Engineering Guide

H2 / V2 Air Handlers

H2

V2

Horizontal / Vertical

800 to 10,000 CFM

How To Use This Book

1) Product Information

This book will provide an overview of equipment capabilities and performance. Specific capability and performance data can be obtained by making selections using the *AAON ECat* selection software (electronic catalog).

2) Selection

This book should be used to supplement electronic selection, and as a reference for information that may not be included in the selection software. Due to the nature of AAON's unique products and manufacturing, and resulting "semi-custom" selection process, it is not possible to use this book as a sole source for selection – *AAONECat* software must be used for final selection and order generation.

3) Application

This book contains information regarding application of specific equipment and product features, but it is not comprehensive. You are responsible for the appropriate application of the equipment described herein according to professionally accepted HVAC industry standards and practices.

Pay attention to: ***NOTE***, ***CAUTION***, and ***WARNING***. ***NOTES*** are intended to clarify or make selection easier. ***CAUTIONS*** are given to prevent equipment damage. ***WARNINGS*** are given to alert that personal injury or equipment damage may result if equipment is not handled properly.

⚠ NOTE

THESE ARE GUIDELINES AND ARE INTENDED TO SUPPLEMENT, NOT TO REPLACE, PROFESSIONAL ENGINEERING PRACTICES. PROPER ADHERENCE TO AND USE OF APPLICATION GUIDELINES IN THIS MANUAL WILL HELP TO ENSURE A PROPERLY WORKING SYSTEM. CONTACT YOUR AAON REPRESENTATIVE FOR ADDITIONAL REQUIRED INFORMATION.

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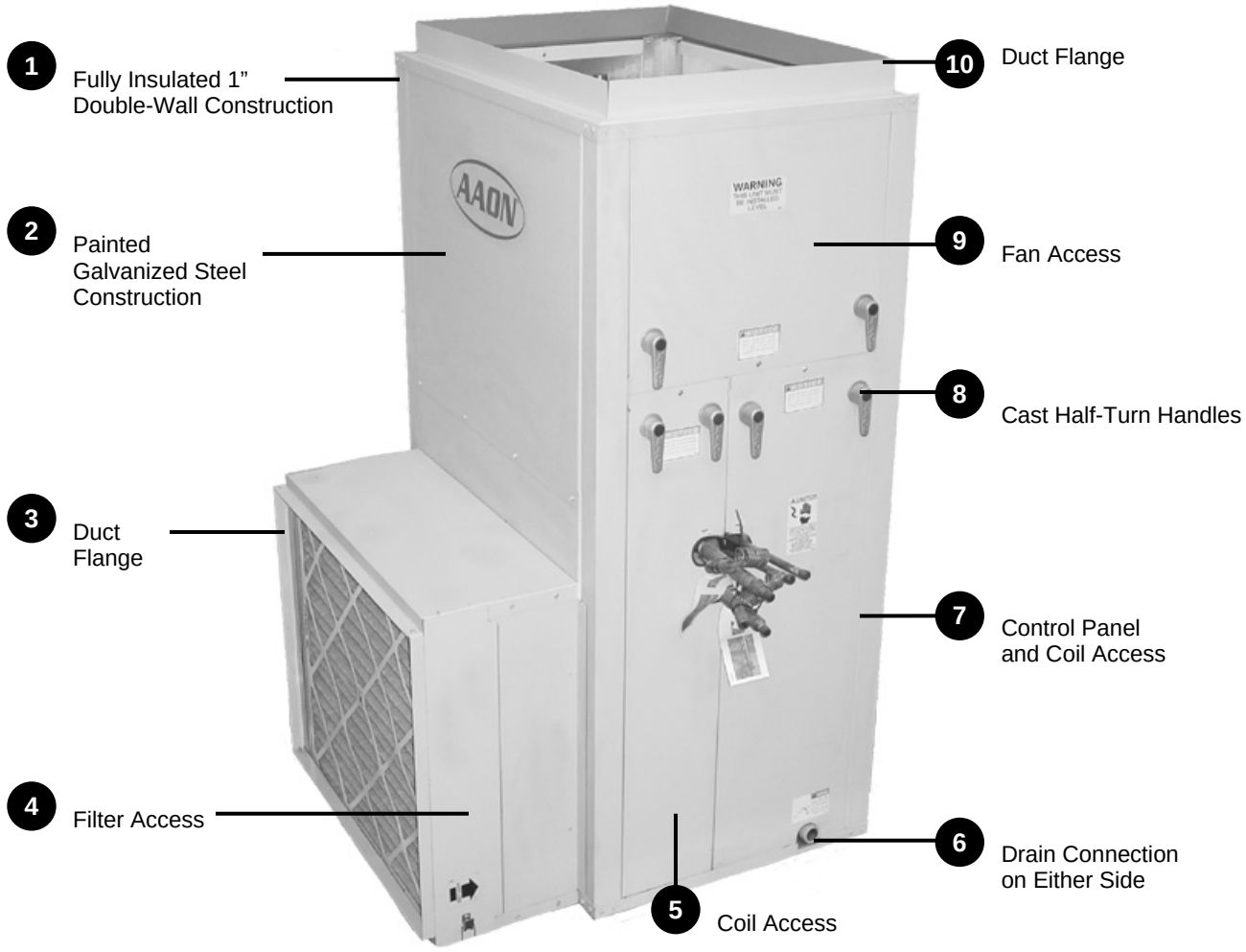
Overview



1. Double-wall construction for reduced cabinet loss, better air quality, and easier cleaning.
2. Attractive pre-painted powder coat finish on a cabinet that is built to last.
3. Return air duct connection.
4. Easy slide out filter access for 2” or 4” pleated filters.
5. Panel removes easily to clean or service the coils, and other internal components.
6. Stainless steel or galvanized sloped drain pan - either left or right hand connection.
7. Removable door for access to fully enclosed control box and more access to coils.
8. Half-turn cast handles hold door firmly against high quality gasketing for tight air seal.
9. Access to fan wheel, motor, and drive components for quick servicing.
10. 2” supply air duct flange.

Features and Options

Configure ***AAON H2/V2 Air Handlers*** for:

- Use with chilled or hot water sources
- DX cooling and/or electric heating
- Make-up air applications up to 100% OA
- Special comfort or process controlled conditioning
- Dehumidification
- Filtration

Using **Advanced Options** Such As:

- Horizontal or vertical airflow with left or right hand connections
- 800 to 10,000 CFM across 10 cabinet sizes
- Mixing boxes
- Filter boxes
- Over 20 standard coil choices for DX, chilled or hot water, and steam, or design a custom coil using AAON's *Heatflow* software
- Stainless steel drain pan
- Hot gas bypass
- Modulating hot gas reheat
- Heat pump
- Premium high efficiency motors
- Electric heat up to 70kW, and 4 stages
- Single phase: 208, 230, 265. Three phase: 208, 230, 460, 575
- Controls: use AAON's or specify your own

With These **Standard Features**:

- Painted galvanized steel cabinet construction
- All double-wall construction with 1" fiberglass insulation
- Service access panels with cast half-turn handles
- Resilient, high quality gaskets and door seals
- Sloped drain pan with connections on either side of unit
- Top mount steel retainers for hanging (horizontal units)
- Color-coded wiring diagram, laminated and affixed to control access panel
- Adjustable belt drive blower assembly (Size A cabinet is direct drive)
- Factory installed TXV (DX units)
- Single point power supply
- 2" pleated filters furnished with unit

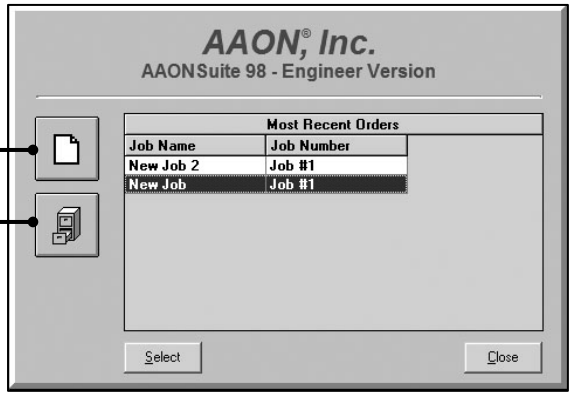
ECat Rating and Selection Software: Getting Started

Step 1: Start Ecat. Create a *New Job*, or open an *Existing Job*.

Click to create New Job

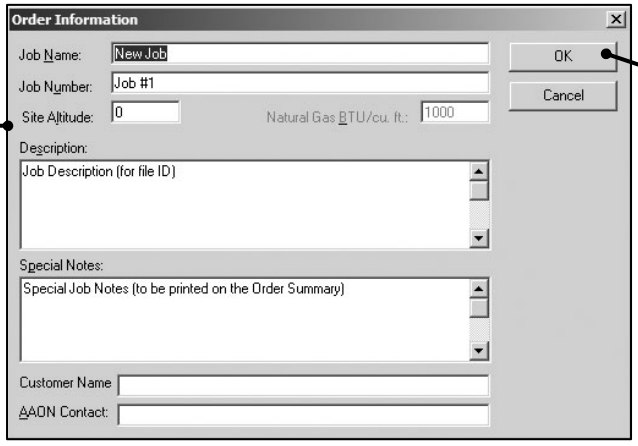
Click to open Existing Job

The *Order Information* window will be displayed when you click 'New Job'.



Step 2: For a *New Job*, enter new order information and click 'OK'.

Be sure to input the job site altitude.



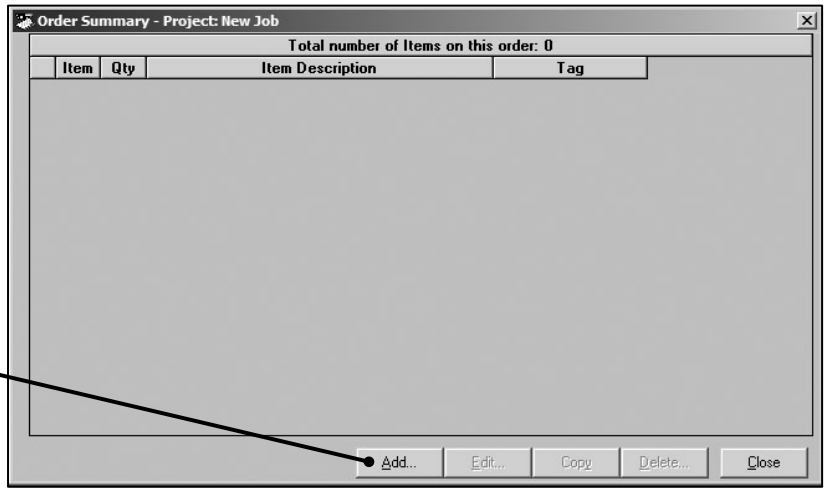
Click 'OK' to Save Order Information and to display the *Order Summary* window.

Step 3: Click 'Add' from the *Order Summary* window to add equipment to the order.

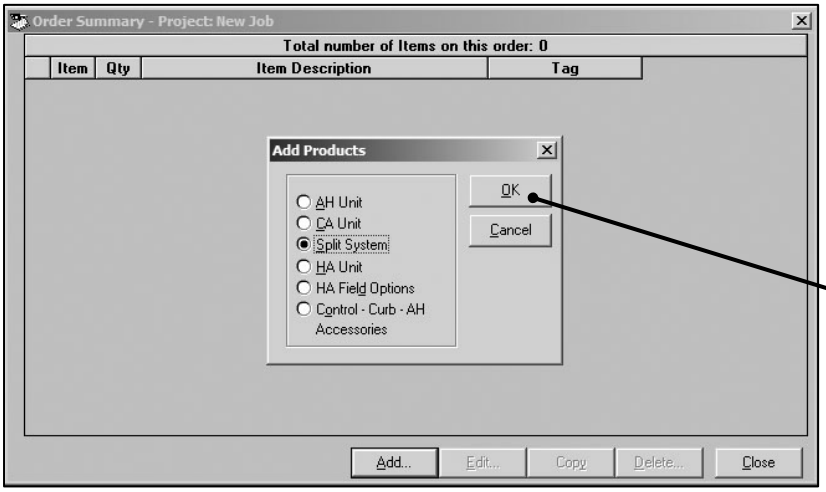
The Order Summary window will display all products on the order after they have been added.

For new orders, the window will be empty as shown here.

Click 'Add' to display the *Add Products* window.



Step 4: Select equipment from the *Add Products* window and click 'OK'.

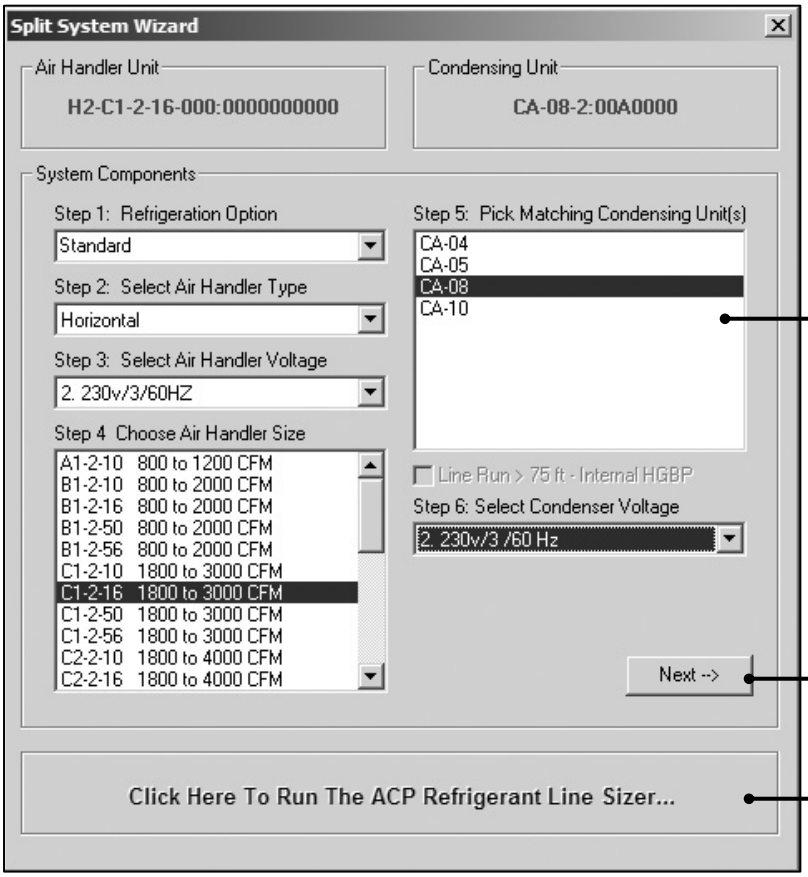


You can select a matching split system (H2/V2 air handler with CA condensing unit), or you can add individual units to the order, such as a chilled water air handler, or steam heat unit.

For this example, a matching split system selection will be used.

Click 'OK' to display the *Split System Wizard* window.

Step 5: Configure the system from the *Split System Wizard* window and click 'Next →'.

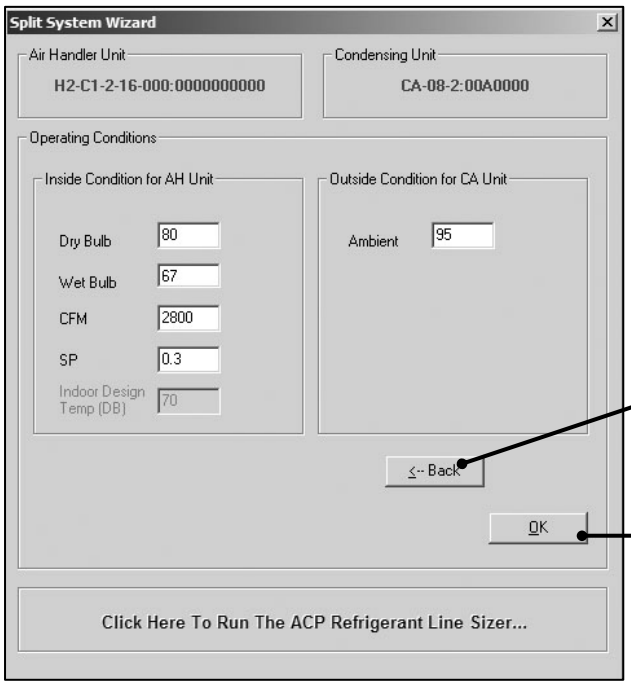


Matching condensing units available are displayed here based on the air handler size and system options selected.

Click 'Next →' to continue with the *Split System Wizard*

Click here to access the *Refrigerant Line Sizer* program. See the "Design Considerations" section of this book for more information.

Step 6: Set operating conditions and click 'OK' to add this system to the order.



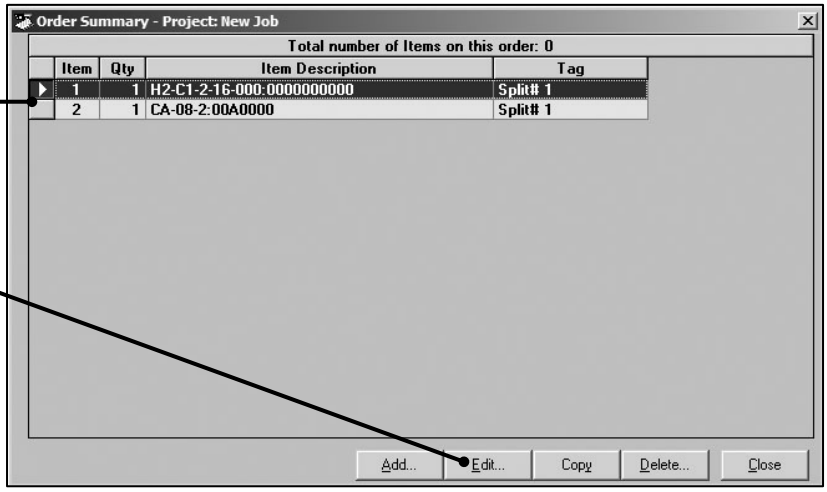
Click '← Back' to return to the system configuration window to make changes if necessary.

Click 'OK' to complete the addition of this system to the job, and to return to the *Order Summary* window.

Step 7: Select units to modify from the *Order Summary* window.

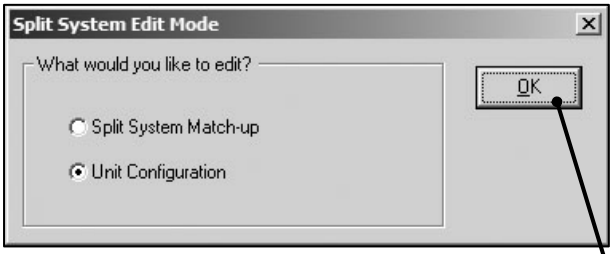
Added products are now shown in the *Order Summary* window. Once products have been added, you can modify unit and system details to finish out the selection.

Click on the item you wish to modify from the product list. Click 'Edit' to enter the *Split System Edit Mode* .



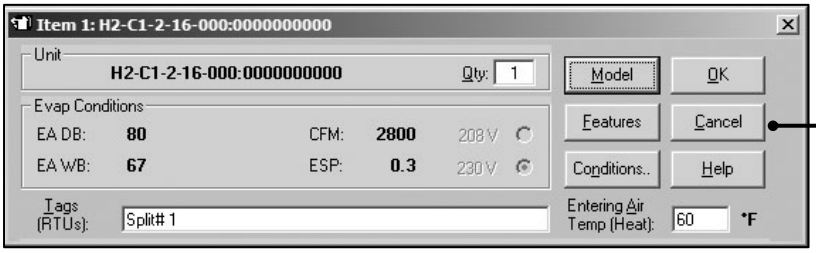
Select 'Split System Match-Up' if you need to return to the *Split System Wizard* to make changes.

***Select Unit Configuration* to configure individual, detailed unit feature options and calculate performance.**

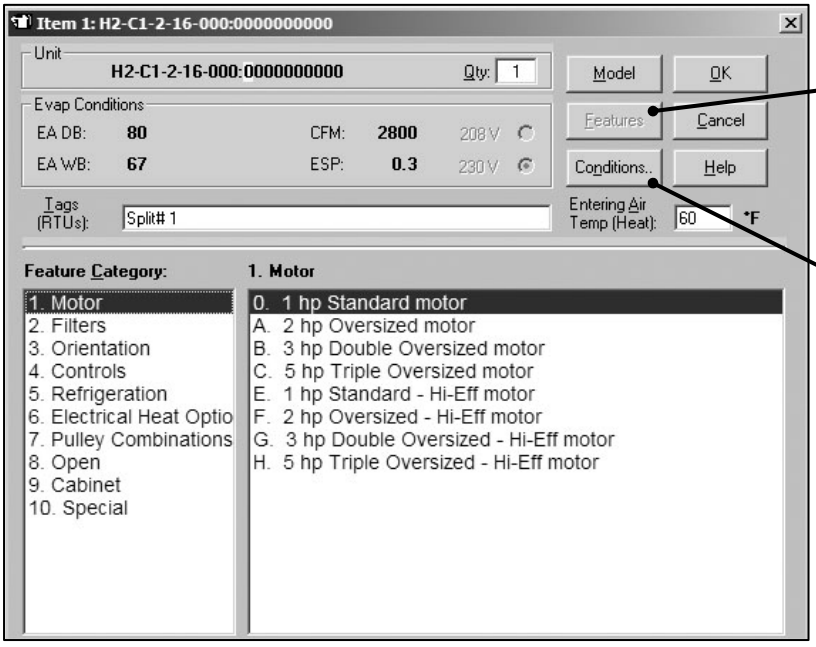


Click 'OK' to display the *Unit Configuration* window.

Step 8: Modify unit features and conditions from the *Unit Configuration* window.



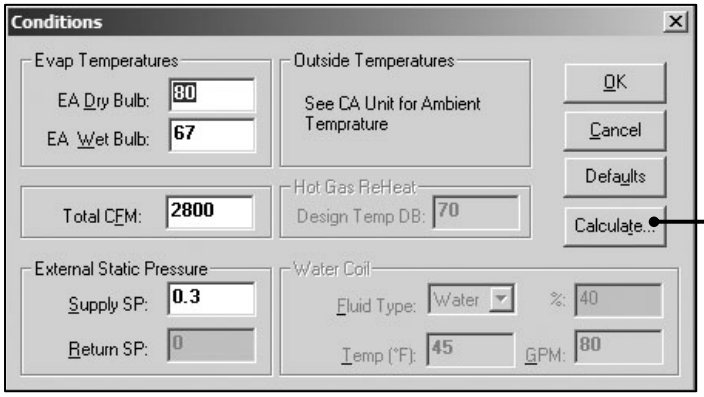
Choose what you want to do by clicking the buttons on the right.



Click 'Features' to display the *Feature Category* menu where you can modify unit features and options.

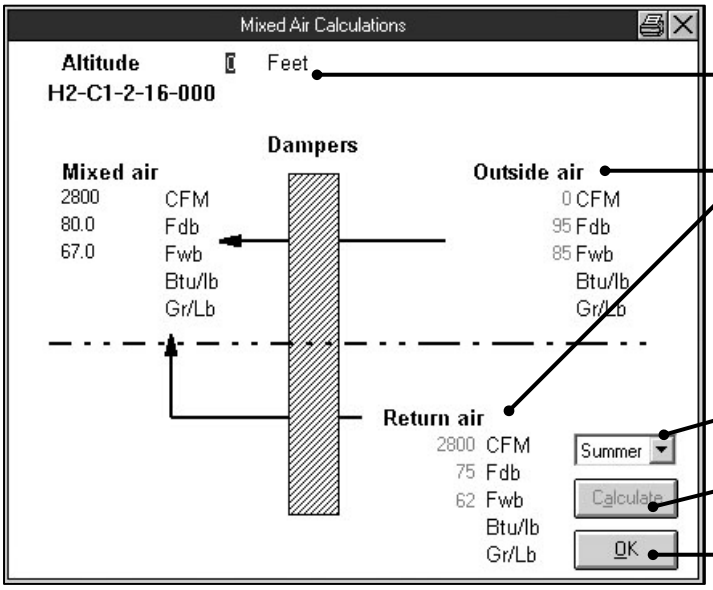
Click 'Conditions' to display the *Conditions* window where you can define the operating conditions.

Step 9: Define operating conditions in the *Conditions* window and click 'Calculate'.



Click 'Calculate' to display the *Mixed Air Calculations* window.

Step 10: Enter OA and RA conditions in the *Mixed Air Calculations* window.



Altitude was set in the *Order Information* window. See Step 2.

You can modify the OA and RA variables that are displayed in red.

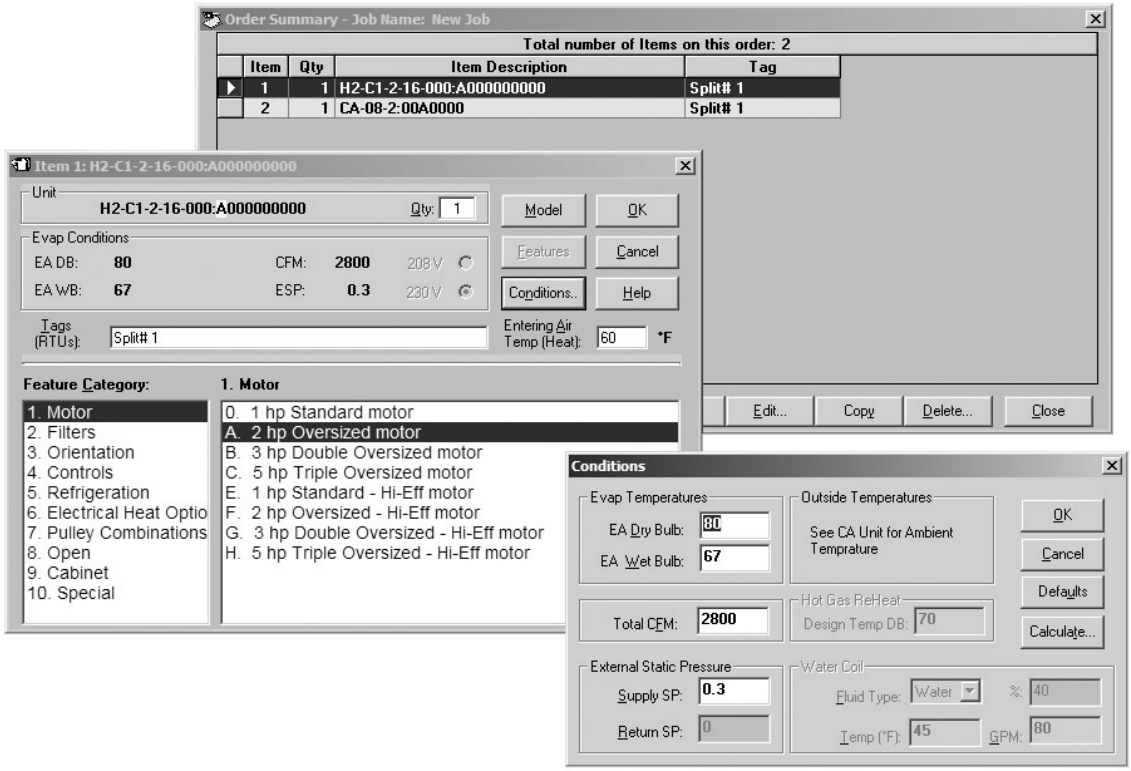
Optionally, you may choose standard Summer or Winter OA settings.

Click 'Calculate' to display the mixed air results.

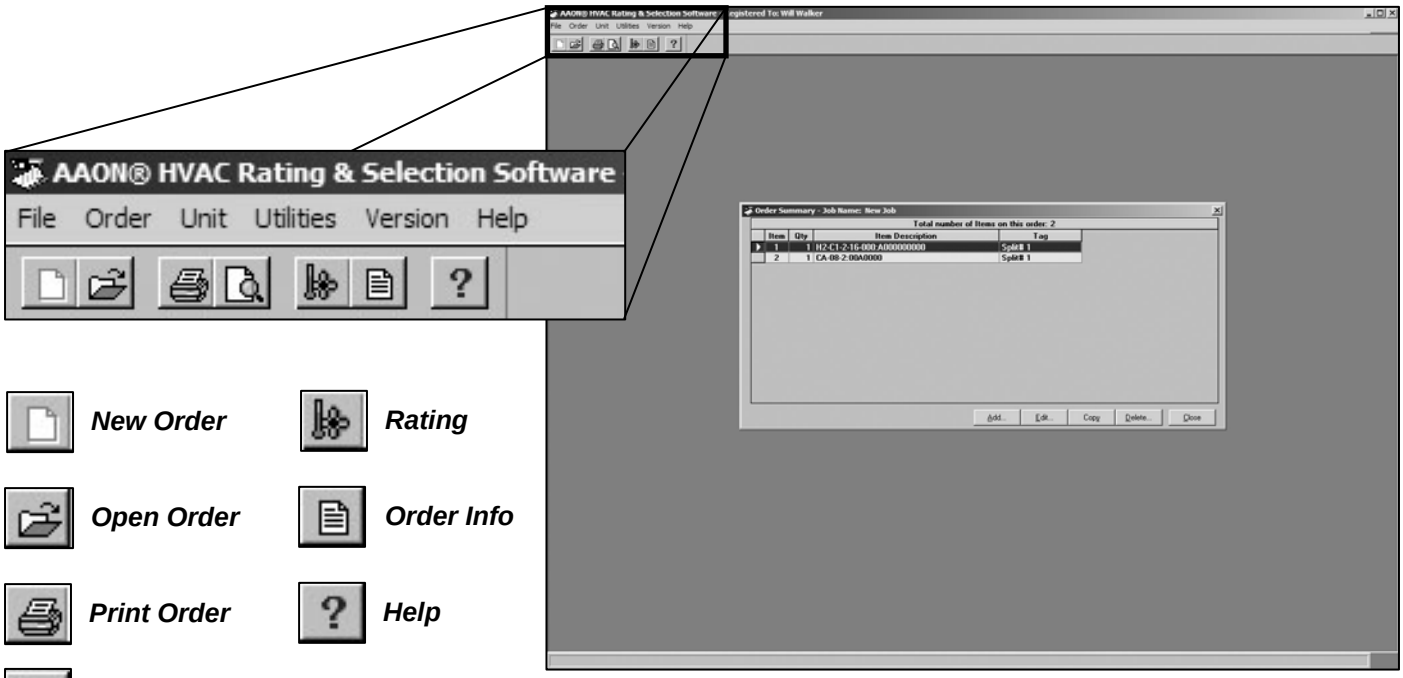
Click 'OK' when finished.

Step 11: Complete the unit selection and return to the *Order Summary* window.

Click 'OK' in the *Conditions* window, and click 'OK' in the *Unit Configuration* window to return to the *Order Summary* window. You can always open the job's *Order Summary* window to modify equipment by clicking 'Open Existing Job' as shown in Step 1.



Step 12: Use menu tools to prepare summary, rating, and submittal information.



New Order ***Rating***

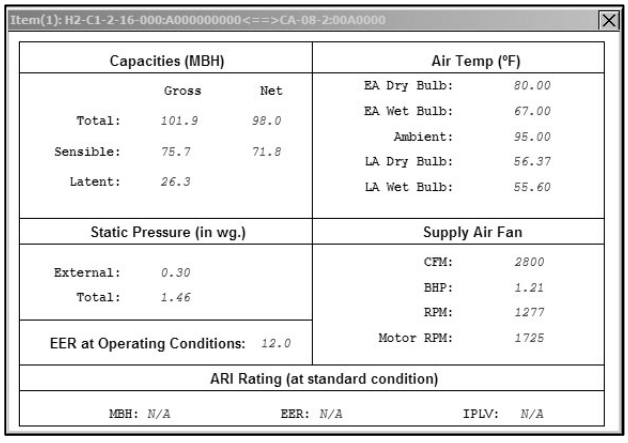
Open Order ***Order Info***

Print Order ***Help***

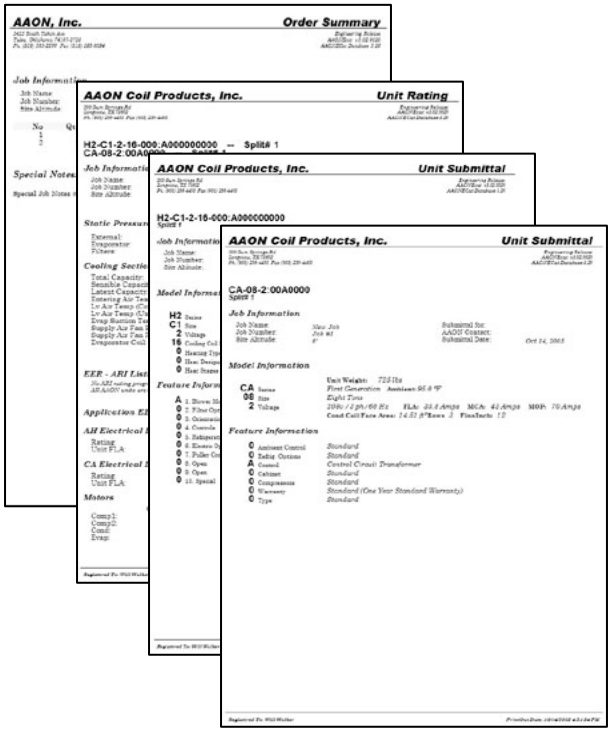
Preview Order

Preview and print Order Summary, Rating, and Submittal documents.

Preview unit ratings on screen by selecting a unit from the *Order Summary* window and clicking on the 'Rating' button.

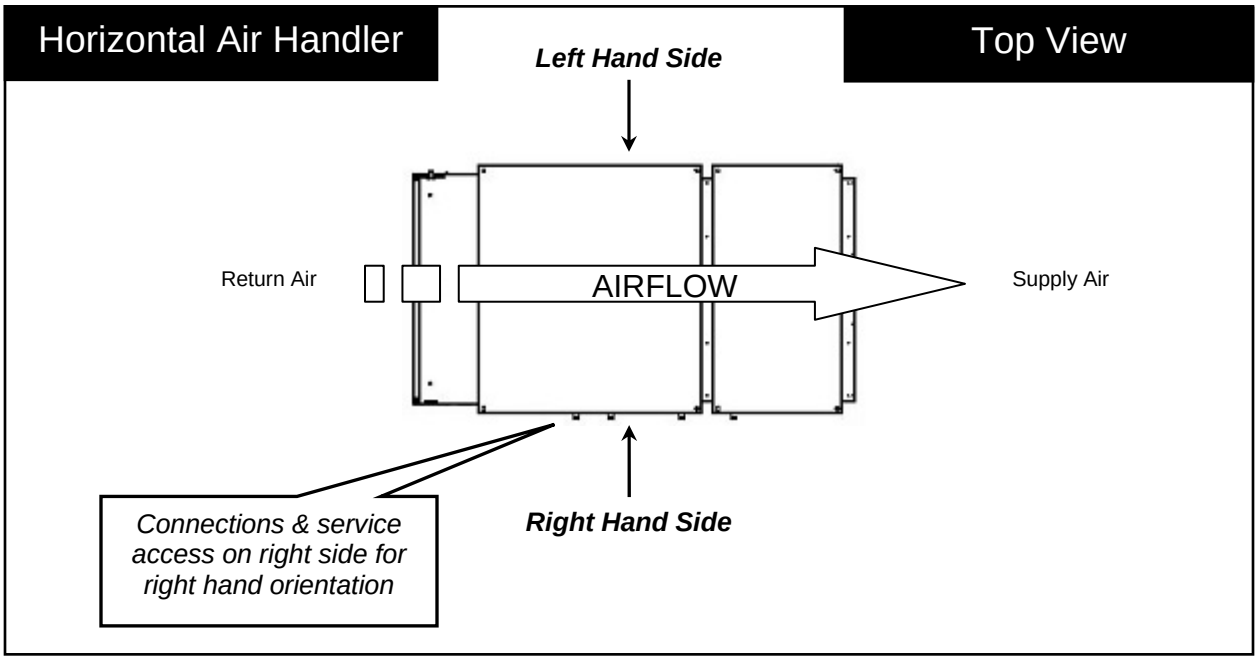

Item(1): H2-C1-2-16-000:A000000000<==>CA-08-2:00A0000

Capacities (MBH)			Air Temp (°F)	
	Gross	Net	EA Dry Bulb:	80.00
Total:	101.9	98.0	EA Wet Bulb:	67.00
Sensible:	75.7	71.8	Ambient:	95.00
Latent:	26.3		LA Dry Bulb:	56.37
			LA Wet Bulb:	55.60
Static Pressure (in wg.)			Supply Air Fan	
External:	0.30		CFM:	2800
Total:	1.46		BHP:	1.21
			RPM:	1277
EER at Operating Conditions:	12.0		Motor RPM:	1725
ARI Rating (at standard condition)				
MBH: N/A		EER: N/A	IPLV: N/A	

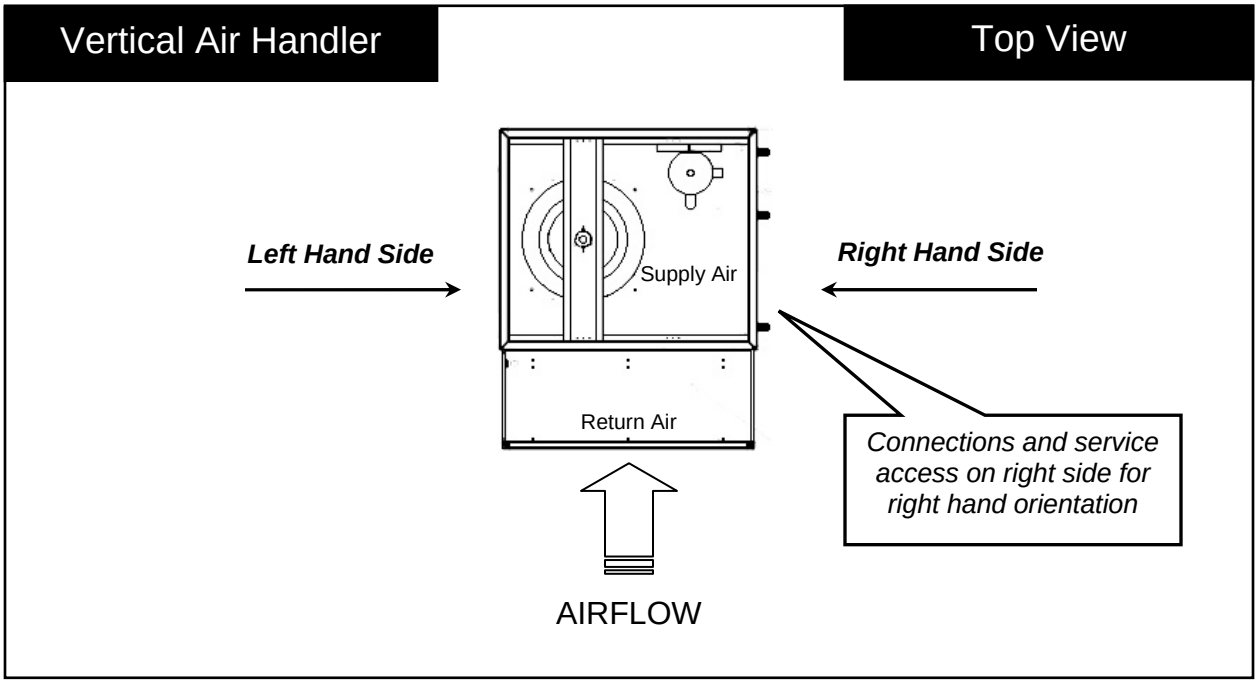


Unit Orientation

Determine <u>left hand</u> or <u>right hand</u> piping connections:

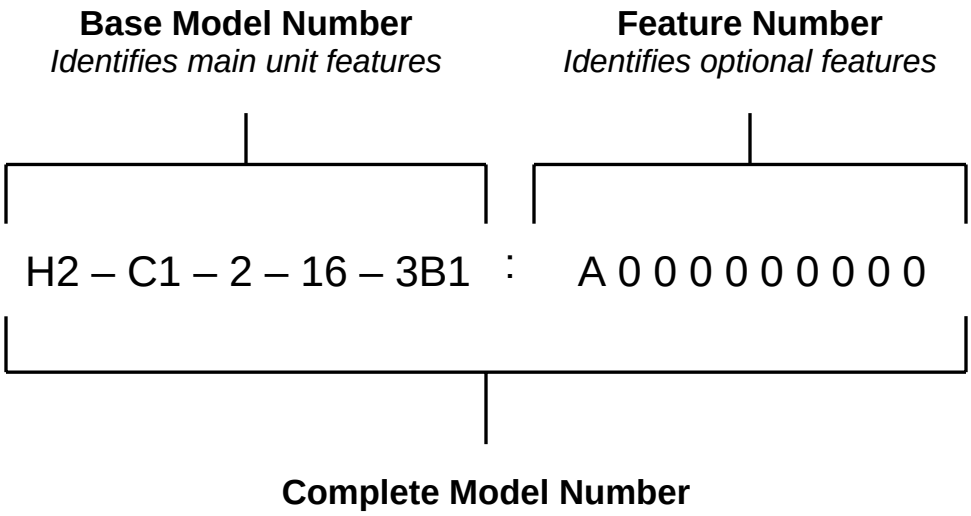


Remember: Consider the air to be **"hitting the back of your head"** as you face the return air inlet.

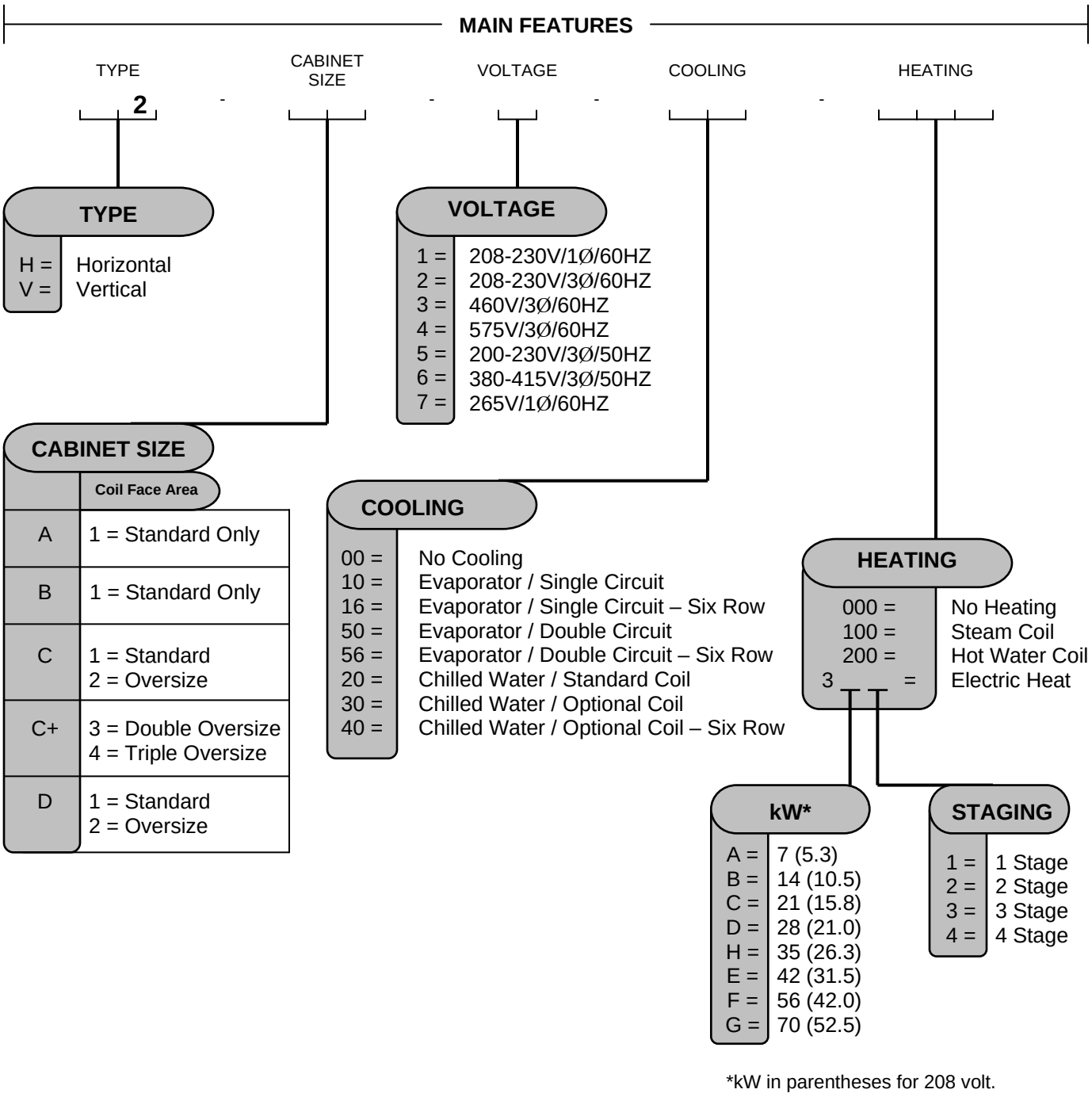


Model Number Nomenclature

The complete unit model number consists of a base model number followed by a feature number.

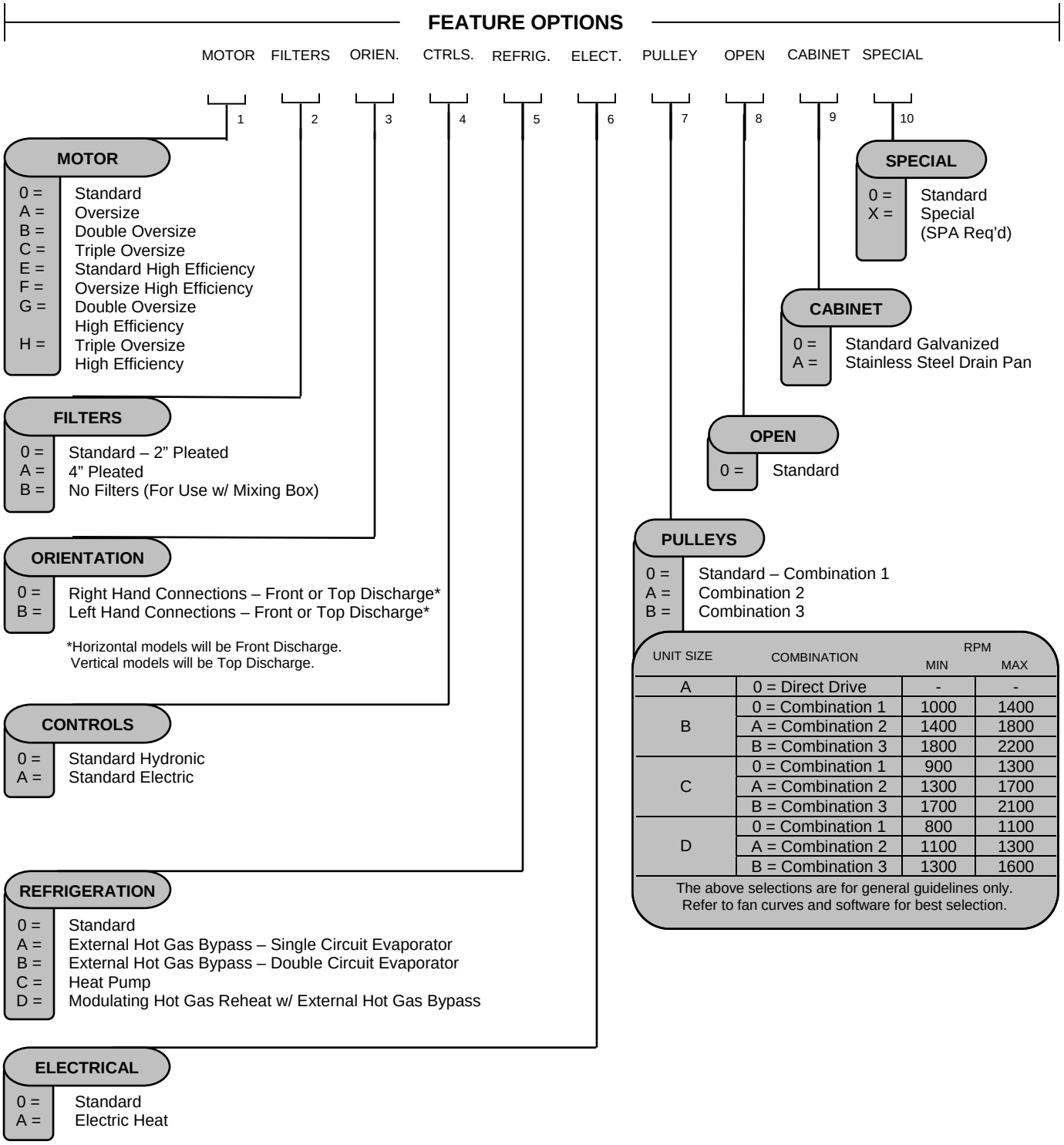


Base Model Number



*kW in parentheses for 208 volt.

Feature Number



UNIT SIZE	COMBINATION	RPM MIN	RPM MAX
A	0 = Direct Drive	-	-
B	0 = Combination 1	1000	1400
	A = Combination 2	1400	1800
	B = Combination 3	1800	2200
C	0 = Combination 1	900	1300
	A = Combination 2	1300	1700
	B = Combination 3	1700	2100
D	0 = Combination 1	800	1100
	A = Combination 2	1100	1300
	B = Combination 3	1300	1600

The above selections are for general guidelines only.
Refer to fan curves and software for best selection.

2. Design Considerations

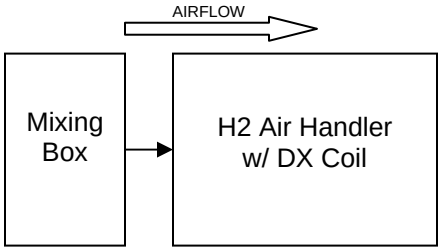
The H2/V2 product can be thought of like a “mini-modular”. That is, multiple sections may be configured into a single, factory-assembled unit to fulfill application requirements. While most options, such as cooling coils, will be contained in the main air handler cabinet, some options will be contained in a separate module and attached to the main air handler cabinet at the factory.

Options requiring separate modules:

- **Mixing Box**
- **Electric Heat**
- **Cartridge Filter**

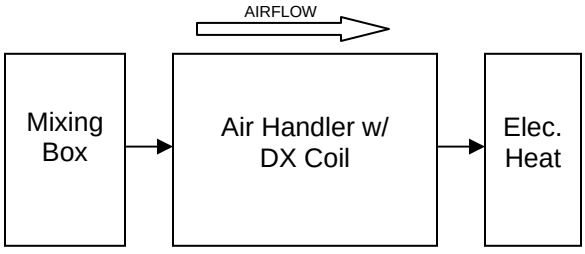
H2 Example A:

If you select a horizontal unit (H2), with DX cooling and a mixing box, it will fit together like this:



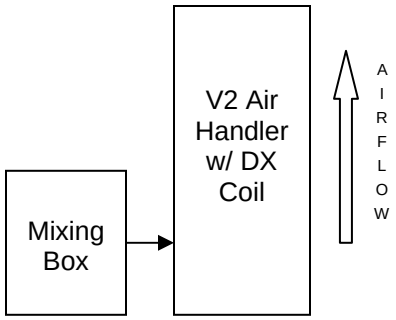
H2 Example B:

If you select a horizontal unit (H2), with DX cooling, a mixing box, and electric heat, it will fit together like this:



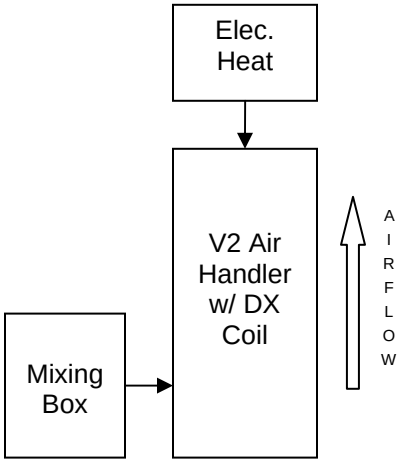
V2 Example A:

If you select a vertical unit (V2) with DX cooling and a mixing box, it will fit together like this:



V2 Example B:

If you select a vertical unit (V2) with DX cooling, a mixing box, and electric heat, it will fit together like this:



For complete assembly specifications for all unit cabinet sizes, refer to the unit drawings at the back of this book.

Blower Assembly

Blowers have backward inclined airfoil blades with an adjustable V-belt drive, except for the A size cabinet which has a direct drive, forward curve blade. All drives have a minimum rating of 140% of the motor nameplate brake horsepower when the adjustable pulley is set to the minimum RPM.

Coils

Coils are fabricated of seamless copper tubes with aluminum fins mechanically bonded to the tubes. Coil headers are extra heavy wall seamless drawn copper tubing with die formed end closures for added strength.

DX evaporators are set up for R-22 with an externally equalized thermostatic expansion valve installed at the factory.

Coil connections are stubbed outside of the cabinet for installation convenience.

Placement

Units are for indoor use only. Vertical models should be set on a sturdy, flat, and level surface, such as a concrete slab in an equipment room. Horizontal models are provided with top mounted threaded steel retainers to allow field installation with field-supplied vertical 3/8" – 16 NC steel hanger rods.

Accessibility

Units must be placed to ensure proper service access. All internal components are accessible from the service/connections side of the unit via removable panels with cast half-turn handles. Ensure that there is enough room to remove internal components if required, and to service items such as filters and belts. In general, service access side clearance equal to or greater than the unit width (depth) is recommended.

Electrical

Units have a single point power connection terminal block for easier field connection to the power source. Units also include a 24 volt control circuit transformer and a fan contactor for operation of the blower motor.

Mixing Box

Mixing boxes may be selected for applications using up to 100% outside air. Mixing boxes will ship attached to the unit. No mechanical assembly is required in the field. Air foil damper blades are constructed of extruded aluminum with a hollow core, rubber edge seals, and aluminum end seals. Dampers are gear driven and designed to have no more than 25 CFM of leakage per square foot at 2" w.g.

Electric Heat

Electric heat may be ordered as a factory installed attachment to the main unit. When ordered, an auxiliary box is used to contain the heat strips (see unit drawings for detail). Heating elements are open wire type with nichrome wire mounted in ceramic insulators. Heat is controlled by 24 volt normally open contactors. As all components are factory installed, the unit will still have a single point power connection, and will bear the ETL listing label when ordered with electric heat.

Filters

Standard units are furnished with 2" pleated filters. Other filter options are available.

Piping

Design piping according to professionally accepted industry standards and practices. Piping to the coil header connections must be supported independently of the coil to prevent undue stress from weakening connections over time. Allow adequate flexibility for thermal expansion of the piping.

Water Piping

Be aware of the potential for lower than normal entering air temperatures (typically air temperatures below 40°F) when specifying water piping. Use proper glycol solutions or brines to help prevent coil freezing.

Supply and return sweat connections are stubbed externally to the unit and labeled. Vent and drain connections can be accessed within the cabinet.

Refrigerant Piping

Refer to the ASHRAE handbooks, ASME standards, and the equipment manufacturer's instructions for proper refrigerant piping design information.

AAON's Refrigerant Piping Calculator can also help you with selection.

The piping between the condenser and low side must assure:

1. Minimum pressure drop
2. Continuous oil return
3. Prevention of liquid refrigerant slugging or carryover to the compressor

Acceptable system design and installation will include consideration as follows:

Use only clean type L copper tubing (type K for underground) that has been joined with high temperature brazing alloy.

The pipe sizes must be selected to meet the actual installation conditions, not based on the connection sizes at the evaporator and condensing unit.

When sizing refrigerant lines, cost considerations favor keeping line sizes as small as possible. However, excessive suction or discharge line pressure drops cause loss of compressor capacity and increased power usage resulting in reduced system efficiency. Furthermore, excessive liquid line pressure drops can cause the liquid refrigerant to flash, resulting in faulty expansion valve operation.

Correct sizing must be based on minimizing cost and maximizing efficiency. Pressure drop calculations are referenced as normal pressure loss associated with a change in saturation temperature of the refrigerant.

Line Length

Equivalent line length (total line length) is the sum of all interconnecting copper tubing including all horizontal and vertical lengths of all lines between the indoor coil and the condenser. Use equivalent line lengths when calculating pressure drop. Special piping provisions must be taken when lines are run underground, up vertical risers, or in excessively long line runs.

Applications with external hot gas bypass or hot gas reheat should be limited to 75 equivalent feet. Equivalent line lengths of standard cooling systems **that do not use hot gas bypass or hot gas reheat** can be longer. Maximum line length for a given system design **will be determined by good selection practices**. You should always refer to ASHRAE and ASME standards for the most complete piping information.

Refrigerant Piping Calculator

The program contained in AAON's *ECat* equipment rating and selection software can be used to size liquid, discharge, and suction lines.

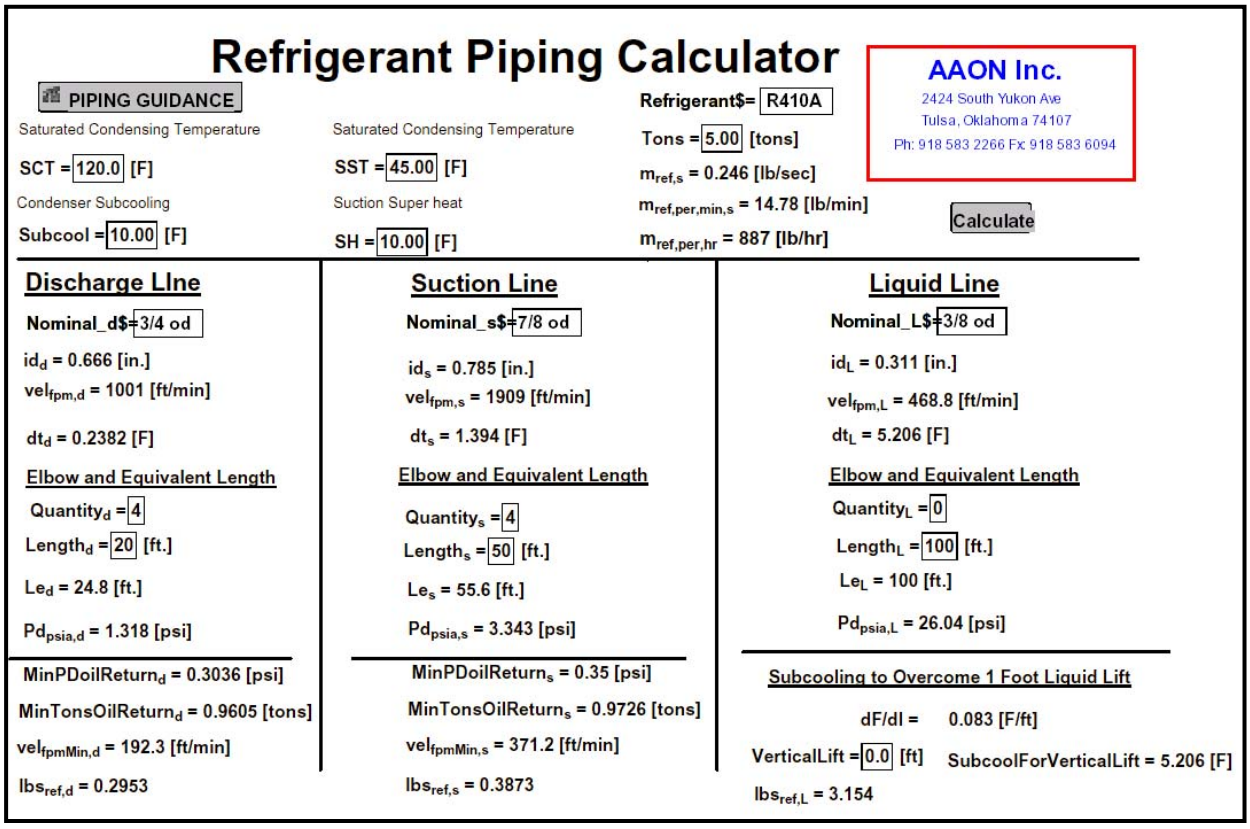
The program calculates the equivalent length as the sum of the actual length plus the number of elbows times the equivalent length per elbow. Pressure drop of other components should be incorporated using the *ASHRAE Refrigeration Handbook* to determine fitting and valve losses in equivalent lengths of pipe. Additional losses should be added to the total length before calculation.

NOTE

TO START THE REFRIGERANT PIPING CALCULATOR:

1. START THE ECAT PROGRAM.
2. SELECT 'UTILITIES' FROM THE MENU.
3. SELECT *'REFRIGERANT LINE SIZER*'

Figure 19a AAON Ecat Screenshot: Refrigerant Piping Calculator



3. Special Applications

Reheat Dehumidification

Dehumidification with reheat systems is accomplished by allowing longer cooling coil run times for moisture removal during the cooling process. Long run cycles cannot be accomplished if the space temperature sensor is satisfied too quickly. Thus, a reheat system can be used to maintain neutral air temperatures during dehumidification.

Reheat dehumidification can be achieved with hot water in chilled water systems, or modulating hot gas reheat in DX systems.

Hot Water

Hot water reheat can be used in any recirculating or make up air application to provide proven humidity control at very low operating costs. A hot water coil can be placed after the chilled water cooling coil to provide reheat for humidity control. Hot water is piped from the source (e.g. “waste” heat from a chiller) to this reheat coil. Reheat will be available when the source is running.

Modulating Hot Gas Reheat (MHGRH)

Modulating means that the amount of reheat used can be controlled.

1. MHGRH is not a standard selection on single circuit systems. Contact your AAON Representative for information.
2. MHGRH must be used in conjunction with external HGBP.
3. Heat pump MHGRH applications are available without HGBP. Contact your AAON Representative for information.

The hot gas reheat coil is placed after the DX evaporator for reheat dehumidification. AAON’s MHGRH is a very effective modulating reheat system for use in dual circuit DX cooling applications.

Hot Gas Bypass (HGBP)

HGBP is required on DX systems that may have low suction pressure during the operating cycle due to varying load conditions. Varying loads include variable air volume (VAV) applications and units with a large percentage of outside air.

4. Unit Data Charts

General Data

Table 21.1

		H2 General Data							
Cabinet Size		**A**	**B**	**C**		**C+**		**D**	
Coil Face Area Designation		**1**	**1**	**1**	**2**	**3**	**4**	**1**	**2**
CFM Range		800 - 1200	800 - 2000	1800 - 3000	1800 - 4000	2000 - 4800	2500 - 6000	3000 - 6000	4300 - 10000
Electric Heating KW		7, 14	7, 14, 21	14, 21, 28, 35, 42				14, 28, 42, 56, 70	
Blower **Quantity / Wheel Dia. / Type**		1 / 10" / FC	1 / 15" / BI	1 / 18.5" / BI		1 / 18.5" / BI		1 / 27" / BI	
Blower Motor Maximum HP	**Standard**	1/2*	1	1		2		3	
	Oversize		2**	2		3		5	
	Double Oversize			3		5		7.5	
	Triple Oversize			5		7.5		10	
FPT Drain Connection Size		3/4"							
Pleated Filter Size **(Quantity)**		16"x20"x2 (1)	16"x20"x2 (2)	24"x24"x2" (2)		24"x24"x2" (3)		16"x20"x2" (10)	

***Note: 1/2 HP motors are direct drive. All other motors are belt drive with adjustable motor sheave.**
**** 2 HP motor not available in 265/1/60.**

Table 21.2

		V2 General Data							
Cabinet Size		**A**	**B**	**C**		**C+**		**D**	
Coil Face Area Designation		**1**	**1**	**1**	**2**	**3**	**4**	**1**	**2**
CFM Range		800 - 1200	800 - 2000	1800 - 3000	1800 - 4000	2000 - 4800	2500 - 6000	3000 – 6000	4300 - 10000
Electric Heating KW		7, 14	7, 14, 21	14, 21, 28, 35, 42				14, 28, 42, 56, 70	
Blower **Quantity / Wheel Dia. / Type**		1 / 10" / FC	1 / 15" / BI	1 / 18.5" / BI		1 / 18.5" / BI		1 / 27" / BI	
Blower Motor Maximum HP	**Standard**	1/2*	1	1		2		3	
	Oversize		2**	2		3		5	
	Double Oversize			3		5		7.5	
	Triple Oversize			5		7.5		10	
FPT Drain Connection Size		3/4"							
Pleated Filter Size **(Quantity)**		16"x20"x2 (1)	24"x24"x2" (1)	16"x 20"x2" (4)		16"x20"x2" (6)		16"x20"x2" (9)	

***Note: 1/2 HP motors are direct drive. All other motors are belt drive with adjustable motor sheave.**
**** 2 HP motor not available in 265/1/60.**

Coil Data

Table 22.1

H2 Coil Data												
Cabinet Size				A	B	C		C+		D	
Coil Face Area Designation				1	1	1	2	3	4	1	2
Coil Selection				Face Area Sq. Ft. / Rows / Fins Per Inch							
Chilled Water	Standard Face Area	Standard	20	2.08 / 3 / 10	3.54 / 2 / 14	5.42 / 2 / 14		8.75 / 3 / 10		10.61 / 2 / 14	
		Four Row	30	2.08 / 4 / 10	3.54 / 4 / 10	5.42 / 4 / 10		8.75 / 4 / 10		10.61 / 4 / 10	
		Six Row	40		3.54 / 6 / 10	5.42 / 6 / 10		8.62 / 6 / 10		10.61 / 6 / 10	
	Oversized Face Area	Standard	20				7.22 / 2 / 14		10.0 / 3 / 10		17.14 / 2 / 14
		Four Row	30				7.22 / 4 / 10		10.0 / 4 / 10		17.14 / 4 / 10
		Six Row	40				7.22 / 6 / 10		9.86 / 6 / 10		17.14 / 6 / 10
DX Evaporator	Single Circuit										
	Standard Face Area	Standard	10	2.08 / 3 / 12	3.54 / 2 / 14	5.06 / 2 / 14		8.0 / 3 / 12		11.75 / 3 / 12	
		Six Row	16		3.54 / 6 / 12	5.06 / 6 / 12		8.0 / 6 / 12		11.75 / 6 / 12	
	Oversized Face Area	Standard	10				7.22 / 3 / 12		10.0 / 3 / 12		
		Six Row	16				7.22 / 6 / 12		10.0 / 6 / 12		
	Double Circuit										
	Standard Face Area	Standard	50		3.54 / 2 / 14	5.06 / 2 / 14		8.0 / 3 / 12		11.75 / 3 / 12	
		Six Row	56		3.54 / 6 / 12	5.06 / 6 / 12		8.0 / 6 / 12		11.75 / 6 / 12	
	Oversized Face Area	Standard	50				7.22 / 3 / 12		10.0 / 3 / 12		16.97 / 3 / 12
		Six Row	56				7.22 / 6 / 12		10.0 / 6 / 12		16.97 / 6 / 12
Hot Water	Standard			2.08 / 1 / 14	3.54 / 1 / 14	5.42 / 1 / 14		8.75 / 1 / 14		10.61 / 1 / 14	
	Oversized						7.22 / 1 / 14		10.0 / 1 / 14		17.14 / 1 / 14
Steam	Standard			2.08 / 1 / 10	3.54 / 1 / 10	5.42 / 1 / 10		8.75 / 1 / 10		10.61 / 1 / 10	
	Oversized						7.22 / 1 / 10		10.0 / 1 / 10		17.14 / 1 / 10

Table 22.2

V2 Coil Data												
Cabinet Size				A	B	C		C+		D	
Coil Face Area Designation				1	1	1	2	3	4	1	2
Coil Selection				Face Area Sq. Ft. / Rows / Fins Per Inch							
Chilled Water	Standard Face Area	Standard	20	2.08 / 3 / 10	3.63 / 2 / 14	4.72 / 3 / 10		8.89 / 3 / 10		11.16 / 3 / 10	
		Four Row	30	2.08 / 4 / 10	3.63 / 4 / 10	4.72 / 4 / 10		8.89 / 4 / 10		11.16 / 4 / 10	
		Six Row	40		3.63 / 6 / 10	4.72 / 6 / 10		8.89 / 6 / 10		11.16 / 6 / 10	
	Oversized Face Area	Standard	20				7.5 / 2 / 14		10.0 / 3 / 10		18.19 / 3 / 10
		Four Row	30				7.5 / 4 / 10		10.0 / 4 / 10		18.19 / 4 / 10
		Six Row	40				7.5 / 6 / 10		10.0 / 6 / 10		18.19 / 6 / 10
DX Evaporator	Single Circuit										
	Standard Face Area	Standard	10	2.08 / 3 / 12	3.67 / 2 / 14	4.67 / 3 / 12		8.89 / 3 / 12		11.67 / 3 / 12	
		Six Row	16		3.67 / 6 / 12	4.67 / 6 / 12		8.89 / 6 / 12		11.67 / 6 / 12	
	Oversized Face Area	Standard	10				7.56 / 3 / 12		9.78 / 3 / 12		
		Six Row	16				7.56 / 6 / 12		9.78 / 6 / 12		
	Double Circuit										
	Standard Face Area	Standard	50		3.67 / 2 / 14	4.67 / 3 / 12		8.89 / 3 / 12		11.67 / 3 / 12	
		Six Row	56		3.67 / 6 / 12	4.67 / 6 / 12		8.89 / 6 / 12		11.67 / 6 / 12	
	Oversized Face Area	Standard	50				7.56 / 3 / 12		9.78 / 3 / 12		18.33 / 3 / 12
		Six Row	56				7.56 / 6 / 12		9.78 / 6 / 12		18.33 / 6 / 12
Hot Water	Standard Face Area			2.08 / 1 / 14	3.63 / 1 / 14	4.72 / 1 / 14		8.89 / 1 / 14		11.25 / 1 / 14	
	Oversized Face Area						7.5 / 1 / 14		10.0 / 1 / 14		18.33 / 1 / 14
Steam	Standard Face Area			2.08 / 1 / 10	3.62 / 1 / 10	4.72 / 1 / 10		8.75 / 1 / 10		10.61 / 1 / 10	
	Oversized Face Area						7.5 / 1 / 10		10.0 / 1 / 10		17.14 / 1 / 10

Table 23.1

Water Coil Connection Sizes		
GPM	**Sweat Conn. Size (In.)**	**MPT Conn. Size (In.)**
1.5 – 2.5	5/8	1/2
2.6 – 7	7/8	1/2
7.1 – 14	1 1/8	1
14.1 – 24	1 3/8	1 1/4
24.1 – 40	1 5/8	1 1/2
40.1 – 80	2 1/8	2
80.1 – 150	2 5/8	2 1/2
150.1 – 250	3 1/8	3

Table 23.2

DX Coil Stub Out Connection Sizes									
Cabinet Size		**A**	**B**	**C**		**C+**		**D**	
Coil Face Area Designation		**1**	**1**	**1**	**2**	**3**	**4**	**1**	**2**
Coil Selection		**Stub Out Size (Suction - Liquid)**							
Single Circuit	**Standard**	7/8" – 1/2 "	7/8" – 1/2 "	1 1/8" – 5/8"		1 1/8" – 5/8"		1 3/8" – 5/8"	
	Oversized				1 1/8" – 5/8"		1 1/8" – 5/8"		
Double Circuit	**Standard**		7/8" – 1/2 "	1 1/8" – 5/8"		1 1/8" – 5/8"		1 3/8" – 5/8"	
	Oversized				1 1/8" – 5/8"		1 1/8" – 5/8"		1 3/8" – 5/8"

Electrical Data

Single Phase

Table 24.1

			208 / 1 / 60		
Cabinet Size			**A**	**B**	
Blower Motor		HP	**.5**	**1.0**	**2.0**
		FLA	5.4	8.8	13.2
ELECTRIC HEAT	**A**	FLA	30.9	34.3	38.7
		MCA	38.6	42.9	48.4
		MOP	40.0	45.0	50.0
	B	FLA	56.4	59.8	64.2
		MCA	70.5	74.8	80.3
		MOP	80.0	80.0	80.0

Table 24.2

			230 / 1 / 60		
Cabinet Size			**A**	**B**	
Blower Motor		HP	**.5**	**1.0**	**2.0**
		FLA	5.4	8.8	13.2
ELECTRIC HEAT	**A**	FLA	35.8	39.2	43.6
		MCA	44.8	49.0	54.5
		MOP	45	50	60
	B	FLA	66.3	69.7	74.1
		MCA	82.9	87.1	92.6
		MOP	90	90	100

Table 24.3

			265 / 1 / 60	
Cabinet Size			**A**	**B**
Blower Motor		HP	**.5**	**1.0**
		FLA	5.4	8.8
ELECTRIC HEAT	**A**	FLA	31.8	35.2
		MCA	39.8	44.0
		MOP	40	45
	B	FLA	58.2	61.6
		MCA	72.8	77.0
		MOP	80	80

Three Phase

Table 25.1

			208 / 3 / 60														
Cabinet Size			A	B		C				C+				D			
Blower Motor		HP	.5	1	2	1	2	3	5	2	3	5	7.5	3	5	7.5	10
		FLA	2.4	4.6	7.5	4.6	7.5	10.6	16.7	7.5	10.6	16.7	24.2	10.6	16.7	24.2	30.8
ELECTRIC HEAT	A	FLA	17.0	19.2	22.2												
		MCA	21.3	24.1	27.8												
		MOP	25	25	30												
	B	FLA	31.6	33.8	36.6	33.8	36.6	39.7	45.8	36.6	39.7	45.8	53.4	39.8	45.9	53.4	59.9
		MCA	39.5	42.3	45.8	42.3	45.8	49.7	57.3	45.8	49.7	57.3	66.8	49.7	57.3	66.8	74.9
		MOP	40	45	50	45	50	50	60	50	50	60	90	60	70	90	90
	C	FLA		48.4	51.3	48.5	51.4	54.5	60.6	51.4	54.5	60.6	68.0				
		MCA		60.5	64.1	60.6	64.2	68.1	75.7	64.2	68.1	75.7	85.0				
		MOP		70	70	70	70	70	80	70	70	80	90				
	D	FLA				63.0	65.9	68.9	75.0	65.9	68.9	75.0	82.6	69.0	75.1	82.6	89.1
		MCA				78.8	82.4	86.1	93.7	82.4	86.1	93.7	103.3	86.3	93.9	103.3	111.4
		MOP				80	90	90	100	90	90	100	125	90	110	125	125
	H	FLA				77.6	80.4	83.5	89.6	80.4	83.5	89.6	97.2				
		MCA				97.0	100.5	104.3	112.0	100.5	104.3	112.0	121.5				
		MOP				100	110	110	125	110	110	125	125				
	E	FLA				92.3	95.1	98.0	104.1	95.1	98.0	104.1	111.8	98.2	104.3	111.8	118.2
		MCA				115.3	118.9	122.5	130.2	118.9	122.5	130.2	139.8	122.8	130.4	139.8	147.7
		MOP				125	125	125	150	125	125	150	150	125	150	150	150
	F	FLA												127.3	133.4	140.9	147.4
		MCA												159.1	166.8	176.1	184.3
		MOP												175	175	200	200
	G	FLA												156.5	162.6	170.1	176.5
		MCA												159.2	166.8	176.2	220.6
		MOP												175	175	200	225

Table 25.2

			230 / 3 / 60														
Cabinet Size			A	B		C				C+				D			
Blower Motor		HP	.5	1	2	1	2	3	5	2	3	5	7.5	3	5	7.5	10
		FLA	2.2	4.2	6.8	4.2	6.8	9.6	15.2	6.8	9.6	15.2	22.0	9.6	15.2	24.2	30.8
ELECTRIC HEAT	A	FLA	19.8	21.8	24.4												
		MCA	24.8	27.3	30.5												
		MOP	25	30	35												
	B	FLA	37.3	39.3	41.9	39.3	41.9	44.7	50.4	41.9	44.7	50.4	57.1	44.7	50.3	59.3	65.9
		MCA	46.6	49.1	52.4	49.1	52.4	55.9	63.0	52.4	55.9	63.0	71.4	55.9	63.0	74.1	82.4
		MOP	50	50	60	50	60	60	70	60	60	70	80	60	70	80	90
	C	FLA		56.9	59.5	56.9	59.5	62.3	67.9	59.5	62.3	67.9	74.8				
		MCA		71.1	74.4	71.1	74.4	77.9	84.9	74.4	77.9	84.9	93.5				
		MOP		80	80	80	80	80	90	80	80	90	100				
	D	FLA				74.5	77.1	79.9	85.6	77.1	79.9	85.6	92.3	79.9	85.6	94.5	101.1
		MCA				93.1	96.4	99.9	107.0	96.4	99.9	107.0	115.4	99.9	107.0	118.1	126.4
		MOP				100	100	100	110	100	100	110	125	100	110	125	150
	H	FLA				92.1	94.7	97.5	103.1	94.7	97.5	103.1	109.9				
		MCA				115.1	118.4	121.9	128.9	118.4	121.9	128.9	137.4				
		MOP				125	125	125	150	125	125	150	150				
	E	FLA				109.6	112.2	115.0	120.6	112.2	115.0	120.6	127.4	115.0	120.6	129.6	136.2
		MCA				137.0	140.3	143.8	150.8	140.3	143.8	150.8	159.3	143.8	150.8	162.0	170.3
		MOP				150	150	150	175	150	150	175	175	150	175	175	175
	F	FLA												150.2	157.3	164.8	171.4
		MCA												152.8	159.8	171.1	179.3
		MOP												175	175	175	200
	G	FLA												185.3	192.4	199.9	206.5
		MCA												188.0	195.0	206.3	214.5
		MOP												200	200	225	225

Table 26.1

			460 / 3 / 60														
Cabinet Size			A	B		C				C+				D			
Blower Motor		HP	.5	1	2	1	2	3	5	2	3	5	7.5	3	5	7.5	10
		FLA	1.1	2.1	3.4	2.1	3.4	4.8	7.6	3.4	4.8	7.6	11.0	4.8	7.6	11.0	14.0
ELECTRIC HEAT	A	FLA	9.9	10.9	12.2												
		MCA	12.4	13.6	15.3												
		MOP	15	15	20												
	B	FLA	18.7	19.7	21.0	19.7	21.0	22.4	25.2	21.0	22.4	25.2	28.6	22.4	25.2	28.6	31.6
		MCA	23.4	24.6	26.3	24.6	26.3	28.0	31.5	26.3	28.0	31.5	35.8	28.0	31.5	35.8	39.5
		MOP	25	25	30	25	30	30	35	30	30	35	40	30	35	40	40
	C	FLA		28.5	29.8	28.5	29.8	31.2	34.0	29.8	31.2	34.0	37.4				
		MCA		35.6	37.3	35.6	37.3	39.0	42.5	37.3	39.0	42.5	46.8				
		MOP		40	40	40	40	40	45	40	40	45	50				
	D	FLA				37.3	38.6	40.0	42.8	38.6	40.0	42.8	46.2	40.0	42.8	46.2	49.2
		MCA				46.6	48.3	50.0	53.5	48.3	50.0	53.5	57.8	50.0	53.5	57.8	61.5
		MOP				50	50	50	60	50	50	60	60	50	60	60	70
	H	FLA				46.1	47.4	48.8	51.6	47.4	48.8	51.6	55.0				
		MCA				57.6	59.3	61.0	64.5	59.3	61.0	64.5	68.8				
		MOP				60	60	70	70	60	70	70	70				
	E	FLA				54.9	56.2	57.6	60.4	56.2	57.6	60.4	63.8	57.6	60.4	63.8	66.8
		MCA				68.6	70.3	72.0	75.5	70.3	72.0	75.5	79.8	72.0	75.5	79.8	83.5
		MOP				70	80	80	80	80	80	80	80	80	80	80	90
	F	FLA												75.2	78.0	81.4	84.4
		MCA												76.4	79.9	84.2	87.9
		MOP												80	80	90	90
	G	FLA												92.8	95.6	99.0	102.0
		MCA												94.0	97.5	101.8	105.5
		MOP												100	100	110	110

Table 26.2

			575 / 3 / 60														
Cabinet Size			A	B		C				C+				D			
Blower Motor		HP	.5	1	2	1	2	3	5	2	3	5	7.5	3	5	7.5	10
		FLA	--	1.7	2.7	1.7	2.7	3.9	6.1	2.7	3.9	6.1	9.0	3.9	6.1	9.0	11.0
ELECTRIC HEAT	A	FLA		8.8	9.8												
		MCA		11.0	12.3												
		MOP		15	15												
	B	FLA		15.8	16.8	15.8	16.8	18.0	20.2	16.8	18.0	20.2	23.1	18.0	20.2	23.1	25.1
		MCA		19.8	21.0	19.8	21.0	22.5	25.3	21.0	22.5	25.3	28.9	22.5	25.3	28.9	31.4
		MOP		20	25	20	25	25	30	25	25	30	30	25	30	30	35
	C	FLA		22.9	23.9	22.9	23.9	25.1	27.3	23.9	25.1	27.3	30.2				
		MCA		28.6	29.9	28.6	29.9	31.4	34.1	29.9	31.4	34.1	37.8				
		MOP		30	30	30	30	35	35	30	35	35	40				
	D	FLA				30.1	31.1	32.3	34.5	31.1	32.3	34.5	37.4	32.3	34.5	37.4	39.4
		MCA				37.6	38.9	40.4	43.1	38.9	40.4	43.1	46.8	40.4	43.1	46.8	49.3
		MOP				40	40	45	45	40	45	45	50	45	45	50	50
	H	FLA				37.2	38.2	39.4	41.6	38.2	39.4	41.6	44.5				
		MCA				46.5	47.8	49.3	52.0	47.8	49.3	52.0	55.6				
		MOP				50	50	50	60	50	50	60	60				
	E	FLA				44.3	45.3	46.5	48.7	45.3	46.5	48.7	51.6	46.5	48.7	51.6	53.6
		MCA				55.4	56.6	58.1	60.9	56.6	58.1	60.9	64.5	58.1	60.9	64.5	67.0
		MOP				60	60	60	70	60	60	70	70	60	70	70	70
	F	FLA												60.7	62.9	65.8	67.8
		MCA												61.7	64.4	68.1	70.6
		MOP												70	70	70	80
	G	FLA												74.9	77.1	80.0	82.0
		MCA												75.9	78.6	82.3	84.8
		MOP												80	80	90	90

Electric Heat Capacities

Table 27.1

Single Phase, 60 Hertz

Heating Designation	Cabinet Size Availability	No. of Strips	Available Stages	208 / 1 / 60			230 / 1 / 60			265 / 1 / 60		
				MBH	KW	AMPS	MBH	KW	AMPS	MBH	KW	AMPS
A	A, B	1	1	17.9	5.3	14.6	23.9	7.0	30.4	23.9	7.0	26.4
B	A, B	2	1, 2	35.9	10.5	29.2	47.8	14.0	60.9	47.8	14.0	52.8

Table 27.2

Three Phase, 60 Hertz

Heating Designation	Cabinet Size Availability	No. of Strips	Available Stages	208 / 3 / 60			230 / 3 / 60			460 / 3 / 60			575 / 3 / 60		
				MBH	KW	AMPS	MBH	KW	AMPS	MBH	KW	AMPS	MBH	KW	AMPS
A	A, B	1	1	17.9	5.3	14.6	23.9	7.0	17.6	23.9	7.0	8.8	23.9	7.0	7.1
B	A, B, C, D	2	1, 2	35.9	10.5	29.2	47.8	14.0	35.1	47.8	14.0	17.6	47.8	14.0	14.1
C	B, C	3	1, 2, 3	53.8	15.8	43.8	71.7	21.0	52.7	71.7	21.0	26.4	71.7	21.0	21.2
D	C, D	4	1, 2, 3	71.8	21.0	58.4	95.6	28.0	70.3	95.6	28.0	35.1	95.6	28.0	28.1
H	C	5	1, 2, 3	89.6	26.3	73.0	119.5	35.0	87.9	119.5	35.0	43.9	119.5	35.0	35.2
E	C, D	6	1, 2, 3	107.7	31.6	87.7	143.3	42.0	105.4	143.3	42.0	52.7	143.3	42.0	42.2
F	D	8	1, 2, 4	143.5	42.4	117.7	191.1	56.0	140.6	191.1	56.0	70.3	191.1	56.0	56.2
G	D	10	1, 2, 4	179.4	52.6	146.0	238.9	70.0	175.7	238.9	70.0	87.9	238.9	70.0	70.3

Table 27.3

Three Phase, 50 Hertz

Heating Designation	Cabinet Size Availability	No. of Strips	Available Stages	200 / 3 / 50			230 / 3 / 50			380 / 3 / 50			415 / 3 / 50		
				MBH	KW	AMPS	MBH	KW	AMPS	MBH	KW	AMPS	MBH	KW	AMPS
A	A, B	1	1	17.9	5.3	15.3	23.9	7.0	17.6	23.9	7.0	10.6	23.9	7.0	9.7
B	A, B, C, D	2	1, 2	35.9	10.5	30.3	47.8	14.0	35.1	47.8	14.0	21.3	47.8	14.0	19.5
C	B, C	3	1, 2, 3	53.8	15.8	45.6	71.7	21.0	52.7	71.7	21.0	31.9	71.7	21.0	29.2
D	C, D	4	1, 2, 3	71.8	21.0	60.6	95.6	28.0	70.3	95.6	28.0	42.5	95.6	28.0	39.0
H	C	5	1, 2, 3	89.6	26.3	75.9	119.5	35.0	87.9	119.5	35.0	53.2	119.5	35.0	48.7
E	C, D	6	1, 2, 3	107.7	31.6	91.2	143.3	42.0	105.4	143.3	42.0	63.8	143.3	42.0	58.4
F	D	8	1, 2, 4	143.5	42.4	122.4	191.1	56.0	140.6	191.1	56.0	85.1	191.1	56.0	77.9
G	D	10	1, 2, 4	179.4	52.6	151.8	238.9	70.0	175.7	238.9	70.0	106.4	238.9	70.0	97.4

5. Fan Performance

Figure 28a

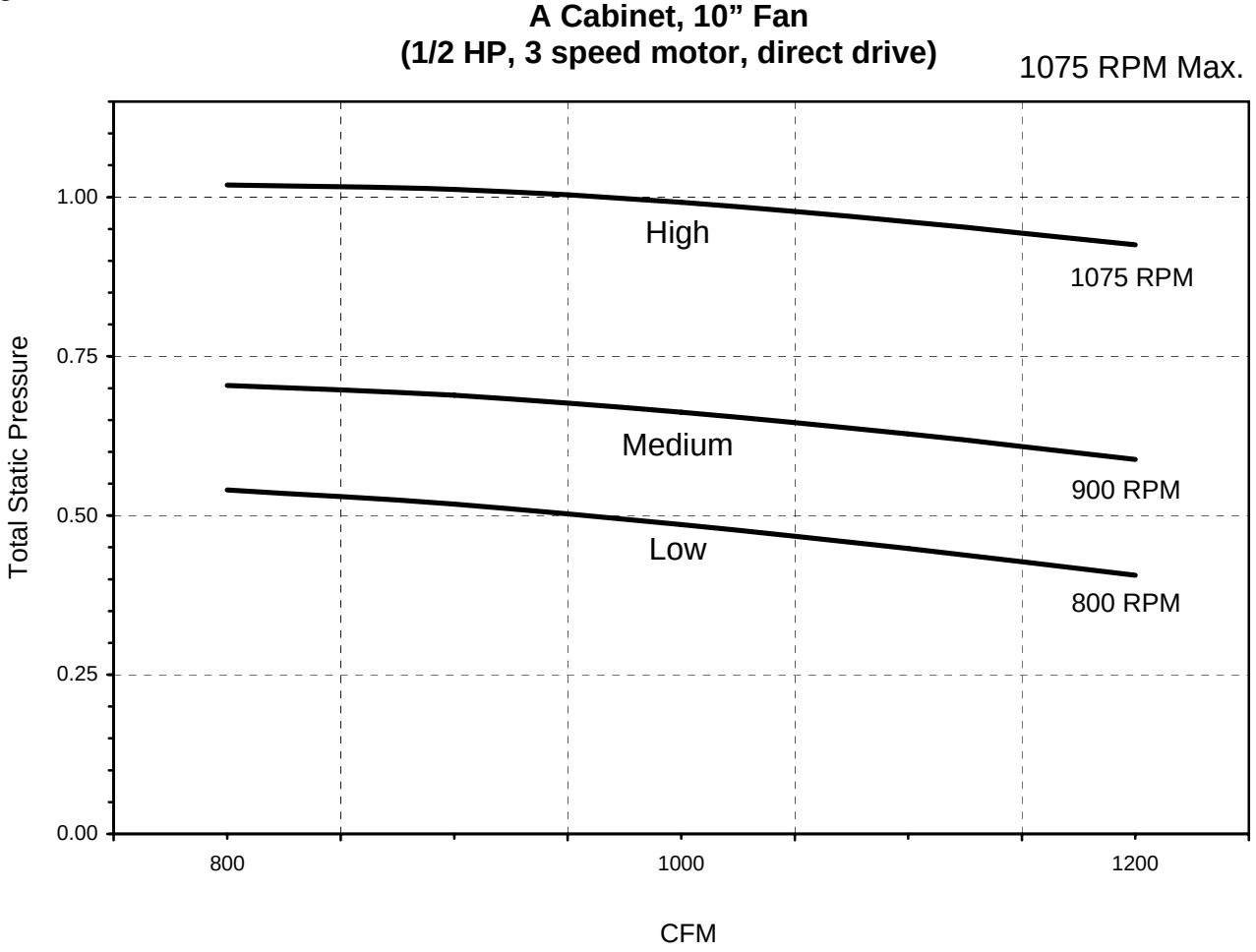


Figure 29a

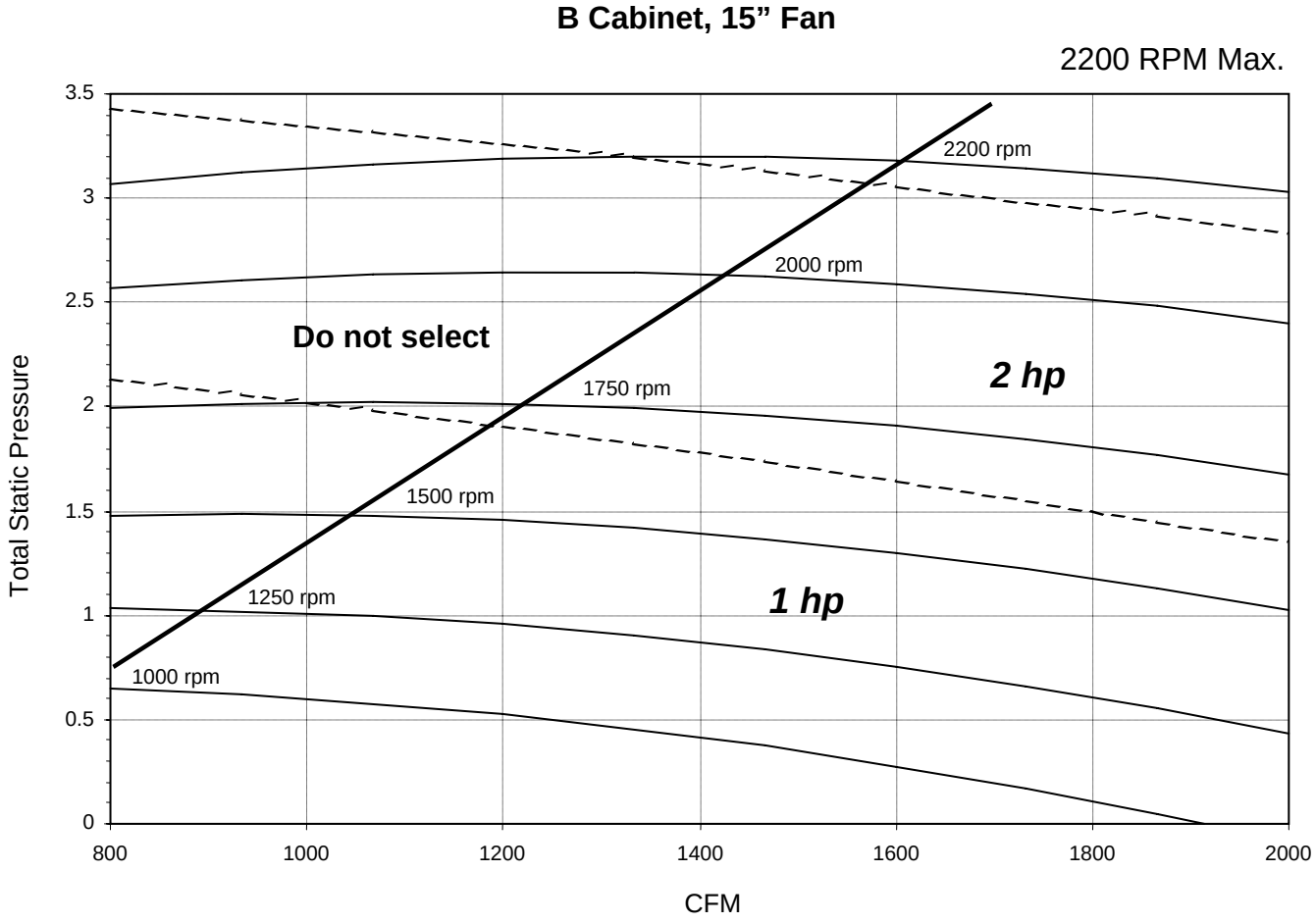
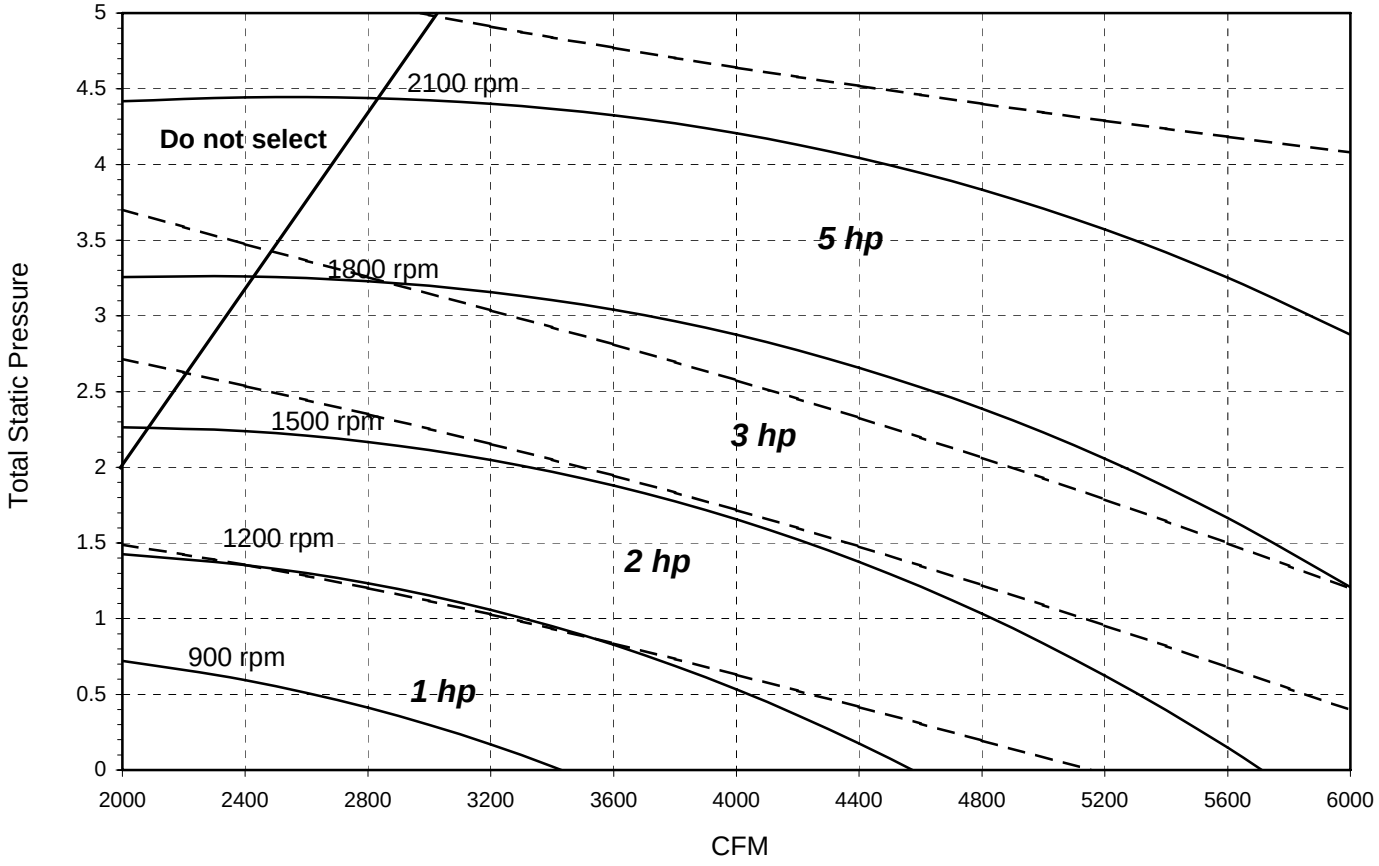

B Cabinet, 15” Fan
2200 RPM Max.
Total Static Pressure
CFM
3.5
3
2.5
2
1.5
1
0.5
0
800
1000
1200
1400
1600
1800
2000
2200 rpm
2000 rpm
1750 rpm
1500 rpm
1250 rpm
1000 rpm
Do not select
2 hp
1 hp

Figure 30a

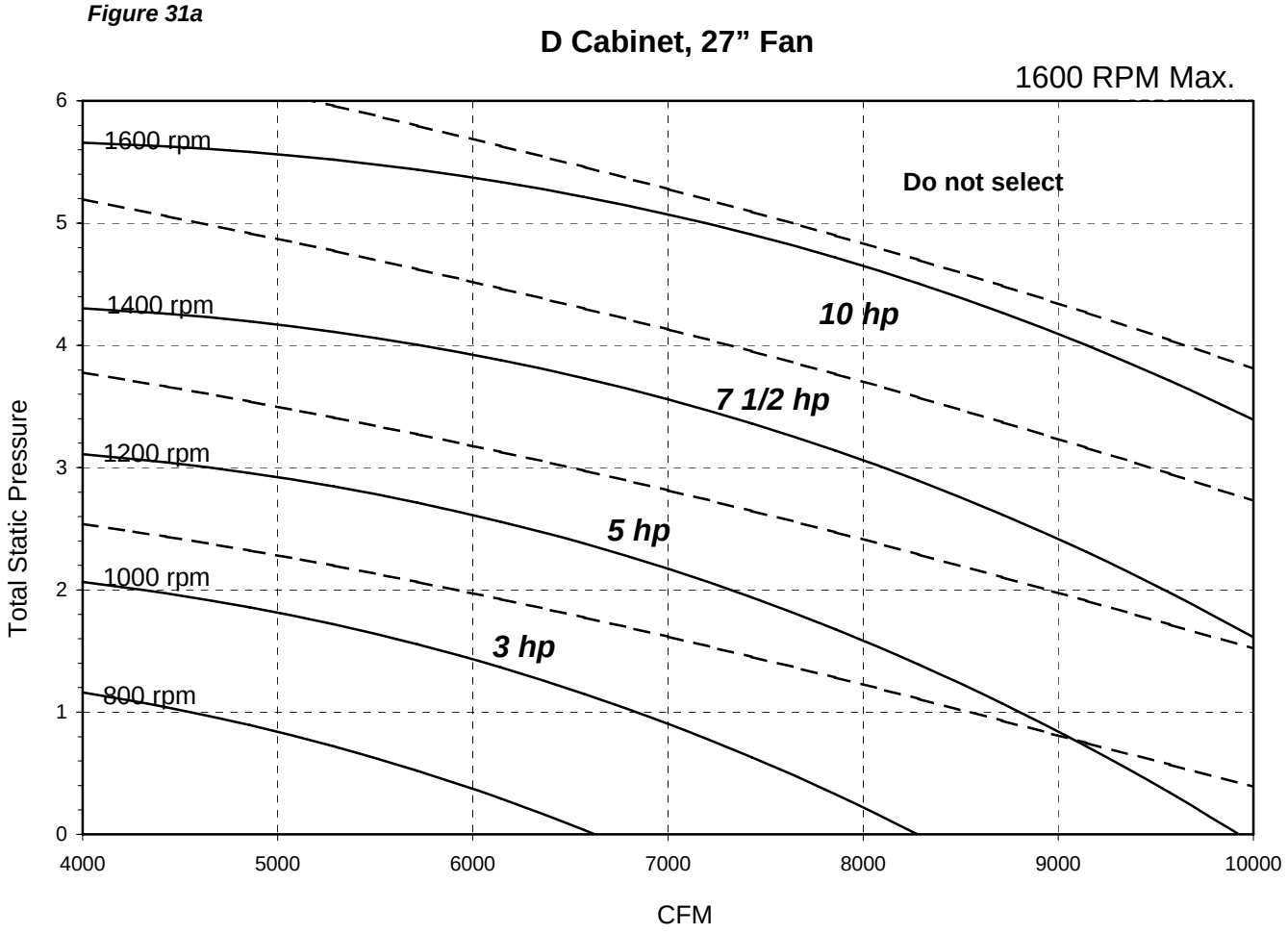
C Cabinet, 18.5" Fan

2100 RPM Max.



For 'C' Cabinet applications below 2000 CFM, please contact the factory.

Figure 31a



For 'D' Cabinet applications below 4000 CFM, please contact the factory.

GUIDE SPECIFICATIONS
AAON H2/V2 AIR HANDLER

Indoor air handling units shall be manufactured by AAON Coil Products and be in accordance with the following specifications as shown on the plans.

GENERAL

All units shall be of draw-thru design with coils, motor, blower and drain pan assembly completely within the cabinet enclosure.

Units shall be ETL Listed in compliance with UL/ANSI Standard 1995.

CONSTRUCTION

Unit structural members shall be manufactured of 16 gauge pre-painted, galvanized sheet metal. Covers and access panels shall be manufactured of 20 gauge pre-painted, galvanized sheet metal.

Units shall be specifically designed for indoor application with double wall construction throughout. 1" fiberglass insulation shall be installed within the space between the double wall panels.

Access to the blower, coils, and other items needing periodic checking or maintenance shall be through service panel with half turn latches or removable access panel.

Air side service access panels shall be fully gasketed and have an internal metal liner to protect the door insulation.

Horizontal models shall have a straight through discharge air pattern when viewed from the return air entrance.

Vertical models shall have a top vertical discharge air pattern when viewed from the return air entrance.

Horizontal models shall have top mounted threaded steel retainers to allow field installation with vertical 3/8"-16 NC hanger rods.

All models shall have a sloped condensate drain pan with a connection provided on each side of the unit.

All internal wiring shall be color coded and a laminated wiring diagram shall be permanently affixed to the inside of the unit.

BLOWER ASSEMBLY

All belt drive blowers shall have backward inclined airfoil blades with an adjustable V-belt drive, except for the A size cabinet which has a direct drive, forward curved blade. The drive shall be provided with a minimum rating of 140% of the motor nameplate brake horsepower when the adjustable pulley is at the minimum RPM.

COILS

All coils shall be fabricated of seamless copper tubes with aluminum fins mechanically bonded to the tubes. Headers on the coils shall be extra heavy wall seamless drawn copper tubing with die formed end closures for added strength.

All refrigerant evaporators shall be designed for use with R-22 and be furnished with an externally equalized, thermostatic expansion valve, factory supplied, mounted and piped. The field connections shall be made to the suction and liquid line connections furnished by the manufacturer at the side of the unit. The sensing bulb for the expansion valve shall be field installed on the suction line immediately outside of the air handler cabinet.

HOT GAS REHEAT

The unit shall include a hot gas reheat coil with a modulating reheat control valve and an electronic controller. The valve position shall be controlled to provide a specific supply air temperature setpoint that is set on the control board or sent to the control board by a remote 0-10 Vdc signal.

FILTERS

The unit shall be furnished with 2 inch (4 inch) thick, pleated air filters. Filters shall be removable from the side of the cabinet.

ELECTRICAL CONNECTION

Each unit shall have a single point power connection terminal block for field connection to the electrical power source.

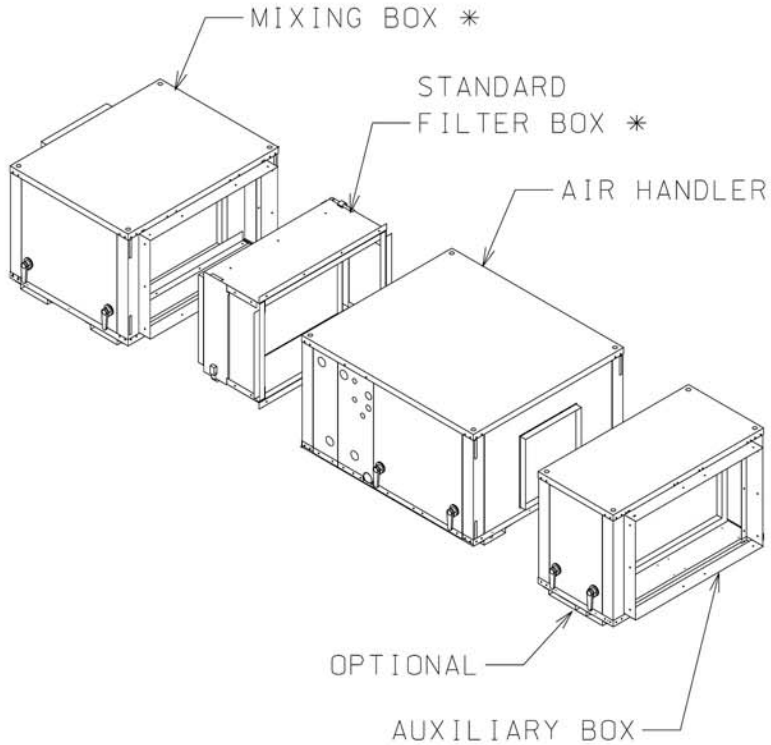
Each unit shall include a 24 volt control circuit transformer and a fan contactor for operation of the blower motor.

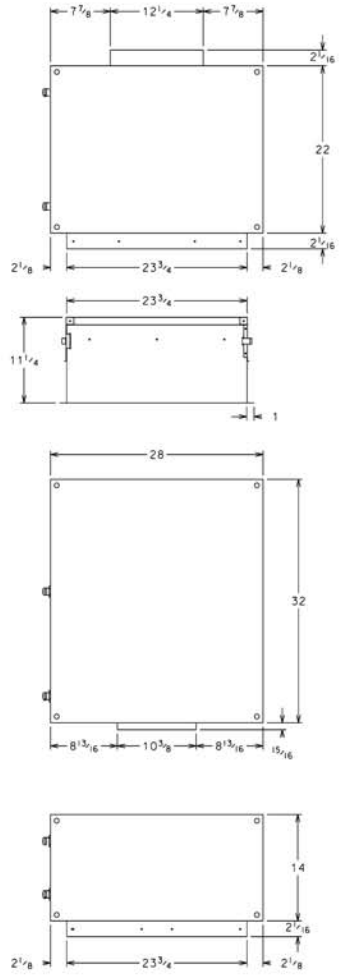
ELECTRIC HEATING

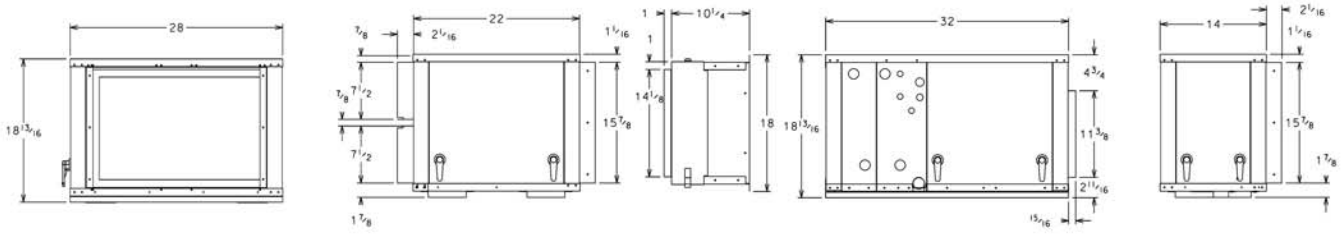
When the unit is specified to contain electric heating, the unit manufacturer shall supply the electric resistance heating assembly with the capacity and number of steps as listed in the schedule. All heating elements shall be open wire type with nichrome wire mounted in ceramic insulators. The heater element(s) shall be controlled by a 24 volt normally open contactor(s). The assembly shall be furnished with proper internal components to continue to allow the unit to have a single point power connection and shall bear the ETL listing label.

HORIZONTAL A W/OPTIONAL BOXES

STANDARD FACE AREA
800 - 1200 CFM





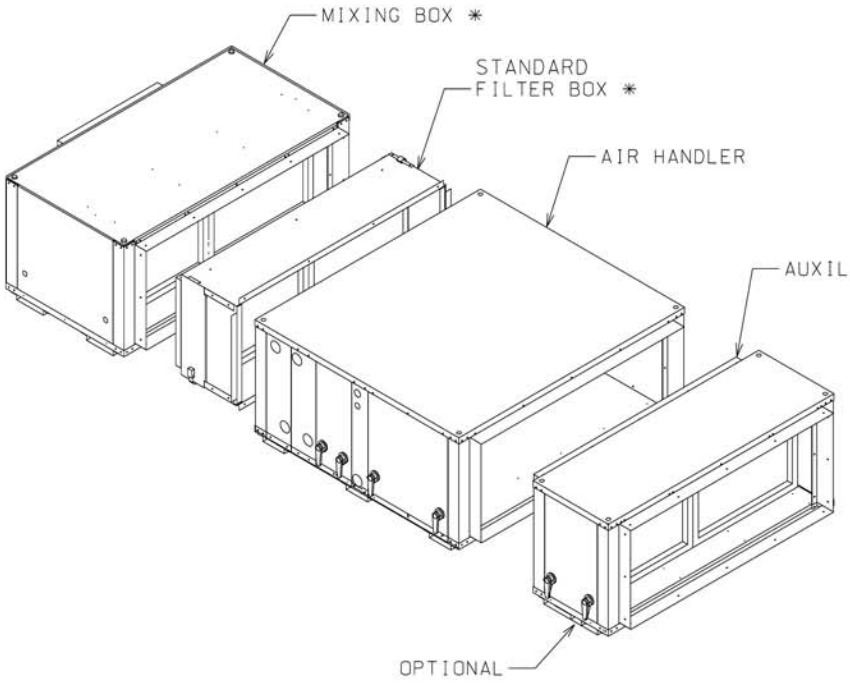


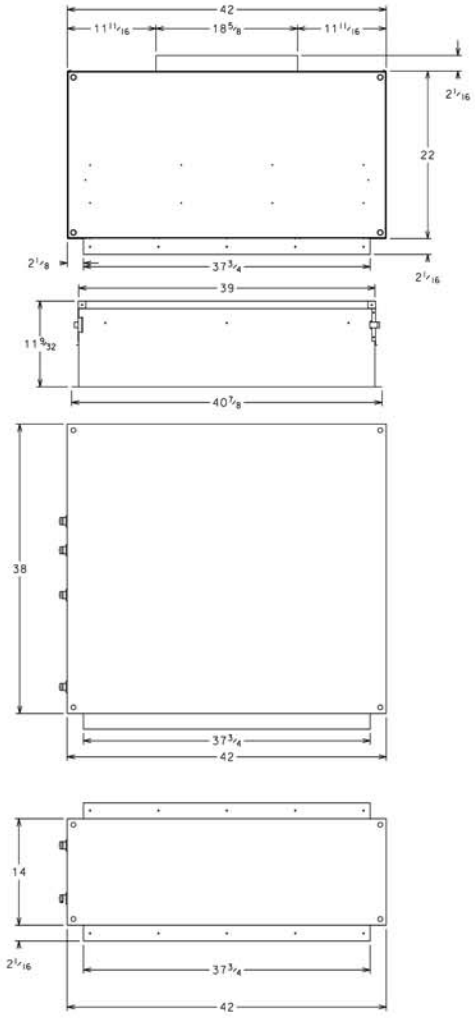
NOTES: UNIT SHOWN HAS RIGHT HAND ACCESS FOR FILTER INSPECTION AND REPLACEMENT.

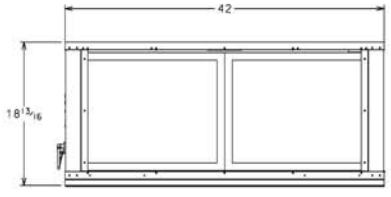
* STANDARD FILTER BOX OR OPTIONAL MIXING BOX.

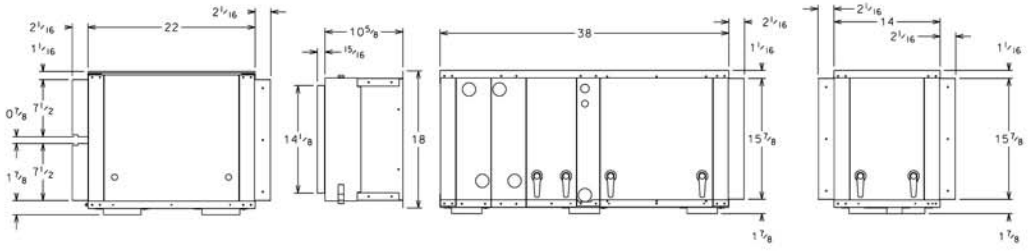
HORIZONTAL B W/OPTIONAL BOXES

STANDARD FACE AREA
800 - 2000 CFM







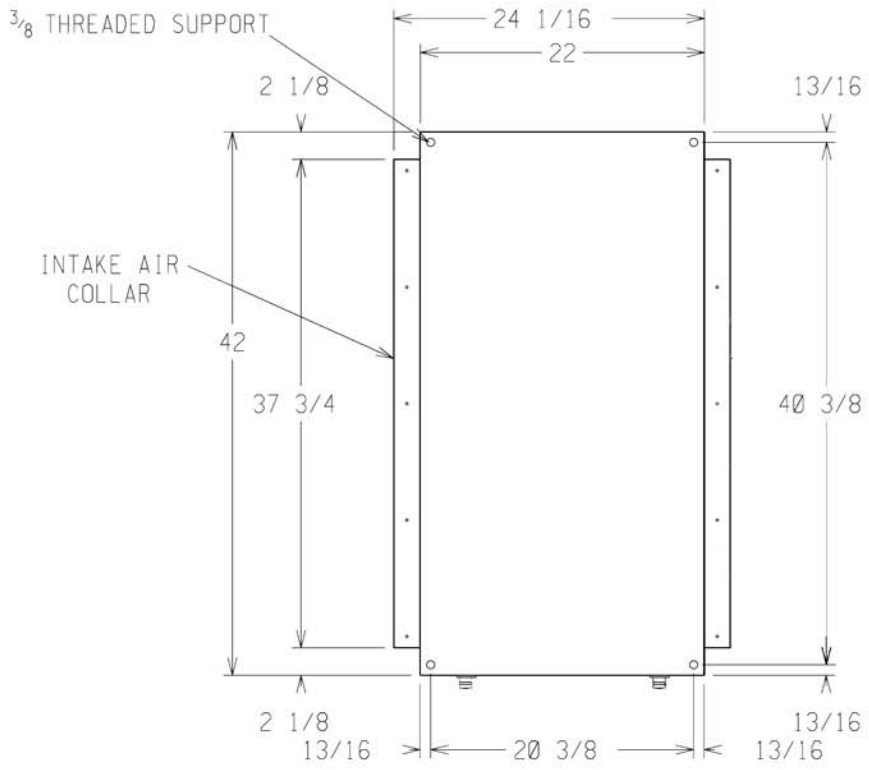


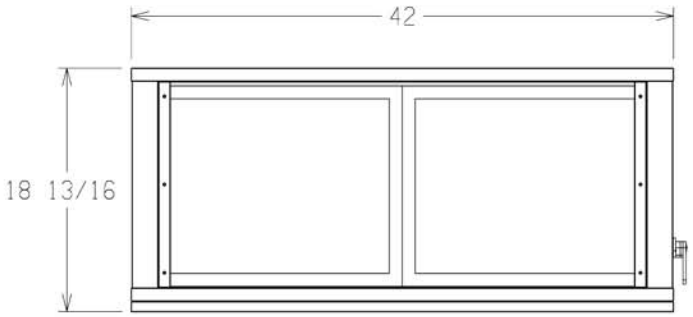
NOTES: 1) UNIT SHOWN HAS RIGHT HAND ACCESS FOR FILTER INSPECTION AND REPLACEMENT.

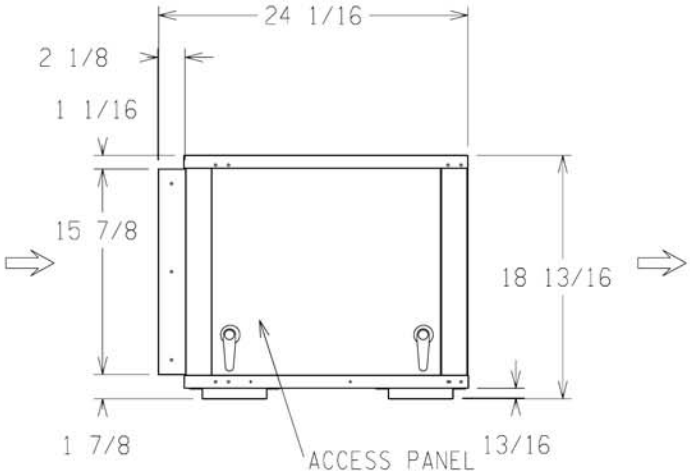
2) OPTIONAL CARTRIDGE BOX SEE DRAWING.

* STANDARD FILTER BOX OR OPTIONAL MIXING BOX.

HORIZONTAL B
CARTRIDGE FILTER BOX







PART NUMBER	DESCRIPTION
FB10101	RIGHT ACCESS, HAS (2) 16"x20" CARTRIDGE FILTERS AND 2" PLEATED PRE-FILTERS
FB10102	LEFT ACCESS, HAS (2) 16"x20" CARTRIDGE FILTERS AND 2" PLEATED PRE-FILTERS

NOTES:

UNIT SHOWN HAS RIGHT HAND ACCESS FOR FILTER INSPECTION AND REPLACEMENT.

THE HORIZONTAL "B" FILTER BOX CAN BE USED WITH ANY H2 SERIES AAON COIL PRODUCTS "B" AIR HANDLER.

* IT CAN BE DIRECTLY ATTACHED TO ANY HORIZONTAL AAON COIL PRODUCTS AIR HANDLING UNIT WITH A MODEL NUMBER THAT STARTS WITH "H2-B"
* TRANSITION DUCTWORK MUST BE SUPPLIED FOR ANY VERTICAL AIR HANDLING UNIT THAT STARTS WITH "V2-B" IN THE MODEL NUMBER.

THE FILTER BOX CAN BE PLACED AT THE INLET OR THE DISCHARGE AIR SIDE OF THE AIR HANDLER AS REQUIRED BY THE JOB SPECIFICATIONS.

TO ATTACH THE FILTER BOX DIRECTLY TO A HORIZONTAL AIR HANDLER, OVERLAP THE DUCT COLLARS FROM THE FILTER BOX TO THOSE ON THE AIR HANDLING UNIT AND FASTEN THEM TOGETHER WITH SCREWS THROUGH THE HOLES PROVIDED.

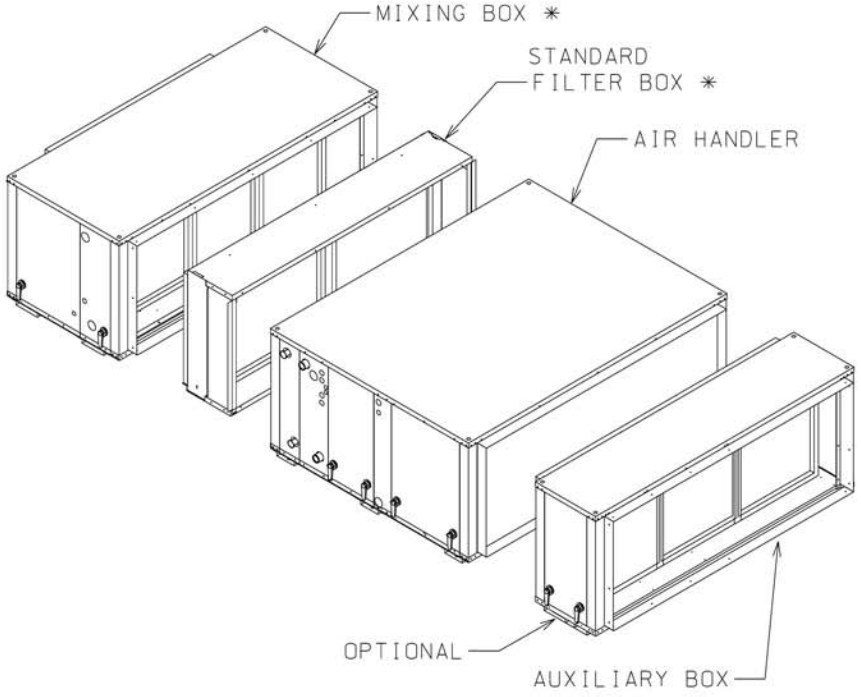
THE FILTER BOX MAY ALSO BE USED IN CONJUNCTION WITH THE AAON COIL PRODUCTS MIXING BOX. IN SUCH A SITUATION, THE 2 INCH PLEATED PRE-FILTER(S) SHOULD BE REMOVED FROM THIS SECTION AND SAVED FOR USE IN THE MIXING BOX SECTION.

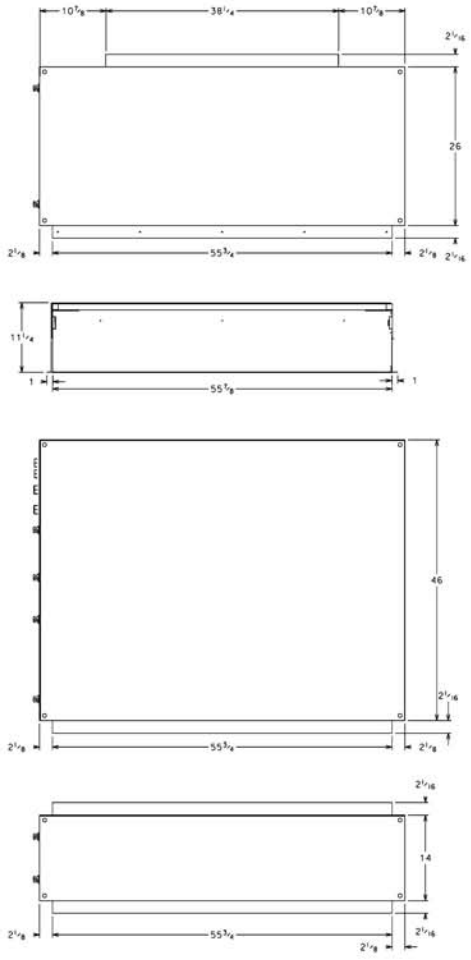
HORIZONTAL C W/OPTIONAL BOXES

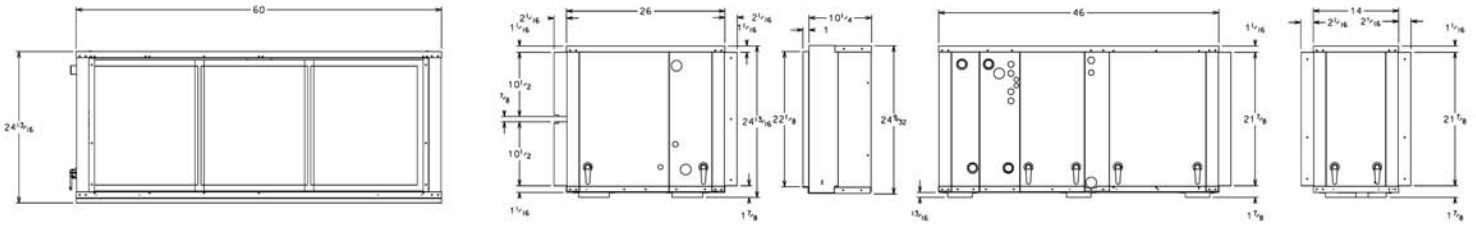
STANDARD & OVERSIZE FACE AREA

C1: 1800 - 3000

C2: 1800 - 4000





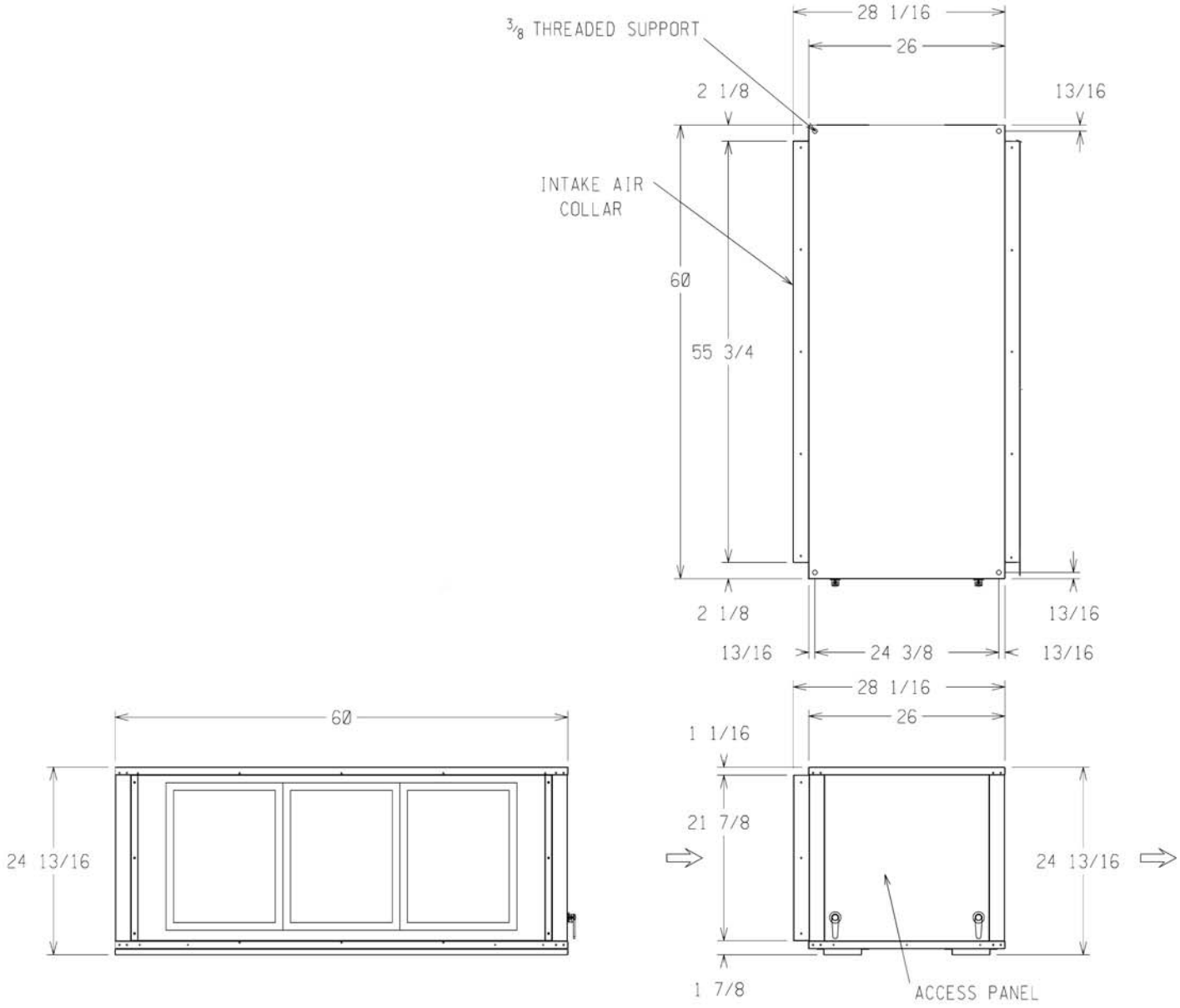


NOTES: 1) UNIT SHOWN HAS RIGHT HAND ACCESS FOR FILTER INSPECTION AND REPLACEMENT.

2) OPTIONAL CARTRIDGE BOX SEE DRAWING.

* STANDARD FILTER BOX OR OPTIONAL MIXING BOX.

HORIZONTAL C
CARTRIDGE FILTER BOX



PART NUMBER	DESCRIPTION
FB10103	RIGHT ACCESS, HAS (2) 24"x24" CARTRIDGE FILTERS AND 2" PLEATED PRE-FILTERS
FB10104	LEFT ACCESS, HAS (2) 24"x24" CARTRIDGE FILTERS AND 2" PLEATED PRE-FILTERS

NOTES:

UNIT SHOWN HAS RIGHT HAND ACCESS FOR FILTER INSPECTION AND REPLACEMENT.

THE HORIZONTAL "C" FILTER BOX CAN BE USED WITH ANY H2/V2 SERIES AAON COIL PRODUCTS "C" AIR HANDLER.

* IT CAN BE DIRECTLY ATTACHED TO ANY HORIZONTAL AAON COIL PRODUCTS AIR HANDLING UNIT WITH A MODEL NUMBER THAT STARTS WITH "H2-C"
* TRANSITION DUCTWORK MUST BE SUPPLIED FOR ANY VERTICAL AIR HANDLING UNIT THAT STARTS WITH "V2-C" IN THE MODEL NUMBER.

THE FILTER BOX CAN BE PLACED AT THE INLET OR THE DISCHARGE AIR SIDE OF THE AIR HANDLER AS REQUIRED BY THE JOB SPECIFICATIONS.

TO ATTACH THE FILTER BOX DIRECTLY TO A HORIZONTAL AIR HANDLER, OVERLAP THE DUCT COLLARS FROM THE FILTER BOX TO THOSE ON THE AIR HANDLING UNIT AND FASTEN THEM TOGETHER WITH SCREWS THROUGH THE HOLES PROVIDED.

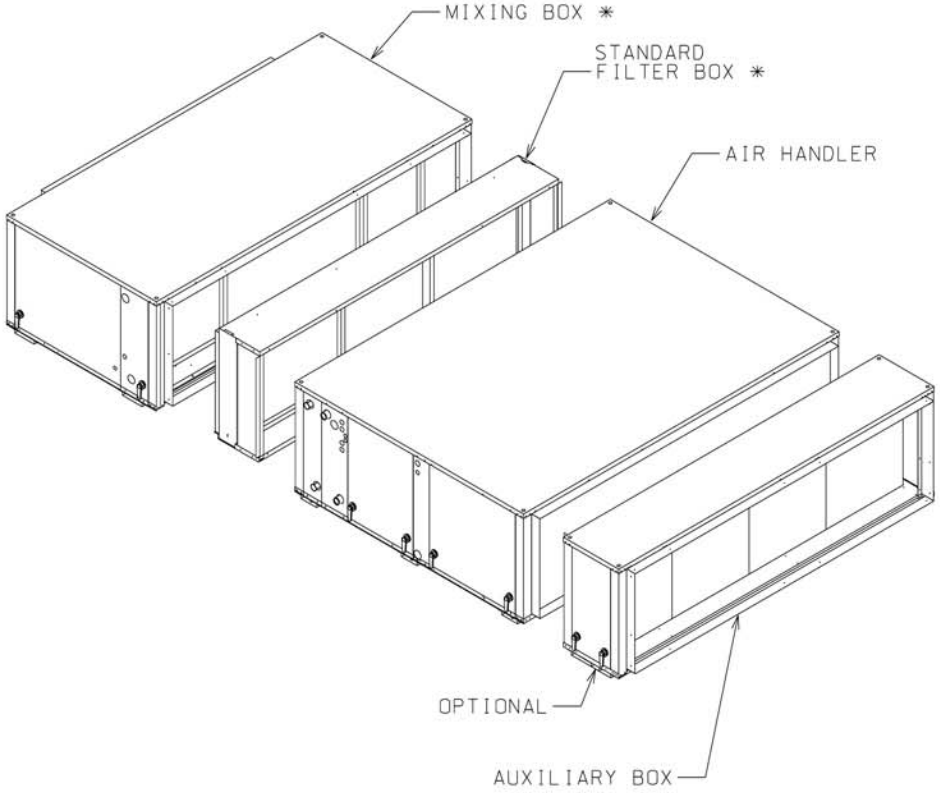
THE FILTER BOX MAY ALSO BE USED IN CONJUNCTION WITH THE AAON COIL PRODUCTS MIXING BOX. IN SUCH A SITUATION, THE 2 INCH PLEATED PRE-FILTER(S) SHOULD BE REMOVED FROM THIS SECTION AND SAVED FOR USE IN THE MIXING BOX SECTION.

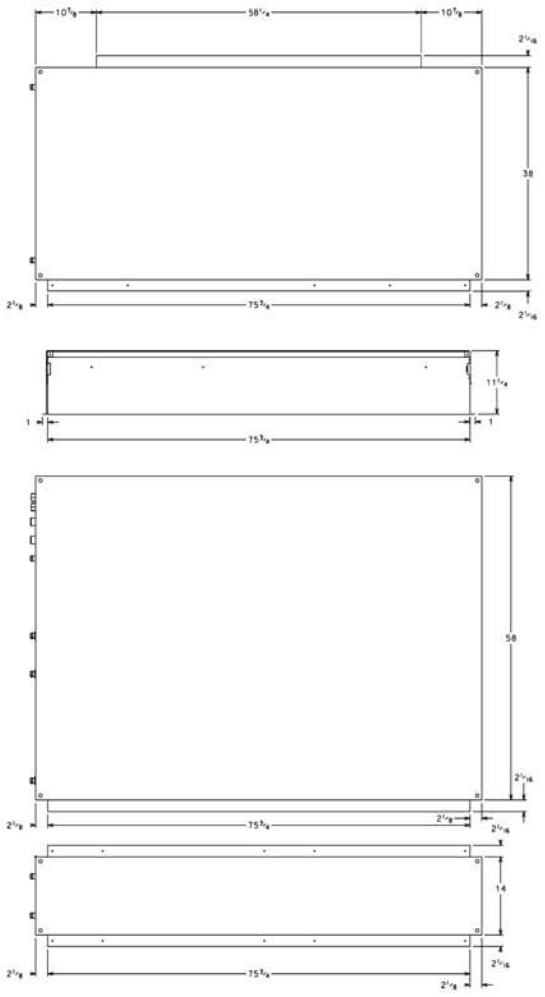
HORIZONTAL C PLUS W/OPTIONAL BOXES

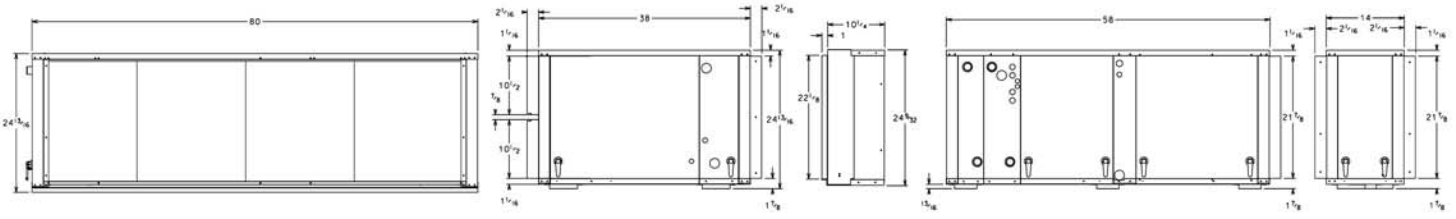
STANDARD & OVERSIZE FACE AREA

C3: 2000 - 4800 CFM

C4: 2500 - 6000 CFM





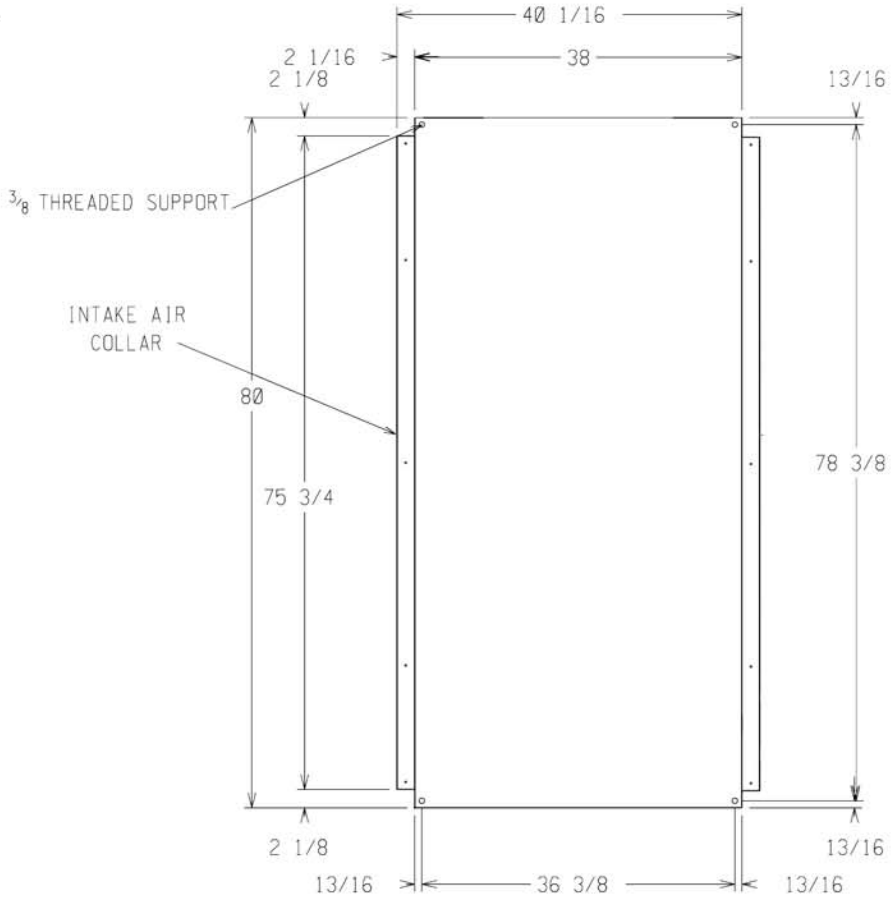


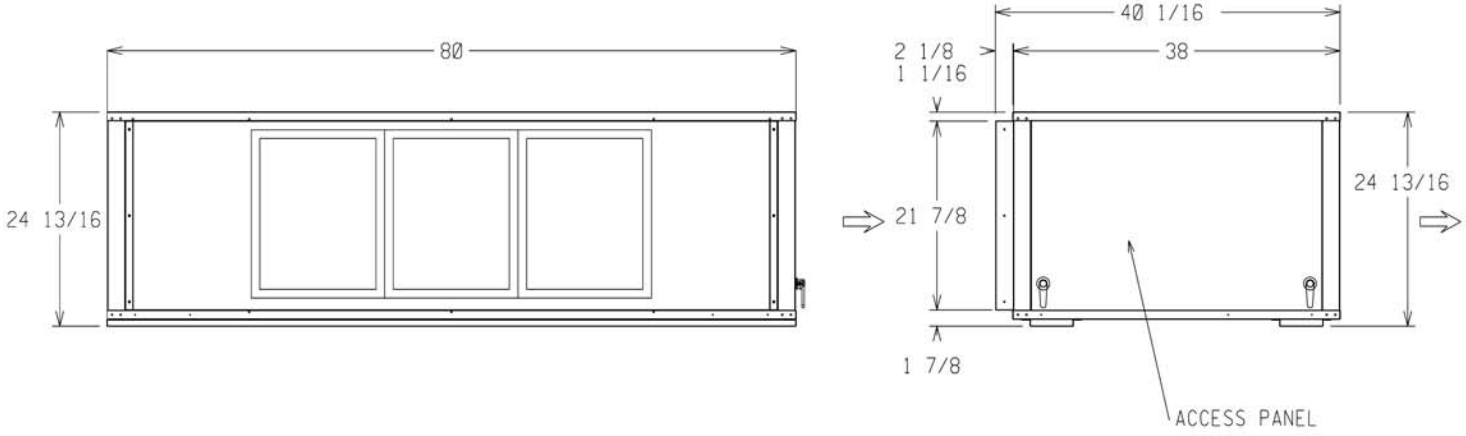
NOTES: 1) UNIT SHOWN HAS RIGHT HAND ACCESS FOR FILTER INSPECTION AND REPLACEMENT.

2) OPTIONAL CARTRIDGE BOX SEE DRAWING.

* STANDARD FILTER BOX OR OPTIONAL MIXING BOX.

HORIZONTAL C PLUS CARTRIDGE FILTER BOX





PART NUMBER	*DESCRIPTION*
FB10103	RIGHT ACCESS, HAS (3) 24"x24" CARTRIDGE FILTERS AND 2" PLEATED PRE-FILTERS
FB10104	LEFT ACCESS, HAS (3) 24"x24" CARTRIDGE FILTERS AND 2" PLEATED PRE-FILTERS

NOTES:

UNIT SHOWN HAS RIGHT HAND ACCESS FOR FILTER INSPECTION AND REPLACEMENT.

THE HORIZONTAL "C+" FILTER BOX CAN BE USED WITH ANY H2/V2 SERIES AAON COIL PRODUCTS "C+" AIR HANDLER.

* IT CAN BE DIRECTLY ATTACHED TO ANY HORIZONTAL AAON COIL PRODUCTS AIR HANDLING UNIT WITH A MODEL NUMBER THAT STARTS WITH "H2-C"
* TRANSITION DUCTWORK MUST BE SUPPLIED FOR ANY VERTICAL AIR HANDLING UNIT THAT STARTS WITH "V2-C" IN THE MODEL NUMBER.

THE FILTER BOX CAN BE PLACED AT THE INLET OR THE DISCHARGE AIR SIDE OF THE AIR HANDLER AS REQUIRED BY THE JOB SPECIFICATIONS.

TO ATTACH THE FILTER BOX DIRECTLY TO A HORIZONTAL AIR HANDLER, OVERLAP THE DUCT COLLARS FROM THE FILTER BOX TO THOSE ON THE AIR HANDLING UNIT AND FASTEN THEM TOGETHER WITH SCREWS THROUGH THE HOLES PROVIDED.

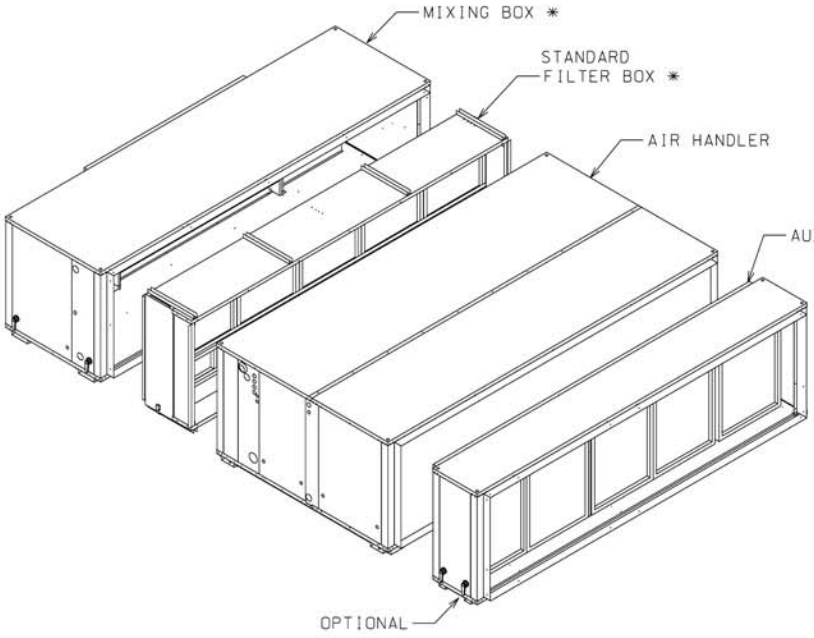
THE FILTER BOX MAY ALSO BE USED IN CONJUNCTION WITH THE AAON COIL PRODUCTS MIXING BOX. IN SUCH A SITUATION, THE 2 INCH PLEATED PRE-FILTER(S) SHOULD BE REMOVED FROM THIS SECTION AND SAVED FOR USE IN THE MIXING BOX SECTION.

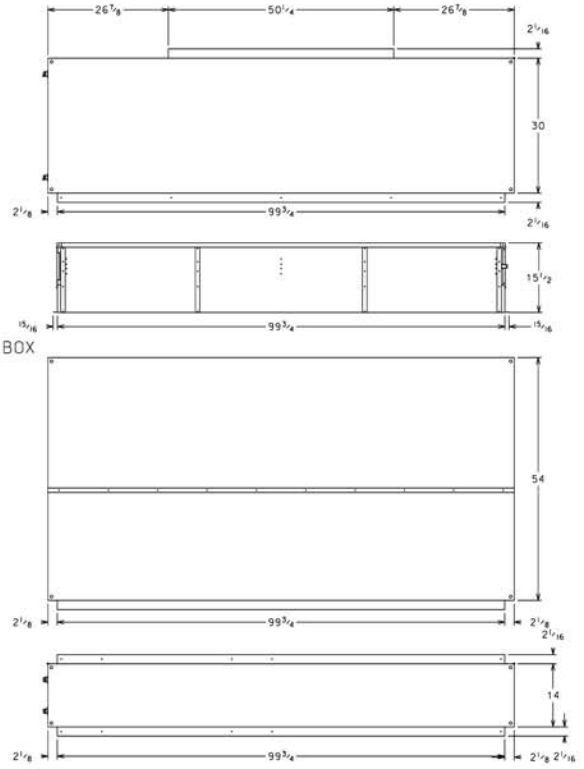
HORIZONTAL D W/OPTIONAL BOXES

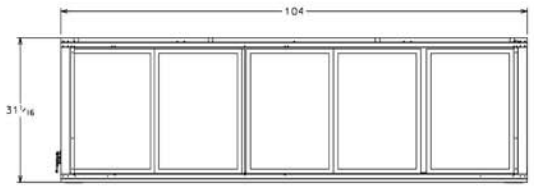
STANDARD & OVERSIZE FACE AREA

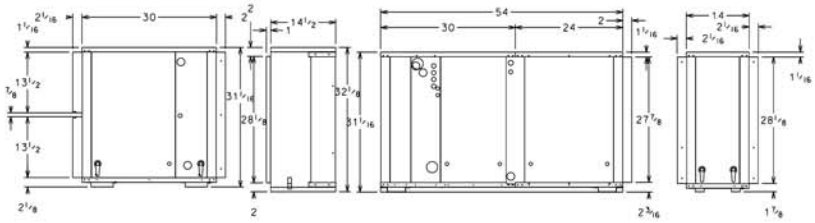
D1: 3,000 - 7,000 CFM

D2: 4,300 - 10,000 CFM







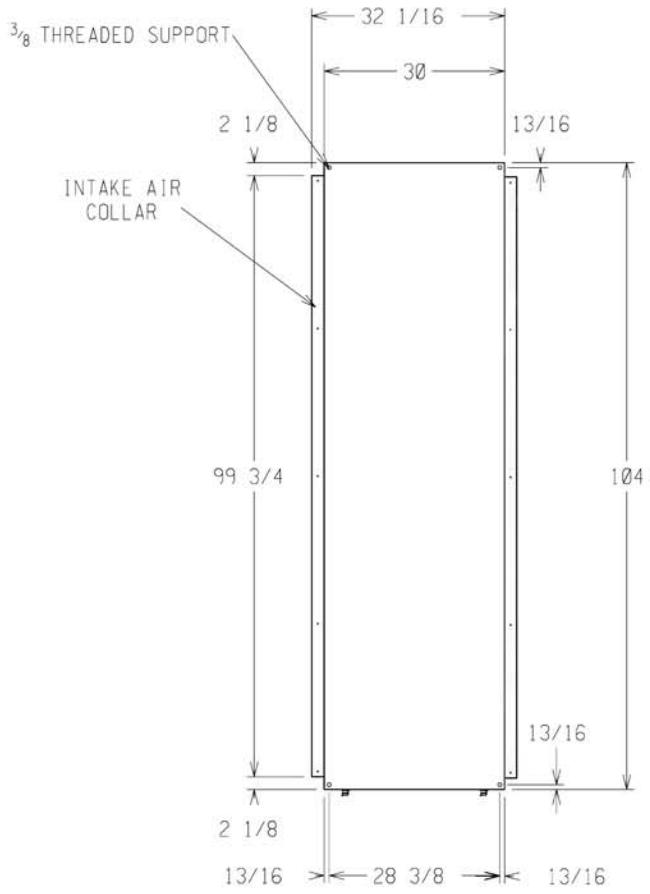


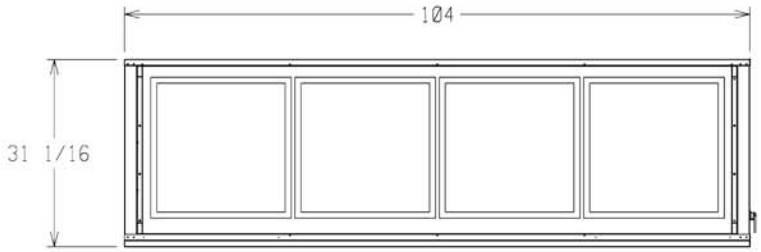
NOTES: 1) UNIT SHOWN HAS RIGHT HAND ACCESS FOR FILTER AND SERVICE ACCESS.

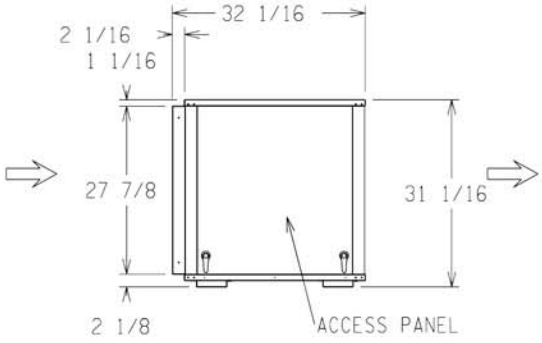
2) OPTIONAL CARTIDGE BOX SEE DRAWING.

* STANDARD FILTER BOX OR OPTIONAL MIXING BOX.

HORIZONTAL D CARTRIDGE FILTER BOX







PART NUMBER	*DESCRIPTION*
FB10105	RIGHT ACCESS, HAS (4) 24"x24" CARTRIDGE FILTERS AND 2" PLEATED PRE-FILTERS
FB10106	LEFT ACCESS, HAS (4) 24"x24" CARTRIDGE FILTERS AND 2" PLEATED PRE-FILTERS

NOTES:

UNIT SHOWN HAS RIGHT HAND ACCESS FOR FILTER INSPECTION AND REPLACEMENT.

THE HORIZONTAL "D" FILTER BOX CAN BE USED WITH ANY H2/V2 SERIES AAON COIL PRODUCTS "D" AIR HANDLER.

* IT CAN BE DIRECTLY ATTACHED TO ANY HORIZONTAL AAON COIL PRODUCTS AIR HANDLING UNIT WITH A MODEL NUMBER THAT STARTS WITH "H2-D"
* TRANSITION DUCTWORK MUST BE SUPPLIED FOR ANY VERTICAL AIR HANDLING UNIT THAT STARTS WITH "V2-D" IN THE MODEL NUMBER.

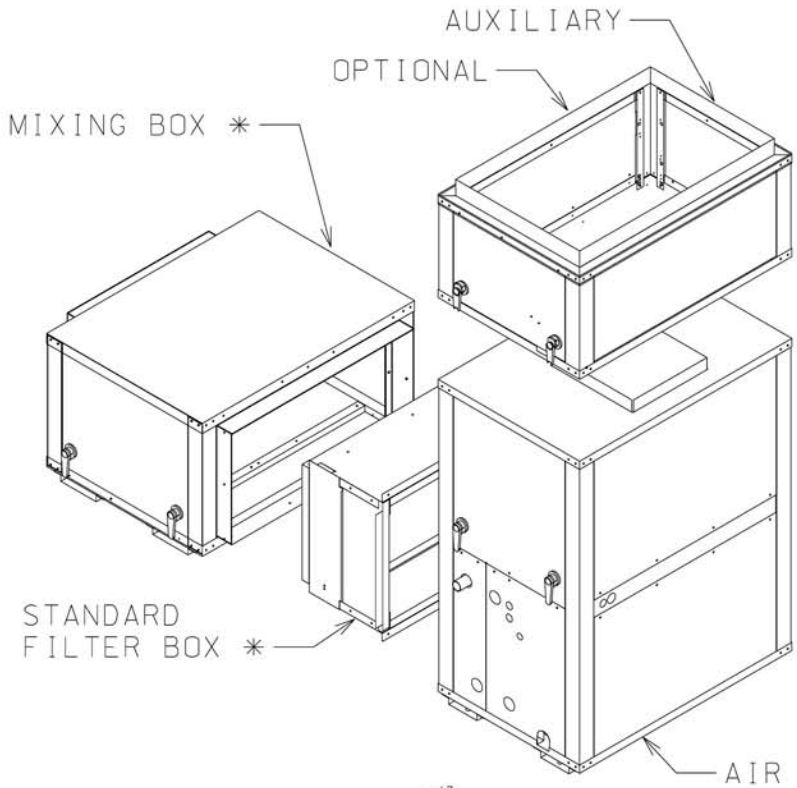
THE FILTER BOX CAN BE PLACED AT THE INLET OR THE DISCHARGE AIR SIDE OF THE AIR HANDLER AS REQUIRED BY THE JOB SPECIFICATIONS.

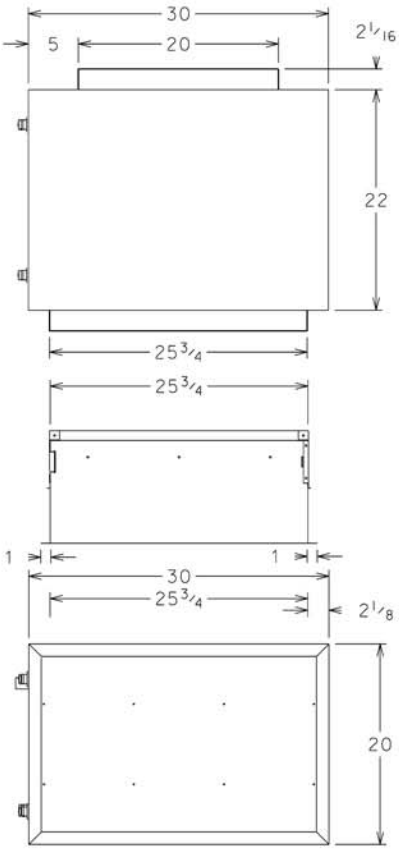
TO ATTACH THE FILTER BOX DIRECTLY TO A HORIZONTAL AIR HANDLER, OVERLAP THE DUCT COLLARS FROM THE FILTER BOX TO THOSE ON THE AIR HANDLING UNIT AND FASTEN THEM TOGETHER WITH SCREWS THROUGH THE HOLES PROVIDED.

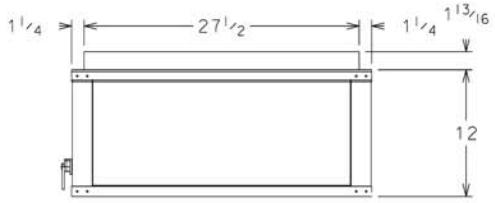
THE FILTER BOX MAY ALSO BE USED IN CONJUNCTION WITH THE AAON COIL PRODUCTS MIXING BOX. IN SUCH A SITUATION, THE 2 INCH PLEATED PRE-FILTER(S) SHOULD BE REMOVED FROM THIS SECTION AND SAVED FOR USE IN THE MIXING BOX SECTION.

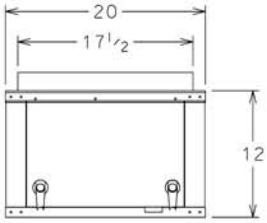
VERTICAL A W/OPTIONAL BOXES

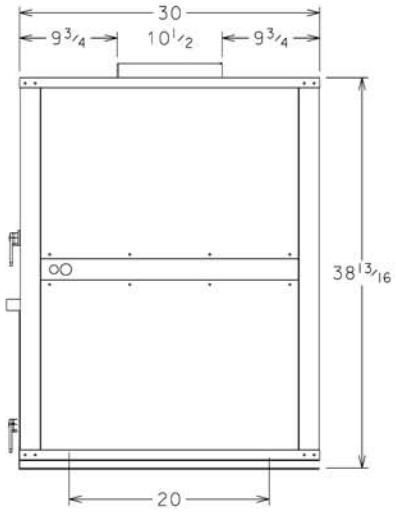
STANDARD FACE AREA
800 - 1200 CFM

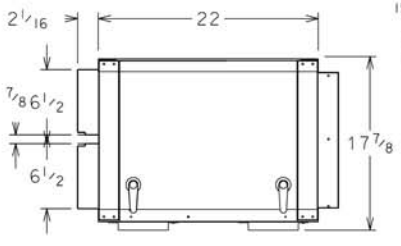


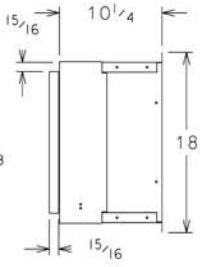


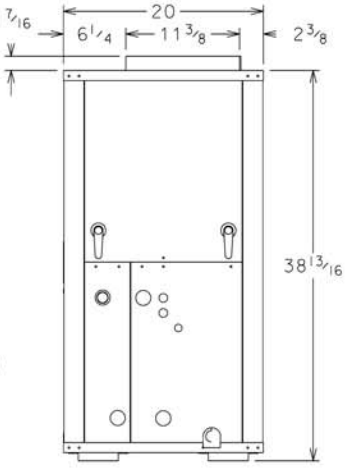










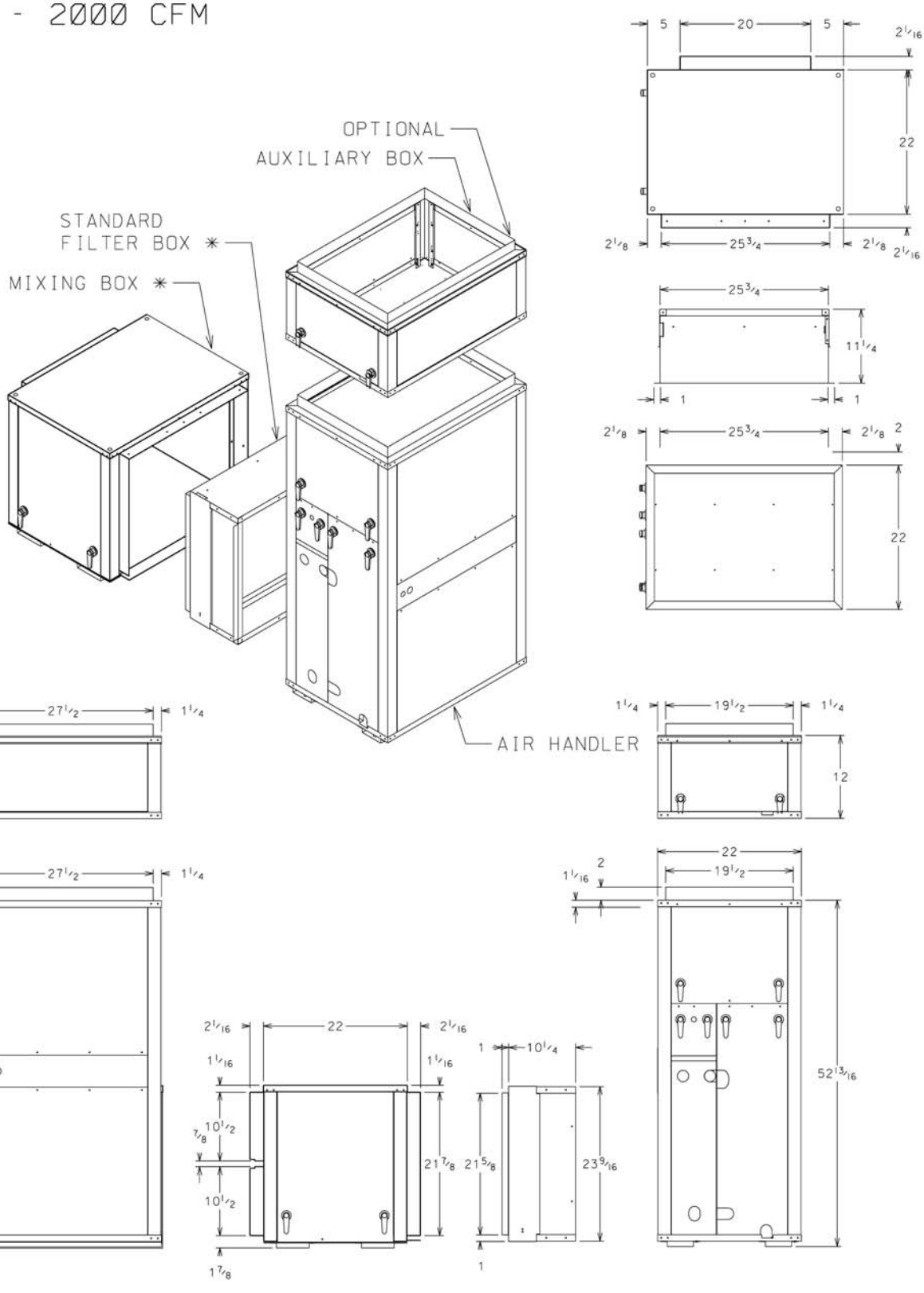


NOTES: 1) UNIT SHOWN HAS RIGHT HAND ACCESS FOR FILTER AND SERVICE ACCESS.

* STANDARD FILTER BOX OR OPTIONAL MIXING BOX.

VERTICAL B W/OPTIONAL BOXES

STANDARD FACE AREA
800 - 2000 CFM



NOTES: 1) UNIT SHOWN HAS RIGHT HAND ACCESS FOR FILTER AND SERVICE ACCESS.

2) OPTIONAL CARTRIDGE BOX SEE DRAWING.

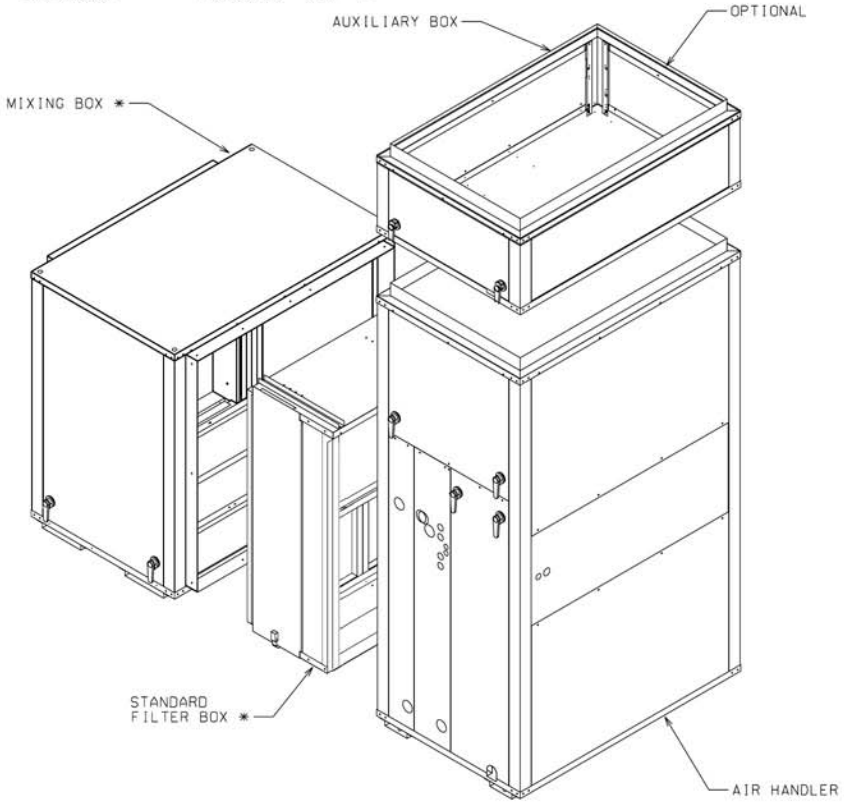
* STANDARD FILTER BOX OR OPTIONAL MIXING BOX.

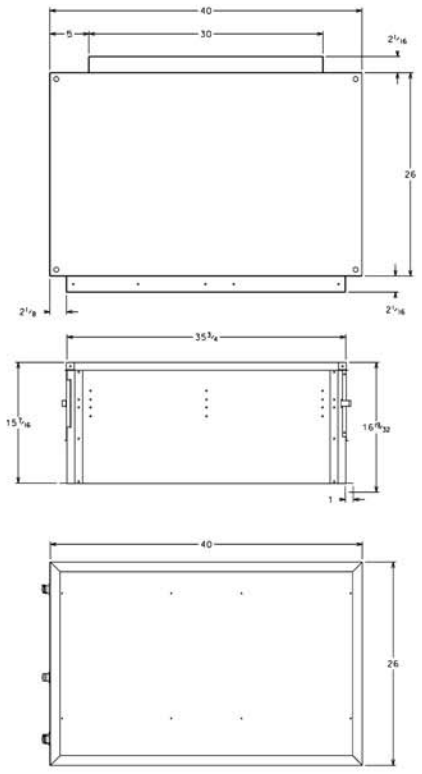
VERTICAL C W/OPTIONAL BOXES

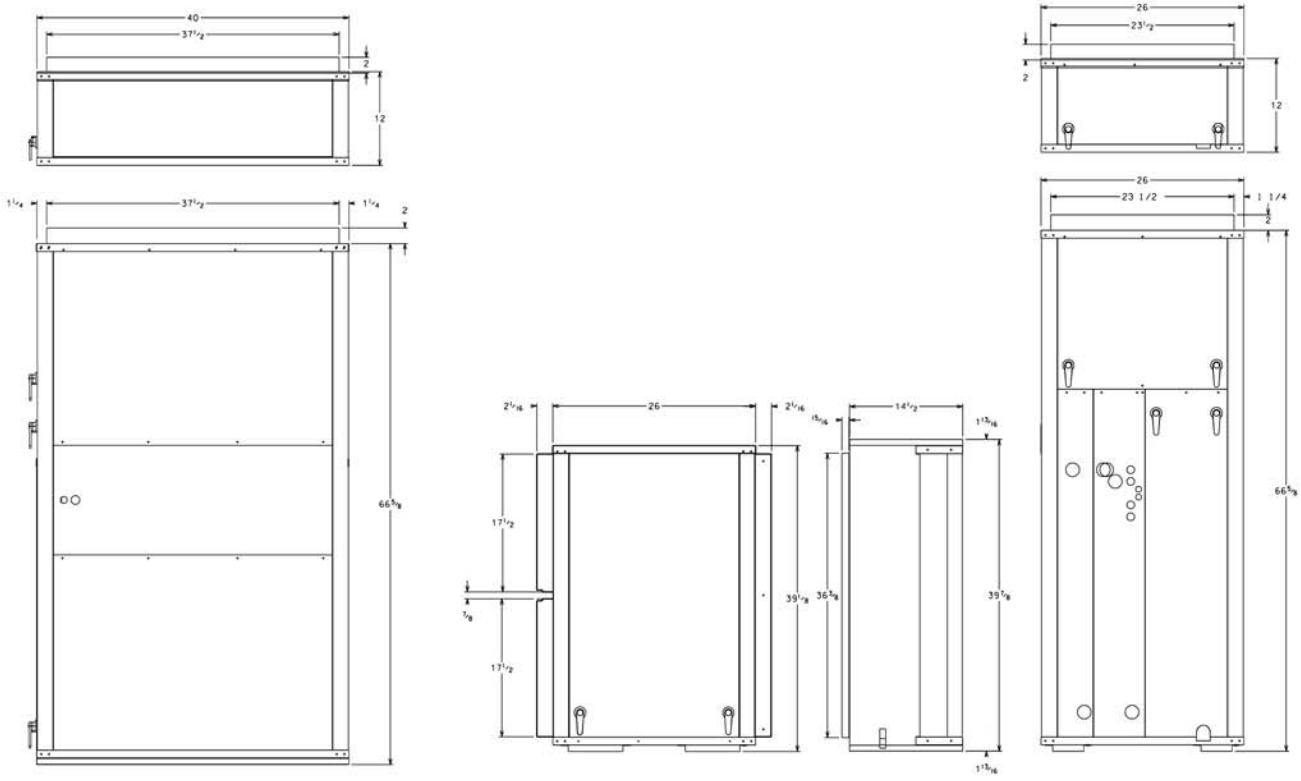
STANDARD & OVERSIZE FACE AREA

C1: 1800 - 3000 CFM

C2: 1800 - 4000 CFM







NOTES: 1) UNIT SHOWN HAS RIGHT HAND ACCESS FOR FILTER AND SERVICE ACCESS.

2) OPTIONAL CARTRIDGE BOX SEE DRAWING.

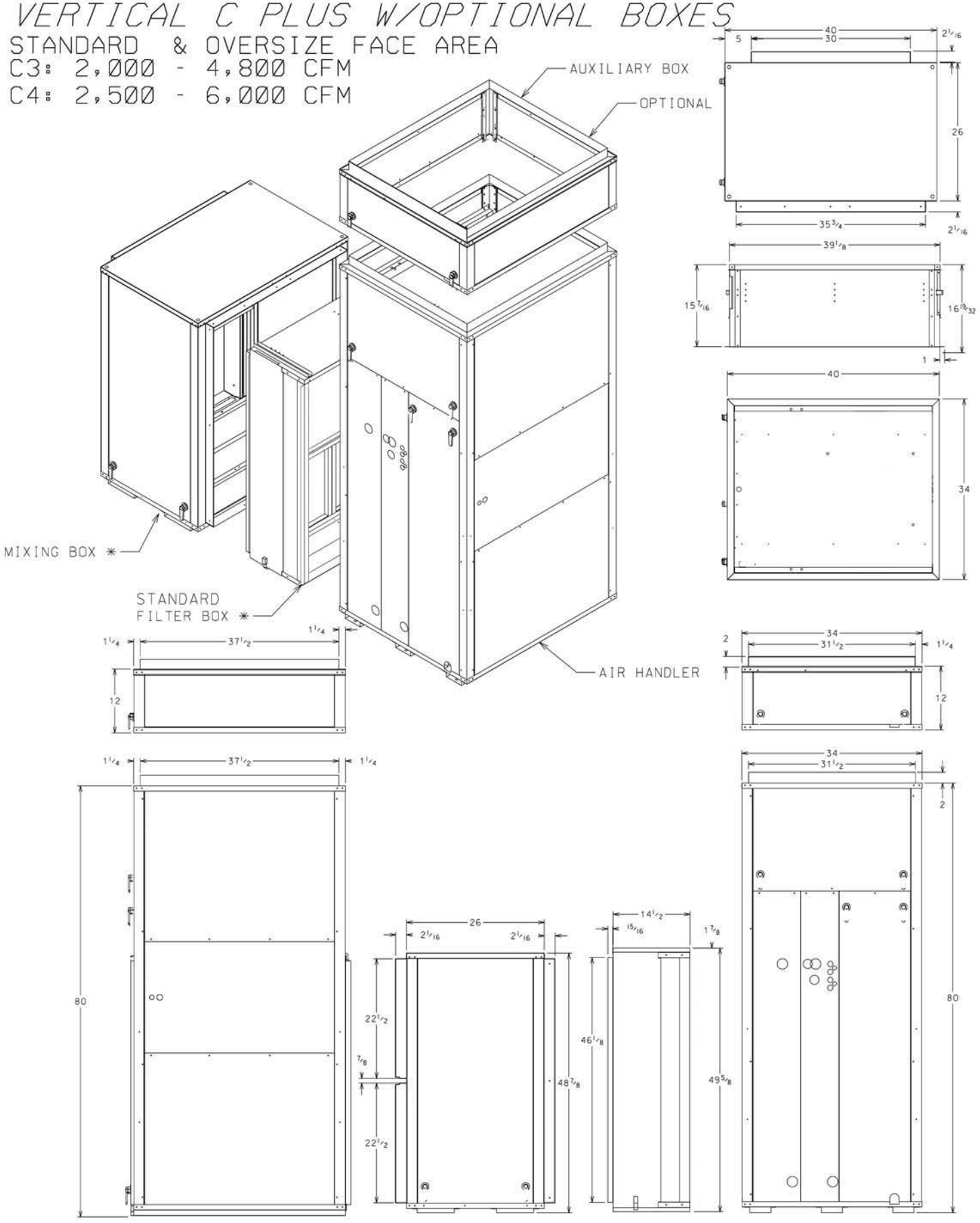
* STANDARD FILTER BOX OR OPTIONAL MIXING BOX.

VERTICAL C PLUS W/OPTIONAL BOXES

STANDARD & OVERSIZE FACE AREA

C3: 2,000 - 4,800 CFM

C4: 2,500 - 6,000 CFM



NOTES: 1) UNIT SHOWN HAS RIGHT HAND ACCESS FOR FILTER AND SERVICE ACCESS.

2) OPTIONAL CARTRIDGE BOX SEE DRAWING.

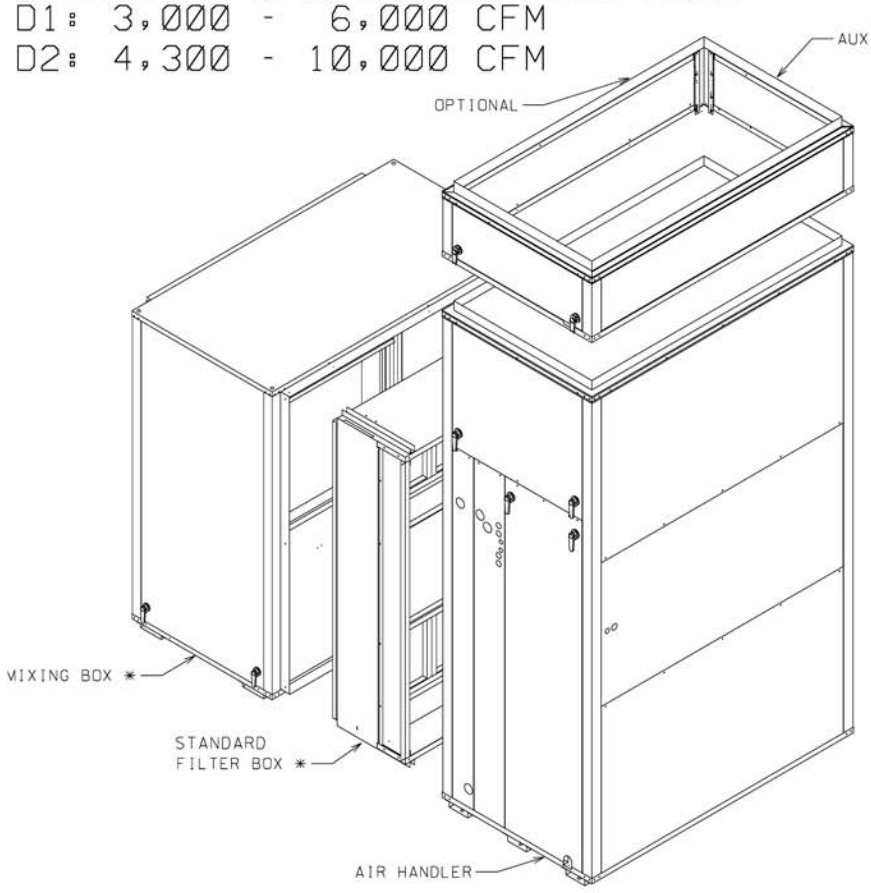
* STANDARD FILTER BOX OR OPTIONAL MIXING BOX.

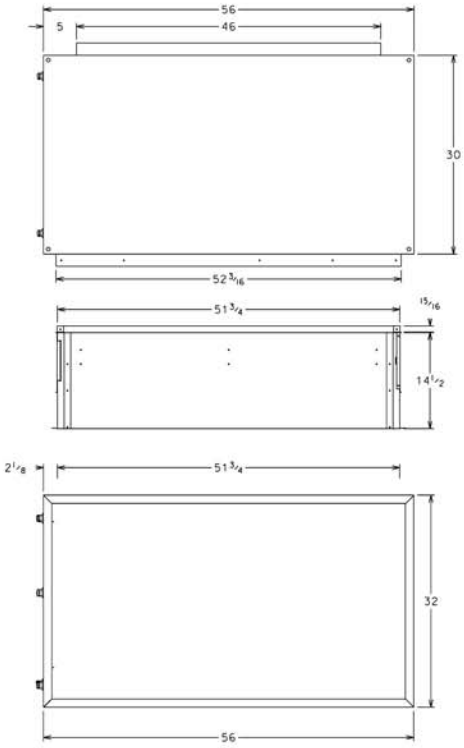
VERTICAL D W/OPTIONAL BOXES

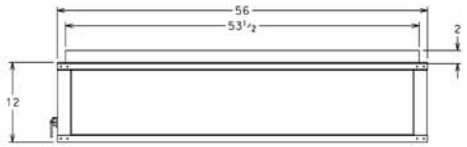
STANDARD & OVERSIZE FACE AREA

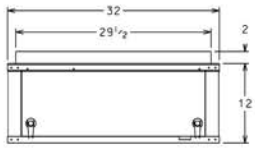
D1: 3,000 - 6,000 CFM

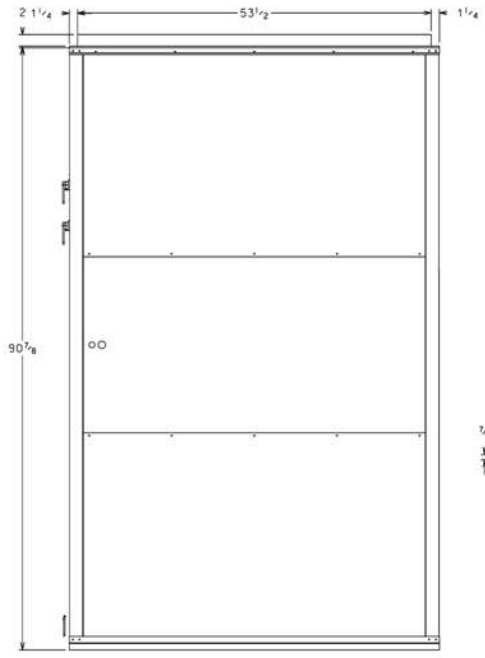
D2: 4,300 - 10,000 CFM

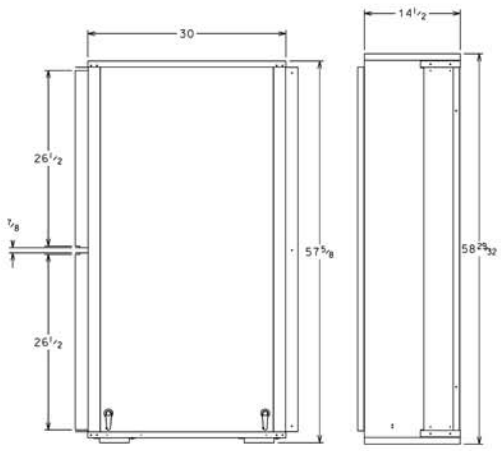


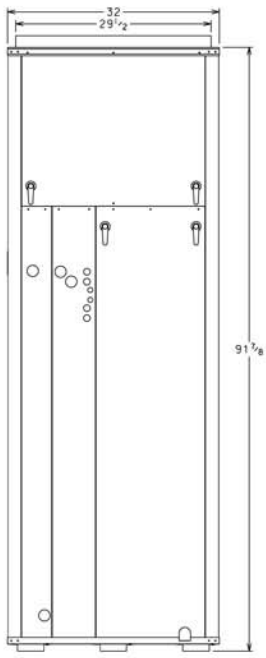












NOTES: 1) UNIT SHOWN HAS RIGHT HAND ACCESS FOR FILTER AND SERVICE ACCESS.

2) OPTIONAL CARTRIDGE BOX SEE DRAWING.

* STANDARD FILTER BOX OR OPTIONAL MIXING BOX.

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