Quarter	65.4 (29.7)	71.3 (32.3)
		CW	6	Half	83.3 (37.8)	92.1 (41.8)
		CW	6	Three Quarter	83.6 (37.9)	92.4 (41.9)
		CW	8	Three Quarter	101.5 (46.1)	113.2 (51.4)
		CW	8	Single	101.7 (46.1)	113.4 (51.4)
	080	CW	2	Half	58.1 (26.4)	62.1 (28.2)
		CW	4	Half	83.8 (38.0)	91.7 (41.6)
		CW	4	Three Quarter	83.9 (38.1)	91.8 (41.6)
		CW	6	Three Quarter	108.4 (49.2)	120.2 (54.6)
		CW	6	Single	108.5 (49.2)	120.4 (54.6)
		CW	8	Three Quarter	131.5 (59.6)	147.3 (66.8)
		CW	8	Single	132.8 (60.3)	148.6 (67.4)
	100	CW	2	Half	69.3 (31.4)	74.2 (33.7)
		CW	4	Half	101.0 (45.8)	110.9 (50.3)
		CW	4	Three Quarter	101.4 (46.0)	111.3 (50.5)
		CW	6	Three Quarter	130.7 (59.3)	145.6 (66.1)
		CW	6	Single	146.1 (66.3)	161.0 (73.1)
		CW	8	Single	162.2 (73.6)	182.1 (82.6)
Heating	060	HW	1	Half	31.7 (14.4)	58.3 (26.4)
		HW	2	Half	41.1 (18.6)	72.0 (32.6)
		HW	2	Single	41.0 (18.6)	71.8 (32.6)
	080	HW	1	Half	38.9 (17.7)	71.1 (32.2)
		HW	2	Half	51.7 (23.4)	89.5 (40.6)
		HW	2	Single	51.6 (23.4)	89.4 (40.6)
	100	HW	1	Half	46.8 (21.2)	84.9 (38.5)
		HW	2	Half	62.5 (28.4)	107.8 (48.9)
		HW	2	Single	63.1 (28.6)	108.9 (49.4)
Defrost	060	HW	1	Half	31.7 (14.4)	58.3 (26.4)
		HW	2	Half	41.1 (18.6)	72.0 (32.6)
		HW	2	Single	41.0 (18.6)	71.8 (32.6)
	080	HW	1	Half	38.9 (17.7)	71.1 (32.2)
		HW	2	Half	51.7 (23.4)	89.5 (40.6)
		HW	2	Single	51.6 (23.4)	89.4 (40.6)
	100	HW	1	Half	46.8 (21.2)	84.9 (38.5)
		HW	2	Half	62.5 (28.4)	107.8 (48.9)
		HW	2	Single	63.1 (28.6)	108.9 (49.4)

Table 35: Vertical 5/8 in Turbo Spiral Coil Weights (Sizes 060-100)

	Unit Size	Coil Type	Rows	Circuit Pattern	FPI	Weight lbs (kg)
Turbo Spiral	060	CW	2	Q	12	56 (26)
		CW	4	H	12	92 (42)
		CW	6	L	12	126 (57)
	080	CW	2	Q	12	73 (33)
		CW	4	H	12	120 (54)
		CW	6	L	12	165 (75)
	100	CW	2	Q	12	92 (42)
		CW	4	H	12	152 (69)
		CW	6	L	12	211 (96)

Table 36: Energy Recovery Weights

Component	Weight lbs (kg)
Electric Heat Defrost	180 (82)
ERW Section, 46 in	498 (226)
ERW, 46 in	185 (84)
ERW Section, 52 in	610 (276)
ERW, 52 in	220 (100)
ERW Section, 58 in	932 (423)
ERW, 58 in	320 (145)

Fan and Motor Data

Table 37: Horizontal Fan and Motor Data - Sizes 006-050 (Forward-Curved Fans)

Forward-Curved Fan Data										
Unit Size	006	008	010	012	016	018	020	030	040	050
Fan Quantity	1	1	1	1	2	2	2	1	1	1
Fan Type	FC, DWDI	FC, DWDI	FC, DWDI	FC, DWDI	FC, DWDI	FC, DWDI	FC, DWDI	FC, DWDI	FC, DWDI	FC, DWDI
Fan Size	9.5″ X 4.5″	9.5″ X 4.5″	9.5″ X 4.5″	9.5″ X 4.5″	9.5″ X 4.5″	9.5″ X 4.5″	9.5″ X 4.5″	10″ X 10″	12″ X 12″	12″ X 12″
Maximum RPM	2065	2065	2065	2065	2065	2065	2065	2100	1800	1800
Class	1	1	1	1	1	1	1	2	2	2
EC Motors	1	1	1	1	2*	2*	2*	–	–	–
Poly Phase Motors	–	–	–	–	–	–	–	1	1	1
1/3 HP	X	X			X					
1/2 HP	X	X	X	X	X	X	X			
3/4 HP	X	X	X	X	X	X	X			
1 HP			X	X		X	X			
1½ HP								X		
2 HP								X	X	
3 HP								X**	X	
5 HP									X**	X
7½ HP										X**

* Motors are the same HP

** HP is limited by VFD size

Table 38: Horizontal Fan and Motor Data - Sizes 060-100 (Forward-Curved Exhaust Fans)

Forward-Curved Fan Data			
Unit Size	060	080	100
Fan Quantity	1 or 2	2 or 3	2 or 3
Fan Type	DWDI	DWDI	DWDI
Fan Size	9.5″ X 4.5″	9.5″ X 4.5″	9.5″ X 4.5″
Maximum RPM	2065	2065	2065
Class	1	1	1
EC Motors	1 or 2	2 or 3	2 or 3
Poly Phase EC Motors	1 or 2	2 or 3	2 or 3
Motor 1/2 HP	X	X	X
Motor 1 HP	X	X	X

Table 39: Horizontal Fan and Motor Data - Sizes 030-050 (Plenum Supply Fans)

Plenum Fan Data			
Unit Size	30	40	50
Fan Quantity	1	2	2
Fan Size	355 mm	355 mm	355 mm
Maximum RPM	3300	3300	3300
EC Motors	1	2	2
Poly Phase EC Motors	1	2	2
Motor 4.42 HP	X	X	X

Table 40: Horizontal Fan and Motor Data - Sizes 060-100 (Plenum Supply Fans)

Plenum Fan Data			
Unit Size	**060**	**080**	**100**
Fan Quantity	1 or 2	1 or 2	1 or 2
Fan Size	450 mm	450 mm	450 mm
Maximum RPM	2600	2600	2600
EC Motors	1 or 2	1 or 2	1 or 2
Poly Phase EC Motors	1 or 2	1 or 2	1 or 2
Motor 3.7 HP	X	X	X
Motor 6.63 HP	X	X	X

Table 41: Vertical Fan and Motor Data - Sizes 006-050 (Forward-Curved Fans)

Forward-Curved Fan Data								
Unit Size	**006**	**008**	**012**	**016**	**020**	**030**	**040**	**050**
Fan Quantity	1	1	1	2	2	1	1	1
Fan Type	FC, DWDI	FC, DWDI	FC, DWDI	FC, DWDI	FC, DWDI	FC, DWDI	FC, DWDI	FC, DWDI
Fan Size	9.5″ X 4.5″	9.5″ X 4.5″	9.5″ X 4.5″	9.5″ X 4.5″	9.5″ X 4.5″	10.5″ x 10.5″	12.5″ x 12.5″	12.5″ x 12.5″
Maximum RPM	2065	2065	2065	2065	2065	2100	1800	1800
Class	1	1	1	1	1	2	2	2
EC Motors	1	1	1	2[1]	2[1]	-	-	-
Poly Phase Motors	-	-	-	-	-	1	1	1
Motor 1/3 HP	X	X		X				
Motor 1/2 HP	X	X	X	X	X			
Motor 3/4 HP	X	X	X	X	X			
Motor 1 HP			X		X			
Motor 1½ HP[2]						X		
Motor 2 HP[2]						X	X	
Motor 3 HP[2]						X	X	
Motor 5 HP							X	X
Motor 7½ HP								X

[1] Motors are the same HP
[2] HP is limited by VFD size

Table 42: Vertical Fan and Motor Data - Sizes 030-100 (Plenum Supply Fans)

Plenum Fan Data						
Unit Size	**030**	**040**	**050**	**060**	**080**	**100**
Fan Quantity	1	2	2	1	1	1
				2	2	2
Fan Size	355 mm	355 mm	355 mm	355 mm	355 mm	355 mm
				450 mm	450 mm	450 mm
Maximum RPM	3300	3300	3300	3300	3300	3300
				2600	2600	2600
EC Motors	1	2	2	-	-	-
Poly Phase EC Motors	1	2	2	3	3	3
Motor 2.25 HP				-	-	-
Motor 3.7 HP				X	X	X
Motor 4.42 HP	X	X	X	X	X	X
Motor 6.63 HP				X	X	X

Filter Data

Table 43: Horizontal Filter Data for Main Unit and Optional Mixing Box

Main Unit Filters														
Unit Size	**006**	**008**	**010**	**012**	**016**	**018**	**020**	**030**	**040**	**050**	**060**	**080**	**100**	
Quantity	1	1	2	2	2	2	2	2	2	2	4	6	3	6
Height (inches)	17.69							25.38	29.75	28.00	24.00	18.00	20.00	20.00
Width (inches)	12.13	17.13	13.75		17.94	22.25		21.88	24.50	27.81	24.00	24.00	16.00	20.00
Nom. Face Velocity (FPM)	421	393	296	355	363	329	366	389	395	408	375	444	429	
(Optional) Mixing Box Filters														
Quantity	1	1	2	2	2	2	2	2	2	2	4	6	3	
Height (inches)	18.50							23.50	27.50	29.50	24.00	24.00	16.00	
Width (inches)	12.50	17.50	12.75		17.00	21.25		23.25	25.75	29.25	24.00	18.00	20.00	

Table 44: Vertical Filter Data for Main Unit and Optional Mixing Box/Economizer, Energy Recovery Wheel, and Exhaust Sections

External Filters												
Unit Size	**006**	**008**	**012**	**016**	**020**	**030**	**040**	**050**	**060**	**080**	**100**	
Quantity	1	1	1	2	2	2	2	2	4	2	4	6	8
										4	8	12	16
Height	12	12	18	16	16	25	12	20	20	18	12	18	18
Width	24	24	24	20	20	20	24	24	24	24	24	24	24
Nom. Face Velocity (FPM)	300	400	300	360	450	432	375		375	375		444	429
Internal Filter Rack													
Quantity	1	1	1	2	2	-	-	-	-	-	-	-	-
Height	12	18	20	16	16	-	-	-	-	-	-	-	-
Width	20	24	24	20	20	-	-	-	-	-	-	-	-
(Optional) Mixing Box/Economizer Filters													
Quantity	-	-	-	-	-	2	4	4	2	4	6	8	
									4	8	12	16	
Height	-	-	-	-	-	24	16	20	18	12	18	18	
Width	-	-	-	-	-	20	20	20	24	24	24	24	
(Optional) Energy Recovery Wheel Filter													
Quantity	-	-	-	-	-	-	-	-	4		4	4	
Height	-	-	-	-	-	-	-	-	18		18	18	
Width	-	-	-	-	-	-	-	-	24		24	24	
(Optional) Exhaust Section Filter													
Quantity	-	-	-	-	-	-	-	-	1	2	4	4	
Height	-	-	-	-	-	-	-	-	12	16	17.13	18	
Width	-	-	-	-	-	-	-	-	20	20	17.69	24	

Table 45: Filter Pressure Drop

	Clean Pressure Drop				
Face Velocity (Feet per minute)	**100**	**200**	**300**	**400**	**500**
2″ Filter					
Merv 4	0.02	0.04	0.08	0.11	0.16
Merv 8	0.02	0.07	0.12	0.19	0.27
Merv 13	0.08	0.17	0.27	0.37	0.48
4″ Filter					
Merv 8	0.01	0.03	0.06	0.1	0.14
Merv 13	0.02	0.07	0.12	0.19	0.27

Coil Size and Connection Type

Table 46: Small Horizontal Hydronic Coil Size and Connection Type - Unit Sizes 060-020

Unit Size	006		008		010		012		016		018		020	
Connection Type	FPT (Nominal)	SWT (OD)	FPT (Nominal)	SWT (OD)	FPT (Nominal)	SWT (OD)	FPT (Nominal)	SWT (OD)	FPT (Nominal)	SWT (OD)	FPT (Nominal)	SWT (OD)	FPT (Nominal)	SWT (OD)
2-Row Cooling	0.500	0.625	0.500	0.625	0.500	0.625	0.500	0.625	0.750	0.875	0.750	0.875	0.750	0.875
4-Row Cooling	0.500	0.625	0.500	0.625	0.750	0.875	0.750	0.875	0.750	0.875	1.000	1.125	1.000	1.125
6-Row Cooling	0.500	0.625	0.500	0.875	0.750	0.875	0.750	0.875	1.000	1.125	1.000	1.125	1.000	1.125
1-Row Preheat/ Reheat	0.500	0.625	0.500	0.625	0.500	0.625	0.500	0.625	0.500	0.625	0.500	0.625	0.500	0.625
2-Row Preheat/ Reheat	0.500	0.625	0.500	0.625	0.500	0.625	0.500	0.625	0.750	0.875	0.750	0.875	0.750	0.875

NOTE 1: Small PreciseLine units can be selected with internal cabinet connections leading to a FPT connection type or without internal cabinet connections leading to a SWT connection type.

NOTE 2: Dimensions shown in inches.

Table 47: Medium and Large Horizontal Hydronic Coil Size and Connection Type - Unit Sizes 030-100

Unit Size	030	040	050	060	080	100
Connection Type	SWT (OD)					
2-Row Cooling	1.125	1.125	1.375	1.125	1.125	1.375
4-Row Cooling	1.375	1.625	1.625	1.375	1.625	1.625
6-Row Cooling	1.375	1.625	1.625	1.375	1.625	1.625
8-Row Cooling	1.375	1.625	1.625	1.375	1.625	1.625
1-Row Preheat/Reheat	0.625	0.875	1.125	0.625	0.875	1.125
2-Row Preheat/Reheat	1.125	1.125	1.375	1.125	1.125	1.375

NOTE: Dimensions shown in inches.

Table 48: Small Vertical Hydronic Coil Size and Connection Type - Unit Sizes 060-020

Unit Size	006		008		012		016		020	
Connection Type	FPT (Nominal)	SWT (OD)	FPT (Nominal)	SWT (OD)	FPT (Nominal)	SWT (OD)	FPT (Nominal)	SWT (OD)	FPT (Nominal)	SWT (OD)
2-Row Cooling	0.500	0.625	0.500	0.625	0.500	0.625	0.750	0.875	0.750	0.875
4-Row Cooling	0.500	0.625	0.500	0.625	0.750	0.875	0.750	0.875	1.000	1.125
6-Row Cooling	0.500	0.625	0.500	0.875	0.750	0.875	1.000	1.125	1.000	1.125
1-Row Preheat/Reheat	0.500	0.625	0.500	0.625	0.500	0.625	0.500	0.625	0.500	0.625
2-Row Preheat/Reheat	0.500	0.625	0.500	0.625	0.500	0.625	0.750	0.875	0.750	0.875

NOTE 1: Small PreciseLine units can be selected with internal cabinet connections leading to a FPT connection type or without internal cabinet connections leading to a SWT connection type.

NOTE 2: Dimensions shown in inches.

Table 49: Medium and Large Vertical Hydronic Coil Size and Connection Type - Unit Sizes 030-100

Unit Size	030	040	050	060	080	100	060	080	100
Connection Type	SWT (OD)						MTP*		
2-Row Cooling	1.125	1.375	1.375	1.625	1.625	1.625	1.500	1.500	1.500
4-Row Cooling	1.375	1.625	1.625	1.625	1.625	1.625	1.500	1.500	1.500
6-Row Cooling	1.625	1.625	2.125	1.625	1.625	1.625	1.500	1.500	1.500
8-Row Cooling	1.625	2.125	2.125	1.625	1.625	2.125	1.500	1.500	1.500
1-Row Preheat/Reheat	0.625	0.875	1.125	1.625	1.625	1.625	-	-	-
2-Row Preheat/Reheat	1.125	1.375	1.375	1.625	2.125	2.125	-	-	-

NOTE 1: *Large vertical units can be selected with TurboSpiral coils designed for use with glycol. These coils have a MPT connection.

NOTE 2: Number of connections in unit sizes 060-100 are doubled (stacked).

NOTE 3: Dimensions shown in inches.

Table 50: Vertical Steam Coil Size and Type

Unit Size	006	008	012	016	020	030	040	050
Connection Type	SWT (OD)							
Supply	1.125	1.125	1.125	1.125	1.125	1.125	1.125	1.375
Return	0.875	0.875	0.875	0.875	0.875	1.125	1.125	1.375

NOTE: Dimensions shown in inches.

Table 51: Horizontal Steam Coil Size and Type with Piping

Unit Size	006	008	010	012	016	018	020	030	040	050	060	080	100
Connection Type	FPT (Nominal)							SWT (OD)					
Supply	0.750	0.750	0.750	0.750	0.750	0.750	0.750	1.125	1.125	1.375	1.125	1.125	1.375
Return	0.500	0.500	0.500	0.500	0.500	0.500	0.500	1.125	1.125	1.375	1.125	1.125	1.375

NOTE 1: Number of connections in unit sizes 060-100 are doubled (stacked).

NOTE 2: Dimensions shown in inches.

Table 52: Horizontal Steam Coil Size and Type with No Piping

Unit Size	006	008	010	012	016	018	020
Connection Type	FPT (Nominal)						
Supply	0.750	0.750	0.750	0.750	0.750	0.750	0.750
Return	0.500	0.500	0.500	0.500	0.500	0.500	0.500
Coil Size							
Finned Height	12	12	12	12	12	12	12
Finned Length	6.5	10.5	19	19	27	35.5	35.5

NOTE 1: FPI of 10 may be selected.

NOTE 2: Dimensions shown in inches.

Table 53: VRV Coil Size and Type (Horizontal)

Unit Size	Rows	Fin Height	Fin Length	FPI	Connection Size (SWT [OD])	
					Distributor	Suction
006	3	14	12.5	12	0.375	0.750
008	3	14	16.5	12	0.375	0.750
010	3	14	25	12	0.375	0.875
012	3	14	25	12	0.375	0.875
016	3	14	33	12	0.375	1.125
018	3	14	41.5	12	0.375	1.125
020	3	14	41.5	12	0.375	1.125
030	3	22	39.5	10	0.500	1.375
040	3	26	44.5	12	0.625	1.375
050	3	28	51.5	12	0.625	1.625
060	3	44*	39.5	10	0.5	1.375
080	3	52*	44.5	12	0.625	1.375
100	3	56*	51.5	12	0.625	1.625

NOTE 1: Number of connections in unit sizes 060-100 are doubled (stacked).

NOTE 2: *Combined height of two vertically stacked coils.

NOTE 3: Dimensions shown in inches.

Table 54: Horizontal DX Coil Size and Type

Unit Size	Rows[1]	Circuits		Connection Size (SWT [OD])[3]	
		Number[2]	Type	Distributor	Suction
006	3	1	Normal	0.500	0.750
008	3	1	Normal	0.500	0.750
010	3	1	Normal	0.500	0.875
012	3	1	Normal	0.500	0.875
016	3	1	Normal	0.500	1.125
018	3	1	Normal	0.500	1.125
020	3	1	Normal	0.500	1.125
030	3	1	Normal	0.875	1.375
		2	Interlaced	0.500	0.875
040	3	1	Normal	0.875	1.375
		2	Interlaced	0.625	1.125
050	3	1	Normal	0.875	1.625
		2	Interlaced	0.625	1.375
060	3	2	Normal	0.875	1.375
		4	Interlaced	0.500	0.875
080	3	2	Normal	0.875	1.375
		4	Interlaced	0.625	1.125
100	3	2	Normal	0.875	1.625
		4	Interlaced	0.625	1.375

[1] FPI of 12 or 16 may be selected.
[2] Number of connections in unit sizes 060-100 are doubled (stacked).
[3] Dimensions shown in inches.

Table 55: Vertical DX Coil Size and Type

Unit Size	Rows[1]	Circuits		Connection Size (SWT [OD])[3]	
		Number[2]	Type	Distributor	Suction
006	3	1	Normal	0.500	0.875
	6	1	Normal	0.500	0.875
008	3	1	Normal	0.500	0.875
	6	1	Normal	0.500	0.875
012	3	1	Normal	0.500	1.125
	6	1	Normal	0.625	1.125
016	3	1	Normal	0.625	1.125
	6	1	Normal	0.875	1.125
020	3	1	Normal	0.875	1.375
	6	1	Normal	0.875	1.375
030	3	1	Normal	0.875	1.625
		2	Interlaced	0.625	0.875
	6	2	Interlaced	0.875	1.125
040	3	1	Normal	0.875	1.625
		2	Interlaced	0.875	1.375
	6	2	Interlaced	0.875	1.375
050	3	1	Normal	0.875	1.625
		2	Interlaced	0.875	1.375
	6	2	Interlaced	0.875	1.625

[1] FPI of 12 or 16 may be selected. FPI of 14 is also available on unit sizes 006-050.
[2] Number of connections in unit sizes 060-100 are doubled (stacked).
[3] Dimensions shown in inches.

Thermal Expansion Valve Kits

Table 56: Thermal Expansion Valve Kits (Horizontal)

	Size	FPI	Circuit	Connections (in)		TEV Option 11	TEV Option 22
				Inlet	Outlet	Daikin Applied P/N	Daikin Applied P/N
Single Circuit	6	12		0.375	0.500	263922461	263922463
		16		0.375	0.500	263922461	263922463
	8	12		0.500	0.500	263922462	263922464
		16		0.500	0.500	263922464	263922465
	10	12		0.500	0.500	263922465	263922466
		16		0.500	0.500	263922465	263922466
	12	12		0.500	0.500	263922465	263922466
		16		0.500	0.500	263922465	263922466
	16	12		0.500	0.500	263922466	263922467
		16		0.500	0.500	263922466	263922467
	18	12		0.625	0.500	263922466	263922467
		16		0.625	0.500	263922466	263922467
	20	12		0.625	0.500	263922468	263922469
		16		0.625	0.500	263922468	263922469
	30	12		0.625	0.875	263922482	263922484
		16		0.625	0.875	263922484	263922486
	40	12		0.625	0.875	263922484	263922486
		16		0.625	0.875	263922486	263922488
	50	12		0.875	0.875	263922487	263922489
		16		0.875	0.875	263922489	N/A
	60*	12		0.625	0.875	263922482	263922484
		16		0.625	0.875	263922484	263922486
	80*	12		0.625	0.875	263922484	263922486
		16		0.625	0.875	263922486	263922488
	100*	12		0.875	0.875	263922487	263922489
		16		0.875	0.875	263922489	N/A
Interlaced Circuit	30	12	A	0.500	0.500	263922465	263922466
		12	B	0.500	0.500	263922465	263922466
		16	A	0.500	0.500	263922466	N/A
		16	B	0.500	0.500	263922465	N/A
	40	12	A	0.500	0.625	263922499	263922483
		12	B	0.500	0.625	263922470	263922499
		16	A	0.500	0.625	263922499	263922483
		16	B	0.500	0.625	263922470	263922499
	50	12	A	0.625	0.625	263922500	263922471
		12	B	0.625	0.625	263922500	263922471
		16	A	0.625	0.625	263922471	263922485
		16	B	0.625	0.625	263922471	263922485
	60*	12	A / C	0.500	0.500	263922465	263922466
		12	B / D	0.500	0.500	263922465	263922466
		16	A / C	0.500	0.500	263922466	N/A
		16	B / D	0.500	0.500	263922465	N/A
	80*	12	A / C	0.500	0.625	263922499	263922483
		12	B / D	0.500	0.625	263922470	263922499
		16	A / C	0.500	0.625	263922499	263922483
		16	B / D	0.500	0.625	263922470	263922499
	100*	12	A / C	0.625	0.625	263922500	263922471
		12	B / D	0.625	0.625	263922500	263922471
		16	A / C	0.625	0.625	263922471	263922485
		16	B / D	0.625	0.625	263922471	263922485

NOTE 1: *Sizes 060-100 have stacked coils.

NOTE 2: Use Option 1 for standard entering air and suction temperatures.

NOTE 3: Use TEV Option 2 with higher entering air temperatures and lower suction temperatures.

NOTE 4: TEV inlet size is the recommended liquid line size when using factory provided TEV.

Table 57: Thermal Expansion Valve Kits (Vertical)

	Unit Size	Rows	FPI	Circuits	Connections (in)		TEV Option 1
					Inlet	Outlet	Daikin Applied P/N
Single Circuit	006	3	12	—	0.500	0.500	263922462
			14	—	0.500	0.500	263922462
			16	—	0.500	0.500	263922462
	006	6	12	—	0.500	0.500	263922464
			14	—	0.500	0.500	263922464
			16	—	0.500	0.500	263922464
	008	3	12	—	0.500	0.500	263922464
			14	—	0.500	0.500	263922464
			16	—	0.500	0.500	263922464
	008	6	12	—	0.500	0.500	263922465
			14	—	0.500	0.500	263922465
			16	—	0.500	0.500	263922465
	012	3	12	—	0.500	0.500	263922465
			14	—	0.500	0.500	263922465
			16	—	0.500	0.500	263922465
	012	6	12	—	0.625	0.625	910279782
			14	—	0.625	0.625	910279782
			16	—	0.625	0.625	910279782
	016	3	12	—	0.625	0.625	910279782
			14	—	0.625	0.625	910279782
			16	—	0.625	0.625	910279782
	016	6	12	—	0.625	0.875	263922482
			14	—	0.625	0.875	263922482
			16	—	0.625	0.875	263922482
	020	3	12	—	0.625	0.875	910279777
			14	—	0.625	0.875	910279777
			16	—	0.625	0.875	910279777
	020	6	12	—	0.625	0.875	263922484
			14	—	0.625	0.875	263922484
			16	—	0.625	0.875	263922484
	030	6	12	—	0.875	0.875	910279795
			14	—	0.875	0.875	910279795
			16	—	0.875	0.875	910279795
	040	6	12	—	0.875	0.875	263922487
			14	—	0.875	0.875	263922487
			16	—	0.875	0.875	263922487
	050	6	12	—	0.875	0.875	263922489
			14	—	0.875	0.875	263922489
			16	—	0.875	0.875	263922489

	Unit Size	Rows	FPI	Circuits	Connections (in)		TEV Option 1
					Inlet	Outlet	Daikin Applied P/N
Interlaced Circuit	030	3	12	A	0.625	0.625	910279782
			12	B	0.625	0.625	910279782
			14	A	0.625	0.625	910279782
			14	B	0.625	0.625	910279782
			16	A	0.625	0.625	910279782
			16	B	0.625	0.625	910279782
	030	6	12	A	0.625	0.875	263922482
			12	B	0.625	0.875	910279777
			14	A	0.625	0.875	263922482
			14	B	0.625	0.875	910279777
			16	A	0.625	0.875	263922482
			16	B	0.625	0.875	910279777
	040	3	12	A	0.625	0.875	263922482
			12	B	0.625	0.875	910279777
			14	A	0.625	0.875	263922482
			14	B	0.625	0.875	910279777
			16	A	0.625	0.875	263922482
			16	B	0.625	0.875	910279777
	040	6	12	A	0.875	0.875	910279795
			12	B	0.875	0.875	910279795
			14	A	0.875	0.875	910279795
			14	B	0.875	0.875	910279795
			16	A	0.875	0.875	910279795
			16	B	0.875	0.875	910279795
	050	3	12	A	0.625	0.875	263922484
			12	B	0.625	0.875	263922482
			14	A	0.625	0.875	263922484
			14	B	0.625	0.875	263922482
			16	A	0.625	0.875	263922484
			16	B	0.625	0.875	263922482
	050	6	12	A	0.875	0.875	263922487
			12	B	0.875	0.875	263922487
			14	A	0.875	0.875	263922487
			14	B	0.875	0.875	263922487
			16	A	0.875	0.875	263922487
			16	B	0.875	0.875	263922487

NOTE 1: Use Option 1 for standard entering air and suction temperatures.

NOTE 2: TEV inlet sizes is the recommended liquid line size when using factory-provided TEV.

Thermal Expansion Valve (TEV)

For each unit size there are two TEV options available ("Thermal Expansion Valve Kits" on page 51). TEV Option 1 is optimized for the standard entering air and suction temperatures while Option 2 is intended for applications with higher entering air temperatures and lower suction temperatures.

Thermal Expansion Valve Installation

The TEV should be located directly below and as close to the distributor as possible. The distance between them should not exceed 18″ and should minimize the use of any bends or elbows between. The sensing bulb from the TEV should be attached to a horizontal section of the suction line within 12″ of the coil header using the proper mounting straps to ensure good thermal contact. On suction lines 7/8″ OD and larger, the bulb should be installed in the 4 or 8 o'clock position. For smaller lines, the bulb may be attached anywhere but the bottom. For optimal performance, a TEV with an external equalization tube is recommended. The equalization tube must be soldered to the suction header by drilling a hole in the header, inserting the tube and securing in place with solder. Care must be taken to ensure that the equalization tube is inserted to the proper depth and is free of crimps, solder, debris, etc.

Mixing Box (Optional)

The optional mixing box includes a fresh air and return air damper that are linked together and driven from the same actuator. It may be ordered with or without the factory mounted damper actuator. Those with the factory mounted actuator ship pre wired to the main unit control box and do not require field adjustment of the hardware or linkage.

For the mixing box ordered without the factory mounted damper actuator one must be provided in the field that meets the following criteria.

- Maximum range of rotation = 95°
- Maximum torque = 62 in/lbs
- On-off control = spring return
- Modulating control = 0-10VDC fail in place
- Damper shaft size = 0.5" diameter

A mounting plate is provided on the shaft side of the damper frame to accommodate a variety of actuators. However, due to the number of options, size variations, and arrangements available, some actuators may require alternate field provided mounting hardware. Proper support for the actuator is important to avoid putting excess stress in the cabinet, linkage, or damper shafts. The installing contractor is responsible for mounting, and wiring of the actuator and adjustment of the damper linkage.

Optional Mixing Box Damper or Discharge Plenum Loss

For reference, losses are similar to those used in custom openings, however, their coefficients are multipliers of velocity pressure based on opening size. These are multipliers of coil velocity pressure. The intake loss assumes a fully open damper in line with the unit, based on the sudden expansion into the unit of 2x the face area and 20% drag from the blade. The discharge loss assumes the sudden expansion off the fan of 10X then a sudden contraction at the discharge of 3x the face area. Losses from a grille are not taken into account.

Intake, intake with damper or discharge plenum loss

$= ([V*C] / 4005)^2$

V = velocity through the opening

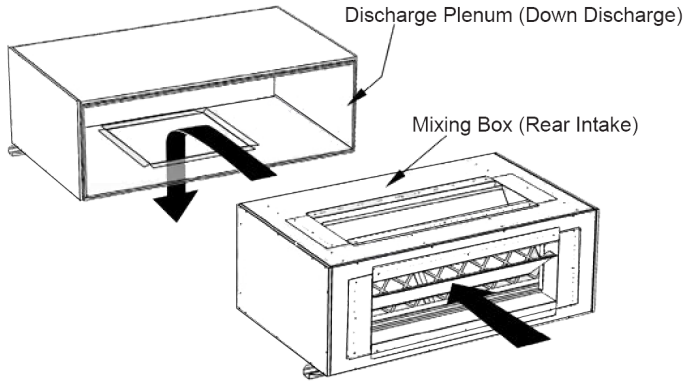
C: Straight intake without damper = 0.75
Turned intake without damper = 1.0
Straight intake with damper = 1.0
Turned intake with damper = 1.33
Straight discharge = 1.5
Turned discharge = 2

Example:

For a selection at 1000 ft/min, mix box with rear intake and discharge plenum down discharge:

Intake loss is (1000*1/4005)^2 = 0.062″
Discharge loss is (1000*1.5/4005)^2 = 0.140″

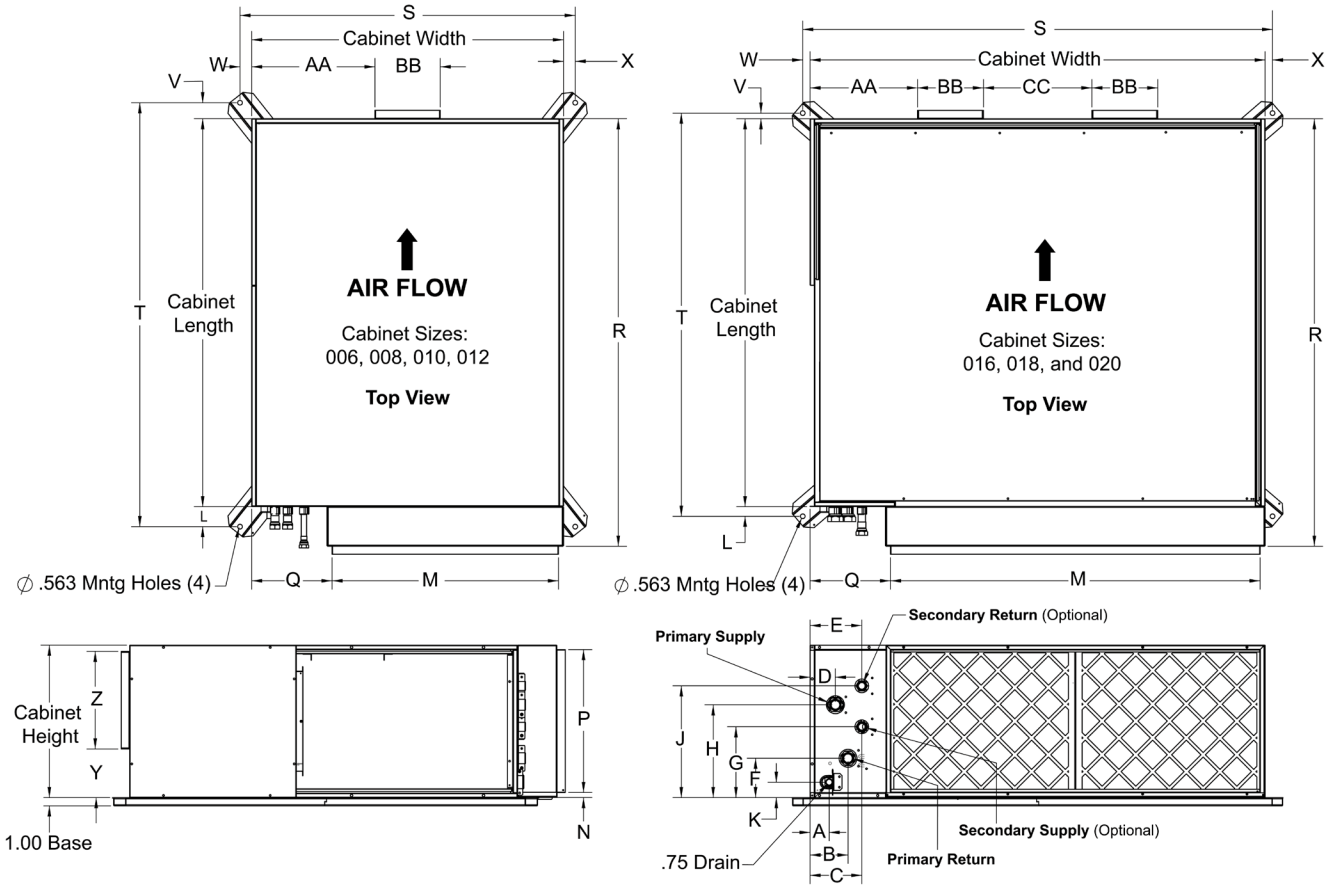
Figure 66: Discharge and Mixing Box Examples



Dimensional Data

Size 006-050 Horizontal Unit Dimensions

Figure 67: Left-Hand, Single and Dual Fan (Sizes 006-020)



Overall Cabinet Dimensions
006 = 43L × 24W × 18H
008 = 43L × 29W × 18H
010 & 012 = 46L × 37W × 18H
016 = 46L × 45.5W × 18H
018 & 020 = 46L × 54W × 18H

NOTE 1: Dimensions shown in inches.

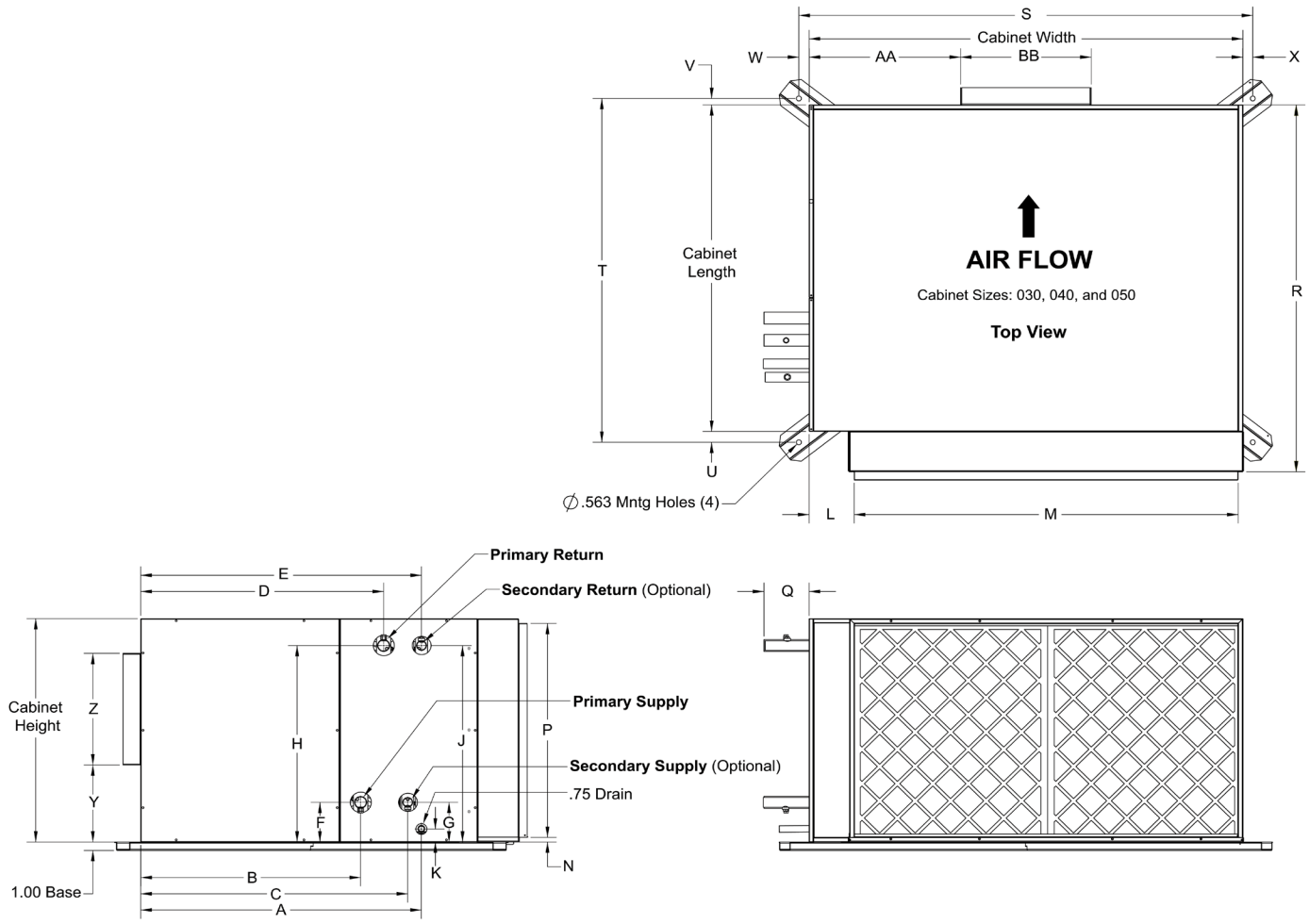
NOTE 2: Left hand unit shown. Right hand unit same as left but opposite.

Table 58: Dimension Letter Reference for Figure 67 on page 54

Dimension	006	008	010	012	016	018	020
A	2.26	2.28	2.18	2.18	2.60	2.25	2.25
B	4.01	4.51	4.26	4.26	4.52	4.50	4.50
C	5.75	6.45	6.24	6.24	6.15	6.19	6.19
D	2.51	3.00	2.76	2.76	3.02	3.00	3.00
E	5.75	6.42	6.24	6.24	6.15	6.15	6.15
F	5.45	5.42	4.67	4.67	4.67	4.67	4.67
G	7.42	7.40	8.13	8.13	8.38	8.38	8.38
H	11.03	10.77	11.15	11.15	11.03	11.03	11.03
J	13.85	13.32	13.26	13.26	13.27	13.27	13.27
K	1.83	1.80	1.83	1.83	1.83	1.83	1.83
L	1.70	1.38	2.42	2.42	1.79	1.18	1.18
M	11.61	16.61	26.87	26.87	35.27	43.87	43.87
N	0.67	0.59	0.60	0.60	0.60	0.60	0.60
P	16.97	16.97	16.97	16.97	16.97	16.97	16.97
Q	9.56	9.53	9.53	9.53	9.63	10.67	10.67
R Bottom Access	47.70	47.70	50.70	50.70	50.70	50.70	50.70
R Side Access	49.50	49.50	53.90	53.90	52.50	52.50	52.50
S	24.79	29.77	39.80	39.80	47.89	55.80	55.80
T	45.90	45.25	50.34	50.34	48.97	47.87	47.87
V	1.19	0.87	1.90	1.90	1.23	0.67	0.67
W	0.38	0.38	1.39	1.39	1.19	0.87	0.87
X	0.38	0.38	1.39	1.39	1.19	0.87	0.87
Y	5.77	5.77	5.77	5.77	5.77	5.77	5.77
Z	11.59	11.59	11.59	11.59	11.59	11.59	11.59
AA	8.13	10.63	14.63	14.63	9.24	12.74	12.74
BB	7.73	7.75	7.75	7.75	7.75	7.82	7.82
CC	0.00	0.00	0.00	0.00	11.53	12.88	12.88

NOTE: Dimensions shown in inches.

Figure 68: Left-Hand, Single Fan (Sizes 030-050)



NOTE 1: Dimensions shown in inches.

NOTE 2: Refer to submittal drawings in Daikin Select Tools for piping connection dimensions.

NOTE 3: Left hand unit shown. Right hand unit same as left but opposite.

NOTE 4: Preheat option shown. Reheat option available.

Table 59: Dimension Letter Reference for Hanger Brackets

Dimension	030	040	050
R Bottom Access	42.65	45.72	45.66
R Side Access	44.40	47.40	47.40
L	1.26	1.16	0.87
S	51.23	56.02	62.59
T	40.01	42.80	42.22
V	0.74	0.63	0.35
W	1.15	1.01	0.80
X	1.12	1.01	0.80

NOTE: Dimensions shown in inches.

Table 60: Hydronic Unit Dimensions - Dimension Letter Reference for Figure 68 on page 56

Unit Size	Dimension	2-Row Cooling / Primary				4-Row Cooling / Primary				6-Row Cooling / Primary				8-Row Cooling / Primary
		Preheat		Reheat		Preheat		Reheat		Preheat		Reheat		
		1-Row	2-Row	1-Row	2-Row	1-Row	2-Row	1-Row	2-Row	1-Row	2-Row	1-Row	2-Row	
030	A	32	32	32	32	32	32	32	32	32	32	32	32	32.12
	B	24	24	24	24	24	24	24	24	24.81	24.81	24	24	24.81
	C	30.13	30.13	28.12	28.12	30.13	30.13	28.12	28.12	30.13	30.13	29	29	-
	D	25.5	26.56	25.12	25.12	26.56	26.56	25.12	25.12	27.41	27.41	25.12	25.12	29.16
	E	31.5	31.5	29.62	29.62	31.5	31.5	30.69	30.69	31.5	31.5	31.5	31.5	-
	G	4.62	4.62	4.62	4.62	4.62	4.62	4.62	4.62	4.62	4.62	4.62	4.62	-
	J	22.86	22.86	22.86	22.86	22.86	22.86	22.86	22.86	22.86	22.86	22.86	22.86	-
040	A	35.12	35.12	35.12	35.12	35.12	35.12	35.12	35.12	35.12	35.12	35.12	35.12	35.12
	B	27	27	27	27	27.87	27.87	27	27	27.87	37.87	27	27	27.83
	C	33.12	33.12	31.12	33.12	33.12	33.12	32	31.12	33.12	33.12	32	32	-
	D	28.5	28.5	28.5	28.5	30.5	30.5	28.5	28.5	30.5	30.5	28.25	28.25	32.16
	E	34.5	34.5	32.67	34.5	34.5	34.5	34.62	32.62	34.5	34.5	34.62	34.62	-
	G	4.62	4.62	4.62	4.62	4.62	4.62	4.62	4.62	4.62	4.62	4.62	4.62	-
	J	26.87	26.87	26.87	26.87	26.87	26.87	26.87	26.87	26.87	26.87	26.87	26.87	-
050	A	35.12	35.12	35.12	35.12	35.12	35.12	35.12	35.12	35.12	35.12	35.12	35.12	35.12
	B	27	27	27.68	27.68	27	27	27.68	27.68	27.87	27.87	27.75	27.75	27.79
	C	33.87	33.87	31.12	31.12	33.87	33.87	31.25	31.25	33.82	33.82	33.87	33.87	-
	D	29	29	29.12	29.12	29.68	29.68	29.12	29.12	30.37	30.37	30.43	30.43	32.12
	E	35.44	35.44	33	33	35.31	35.31	33.82	33.82	35.25	35.25	35.31	35.31	-
	G	4.62	4.62	4.62	4.62	4.62	4.62	4.62	4.62	4.62	4.62	4.62	4.62	-
	J	28.87	28.87	28.87	28.87	28.87	28.87	28.87	28.87	28.87	28.87	28.87	28.87	-

NOTE: Dimensions shown in inches.

Table 61: Hydronic Unit Dimensions - Dimension Letter Reference for Figure 68 on page 56

Dimension	Unit Size		
	030	040	050
F	4.62	4.62	4.62
H	22.86	26.87	28.87
K	1.61	1.61	1.61
M	43.34	48.45	54.96
N	0.57	0.55	0.55
P	24.9	28.92	30.94
Q	5.08	5.01	5.5
Y (FC Fans)	9.73	9.51	10.25
Y (Plenum Fans)	4.94	7.97	6.95
Z (FC Fans)	11.47	13.53	13.53
Z (Plenum Fans)	27.13	14.06	18.13
AA (FC Fans)	23.35	22.64	22.64
AA (Plenum Fans)	10.93	6.47	10.43
BB (FC Fans)	13.21	15.62	15.62
BB (Plenum Fans)	16.13	41.06	40.13

NOTE: Dimensions shown in inches.

Table 62: DX Unit Dimensions - Dimension Letter Reference for Figure 68 on page 56

Unit Size	Dimension	Single Circuit DX				Interlaced DX			
		Preheat		Reheat		Preheat		Reheat	
		1-Row	2-Row	1-Row	2-Row	1-Row	2-Row	1-Row	2-Row
030	B	25.69	25.61	23.95	23.88	24.3	24.3	23.88	23.88
	C	30.16	30.07	29.83	29.76	30.07	30.07	28.45	28.45
	D	-	-	25.04	25.42	25.62	25.61	25.09	25.43
	E	31.24	31.61	-	-	31.28	31.61	29.76	29.76
	F	4.35	4.35	4.61	4.62	5.35	5.35	4.61	4.62
	G	4.62	4.65	4.35	4.35	4.62	4.62	5.35	5.35
	H	-	-	22.86	22.87	9.35	9.35	22.86	22.87
	J	22.87	22.87	-	-	22.87	22.87	9.35	9.35
040	B	28.69	28.7	26.97	26.97	27.26	27.26	26.97	26.97
	C	33.16	33.16	32.85	32.85	33.16	33.16	31.41	31.41
	D	-	-	28.29	28.52	28.7	28.7	28.29	28.52
	E	34.48	34.7	-	-	34.48	34.7	32.85	32.85
	F	4.35	4.35	5.65	4.62	5.35	5.35	5.62	4.62
	G	5.62	4.62	4.39	4.35	5.62	4.62	5.35	5.35
	H	-	-	25.38	26.87	9.35	9.35	25.37	26.87
	J	25.37	26.87	-	-	25.37	26.87	9.35	9.35
050	B	28.69	28.68	27.68	26.9	27.13	27.12	27.68	26.9
	C	33.87	33.09	32.84	32.83	33.87	33.09	31.27	31.26
	D	-	-	29.13	29.24	30.25	30.24	29.13	29.24
	E	35.32	35.43	-	-	35.32	35.43	34.4	34.39
	F	4.35	4.35	4.62	4.62	5.35	5.35	4.62	4.62
	G	4.62	4.62	4.35	4.35	4.62	4.62	5.35	5.35
	H	-	-	28.87	28.87	7.35	7.35	28.87	28.87
	J	28.87	28.87	-	-	28.87	28.87	7.35	7.35

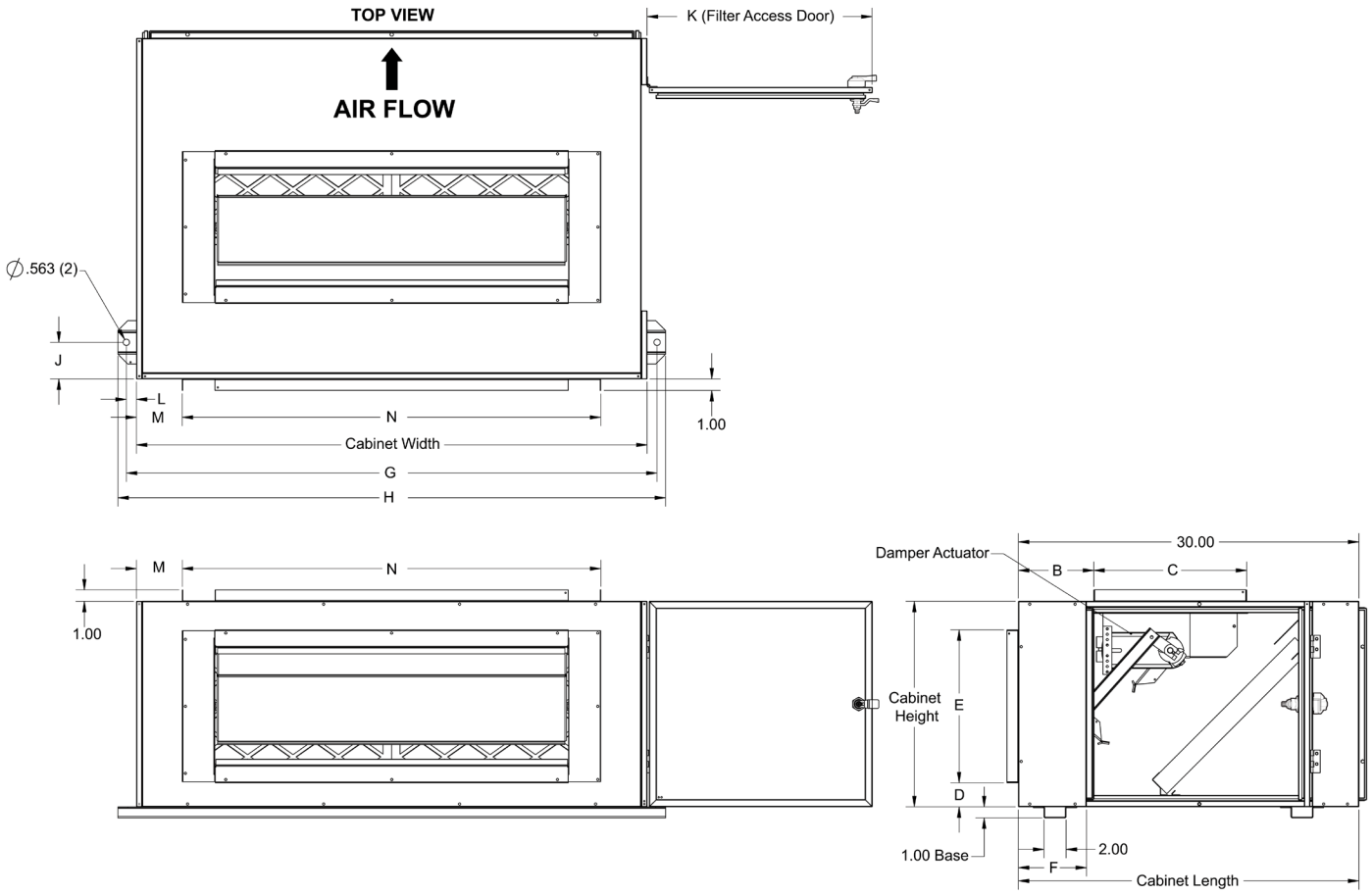
NOTE: Dimensions shown in inches.

Table 63: DX Unit Dimensions - Dimension Letter Reference for Figure 68 on page 56

Dimension	Unit Size		
	030	040	050
A	32.1	35.1	35.1
K	1.61	1.61	1.61
M	43.34	48.45	54.96
N	0.57	0.55	0.55
P	24.9	28.92	30.94
Q	5.08	5.01	5.50
Y (FC Fans)	9.73	9.51	10.25
Y (Plenum Fans)	4.94	7.97	6.95
Z (FC Fans)	11.47	13.53	13.53
Z (Plenum Fans)	27.13	14.06	18.13
AA (FC Fans)	23.35	22.64	22.64
AA (Plenum Fans)	10.93	6.47	10.43
BB (FC Fans)	13.21	15.62	15.62
BB (Plenum Fans)	16.13	41.06	40.13

NOTE: Dimensions shown in inches.

Figure 69: Horizontal Mixing Box – Top and End Damper, Left Hand Sizes 006–020 and Right Hand Sizes 030–050 – Side Filter Access



NOTE 1: Dimensions shown in inches.

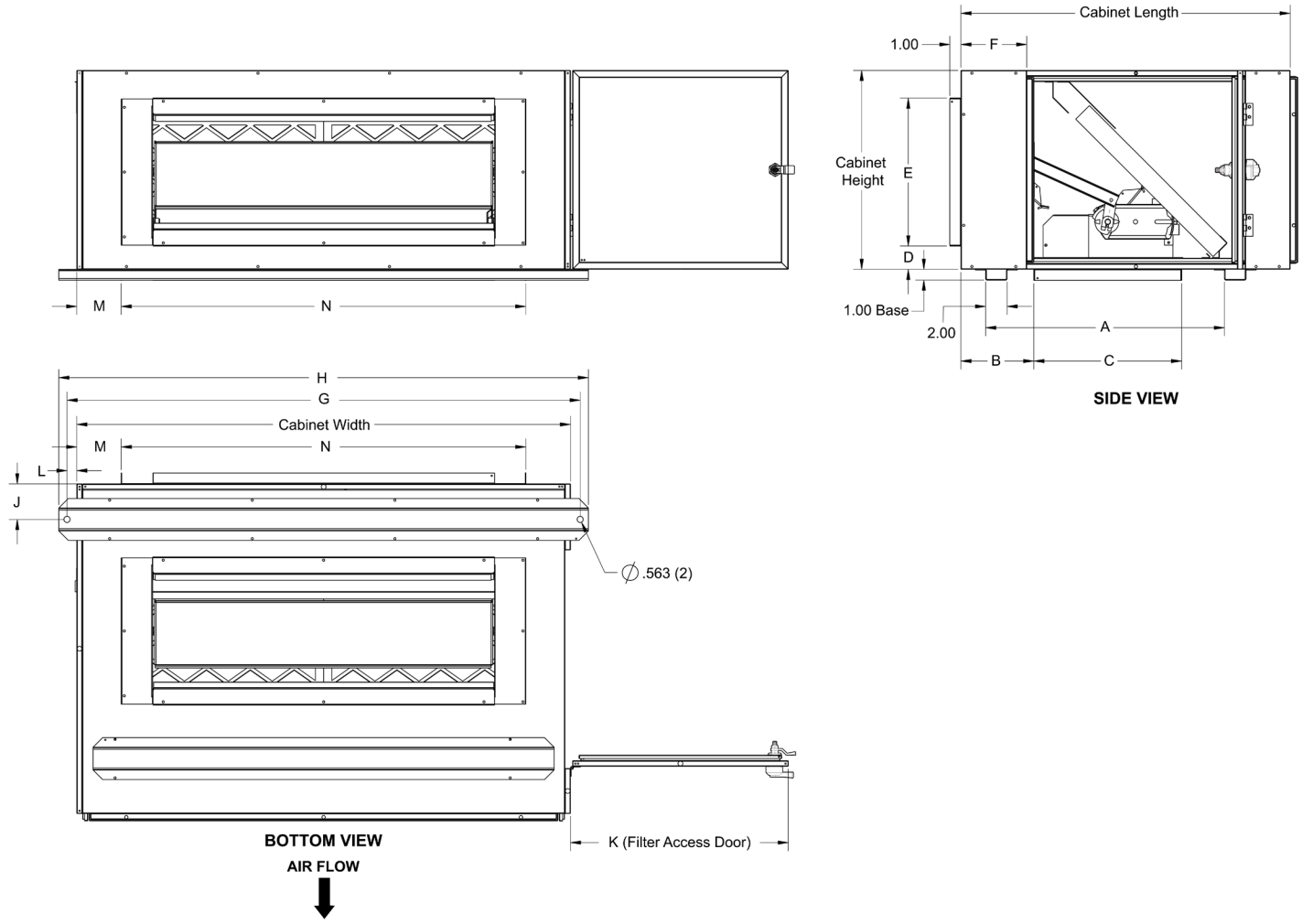
NOTE 2: Dimensions for right hand cabinet sizes 006-020 and cabinet sizes 030-050 with side access filters are similar but opposite.

Table 64: Mixing Box Dimension Letter Reference

Cabinet	006	008	010	012	016	018	020	030	040	050
B	6.64	6.64	6.64	6.64	6.64	6.64	6.64	5.54	5.54	5.54
C	13.47	13.47	13.47	13.47	13.47	13.47	13.47	18.39	18.39	18.39
D	2.11	2.11	2.11	2.11	2.11	2.11	2.11	3.80	5.80	6.80
E	13.47	13.47	13.47	13.47	13.47	13.47	13.47	18.39	18.39	18.39
F	6.12	6.12	6.12	6.12	6.12	6.12	6.12	14.06	14.06	14.06
G	16.75	21.75	29.75	29.75	38.25	46.75	46.75	51.00	56.00	63.00
H	18.25	23.25	31.25	31.25	39.75	48.25	48.25	52.50	57.50	64.50
J	3.22	3.22	3.22	3.22	3.22	3.22	3.22	3.22	3.22	3.22
K	19.75	19.75	19.75	19.75	19.75	19.75	19.75	14.75	14.75	14.75
L	0.87	0.87	0.87	0.87	0.87	0.87	0.87	1.00	1.00	1.00
M	0.98	2.66	2.29	2.29	2.80	4.04	4.04	6.32	3.82	2.82
N	10.18	14.66	23.41	30.90	30.90	36.87	36.87	36.34	46.34	55.34

NOTE: Dimensions shown in inches.

Figure 70: Horizontal Mixing Box – Bottom and End Damper, Left Hand Sizes 006–020 and Right Hand Sizes 030–050 – Side Filter Access



NOTE 1: Dimensions shown in inches.

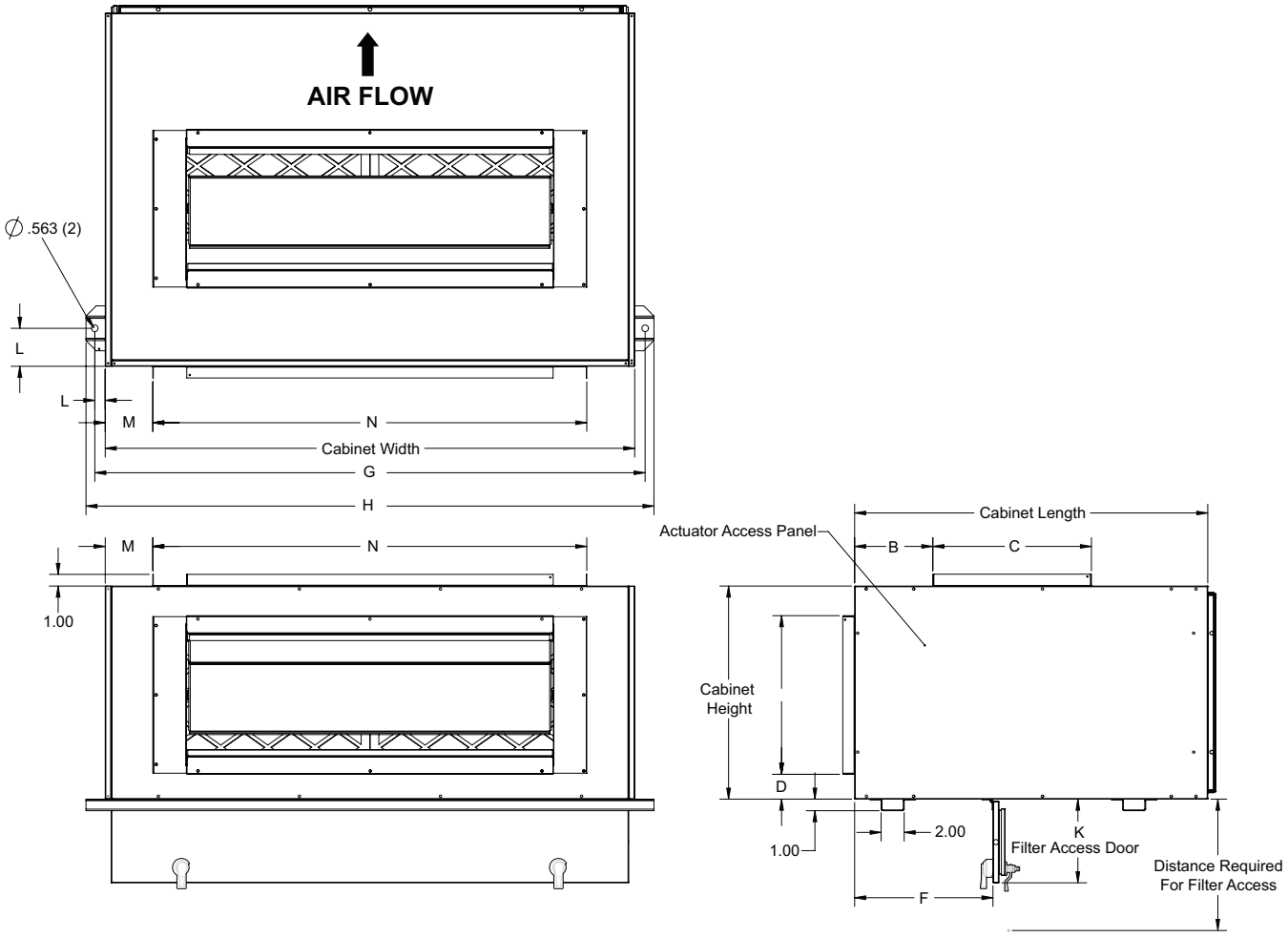
NOTE 2: Dimensions for right hand cabinet sizes 006-020 and cabinet sizes 030-050 with side access filters are similar but opposite.

Table 65: Mixing Box Dimension Letter Reference

Cabinet	006	008	010	012	016	018	020	030	040	050
A	20.51	20.51	20.51	20.51	20.51	20.51	20.51	27.27	27.27	27.27
B	6.64	6.64	6.64	6.64	6.64	6.64	6.64	5.54	5.54	5.54
C	13.47	13.47	13.47	13.47	13.47	13.47	13.47	18.39	18.39	18.39
D	2.11	2.11	2.11	2.11	2.11	2.11	2.11	3.80	5.80	6.80
E	13.47	13.47	13.47	13.47	13.47	13.47	13.47	18.39	18.39	18.39
F	6.12	6.12	6.12	6.12	6.12	6.12	6.12	14.06	14.06	14.06
G	16.75	21.75	29.75	29.75	38.25	46.75	46.75	51.00	56.00	63.00
H	18.25	23.25	31.25	31.25	39.75	48.25	48.25	52.50	57.50	64.50
J	3.22	3.22	3.22	3.22	3.22	3.22	3.22	3.22	3.22	3.22
K	19.75	19.75	19.75	19.75	19.75	19.75	19.75	14.75	14.75	14.75
L	0.87	0.87	0.87	0.87	0.87	0.87	0.87	1.00	1.00	1.00
M	0.98	2.66	2.29	2.29	2.80	4.04	4.04	6.32	3.82	2.82
N	10.18	14.66	23.41	30.90	30.90	36.87	36.87	36.34	46.34	55.34

NOTE: Dimensions shown in inches.

Figure 71: Horizontal Mixing Box Dimensions – Left Hand Sizes 006–020 and Right Hand Sizes 030–050 – Bottom Filter Access



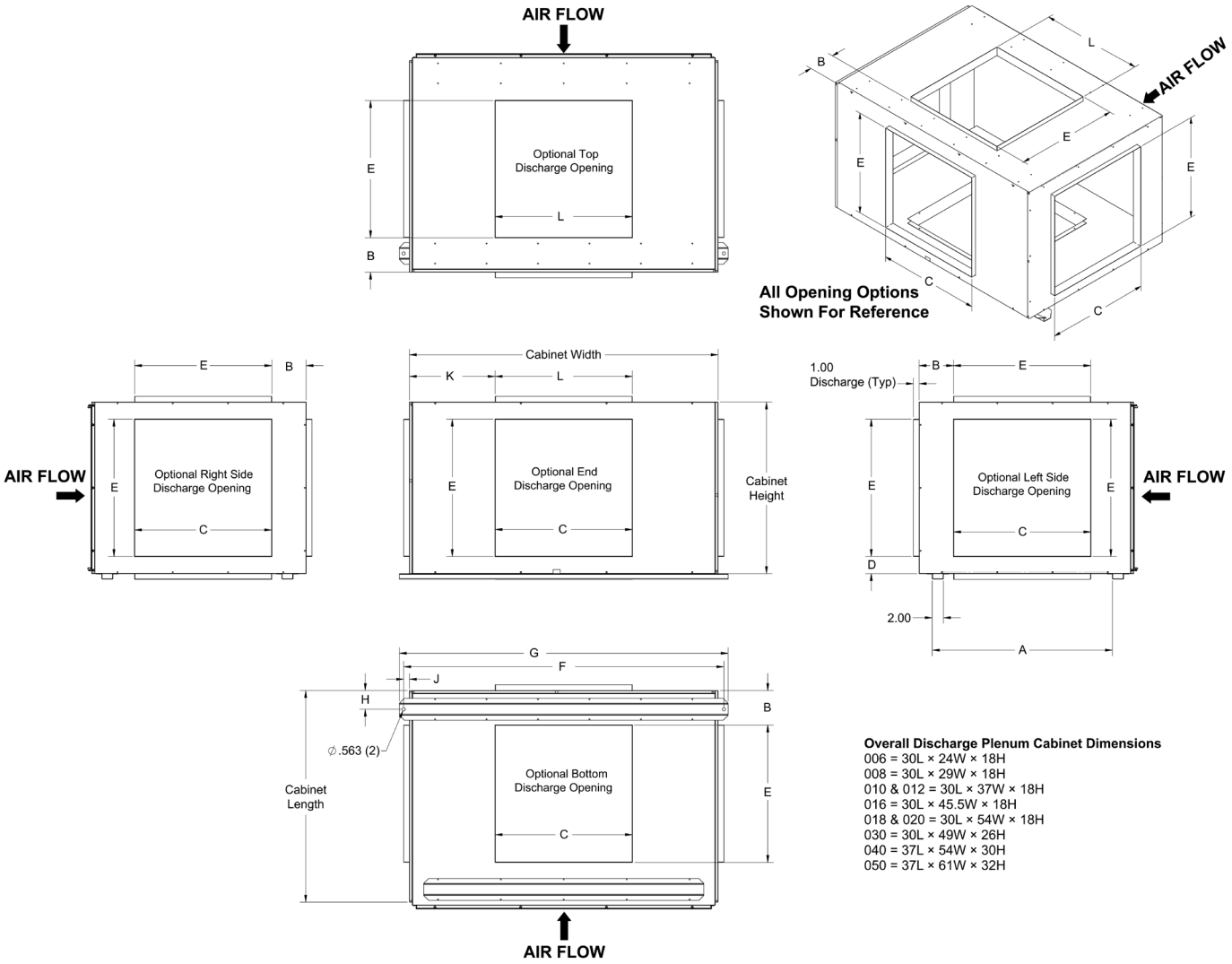
NOTE: Dimensions shown in inches.

Table 66: Mixing Box Dimension Letter Reference

Cabinet	006	008	010	012	016	018	020	030	040	050
B	6.64	6.64	6.64	6.64	6.64	6.64	6.64	5.54	5.54	5.54
C	13.47	13.47	13.47	13.47	13.47	13.47	13.47	18.39	18.39	18.39
D	2.11	2.11	2.11	2.11	2.11	2.11	2.11	3.80	5.80	6.80
E	13.47	13.47	13.47	13.47	13.47	13.47	13.47	18.39	18.39	18.39
F	11.62	11.62	11.62	11.62	11.62	11.62	11.62	19.56	17.86	17.36
G	16.75	21.75	29.75	29.75	38.25	46.75	46.75	51.00	56.00	63.00
H	18.25	23.25	31.25	31.25	39.75	48.25	48.25	52.50	57.50	64.50
J	3.22	3.22	3.22	3.22	3.22	3.22	3.22	3.22	3.22	3.22
K	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00
L	0.87	0.87	0.87	0.87	0.87	0.87	0.87	1.00	1.00	1.00
M	0.98	2.66	2.29	2.29	2.80	4.04	4.04	6.32	3.82	2.82
N	10.18	14.66	23.41	30.90	30.90	36.87	36.87	36.34	46.34	55.34

NOTE: Dimensions shown in inches.

Figure 72: Horizontal Discharge Plenum (Sizes 006-050)



NOTE 1: Dimensions shown in inches.

NOTE 2: Discharge opening is offered on any particular side, but is shown here on all available surfaces for dimensioning purposes only.

NOTE 3: A discharge plenum is also available without discharge openings.

Table 67: Discharge Plenum Dimension Letter Reference

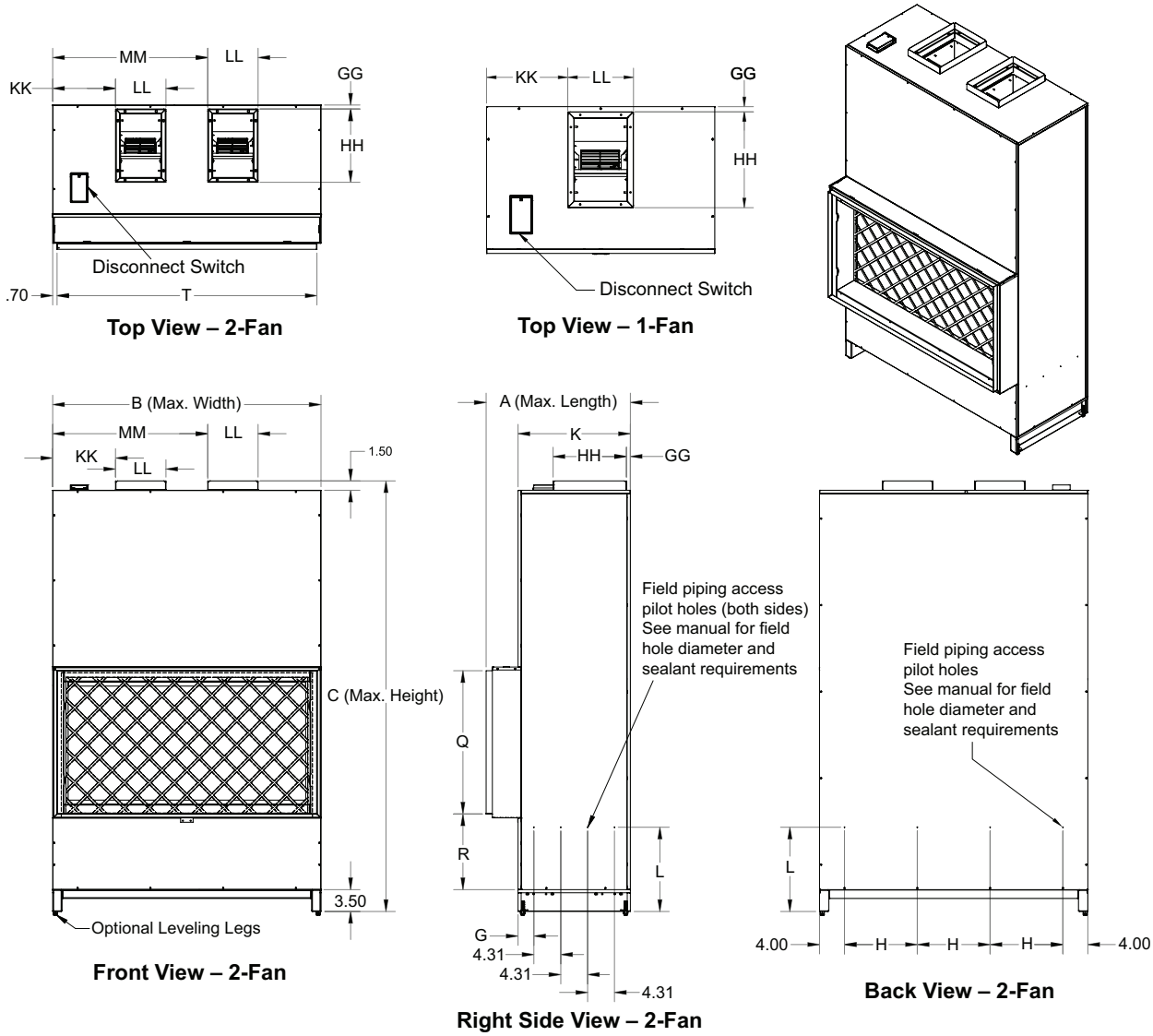
Cabinet	006	008	010	012	016	018	020	030	040	050
A	22.00	22.00	22.00	22.00	22.00	22.00	22.00	24.50	31.50	32.88
B	6.56	6.10	6.56	6.56	6.56	6.56	6.56	5.53	6.02	5.06
C	12.00	12.00	14.00	14.00	16.00	20.00	20.00	24.00	24.00	28.00
D	5.00	3.00	2.00	2.00	2.00	2.00	2.00	3.00	3.00	2.00
E	8.00	12.00	14.00	14.00	14.00	14.00	14.00	20.00	24.00	28.00
F	26.00	30.00	39.00	39.00	48.00	56.00	56.00	50.50	56.00	62.50
G	27.50	31.50	40.50	40.50	49.50	57.50	57.50	52.00	57.50	64.00
H	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25	2.63
J	1.00	0.50	1.00	1.00	1.25	1.00	1.00	0.75	1.00	0.75
K	6.00	8.50	11.50	11.50	14.75	17.00	17.00	12.50	15.00	16.50
L	12.00	12.00	14.00	14.00	16.00	20.00	20.00	24.00	24.00	28.00

NOTE 1: Dimensions shown in inches.

NOTE 2: Discharge opening is offered on any one particular side, but is shown here on all available surfaces for dimensioning purposes only. A discharge plenum is also available without discharge openings.

Size 006-050 Vertical Unit Dimensions

Figure 73: Left-Hand, Single and Dual Fan (Sizes 006-020)



NOTE 1: Dimensions shown in inches.

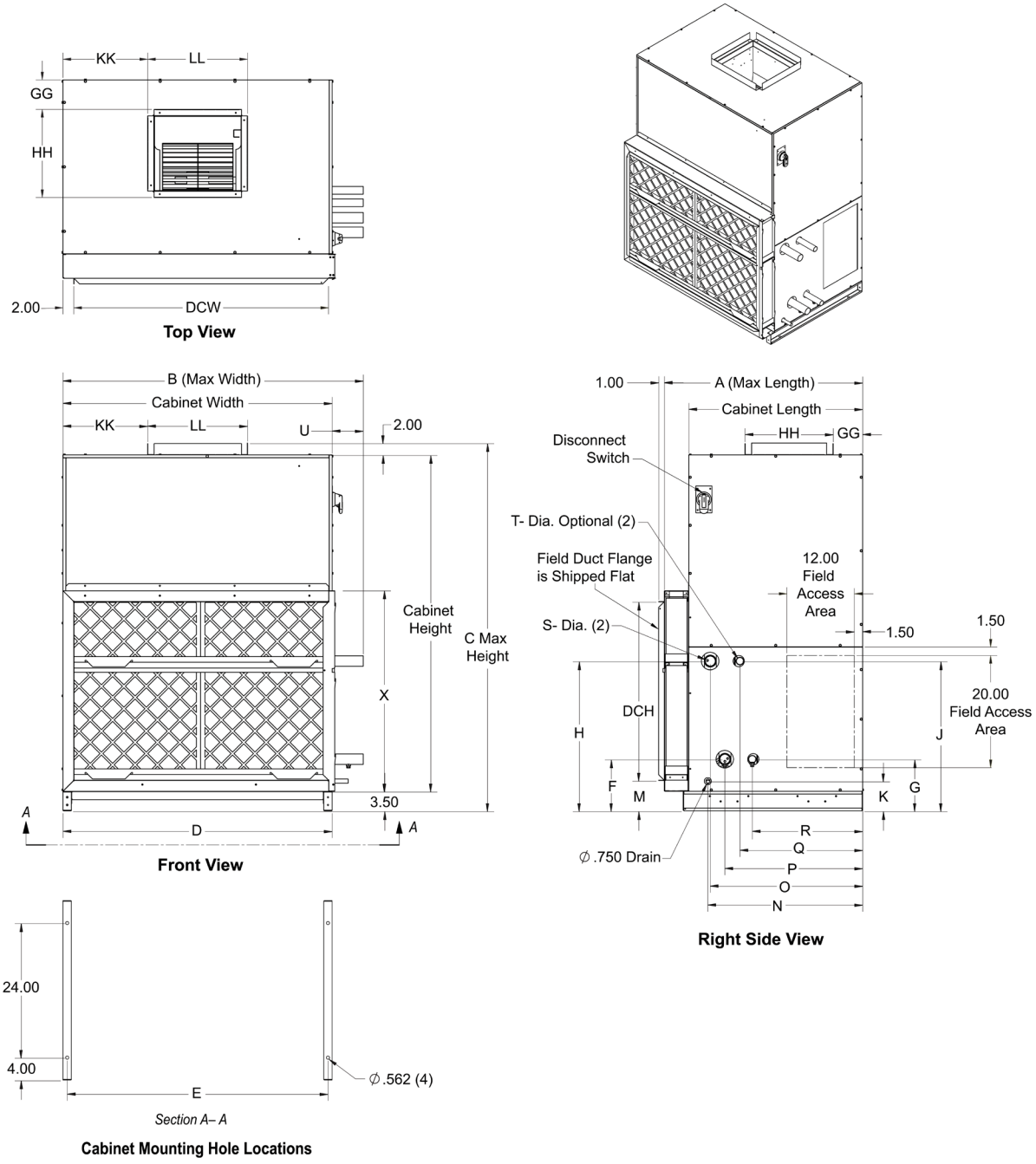
NOTE 2: Sizes 006 - 012 have 1 outlet while sizes 016-020 have 2.

Table 68: Dimension Letter Reference

Internal Filter Dimensions (in)																			
Size	**A**	**B**	**C**	**G**	**H**	**K**	**L**	**Q**	**R**	**S**	**U**	**V**	**W**	**X**	**MM**	**KK**	**LL**	**GG**	**HH**
006	18.00	25.00	60.00	2.54	5.65	N/A	13.50	15.88	11.50	3.50	10.86	4.76	2.81	2.85	N/A	8.47	8.06	0.63	11.75
008	18.00	28.00	65.00	2.54	6.65	N/A	13.50	19.04	11.50	3.50	10.86	4.76	2.81	2.85	N/A	9.97	8.06	0.63	11.75
012	18.00	31.50	67.00	2.54	7.83	N/A	13.50	21.75	11.50	3.50	10.86	4.76	2.81	2.85	N/A	11.72	8.06	0.63	11.75
016	18.00	38.00	68.5	2.54	10.00	N/A	13.50	24.19	11.50	3.50	10.86	4.76	2.81	2.85	24.86	9.45	8.06	0.63	11.75
020	18.00	43.00	69.00	2.54	11.65	N/A	13.50	24.19	11.50	3.50	10.86	4.76	2.81	2.85	24.86	10.08	8.06	0.63	11.75

	External Filter Dimensions (in)																			
Size	**A**	**B**	**C**	**G**	**H**	**K**	**L**	**Q**	**R**	**S**	**T**	**U**	**V**	**W**	**X**	**MM**	**KK**	**LL**	**GG**	**HH**
006	23.07	25.00	60.00	2.54	5.65	18.00	13.50	14.78	12.09	3.50	23.63	10.86	4.76	2.81	2.85	N/A	8.47	8.06	0.63	11.75
008	23.07	28.00	65.00	2.54	6.65	18.00	13.50	17.85	12.09	3.50	26.63	10.86	4.76	2.81	2.85	N/A	9.97	8.06	0.63	11.75
012	23.07	31.50	67.00	2.54	7.83	18.00	13.50	20.63	12.09	3.50	30.18	10.86	4.76	2.81	2.85	N/A	11.72	8.06	0.63	11.75
016	23.07	38.00	68.5	2.54	10.00	18.00	13.50	23.00	12.09	3.50	36.63	10.86	4.76	2.81	2.85	24.86	9.45	8.06	0.63	11.75
020	23.07	43.00	69.00	2.54	11.65	18.00	13.50	23.00	12.09	3.50	41.63	10.86	4.76	2.81	2.85	24.86	10.08	8.06	0.63	11.75

Figure 74: Vertical Unit Dimensions (Sizes 030-050)



NOTE 1: Dimensions shown in inches.

NOTE 2: Right hand cabinet shown. Left hand similar but opposite.

Table 69: General Vertical Unit Dimensions for Figure 74 on page 64

Units with Forward-Curved Fans													
Unit Size	**A**	**B**	**C**	**D**	**E**	**U**	**X**	**KK**	**LL**	**GG**	**HH**	**DCH**	**DCW**
030	35.36	49.5	61.5	44	42.5	5.54	30.49	12.3	15.32	5.29	13.66	24.5	38
040	35.36	53.5	65.5	48	46.5	6	34.49	15.09	17.82	5.25	15.72	31.88	45.44
050	35.36	53.5	73.5	48	46.5	6	42.49	15.09	17.82	5.25	15.72	39.88	45.44
Units with Plenum Fans													
Unit Size	**A**	**B**	**C**	**D**	**E**	**U**	**X**	**KK**	**LL**	**GG**	**HH**	**DCH**	**DCW**
030	35.36	49.5	61.5	44	42.5	5.54	30.49	8.67	27.20	3.96	16.20	24.5	38
040	35.36	53.5	65.5	48	46.5	6	34.49	3.67	41.20	3.96	14.20	31.88	45.44
050	35.36	53.5	73.5	48	46.5	6	42.49	4.17	40.20	3.96	18.20	39.88	45.44

NOTE: Dimensions shown in inches.

Table 70: Vertical Coil Dimensions for Figure 74 on page 64

8 Row Coil RH (Cooling)													
Unit Size	**K**	**F**	**H**	**G**	**J**	**M**	**N**	**O**	**P**	**Q**	**R**	**S**	**T**
030	5.3	9.22	22.72	-	-	7.74	27.6	25.99	21.65	-	-	1.625	-
040	5.3	9.22	26.72	-	-	5.42	27.59	25.98	21.65	-	-	1.875	-
050	5.31	9.22	34.72	-	-	5.42	27.59	25.98	21.65	-	-	2.125	-
6 Row Coil RH (Cooling)													
Unit Size	**K**	**F**	**H**	**G**	**J**	**M**	**N**	**O**	**P**	**Q**	**R**	**S**	**T**
030	5.3	9.22	22.72	-	-	7.74	27.6	27.12	24.57	-	-	1.625	-
040	5.3	9.22	26.72	-	-	5.42	27.59	27.17	24.57	-	-	1.625	-
050	5.31	9.22	34.72	-	-	5.42	27.59	27.17	24.57	-	-	2.125	-
4 Row Coil RH (Cooling)													
Unit Size	**K**	**F**	**H**	**G**	**J**	**M**	**N**	**O**	**P**	**Q**	**R**	**S**	**T**
030	5.3	9.22	22.72	-	-	7.74	27.6	27.12	24.57	-	-	1.375	-
040	5.3	9.22	26.72	-	-	5.42	27.59	27.17	24.57	-	-	1.625	-
050	5.31	9.22	34.72	-	-	5.42	27.59	27.17	24.57	-	-	2.125	-
2 Row Coil RH (Cooling)													
Unit Size	**K**	**F**	**H**	**G**	**J**	**M**	**N**	**O**	**P**	**Q**	**R**	**S**	**T**
030	5.3	9.22	22.72	-	-	7.74	27.59	27.12	24.63	-	-	1.125	-
040	5.3	9.22	26.72	-	-	5.42	27.59	27.17	24.57	-	-	1.375	-
050	5.3	9.22	34.72	-	-	5.42	27.59	27.17	24.57	-	-	2.125	-
6 + 1 Rows Coil RH (Re-heat)													
Unit Size	**K**	**F**	**H**	**G**	**J**	**M**	**N**	**O**	**P**	**Q**	**R**	**S**	**T**
030	5.3	9.22	22.72	9.22	22.72	7.74	27.6	27.12	24.57	21.89	19.68	1.625	0.625
040	5.3	9.22	26.72	9.22	26.72	5.42	27.59	27.17	24.57	21.89	19.68	1.625	0.875
050	5.31	9.22	34.72	9.22	34.72	5.42	27.59	27.17	24.57	21.89	19.69	2.125	1.375
4 + 1 Rows Coil RH (Re-heat)													
Unit Size	**K**	**F**	**H**	**G**	**J**	**M**	**N**	**O**	**P**	**Q**	**R**	**S**	**T**
030	5.3	9.22	22.72	9.22	22.72	7.74	27.6	27.12	24.57	21.89	19.68	1.375	0.625
040	5.3	9.22	26.72	9.22	26.72	5.42	27.59	27.17	24.57	21.89	19.68	1.625	0.875
050	5.31	9.22	34.72	9.22	34.72	5.42	27.59	27.17	24.57	21.89	19.69	2.125	1.375
2 + 1 Rows Coil RH (Re-heat)													
Unit Size	**K**	**F**	**H**	**G**	**J**	**M**	**N**	**O**	**P**	**Q**	**R**	**S**	**T**
030	5.3	9.22	22.72	9.22	22.72	7.74	27.6	27.1	24.63	21.89	19.68	1.125	0.625
040	5.3	9.22	26.72	9.22	26.72	5.42	27.59	27.17	24.57	21.89	19.68	1.375	0.875
050	5.3	9.22	34.72	9.22	34.72	5.42	27.59	27.17	24.57	21.89	19.69	2.125	1.375
6 + 2 Rows Coil RH (Re-heat)													
Unit Size	**K**	**F**	**H**	**G**	**J**	**M**	**N**	**O**	**P**	**Q**	**R**	**S**	**T**
030	5.3	9.22	22.72	9.22	22.72	7.74	27.6	27.12	24.57	22.02	19.55	1.625	1.125
040	5.3	9.22	26.72	9.22	26.72	5.42	27.59	27.17	24.57	22.09	19.49	1.625	1.375
050	5.31	9.22	34.72	9.22	34.72	5.42	27.59	27.17	24.57	22.09	19.5	2.125	1.375
4 + 2 Rows Coil RH (Re-heat)													
Unit Size	**K**	**F**	**H**	**G**	**J**	**M**	**N**	**O**	**P**	**Q**	**R**	**S**	**T**
030	5.3	9.22	22.72	9.22	22.72	7.74	27.6	27.12	24.57	22.02	19.55	1.375	1.125
040	5.3	9.22	26.72	9.22	26.72	5.42	27.59	27.17	24.57	22.09	19.49	1.625	1.375
050	5.31	9.22	34.72	9.22	34.72	5.42	27.59	27.17	24.57	22.09	19.5	2.125	1.375

NOTE: Dimensions shown in inches.

Vertical Coil Dimensions for Figure 74 on page 64 (continued)

2 + 2 Rows Coil RH (Re-heat)													
Unit Size	**K**	**F**	**H**	**G**	**J**	**M**	**N**	**O**	**P**	**Q**	**R**	**S**	**T**
030	5.3	9.22	22.72	9.22	22.72	7.74	27.6	27.1	24.63	22.02	19.55	1.125	1.125
040	5.3	9.22	26.72	9.22	26.72	5.42	27.59	27.17	24.57	22.09	19.49	1.375	1.375
050	5.3	9.22	34.72	9.22	34.72	5.42	27.59	27.17	24.57	22.09	19.5	2.125	1.125
1 + 6 Rows Coil RH (Pre-heat)													
Unit Size	**K**	**F**	**H**	**G**	**J**	**M**	**N**	**O**	**P**	**Q**	**R**	**S**	**T**
030	5.3	9.22	22.72	9.22	22.72	7.74	27.6	27.95	25.75	23.07	20.47	1.625	0.625
040	5.3	9.22	26.72	9.22	26.72	5.42	27.59	27.95	25.75	23.07	20.47	1.625	0.875
050	5.3	9.22	34.72	9.22	34.72	5.42	27.95	27.59	25.75	23.07	20.47	2.125	1.375
1 + 4 Rows Coil RH (Pre-heat)													
Unit Size	**K**	**F**	**H**	**G**	**J**	**M**	**N**	**O**	**P**	**Q**	**R**	**S**	**T**
030	5.3	9.22	22.72	9.22	22.72	7.74	27.6	27.95	25.75	23.07	20.47	1.375	0.625
040	5.3	9.22	26.72	9.22	26.72	5.42	27.59	27.95	25.75	23.07	20.47	1.625	0.875
050	5.3	9.22	34.72	9.22	34.72	5.42	28.15	27.59	25.56	23.07	20.47	2.125	1.375
1 + 2 Rows Coil RH (Pre-heat)													
Unit Size	**K**	**F**	**H**	**G**	**J**	**M**	**N**	**O**	**P**	**Q**	**R**	**S**	**T**
030	5.3	9.22	22.72	9.22	22.72	7.74	27.6	27.95	25.75	23	20.53	1.125	0.625
040	5.3	9.22	26.72	9.22	26.72	5.42	27.59	27.95	25.75	23.07	20.47	1.375	0.875
050		9.22	34.72	9.22	34.72	5.42	28.15	27.59	25.56	23.07	20.47	2.125	1.375
2 + 6 Rows Coil RH (Pre-heat)													
Unit Size	**K**	**F**	**H**	**G**	**J**	**M**	**N**	**O**	**P**	**Q**	**R**	**S**	**T**
030	5.3	9.22	22.72	9.22	22.72	7.74	27.6	28.09	25.61	23.07	20.47	1.625	1.125
040	5.3	9.22	26.72	9.22	26.72	5.42	27.59	28.15	25.55	23.07	20.47	1.625	1.375
050	5.3	9.22	34.72	9.22	34.72	5.42	28.15	27.59	25.56	23.07	20.47	2.125	1.375
2 + 4 Rows Coil RH (Pre-heat)													
Unit Size	**K**	**F**	**H**	**G**	**J**	**M**	**N**	**O**	**P**	**Q**	**R**	**S**	**T**
030	5.3	9.22	22.72	9.22	22.72	7.74	27.6	28.09	25.61	23.07	20.47	1.375	1.125
040	5.3	9.22	26.72	9.22	26.72	5.42	27.59	28.15	25.55	23.07	20.47	1.625	1.375
050	5.3	9.22	34.72	9.22	34.72	5.42	28.15	27.59	25.56	23.07	20.47	2.125	1.375
2 + 2 Rows Coil RH (Pre-heat)													
Unit Size	**K**	**F**	**H**	**G**	**J**	**M**	**N**	**O**	**P**	**Q**	**R**	**S**	**T**
030	5.3	9.22	22.72	9.22	22.72	7.74	27.6	28.09	25.61	23	20.53	1.125	1.125
040	5.3	9.22	26.72	9.22	26.72	5.42	27.59	28.15	25.55	23.07	20.47	1.375	1.375
050	5.3	9.22	34.72	9.22	34.72	5.42	28.15	27.59	25.56	23.07	20.47	2.125	1.375
1 + DX Single 3 Rows Coil RH (Re-Heat)													
Unit Size	**K**	**F**	**H**	**G**	**J**	**M**	**N**	**O**	**P**	**Q**	**R**	**S**	**T**
030	5.3	9.84	-	9.22	22.72	7.74	27.59	-	26.73	21.89	19.68	1.625	-
040	5.3	9.84	-	9.22	26.72	5.42	27.59	-	26.73	21.89	19.68	1.625	-
050	5.3	9.84	-	9.22	34.72	5.42	27.59	-	26.73	21.89	19.69	1.625	-
2 + DX Single 3 Rows Coil RH (Re-Heat)													
Unit Size	**K**	**F**	**H**	**G**	**J**	**M**	**N**	**O**	**P**	**Q**	**R**	**S**	**T**
030	5.3	9.84	-	9.22	22.72	7.74	27.59	-	26.73	22.02	19.55	1.625	-
040	5.3	9.84	-	9.22	26.72	5.42	27.59	-	26.73	22.09	19.49	1.625	-
050	5.3	9.84	-	9.22	34.72	5.42	27.59	-	26.73	22.09	19.5	1.625	-
1 + DX Interlace 3 Rows Coil RH (Re-Heat)													
Unit Size	**K**	**F**	**H**	**G**	**J**	**M**	**N**	**O**	**P**	**Q**	**R**	**S**	**T**
030	5.3	9.84	14.47	9.22	22.72	7.74	27.59	27.56	25.42	21.89	19.68	0.875	-
040	5.3	10.47	11.84	9.22	26.72	5.42	27.59	27.69	25.14	21.89	19.68	1.375	-
050	5.3	10.47	11.84	9.22	34.72	5.42	27.59	27.72	25.17	21.89	19.69	1.375	-

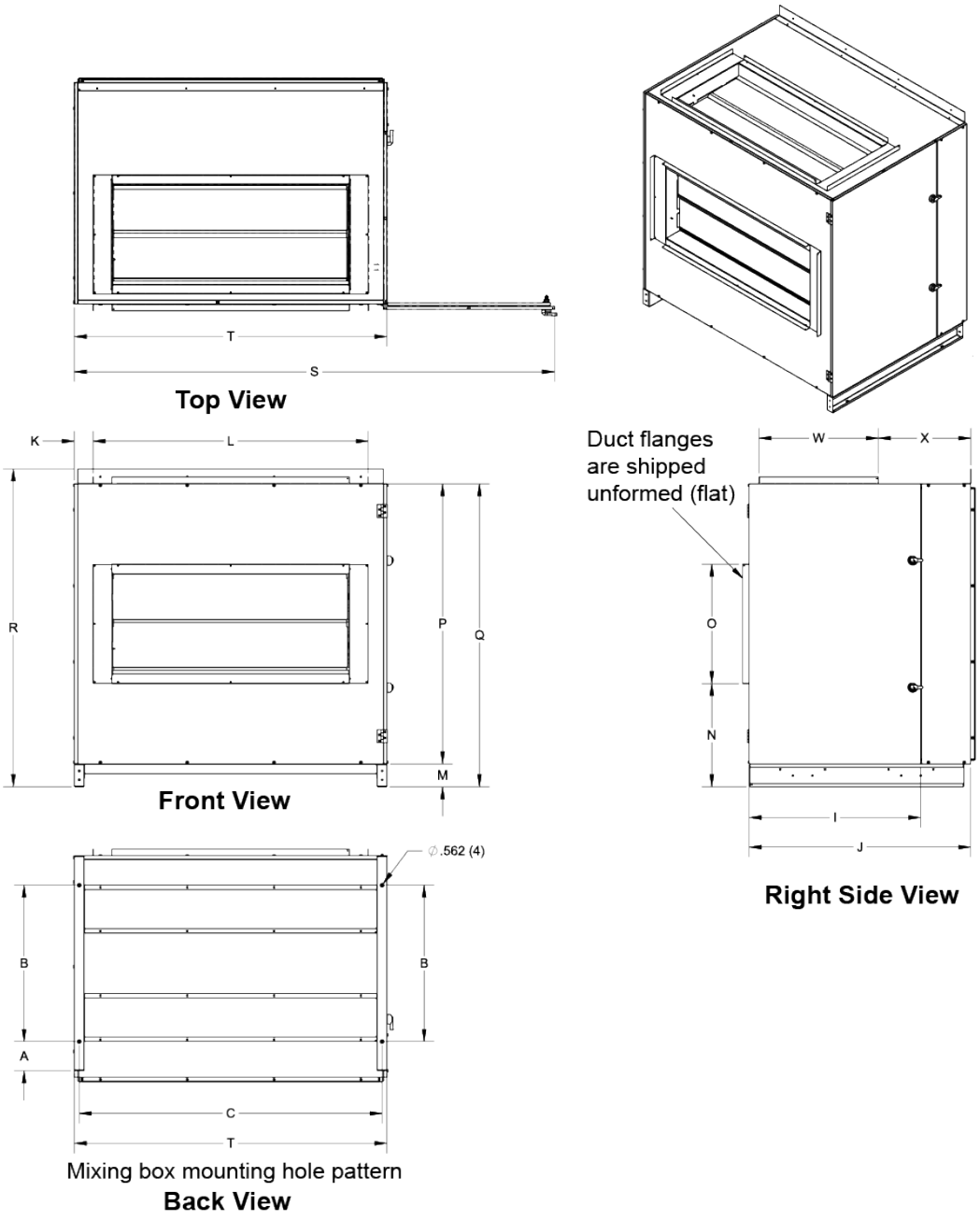
NOTE: Dimensions shown in inches.

Table 71: Vertical Coil Dimensions for Figure 74 on page 64 (continued)

2 + DX Interlace 3 Rows Coil RH (Re-Heat)													
Unit Size	**K**	**F**	**H**	**G**	**J**	**M**	**N**	**O**	**P**	**Q**	**R**	**S**	**T**
030	5.3	9.84	14.47	9.22	22.72	7.74	27.59	27.56	25.42	22.02	19.55	0.875	-
040	5.3	10.47	11.84	9.22	26.72	5.42	27.59	27.69	25.14	22.09	19.49	1.375	-
050	5.3	10.47	11.84	9.22	34.72	5.42	27.59	27.72	25.17	22.09	19.5	1.375	-
1 + DX Interlace 6 Rows Coil RH (Re-Heat)													
Unit Size	**K**	**F**	**H**	**G**	**J**	**M**	**N**	**O**	**P**	**Q**	**R**	**S**	**T**
030	5.3	10.47	14.22	9.22	22.72	7.74	27.59	27.12	24.97	21.89	19.68	1.125	-
040	5.3	8.84	10.47	9.22	26.72	5.42	27.59	27.03	24.85	21.89	19.68	1.325	-
050	5.3	10.47	10.47	9.22	34.72	5.42	27.59	26.73	24.61	21.89	19.69	1.625	-
2 + DX Interlace 6 Rows Coil RH (Re-Heat))													
Unit Size	**K**	**F**	**H**	**G**	**J**	**M**	**N**	**O**	**P**	**Q**	**R**	**S**	**T**
030	5.3	10.47	14.22	9.22	22.72	7.74	27.59	27.12	24.97	22.02	19.55	1.125	-
040	5.3	8.84	10.47	9.22	26.72	5.42	27.59	27.03	24.85	22.09	19.49	1.325	-
050	5.3	10.47	10.47	9.22	34.72	5.42	27.59	26.73	24.61	22.09	19.5	1.625	-
1 + DX Single 3 Rows Coil RH (Pre-Heat)													
Unit Size	**K**	**F**	**H**	**G**	**J**	**M**	**N**	**O**	**P**	**Q**	**R**	**S**	**T**
030	5.3	9.22	22.72	-	9.84	7.74	27.59	27.95	25.75	22.64	-	1.125	-
040	5.3	9.22	26.72	-	9.84	5.42	27.59	27.95	25.75	22.64	-	0.875	-
050	5.3	9.22	34.72	-	9.84	5.42	27.59	27.59	25.75	22.64	-	1.375	-
2 + DX Single 3 Rows Coil RH (Pre-Heat)													
Unit Size	**K**	**F**	**H**	**G**	**J**	**M**	**N**	**O**	**P**	**Q**	**R**	**S**	**T**
030	5.3	9.22	22.72	-	9.84	7.74	27.59	28.09	25.61	22.64	-	1.125	-
040	5.3	9.22	26.72	-	9.84	5.42	27.59	28.15	25.55	22.64	-	0.875	-
050	5.3	9.22	34.72	-	9.84	5.42	27.59	27.59	25.56	22.64	-	1.375	-
1 + DX Interlace 3 Rows Coil RH (Pre-Heat)													
Unit Size	**K**	**F**	**H**	**G**	**J**	**M**	**N**	**O**	**P**	**Q**	**R**	**S**	**T**
030	5.31	9.22	22.72	9.84	14.47	7.74	27.59	27.95	25.75	23.46	21.32	0.625	0.875
040	5.31	9.22	26.72	11.84	10.47	5.42	27.59	27.95	25.75	23.62	21.07	0.875	1.375
050	5.31	9.22	34.72	11.84	10.47	5.42	27.59	27.59	25.75	23.62	21.07	1.375	1.375
2 + DX Interlace 3 Rows Coil RH (Pre-Heat)													
Unit Size	**K**	**F**	**H**	**G**	**J**	**M**	**N**	**O**	**P**	**Q**	**R**	**S**	**T**
030	5.31	9.22	22.72	9.84	14.47	7.74	27.59	28.09	25.61	23.46	21.32	0.625	0.875
040	5.31	9.22	26.72	11.84	10.47	5.42	27.59	28.15	25.55	23.62	21.07	0.875	1.375
050	5.31	9.22	34.72	11.84	10.47	5.42	27.59	27.59	25.56	23.62	21.07	1.375	1.375
1 + DX Interlace 6 Rows Coil RH (Pre-Heat)													
Unit Size	**K**	**F**	**H**	**G**	**J**	**M**	**N**	**O**	**P**	**Q**	**R**	**S**	**T**
030	5.31	9.22	22.72	9.84	14.47	7.74	27.59	27.95	25.75	23.46	21.32	0.625	0.875
040	5.31	9.22	26.72	11.84	10.47	5.42	27.59	27.95	25.75	23.62	21.07	0.875	1.375
050	5.31	9.22	34.72	11.84	10.47	5.42	27.59	27.59	25.75	23.62	21.07	1.375	1.375
2 + DX Interlace 6 Rows Coil RH (Pre-Heat)													
Unit Size	**K**	**F**	**H**	**G**	**J**	**M**	**N**	**O**	**P**	**Q**	**R**	**S**	**T**
030	5.31	9.22	22.72	9.84	14.47	7.74	27.59	28.09	25.61	23.46	21.32	0.625	0.875
040	5.31	9.22	26.72	11.84	10.47	5.42	27.59	28.15	25.55	23.62	21.07	0.875	1.375
050	5.31	9.22	34.72	11.84	10.47	5.42	27.59	27.59	25.56	23.62	21.07	1.375	1.375
Steam Coils													
Unit Size	**K**	**F**	**H**	**G**	**J**	**M**	**N**	**O**	**P**	**Q**	**R**	**S**	**T**
030	5.31	-	-	9.67	21.71	-	-	-	-	25.72	28.03	-	1.125
040	5.31	-	-	9.58	23.71	-	-	-	-	25.72	28.03	-	1.125
050	5.31	-	-	9.84	27.71	-	-	-	-	25.82	27.97	-	1.375

NOTE: Dimensions shown in inches.

Figure 75: Vertical Mixing Box - Top and End Damper, Sizes 030-050 - Side Filter Access



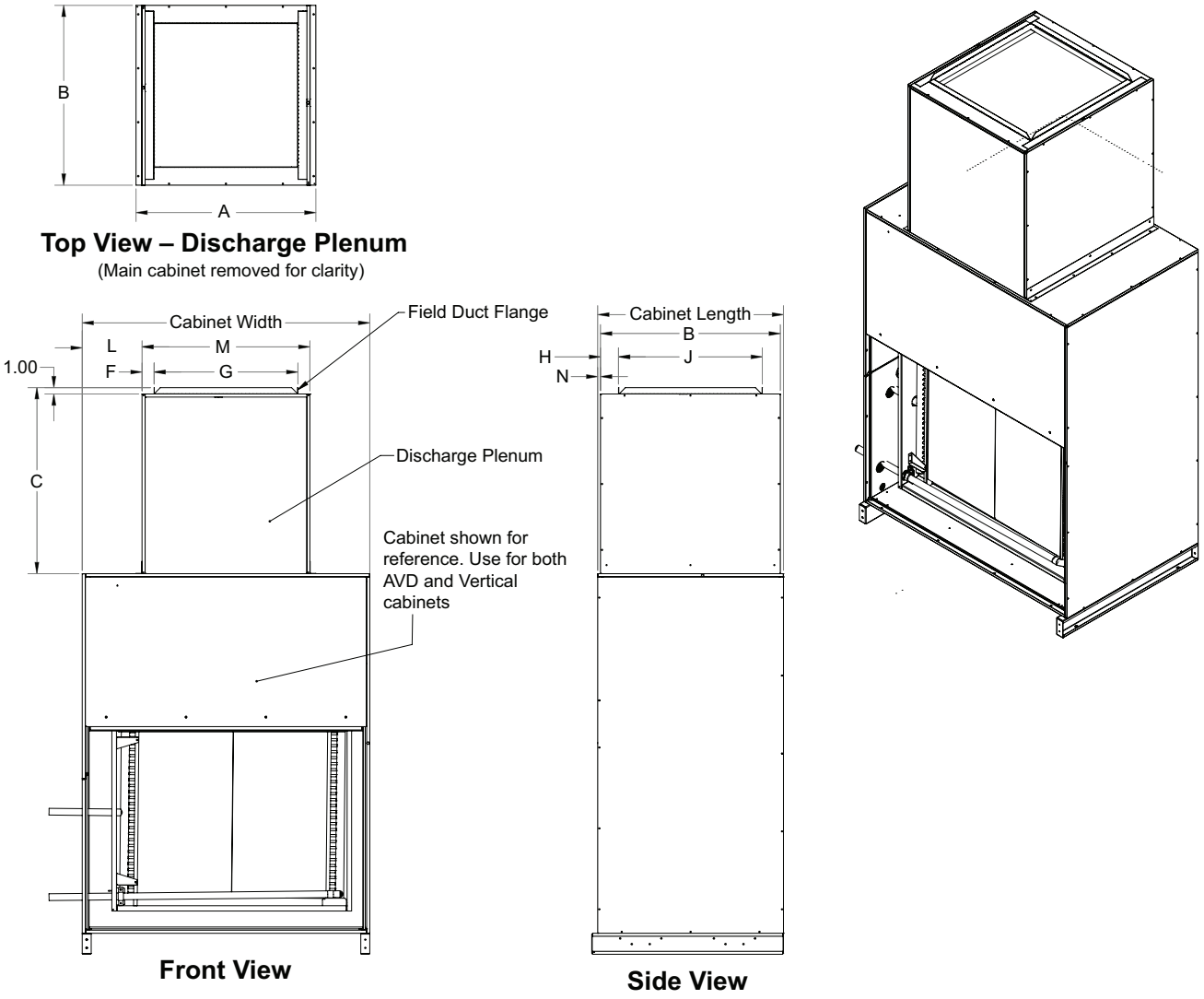
NOTE: Dimensions shown in inches.

Table 72: Mixing Box Dimension Letter Reference

Vertical Mixing Box																		
Unit Size	**A**	**B**	**C**	**D**	**I**	**J**	**K**	**L**	**M**	**N**	**O**	**P**	**Q**	**R**	**S**	**T**	**W**	**X**
030	5.5	24	42.5	44	26.31	33	2.87	38.27	3.5	9.82	18.37	31	34.5	36.76	70.12	34	18.37	14.19
040	5.5	24	46.5	48	26.31	33	2.87	42.31	3.5	11.82	18.37	35	38.5	40.76	74.12	34	18.37	14.19
050	5.5	24	46.5	48	26.31	33	2.87	42.31	3.5	15.82	18.37	43	46.5	48.76	74.12	34	18.37	14.19

NOTE: Dimensions shown in inches.

Figure 76: Vertical Discharge Plenum (Sizes 006-050)



NOTE: Dimensions shown in inches.

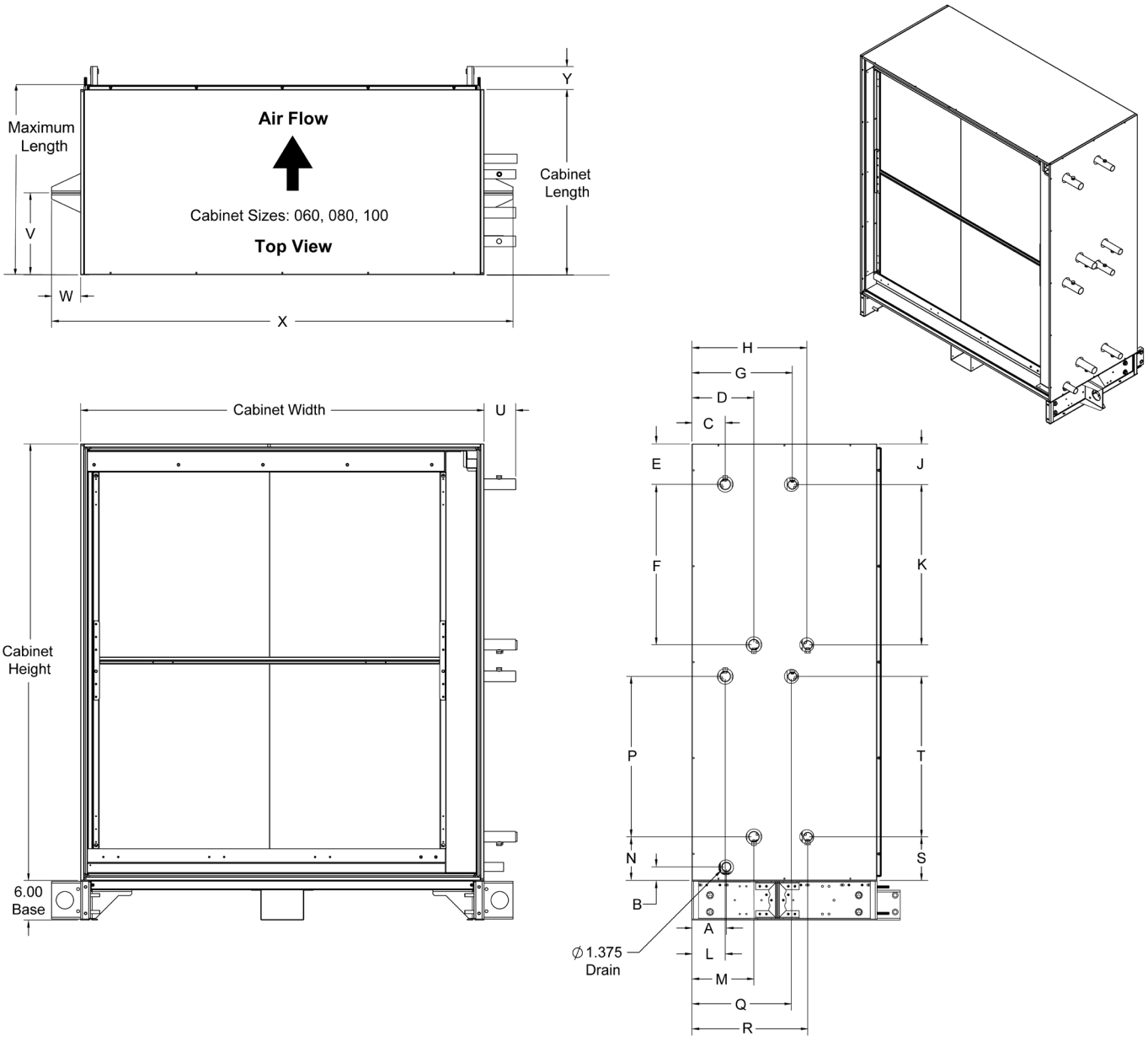
Table 73: Discharge Plenum Dimension Letter Reference

AVD													
Unit Size	**A**	**B**	**C**	**F**	**G**	**H**	**J**	**L**	**M**	**N**	**Cabinet Length**	**Cabinet Width**	**Cabinet Height**
006	14.00	17.50	25.00	2.00	8.06	2.75	12.00	6.50	12.00	0.25	18.00	25.00	58.00
008	18.00	17.50	25.00	2.00	12.00	2.75	12.00	6.00	16.00	0.25	18.00	28.00	60.00
012	20.00	17.50	25.00	2.00	14.00	2.75	12.00	6.75	18.00	0.25	18.00	31.50	62.00
016	31.00	17.50	25.00	5.47	20.00	1.75	14.00	6.75	29.00	0.25	18.00	38.00	63.50
020	33.00	17.50	25.00	2.47	20.00	1.75	14.00	6.00	31.00	0.25	18.00	43.00	64.00
Vertical													
Unit Size	**A**	**B**	**C**	**F**	**G**	**H**	**J**	**L**	**M**	**N**	**Cabinet Length**	**Cabinet Width**	**Cabinet Height**
030	26.00	30.00	31.00	2.00	20.00	5.00	20.00	10.00	24.00	0.50	31.00	44.00	56.00
040	30.00	30.00	31.00	2.00	24.00	3.00	24.00	10.00	28.00	0.50	31.00	48.00	60.00
050	30.00	30.00	31.00	2.00	24.00	3.00	24.00	10.00	28.00	0.50	31.00	48.00	68.00

NOTE: Dimensions shown in inches.

Size 060-100 Unit Dimensions

Figure 77: Horizontal Unit Coil Section Dimensions (Sizes 060-100)



NOTE: Dimensions shown in inches.

Table 74: General Unit Dimensions (Sizes 060-100)

Unit Size	Cabinet Length	Maximum Length	Width	Height	U	V	W	X	Y
060	28.00	28.66	54.00	54.00	4.19	12.39	4.38	62.75	3.50
080	28.00	28.66	54.00	62.00	5.45	12.39	4.38	62.75	3.50
100	28.00	28.66	61.00	66.00	4.79	12.39	4.38	69.75	3.50

NOTE: Dimensions shown in inches.

Table 75: Hydronic Coil Unit Dimensions (Sizes 060-100) for Figure 77 on page 70

8-Row Cold Water + 2-Row Hot Water																		
Unit Size	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	S	T
060	-	-	5.01	9.37	6.11	18.25	15.75	17.29	6.11	18.25	5.01	9.37	6.59	18.25	15.75	17.29	6.59	18.25
080	-	-	5.03	9.36	6.11	22.25	15.75	17.29	6.11	22.25	5.03	9.36	6.59	22.25	15.75	17.29	6.59	22.25
100	5.20	2.03	5.03	9.36	6.11	24.25	15.17	17.50	6.11	24.25	5.03	9.36	6.59	24.25	15.17	17.50	6.59	24.25
6-Row Cold Water + 2-Row Hot Water																		
Unit Size	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	S	T
060	-	-	6.24	8.84	6.11	18.25	15.75	17.29	6.11	18.25	6.24	8.84	6.59	18.25	15.75	17.29	6.59	18.25
080	-	-	6.24	8.83	6.11	22.25	15.75	17.29	6.11	22.25	6.24	8.83	6.59	22.25	15.75	17.29	6.59	22.25
100	5.20	2.03	6.23	8.84	6.11	24.25	15.17	17.50	6.11	24.25	6.23	8.84	6.59	24.25	15.17	17.50	6.59	24.25
4-Row Cold Water + 2-Row Hot Water																		
Unit Size	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	S	T
060	-	-	6.24	8.83	6.11	18.25	15.75	17.29	6.11	18.25	6.24	8.83	6.59	18.25	15.75	17.29	6.59	18.25
080	-	-	5.36	7.96	6.11	22.25	15.75	17.29	6.11	22.25	5.36	7.96	6.59	22.25	15.75	17.29	6.59	22.25
100	5.20	2.03	6.24	8.83	6.11	24.25	15.17	17.50	6.11	24.25	6.24	8.83	6.59	24.25	15.17	17.50	6.59	24.25
2-Row Cold Water + 2-Row Hot Water																		
Unit Size	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	S	T
060	-	-	6.42	7.97	6.11	18.25	15.75	17.29	6.11	18.25	6.42	7.97	6.59	18.25	15.75	17.29	6.59	18.25
080	-	-	6.42	7.97	6.11	22.25	15.75	17.29	6.11	22.25	6.42	7.97	6.59	22.25	15.75	17.29	6.59	22.25
100	5.20	2.03	5.96	7.97	6.11	24.25	15.17	17.50	6.11	24.25	5.96	7.97	6.59	24.25	15.17	17.50	6.59	24.25
8-Row Cold Water + 1-Row Hot Water																		
Unit Size	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	S	T
060	-	-	5.01	9.37	6.11	18.25	15.63	16.84	6.11	18.39	5.01	9.37	6.59	18.25	15.63	16.84	6.45	18.39
080	-	-	5.03	9.36	6.11	22.25	15.49	16.84	7.61	19.75	5.03	9.36	6.59	22.25	15.49	16.84	7.59	19.75
100	5.20	2.03	5.03	9.36	6.11	24.25	15.39	16.84	6.11	24.25	5.03	9.36	6.59	24.25	15.39	16.84	6.59	24.25
6-Row Cold Water + 1-Row Hot Water																		
Unit Size	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	S	T
060	-	-	6.24	8.84	6.11	18.25	15.63	16.84	6.11	18.39	6.24	8.84	6.59	18.25	15.63	16.84	6.45	18.39
080	-	-	6.24	8.83	6.11	22.25	15.48	16.83	7.61	19.75	6.24	8.83	6.59	22.25	15.48	16.83	7.59	19.75
100	5.20	2.03	6.23	8.84	6.11	24.25	15.39	16.84	6.11	24.25	6.23	8.84	6.59	24.25	15.39	16.84	6.59	24.25
4-Row Cold Water + 1-Row Hot Water																		
Unit Size	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	S	T
060	-	-	6.24	8.83	6.11	18.25	15.63	16.84	6.11	18.39	6.24	8.83	6.59	18.25	15.63	16.84	6.45	18.39
080	-	-	5.36	7.96	6.11	22.25	15.48	16.83	7.61	19.75	5.36	7.96	6.59	22.25	15.48	16.83	7.59	19.75
100	5.20	2.03	6.24	8.83	6.11	24.25	15.39	16.84	6.11	24.25	6.24	8.83	6.59	24.25	15.39	16.84	6.59	24.25
2-Row Cold Water + 1-Row Hot Water																		
Unit Size	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	S	T
060	-	-	6.42	7.97	6.11	18.25	15.63	16.84	6.11	18.39	6.42	7.97	6.59	18.25	15.63	16.84	6.45	18.39
080	-	-	6.42	7.97	6.11	22.25	15.48	16.83	7.61	19.75	6.42	7.97	6.59	22.25	15.48	16.83	7.59	19.75
100	5.20	2.03	5.96	7.97	6.11	24.25	15.39	16.84	6.11	24.25	5.96	7.97	6.59	24.25	15.39	16.84	6.59	24.25
2-Row Hot Water + 8-Row Cold Water																		
Unit Size	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	S	T
060	-	-	7.45	9.00	6.11	18.25	12.22	16.58	6.11	18.25	7.45	9.00	6.59	18.25	12.22	16.58	6.59	18.25
080	-	-	7.50	9.04	6.11	22.25	12.28	16.61	6.11	22.25	7.50	9.04	6.59	22.25	12.28	16.61	6.59	22.25
100	5.20	2.03	6.92	9.25	6.11	24.25	12.28	16.61	6.11	24.25	6.92	9.25	6.59	24.25	12.28	16.61	6.59	24.25
2-Row Hot Water + 6-Row Cold Water																		
Unit Size	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	S	T
060	-	-	7.45	9.00	6.11	18.25	13.45	16.05	6.11	18.25	7.45	9.00	6.59	18.25	13.45	16.05	6.59	18.25
080	-	-	7.50	9.04	6.11	22.25	13.49	16.08	6.11	22.25	7.50	9.04	6.59	22.25	13.49	16.08	6.59	22.25
100	5.20	2.03	6.92	9.25	6.11	24.25	13.48	16.09	6.11	24.25	6.92	9.25	6.59	24.25	13.48	16.09	6.59	24.25
2-Row Hot Water + 4-Row Cold Water																		
Unit Size	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	S	T
060	-	-	7.45	9.00	6.11	18.25	13.45	16.04	6.11	18.25	7.45	9.00	6.59	18.25	13.45	16.04	6.59	18.25
080	-	-	7.50	9.04	6.11	22.25	12.61	15.21	6.11	22.25	7.50	9.04	6.59	22.25	12.61	15.21	6.59	22.25
100	5.20	2.03	6.92	9.25	6.11	24.25	13.49	16.08	6.11	24.25	6.92	9.25	6.59	24.25	13.49	16.08	6.59	24.25
2-Row Hot Water + 2-Row Cold Water																		
Unit Size	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	S	T
060	-	-	7.45	9.00	6.11	18.25	13.63	15.18	6.11	18.25	7.45	9.00	6.59	18.25	13.63	15.18	6.59	18.25
080	-	-	7.50	9.04	6.11	22.25	13.67	15.22	6.11	22.25	7.50	9.04	6.59	22.25	13.67	15.22	6.59	22.25
100	5.20	2.03	6.92	9.25	6.11	24.25	13.21	15.22	6.11	24.25	6.92	9.25	6.59	24.25	13.21	15.22	6.59	24.25

1-Row Hot Water + 8-Row Cold Water																		
Unit Size	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	S	T
060	-	-	7.34	8.55	6.11	18.39	12.22	16.58	6.11	18.25	7.34	8.55	6.45	18.39	12.22	16.58	6.59	18.25
080	-	-	7.23	8.58	7.61	19.75	12.28	16.61	6.11	22.25	7.23	8.58	7.59	19.75	12.28	16.61	6.59	22.25
100	5.20	2.03	7.14	8.59	6.11	24.25	12.28	16.61	6.11	24.25	7.14	8.59	6.59	24.25	12.28	16.61	6.59	24.25
1-Row Hot Water + 6-Row Cold Water																		
Unit Size	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	S	T
060	-	-	7.34	8.55	6.11	18.39	13.45	16.05	6.11	18.25	7.34	8.55	6.45	18.39	13.45	16.05	6.59	18.25
080	-	-	7.23	8.58	7.61	19.75	13.49	16.08	6.11	22.25	7.23	8.58	7.59	19.75	13.49	16.08	6.59	22.25
100	5.20	2.03	7.14	8.59	6.11	24.25	13.48	16.09	6.11	24.25	7.14	8.59	6.59	24.25	13.48	16.09	6.59	24.25
1-Row Hot Water + 4-Row Cold Water																		
Unit Size	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	S	T
060	-	-	7.34	8.55	6.11	18.39	13.45	16.04	6.11	18.25	7.34	8.55	6.45	18.39	13.45	16.04	6.59	18.25
080	-	-	7.23	8.58	7.61	19.75	12.61	15.21	6.11	22.25	7.23	8.58	7.59	19.75	12.61	15.21	6.59	22.25
100	5.20	2.03	7.14	8.59	6.11	24.25	13.49	16.08	6.11	24.25	7.14	8.59	6.59	24.25	13.49	16.08	6.59	24.25
1-Row Hot Water + 2-Row Cold Water																		
Unit Size	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	S	T
060	-	-	7.34	8.55	6.11	18.39	13.63	15.18	6.11	18.25	7.34	8.55	6.45	18.39	13.63	15.18	6.59	18.25
080	-	-	7.23	8.58	7.61	19.75	13.67	15.22	6.11	22.25	7.23	8.58	7.61	19.75	13.67	15.22	6.59	22.25
100	5.20	2.03	7.14	8.59	6.11	24.25	13.21	15.22	6.11	24.25	7.14	8.59	6.59	24.25	13.21	15.22	6.59	24.25
8-Row																		
Unit Size	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	S	T
060	-	-	5.01	9.37	6.11	18.25	-	-	-	-	5.01	9.37	6.59	18.25	-	-	-	-
080	-	-	5.03	9.36	6.11	22.25	-	-	-	-	5.03	9.36	6.59	22.25	-	-	-	-
100	5.20	2.03	5.03	9.36	6.11	24.25	-	-	-	-	5.03	9.36	6.59	24.25	-	-	-	-
6-Row																		
Unit Size	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	S	T
060	-	-	6.24	8.84	6.11	18.25	-	-	-	-	6.24	8.84	6.59	18.25	-	-	-	-
080	-	-	6.24	8.83	6.11	22.25	-	-	-	-	6.24	8.83	6.59	22.25	-	-	-	-
100	5.20	2.03	6.23	8.84	6.11	24.25	-	-	-	-	6.23	8.84	6.59	24.25	-	-	-	-
4-Row																		
Unit Size	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	S	T
060	-	-	6.24	8.83	6.11	18.25	-	-	-	-	6.24	8.83	6.59	18.25	-	-	-	-
080	-	-	5.36	7.96	6.11	22.25	-	-	-	-	5.36	7.96	6.59	22.25	-	-	-	-
100	5.20	2.03	6.24	8.83	6.11	24.25	-	-	-	-	6.24	8.83	6.59	24.25	-	-	-	-
2-Row																		
Unit Size	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	S	T
060	-	-	6.42	7.97	6.11	18.25	-	-	-	-	6.42	7.97	6.59	18.25	-	-	-	-
080	-	-	6.42	7.97	6.11	22.25	-	-	-	-	6.42	7.97	6.59	22.25	-	-	-	-
100	5.20	2.03	5.96	7.97	6.11	24.25	-	-	-	-	5.96	7.97	6.59	24.25	-	-	-	-

NOTE: Dimensions shown in inches.

Table 76: DX Unit Dimensions (Sizes 060-100) for Figure 77 on page 70

DX SINGLE + 2-Row Hot Water																		
Unit Size	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**J**	**K**	**L**	**M**	**N**	**P**	**Q**	**R**	**S**	**T**
060	-	-	6.67	-	24.63	-	15.75	17.29	6.11	18.25	6.67	-	6.33	-	15.75	17.29	6.59	18.25
080	-	-	6.67	-	28.63	-	15.75	17.29	6.11	22.25	6.67	-	6.33	-	15.75	17.29	6.59	22.25
100	5.20	2.03	6.67	-	30.61	-	15.17	17.50	6.11	24.25	6.67	-	6.33	-	15.17	17.50	6.59	24.25
DX SINGLE + 1-Row Hot Water																		
Unit Size	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**J**	**K**	**L**	**M**	**N**	**P**	**Q**	**R**	**S**	**T**
060	-	-	6.67	-	24.63	-	15.63	16.84	6.11	18.39	6.67	-	6.33	-	15.63	16.84	6.45	18.39
080	-	-	6.67	-	28.63	-	15.48	16.83	7.61	19.75	6.67	-	6.33	-	15.48	16.83	7.59	19.75
100	5.20	2.03	6.67	-	30.61	-	15.39	16.84	6.11	24.25	6.67	-	6.33	-	15.39	16.84	6.59	24.25
DX INTERLACED + 2-Row Hot Water																		
Unit Size	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**J**	**K**	**L**	**M**	**N**	**P**	**Q**	**R**	**S**	**T**
060	-	-	6.67	7.98	19.63	4.00	15.75	17.29	6.11	18.25	6.67	7.98	7.33	4.00	15.75	17.29	6.59	18.25
080	-	-	6.66	8.10	23.63	4.00	15.75	17.29	6.11	22.25	6.66	8.10	7.33	4.00	15.75	17.29	6.59	22.25
100	5.20	2.03	5.11	8.23	27.61	2.00	15.17	17.50	6.11	24.25	5.11	8.23	9.33	2.00	15.17	17.50	7.33	24.25
DX INTERLACED + 1-Row Hot Water																		
Unit Size	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**J**	**K**	**L**	**M**	**N**	**P**	**Q**	**R**	**S**	**T**
060	-	-	6.67	7.98	19.63	4.00	15.63	16.84	6.11	18.39	6.67	7.98	7.33	4.00	15.63	16.84	6.45	18.39
080	-	-	6.66	8.10	23.63	4.00	15.48	16.83	7.61	19.75	6.66	8.10	7.33	4.00	15.48	16.83	7.59	19.75
100	5.20	2.03	5.11	8.23	27.61	2.00	15.39	16.84	6.11	24.25	5.11	8.23	9.33	2.00	15.39	16.84	7.33	24.25
2-Row Hot Water + DX Single																		
Unit Size	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**J**	**K**	**L**	**M**	**N**	**P**	**Q**	**R**	**S**	**T**
060	-	-	7.45	9.00	6.11	18.25	-	13.88	-	24.63	7.45	9.00	6.59	18.25	-	13.88	6.33	-
080	-	-	7.50	9.04	6.11	22.25	13.92	-	28.63	-	7.50	9.04	6.59	22.25	13.92	-	6.33	-
100	5.20	2.03	6.92	9.25	6.11	24.25	13.92	-	30.63	-	6.92	9.25	6.59	24.25	13.92	-	6.33	-
1-Row Hot Water + DX Single																		
Unit Size	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**J**	**K**	**L**	**M**	**N**	**P**	**Q**	**R**	**S**	**T**
060	-	-	7.34	8.55	6.11	18.39	-	13.88	-	24.63	7.34	8.55	6.45	18.39	-	13.88	6.33	-
080	-	-	7.23	8.58	7.61	19.75	13.92	-	28.63	-	7.23	8.58	7.59	19.75	13.92	-	6.33	-
100	5.20	2.03	7.14	8.59	6.11	24.25	13.92	-	30.63	-	7.14	8.59	6.59	24.25	13.92	-	6.33	-
2-Row Hot Water + DX Interlaced																		
Unit Size	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**J**	**K**	**L**	**M**	**N**	**P**	**Q**	**R**	**S**	**T**
060	-	-	7.45	9.00	6.11	18.25	13.88	15.19	19.63	4.00	7.45	9.00	6.59	18.25	13.88	15.19	7.33	4.00
080	-	-	7.50	9.04	6.11	22.25	13.91	15.35	23.63	4.00	7.50	9.04	6.59	22.25	13.91	15.35	7.33	4.00
100	5.20	2.03	6.92	9.25	6.11	24.25	12.35	15.48	27.61	2.00	6.92	9.25	9.33	24.25	12.35	15.48	7.33	2.00
1-Row Hot Water + DX Interlaced																		
Unit Size	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**J**	**K**	**L**	**M**	**N**	**P**	**Q**	**R**	**S**	**T**
060	-	-	7.34	8.55	6.11	18.39	13.88	15.19	19.63	4.00	7.34	8.55	6.45	18.39	13.88	15.19	7.33	4.00
080	-	-	7.23	8.58	7.61	19.75	13.91	15.35	23.63	4.00	7.23	8.58	7.59	19.75	13.91	15.35	7.33	4.00
100	5.20	2.03	7.14	8.59	6.11	24.25	12.35	15.48	27.61	2.00	7.14	8.59	9.33	24.25	12.35	15.48	7.33	2.00
DX Single																		
Unit Size	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**J**	**K**	**L**	**M**	**N**	**P**	**Q**	**R**	**S**	**T**
060	-	-	6.67	-	24.63	-	-	-	-	-	6.67	-	6.33	-	-	-	-	-
080	-	-	6.67	-	28.63	-	-	-	-	-	6.69	-	6.33	-	-	-	-	-
100	5.20	2.03	6.67	-	30.61	-	-	-	-	-	6.67	-	6.33	-	-	-	-	-
DX Interlaced																		
Unit Size	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**J**	**K**	**L**	**M**	**N**	**P**	**Q**	**R**	**S**	**T**
060	-	-	6.67	7.98	19.63	4.00	-	-	-	-	6.67	7.98	7.33	4.00	-	-	-	-
080	-	-	6.66	8.10	23.63	4.00	-	-	-	-	6.66	8.10	7.33	4.00	-	-	-	-
100	5.20	2.03	5.11	8.23	27.61	2.00	-	-	-	-	5.11	8.23	9.33	2.00	-	-	-	-

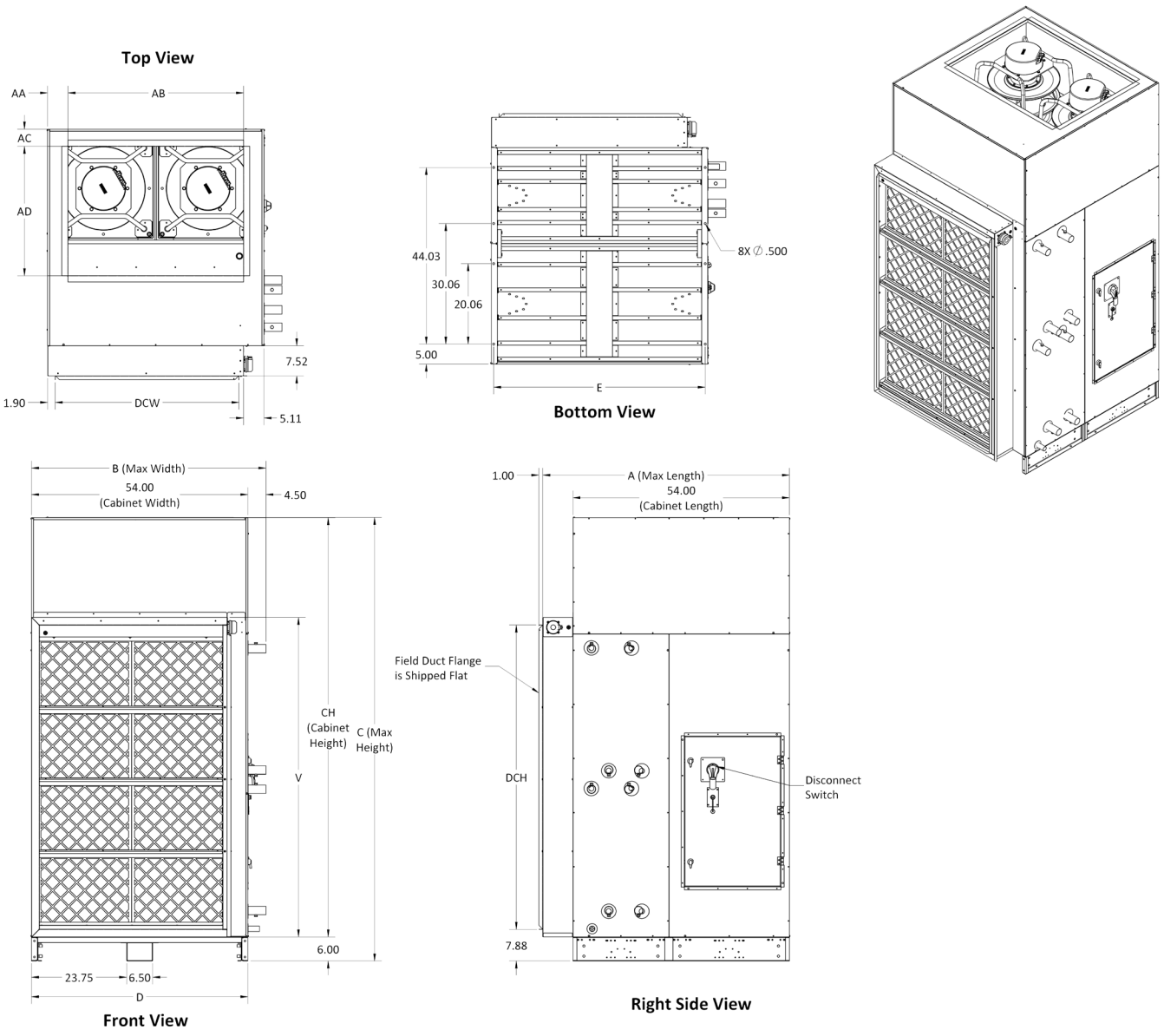
NOTE: Dimensions shown in inches.

Table 77: Steam Unit Dimensions (Sizes 060-100) for Figure 77 on page 70

Steam + 8-Row Cold Water																		
Unit Size	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**J**	**K**	**L**	**M**	**N**	**P**	**Q**	**R**	**S**	**T**
060	-	-	7.68	5.35	14.27	11.24	12.22	16.58	6.11	18.25	7.68	5.35	5.44	11.24	12.22	16.58	6.59	18.25
080	-	-	7.80	5.49	16.07	13.38	12.28	16.61	6.11	22.25	7.80	5.49	5.50	13.38	12.28	16.61	6.59	22.25
100	5.20	2.03	7.80	5.48	17.06	14.65	12.28	16.61	6.11	24.25	7.80	5.48	5.25	14.65	12.28	16.61	6.59	24.25
Steam + 6-Row Cold Water																		
Unit Size	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**J**	**K**	**L**	**M**	**N**	**P**	**Q**	**R**	**S**	**T**
060	-	-	7.68	5.35	14.27	11.24	13.45	16.05	6.11	18.25	7.68	5.35	5.44	11.24	13.45	16.05	6.59	18.25
080	-	-	7.80	5.49	16.07	13.38	13.49	16.08	6.11	22.25	7.80	5.49	5.50	13.38	13.49	16.08	6.59	22.25
100	5.20	2.03	7.80	5.48	17.06	14.65	13.48	16.09	6.11	24.25	7.80	5.48	5.25	14.65	13.48	16.09	6.59	24.25
Steam + 4-Row Cold Water																		
Unit Size	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**J**	**K**	**L**	**M**	**N**	**P**	**Q**	**R**	**S**	**T**
060	-	-	7.68	5.35	14.27	11.24	13.45	16.04	6.11	18.25	7.68	5.35	5.44	11.24	13.45	16.04	6.59	18.25
080	-	-	7.80	5.49	16.07	13.38	12.61	15.21	6.11	22.25	7.80	5.49	5.50	13.38	12.61	15.21	6.59	22.25
100	5.20	2.03	7.80	5.48	17.06	14.65	13.49	16.08	6.11	24.25	7.80	5.48	5.25	14.65	13.49	16.08	6.59	24.25
Steam + 2-Row Cold Water																		
Unit Size	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**J**	**K**	**L**	**M**	**N**	**P**	**Q**	**R**	**S**	**T**
060	-	-	7.68	5.35	14.27	11.24	13.63	15.18	6.11	18.25	7.68	5.35	5.44	11.24	13.63	15.18	6.59	18.25
080	-	-	7.80	5.49	16.07	13.38	13.67	15.22	6.11	22.25	7.80	5.49	5.50	13.38	13.67	15.22	6.59	22.25
100	5.20	2.03	7.80	5.48	17.06	14.65	13.21	15.22	6.11	24.25	7.80	5.48	5.25	14.65	13.21	15.22	6.59	24.25
Steam + DX Single																		
Unit Size	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**J**	**K**	**L**	**M**	**N**	**P**	**Q**	**R**	**S**	**T**
060	-	-	7.68	5.35	14.27	11.24	13.92	-	24.63	-	7.68	5.35	5.44	11.24	13.92	-	6.33	-
080	-	-	7.80	5.49	16.07	13.38	13.92	-	28.63	-	7.80	5.49	5.50	13.38	13.92	-	6.33	-
100	5.20	2.03	7.80	5.48	17.06	14.65	13.92	-	30.63	-	7.80	5.48	5.25	14.65	13.92	-	6.33	-
Steam + DX Interlaced																		
Unit Size	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**J**	**K**	**L**	**M**	**N**	**P**	**Q**	**R**	**S**	**T**
060	-	-	7.68	5.35	14.27	11.24	13.92	15.23	19.63	4.00	7.68	5.35	5.44	11.24	13.92	15.23	7.33	4.00
080	-	-	7.80	5.49	16.07	13.38	13.91	15.35	23.63	4.00	7.80	5.49	5.50	13.38	13.91	15.35	7.33	4.00
100	5.20	2.03	7.80	5.48	17.06	14.65	12.35	15.48	27.61	2.00	7.80	5.48	5.25	14.65	12.35	15.48	7.33	2.00

NOTE: Dimensions shown in inches.

Figure 78: Vertical Unit Dimensions - Two Fans (Sizes 060-100)



NOTE 1: Dimensions shown in inches.

NOTE 2: Right hand cabinet shown, left hand similar but opposite.

Table 78: Vertical Unit Dimensions - Two Fans (Sizes 060-100)

Unit Size	A Max Length	B Max Width	C Max Height	D	E	U	V	DCH	DCW	CH
060	61.57	58.50	85.54	54.00	52.76	4.50	51.19	47.42	45.84	79.49
080	61.57	58.50	96.61	54.00	52.76	4.50	65.68	61.91	45.84	90.56
100	61.57	58.50	110.61	54.00	52.76	4.50	79.68	75.91	45.84	104.56

NOTE: Dimensions shown in inches.

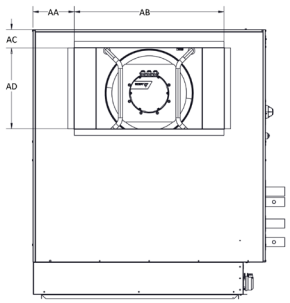
Table 79: Vertical Unit Top Duct Dimensions - Two Fan (Sizes 060-100)

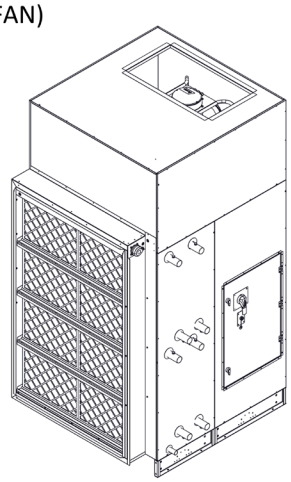
Dimension	060	080	100
AA	6.23	5.11	5.11
AB	41.53	43.78	43.78
AC	5.10	4.27	4.27
AD	18.78	23.78	32.28

NOTE: Dimensions shown in inches.

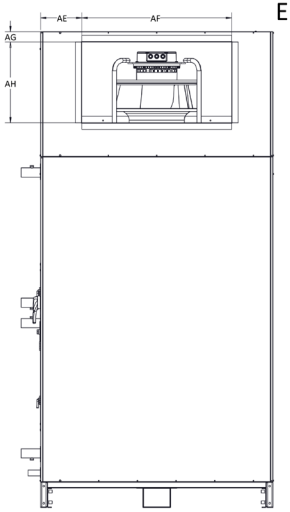
Vertical Unit Dimensions - One Fan (Sizes 060-100)

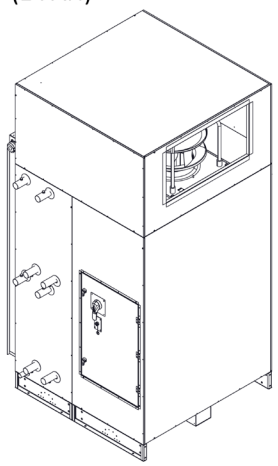
TOP DUCT (1 FAN)



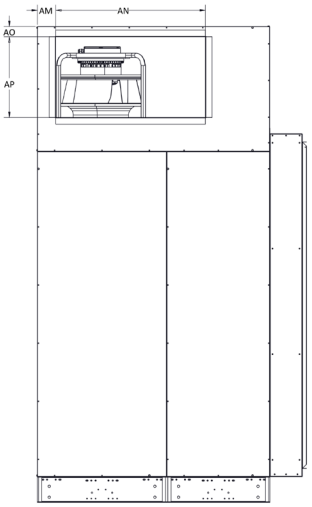


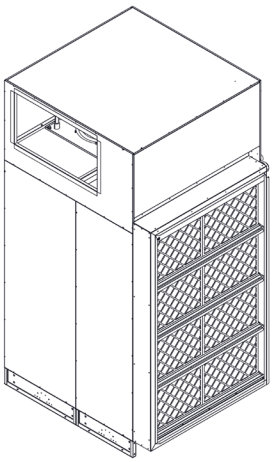
END DUCT (1 FAN)





LEFT DUCT - RH UNIT
RIGHT DUCT - LH UNIT





NOTE:
LEFT DUCT ONLY APPLY FOR RH UNITS
RIGHT DUCT ONLY APPLY FOR LH UNITS

DIMENTIONS WILL BE THE SAME FOR
BOTH DUCTS

NOTE: Dimensions shown in inches.

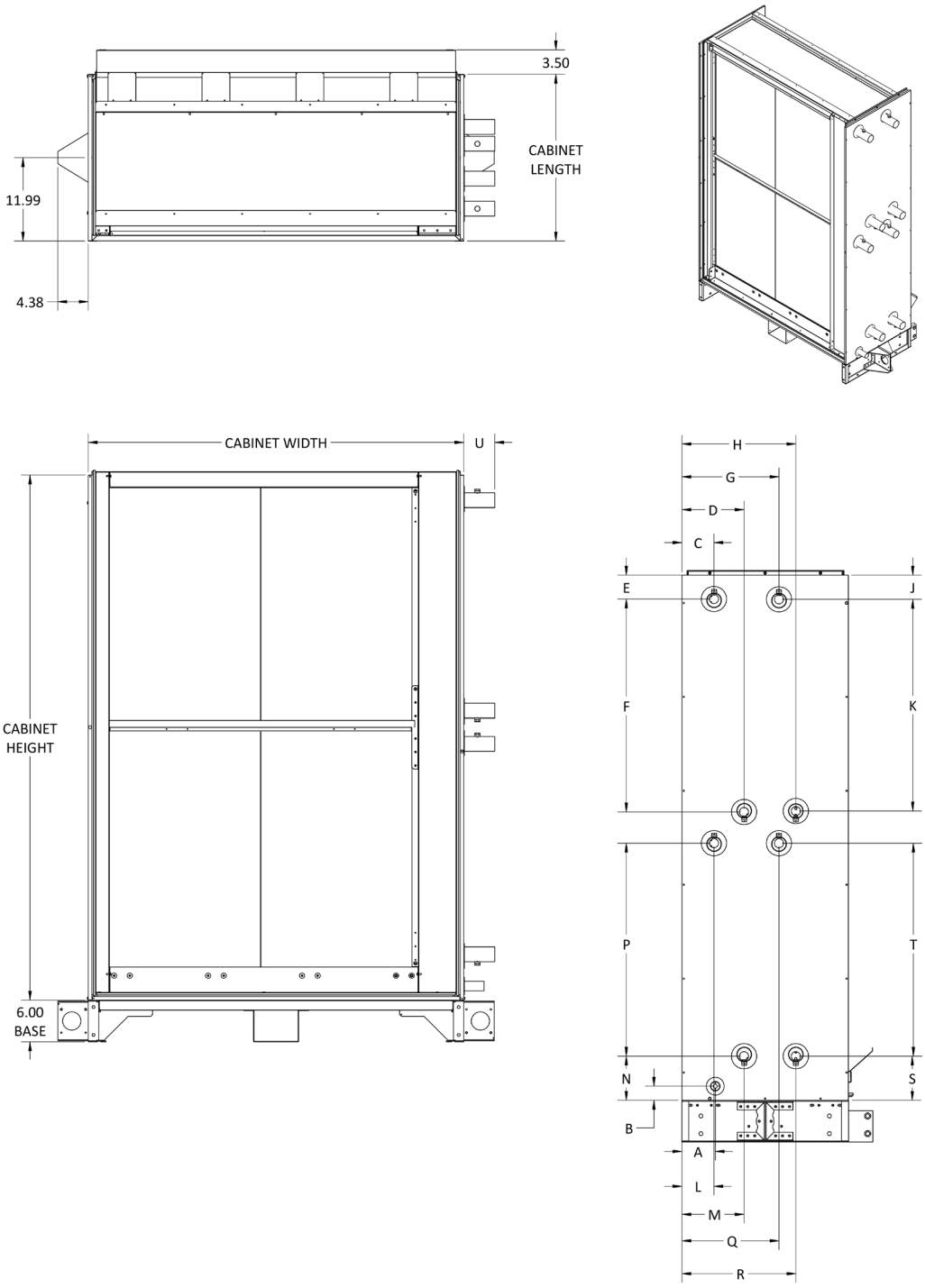
Table 80: Vertical Unit Dimensions - One Fan (Sizes 060-100)

Dimension	060	080	100
AA	13.61	12.11	9.61
AB	26.78	29.78	34.78
AC	5.10	4.27	4.27
AD	14.78	17.78	18.78
AE	13.61	12.11	9.61
AF	26.78	29.78	34.78
AG	4.38	2.88	2.38
AH	14.78	17.78	18.78

Dimension	060	080	100
AM	5.10	4.27	4.27
AN	26.78	29.78	34.78
AO	2.36	2.36	2.36
AP	14.78	17.78	18.78

NOTE: Dimensions shown in inches.

Figure 79: Vertical Unit Coil Dimensions (Sizes 060-100)



NOTE: Dimensions shown in inches.

Table 81: Vertical Unit Coil Dimensions (Sizes 060-100)

Unit Size	Cabinet Length	Maximum Length*	Width	Height	U
060	23.97	27.47	54.00	50.44	4.50
080	23.97	27.47	54.00	61.50	4.50
100	23.97	27.47	54.00	75.50	4.50

NOTE 1: *Max coil section length includes portion of the drain pan which extends into the supply fan section. The coil and supply fan sections together make up the base unit cabinet.

NOTE 2: Dimensions shown in inches.

Table 82: Hydronic Coil Unit Dimensions (Sizes 060-100) for Figure 79 on page 77

2-Row																		
Unit Size	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**J**	**K**	**L**	**M**	**N**	**P**	**Q**	**R**	**S**	**T**
060	4.76	2.03	5.84	8.42	6.30	16.75	-	-	-	-	5.84	8.42	6.34	16.75	-	-	-	-
080	4.76	2.03	5.84	8.42	4.36	22.75	-	-	-	-	5.84	8.42	6.34	22.75	-	-	-	-
100	4.76	2.03	5.84	8.42	3.36	30.75	-	-	-	-	5.84	8.42	6.34	30.75	-	-	-	-
4-Row																		
Unit Size	**A**	**B**	**C**	**D**	**E**	**F (Std/ Low)**	**G**	**H**	**J**	**K**	**L (Std/ Low)**	**M**	**N (Std/ Low)**	**P (Std/ Low)**	**Q**	**R**	**S**	**T**
060	4.76	2.03	5.83	8.43	6.30	16.75	-	-	-	-	5.83	8.43	6.34	16.75	-	-	-	-
080	4.76	2.03	5.83	8.43	3.36	23.75 22.75	-	-	-	-	5.83	8.43	6.34 7.34	23.75 22.75	-	-	-	-
100	4.76	2.03	5.83	8.43	3.36	30.75	-	-	-	-	5.83	8.43	6.34	30.75	-	-	-	-
6-Row																		
Unit Size	**A**	**B**	**C (Std/ Low)**	**D (Std/ Low)**	**E**	**F (Std/ Low)**	**G**	**H**	**J**	**K**	**L (Std/ Low)**	**M (Std/ Low)**	**N (Std/ Low)**	**P (Std/ Low)**	**Q**	**R**	**S**	**T**
060	4.76	2.03	5.94 4.97	8.32 9.30	6.30	16.75 15.75	-	-	-	-	5.94 4.97	8.32 9.30	6.34 7.34	16.75 15.75	-	-	-	-
080	4.76	2.03	5.83	8.43	3.36	23.75	-	-	-	-	5.83	8.43	6.34	23.75	-	-	-	-
100	4.76	2.03	5.83 4.96	8.44 9.30	3.36	30.75	-	-	-	-	5.83 4.96	8.44 9.30	6.34	30.75	-	-	-	-
8-Row																		
Unit Size	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**J**	**K**	**L**	**M**	**N**	**P**	**Q**	**R**	**S**	**T**
060	4.76	2.03	4.62	8.95	6.30	16.75	-	-	-	-	4.62	8.95	6.34	16.75	-	-	-	-
080	4.76	2.03	4.62	8.95	3.36	23.75	-	-	-	-	4.62	8.95	6.34	23.75	-	-	-	-
100	4.76	2.03	4.62	8.95	3.36	30.75	-	-	-	-	4.62	8.95	6.34	30.75	-	-	-	-
2-Row Cold Water + 1-Row Hot Water																		
Unit Size	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**J**	**K**	**L**	**M**	**N**	**P**	**Q**	**R**	**S**	**T**
060	4.76	2.03	5.84	8.42	6.30	16.75	13.68	16.48	6.80	16.25	5.84	8.42	6.34	16.75	13.68	16.48	6.34	16.25
080	4.76	2.03	5.84	8.42	4.36	22.75	13.68	16.37	4.86	22.25	5.84	8.42	6.34	23.75	13.68	16.37	6.34	22.25
100	4.76	2.03	5.84	8.42	3.36	30.75	13.68	16.48	3.86	30.25	5.84	8.42	6.34	30.75	13.68	16.48	6.34	30.25
2-Row Cold Water + 2-Row Hot Water																		
Unit Size	**A**	**B**	**C**	**D**	**E**	**F**	**G (Std/ Low)**	**H**	**J (Std/ Low)**	**K (Std/ Low)**	**L**	**M**	**N**	**P**	**Q (Std/ Low)**	**R**	**S**	**T (Std/ Low)**
060	4.76	2.03	5.84	8.42	6.30	16.75	13.95 13.68	16.37	6.30	16.75	5.84	8.42	6.34	16.75	13.95 13.68	16.37	6.34	16.75
080	4.76	2.03	5.84	8.42	4.36	22.75	13.95 13.68	16.37	3.36 4.36	23.75 22.75	5.84	8.42	6.34	22.75	13.95 13.68	16.37	6.34	23.75 22.75
100	4.76	2.03	5.84	8.42	3.36	30.75	13.95 13.68	16.37	3.36 4.74	30.75 29.38	5.84	8.42	6.34	30.75	13.95 13.68	16.37	6.34	30.75 29.38

4-Row Cold Water + 1-Row Hot Water																		
Unit Size	A	B	C	D	E	F (Std/ Low)	G	H	J	K	L	M	N (Std/ Low)	P (Std/ Low)	Q	R	S	T
060	4.76	2.03	5.83	8.43	6.30	16.75	13.68	16.48	6.80	16.25	5.83	8.43	6.34	16.75	13.68	16.48	6.34	16.25
080	4.76	2.03	5.83	8.43	3.36	22.75 23.75	13.68	16.37	4.86	22.25	5.83	8.43	7.34 6.34	22.75 23.75	13.68	16.37	6.34	22.25
100	4.76	2.03	5.83	8.43	3.36	30.75	13.68	16.48	3.86	30.25	5.83	8.42	6.34	30.75	13.68	16.48	6.34	30.25
4-Row Cold Water + 2-Row Hot Water																		
Unit Size	A	B	C	D	E	F (Std/ Low)	G (Std/ Low)	H	J (Std/ Low)	K (Std/ Low)	L	M	N (Std/ Low)	P (Std/ Low)	Q (Std/ Low)	R	S	T (Std/ Low)
060	4.76	2.03	5.83	8.43	6.30	16.75	13.95 13.68	16.37	6.3	16.75	5.83	8.43	6.34	16.75	13.95 13.68	16.37	6.34	16.75
080	4.76	2.03	5.83	8.43	3.36	23.75 22.75	13.95 13.68	16.37	3.36 4.36	23.75 22.75	5.83	8.43	6.34 7.34	23.75 22.75	13.95 13.68	16.37	6.34	23.75 22.75
100	4.76	2.03	5.83	8.43	3.36	30.75	13.95 13.68	16.37	3.36 4.74	30.75 29.38	5.83	8.43	6.34	30.75	13.95 13.68	16.37	6.34	30.75 29.38
6-Row Cold Water + 2-Row Hot Water																		
Unit Size	A	B	C (Std/ Low)	D (Std/ Low)	E	F (Std/ Low)	G (Std/ Low)	H	J (Std/ Low)	K (Std/ Low)	L (Std/ Low)	M (Std/ Low)	N (Std/ Low)	P (Std/ Low)	Q (Std/ Low)	R	S	T (Std/ Low)
060	4.76	2.03	5.94 4.97	8.32 9.30	6.30	16.75 15.75	13.95 13.68	16.37	6.30	16.75	5.94 4.97	8.32 9.30	6.34 7.34	16.75 15.75	13.95 13.68	16.37	6.34	16.75
080	4.76	2.03	5.83	8.43	3.36	23.75	13.95 13.68	16.37	3.36 4.36	23.75 22.75	5.83	8.43	6.34	23.75	13.95 13.68	16.37	6.34	23.75 22.75
100	4.76	2.03	5.83 4.96	8.44 9.30	3.36	30.75	13.95 13.68	16.37	3.36 4.74	30.75 29.38	5.83 4.96	8.44 9.30	6.34	30.75	13.95 13.68	16.37	6.34	30.75 29.38
6-Row Cold Water + 1-Row Hot Water																		
Unit Size	A	B	C (Std/ Low)	D (Std/ Low)	E	F (Std/ Low)	G	H	J	K	L (Std/ Low)	M (Std/ Low)	N (Std/ Low)	P (Std/ Low)	Q	R	S	T
060	4.76	2.03	4.97 5.94	9.30 8.32	6.30	15.75 16.75	13.68	16.48	6.80	16.25	4.97 5.94	9.30 8.32	7.34 6.34	15.75 16.75	13.68	16.48	6.34	16.25
080	4.76	2.03	5.83	8.43	3.36	23.75	13.68	16.37	4.86	22.25	5.83	8.43	6.34	23.75	13.68	16.37	6.34	22.25
100	4.76	2.03	5.83 4.96	8.44 9.30	3.36	30.75	13.68	16.48	3.86	30.25	5.83 4.96	8.44 9.30	6.34	30.75	13.68	16.48	6.34	30.25
8-Row Cold Water + 1-Row Hot Water																		
Unit Size	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	S	T
060	4.76	2.03	4.62	8.95	6.30	16.75	13.68	16.48	6.80	16.25	4.62	8.95	6.34	16.75	13.68	16.48	6.34	16.25
080	4.76	2.03	4.62	8.95	3.36	23.75	13.68	16.37	4.86	22.25	4.62	8.95	6.34	23.75	13.68	16.37	6.34	22.25
100	4.76	2.03	4.62	8.95	3.36	30.75	13.68	16.48	3.86	30.25	4.62	8.95	6.34	30.75	13.68	16.48	6.34	30.25
8-Row Cold Water + 2-Row Hot Water																		
Unit Size	A	B	C	D	E	F	G (Std/ Low)	H	J (Std/ Low)	K (Std/ Low)	L	M	N	P	Q (Std/ Low)	R	S	T (Std/ Low)
060	4.76	2.03	4.62	8.95	6.30	16.75	13.95 13.68	16.37	6.30	16.75	4.62	8.95	6.34	16.75	13.95 13.68	16.37	6.34	16.75
080	4.76	2.03	4.62	8.95	3.36	23.75	13.95 13.68	16.37	3.36 4.36	23.75 22.75	4.62	8.95	6.34	23.75	13.95 13.68	16.37	6.34	23.75 22.75
100	4.76	2.03	4.62	8.95	3.36	30.75	13.95 13.68	16.37	4.74	29.38	4.62	8.95	6.34	30.75	13.95 13.68	16.37	6.34	29.38

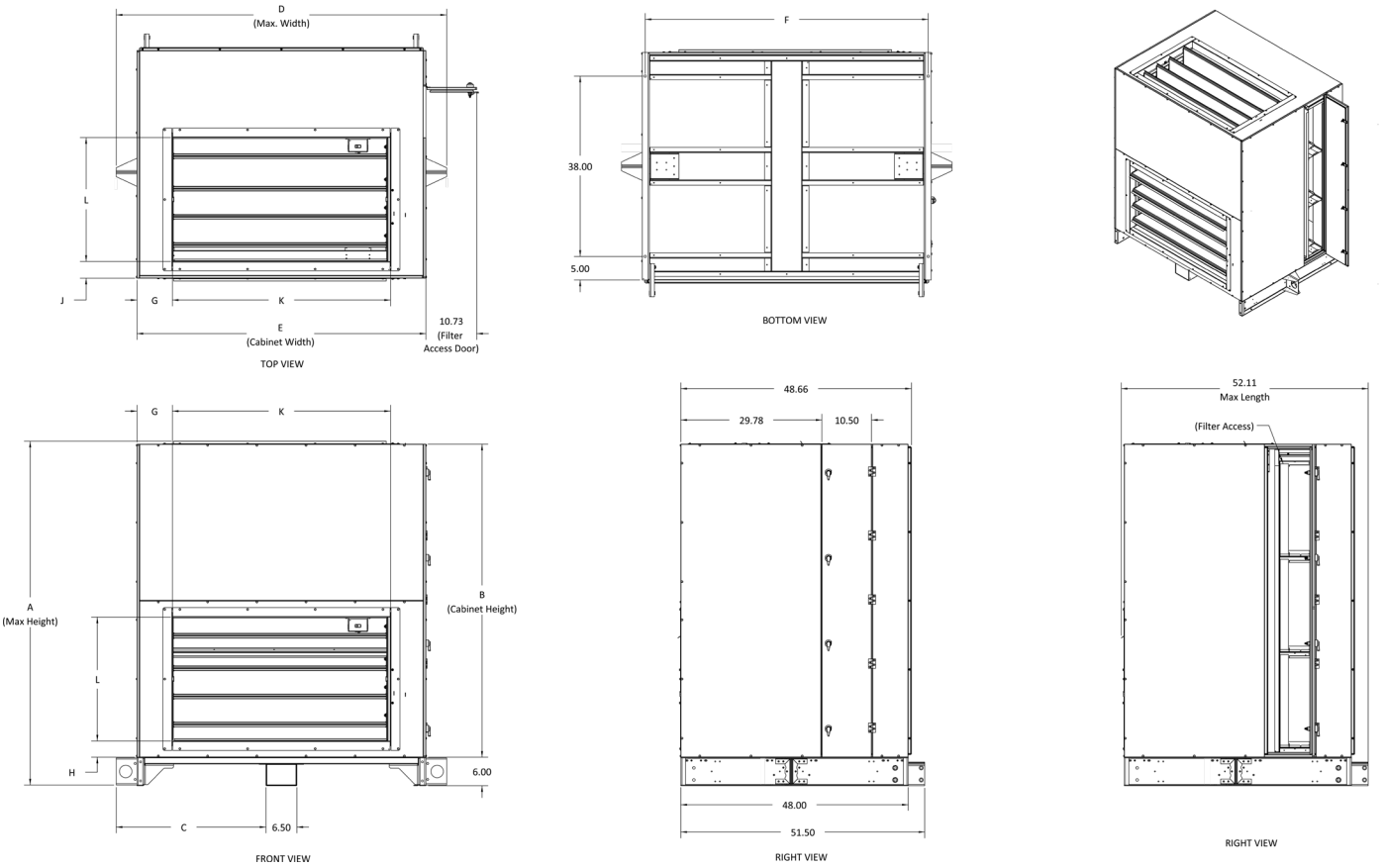
1-Row Hot Water + 2-Row Cold Water																		
Unit Size	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	S	T
060	4.76	2.03	5.43	8.23	6.80	16.25	13.09	15.67	6.30	16.75	5.43	8.23	6.34	16.25	13.09	15.67	6.34	16.75
080	4.76	2.03	5.43	8.12	4.86	22.25	13.09	15.67	4.36	22.75	5.43	8.12	6.34	22.25	13.09	15.67	6.34	22.75
100	4.76	2.03	5.43	8.23	3.86	30.25	13.09	15.67	3.36	30.75	5.43	8.23	6.34	30.25	13.09	15.67	6.34	30.75
1-Row Hot Water + 4-Row Cold Water																		
Unit Size	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	S (Std/ Low)	T (Std/ Low)
060	4.76	2.03	5.43	8.23	6.80	16.25	13.08	15.68	6.30	16.75	5.43	8.23	6.34	16.25	13.08	15.68	6.34	16.75
080	4.76	2.03	5.43	8.12	4.86	22.25	13.08	15.68	3.36	23.75	5.43	8.12	6.34	22.25	13.08	15.68	6.34	23.75
																	7.34	22.75
100	4.76	2.03	5.43	8.23	3.86	30.25	13.08	15.68	3.36	30.75	5.43	8.23	6.34	30.25	13.08	15.68	6.34	30.75
1-Row Hot Water + 6-Row Cold Water																		
Unit Size	A	B	C	D	E	F	G (Std/ Low)	H (Std/ Low)	J	K	L	M	N	P	Q (Std/ Low)	R (Std/ Low)	S (Std/ Low)	T (Std/ Low)
060	4.76	2.03	5.43	8.23	6.80	16.25	13.19	15.57	6.30	16.75	5.43	8.23	6.34	16.25	13.19	15.57	6.34	16.75
							12.22	16.55							12.22	16.55	7.34	15.75
080	4.76	2.03	5.43	8.12	4.86	22.25	13.08	15.68	3.36	23.75	5.43	8.12	6.34	22.25	13.08	15.68	6.34	23.75
100	4.76	2.03	5.43	8.23	3.86	30.25	13.08	15.68	3.36	30.75	5.43	8.23	6.34	30.25	13.08	15.68	6.34	30.75
							12.21	16.55							12.21	16.55		
1-Row Hot Water + 8-Row Cold Water																		
Unit Size	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	S	T
060	4.76	2.03	5.43	8.23	6.80	16.25	11.87	16.20	6.30	16.75	5.43	8.23	6.34	16.25	11.87	16.20	6.34	16.75
080	4.76	2.03	5.43	8.12	4.86	22.25	11.87	16.20	3.36	23.75	5.43	8.12	6.34	22.25	11.87	16.20	6.34	23.75
100	4.76	2.03	5.43	8.23	3.86	30.25	11.87	16.20	3.36	30.75	5.43	8.23	6.34	30.25	11.87	16.20	6.34	30.75
2-Row Hot Water + 2-Row Cold Water																		
Unit Size	A	B	C (Std/ Low)	D	E (Std/ Low)	F (Std/ Low)	G	H	J	K	L (Std/ Low)	M	N	P (Std/ Low)	Q	R	S	T
060	4.76	2.03	5.70	8.12	6.30	16.75	13.09	15.67	6.30	16.75	5.70	8.12	6.34	16.75	13.09	15.67	6.34	16.75
			5.43								5.43							
080	4.76	2.03	5.70	8.12	3.36	23.75	13.09	15.67	4.36	22.75	5.70	8.12	6.34	23.75	13.09	15.67	6.34	22.75
			5.43		4.36	22.75					5.43			22.75				
100	4.76	2.03	5.70	8.12	3.36	30.75	13.09	15.67	3.36	30.75	5.70	8.12	6.34	30.75	13.09	15.67	6.34	30.75
			5.43		4.74	29.38					5.43			29.38				
2-Row Hot Water + 4-Row Cold Water																		
Unit Size	A	B	C (Std/ Low)	D	E (Std/ Low)	F (Std/ Low)	G	H	J	K (Std/ Low)	L (Std/ Low)	M	N	P (Std/ Low)	Q	R	S (Std/ Low)	T (Std/ Low)
060	4.76	2.03	5.70	8.12	6.30	16.75	13.08	15.68	6.30	16.75	5.70	8.12	6.34	16.75	13.08	15.68	6.34	16.75
			5.43								5.43							
080	4.76	2.03	5.70	8.12	3.36	23.75	13.08	15.68	3.36	23.75	5.70	8.12	6.34	23.75	13.08	15.68	6.34	23.75
			5.43		4.36	22.75				22.75	5.43			22.75			7.34	22.75
100	4.76	2.03	5.70	8.12	3.36	30.75	13.08	15.68	3.36	30.75	5.70	8.12	6.34	30.75	13.08	15.68	6.34	30.75
			5.43		4.74	29.38					5.43			29.38				

2-Row Hot Water + 6-Row Cold Water																		
Unit Size	A	B	C (Std/ Low)	D	E (Std/ Low)	F (Std/ Low)	G (Std/ Low)	H (Std/ Low)	J	K (Std/ Low)	L (Std/ Low)	M	N	P (Std/ Low)	Q (Std/ Low)	R (Std/ Low)	S (Std/ Low)	T (Std/ Low)
060	4.76	2.03	5.70	8.12	6.30	16.75	13.19	15.57	6.30	16.75	5.70	8.12	6.34	16.75	13.19	15.57	6.34	16.75
			5.43				12.22	16.55		15.75	5.43				12.22	16.55	7.34	15.75
080	4.76	2.03	5.70	8.12	3.36	23.75	13.08	15.68	3.36	23.75	5.70	8.12	6.34	23.75	13.08	15.68	6.34	23.75
			5.43		4.36	22.75					5.43			22.75				
100	4.76	2.03	5.70	8.12	3.36	30.75	13.08	15.68	3.36	30.75	5.70	8.12	6.34	30.75	13.08	15.68	6.34	30.75
			5.43		4.74	29.38	12.21	16.55			5.43			29.38	12.21	16.55		
2-Row Hot Water + 8-Row Cold Water																		
Unit Size	A	B	C (Std/ Low)	D	E (Std/ Low)	F (Std/ Low)	G	H	J	K	L (Std/ Low)	M	N	P (Std/ Low)	Q	R	S	T
060	4.76	2.03	5.70	8.12	6.30	16.75	11.87	16.20	6.30	16.75	5.70	8.12	6.34	16.75	11.87	16.20	6.34	16.75
			5.43								5.43							
080	4.76	2.03	5.70	8.12	3.36	23.75	11.87	16.20	3.36	23.75	5.70	8.12	6.34	23.75	11.87	16.20	6.34	23.75
			5.43		4.36	22.75					5.43			22.75				
100	4.76	2.03	5.70	8.12	3.36	30.75	11.87	16.20	3.36	30.75	5.70	8.12	6.34	30.75	11.87	16.20	6.34	30.75
			5.43		4.74	29.38					5.43			29.38				

LEGEND	
Std	Standard Circuiting Flow
Low	Low Circuiting Flow

NOTE: Dimensions shown in inches.

Figure 80: Horizontal Mixing Box Dimensions (Sizes 060-100)



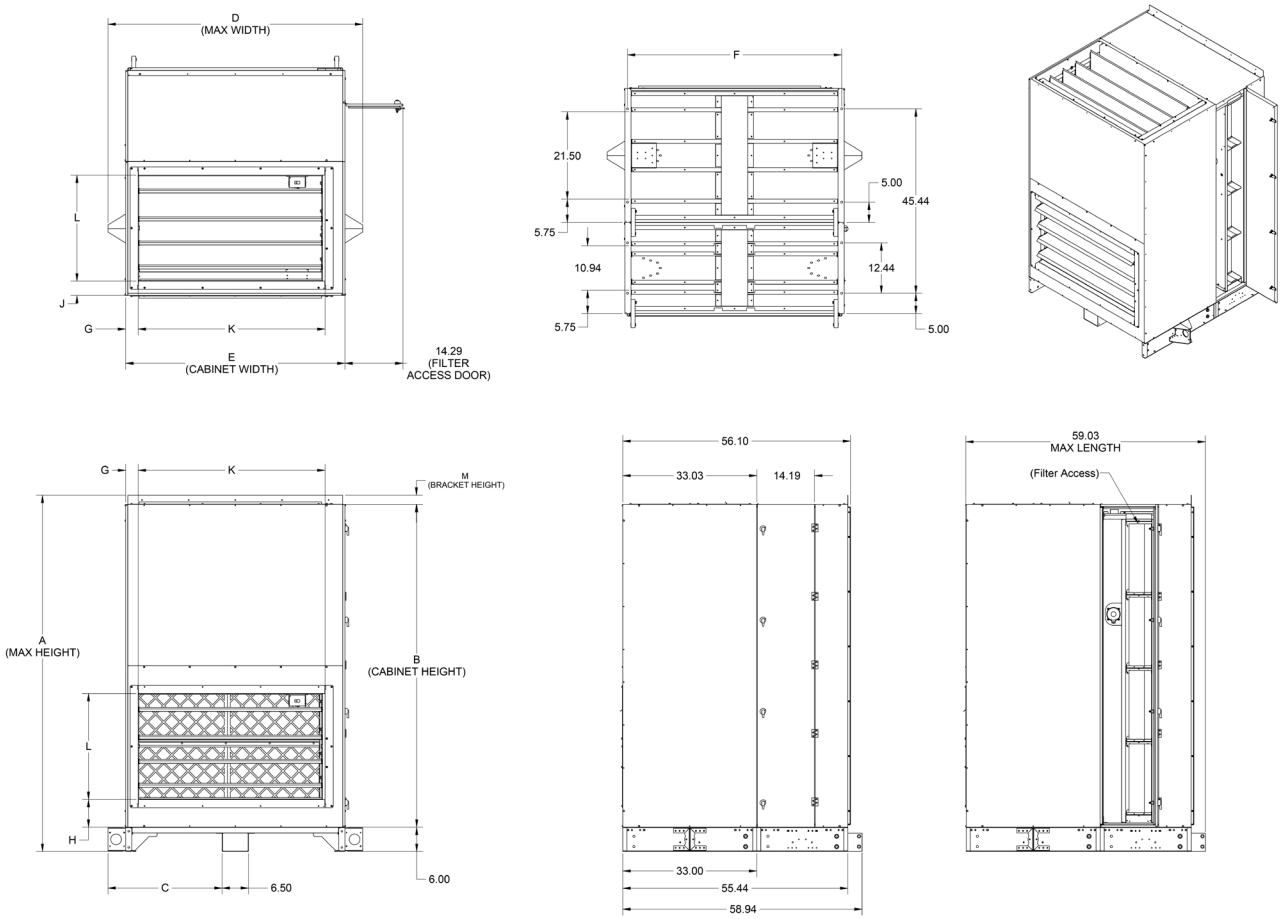
NOTE: Dimensions shown in inches.

Table 83: Mixing Box Dimension Letter Reference

Dimension	060	080	100
A	60.00	68.00	72.00
B	54.00	62.00	66.00
C	28.13	28.13	31.63
D	62.75	62.75	69.75
E	54.00	54.00	61.00
F	52.76	52.76	59.76
G	10.19	4.94	7.49
H	2.45	2.45	3.43
J	3.16	3.16	3.53
K	33.63	44.13	46.03
L	22.07	22.07	26.11

NOTE: Dimensions shown in inches.

Figure 81: Vertical Mixing Box Dimensions (Sizes 060-100)



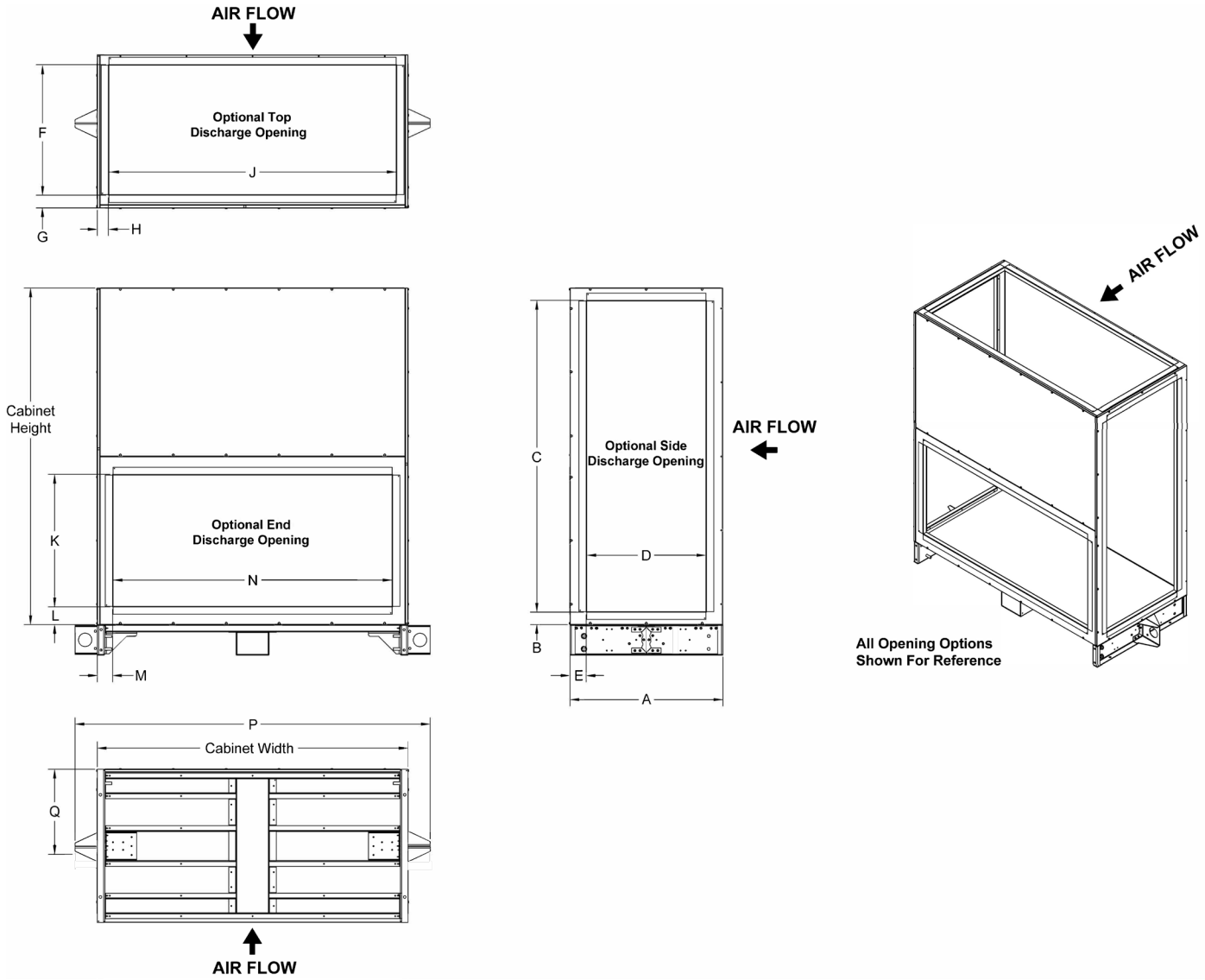
NOTE: Dimensions shown in inches.

Table 84: Mixing Box Dimension Letter Reference

Dimension	060	080	100
A	85.50	87.76	87.76
B	79.50	79.50	79.50
C	28.12	28.12	28.12
D	62.75	62.75	62.75
E	54.00	54.00	54.00
F	52.76	52.76	52.76
G	10.18	4.93	3.07
H	8.83	8.83	6.81
J	5.72	3.07	3.54
K	33.63	44.13	46.03
L	22.07	22.07	26.11
M	-	2.26	2.26

NOTE: Dimensions shown in inches.

Figure 82: Discharge Plenum Without Filter (Sizes 060-100)



NOTE: Dimensions shown in inches.

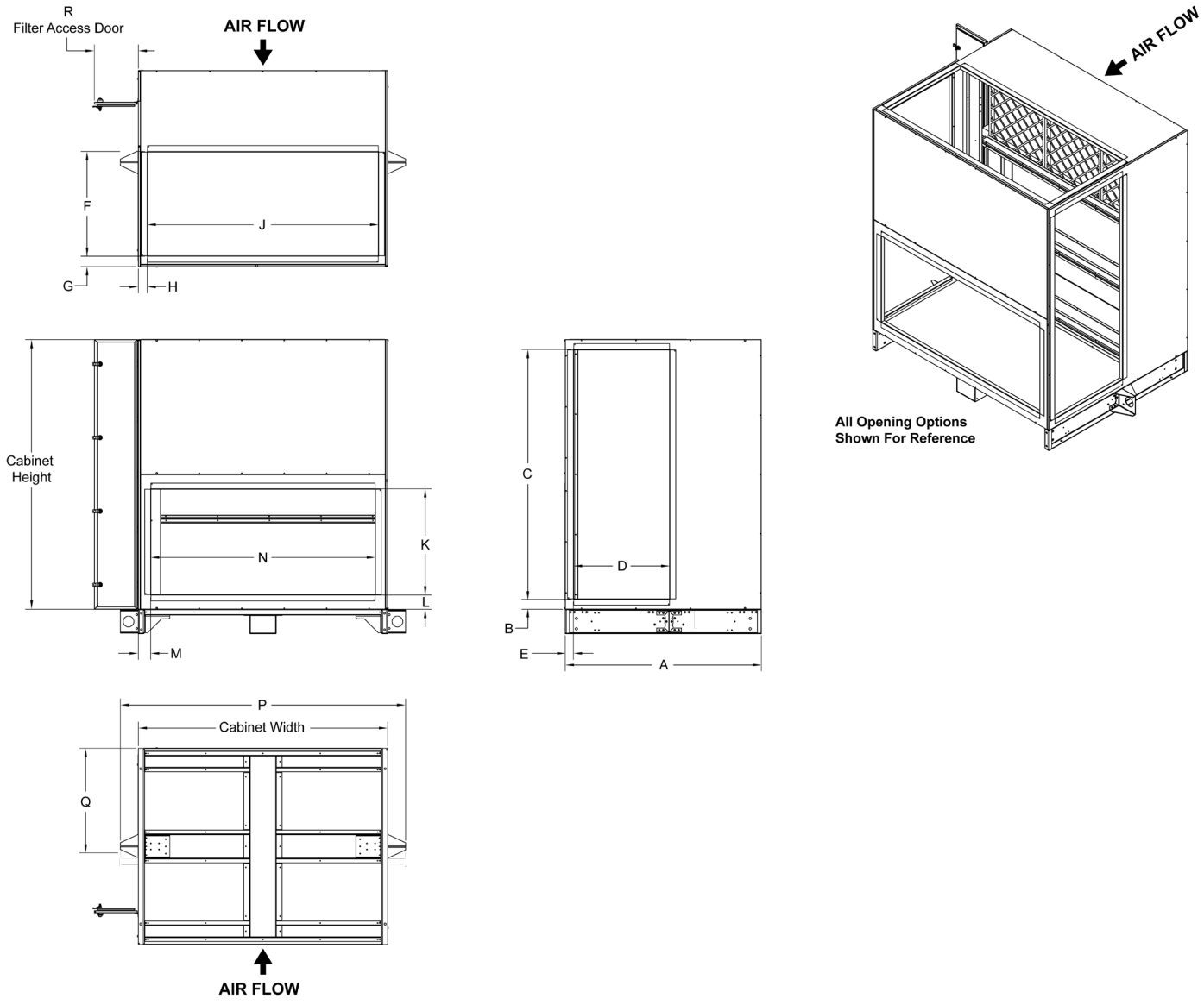
Table 85: Discharge Plenum Without Filter Dimension Letter Reference

Dimension	060	080	100
A	30.00	30.00	30.00
B	3.00	7.00	2.50
C	48.00	48.00	61.00
D	18.00	24.00	23.50
E	7.16	2.99	3.23
F	20.00	24.00	26.00
G	2.60	3.25	2.50
H	7.50	3.00	2.25
J	43.00	48.00	55.00

Dimension	060	080	100
K	20.00	24.00	26.00
L	3.49	3.49	3.46
M	5.50	3.00	3.00
N	43.00	48.00	55.00
P	62.75	62.75	69.75
Q	16.61	16.61	16.61
Length	30	30	30
Width	54	54	61
Height	54	62	66

NOTE: Dimensions shown in inches.

Figure 83: Discharge Plenum With Filter (Sizes 060-100)



NOTE: Dimensions shown in inches.

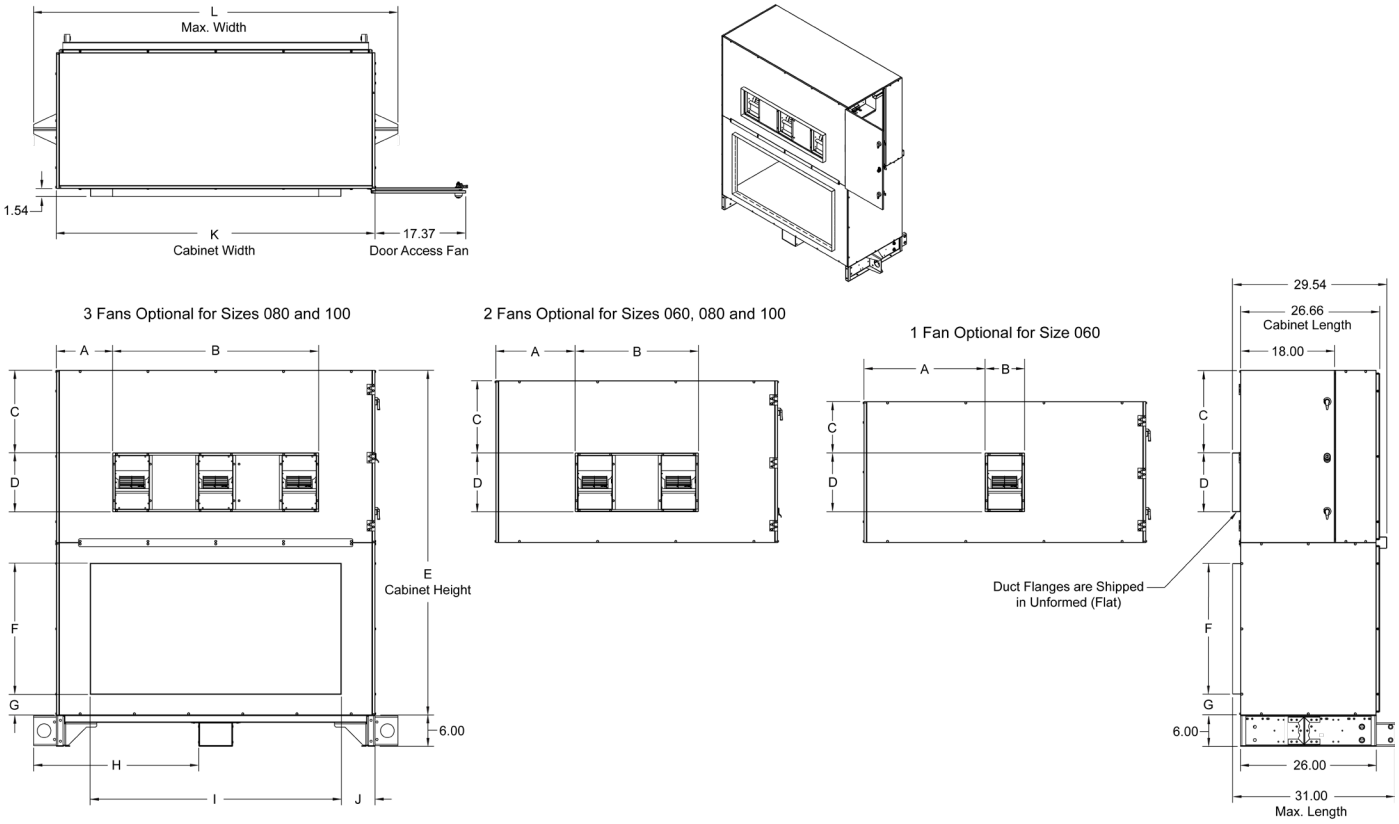
Table 86: Discharge Plenum With Filter Dimension Letter Reference

Dimension	060	080	100
A	48.00	48.00	48.00
B	3.00	7.00	2.50
C	48.00	48.00	61.00
D	18.00	24.00	23.50
E	4.81	3.06	2.06
F	20.00	24.00	26.00
G	2.60	2.60	2.06
H	7.50	3.00	2.25
J	43.00	48.00	55.00
K	20.00	24.00	26.00

Dimension	060	080	100
L	3.49	3.49	3.46
M	5.50	3.00	3.00
N	43.00	48.00	55.00
P	62.75	62.75	69.75
Q	25.61	25.61	25.61
R	10.73	10.73	10.73
Length	48	48	48
Width	54	54	61
Height	54	62	66

NOTE: Dimensions shown in inches.

Figure 84: Horizontal Exhaust Air / Outdoor Air Dimensions (Sizes 060-100)



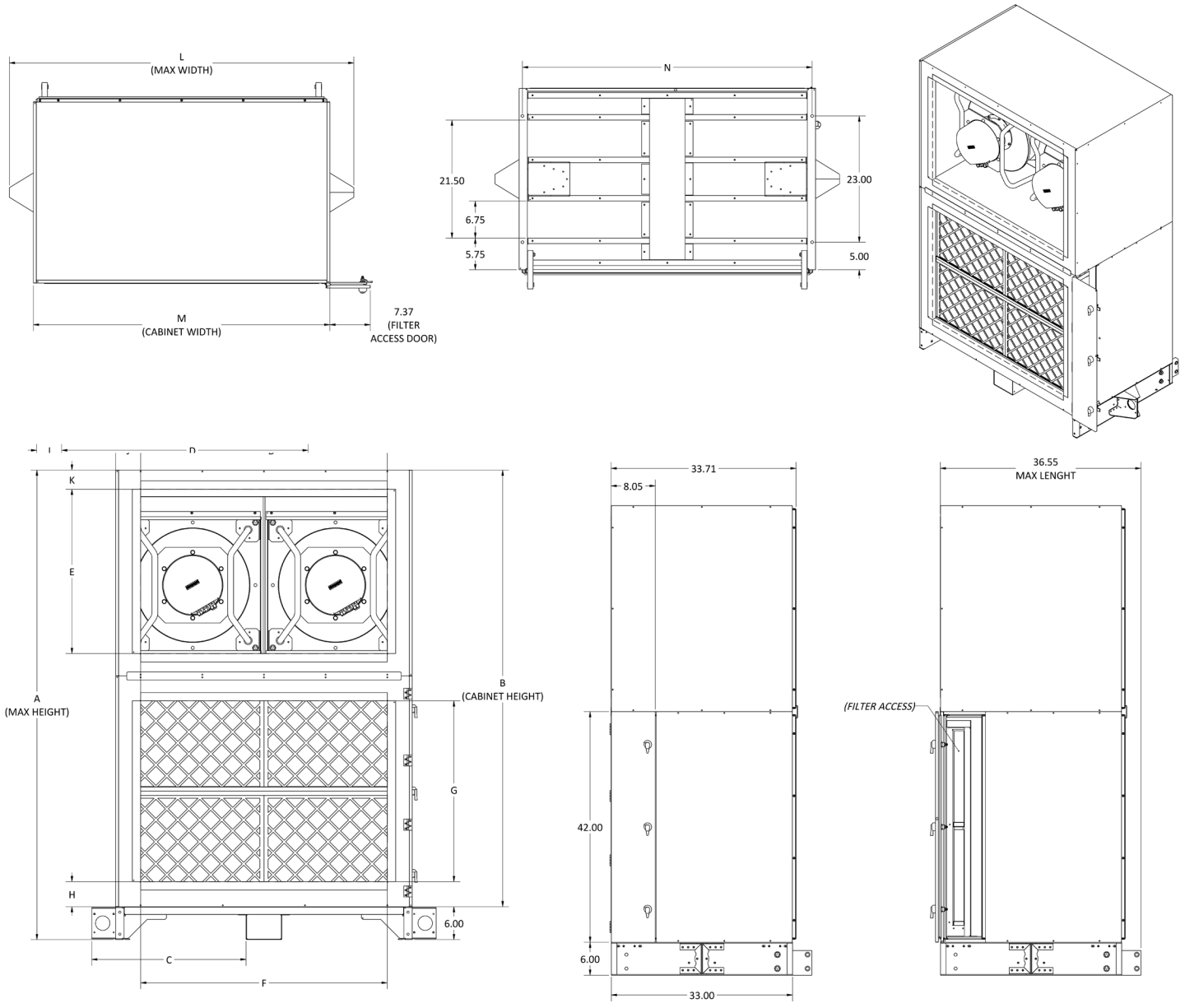
NOTE: Dimensions shown in inches.

Table 87: Exhaust Air / Outdoor Air Section Dimension Letter Reference

Dimension	060		080		100	
	1 Fan	2 Fans	2 Fans	3 Fans	2 Fans	3 Fans
A	23.20	15.20	15.20	7.20	18.75	10.75
B	7.60	23.60	23.60	39.61	23.50	39.61
C	9.84	9.84	13.84	13.81	15.84	15.81
D	11.26	11.26	11.26	11.26	11.26	11.26
E	54.00		62.00		66.00	
F	20.00		24.00		25.00	
G	3.50		3.50		4.00	
H	23.75		23.75		31.63	
I	36.00		40.00		48.00	
J	9.00		7.00		6.50	
K	54.00		54.00		61.00	
L	62.75		62.75		69.75	

NOTE: Dimensions shown in inches.

Figure 85: Vertical Exhaust Air / Outdoor Air Dimensions - Two Fans (Sizes 060-100)



NOTE: Dimensions shown in inches.

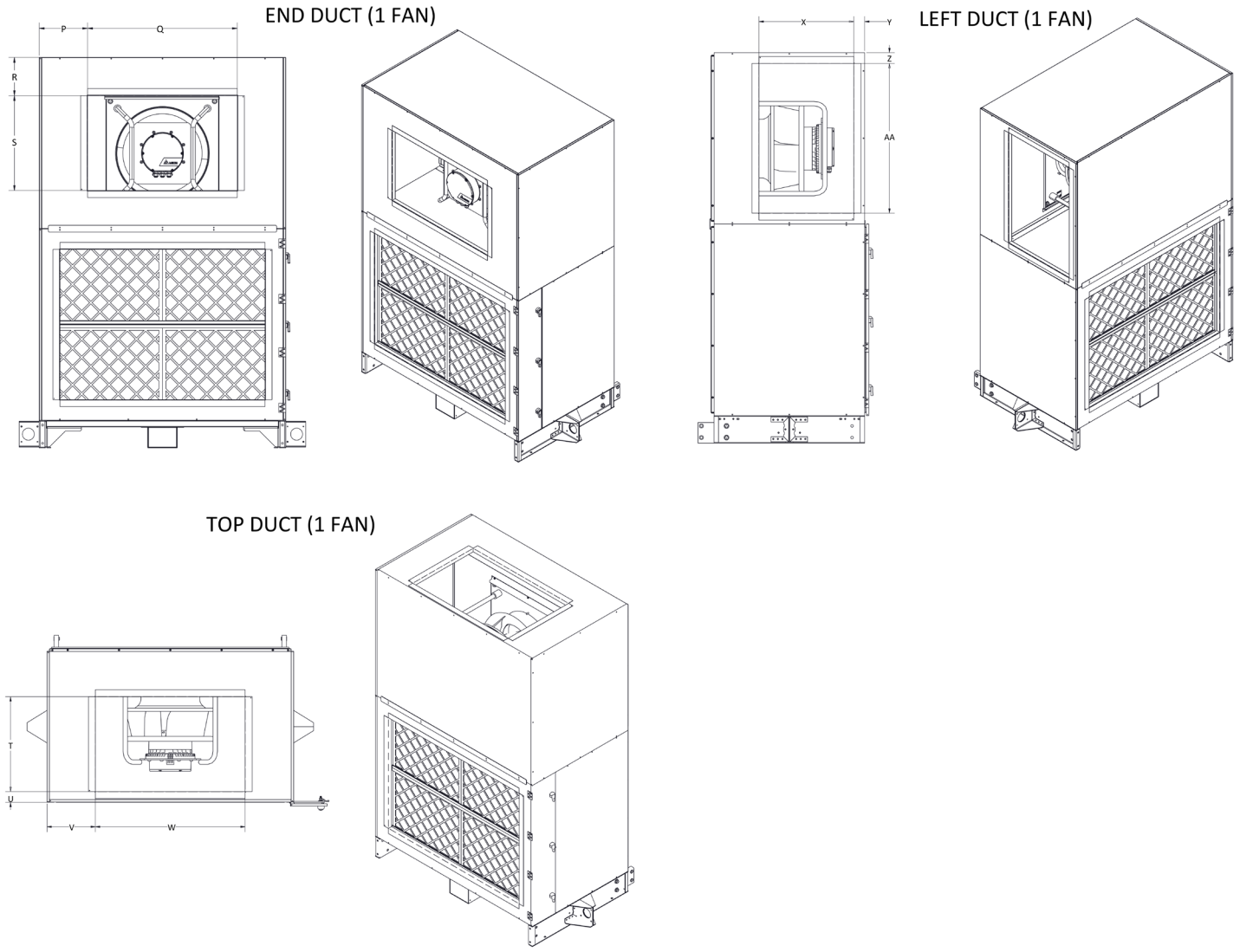
Table 88: Exhaust Air / Outdoor Air Section - Two Fans Dimension Letter Reference

Dimension	060	080	100
	2 Fans		
A	85.50	85.50	85.50
B	79.50	79.50	79.50
C	28.13	28.13	28.13
D	41.53	34.53	44.91
E	18.78	32.78	29.91
F	41.53	34.53	44.91
G	18.78	32.78	32.91

Dimension	060	080	100
	2 Fans		
H	4.62	4.62	11.61
J	6.23	9.73	4.55
K	9.06	2.06	3.49
L	62.75	62.75	62.75
M	54.00	54.00	54.00
N	52.76	52.76	52.76

NOTE: Dimensions shown in inches.

Figure 86: Vertical Exhaust Air / Outdoor Air Dimensions - One Fan (Sizes 060-100)



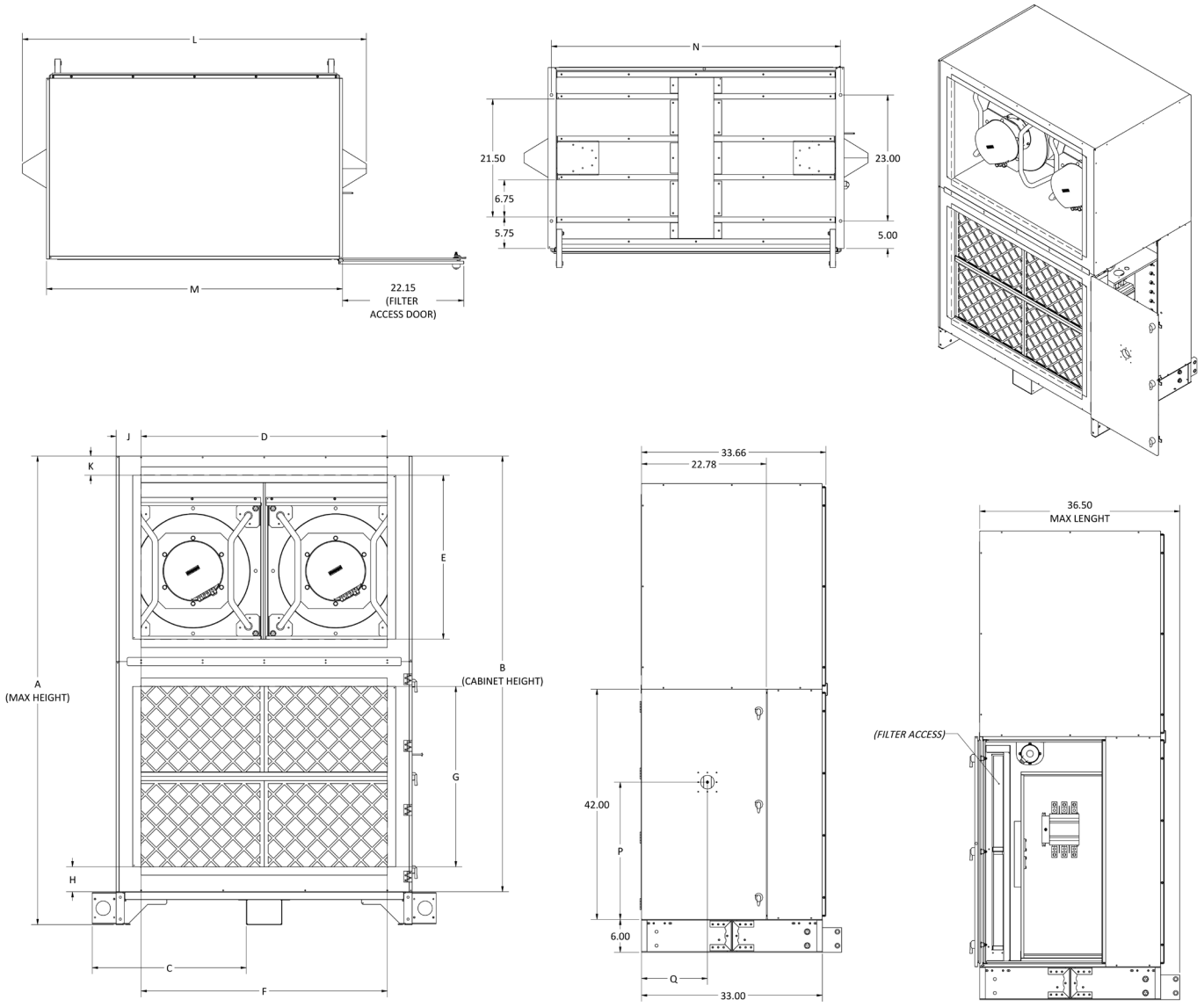
NOTE: Dimensions shown in inches.

Table 89: Exhaust Air / Outdoor Air Section - One Fan Dimension Letter Reference

Dimension	060	080	100
	1 Fan		
P	13.61	12.11	10.61
Q	26.78	29.78	32.78
R	11.11	9.86	8.36
S	14.78	17.78	20.78
T	14.78	17.78	20.78
U	3.73	3.73	2.27
V	13.61	12.11	10.61
W	26.78	29.78	32.78
X	14.78	17.78	20.78
Y	3.73	3.73	2.36
Z	5.36	3.86	2.36
AA	26.78	29.78	32.78

NOTE: Dimensions shown in inches.

Figure 87: Vertical Exhaust Air / Outdoor Air Dimensions - Two Fans / Electric Heat (Sizes 060-100)



NOTE: Dimensions shown in inches.

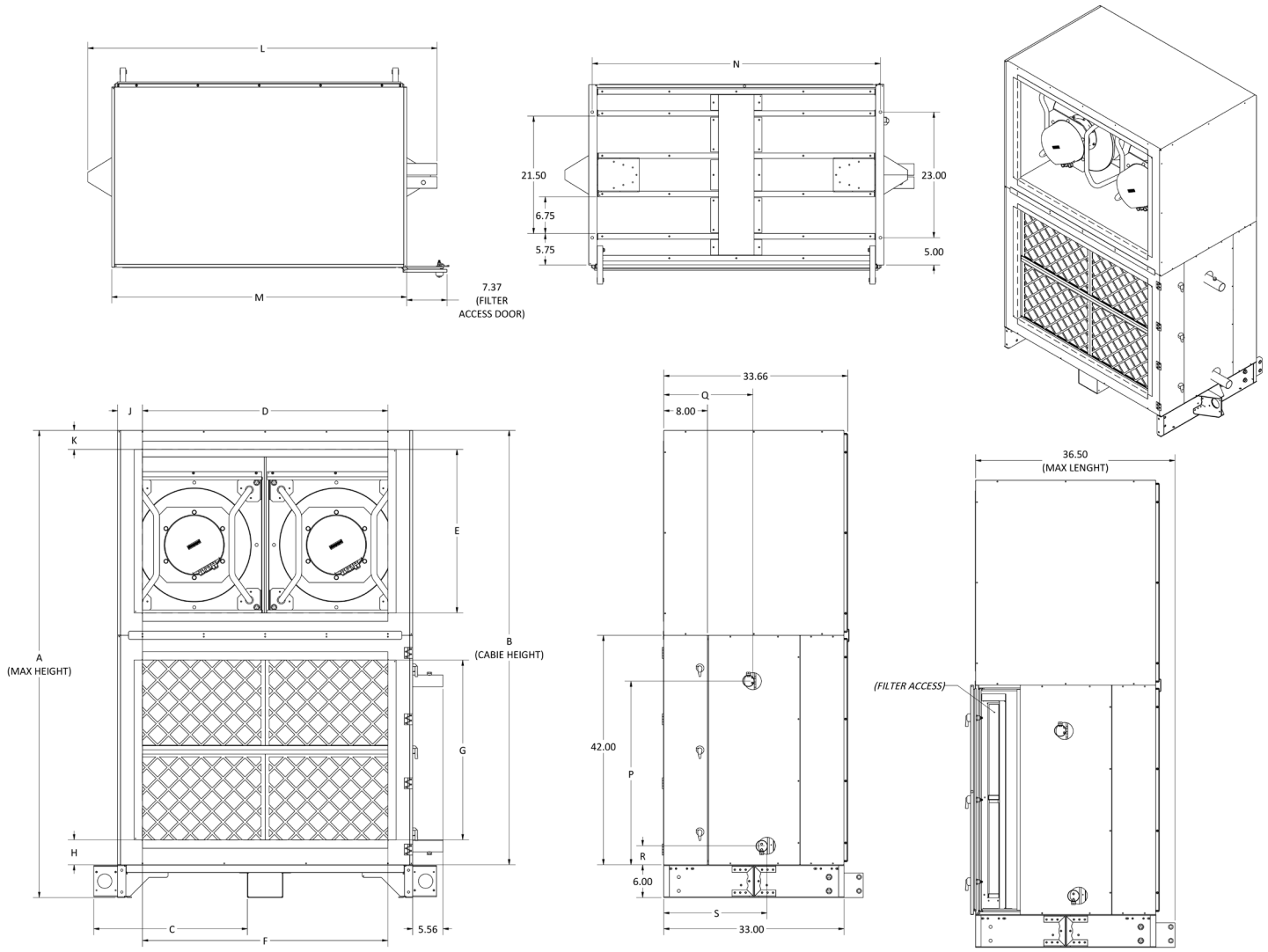
Table 90: Exhaust Air / Outdoor Air Section - Two Fans / Electric Heat Dimension Letter Reference

Dimension	060	080	100
	2 Fans		
A	85.50	85.50	85.50
B	79.50	79.50	79.50
C	28.13	28.13	28.13
D	41.53	34.53	44.91
E	18.78	32.78	29.91
F	41.53	34.53	44.91
G	18.78	32.78	32.91
H	4.62	4.62	11.61

Dimension	060	080	100
	2 Fans		
J	6.23	9.73	4.54
K	9.06	2.06	3.49
L	62.75	62.75	62.75
M	54.00	54.00	54.00
N	52.76	52.76	52.76
P	25.04	25.04	25.04
Q	12.03	12.03	12.03

NOTE: Dimensions shown in inches.

Figure 88: Vertical Exhaust Air / Outdoor Air Dimensions - Two Fans / Hot Water (Sizes 060-100)



NOTE: Dimensions shown in inches.

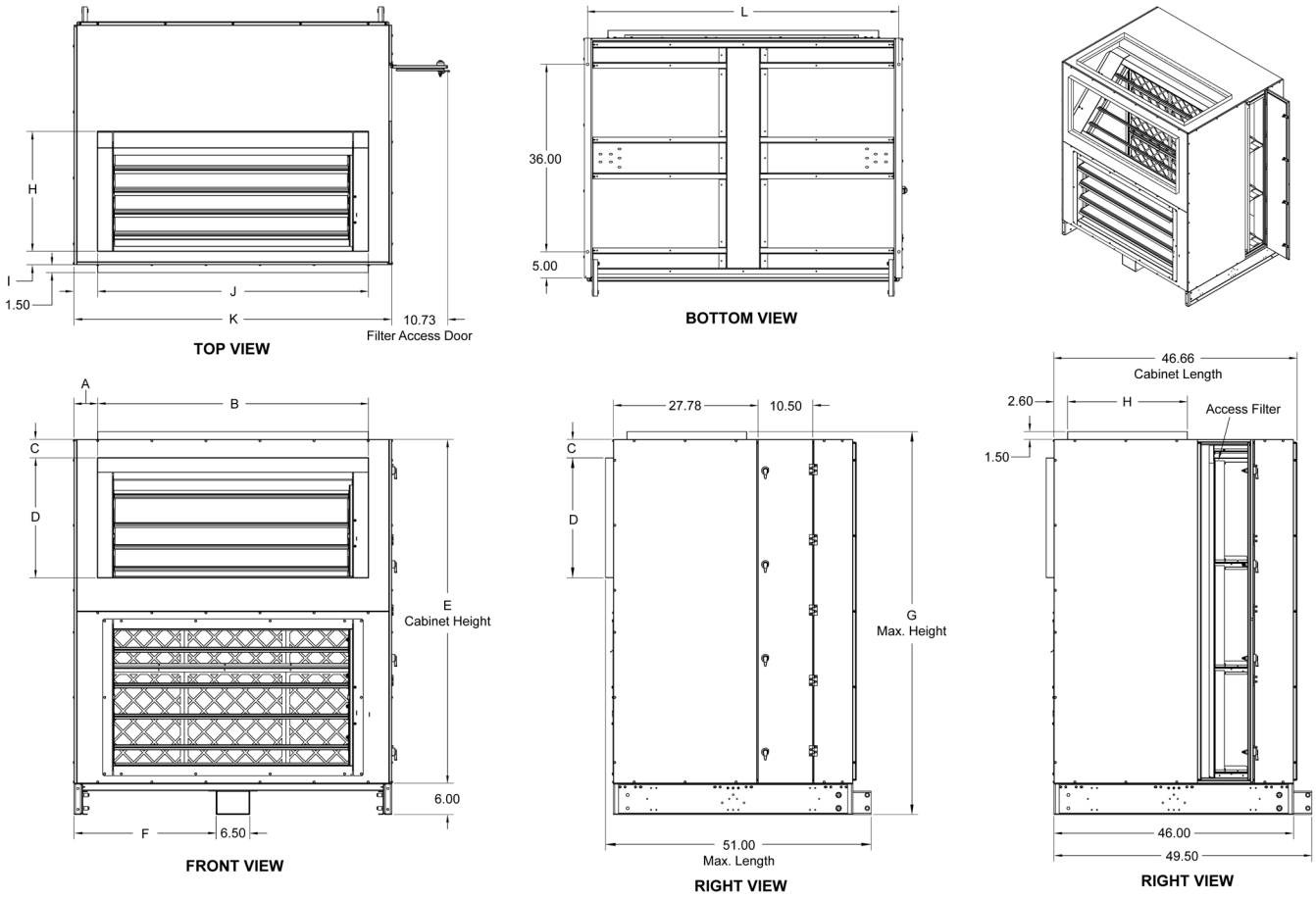
Table 91: Exhaust Air / Outdoor Air Section - Two Fans / Hot Water Dimension Letter Reference

Dimension	060		080		100	
	1 Fan	2 Fans	2 Fans	3 Fans	2 Fans	3 Fans
A	85.50		85.50		85.50	
B	79.50		79.50		79.50	
C	28.13		28.13		28.13	
D	41.53		34.53		44.91	
E	18.78		32.78		29.91	
F	41.53		34.53		44.91	
G	18.78		32.78		32.91	
H	4.62		4.62		4.56	
J	6.23		9.73		4.55	

Dimension	060		080		100	
	1 Fan	2 Fans	2 Fans	3 Fans	2 Fans	3 Fans
K	9.06		2.06		3.49	
L	63.94		62.75		63.94	
M	54.00		54.00		54.00	
N	52.76		52.76		52.76	
P	19.57	19.67	25.67	25.67	33.67	33.67
Q	15.24	15.24	15.24	15.24	16.17	15.51
R	3.42	3.42	3.42	3.42	3.92	3.42
S	18.04	17.93	17.93	17.93	18.97	17.93

NOTE: Dimensions shown in inches.

Figure 89: Horizontal Economizer Dimensions (Sizes 060-100)



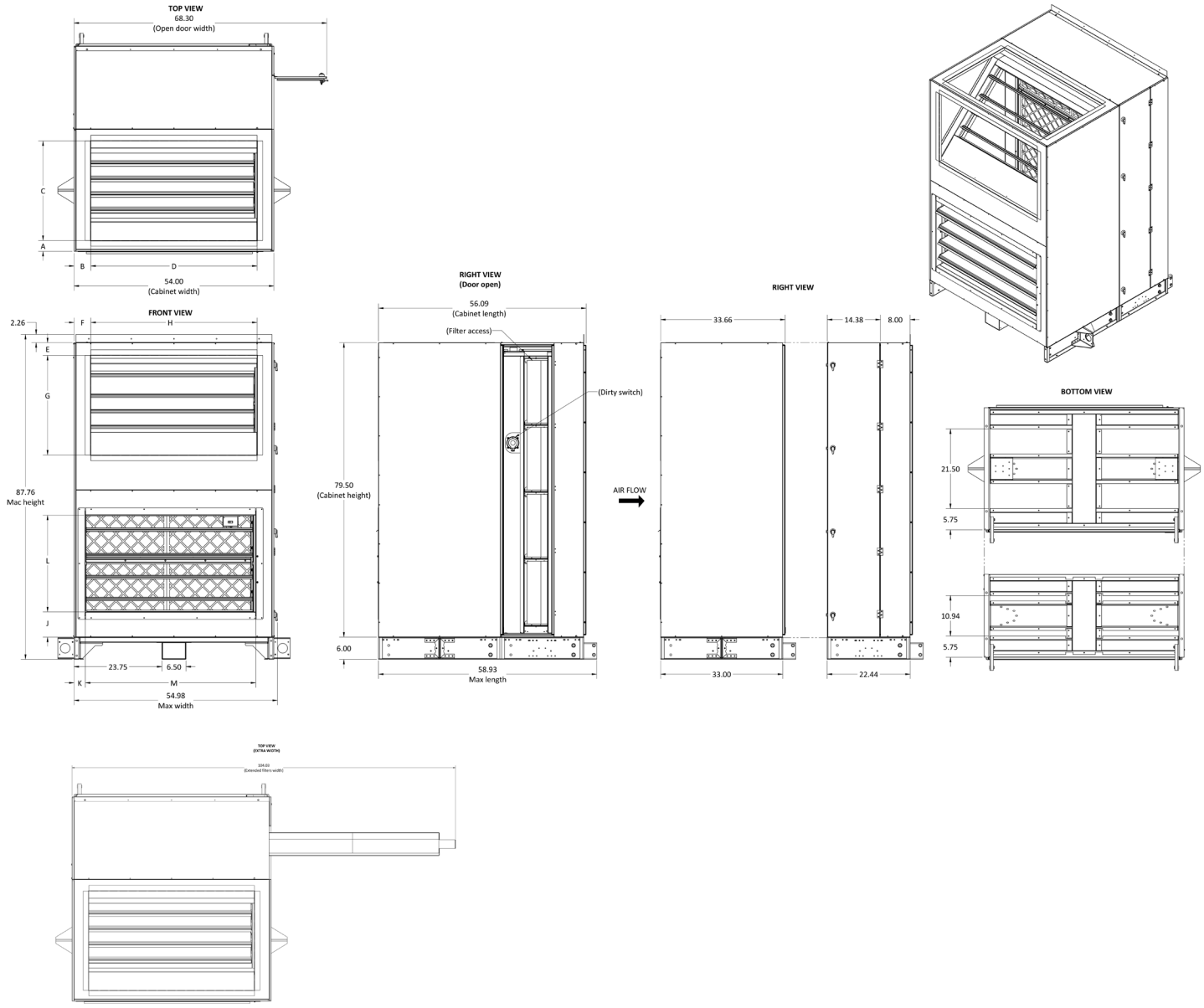
NOTE: Dimensions shown in inches.

Table 92: Economizer Section Dimension Letter Reference

Dimension	060	080	100
A	7.00	5.00	4.50
B	40.00	44.00	52.00
C	54.00	62.00	66.00
D	23.75	23.75	27.25
E	61.50	69.50	73.50
F	18.00	22.00	23.19
G	54.00	54.00	61.00
H	52.76	52.76	59.76
I	6.50	4.00	4.50
J	40.00	46.00	52.00
K	54.00	54.00	61.00
L	52.76	52.76	59.76

NOTE: Dimensions shown in inches.

Figure 90: Vertical Economizer End Section Dimensions (Sizes 060-100)



NOTE: Dimensions shown in inches.

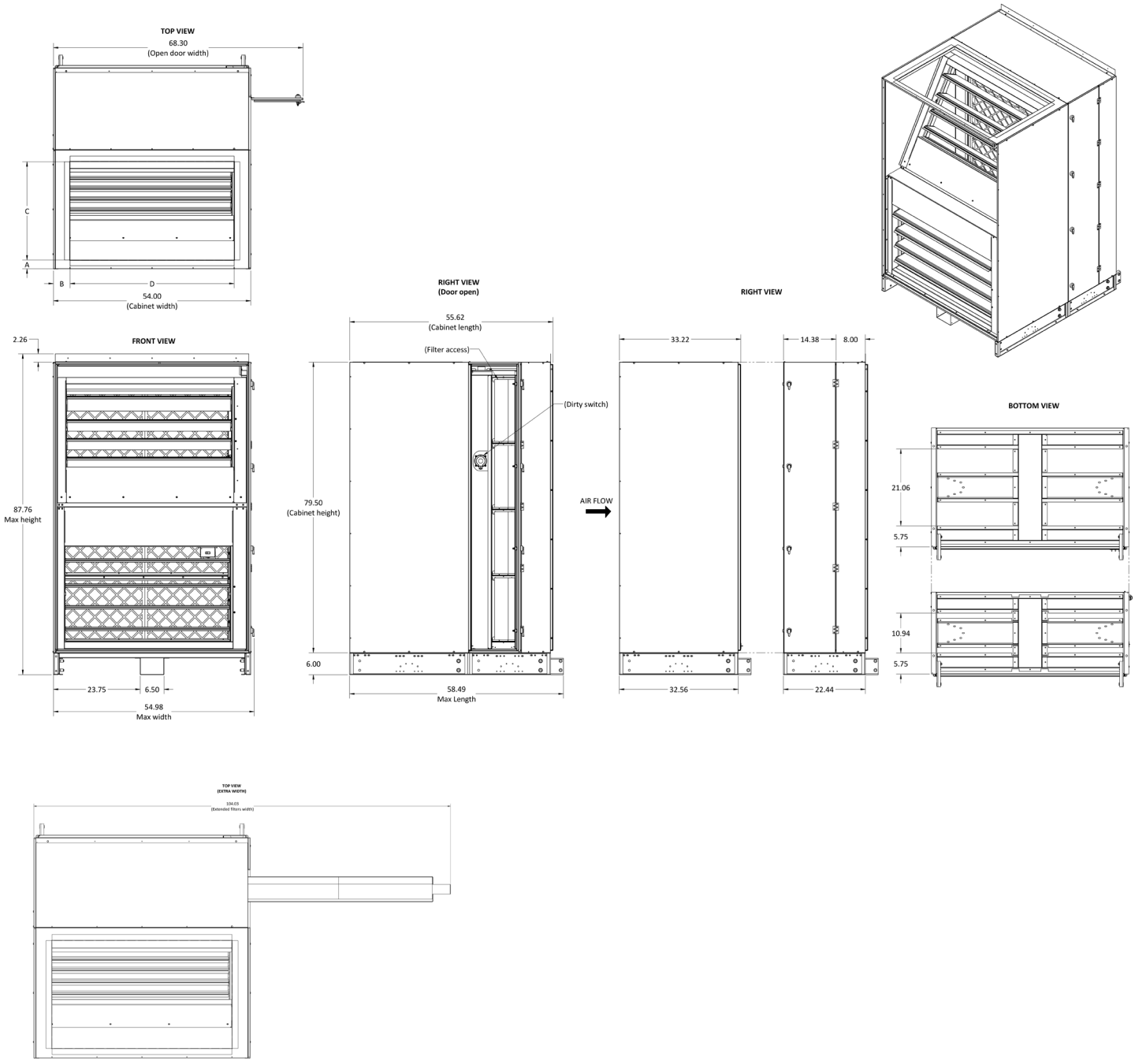
Table 93: Economizer End Section Dimension Letter Reference

Dimension	060	080	100
A	9.56	2.39	2.39
B	6.23	4.55	4.55
C	18.78	21.91	26.9
D	41.53	44.9	44.9
E	3.41	3.41	3.41
F	6.23	4.55	4.55

Dimension	060	080	100
G	18.78	21.91	26.9
H	41.53	44.9	44.9
J	8.83	8.83	6.81
K	10.19	4.94	3.07
L	22.07	22.07	26.11
M	33.63	44.13	46.03

NOTE: Dimensions shown in inches.

Figure 91: Vertical Economizer Dimensions (Sizes 060-100)



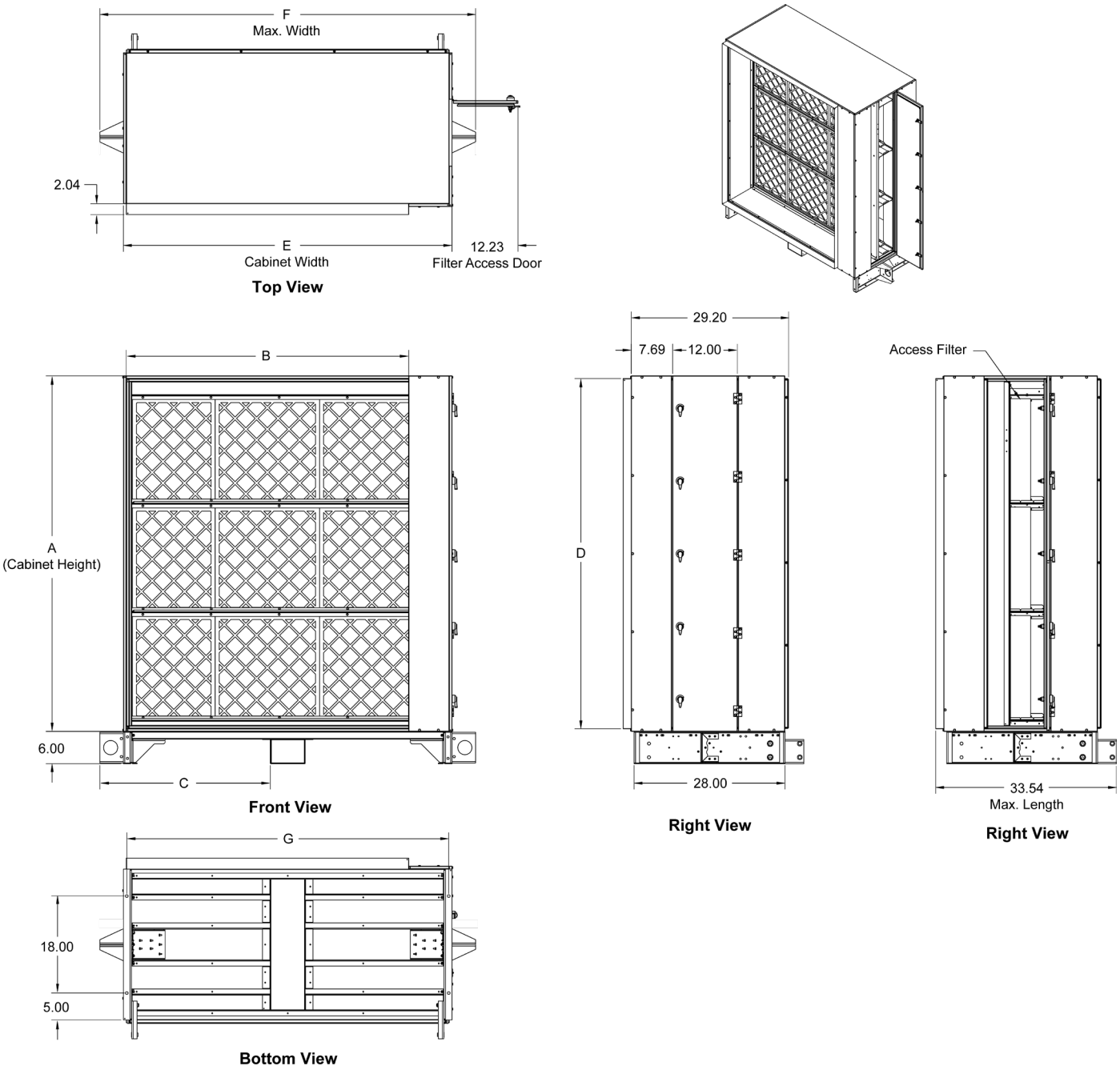
NOTE: Dimensions shown in inches.

Table 94: Economizer Section Dimension Letter Reference

Dimension	060	080	100
A	9.56	2.39	2.39
B	6.23	4.55	4.55
C	18.78	21.91	26.9
D	41.53	44.9	44.9

NOTE: Dimensions shown in inches.

Figure 92: Return Filter Dimensions (Sizes 060-100)



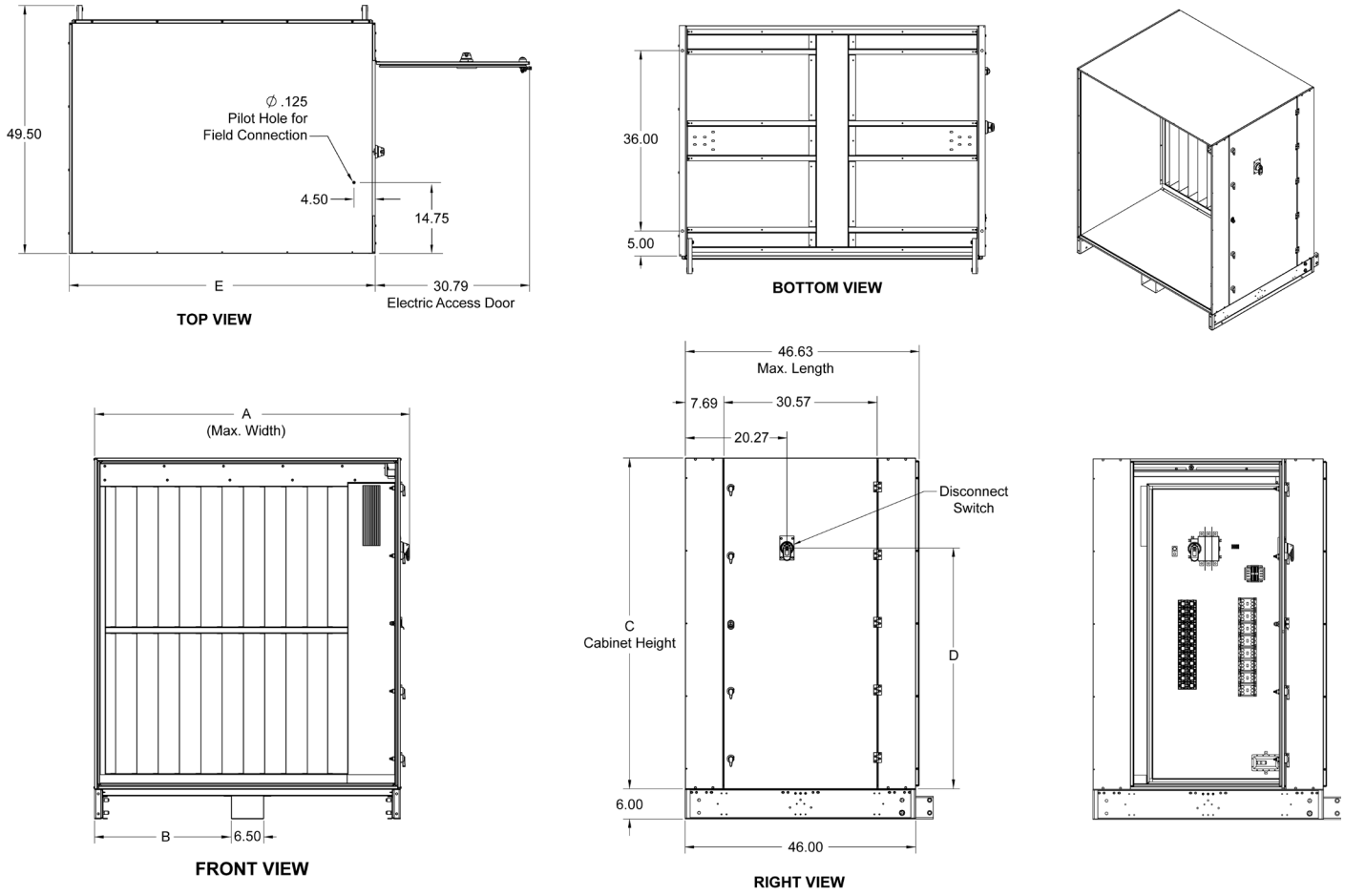
NOTE: Dimensions shown in inches.

Table 95: Return Filter Section Dimension Letter Reference

Dimension	060	080	100
A	54.00	62.00	66.00
B	45.36	45.36	52.36
C	28.13	28.13	31.63
.D	52.88	60.88	64.88
E	54.00	54.00	61.00
F	62.75	62.75	69.75
G	52.76	52.76	59.76

NOTE: Dimensions shown in inches.

Figure 93: Electric Heat Section Dimensions (Sizes 060-100)



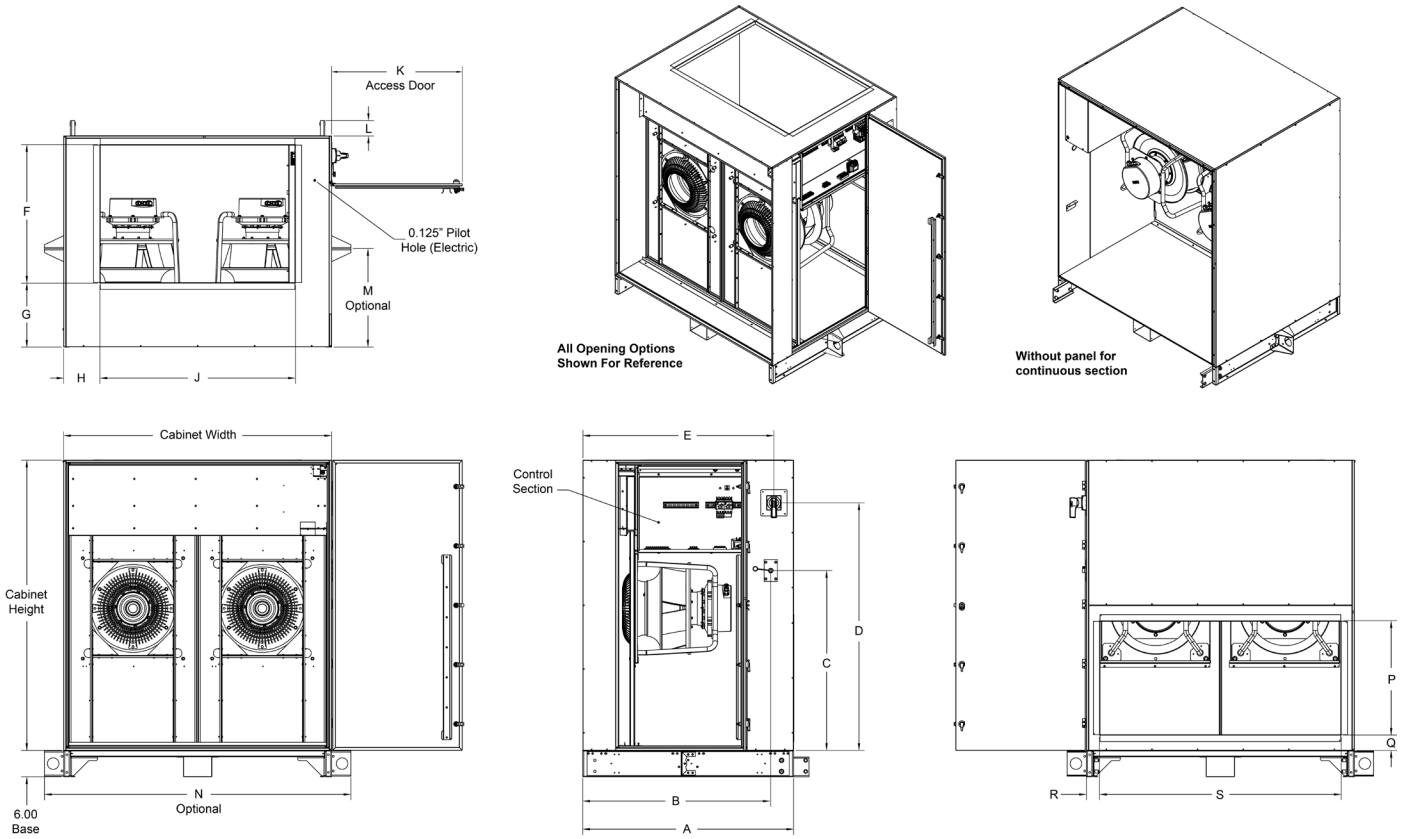
NOTE: Dimensions shown in inches.

Table 96: Electric Heat Section Dimension Letter Reference

Dimension	060	080	100
A	55.82	55.82	62.82
B	23.75	23.75	27.25
C	54.00	62.00	66.00
D	36.04	44.04	46.73
E	54.00	54.00	61.00

NOTE: Dimensions shown in inches.

Figure 94: Horizontal Supply Air Fan Section Dimensions (Sizes 060-100)



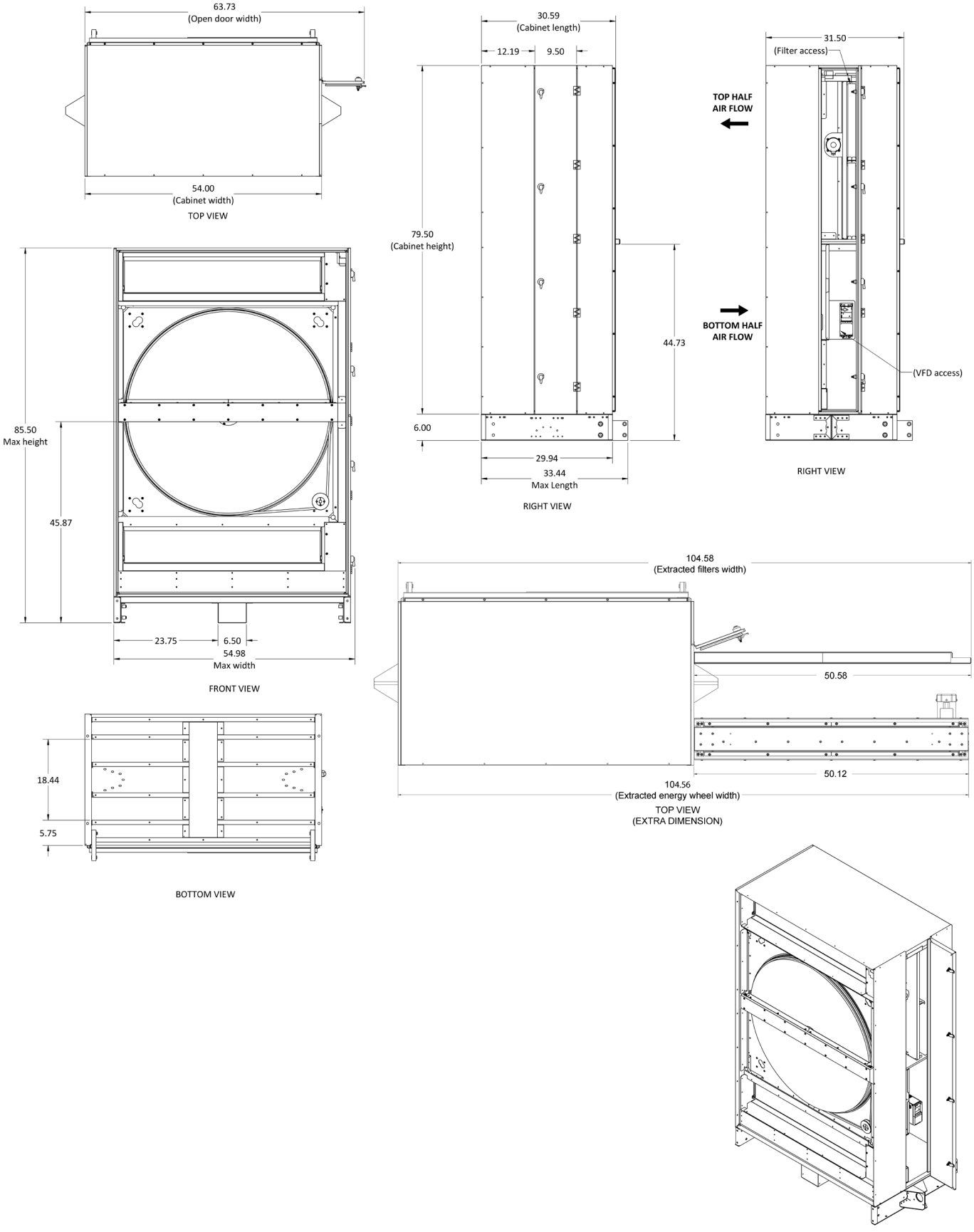
NOTE: Dimensions shown in inches.

Table 97: Supply Air Fan Section Dimension Letter Reference

Dimension	060	080	100
A	48.00	48.00	48.00
B	43.65	43.65	43.65
C	36.65	44.64	48.64
D	44.08	52.08	56.07
E	43.65	43.65	43.65
F	29.50	31.00	31.38
G	15.87	14.37	14.57
H	12.25	8.50	8.31
J	29.50	37.00	44.38
K	29.73	29.73	29.73
L	3.50	3.50	3.50
M	22.39	22.39	22.39
N	62.75	62.75	69.75
P	20.00	26.00	26.00
Q	3.49	2.49	3.46
R	5.50	5.00	3.00
S	43.00	44.00	55.00

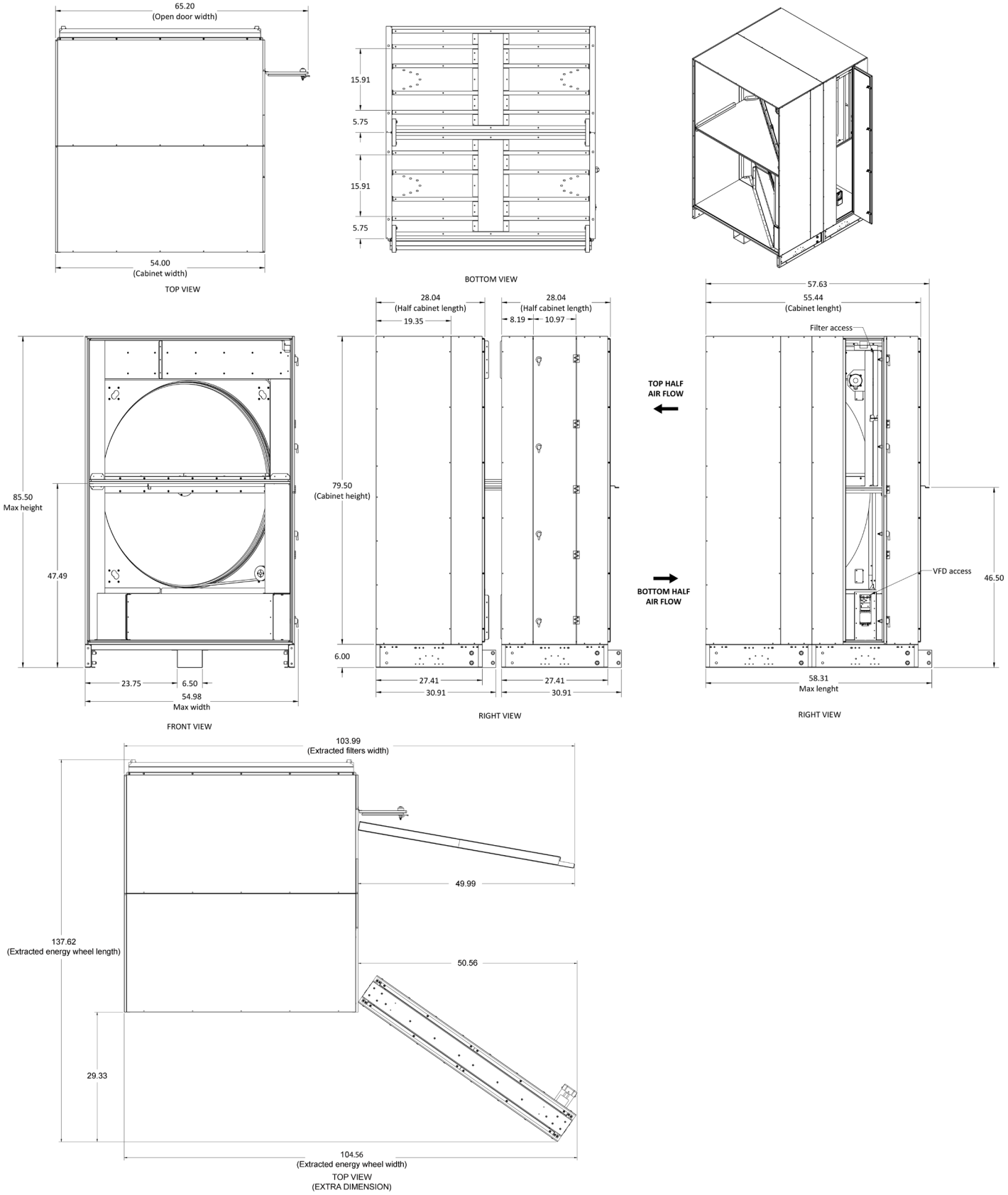
NOTE: Dimensions shown in inches.

Figure 95: Energy Recovery Wheel - 46 in (Sizes 060-100)



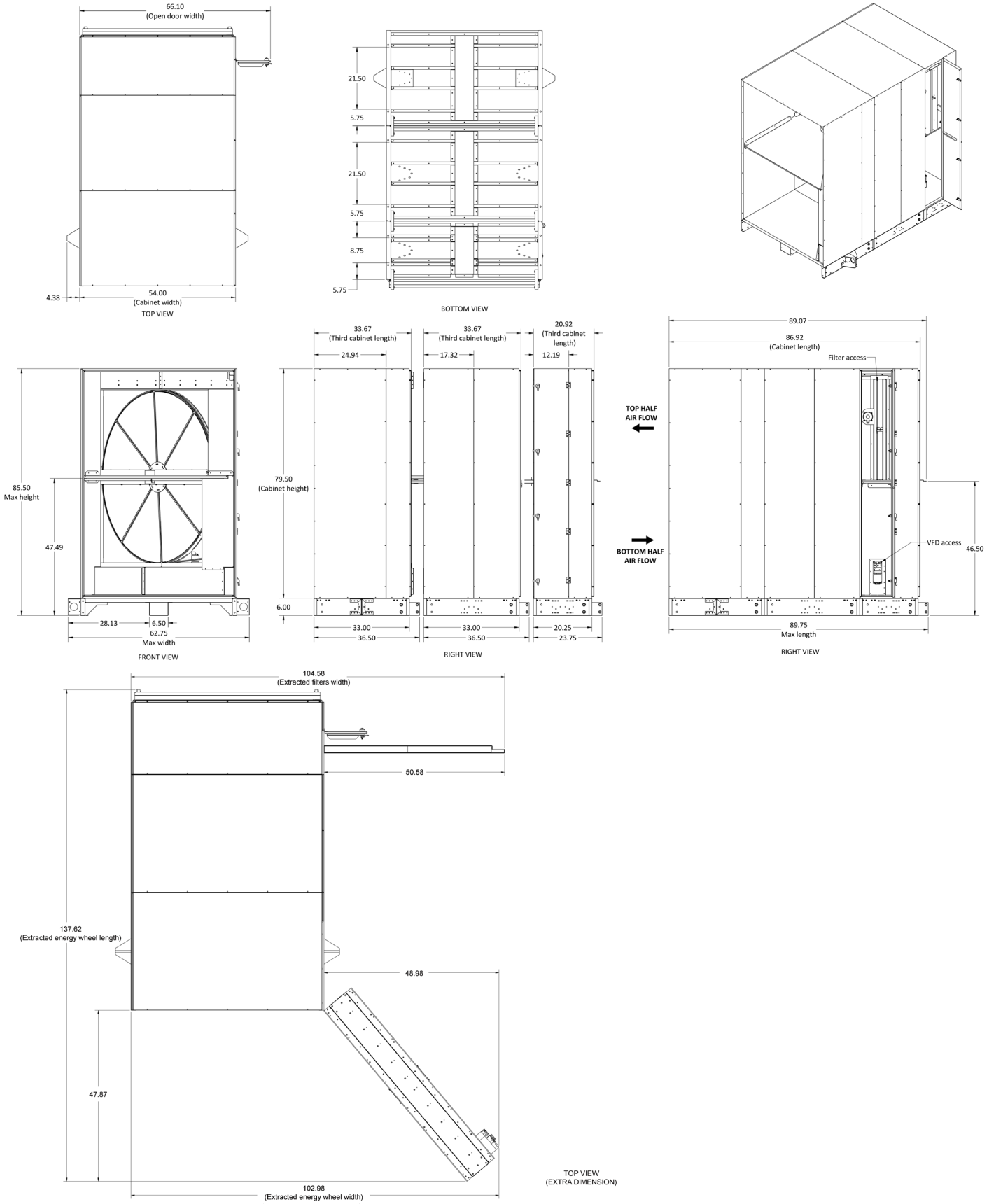
NOTE: Dimensions shown in inches.

Figure 96: Energy Recovery Wheel - 52 in (Sizes 060-100)



NOTE: Dimensions shown in inches.

Figure 97: Energy Recovery Wheel - 58 in (Sizes 060-100)



NOTE: Dimensions shown in inches.

Electrical

Field Power Wiring

⚠ DANGER

Improper ground may result in severe injury or death.

Check grounding nut tightness before connecting power to the external junction box.

⚠ DANGER

Hazardous voltage. Can cause severe injury or death. Disconnect electric power before servicing equipment. More than one disconnect may be required to de-energize the unit.

Wiring must comply with all applicable codes and ordinances. The warranty is voided if wiring is not in accordance with these specifications. An open fuse or starter indicates a short, ground, or overload. Before replacing a fuse or resetting a starter, identify the trouble and correct.

According to the National Electric Code, a disconnecting means shall be located within sight of and readily accessible from the air conditioning equipment. Power leads must be over-current protected at the point of distribution. The maximum allowable overcurrent protection (MROPD) appears on the unit nameplate.

Supply Power Wiring

- Allowable voltage tolerances (60 Hertz):
  - Nameplate 208V: Min. 187V, Max. 229V
  - Nameplate 230V: Min. 207V, Max. 253V
  - Nameplate 460V: Min. 414V, Max. 506V
  - Nameplate 575V: Min. 518V, Max. 633V
- Minimum Circuit Ampacity (MCA) Calculation is based on the following formulas:
  - Sizes 006-050:
    Unit MCA = 1.25 (heater FLA + motor loads)
  - Sizes 060-100*:
    Unit MCA = 1.25 (motor loads + transformer load)
  - *Electric heat equipped units have dual-source power and MCA/MROPD is calculated separately.
  - Electric Heat Section MCA = 1.25 x heater FLA
- MROPD is calculated per UL 1995 methodology.
- Size wires in accordance with Table 310-16 or 310-19 of the National Electrical Code.
- Wires should be sized for a maximum of 3% voltage drop.

Electrical Installation

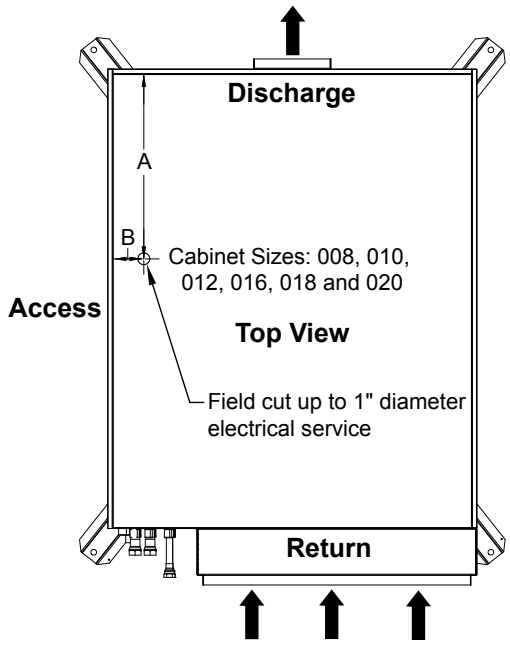
- Electrical service to the fan must correspond to the rated voltage on the motor nameplate and be in conformance with the National Electric Code and local restrictions.
- The unit metal frame must be connected to the building electrical ground and all wiring must be in conformance with the national electric code and local restrictions.

NOTICE

All field wiring penetrations, for both power and controls wiring, must only be made at the factory designated locations on the top, side, or bottom panels. These locations are identified on the panels with a 3/16" (4.76 mm) pilot hole, and are shown in the following drawings.

- To make a field wiring connection, use a hole saw to penetrate the double wall panel at the designated locations and install up to a 1” electrical conduit bulkhead connector as shown below. Route the power wires through the conduit connector to the disconnect box and the wire to the control box inside the cabinet.
- All units are provided with a safety disconnect switch. Unit sizes 006 – 020 are available as single phase only and are provided with a two pole switch. Three phase units, sizes 030 – 050, are provided with a three pole switch.
- Optional factory provided over current protection is available on all units with a maximum operating current less than or equal to 48 amps. This protection is provided with fuses located on the unit main power circuit. Units with a maximum operating current greater than 48 amps are provided with factory installed fusing on the electric heat circuit only.
- All field provided controllers must be powered by the unit transformer.
- All grounds, both AC and DC, are to be consolidated at the unit.
- A DC common input is not included on the unit. Accordingly, the AC ground and DC ground are the same. Any field provided controller must be compatible with this.

Figure 98: Horizontal Cabinet Sizes 008-020 Field Cut Electrical Service Entry Pilot Hole Location



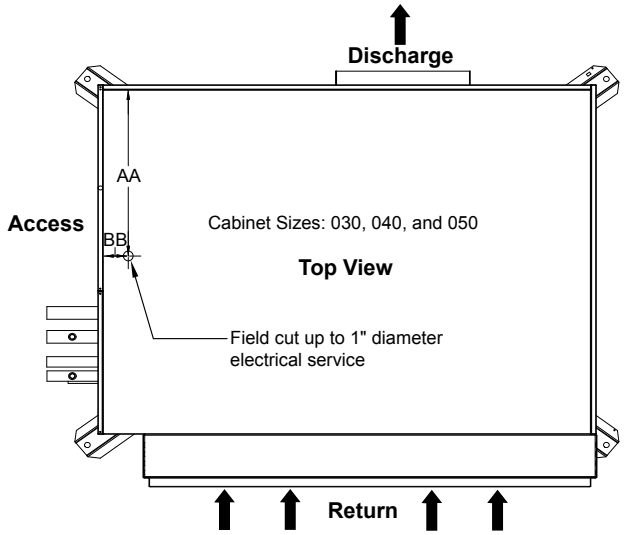
NOTE: Left hand unit shown. Right hand unit values same but opposite.

Table 98: Figure 98 Letter Dimensions

Unit Sizes	Left-Hand		Right-Hand	
	A	B	A	B
008, 010, 012, 016, 018, 020	17.51	1.92	17.51	1.92

NOTE: Dimensions shown in inches.

Figure 99: Horizontal Cabinet Sizes 030-050 Field Cut Electrical Service Entry Pilot Hole Location



NOTE: Left hand unit shown. Right hand unit values same but opposite.

Figure 100: Figure 99 Letter Dimensions

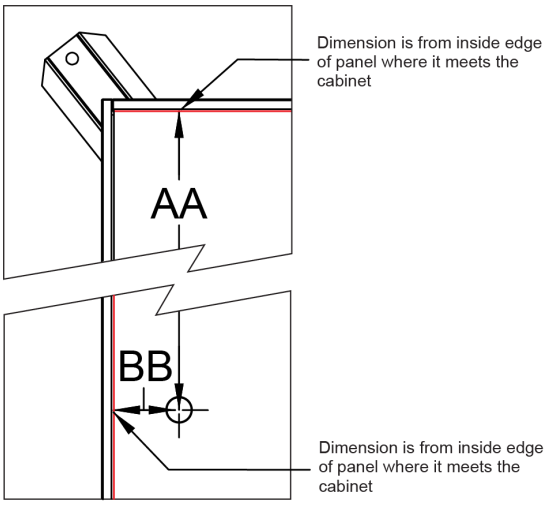


Table 99: Figure 99 and Figure 100 Letter Dimensions

Unit Sizes	Top or Bottom Entry	Left-Hand		Right-Hand	
		AA	BB	AA	BB
030	Top	18.97	2	19	2
	Bottom	18.74	3.45	18.35	3.45
040	Top	21.74	2.31	21.73	1.93
	Bottom	21.03	3.44	21.02	3.44
050	Top	21.46	1.93	21.65	2.63
	Bottom	20.95	3.62	20.95	3.62

NOTE: Dimensions shown in inches.

Figure 101: Vertical Cabinet Sizes 006-020 Field Cut Electrical Service Entry Pilot Hole Location

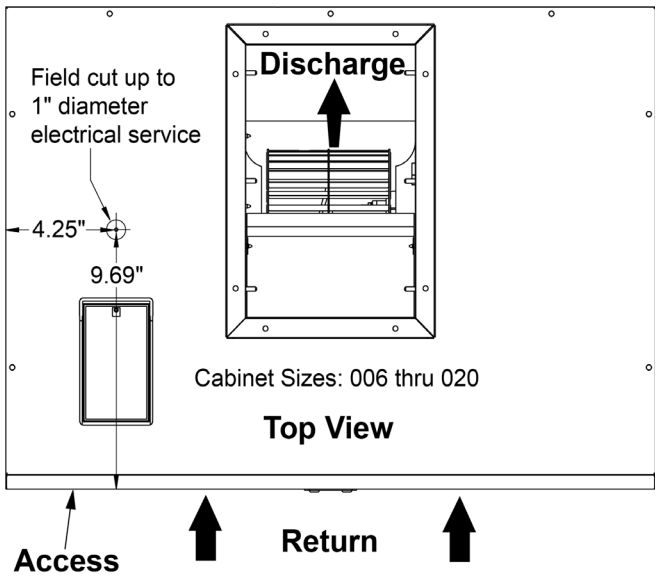


Figure 102: Vertical Cabinet Sizes 030-050 Field Cut Electrical Service Entry Pilot Hole Location

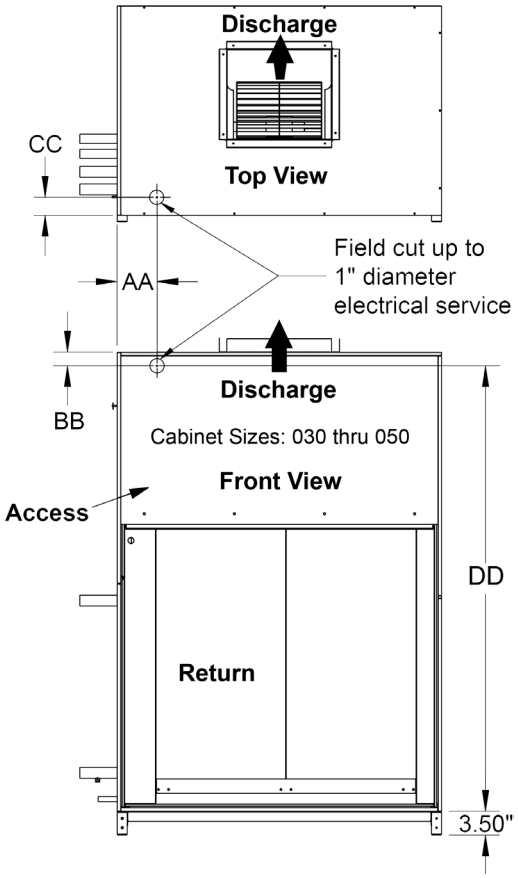


Table 100: Figure 102 Letter Dimensions

	Unit Size		
Dimension	**030**	**040**	**050**
AA	5.88	5.85	5.85
BB	2.00	2.00	2.00
CC	2.64	2.64	2.64
DD	54.00	57.97	57.97

Figure 103: Horizontal Cabinet Sizes 060 - 100 Field Cut Electrical Service Entry Pilot Hole Location (Fan Section)

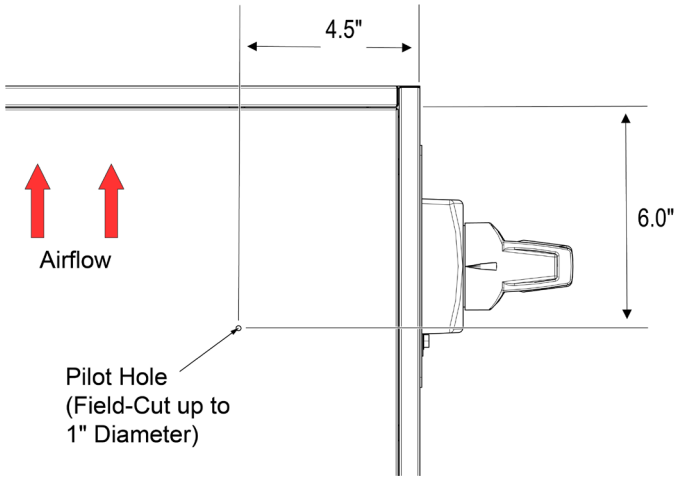
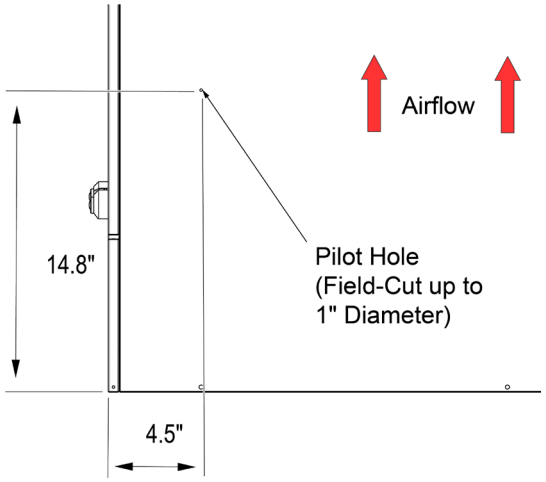


Figure 104: Horizontal Cabinet Sizes 060 - 100 Field Cut Electrical Service Entry Pilot Hole Location (Electric Heat Section)



Electric Heat Control

1. Electric heat control can be factory configured for either on-off or analog control.
2. On-off control requires a 24VAC signal applied to terminal EH 24+ to cycle the electric heat elements.
3. Analog control uses an SCR control module to power the electric elements and requires a 0-10VDC signal applied to terminal EH 0-10V, to modulate heat output.

Valve Control

1 Valve control can be factory configured for either on-off or analog control.
2. On-off control requires a 24VAC signal applied to terminal VLV1 24+ or VLV2 24+ to control the valve.
3. Analog control requires a 0-10VDC signal, applied to terminal VLV1 0-10V or VLV2 0-10V to modulate the valve.

Motor Controls

1. Unit sizes 006 – 020 ship with an EC motor factory configured for either three speed or analog control.
2. The three speed control option provides three separate field adjustable motor speeds that can be activated by applying a 24VAC signal to the appropriate terminal. This allows fan control with a conventional three position fan switch or fan coil style thermostat. The speed terminals in the unit, CALL 1, CALL 2, and CALL 3 correspond to the low, medium and high speed terminals on the switch. Speed adjustment is made at the EVO board by turning the dial adjacent to the speed terminal to change the motor's RPM for that speed.
3. The analog speed control option requires a 0-10VDC signal applied to terminal FAN 0-10V on terminal block TB4 to control motor RPM. 0.0VDC turns the fan off. 1.0VDC is the threshold for turning on the fan and induces the minimum motor RPM. 10.0VDC runs the motor at maximum RPM.

NOTICE

Design may call for lower than a 10VDC max signal.

4. Unit sizes 030 – 050 are provided with a factory installed VFD programmed for analog motor speed control. A 0-10VDC signal applied to terminal FAN 0-10V on terminal block TB4 allows motor RPM to be adjusted. VFD settings are programmed at the factory, with motor information inputted.

Damper Control

1. Damper control can be factory configured for either on-off or analog control.
2. On-off control requires a 24VAC signal applied to terminal ACT 24+ to cycle the damper.
3. Analog control requires a 0-10VDC signal applied to terminal ACT 0-10V to modulate the damper.

Figure 105: Terminal Block Layout (Sizes 006-050)

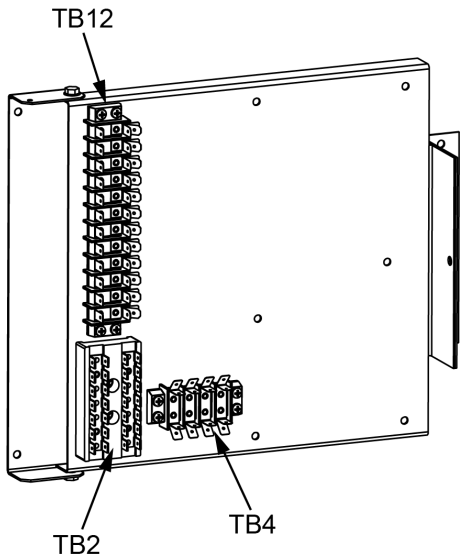
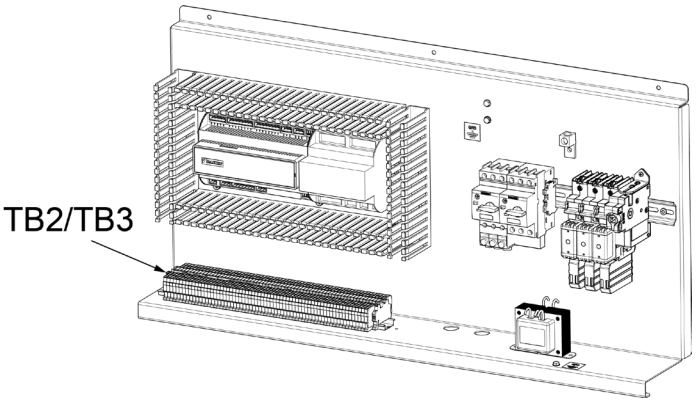


Figure 106: Terminal Block Layout (Sizes 060-100)



Field Control Wiring

⚠ DANGER

LOCKOUT/TAGOUT all power sources prior to wiring or servicing the unit. Electrical shock hazard that may cause severe injury or death. Connect only low voltage NEC Class II circuits to terminal blocks TB2, TB3, TB4, and TB12. Reinstall and secure all protective front panels when the wiring installation is complete.

PreciseLine units are available with several control schemes which may require low voltage field wiring. Use the Unit Specific Electrical Schematics to determine which control connections will be required for installation. Check unit specific electrical documentation in the door of the control panel. Table 101 and Table 102 show the possible field connections that can be made.

NOTICE

Possible field connections listed have no effect on unit function unless a factory installed controller or a field installed controller with the necessary controls logic is used with the unit.

PreciseLine units operate with 115V and 24V control circuit power. All field control wiring connections are made at the class II terminal blocks TB2/TB3, TB4, and TB12 which is located in the Low Voltage Control Panel, shown in Figure 105 and Figure 106.

NOTICE

The installation of all field wiring, must comply with all applicable local codes and ordinances. The warranty may be limited or certain aspects excluded if the field wiring is not in accordance with these standards.

If a single conduit containing 24V and 115V wiring is run above the roofline between units, consider the 24V wiring within as an NEC Class I wiring system.

Emergency Stop

The terminals TB12-T10 & TB2-Ground on sizes 006-050 and TB2-299 & TB2-236 on sizes 060-100 can be used for any field supplied component that requires a unit emergency stop. When these terminals are used, the factory installed jumper must be removed.

Table 101: Potential Field Connections and Locations (Sizes 006-050)

	Label	Description	Signal
TB12	T1	Freezestat	24VAC Contact Closure
	T2	Condensate Overflow	Discrete Contact Closure
	T3	Space Humidity Sensor	0-10 VDC Input
	T4	Compressor 2	24VAC Output
	T5	Discharge Air Temperature	Thermistor Input
	T6	Airflow Switch	24VAC Contact Closure
	T7	Entering Water Temp / Leaving Coil Temp	Thermistor Input
	T8	Duct Static Pressure	0-10 VDC Input
	T9	Duct Static Pressure Power	24 VDC Supply
	T10	Emergency Stop	Discrete Contact Closure
	T11	Remote Space Sensor (CE-)	Remote Space Sensor Communications (CE-)
	T12	Remote Space Sensor (CE+)	Remote Space Sensor Communications (CE+)
TB4	T1	Supply Fan Signal	0-10 VDC Output
	T2	Compressor 1 or Valve 1	24VAC Output / 0-10 VDC Output
	T3	Electric Heat or Valve 2	24VAC Output / 0-10 VDC Output
	T4	Outside Air Damper	0-10 VDC Output
TB2	24+	Supply Voltage	24VAC Output Supply
	Common	Supply Voltage Common	Ground

NOTE: Possible field connections listed have no effect on unit function unless a factory installed controller or a field installed controller with the necessary controls logic is used with the unit.

Table 102: Potential Field Connections and Locations (Sizes 060-100)

	Label	Description	Signal
TB2 or TB3	24V	Supply Voltage	24VAC Output Supply
	N24	Supply Voltage Common	Ground
	236	Sensor Common	Sensor Common
	+24V	Sensor Power MCB	24VDC Supply MCB
	+24V-A	Sensor Power EXP-A	24VDC Supply EXP-A
	202	Condensate Overflow Switch	Discrete Contact Closure
	208	Outdoor Air Humidity	0-10VDC Input
	208E	Space Humidity Sensor	0-10VDC Input
	208G	Return Air Humidity Sensor	0-10VDC Input
	210	Remote Integrated Thermostat	CTX
	212	Remote Integrated Thermostat	CTX
	213	Space CO2	0-10VDC Input
	220	Freeze Stat	24VAC Contact Closure
	222	SCR Electric Heat/Electric Heat Stage 1	0-10VDC Output/24VAC Output
	223	Electric Heat Stage 2	24VAC Output
	224	Electric Heat Stage 3	24VAC Output
	225	Electric Heat Stage 4	24VAC Output
	228C	Hot Water Valve Output	24VAC Output
	232A	Main Dirty Filter Switch	Discrete Contact Closure
	247	Entering Water Temp/Leaving Coil Temp	Thermistor Input
	249	Compressor 1/Vlv1 On Off/Chilled Water Vlv	24VAC Output
	251	Compressor 2	24VAC Output
	254	Compressor 3	24VAC Output
	256	Compressor 4	24VAC Output
	267	Supply Fan Signal	0-10VDC Output
	275	Exhaust Fan Signal	0-10VDC Output
TB2 or TB3	277	Outdoor Air Damper	0-10VDC Output
	281	Discharge Air Temp	Thermistor Input
	282	Return Air Temp	Thermistor Input
	297	Outdoor Air Temp	Thermistor Input
	299	Emergency Stop	Discrete Contact Closure
	2120	Air Flow Switch	24VAC Contact Closure
	2124	Duct Static Pressure	0-10VDC Input
	2130	Damper End Switch	Discrete Contact Closure
	2133	Return Air Damper	0-10VDC Output
	2140	VAV Box Output	24VAC Output
	2150	Mod Chilled Water Vlv/Mod Changeover Vlv	0-10VDC Output
	222	Modulating Hot Water Valve Output	0-10VDC Output
	302	Energy Recovery/OA Filter Switch	Discrete Contact Closure
	306	Energy Recovery Wheel On/Off	24VAC Output
	305	Bypass Damper CCW (Bypass)	24VAC Output
	301	Bypass Damper CW (Not Bypass)	24VAC Output
	300	Defrost 2 Position HW Valve	24VAC Output
	300	Defrost Electric Heat Stage 1	24VAC Output
	308	Supply Air Leaving Wheel Temperature (ER_LWT)	Thermistor Input
	309	Exhaust Air Exiting Wheel Temperature (ER_EWT)	Thermistor Input
	307	Energy Recovery Wheel Rotation Switch	Discrete Contact Closure
	303	Defrost Modulating Heating Valve	0-10VDC Output
	303	Defrost SCR Electric Heat	0-10VDC Output
	304	ERW VFD	0-10VDC Output
	GND	Main Unit Ground	Ground

NOTE 1: TB2 is for horizontal units. TB3 is for vertical units.

NOTE 2: If Daikin Applied is not providing a controller, Sensor Common is wired to Main Unit Ground with WIRE-123A. If field-installed controls require a different ground, this wire may need to be removed (if present).

NOTE 3: Possible field connections listed have no effect on unit function unless a factory installed controller or a field installed controller with the necessary controls logic is used with the unit.

Accessories and Sensors

Integrated Thermostat

Mounting considerations:

- The device is suitable for semi-flush mounting with a recessed conduit box.
- The unit should not be mounted in recesses, shelving, behind curtains or doors or above or near direct heat sources.
- Avoid direct sun and draft.
- The conduit must be sealed on the device side, as currents of air in the conduit can affect the sensor reading.
- Local installation regulations must be observed.

Cable connection:

- Connection (screw) terminals:
  Solid or stranded conductors 0.8 to 2.5 mm^2
- Cable type: 2-core, twisted pair, unscreened
- Max. distance between 2 units: 700 m

Use a flathead screwdriver to gently pry the front covering to access the terminals shown in Figure 107.

Figure 107: Thermostat Installation

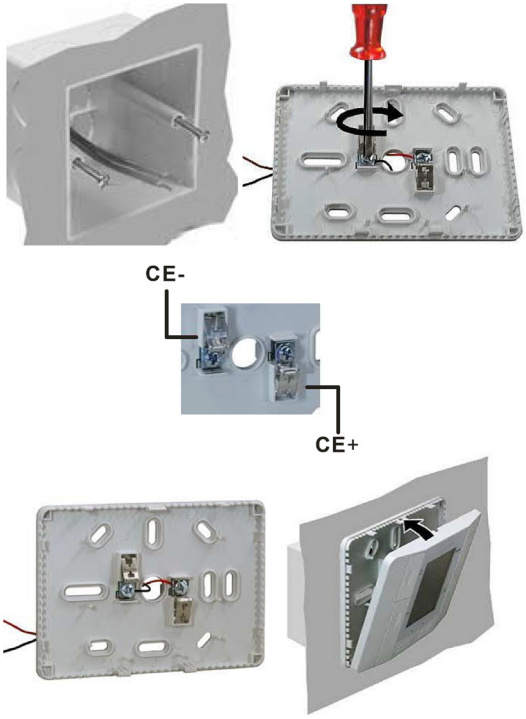
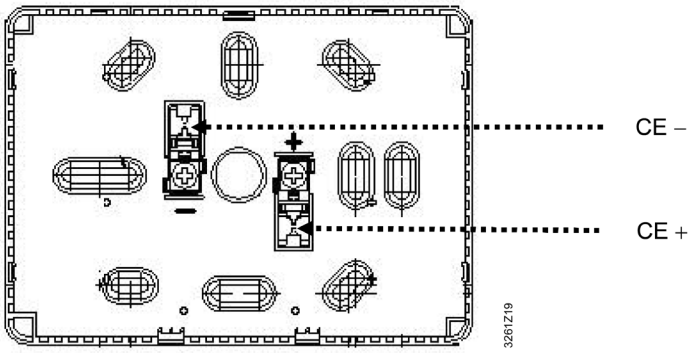


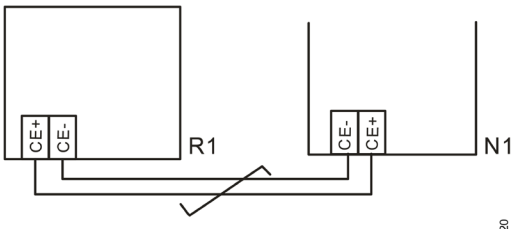
Figure 108: Integrated Thermostat Terminal Layout

Terminal layout



2-wire interface, power supply
+ Device power supply, data (positive)
– Device power supply, data (negative)

Wiring diagram The example below shows the room unit connected to Microtech 4 Lite controller.



R1: Integrated Thermostat
N1: MicroTech 4 Lite Controller

Economizer Space Humidity Sensor

NOTICE

Do not use sensors in areas with possible acid fumes or chemical vapors that can corrode sensor metal parts or with volatile or explosive gases.

The sensor(s) can be mounted to the inner wall of the duct or space as illustrated in Figure 109.

When field installing a space humidity sensor, it may be necessary to modify the configuration settings of the MicroTech controller to indicate that a space humidy sensor is installed and connected. If desired, the Economizer Control settings may need to be modified to match the desired sequence of operations. Refer to OM 1357 for details.

Figure 109: Economizer Space Humidity Sensor Installation

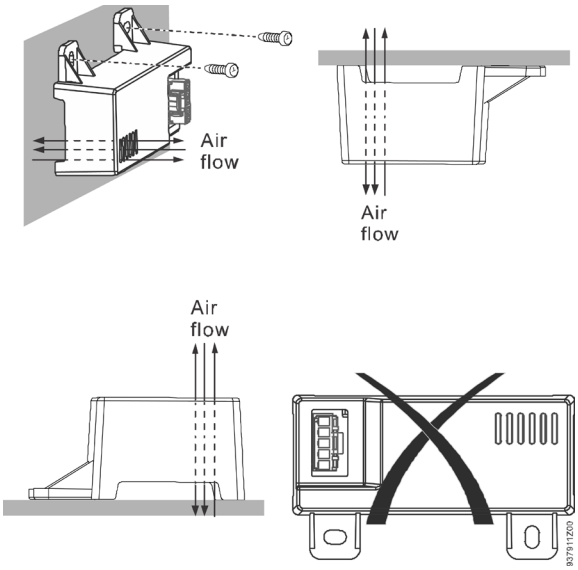
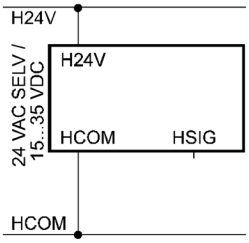


Figure 110: Economizer Space Humidity Sensor Terminal Layout

H24V	Operating voltage 24 VAC (-25 %…+30 %) or 15…35 VDC
HSIG	Relative humidity signal output 0...10 VDC

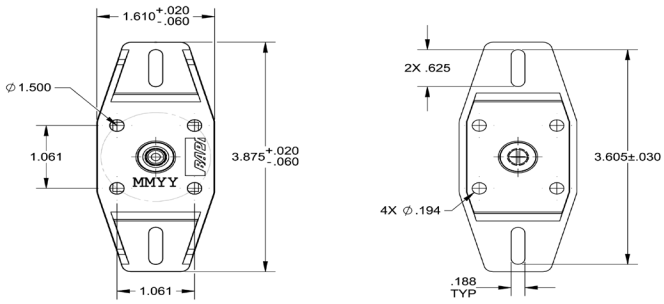


Connect the wires to the sensor as follows.

- ► H23V - 24VDC Supply
- ► HCOM - Sensor Common / Ground
- ► HSIG - Space Humidity Sensor

Outdoor Air Temperature (OAT) Sensor

Figure 111: Outdoor Air Temperature Sensor



NOTE: Dimensions shown in inches.

When field installing an outdoor air temperature sensor, it may be necessary to modify the configuration settings of the MicroTech controller to indicate that an outdoor air temperature sensor is installed and connected. If desired, the Economizer Control settings may need to be modified to match the desired sequence of operations. Refer to OM 1357 for details.

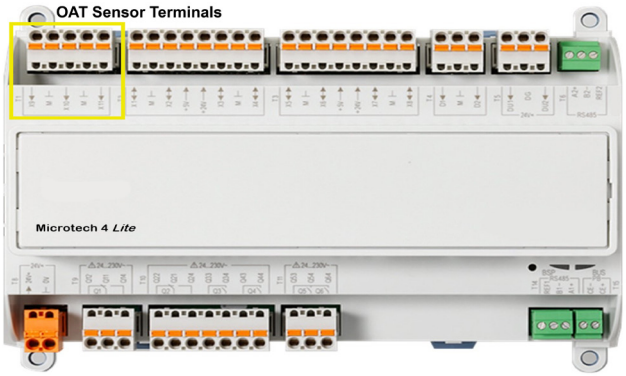
Installation

- All wiring must comply with the National Electric Code (NEC) and local codes. Do NOT run any of this device's wiring in the same conduit as other AC power wiring. Tests show that fluctuating and inaccurate signal levels are possible when AC power wiring is present in the same conduit as the signal lines. If you are experiencing any of these difficulties, please contact your Daikin Applied representative.
- Mount sensor in desired location. This sensor must be field installed between the OA intake and unit mixing box/ economizer outdoor air connection. The location should be selected to provide a typical representation of the outdoor air temperature. Do no place near heat generating equipment, or other features that could affect sensor measurement.

NOTICE

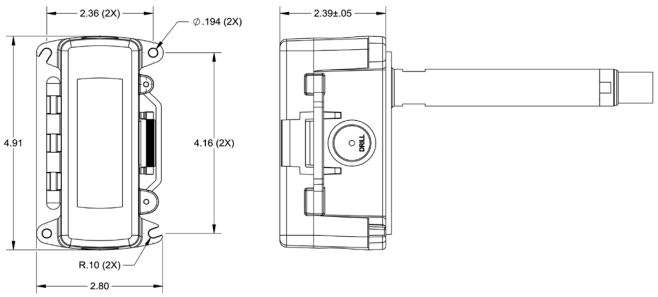
For Sizes 006-050, outdoor air temperature connections are made directly on the MicroTech 4 Lite controller terminals T7 X-11 and M. See Figure 112 for details.

Figure 112: Wiring Terminals for OAT Sensor



Outdoor Air Temperature and Humidity (OATH) Sensor

Figure 113: Outdoor Air Temperature and Humidity Sensor



NOTE: Dimensions shown in inches.

When field installing an outdoor air temp and/or humidity sensor, it may be necessary to modify the configuration settings of the MicroTech controller to indicate that an outdoor air temperature and/or humidity sensor is installed and connected. If desired, the Economizer Control settings may need to be modified to match the desired sequence of operations. Refer to OM 1357 for details.

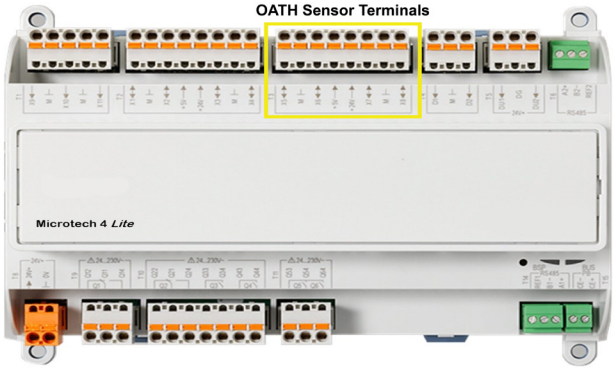
Installation

- All wiring must comply with the National Electric Code (NEC) and local codes. Do NOT run any of this device's wiring in the same conduit as other AC power wiring. Tests show that fluctuating and inaccurate signal levels are possible when AC power wiring is present in the same conduit as the signal lines. If you are experiencing any of these difficulties, please contact your Daikin Applied representative.
- Mount sensor in desired location. This sensor must be field installed between the OA intake and unit mixing box/ economizer outdoor air connection. The location should be selected to provide a typical representation of the outdoor air temperature. Do no place near heat generating equipment, or other features that could affect sensor measurement.
- Drill a 1 inch hole for the probe in the duct and use two number 8 sheet metal screws to attach the sensor to the duct.
- Run minimum 5- conductor wires from the sensor location to the unit. Daikin Applied recommends using shielded 22AWG for all connections. The shield should be earth grounded only at the power source. Larger gauge wire may be required for runs greater than 250′.
- Connect the wires to the sensor as follows:
  - ► White - 0-10VDC Humidly
  - ► Black - Sensor Common / Ground
  - ► Red - 24VDC Power (+24V)
  - ► Yellow (qty 2) - Outdoor Temperature Thermistor

NOTICE

For Sizes 006-050, outdoor air temperature connections (two yellow wires on the sensor) are made directly on the MicroTech 4 Lite controller terminals T7 X-11 and M and the outdoor air humidity and power connections are made directly on the MicroTech 4 Lite controller terminals T8-X4 (Humidity Output), M (Sensor Common/Ground), and +24 (24VDC Power). See Figure 114 for details.

Figure 114: Wiring Terminals for OATH Sensor



Duct Static Pressure Sensor

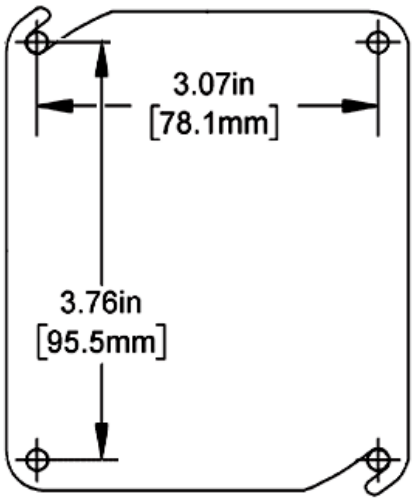
Additional Required Parts:

- (4) #10 x ¾" self-tapping sheet metal screws
- ¼" tubing (1/8" to 3/16" I.D.)
- Duct pressure tap
- Minimum 3-conductor shielded 22AWG wire

Installation

- All wiring must comply with the National Electric Code (NEC) and local codes. Do NOT run any of this device's wiring in the same conduit as other AC power wiring. Tests show that fluctuating and inaccurate signal levels are possible when AC power wiring is present in the same conduit as the signal lines. If you are experiencing any of these difficulties, please contact your Daikin Applied representative.

Figure 115: Drill Holes Mounting Locations



- Use the sensor as a template to locate and mark the mounting holes. See Figure 115.
- Locate the field provided duct pressure tap near the end of a long duct to ensure that all terminal box take-offs along the run have adequate static pressure. The tap should be in a non-turbulent flow area of the duct. Keep it several duct diameters away from take-off points, bends, neckdowns, attenuators, vanes, or other irregularities that may create turbulent air flow.
- Mount sensor on the supply duct with the provided screws near the location selected for the duct pressure. See Figure 116 and Figure 117.

Figure 116: Secure Sensor with Provided Screws

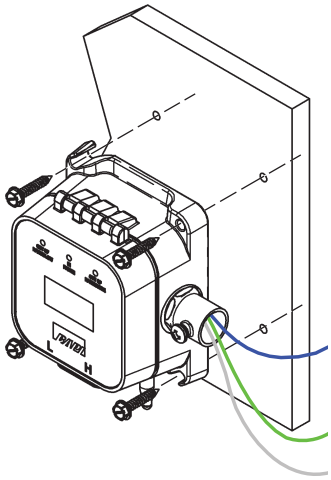
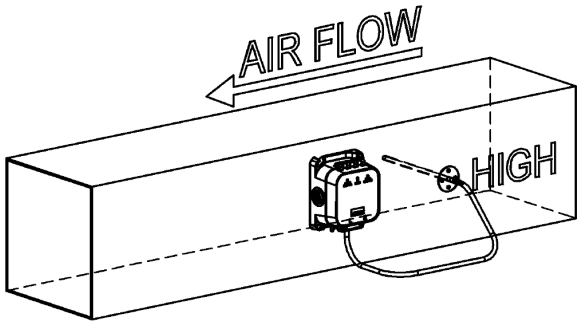
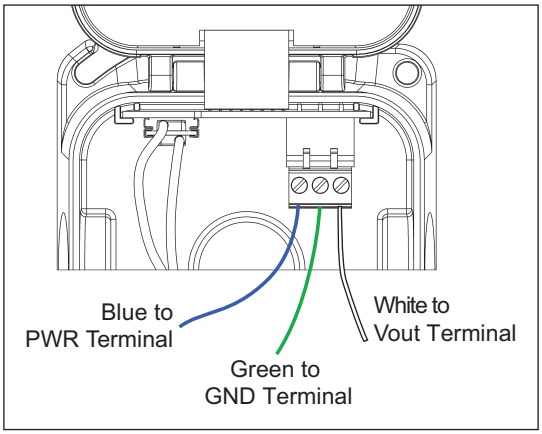


Figure 117: Sensor Location In Supply Duct



- Connect the wires to the sensor as follows (See Figure 118.):
  - ► White to Vout - DSP Input
  - ► Green to GND - Sensor Common/Ground
  - ► Blue to PWR - 24VDC Supply

Figure 118: Connect Wires to Sensor Terminals



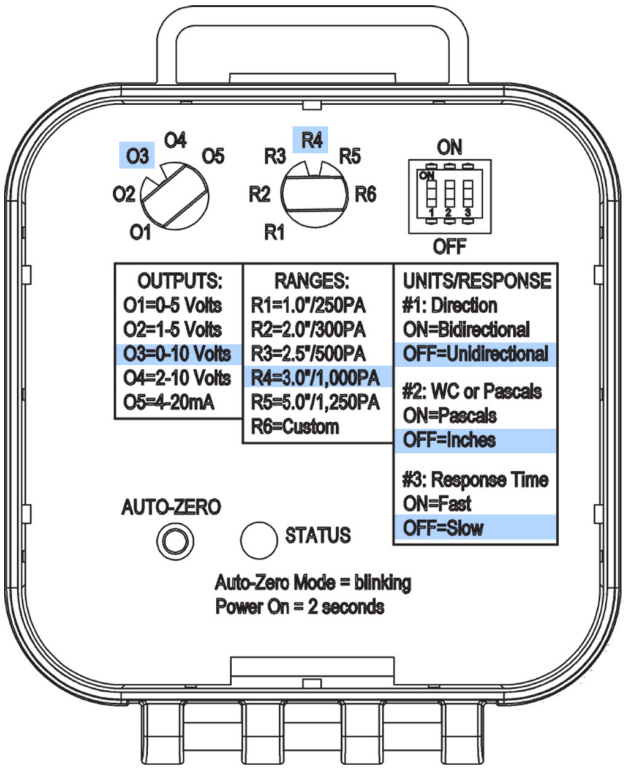
- Run 3-conductor wire from the sensor location to the unit. Daikin Applied recommends using shielded 22AWG for all connections. Larger gauge wire may be required for runs of greater than 250′.
- Connect the field provided tube between the tap and the high pressure (H) port on the sensor.
- The sensor has internal setting options. For proper operation the setting must be as follows: Also refer to Figure 119.
  - ► OUTPUTS = 0-10 Volts
  - ► RANGES = 3.0”/1,000PA
  - ► UNITS/RESPONSE

    #1: Direction = OFF = Unidirectional

    #2: WC or Pascals = OFF=Inches

    #3: Response Time = OFF=Slow

Figure 119: Sensor Operation Settings



Space CO2 Sensor

Installation

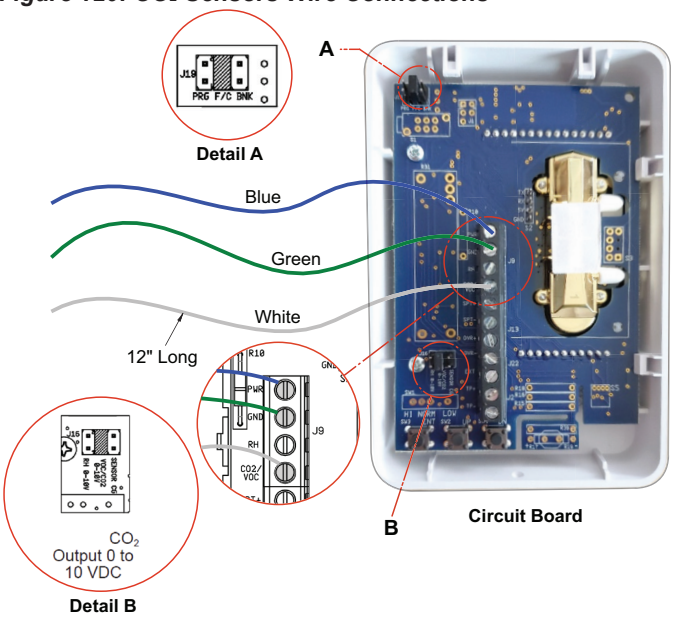
- All wiring must comply with the National Electric Code (NEC) and local codes. Do NOT run any of this device's wiring in the same conduit as other AC power wiring. Tests show that fluctuating and inaccurate signal levels are possible when AC power wiring is present in the same conduit as the signal lines. If you are experiencing any of these difficulties, please contact your Daikin Applied representative.
- Mount sensor in desired location. The location should be selected to provide a typical representation of the space CO2 level. Do no place near heat generating equipment, operable windows, supply/return duct terminals or other features that could affect sensor measurement.
- Run (2) minimum 2- conductor wires from the sensor location to the unit. Daikin Applied recommends using shielded 22AWG for all connections and a separate twisted pair for the power wire connections. The shield should be earth grounded only at the power source. Larger gauge wire may be required for runs greater than 250'.

⚠ CAUTION

The AC power wiring at terminals [PWR] & [GND] should be run in a separate twisted shielded pair to avoid fluctuating and inaccurate signal levels induced into the other sensor signal wires. This sensor AC power can be run in the same conduit with the sensor signal wire as long as it's run in twisted, shielded pair and terminated properly.

- Connect the wires to the sensor as follows:
  - ► Blue to PWR - 24VAC Supply
  - ► Green to GND - Ground
  - ► White to CO_2/VOC - Space CO_2 Input

Figure 120: CO_2 Sensors Wire Connections

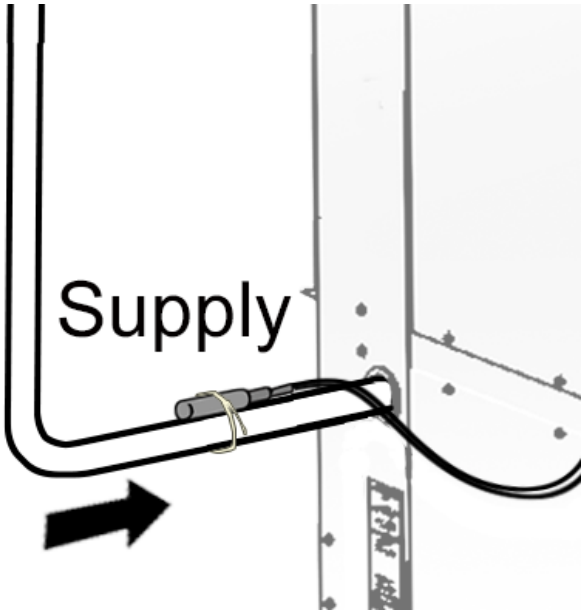


Entering/Leaving Water and Space Temperature Sensor

Mount sensor on water piping as shown in Figure 121 using the zip ties. Wrap the sensor and pipe with the insulation.

Ideally the sensor should be located on the water supply line in an area where there is continuous water flow. This sensor must be attached correctly on 2-Pipe chilled water/hot water changeover units for proper unit operation.

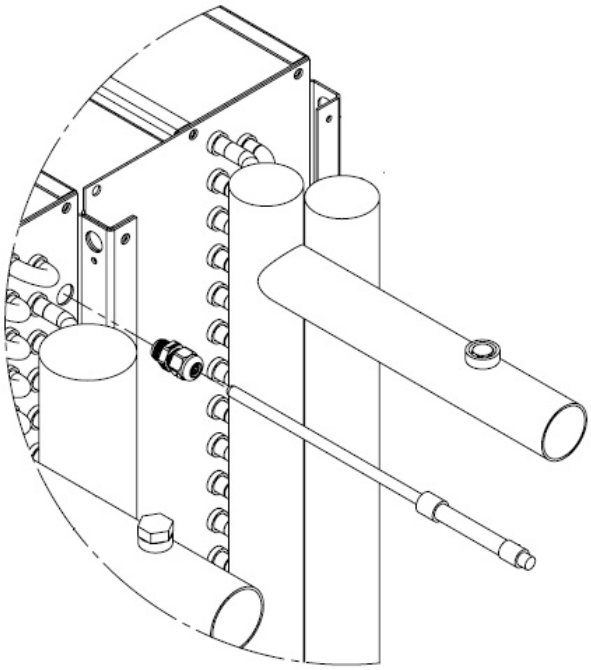
Figure 121: Sensor Mounting Location



Leaving Coil Temperature Sensor

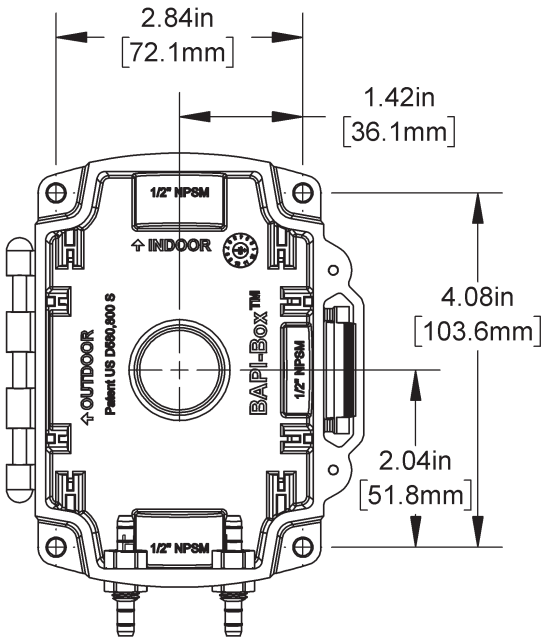
This sensor needs to be installed downstream of the cooling coil but upstream of the heating coil on units with dehumidification that have either modulating cooling valves or 2/4 compressor stages. A 1/2″ hole needs to be field drilled in the end plate to install the included plug for mounting the sensor.

Figure 122: Leaving Coil Temperature Sensor Install



Air Flow Switch

Figure 123: Air Flow Switch Mounting Holes Location



Installation

- Two field provided duct pressure taps will be required to install this sensor. Locate one tap in the ductwork upstream of the fan and the second downstream of the fan.
- Mount sensor on the entering air duct near the location selected for the duct pressure. See Figure 124.
- Connect the field provided tube between the down stream port and the high pressure (H) port on the sensor, and between the up stream tap to the low pressure (L) port on the sensor.
- Run the wires from the sensor location to the unit.
- **For sizes 006-050:**
  - Disconnect the wire at TB12-T6 that runs to TB2 24+.
  - Connect that wire from TB2 24+ to the Normally Open terminal on the sensor.
  - Connect a second wire from the Common terminal on the sensor to TB4-T6.
- **For unit sizes 060-100:**
  - Connect the first wire from the Normally Open terminal on the sensor to TB12-T6.
  - Connect the second wire from the Common terminal on the sensor to TB2-24+.
- After installing the sensor, it is necessary to change the ‘Air Flow Proving=’ configuration setting in the MicroTech unit controller from Uninstalled to Installed. Refer to OM 1357 for details.

Figure 124: Air Flow Switch and Sensing Probe Locations

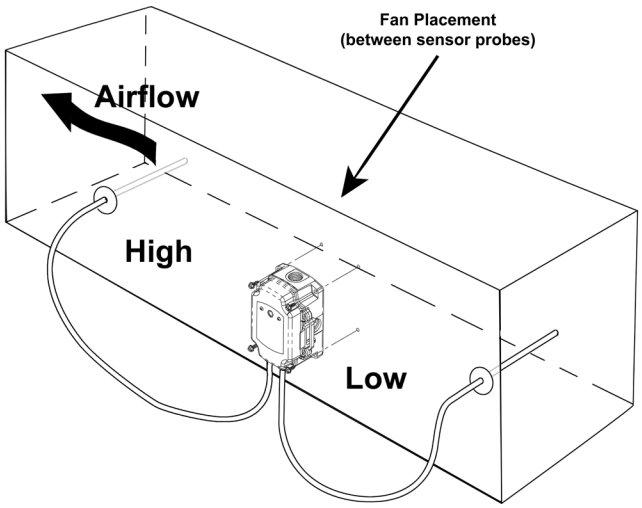
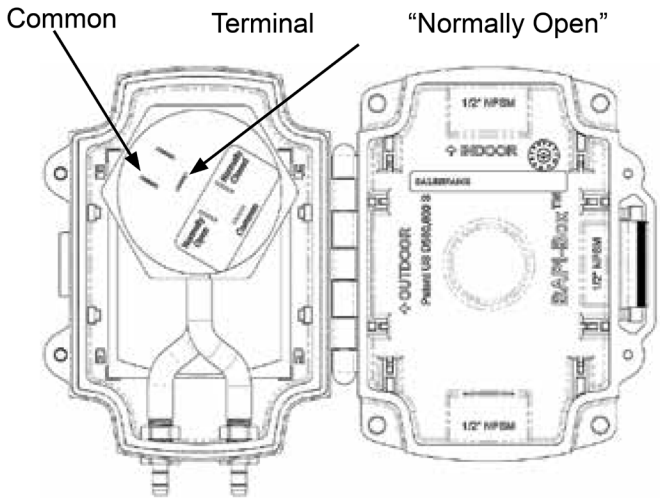


Figure 125: Sensor Terminals



Duct Pressure Taps

Units that the fan will control to a duct static pressure require a reading, which requires that pressure taps be field installed and plumbed back to the pressure sensors in the unit. When required, these sensors will be field installed.

Carefully locate and install the field provided pressure tap. Improperly locating or installing the tap may cause unsatisfactory operation of the building VAV system. Consider the following pressure tap location and installation recommendations. The installation must comply with all applicable local code requirements.

1. Install a tee fitting with a leak-tight removable cap in each tube near the sensor fitting. This facilitates connecting a manometer or pressure gauge if testing is required.
2. Differentiate between the duct pressure (HI) and reference pressure (LO) taps by using different color tubing or by tagging the tubes. Daikin Applied recommends 3/16" I.D. plastic tubing.
3. Locate the duct pressure (HI) tap near the end of a long duct to ensure that all terminal box take-offs along the run have adequate static pressure.
4. Locate the duct pressure tap in a non-turbulent flow area of the duct. Keep it several duct diameters away from take-off points, bends, neckdowns, attenuators, vanes, or other irregularities that may create turbulent air flow.
5. Use a static pressure tip or the bare end of the plastic tubing for the duct tap. (If the duct is lined inside, use a static pressure tip device.)
6. Install the pressure tap so that it senses only static pressure (not velocity pressure). If a bare tube end is used, it must be smooth, square (not cut at an angle) and perpendicular to the airstream.
7. Locate the reference pressure (LO) tap somewhere near the duct pressure tap within the building.
8. If the reference pressure tap is not connected to the sensor, unsatisfactory operation will result.

Discharge Air Temperature Sensor

The discharge air temperature sensor should be installed in the supply air duct, downstream of the PreciseLine unit. Locate the sensor at a location that approximates the average duct temperature. To avoid the affects of radiation, the sensor should not be in direct line of sight with the electric heat elements. Generally, locate the sensor 5-10′ from the unit discharge and after one duct turn to allow for air mixing. Do not install downstream of VAV boxes or other dampers.

1. Drill a 3/8″ diameter hole in the duct, insert the temperature probe and secure plate to duct using 2-#8 screws.
2. Be sure to apply gasket or sealant to back of mounting plate prior to screwing the plate to the duct to create an air tight seal.

Figure 126: Temperature Sensor Installation

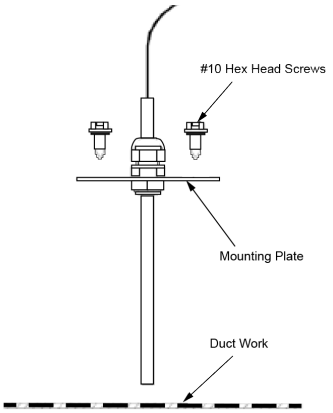
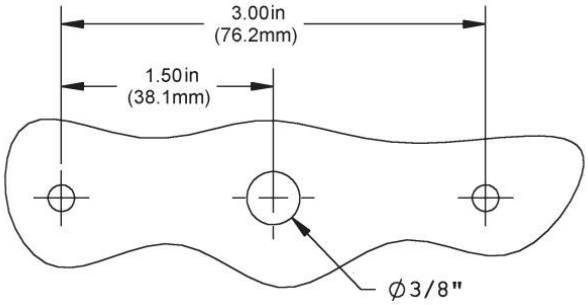


Figure 127: Temperature Sensor Mounting Measurements



MicroTech 4 Lite Portable Interface

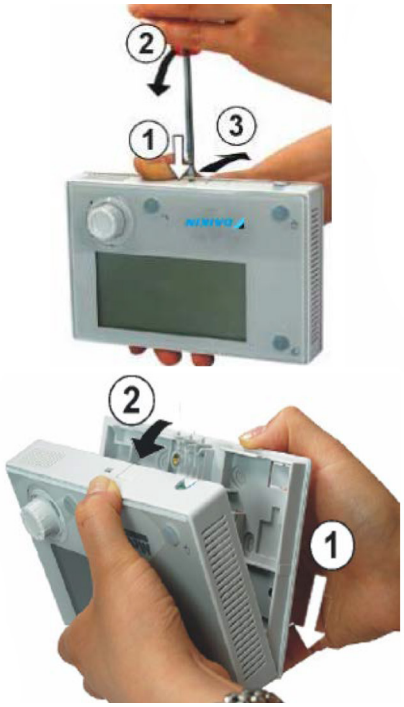
⚠ WARNING

Electric shock hazard. Can cause death, personal injury, or equipment damage.

This equipment must be properly grounded. Connections and service to the MicroTech unit controller must be performed only by personnel knowledgeable in the operation of the equipment being controlled.

1. Remove plastic cover (Figure 128).
2. Mount the portable interface. The portable interface can be either panel mounted or wall mounted.

Figure 128: Removing the Cover



Direct Connection

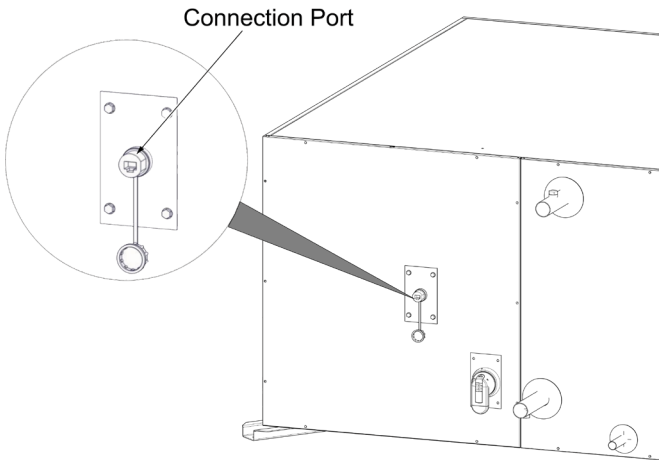
The portable interface can be wired directly to a single MicroTech unit controller over a standard RJ45 (Ethernet) connection.

1. Locate the external RJ45 plug shown in Figure 129.
2. Follow Figure 129 for connection details. Note the distance limitations provided.
3. Cycle power to the unit(s) once the wiring of the portable interface is complete.

Interface Details for RJ45 Connector:

- Bus connection - RJ45 Interface
- Max length of shielded cable: 164 ft (50 m)
- Max length of unshielded cable: 9.8 ft (3 m)
- Cable type: standard Ethernet cable

Figure 129: Connection Port (Size 030 Shown)



Using the Portable Interface

Hardware Features

The portable interface keypad/display consists of an 8-line by 30 character display, a “push and roll” navigation wheel, and three buttons: Alarm, Home (Menu), and Back (Figure 130).

- Turn the navigation wheel clockwise (right) or counterclockwise (left) to navigate between lines on a screen and also to increase and decrease changeable values when editing. Press down on the wheel to use it as an Enter button.
- Press the Back button to display the previous page.
- Press the Home button to return to the main screen from the current page.
- Press the Alarm button to view the Alarm Lists menu.

Keypad/Display Features

The first line on each page includes the page title and the line number to which the cursor is currently “pointing.” The line numbers are X/Y to indicate line number X of a total of Y lines for that page. The left most position of the title line includes an “up” arrow to indicate there are pages “above” the currently displayed items, a “down” arrow to indicate there are pages “below” the currently displayed items or an “up/down” arrow to indicate there are pages “above and below” the currently displayed page. Each line on a page can contain status-only information or include changeable data fields. When a line contains status-only information and the cursor is on that line, all but the value field of that line is highlighted meaning the text is white with a black box around it. When the line contains a changeable value and the cursor is at that line, the entire line is highlighted.

Each line on a page may also be defined as a “jump” line, meaning pushing the navigation wheel will cause a “jump” to a new page. An arrow is displayed to the far right of the line to indicate it is a “jump” line and the entire line is highlighted when the cursor is on that line.

NOTICE

Only menus and items that are applicable to the specific unit configuration are displayed.

Figure 130: Portable Interface Main Features

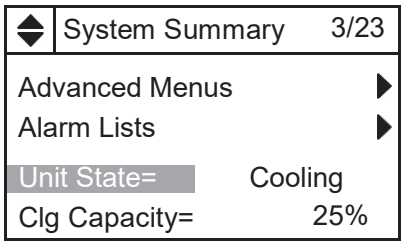
Keypad/Display Functions

The keypad/display Information is organized into five main menus or menus groups; Alarm Lists Menu, System Summary Menu, Standard Menus, Extended Menus and Advance Menus.

NOTICE

Only menus and items that are applicable to the specific unit configuration are displayed.

Figure 131: Keypad Controls



The Alarm Lists Menu includes active alarm and alarm log information. The System Summary Menu includes status information indicating the current operating condition of the unit. Standard Menus include basic menus and items required to setup the unit for general operation. These include such things as control mode, occupancy mode and heating and cooling setpoints. Extended Menus include more advanced items for “tuning” unit operation such as PI loop parameters and time delays. Advanced Menus include the most advanced items such as “unit configuration” parameters and service related parameters. These generally do not need changing or accessing unless there is a fundamental change to or a problem with the unit operation.

Passwords

When the keypad/display is first accessed, the Home Key is pressed, the Back Key is pressed multiple times, or if the keypad/display has been idle for the Password Timeout timer (default 10 minutes), the display will show a “main” page where the user can enter a password or continue without entering a password.

Various menu functions are accessible or inaccessible, depending on the access level of the user, and the password they enter, if any. There are four access levels, including no password, Level 2, Level 4, and Level 6, with Level 2 having the highest level of access. Without entering a password, the user has access only to basic status menu items. Entering the Level 6 password (5321) allows access to the Alarm Lists Menu, Quick Menu, and the View Status Unit Menus group. Entering the Level 4 password (2526) allows similar access as Level 6 with the addition of the Commission Unit Menu, Manual Control, and Service Menu groups. Entering the Level 2 password (6363) allows similar access as Level 4 with the addition of the Unit Configuration Menu. To access the advanced menu, you need to enter a level 2 password and set the enable advanced menu flag to Yes in the service menu.

Continuing without entering one of these three levels allows access only to the Alarm Lists Menu and the System Summary Menu.

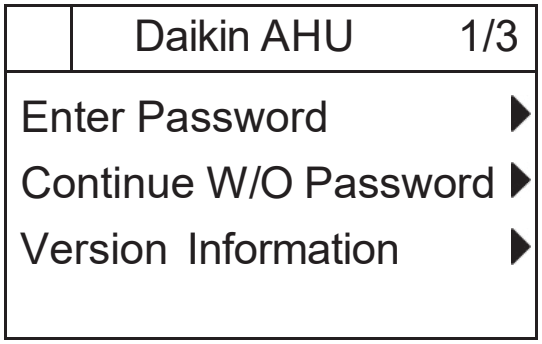
NOTICE
Alarms can be acknowledged without entering a password.

The password field initially has a value **** where each * represents an adjustable field. These values can be changed by entering the Edit Mode.

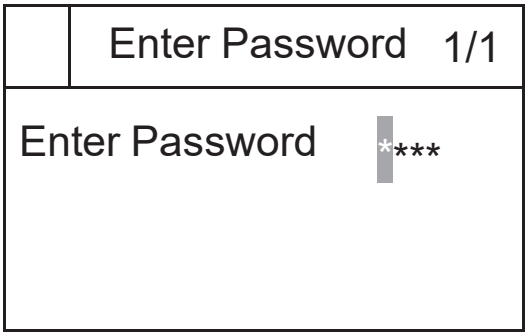
Entering an invalid password has the same effect as continuing without entering a password.

Once a valid password has been entered, the controller allows further changes and access without requiring the user to enter a password until either the password timer expires or a different password is entered. The default value for this password timer is 10 minutes. It is changeable from 3 to 30 minutes via the Timer Settings menu in the Extended Menus.

Figure 132: Password Main Page



Password Entry Page



Navigation Mode

In the Navigation Mode, when a line on a page contains no editable fields all but the value field of that line is highlighted meaning the text is white with a black box around it. When the line contains an editable value field the entire line is inverted when the cursor is pointing to that line.

When the navigation wheel is turned clockwise, the cursor moves to the next line (down) on the page. When the wheel is turned counter-clockwise the cursor moves to the previous line (up) on the page. The faster the wheel is turned the faster the cursor moves.

When the Back Button is pressed the display reverts back to the previously displayed page. If the Back button is repeatedly pressed the display continues to revert one page back along the current navigation path until the “main menu” is reached.

When the Menu (Home) Button is pressed the display reverts to the “main page.”

When the Alarm Button is depressed, the Alarm Lists menu is displayed.

Edit Mode

The Editing Mode is entered by pressing the navigation wheel while the cursor is pointing to a line containing an editable field. Once in the edit mode pressing the wheel again causes the editable field to be highlighted. Turning the wheel clockwise while the editable field is highlighted causes the value to be increased. Turning the wheel counter-clockwise while the editable field is highlighted causes the value to be decreased.

The faster the wheel is turned the faster the value is increased or decreased. Pressing the wheel again cause the new value to be saved and the keypad/display to leave the edit mode and return to the navigation mode.

Accessory Dimensions

Figure 133: Integrated Thermostat

All figures in mm

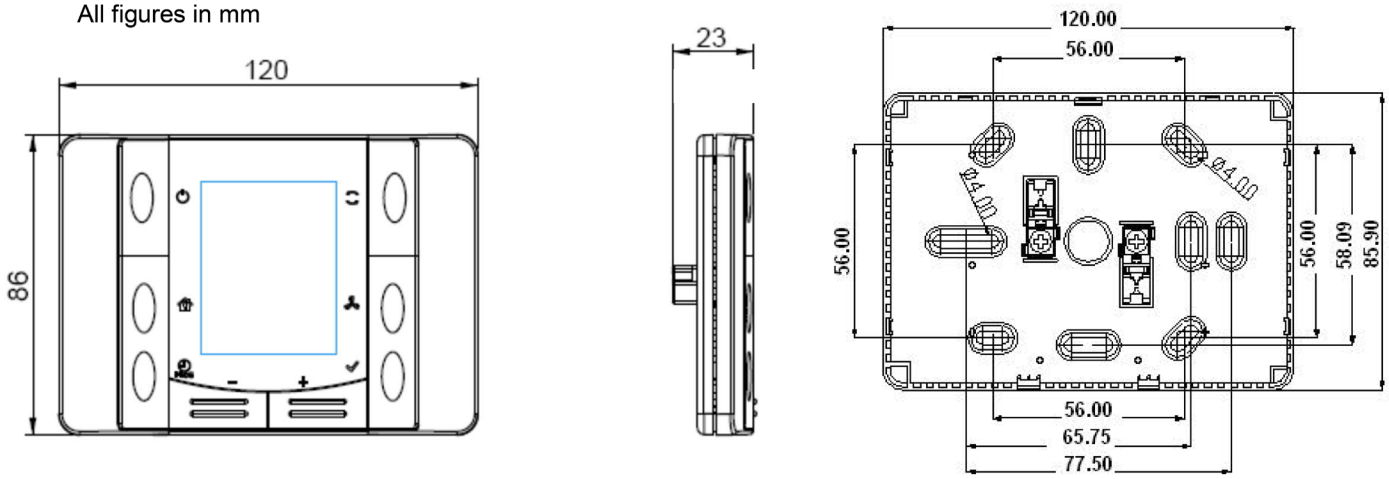
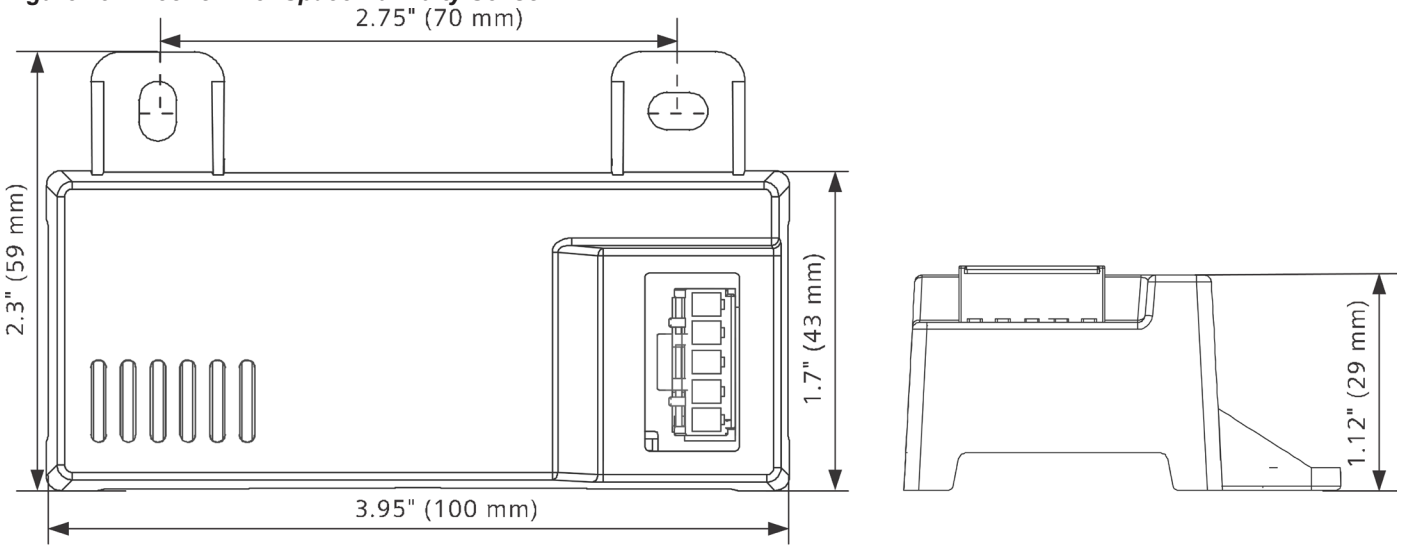


Figure 134: Economizer Space Humidity Sensor



Dimensions in inch (mm)

MicroTech 4 Lite Unit Operation

Preparing Unit for Operation

Power-up

There is a 115 VAC control circuit transformer and several 24VAC circuit transformers within the unit to control the various loads and sensors within the unit. See as-built schematics that are sent with the unit to familiarize yourself with the various features and control circuits.

NOTICE

Unit ships with factory installed jumpers in the emergency stop circuit between terminals TB12-T10 and TB2-Ground on size 006-050 and TB2-299 and TB2-236 on sizes 060-100.

Fan Only

The unit enters the Fan Only operating state after the power up and anytime there is no requirement for heating, cooling, or dehumidification. Once entering the Fan Only state of operation the unit will then, based on sensor inputs transition into any of the remaining states of operation - heating, cooling, economizer, econo-cooling, or dehumidification.

Fan Operation

Within 30 seconds (default configurable) on units configured for an airflow status switch, the controller expects to get feedback from the switch that the fans are operating properly. If MCB-the controller does receive that feedback, the controller assumes the fans did not start. It then shuts down the unit and generates an alarm. Units configured for DPS control, the supply fan(s) is modulated to maintain the duct static pressure setpoint.

Two-Positions Damper Operation

On units equipped with a two-position outdoor air damper, the outdoor air damper will be commanded open any time the fan is running in the occupied state.

Economizer Operation

If the unit is equipped with a 0-100% modulating economizer and the conditions are suitable for free cooling, the unit attempts to satisfy the cooling load by using the outdoor air economizer before using mechanical cooling.

The transition to economizer operation will occur if all the following are true:

- The control temperature rises above the occupied cooling setpoint by more than half the occupied cooling deadband.
- The economizer operation is not disabled.

Compressor Operation

Single Compressor

In this configuration a single output is used for compressor control. When mechanical cooling is required, it will be energized. When mechanical cooling is no longer required, it will be de-energized.

Two Compressors

When cooling is required, the Compressor 1 output will be energized. When mechanical cooling is no longer required, it will be de-energized. If Compressor Stages is 2, the compressor 2 output will be energized when the control temperature reaches the active cooling setpoint plus the compressor cooling differential. If the Compressor 2 output is energized and the control temperature falls below the active cooling setpoint + Compressor Cooling Differential – Unoccupied Off Differential, then Compressor 2 output will de-energize.

Four Compressors

When Compressor Stages is 4, the controller will use a PI control to stage the 4 compressor stages.

If the Supply Fan Control is ‘Constant Speed’, the PI loop will stage to control to space temperature. If the Supply Fan Control is ‘Duct Static Pressure’ or ‘Single Zone VAV’, the PI loop will stage to control discharge air temperature to the Cooling Discharge Air Temperature Setpoint.

The compressor outputs Compressor 1, Compressor 2, Compressor 3, and Compressor 4 each represent 25% of the heating capacity.

- When cooling output is >0%, Compressor 1 will be energized and it will be de-energized when the cooling output is 0%.
- When cooling output is >25% Compressor 2 will be energized and it will be de-energized when the cooling output is 20%.
- When cooling output is >50% Compressor 3 will be energized and it will be de-energized when the cooling output is 45%.
- When cooling output is >75% Compressor 4 will be energized and it will be de-energized when the cooling output is 70%.

Compressor Staging

For all compressor configurations, when mechanical cooling is no longer required, all outputs will be de-energized subject to minimum on times. Additionally, when a stage of cooling is de-energized, the interstage timer will start and the next stage of cooling will not be initiated or deactivated until the interstage timer expires.

Minimum Compressor On/Off Time

When a compressor is turned off, it must remain off for the duration of the Compressor Minimum Off Time. When a compressor is turned on, it must remain on for the duration of the Compressor Minimum On Time. After initial power up of the controller, clearing of a fault, or transition from unoccupied, all compressors must remain off for the duration of the Compressor Minimum Off Time plus a randomly (at each power up) generated value of up to 60 additional seconds. This prevents multiple units from turning on their compressors at the same time when power is applied. If Compressor Minimum On Time or Compressor Minimum Off Time is '0' then that functionality is disabled.

Lead Compressor Selection

If Lead Compressor Configuration is Run Hours, when a compressor is needed to satisfy the cooling requirement, the controller will turn on the compressor with the lowest total runtime. If Lead Compressor Configuration is Compressor 1, when a compressor is needed to satisfy the cooling requirement, the controller will turn on the compressors in numerical order. Compressors will be turned off in the reverse order that they were turned on.

VAV Box Signal/Fan Operation Signal

Digital Output #6 (MCB-T4-DO6) will be energized any time the fan is running.

Dehumidification Operation

In dehumidification mode, mechanical cooling is used to cool air low enough to lower the moisture content of the air and then reheat it to comfort conditions. Dehumidification is only available on units with a reheat coil that are equipped with space humidity, discharge air temperature, and (when necessary) leaving coil temperature sensors.

Passive Dehumidification

Passive dehumidification can be field-enabled on constant air volume units with space humidity sensors, but without reheat coils. Passive dehumidification can be used to reduce the supply fan speed when the unit is cooling and the space humidity is above the dehumidification setpoint.

Dehumidification Initiation

An analog sensor is mounted in the space to sense Relative Humidity. Active dehumidification is disabled when the unit is in the cooling or heating state. Passive dehumidification is only available when the unit is in the cooling state. When dehumidification is enabled, operation is initiated when Humidity Control is set to either Relative Humidity or Dew Point and that value rises above the appropriate setpoint by more than half its deadband.

Dehumidification Termination

Dehumidification is terminated if the selected variable, Relative Humidity or Dew Point, drops below the appropriate humidity setpoint by more than half its deadband plus the appropriate differential. Dehumidification is also terminated if cooling is disabled for any reason or the unit enters either the Heating or Cooling state.

Chilled/Hot/Changeover Water Valve Operation

Two-Position On/Off Valves

Appropriate valve will be open when cooling or heating is required and closed when it is not.

Modulating Valves

When cooling or heating is required, valves will modulate open or closed to meet demand. For Single Zone VAV and DSP fan control, the valve will modulate to maintain a discharge air temperature. For constant speed fan control, the valve will modulate to maintain a control temperature (space, return, or an average of the two).

Valve Action

Valve control is factory configured to be direct or reverse acting based on how they were ordered. If necessary, this can be configured in the field using the controller's operation manual.

Entering Water Temperature Sampling

Units with a changeover chilled/hot water valve come with an entering water temperature sensor (field installed for certain applications) required to ensure that the water temperature is adequate for the appropriate mode of operation. On a call for heating or cooling, the valve will be opened to a minimum position and the water temperature monitored. If the temperature is deemed to be adequate within 2 minutes, normal operation will occur. If the temperature is deemed to be inadequate, the mode of operation (heating/cooling) will be locked out for 2 hours.

Electric Heat Operation

Single Stage Electric Heat

Electric heat will be enabled when heating is required and off when it is not.

4 Stage/SCR Electric Heat

When heating is required, the heating output will stage/modulate on/off to meet demand. For Single Zone VAV and DSP fan control, the electric heat output will modulate to maintain a discharge air temperature. For Constant Speed fan control, the electric heat output will modulate to maintain a control temperature (space, return, or an average of the two).

Servicing High Voltage Control Panel Components

⚠ DANGER

LOCKOUT/TAGOUT all power sources prior to servicing the unit. Hazardous voltage may cause serious injury, death, and property damage. Disconnect electric power before servicing equipment. More than one disconnect may be required to de-energize the unit.

Disconnect all electric power to the unit when servicing control panel components. Unless power is disconnected to the unit, the components remain energized. Always inspect units for multiple disconnects to ensure all power is removed from the control panel and its components before servicing.

Before Start-up

1. Verify that the unit is completely and properly installed with ductwork connected.
2. Verify that all construction debris is removed, and that the filters are clean.
3. Verify that all electrical work is complete and properly terminated.
4. Verify that all electrical connections in the unit control panel and compressor terminal box are tight, and that the proper voltage is connected.
5. Verify all nameplate electrical data is compatible with the power supply.
6. Verify the phase voltage imbalance is no greater than +/- 3%.
7. Manually rotate all fans and verify that they rotate freely.
8. Verify all fasteners on the fan assemblies are still tight.
9. Verify that the evaporator condensate drain trap is installed and that the drain pan is level.
10. If unit is curb mounted, verify that the curb is properly flashed to prevent water leakage.
11. Before attempting to operate the unit, review the control layout description to become familiar with the control locations.
12. Review the equipment and service literature, the sequences of operation, and the wiring diagrams to become familiar with the functions and purposes of the controls and devices.
13. Determine which optional controls are included with the unit.

Initial Manual Mode Start-Up

Initial Start-up should be performed in manual control mode before proceeding to the cooling/heating start up.

Power Up

1. Close the unit disconnect switch. Power should now be supplied to the control panel, and the LEDs on MCB1 should follow the normal startup sequence.

Supply Fan Start-up

1. Verify all duct and unit mounted isolation dampers are open.
2. Place the unit in the Off Mode in order to initiate the Manual Control Mode through the keypad menu. **Main Menu\Manual Control\Ctrl Mode = Off**
3. Place the unit into Manual Control Mode through the keypad menu **Main Menu\Manual Control\Manual Ctrl = Enabled**
4. Activate the fan through the keypad menu **Main Menu\ Manual Control\SAF Cap Cmd = 40%**
    a. Check Fan rotation for proper rotational direction
4. Speed the fan up through the keypad menu **Main Menu\ Manual Control\SAF Cap Cmd = 100%**
    a. Check the manual motor protectors or that the circuit breakers have not tripped.
    b. Check the phase monitor.

OA Damper Start-up

1. Open the outdoor air damper through the keypad menu: **Main Menu\Manual Control\OA Damper Pos=30%.**
    a. Verify that the OA damper position moved and the Return air damper (if present) also moved.
    b. Leave OA damper Open for next step

Exhaust Fan Start-up

1. Verify all duct and unit mounted isolation dampers are open.
2. Activate the fan through the keypad menu **Main Menu\ Manual Control\Exh Fan Cmd = 40%**
    a. Check fan rotation for proper rotational direction
3. Speed the fan up through the keypad menu **Main Menu\ Manual Control\Exh Fan Cap Cmd = 100%**
    a. Check the manual motor protectors or that the circuit breakers have not tripped.
    b. Check the phase monitor.

Leaving Manual Control when complete through the keypad menu: **Main Menu\Manual Control\Manual Ctrl = Normal**

Cooling/Heating Start Up

NOTICE

Operational Override using the Manual Ctrl Type commands should only be used by trained service technicians as several timing functions are reduced to speed system check out. The Manual Ctrl Type commands should only be used for a short period of time for testing of the unit's operation by a trained service technician. The Manual Ctrl Type should be returned to Normal to allow for normal unit operation. If Manual Ctrl Type is left as something other than Normal after system check out, the unit may be damaged. If no modifications have been made to the controller for 30 minutes, the Manual Ctrl Type will revert to Normal When in Operational Override, the modified time values listed in Table 103 will be used.

Table 103: Operational Override Time Values

Control Parameter	Modified Time
Duct Static Pressure Control Delay	5 Seconds
Compressor Minimum On Time	6 Seconds
Compressor Minimum Off Time	6 Seconds
Condensate Overflow Alarm Delay	2 Seconds
Cooling Interstage Time	6 Seconds
Heating Interstage Time	6 Seconds

Economizer/OA Damper and Cooling Start-up

1. Verify all duct and unit mounted isolation dampers are open.
2. Place the unit in the Off mode in order to initiate the Manual Control Mode through the keypad menu: **Main Menu\ Manual Control\Ctrl Mode = Off**
3. Place the unit into Override Cooling Mode through the keypad menu: **Main Menu\Manual Control\Manual Ctrl Type = Cooling**
    a. The fan will activate
    b. If present, the economizer/OA damper will open
    c. If present, the chilled water valves will open
    d. If present all compressor outputs will stage on

Alternatively, individual outputs can be commanded to on using the Output Override functionality. See MicroTech 4 Lite Operations Manual for more information.

Heating Startup

1. Verify all duct and unit mounted isolation dampers are open.
2. Place the unit in the Off mode in order to initiate the Manual Control Mode through the keypad menu: **Main Menu\ Manual Control\Ctrl Mode = Off**
3. Place the unit into Override Cooling Mode through the keypad menu: **Main Menu\Manual Control\Manual Ctrl Type = Heating**
    a. The fan will activate
    b. If present, the hot water valves will open
    c. If present electric heat outputs will stage on

Alternatively individual outputs can be commanded on using the Output Override functionality. See the MicroTech 4 Lite Operations Manual for more information.

Setup for Normal Operation

When all start-up procedures are completed, set the controls and program the MicroTech unit controller for normal operation. Use the following list as a guide; some items may not apply to your unit.

1. Set the heating and cooling parameters as required for normal unit operation.
    a. **Main Menu\Commission Unit\Unit Set-Up\Ctrl Temp Scr = Space, Return, Average** based on application needs.
    b. **Main Menu\Commission Unit\Cooling Set-Up\Occ Clg Spt** & **DAT Clg Spt**.
    c. **Main Menu\Commissioning Unit\Heating Set-Up\Occ Htg Spt** & **DAT Htg Spt.**
2. Set the low ambient compressor lockout setpoint as required in menu, **Main Menu\Commission Unit\Cooling Set-up\Clg Lo Oat Lk =**. Do not set it below 50°F (10°C) unless the unit is equipped for low ambient operation.
3. Set the compressor lead/lag function as desired using keypad menu **Main Menu\Advanced Menus\Cooling Set-up\ Lead Compressor**
4. Set the duct static pressure control parameters as required in keypad menu **Main Menu\Quick Menu\ SAF DSP Spt =___ in.** based on application and unit configuration.
5. Set the EF Control Parameters based on the application
    a. If EF Control = Tracking, then set the fan tracking parameters as required in keypad menu. **Main Menu\ Commission Unit\EF Set-up\Min EF Cap, Max EF Cap**
    b. If **Main Menu\ Commission Unit\EF Set-up\EF Ctrl = Constant**, Set the constant exhaust fan speed as required in keypad menu location **Main Menu\ Advanced Menus\EF Set-Up\EF Const Speed Setpt= %** based application and unit configuration.
8. Set the Outside air damper and economizer control parameters as required in keypad menu **Main Menu\ Commission Unit\Econo Set-Up**
    a. Set the OAD Min and OAD Max positions
    b. Set the OAD Out Scaling based on application and unit configuration
    c. Set the Econo Strategy based on application and unit configuration
    d. Set the Econo OAT Setpt, Temp Diff Setpt, Out Enth Setpt, or Enth Diff Setpt based on application and unit configuration
    e. If the unit is performance DCV (Demand Control Ventilation), go to: **Main Menu\Commission Unit\ C02 Set-Up**. Set the Min OA CO2 Spt = lower threshold of CO2 allowed and Max OA CO2 Spt = upper threshold of CO2 allowed.
9. Set the control timers as required in keypad menu **Main Menu\Commission Unit\Timer Settings.**
    a. Set the date and time in keypad menu **Set-up\ Service\Time\Date\.**
    b. Set the operating schedule as required using keypad menus. **Main Menu\ViewStatus\Date\ Time and Date\ Time\Schedules.**

NOTICE

When used with a Building Automation System, these settings may need to be kept at the default of no schedule.

Maintaining Control Parameter Records

Daikin Applied recommends that the MicroTech unit controller's setpoints and parameters be recorded and saved for future reference. If the Microprocessor Control Board requires replacement, this record facilitates entering the unit's proper data.

Example Wiring Diagrams

Figure 135: 3 Phase Power, SCR Electric Heat, No Valve, Modulating Damper, VFD Fan

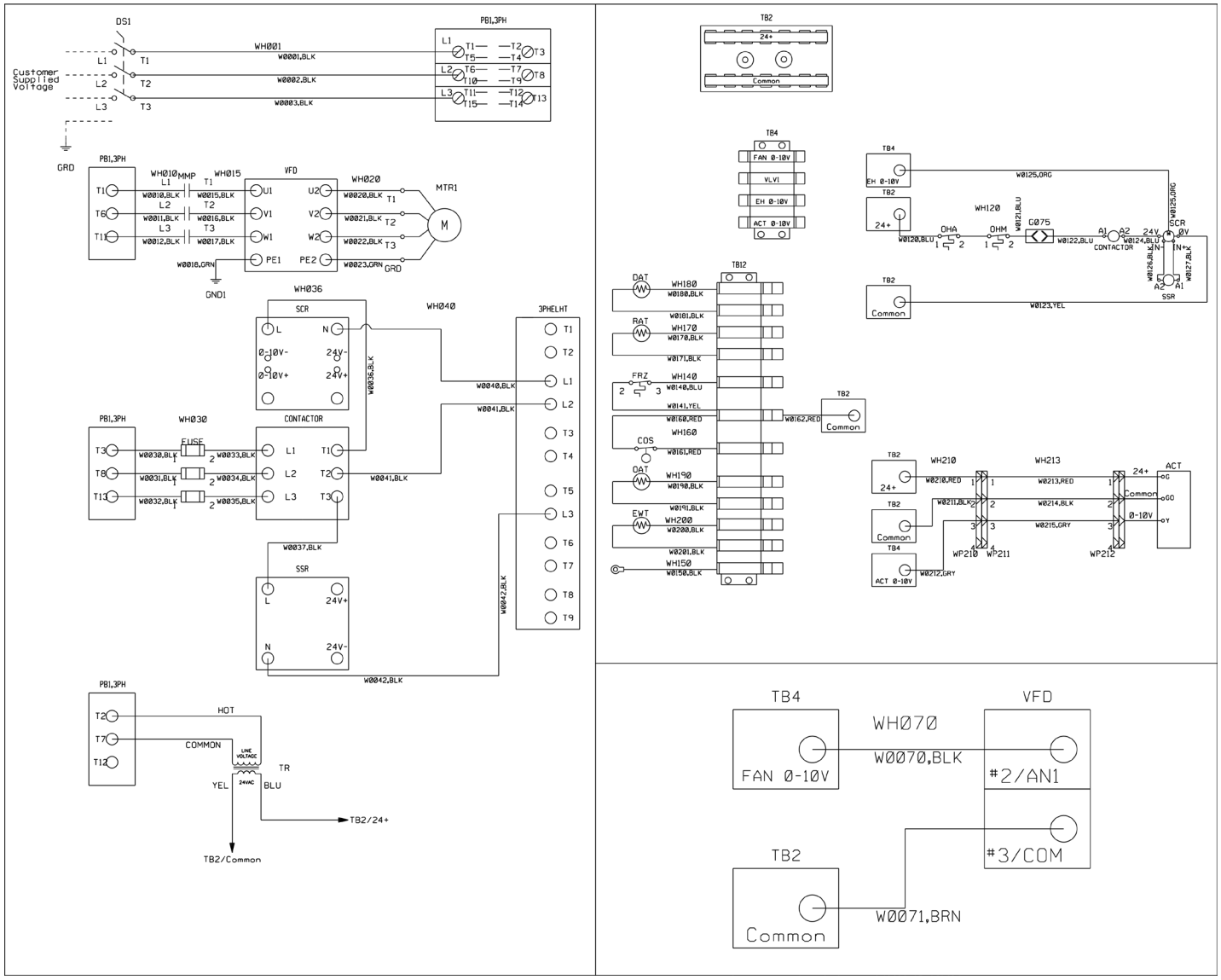


Figure 136: 1 Phase Power, SCR Electric Heat, Modulating Valve, Modulating Damper, Modulating Fan

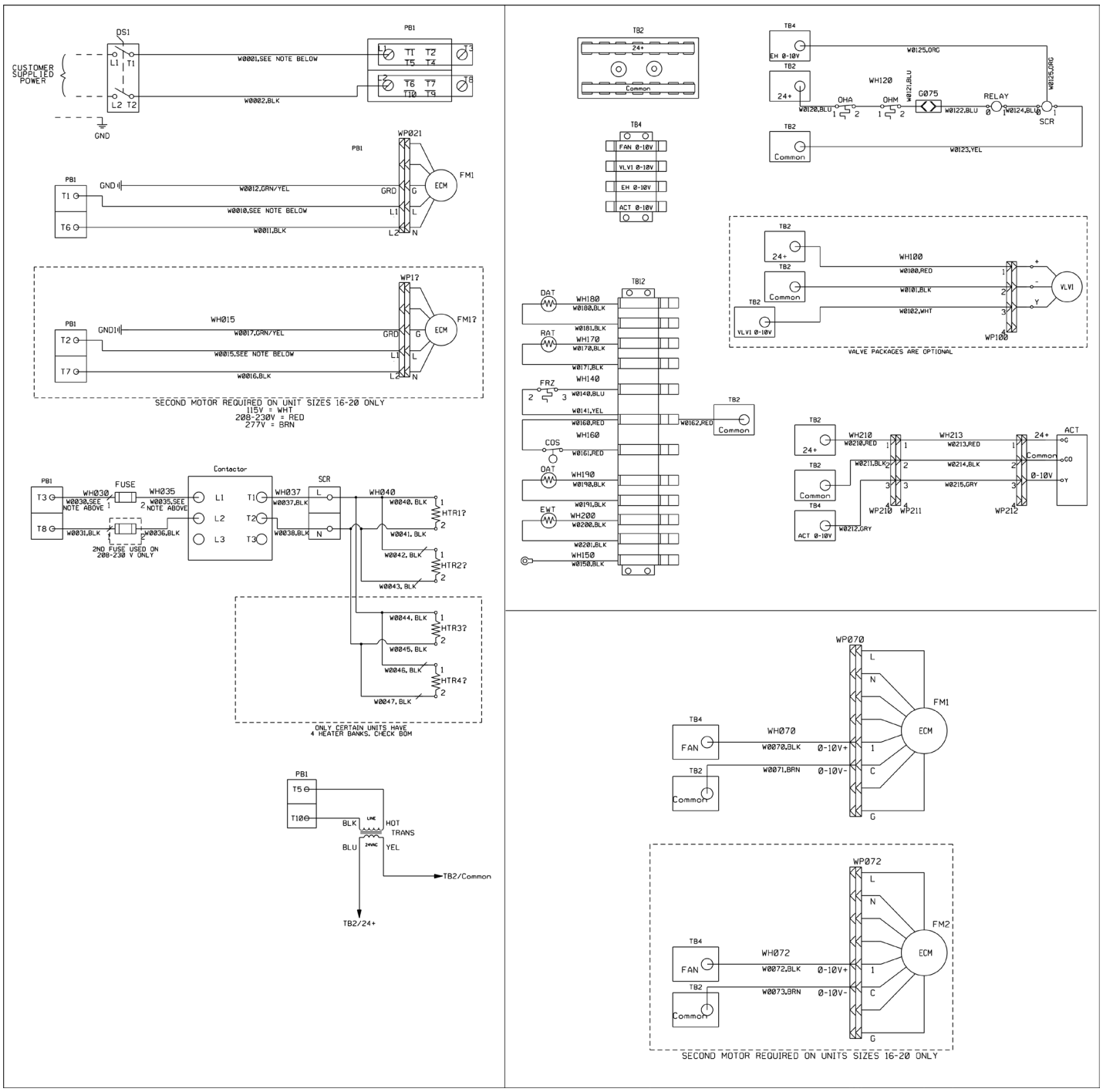


Figure 137: 1 Phase Power, On-Off Electric Heat, On-Off Valve, On-Off Damper, 3-Speed Fan

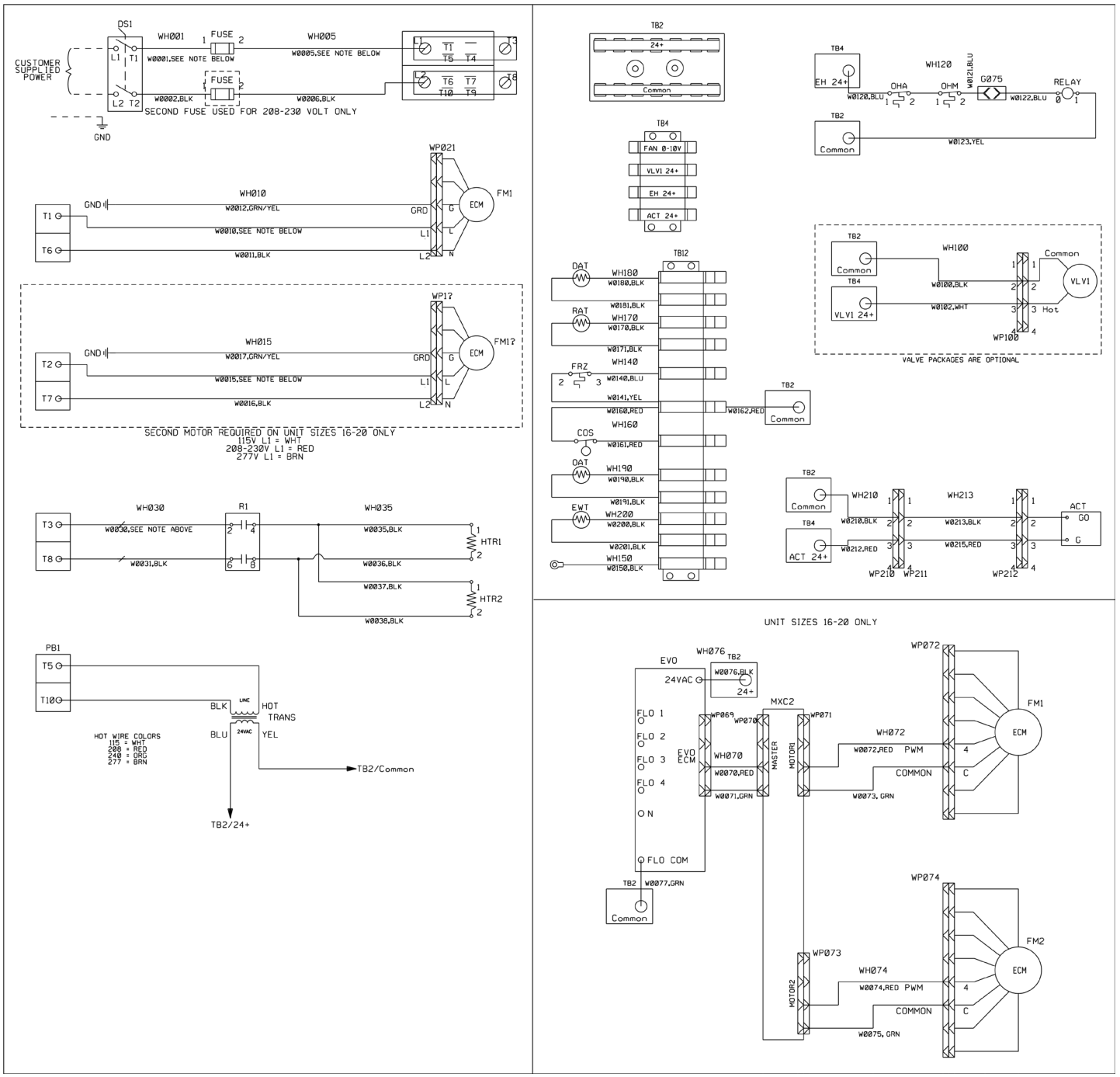


Figure 138: 3-Phase Power, Welded Aluminum Airfoil Plenum Fan, On-Off Electric Heat, On/Off Damper, Fused

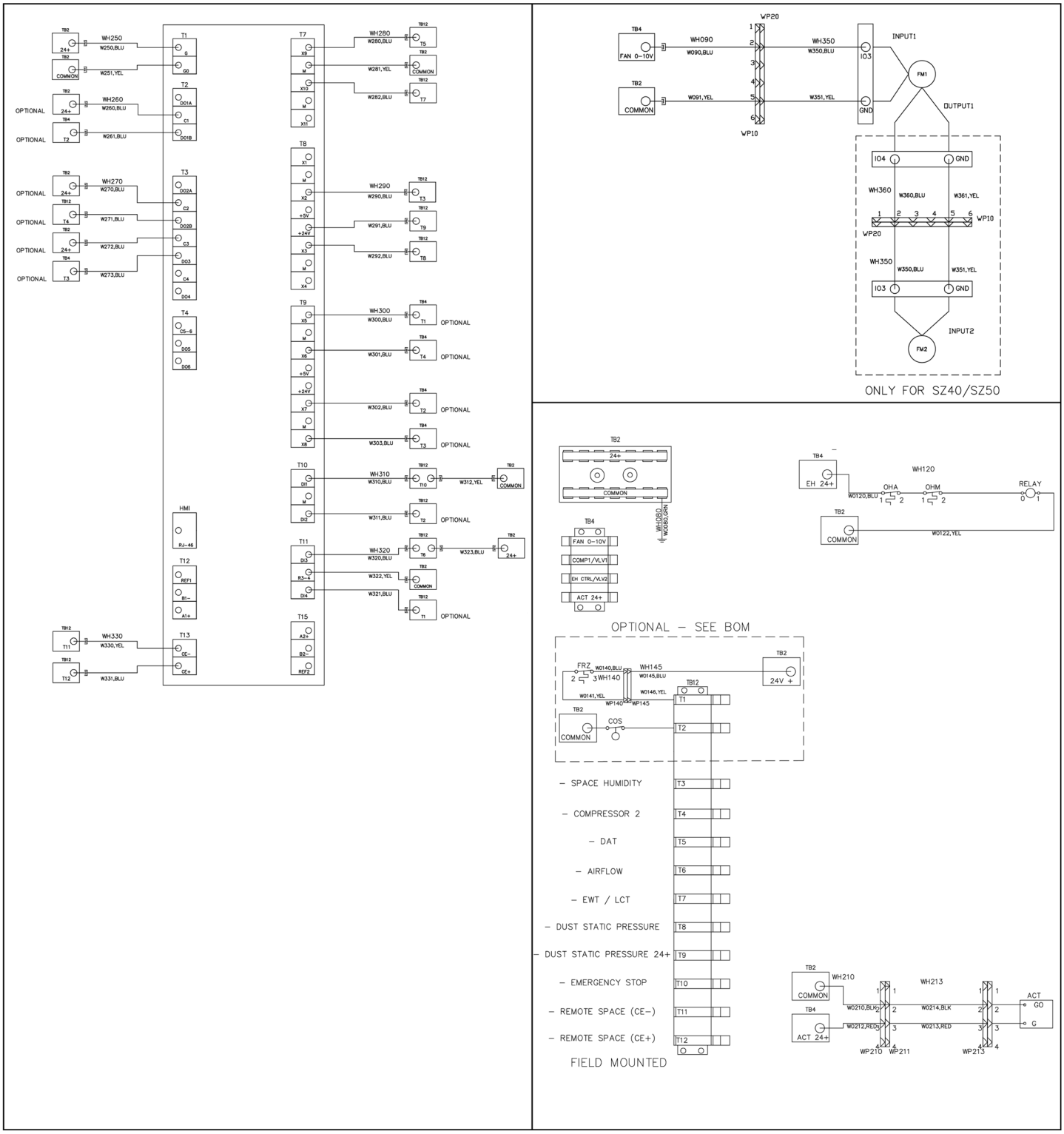


Figure 139: MicroTech Unit Controller for Sizes 006-050

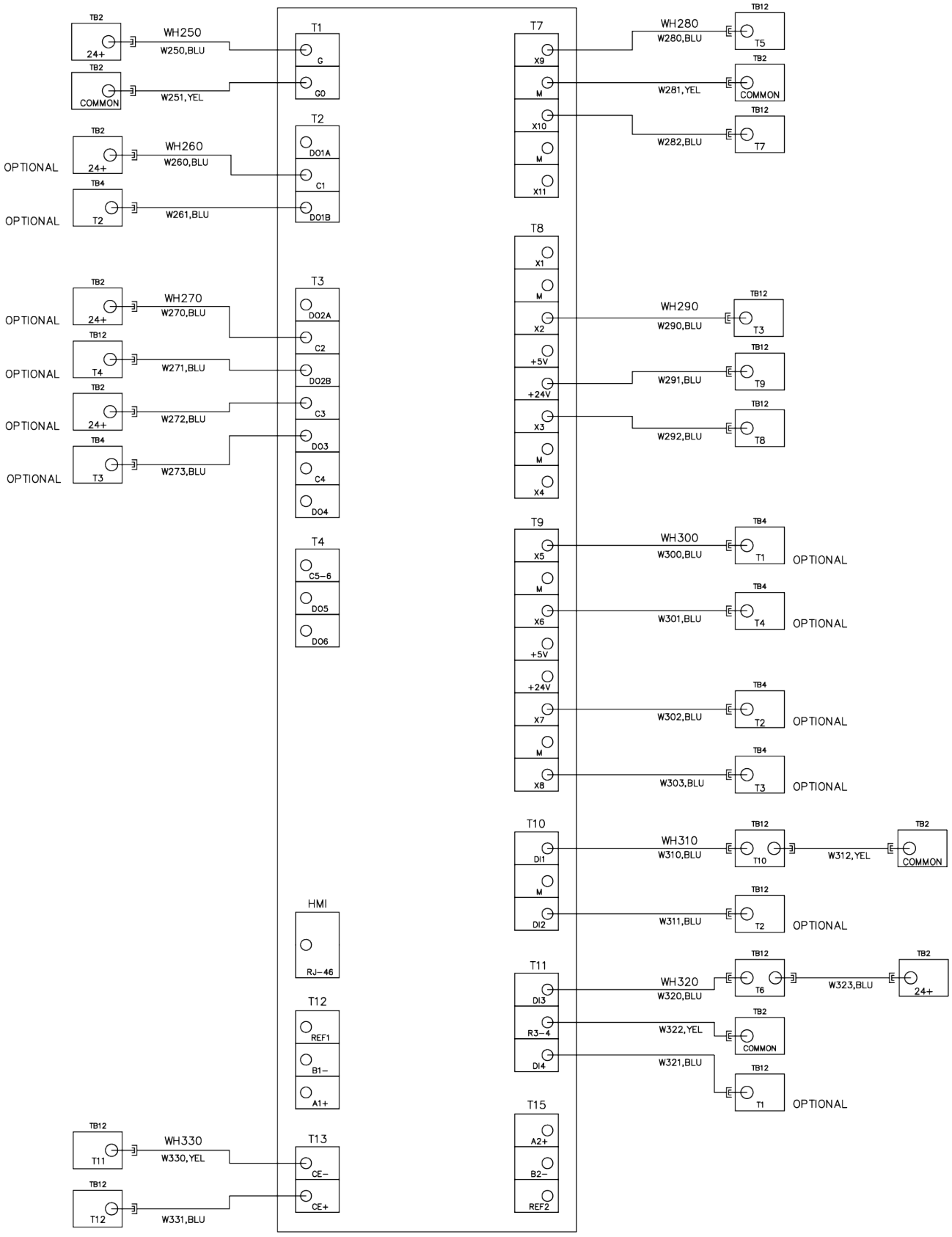
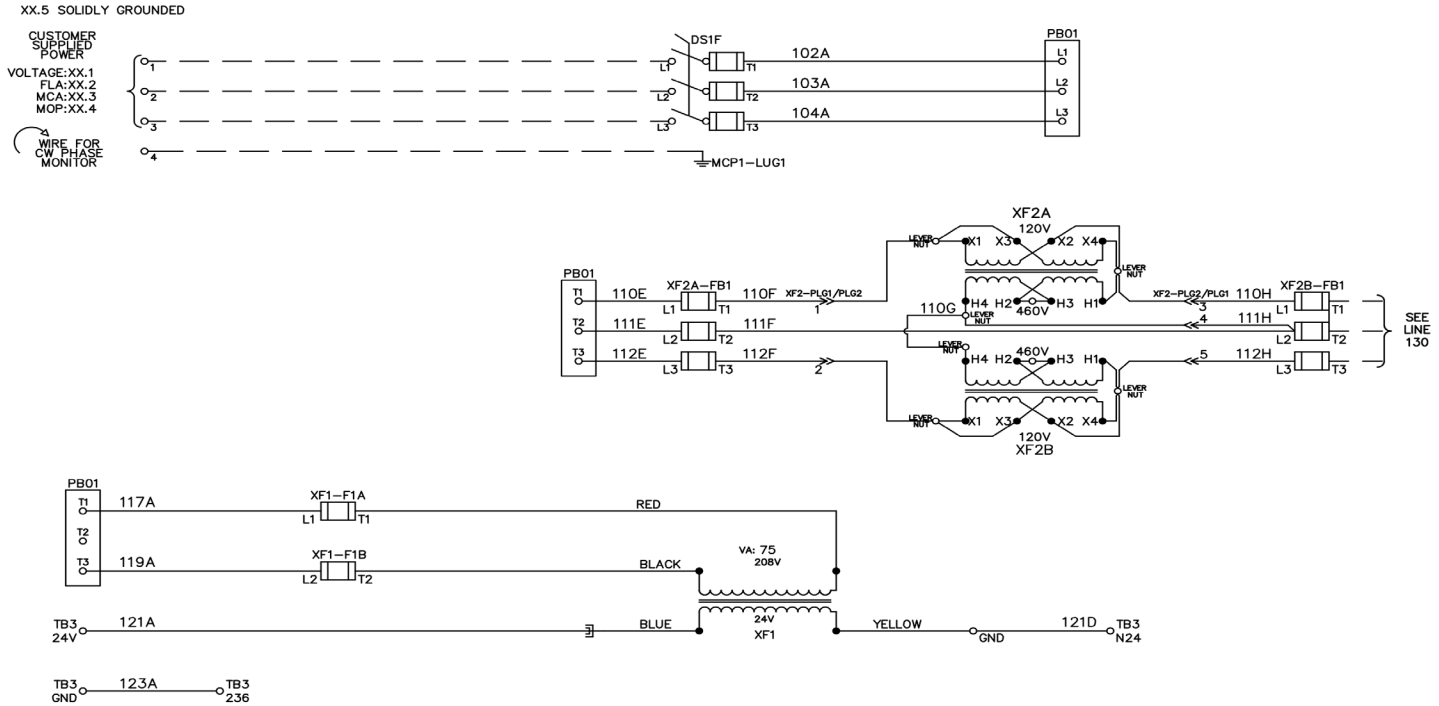
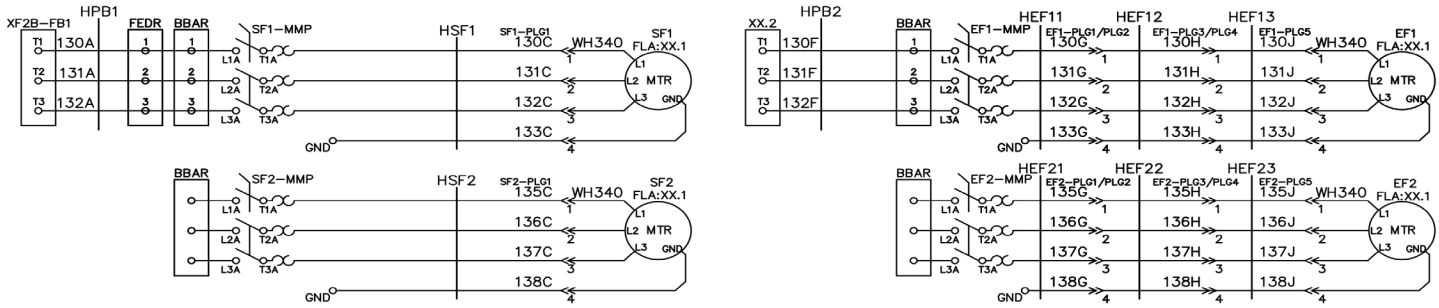
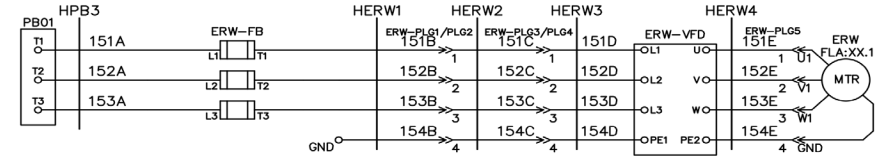
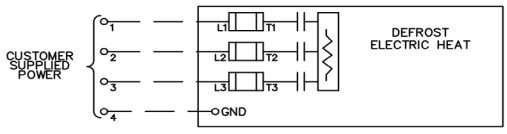


Figure 140: MicroTech Unit Controller for Sizes 060-100 with Optional Energy Recovery Wheel









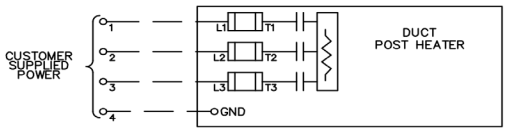


Figure 141: MicroTech Unit Controller for Sizes 060-100 with Optional Energy Recovery Wheel

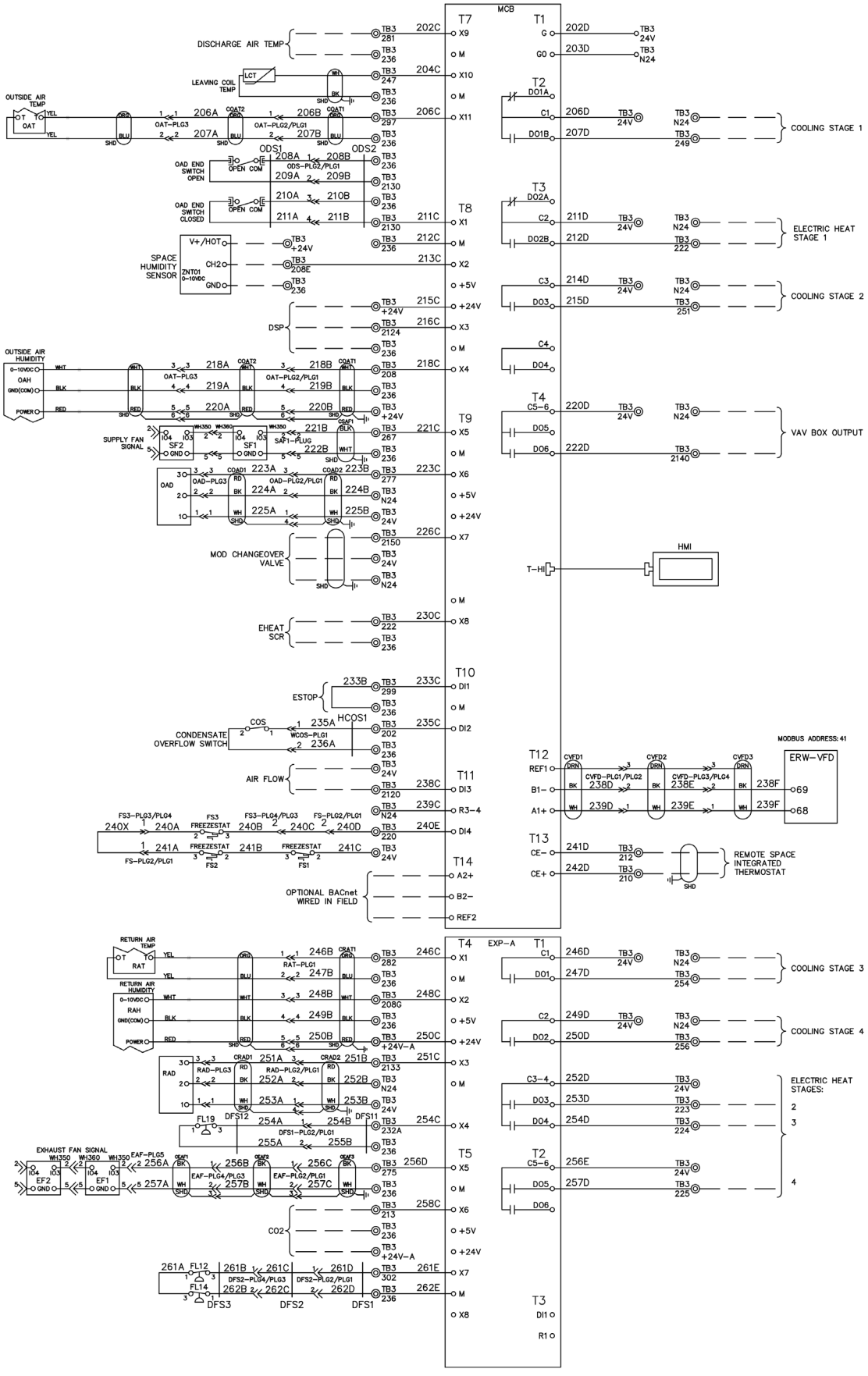
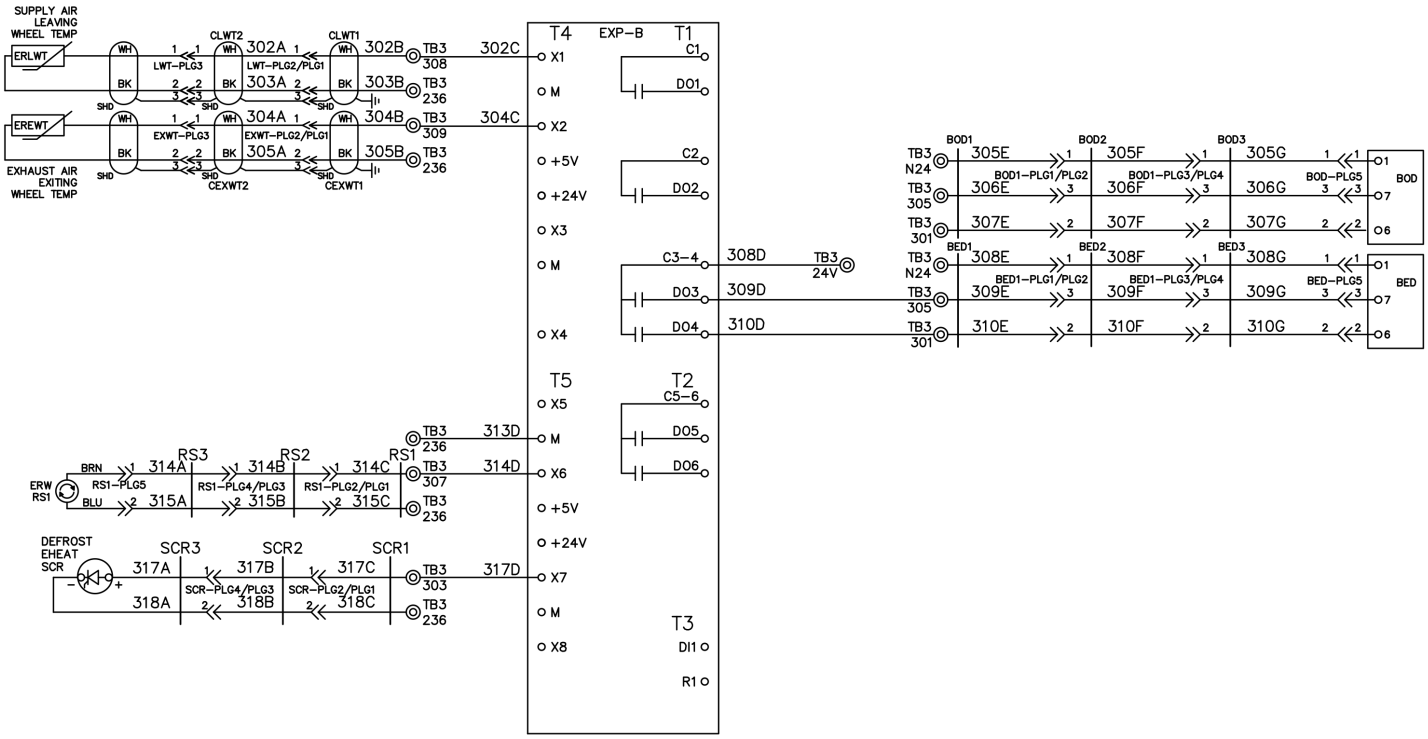
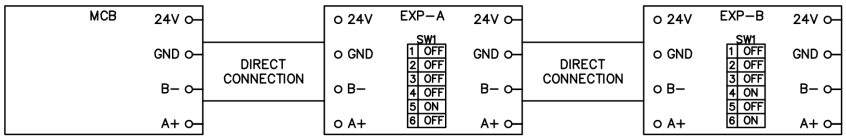


Figure 142: MicroTech Unit Controller for Sizes 060-100 with Optional Energy Recovery Wheel





Wiring Schematics Legend for "Example Wiring Diagrams"

LEGEND			
ACT	Mixing Box Damper Actuator	**OAT**	Outside Air Temperature Sensor
BBSF-EF	BusBar Supply-Exhaust	**OHA**	Automatic High Temp Cutout Switch
BED	Bypass Exhaust Air Damper	**OHM**	Manual High Temp Cutout Switch
BOD	Bypass Outside Air Damper	**PB1**	Main Power Distribution Block
C500	MicroTech 4 Lite Controller	**PB2**	Electric Heat Power Distribution Block
CON	Energy Wheel Motor Contactor	**PB3**	24VAC Power Distribution Block
COS	Condensate Overflow Switch/Sensor	**R1-2**	Electric Heater Power Relay
DAT	Discharge Air Temperature Sensor	**R3**	Electric Heater Control Relay
DS	Disconnect Switch	**RAD**	Return Air Damper
EB	MicroTech I/O Expansion Board	**RAT**	Return Air Temperature Sensor
EF1-3	Exhaust Fan Motor	**RS1**	Rotational Switch
ERW	Energy Recovery Wheel	**SF1-2**	Supply Fan Motor
EWT	Entering Water Temperature	**TB2-3**	24VAC Terminal Block
EXP-A	MicroTech I/O Expansion Board	**TB4**	EC Motor Control Terminal Block
EXP-B	MicroTech I/O Expansion Board	**TB5**	Intermediate Electric Heat Terminal Block
FM1-2	Fan Motor	**TB6**	No Controls Terminal Block
FLxx	Dirty Filter Switch	**TR**	Control Transformer
FRZ	Freeze Alarm Switch	**TS1-2**	Thermal Switch (Intermediate Electric Heat)
FS1-3	Freeze Alarm Switch	**TS3**	Thermal Switch (Automatic Change Over)
FSW	Fan 3-Speed Switch	**VSV1-2**	Coil Valve Actuator (Primary or Secondary)
G075	Quick Connect Splice	**WHxxx**	Wire Harness
HTR1-4	Electric Heater Elements	**WNxxx**	Wire Nut
LVB	Low Voltage Control Board	**WPxxx**	Wire Plug
MCB	MicroTech Control Board (C500)	**Wxxx**	Wire
NCB	Network Communication Board	**XF1**	Control Transformer
OAD	Outside Air Damper	**XF2A-B**	Buck Boost Transformers

NOTE: Devices may or may not be on unit.
NOTE: Wiring diagrams are typical, always defer to the wiring diagram provided with the unit.

Hot Wire Colors	**MMP/Fuse**
115V = WHT	575V = Fuse
208V = RED	208/240/480V = MMP
240V = ORG	
277V = BRN	
480V = BLK/RED	
575V = BLK	

Operation

Startup Checks

When performing startup and service, always take thorough safety precautions. Start-up functions must be performed by trained, experienced personnel.

⚠ DANGER

FAN MOTOR REQUIRES OVERLOAD PROTECTION

Failure to provide motor overload protection can result in fire, property damage, electric shock, personal injury or death. Connect motor to an overload protective device rated in compliance with local electric codes.

⚠ DANGER

FIRE/ELECTRIC SHOCK HAZARD

Can cause property damage, personal injury, or death. Wire fan power supply and ground motor frame in accordance with local electric codes.

⚠ WARNING

DO NOT OVERHEAT FAN MOTOR

High air temperatures the fan section can cause the fan motor to burnout. On draw-through air handlers or air handlers with the fan section down the air stream from the heating section, the discharge air temperature of the heating section must not exceed 125°F (55°C).

⚠ WARNING

ROTATING FAN(S)

Can cause severe injury or death. Before servicing fans, lockout and tag out power.

Before Starting the Unit

- ☐ Make sure that fan electrical power source is disconnected and locked in the OFF position before entering fan section.
- ☐ With ductwork connected, check the unit for complete and proper installation.
- ☐ Check that all construction debris is removed and filters are clean.
- ☐ Check that all electrical work is complete and properly terminated. Check that all electrical connections are tight and that the proper voltage is connected. Phase imbalance must not exceed 2%.
- ☐ Fan motors are pre-lubricated and do not need grease before startup.
- ☐ Check that fan wheel(s) turn freely, are aligned properly and do not rub against the fan housing(s), etc.
- ☐ Leak test the thermal system to verify that connections are tight.
- ☐ Check that condensate drain is trapped and clear of debris.
- ☐ Rotate shaft by hand to be sure it is free.
- ☐ Fan startup: Fan should start and run. Verify fan rotation is correct.

NOTICE

3-phase motor rotation may be reversed by reversing two legs of the three-phase power at the motor.

Energy Recovery Wheel

Prestartup Checks

1. By hand, turn wheel clockwise (as viewed from the pulley side) to verify wheel turns freely through 360° rotation.
2. During rotation, confirm wheel segments are fully engaged in the wheel frame and segment retainers are completely fastened.
3. With hands and objects away from moving parts, apply power and confirm wheel rotation. Wheel rotates clockwise as viewed from the pulley side.
4. If wheel has difficulty starting, disconnect power and inspect for excessive interference between the wheel surface and each of the four (4) diameter seals.

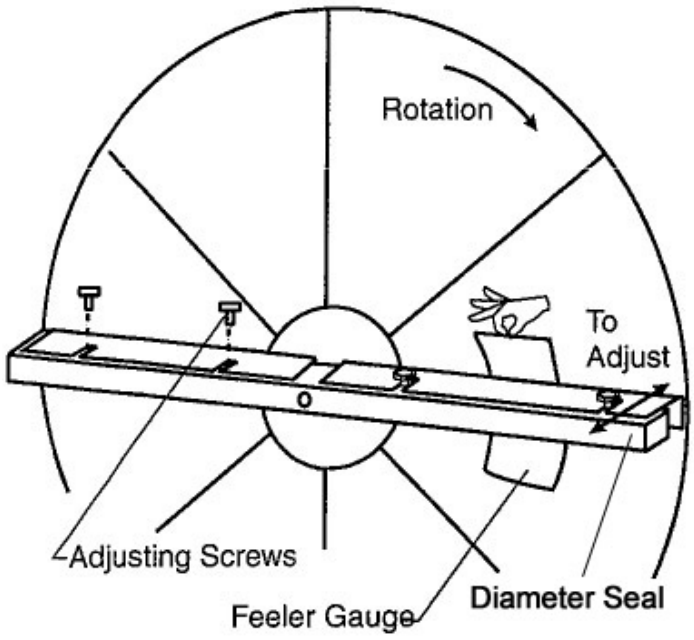
Diameter Seal Adjustment

⚠ WARNING

Keep hands away from rotating wheel! Contact with rotating wheel can cause personal injury.

1. Loosen diameter seal adjusting screws. See Figure 143.
2. Move adjustable diameter seals away from wheel.
3. Using a ¼ inch feeler gauge, adjust the diameter against the wheel. See Figure 143.
4. Tighten diameter seal adjusting screws.
5. Apply power per the start up procedure.

Figure 143: Energy Recovery Wheel Adjusting



Maintenance

⚠ DANGER

LOCKOUT/TAGOUT all power sources prior to service, pressurizing, de-pressuring, 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

SHARP EDGES AND COIL SURFACES are a potential injury hazard. Avoid contact with them.

⚠ WARNING

Clean drain pan regularly so mold does not develop or water overflows causing property damage.

1. For maximum performance, the coil must be clean.

   Check once a year under normal operating conditions and brush or vacuum clean if necessary. Use a chemical coil cleaner on multiple row coils. Read and follow the chemical cleaner instructions since some cleaners may contain harsh chemicals. Take care not to damage fins while cleaning.

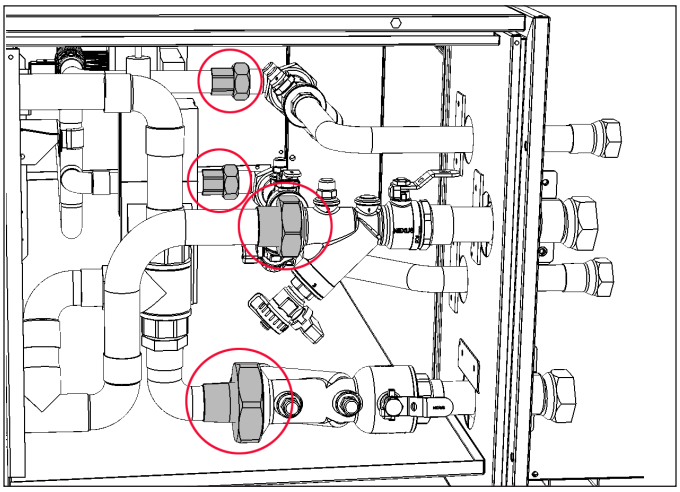
2. Drain pans in any air conditioning unit may have some moisture, with growth of organisms possible due to airborne spores and bacteria. Clean drain pans periodically to prevent build-up from plugging the drain and causing the drain pan to overflow. Keep drain pans clean to prevent the spread of disease. Cleaning should be performed by qualified personnel.
3. Dirt and lint can clog the condensate drain, especially with dirty filters. Inspect twice a year to help avoid overflow.

Hydronic Coil Removal

Hydronic Coil Removal - Horizontal Unit Sizes 006 - 020

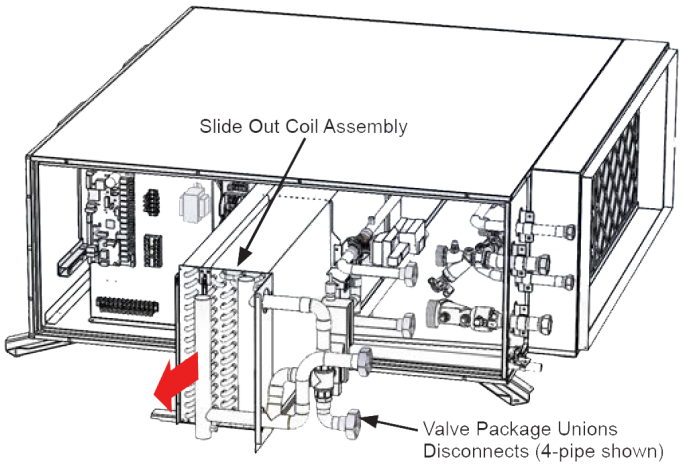
1. Remove coil section access panel.
2. Drain the coils.
3. Disconnect unions on supply and return of heating and cooling coils inside cabinet. Field piping does not need to be disconnected.

Figure 144: Heating and Cooling Coil Unions



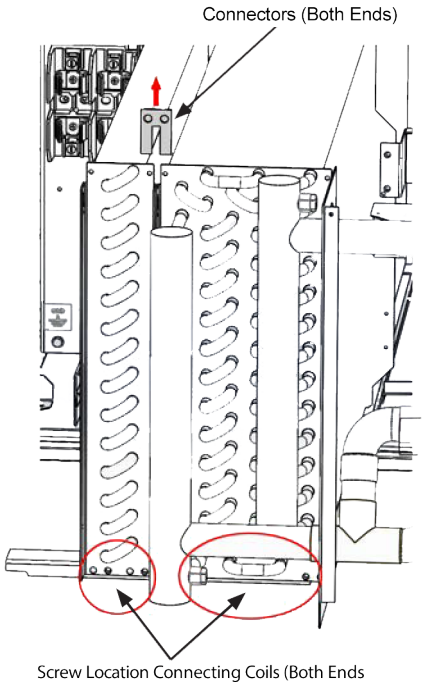
4. Disconnect any valve, damper, or electric heat wires that may interfere with removing the coil.
5. Slide the coil out by pulling on the header tube. The coil is not fastened in cabinet. If unit is equipped with factory installed valve package, part of the valve package will be removed with coil.

Figure 145: Slide Coil Out



6. For four pipe units, the cooling coil is attached to the preheat or reheat coil. To separate the coils remove the screws along the bottom edge of the header end plate, on each end of the coil and the connectors.

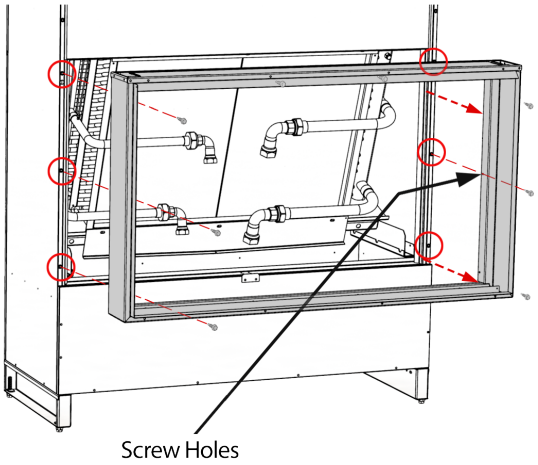
Figure 146: Four Pipe Unit, Detaching Coils



7. For units with the electric heat option, the electric heat rack is attached to the cooling coil in the preheat position. To separate the electric heat rack from the cooling coil remove the screws on each end of the coil, and the connectors.

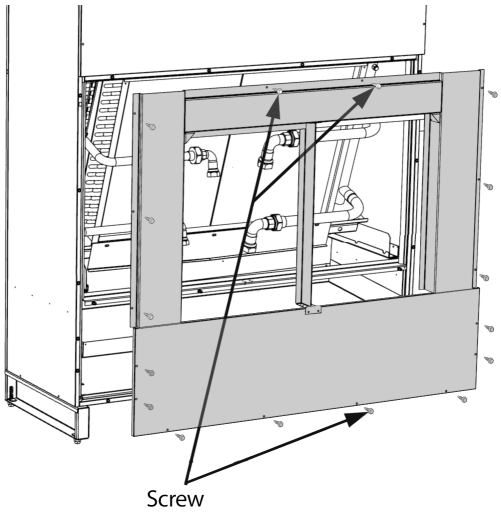
Hydronic Coil Removal - Vertical Unit Sizes 006 - 020

1. Remove screws on the inside right (3) and inside left (3), holding external filter frame.

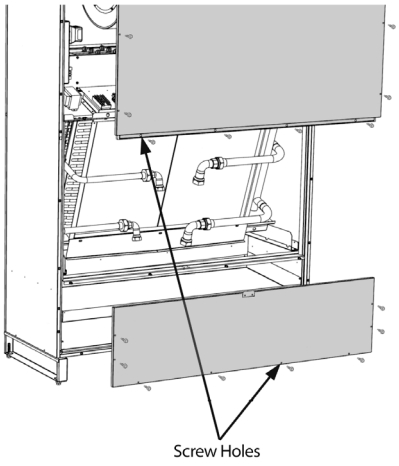


OR

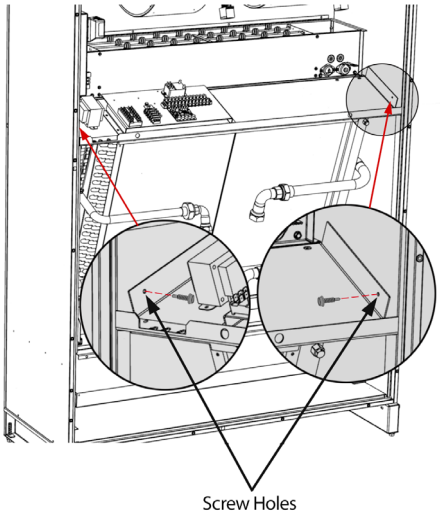
1. Remove screws holding internal filter brackets and bottom panel assembly.



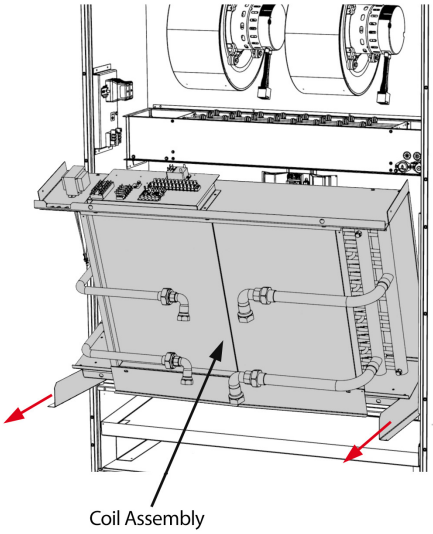
2. Remove screws holding upper and lower front panels (number dependent on unit size).



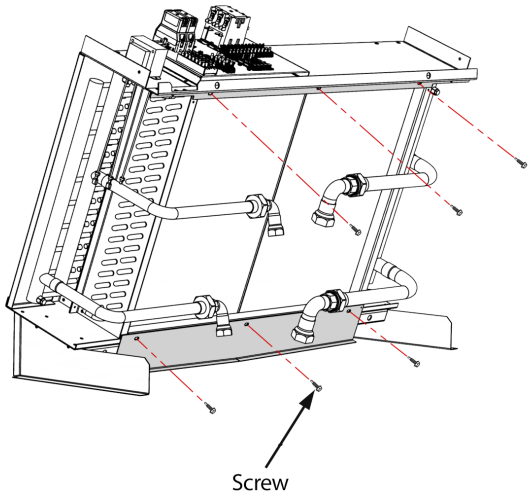
3. Remove 2 screws holding coil.



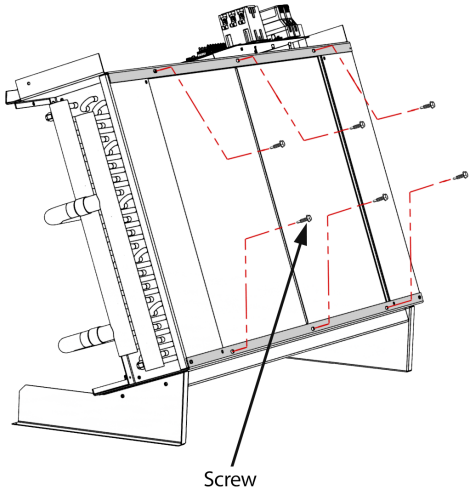
4. Slide out coil assembly.



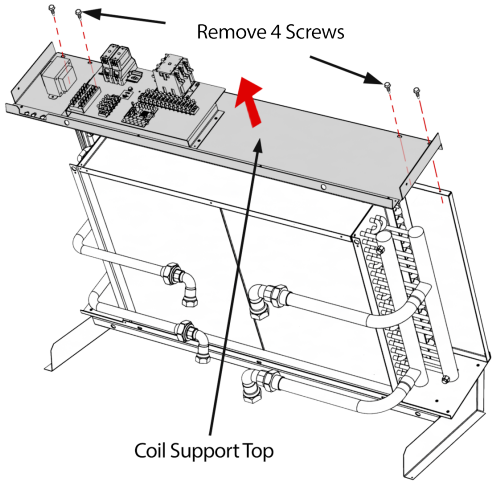
5. Remove screws along front of coil at bottom and top holding coil.



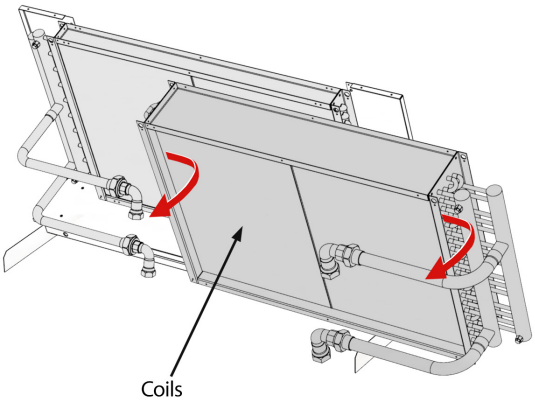
6. Remove screws along back of coil at bottom and top holding coil.



7. Remove coil support top.



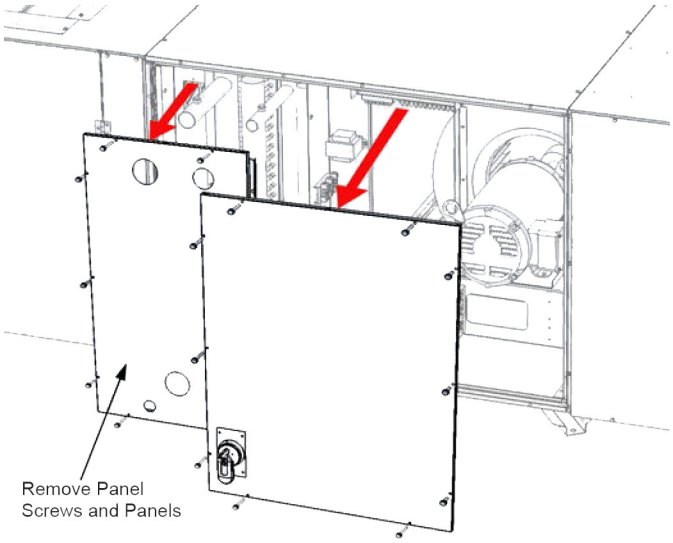
8. Separate and remove coils.



Hydronic Coil Removal - Horizontal Unit Sizes 030 - 050

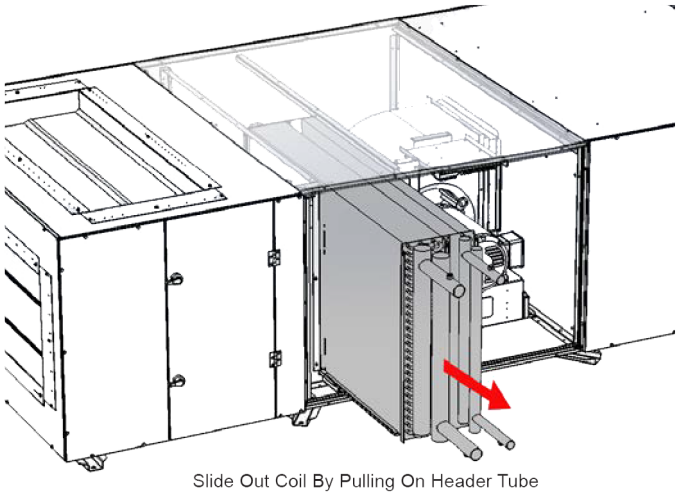
1. Remove coil section panels.

Figure 147: Remove Panel Screws and Panels



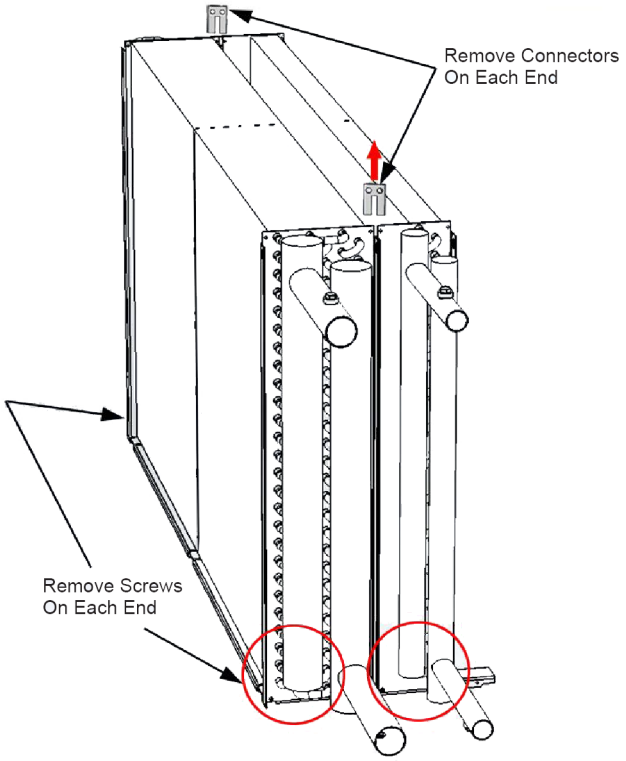
2. Drain coils.
3. Disconnect supply and return on heating and cooling coils from field piping.
4. Remove any field piping that might be interfere with coil removal.
5. Disconnect any damper or electric heat wires that may interfere with coil removal.
6. Slide the coil out by pulling on the header tube.

Figure 148: Slide Coil Out



7. For four pipe units, the cooling coil is attached to the preheat or reheat coil. To separate the coils remove the screws on each end of the coil and the connectors.

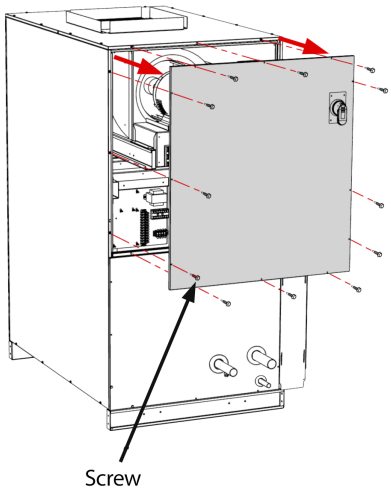
Figure 149: Remove Screws Holding Coil Sections Together and Connectors On Each End



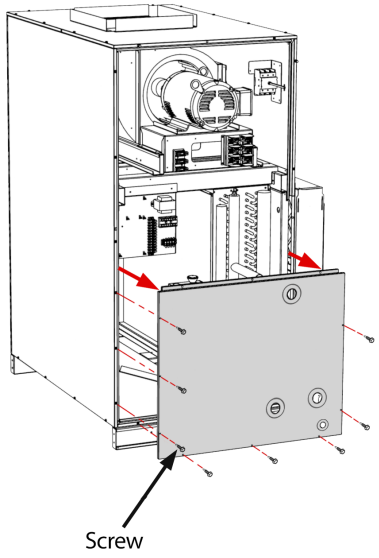
8. For units with the electric heat option, the electric heat rack is attached to the cooling coil in the preheat position. To separate the electric heat rack from the cooling coil remove the screws on each end of the coil, and the connectors.

Hydronic Coil Removal - Vertical Unit Sizes 030 - 050

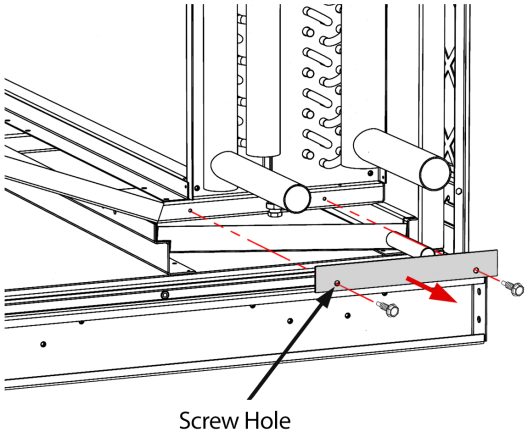
1. Remove screws and remove top access panel with disconnect switch.



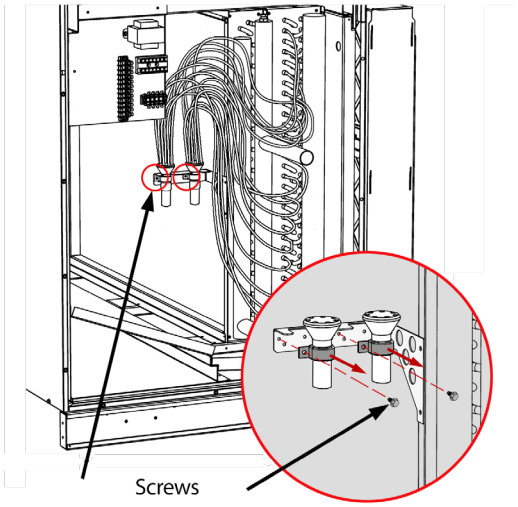
2. Remove screws and remove bottom access panel.



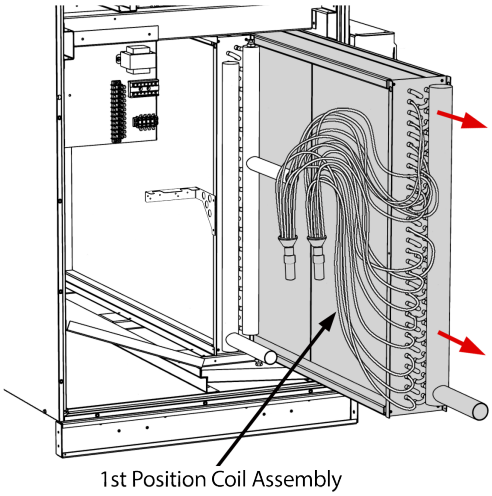
3. Remove screws and remove coils stop plate.



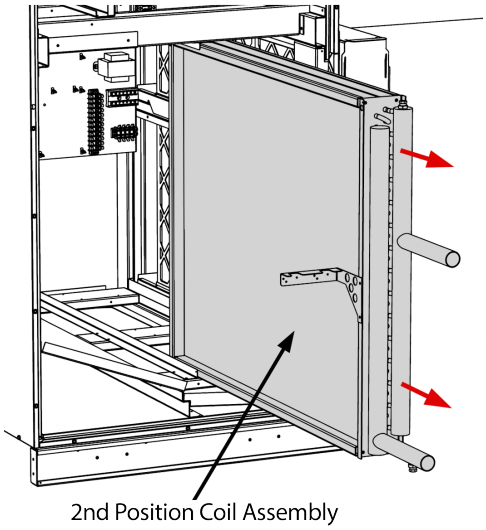
4. Remove screws from clamps holding distributors and cap tubes to bracket.



5. Slowly pull out the 1st position coil assembly using caution to not damage cap tubes.

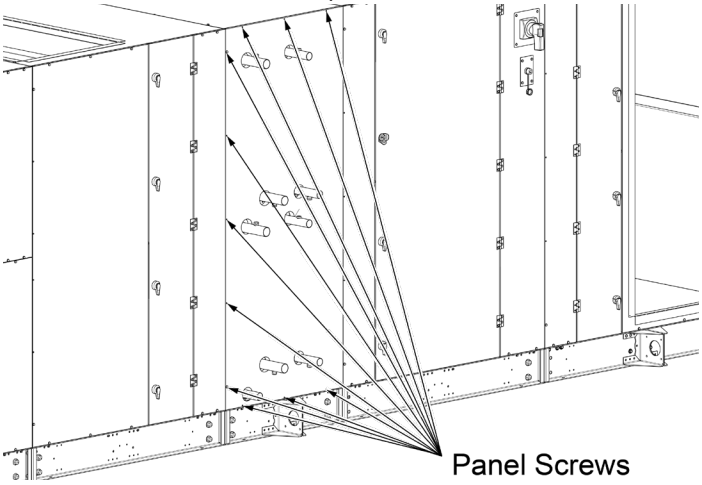


6. Slide out the 2nd position coil.

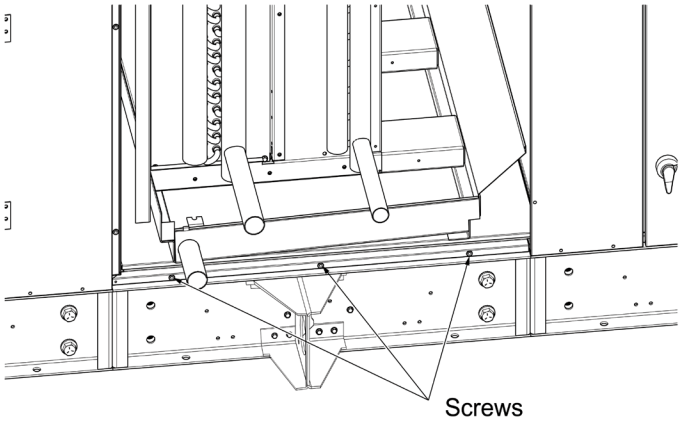


Hydronic Coil Removal - Horizontal Unit Sizes 060 - 100 (Primary Coil and Optional Secondary Coil Shown)

1. Remove screws securing the access panel to the cabinet, then remove the access panel.



2. Remove screws securing the stopper bracket to the cabinet. Remove the bracket.

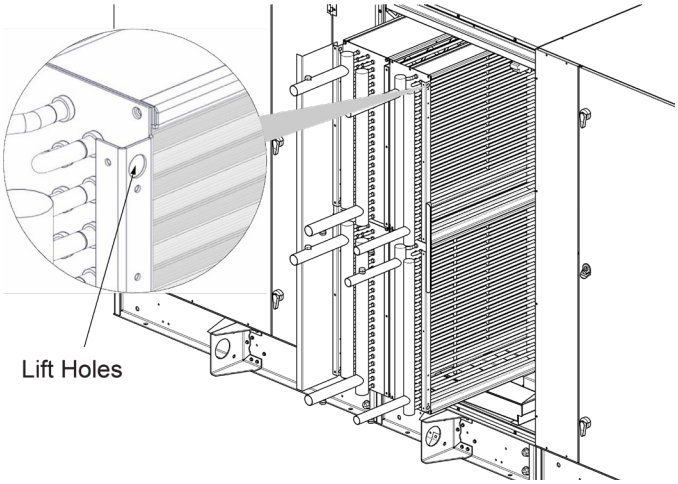


3. Pull to slide the entire coil assembly out of the cabinet. If using support straps/hooks, pull the coil assembly out partially and secure the supports to any of the available lift holes.

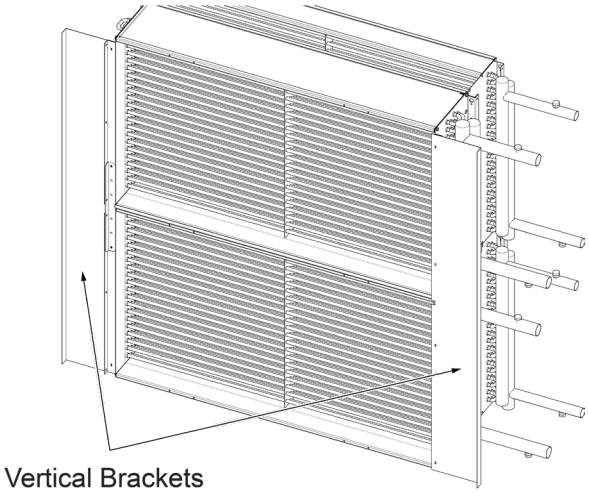
⚠ DANGER

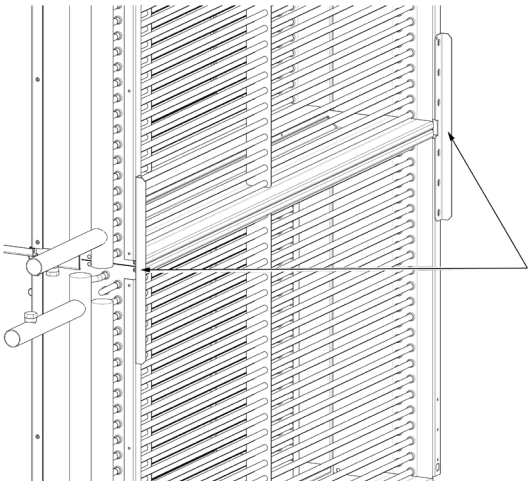
COIL ASSEMBLY IS HEAVY!

Failure to use the proper lifting equipment to support the weight of the assembly can cause property damage, personal injury, or death. Supports should be able to lift the weight of the coils as detailed in Table 31 on page 42.

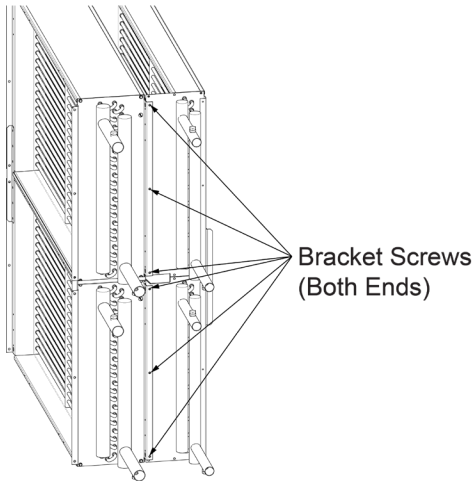


4. Place the coil assembly on a flat surface.
5. To detach the individual coils, remove the screws securing the coils to each joining bracket.



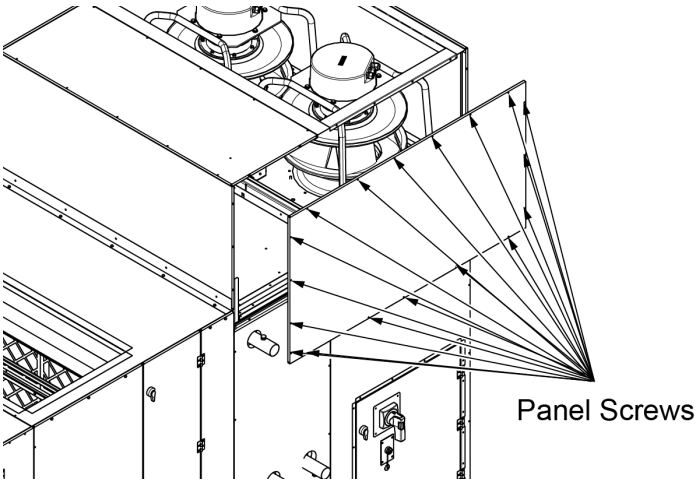


NOTE: The image below only applies to units with the optional secondary coil.

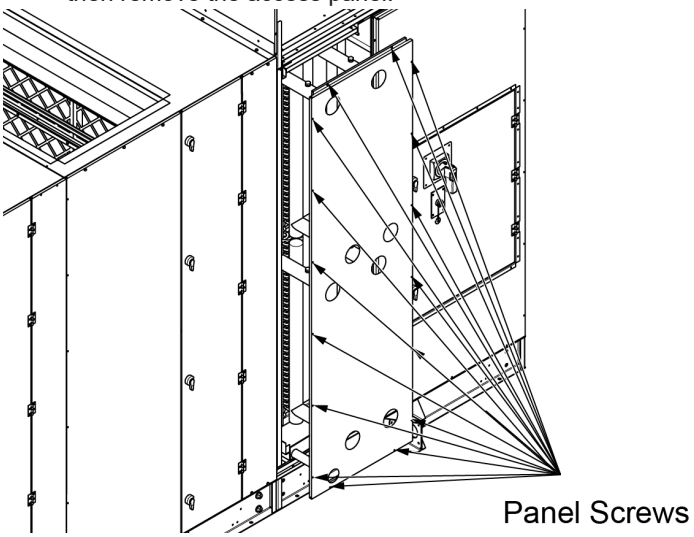


Hydronic Coil Removal - Vertical Unit Sizes 060 - 100 (Primary Coil and Optional Secondary Coil Shown)

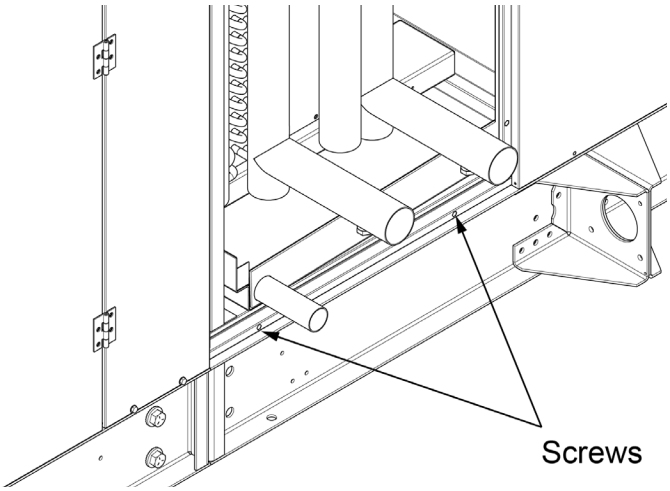
1. Remove screws securing the access panel to the fan section, then remove the fan access panel.



2. Remove screws securing the access panel to the cabinet, then remove the access panel.



3. Remove screws securing the stopper bracket to the cabinet. Remove the bracket.

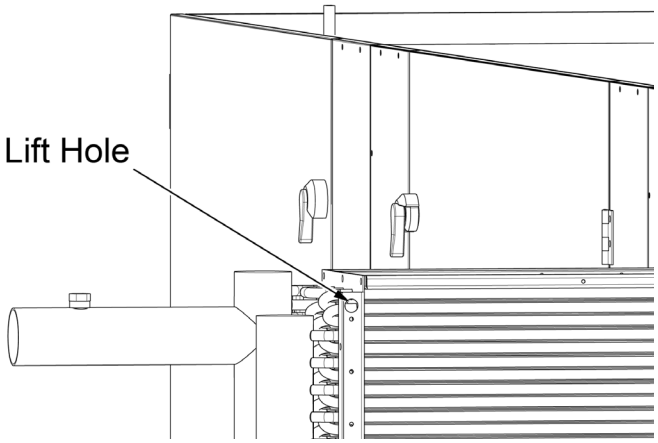


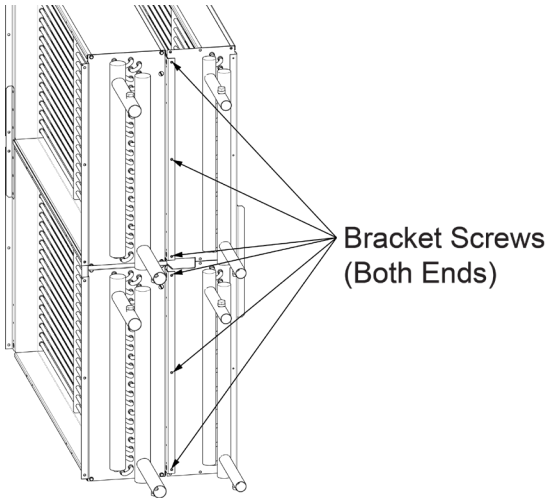
4. Pull to slide the entire coil assembly out of the cabinet. If using support straps/hooks, pull the coil assembly out partially and secure the supports to any of the available lift holes.

⚠ DANGER

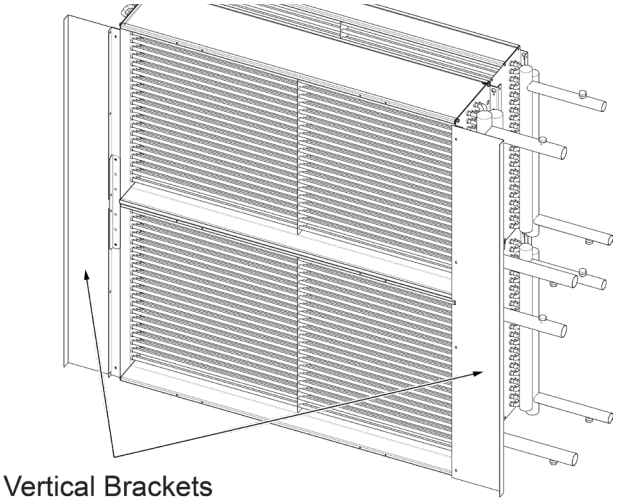
COIL ASSEMBLY IS HEAVY!

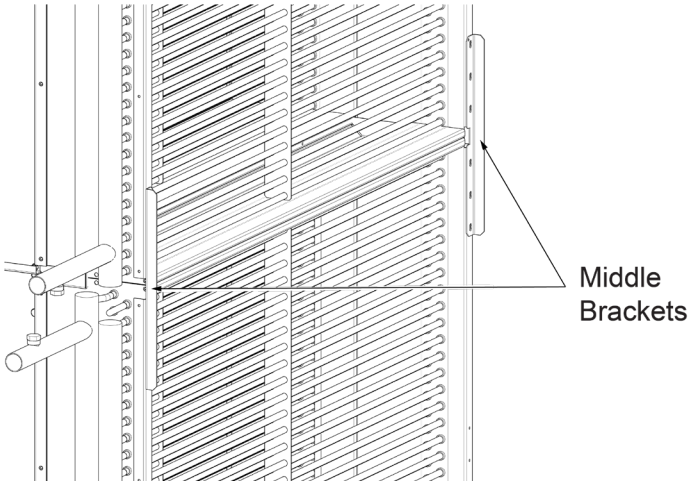
Failure to use the proper lifting equipment to support the weight of the assembly can cause property damage, personal injury, or death. Supports should be able to lift the weight of the coils as detailed in Table 34 on page 44.





5. Place the coil assembly on a flat surface.
6. To detach the individual coils, remove the screws securing the coils to each joining bracket.





NOTE: The image below only applies to units with the optional secondary coil.

Fan Motor Removal

Horizontal Units Size 006-020

1. Unplug the wires going from the control box to motor.
2. Remove the top and bottom screws on the downstream side of the control box and loosen the top and bottom screws on the upstream side. Swing the control box out to make room for the fan housing to slide out.
3. Remove the set screw on the fan housing rail and slide out the blower assembly.

Figure 150: Remove Set Screw On Fan Housing Rail

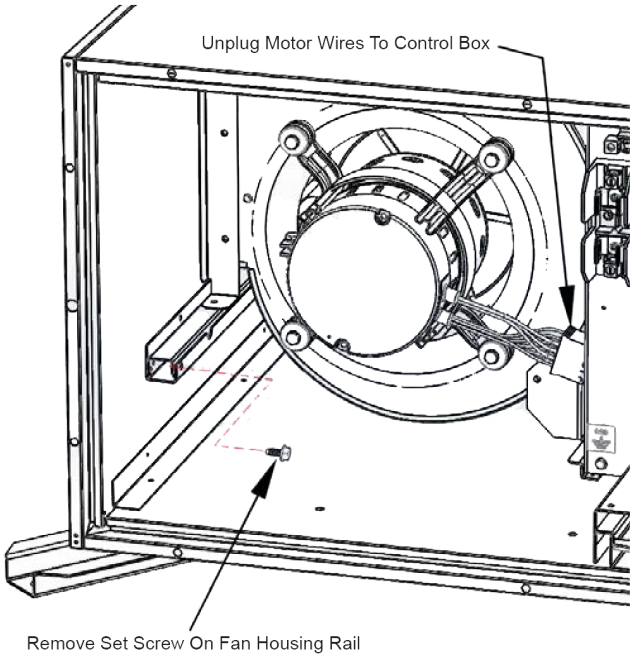
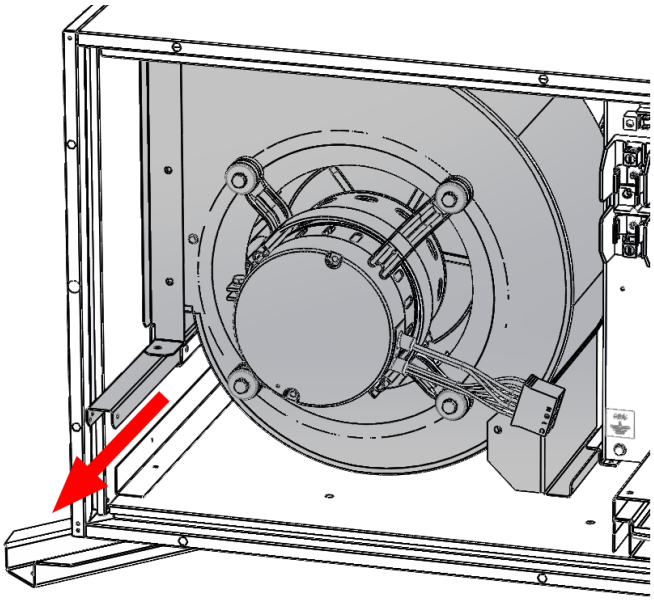
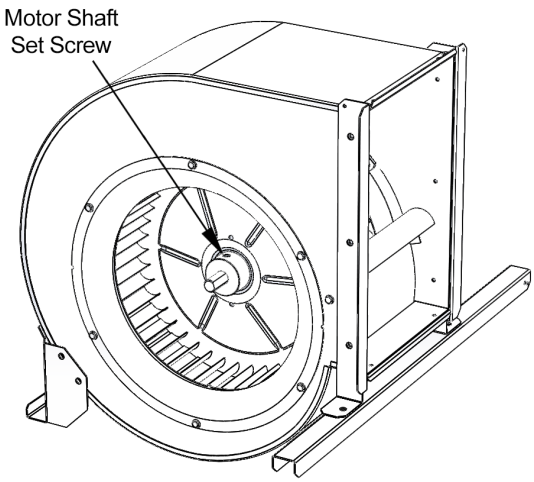


Figure 151: Slide Out The Blower Assembly



4. Loosen the motor shaft set screw on the opposite side of the fan.

Figure 152: Loosen The Motor Shaft Set Screw



5. Remove the four bolts holding the belly band to the fan housing and pull the motor out.

Figure 153: Loosen The Motor Shaft Set Screw

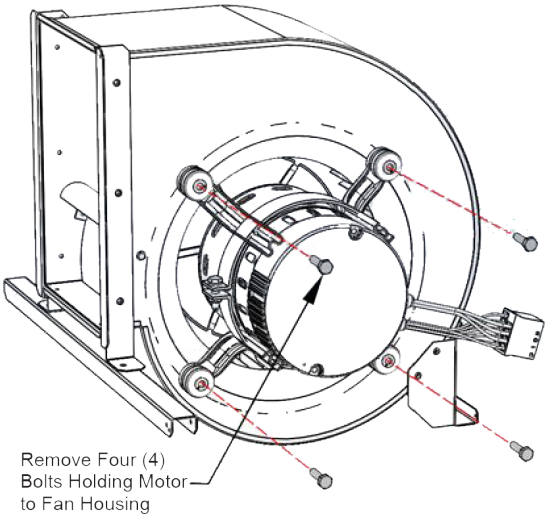
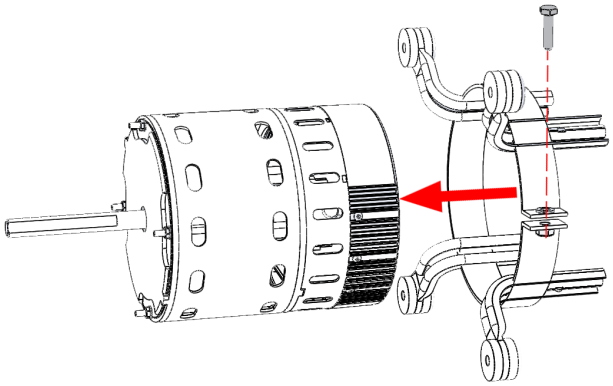


Figure 154: Loosen Belly Band Bolt And Remove From Motor



6. Reverse this process to install the new motor, taking care to center the fan on the shaft before tightening the motor shaft set screw.

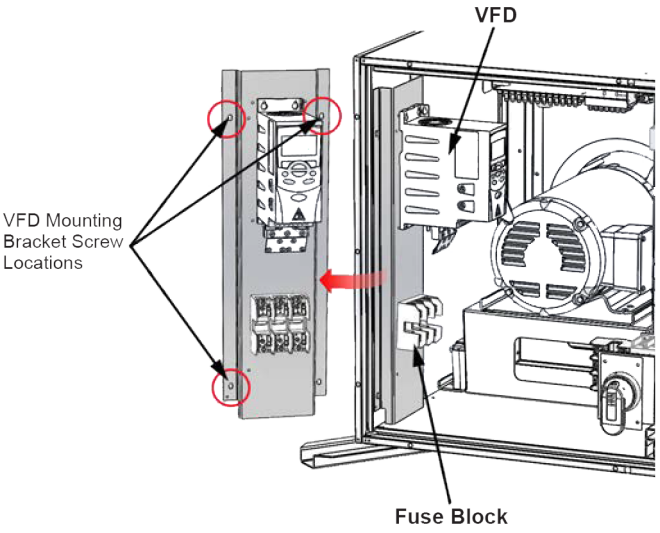
Horizontal Units Size 030-050 (DWDI Forward-Curved Fans)

1. Disconnect the wires from the motor to the VFD at the VFD. The wires between the VFD/Fuse Block and the control box may be left attached.

NOTICE
Unit size 030 shown. Views may vary by unit size. For clarity not all wiring and components are shown.

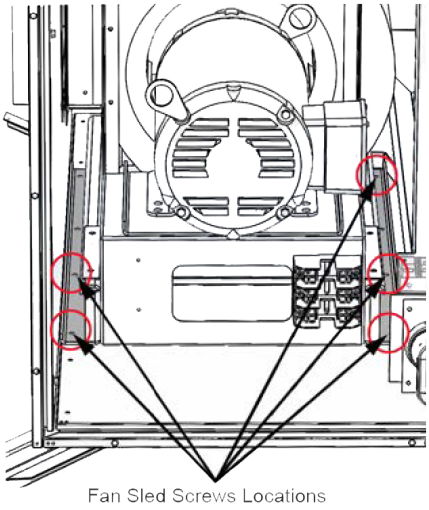
2. Remove the VFD mounting bracket by removing three mounting screws; two on the access panel side of the bracket and one on the upper-back side of the bracket.
3. The VFD mounting bracket with the control box wires still attached should be moved out of the way and supported to avoid straining the wires.

Figure 155: Remove VFD Mounting Bracket



4. Remove the five screws holding the fan sled to the cabinet bottom panel; two screws on the access panel side and three on the upstream side of the sled.

Figure 156: Remove Five (5) Screws Holding Fan Sled



5. Pull the sled assembly out, using caution to support its weight and gain access to the motor shaft set screws shown in Figure 154.

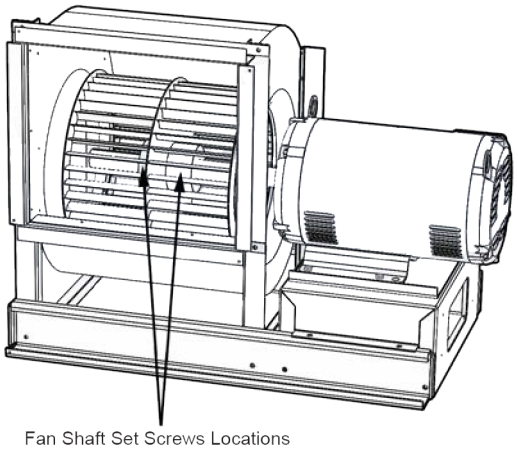
⚠ DANGER

FAN MOTOR SLED ASSEMBLY IS HEAVY!

Failure to use the proper lifting equipment specified to support the weight of the sled assembly can cause property damage, personal injury, or death. Supports should be able to withstand at least 200 lbs of weight.

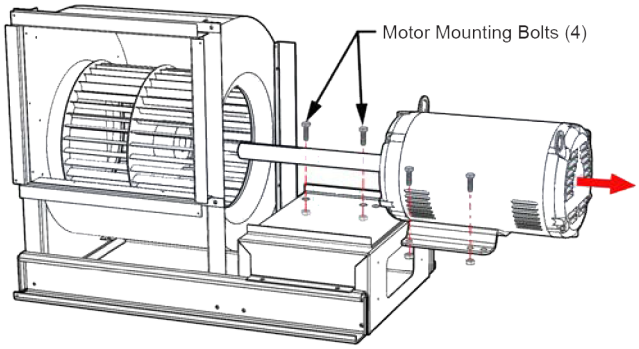
6. Loosen the two motor shaft set screws; one on either side of the fan center partition.

Figure 157: Fan Shaft Set Screw Locations



7. Remove the four motor mounting bolts using a wrench to hold the nut on the underside of the motor base.
8. Slide the motor shaft out of the fan hub while supporting the motor.

Figure 158: Motor Mounting Bolts

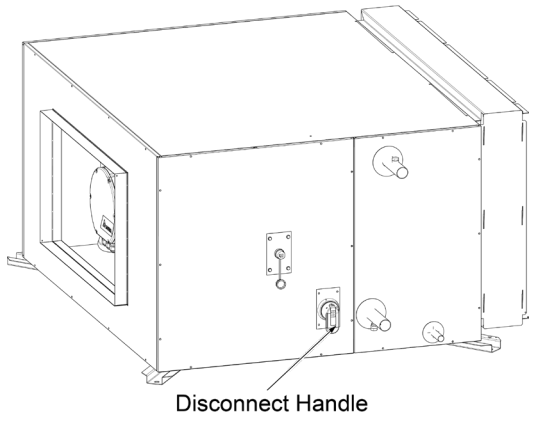


To replace with poly phase motor:

1. Place the new motor on the base and insert the shaft into the fan hub, leaving the set screws loose.
2. Install the motor mounting bolts, washers and nuts leaving the nuts loose.
3. Adjust the motor on the base and the fan on the shaft so that the fan is straight and centered in the housing.
4. Tighten the mounting bolts and shaft set screws.
5. Push the sled into the cabinet until it is against the back stop and the fan housing is tight against the front panel.
6. Reinstall and tighten the five sled screws.
7. Reattach the VFD bracket on the front panel
8. Reconnect the motor wires to the VFD.

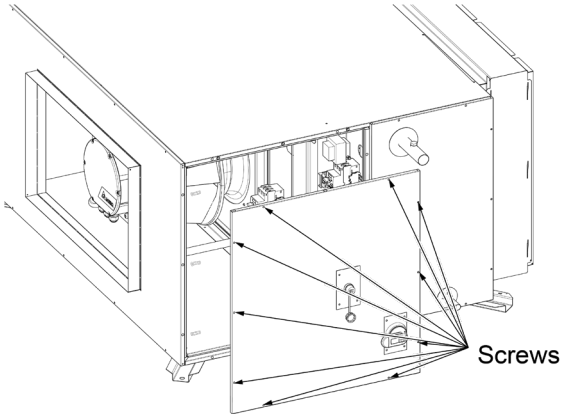
Horizontal Unit Sizes 030 - 050 (Welded Aluminum Airfoil Plenum Fans)

1. Turn the switch disconnect handle to the off position.



NOTE: Single fan model shown.

2. Remove the screws holding the access panel in place.

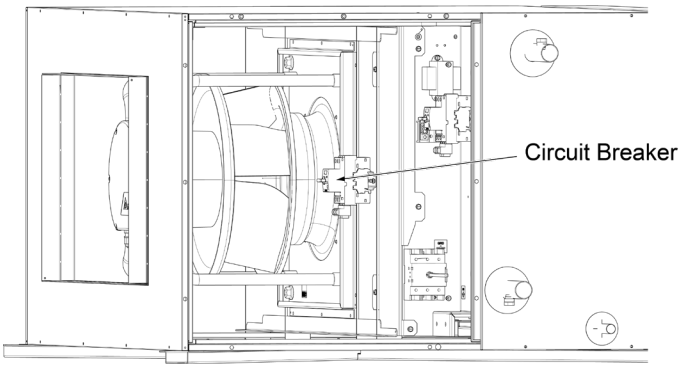


3. Detach the low-voltage and power wires from the fan motor by releasing the plastic connectors.

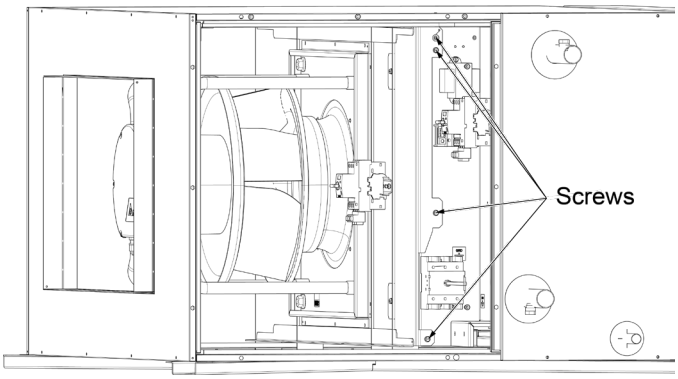
NOTICE

Remember the fan motor orientation when installing a new fan. Matching the motor orientation will ensure wires can reach the connectors of the new motor.

4. SIZE 030 ONLY: detach wires connecting the circuit breaker to the terminal block.



5. Remove the screws holding the fan sled assembly in place (single fan models only).



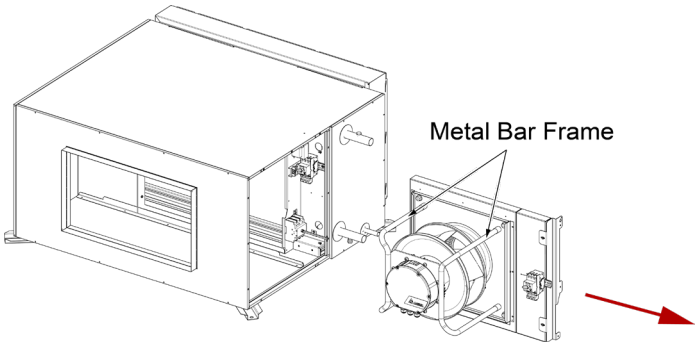
6. Secure supports to the metal bar frame.

⚠ DANGER

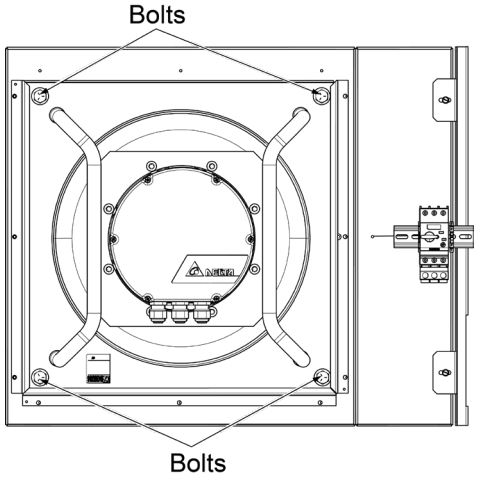
FAN SLED ASSEMBLY IS HEAVY!

Failure to use the proper lifting equipment to support the weight of the sled assembly can cause property damage, personal injury, or death. Supports should be able to withstand at least 200 lbs of weight.

7. Remove the fan sled assembly from the cabinet and lower onto a flat surface.



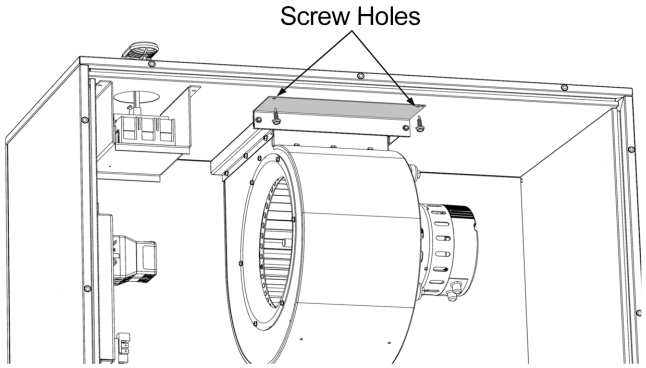
8. Remove the bolts holding the fan(s) to the slide-out sled.



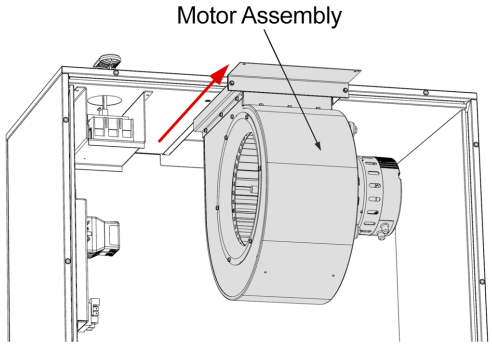
9. Remove fan from the slide-out sled.
10. Repeat steps 3-8 for second fan (if equipped).

Vertical Unit Sizes 006 - 020 (DWDI Forward-Curved Fans)

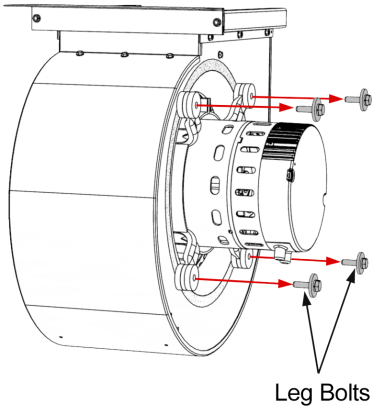
1. Remove 2 screws.



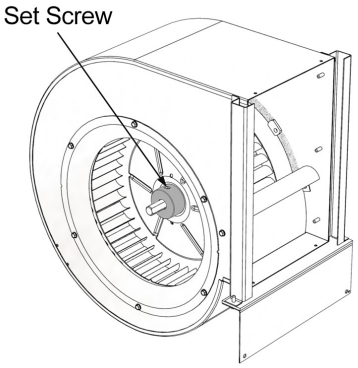
2. Slide out fan and motor assembly.



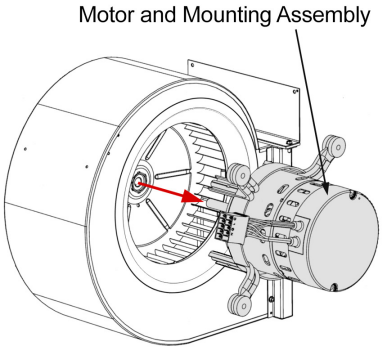
3. Remove motor mount leg bolts.



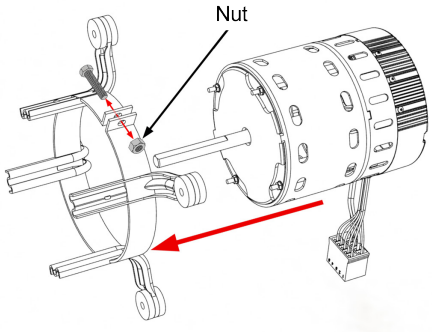
4. Loosen set screw holding fan to fan shaft.



5. Remove motor and mounting assembly.

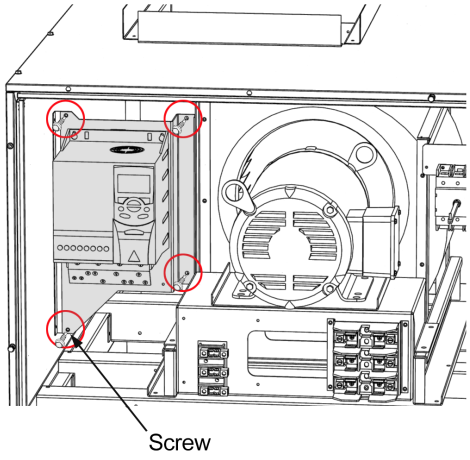


6. Loosen bolt and nut to remove belly band from motor.

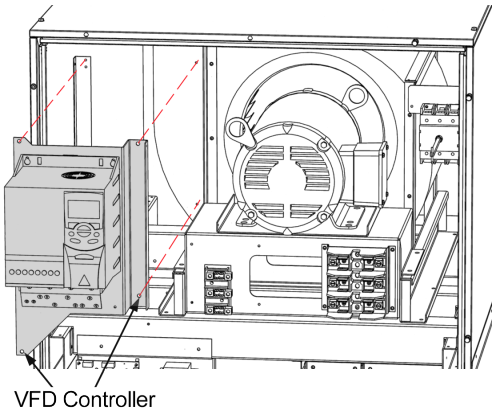


Vertical Unit Sizes 030 - 050 (DWDI Forward-Curved Fans)

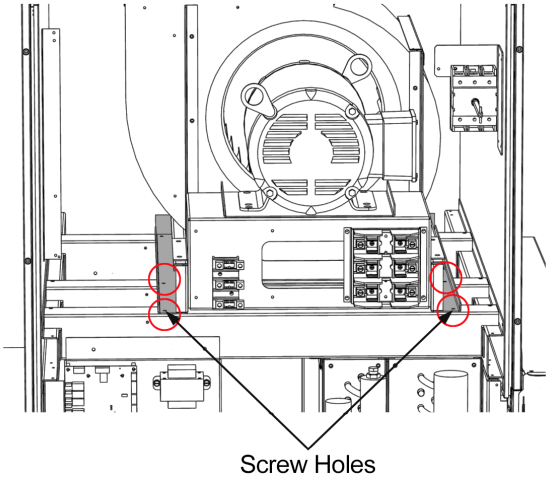
1. Remove 4 screws holding VFD controller.



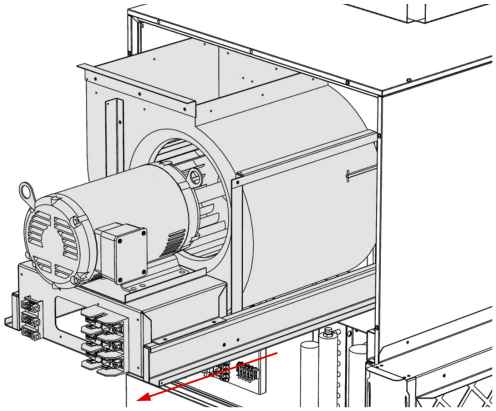
2. Remove VFD controller.



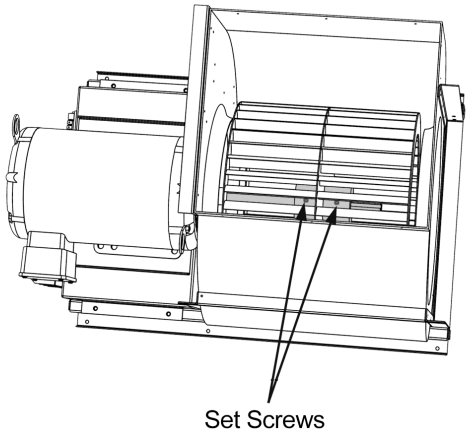
3. Remove 4 screws along motor sled rails.



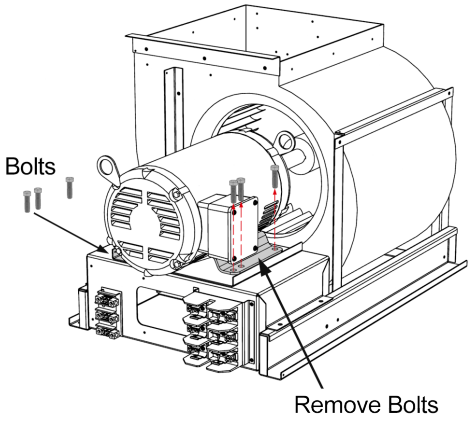
4. Slide out motor and fan assembly sled.



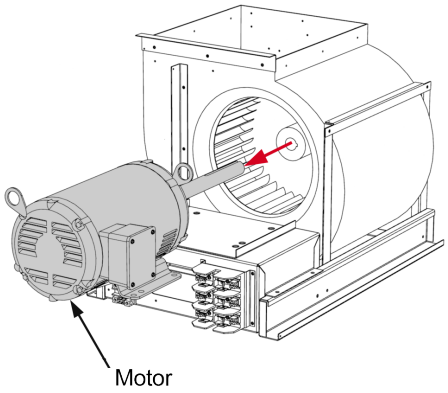
5. Loosen fan wheel set screws (2) on either side of the fan wheel central plate.



6. Remove (6) bolts, 3 on each side holding motor to sled assembly.

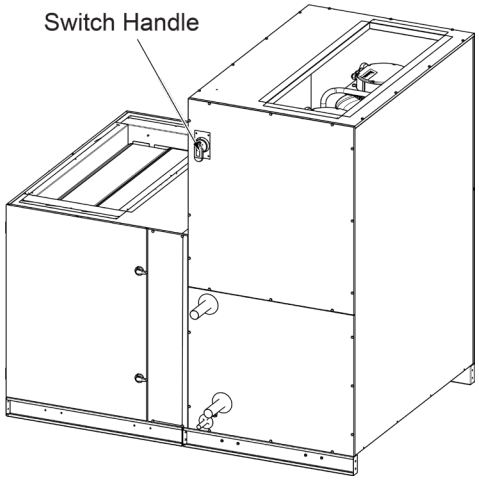


7. Slide out motor from fan housing.



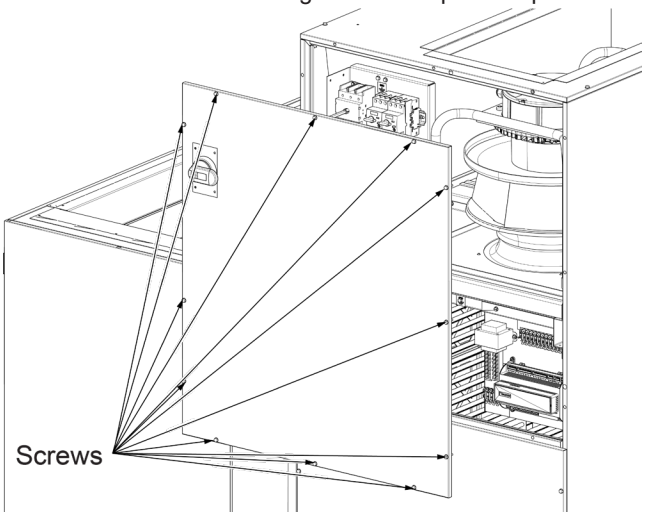
Vertical Unit Sizes 030 - 050 (Welded Aluminum Airfoil Plenum Fans)

1. Turn the switch disconnect handle to the off position.



NOTE: Dual fan assembly shown.

2. Remove the screws holding the access panel in place.



3. Detach the low-voltage and power wires from the motor by releasing the plastic connectors.

NOTICE

Remember the motor orientation when installing a new fan. Matching the motor orientation will ensure wires can reach the connectors of the new motor.

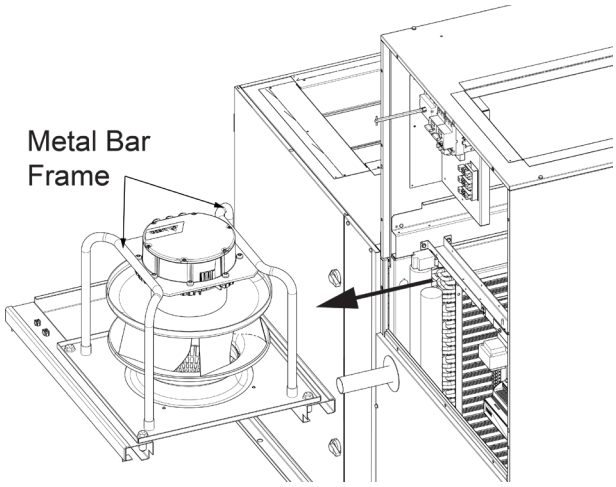
4. Secure supports to the metal bar frame.

⚠ DANGER

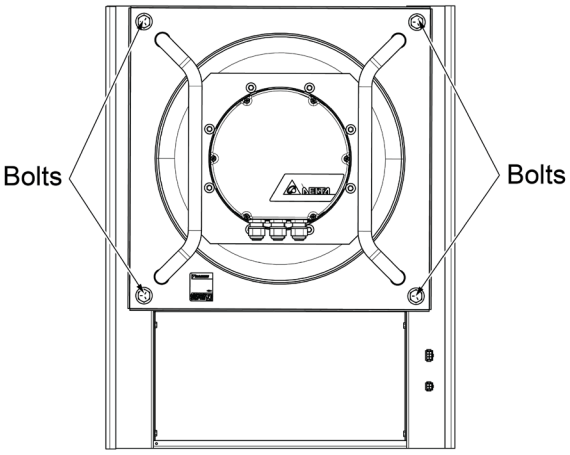
FAN SLED ASSEMBLY IS HEAVY!

Failure to use the proper lifting equipment to support the weight of the sled assembly can cause property damage, personal injury, or death. Supports should be able to lift at least 200 lbs.

5. Remove the fan sled assembly from the cabinet and lower onto a flat surface.



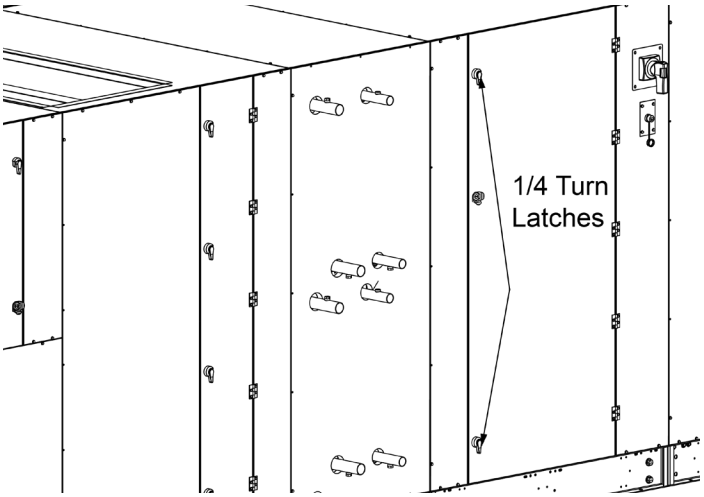
6. Remove the bolts holding the fan to the slide-out sled.



7. Remove fan from the slide-out sled.
8. Repeat steps 2-8 for second fan (if equipped).

Horizontal Unit Sizes 060 - 100 (Welded Aluminum Airfoil Plenum Fans)

1. Open the cabinet access door by turning the quarter-turn latches.



NOTICE

Dual fan model shown.

2. Detach the low-voltage and power wires from the fan motor(s) by releasing the plastic connectors.

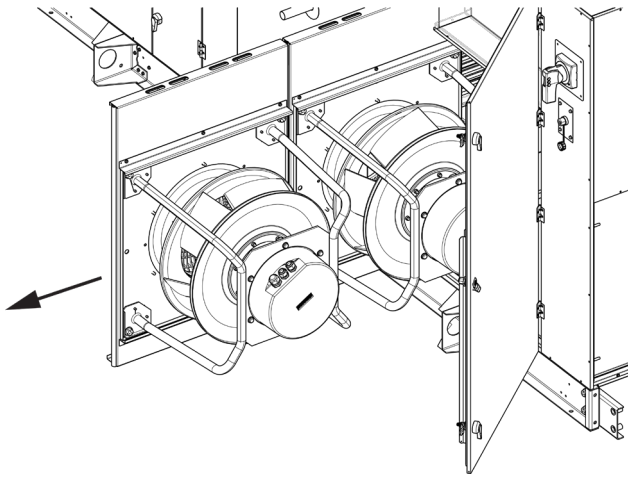
NOTICE

Remember the motor orientation when installing the new fan. Matching the motor orientation will ensure wires can reach the connectors of the new motor.

3. Slide the fan(s) out fully from the cabinet along the slide-out rail.

⚠ DANGER

NEVER slide fans out of the cabinet unless the cabinet is securely fastened to a flat surface or to another cabinet section. Failure to do so will create a tipping hazard, which can cause property damage, personal injury, or death.



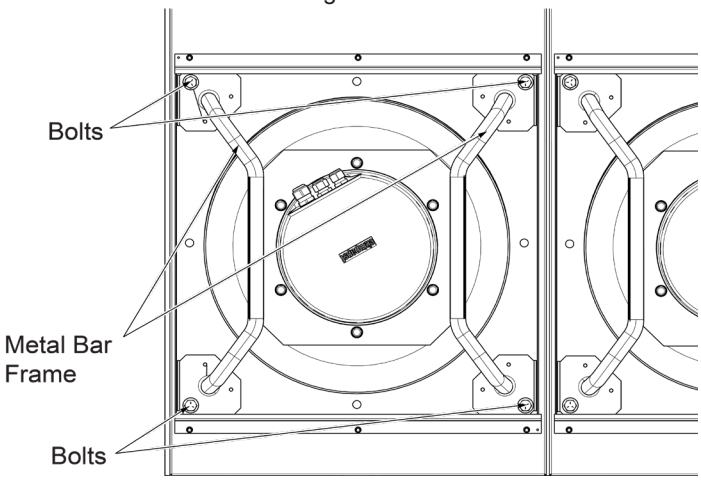
4. Secure supports to the metal bar frame.

⚠ DANGER

FAN SLED ASSEMBLY IS HEAVY!

Failure to use the proper lifting equipment to support the weight of the sled assembly can cause property damage, personal injury, or death. Supports should be able to lift at least 150 lbs.

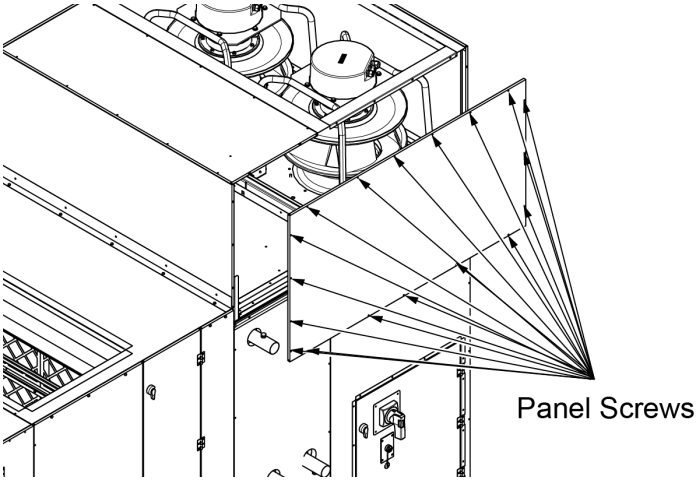
5. Remove the bolts holding the fan to the slide-out sled.



6. Remove fan from the slide-out sled.
7. Repeat steps 4-6 for second fan (if equipped).

Vertical Unit Sizes 060 - 100 (Welded Aluminum Airfoil Plenum Fans)

1. Remove screws securing the access panel to the fan section, then remove the fan access panel.



NOTICE

Dual fan model shown.

2. Detach the low-voltage and power wires from the fan motor(s) by releasing the plastic connectors.

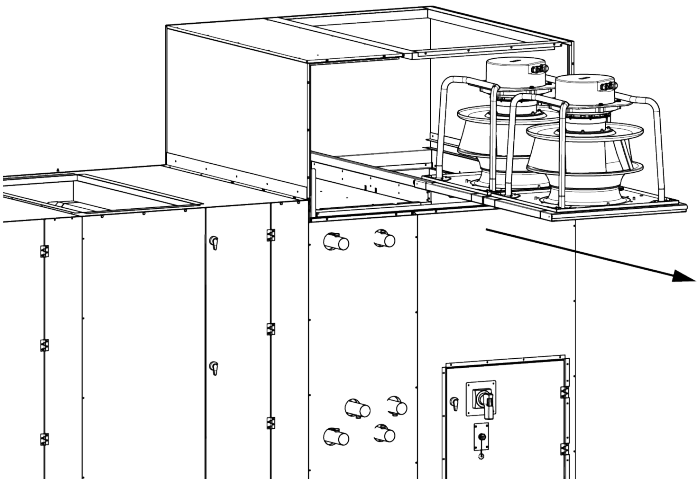
NOTICE

Remember the motor orientation when installing the new fan. Matching the motor orientation will ensure wires can reach the connectors of the new motor.

3. Slide the fan(s) out fully from the cabinet along the slide-out rail.

⚠ DANGER

NEVER slide fans out of the cabinet unless the cabinet is securely fastened to a flat surface or to another cabinet section. Failure to do so will create a tipping hazard, which can cause property damage, personal injury, or death.



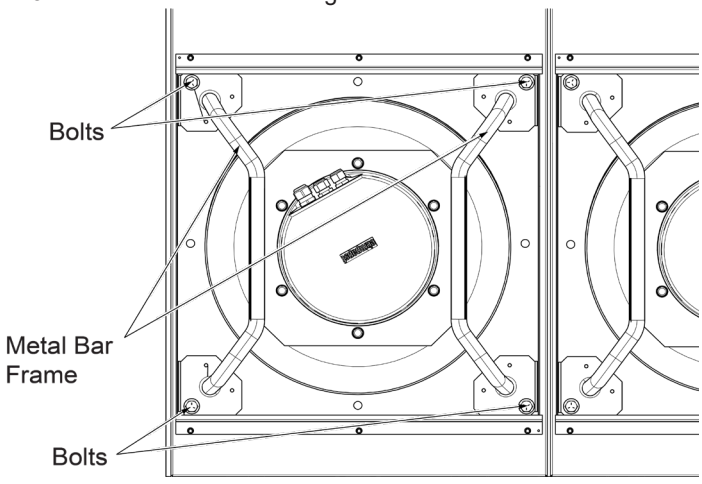
4. Secure supports to the metal bar frame.

⚠ DANGER

FAN SLED ASSEMBLY IS HEAVY!

Failure to use the proper lifting equipment to support the weight of the sled assembly can cause property damage, personal injury, or death. Supports should be able to lift at least 150 lbs.

5. Remove the bolts holding the fan to the slide-out sled.



6. Remove fan from the slide-out sled.
7. Repeat steps 4-6 for second fan (if equipped).

Appendix

Warranty Registration Form

PreciseLine Air Handler Equipment Warranty Registration Form

To comply with the terms of Daikin Applied Warranty, this form must be completely filled out and the record retained by the sales representative or the owner in order to comply with the terms of the Daikin Applied warranty.

JOB INFORMATION

Job Name:

Startup Date:

No. of Units at Site:

Installation Address:

Daikin G.O.:

Daikin S.O.:

Sales Office:

Purchasing Contractor Information:

UNIT INFORMATION

Unit Model No.:

Unit Location:

Unit Serial No.:

Unit Tagging:

INITIAL CHECK

Is the unit free of visible shipping damage or corrosion?	Yes	No	N/A
Is unit mounted level?	Yes	No	N/A
Does the unit meet all location, installation and service clearances per IOM Bulletin?	Yes	No	N/A
Are all setscrews on pulleys, bearing, and fans tightened?	Yes	No	N/A
Have the hold-down bolts been backed off on spring mounted fan isolators?	Yes	No	N/A
With the power off, do fans turn freely by hand?	Yes	No	N/A
Does electrical service correspond to unit nameplate?	Yes	No	N/A
Nameplate: Volts: Hertz: Phase:			
Are all electrical power connections tight?	Yes	No	N/A
Has unit been properly grounded and all field wiring confirmed to unit electrical specifications?	Yes	No	N/A
Is the main disconnect adequately fused and are fuses installed per local code?	Yes	No	N/A
Is the condensate drain trapped?	Yes	No	N/A
Fill the drain pan. Does water drain freely?	Yes	No	N/A

13F-4243 (10/2025)

DAIKIN

FAN DATA

Are the supply fans rotating correctly? Yes No N/A Supply Fan RPM:

Supply Fan Motor Amp Draw per Phase: L1 amps: L2 amps: L3 amps:

Fan array units only: L1 amps: L2 amps: L3 amps:

Are the return fans rotating correctly? Yes No N/A Return Fan RPM:

Return Fan Motor Amp Draw per Phase: L1 amps: L2 amps: L3 amps:

Fan array units only: L1 amps: L2 amps: L3 amps:

Record supply static pressure at unit in inches of H_2O:

Record return static pressure at unit (with outside air dampers closed) in inches of H_2O:

* If additional fans are on the unit, please add them to the space below.

DAMPERS (IF APPLICABLE)

Are blades and seals present? Yes No N/A Do dampers open smoothly and shut tight? Yes No N/A

ELECTRIC HEAT (IF APPLICABLE)

Does electrical heat service correspond to unit nameplate? Yes No N/A

Volts: Hertz: Phase:

Are the electric heat coils free of visible shipping damage? Yes No N/A

Have all electrical terminals been tightened? Yes No N/A

Does sequence controller stage contactors properly? Yes No N/A

Amp draw across each phase at each heating stage:

	Stage 1	Stage 2	Stage 3	Stage 4	Stage 5
Phase L1:					
Phase L2:					
Phase L3:					

Operate electric heat with fans off. Electric heat must cycle on high limit control. Yes No N/A

CHILLED WATER COIL (IF APPLICABLE)

Pressure test OK? Yes No N/A

Fill the drain pan. Does water drain freely? Yes No N/A

HOT WATER COIL (IF APPLICABLE)

Pressure test OK? Yes No N/A

Fill the drain pan. Does water drain freely? Yes No N/A

DAIKIN

HEAT RECOVERY (IF APPLICABLE)

Heat Wheel Model No.: Heat Wheel Serial No.:

Does the heat wheel rotate freely?	Yes	No	N/A
Does the heat wheel VFD operate properly?	Yes	No	N/A
Is there any air bypass around heat wheel?	Yes	No	N/A

SUMMARY & SIGNATURES

Note any repairs made:

Items not installed per IOM Manual and/or recommended corrective actions:

Installation and Check Performed By:

Print Name

Signature Date:

Company Name:

Title:

Additional Comments:

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.

Form No. 933-430285Y-01-A (11/2023)
Part No. 043028500 Rev.0F

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