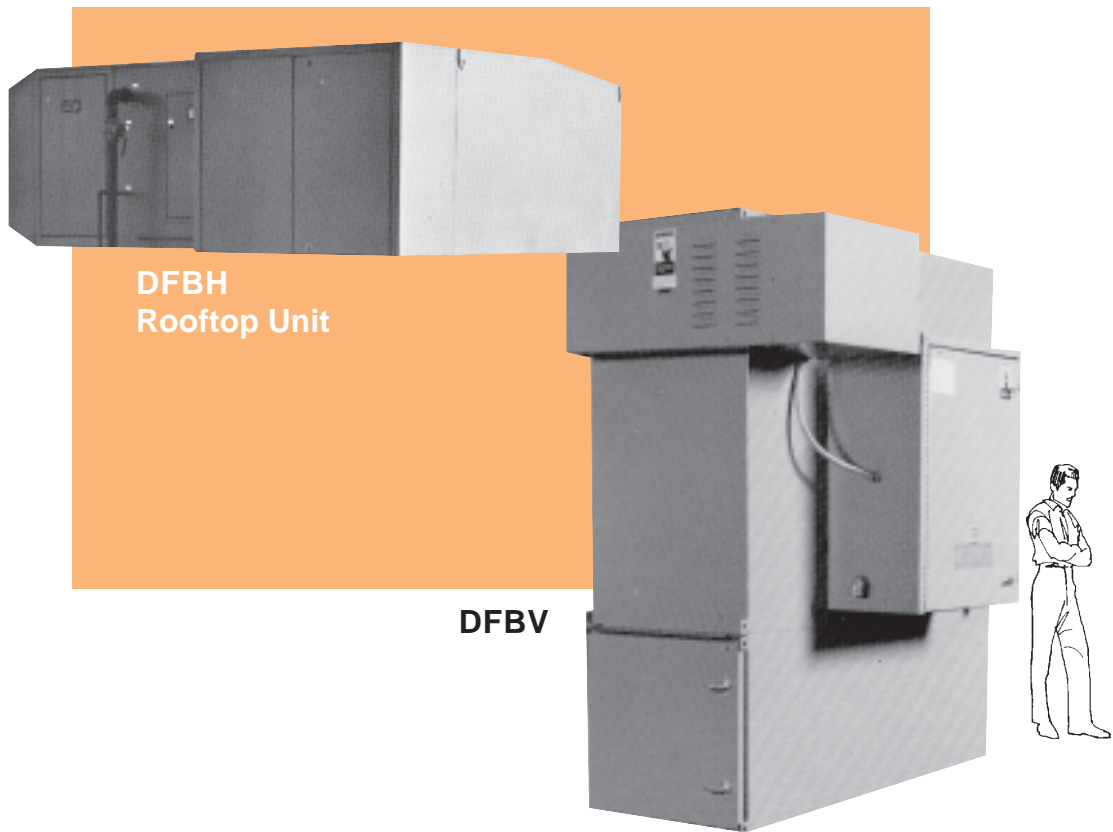
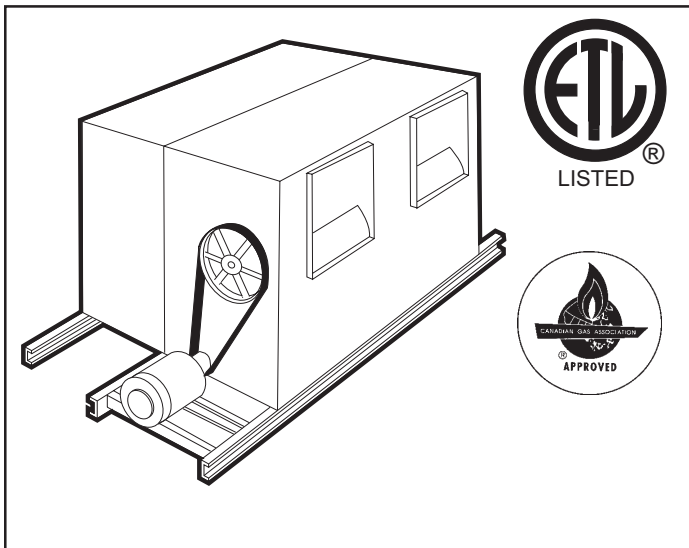


**INDOOR/OUTDOOR HORIZONTAL AND
VERTICAL DIRECT-FIRED MAKEUP
AIR SYSTEM, DUAL BLOWER MODEL****DFBH
Rooftop Unit****DFBV**

- Five Sizes
- DFBH - Horizontal Configuration with Full Curb Cap Base and either Horizontal or Vertical (down) Discharge
- DFBV - Vertical Configuration with Horizontal Discharge, Vertical Up Discharge, or Vertical Down Discharge
- Indoor/Outdoor Installation
- MBH Capacity Range 70 - 8,000
- CFM Capacity Range 9,000 - 75,000
- 100% Outside Air with Constant Volume
- 100% Outside Air with Variable Volume
- Combination Outside Makeup Air/Inside Makeup Air Heating with Constant Air Volume
- Combination Outside Makeup Air/Inside Air Heating with Potentiometer for Automatic Building Pressurization
- American Gas Association (A.G.A.) certified to ANSI Standards
- Canadian Gas Association (C.G.A.) approved to Canadian Standards

REZNOR**Model DFB****INDOOR/OUTDOOR HORIZONTAL AND VERTICAL DIRECT-FIRED
MAKEUP AIR SYSTEM, DUAL BLOWER MODEL**

WARNING: GAS-FIRED APPLIANCES ARE NOT DESIGNED FOR USE IN HAZARDOUS ATMOSPHERES CONTAINING FLAMMABLE VAPORS OR COMBUSTIBLE DUST, OR ATMOSPHERES CONTAINING CHLORINATED OR HALOGENATED HYDROCARBONS.

INSTALLATIONS IN PUBLIC GARAGES OR AIRPLANE HANGARS ARE PERMITTED WHEN IN ACCORDANCE WITH ANSI Z223.1 and NFPA 54 CODES OR CAN1-B149 CODES AND ENFORCING AUTHORITIES.

DESCRIPTION

The Reznor Model DFB Series units are direct-fired/makeup air system designed for either indoor or outdoor installation. Units can be configured for either vertical, horizontal for floor mount, outdoor pad mount, rooftop or suspended installation. Model DFB systems are available to operate on either natural or propane gas. Maximum heating capacity is 8,000,000 BTUH. Maximum air handling capacity is 75,000 CFM. The DFB Models provide discharge air at a maximum temperature of 140°F (higher discharge temperatures are available and require double-wall construction).

Electrical options include unit mounted or remote console including clogged filter indicator, flame failure indicator, on/off/summer switches, night setback switches and an 11 point circuit analyzer. Gas control options include electronic modulating gas valve, manual temperature selector, over-ride thermostat, remote selector, and options for paint spray booths. Safety options include UV flame supervision, disconnect switches, unit pre-purge system and gas pressure regulator kits.

Outdoor (weatherized) units include weatherproof housings over fan motor, drives and damper operator. Pitched roof also available. Rooftop units available with 16" or 24" curbs that can be shipped ahead separately or with the unit.

Units provided with ETL or CGA rating plates. Control panel available with UL Label. Burners available to meet ANSI, FM, IRI or FM/IRI insurance requirements.

STANDARD FEATURES

- Single wall cabinet - 16 gauge cold rolled steel, primed and painted with white enamel finish coat
- Externally adjustable burner profiles allow easy servicing
- Heater and blower section with forward curved, double width, double inlet blowers
- Blower motors mounted outside the air-stream in cooler atmosphere for longer motor life
- Epack Compliant ODP motors-single speed
- Four-inch tubular blower shaft with tapered ends
- Greasable bearings mounted outside the casing for easy access for servicing
- Maxitrol Series 14 solid state gas modulation system
- Flame rod ignition system
- Horizontal or vertical configuration

- Natural gas fuel
- High temperature manual reset limit
- Pressure differential air flow switch
- Discharge temperature sensor with remote set-point
- Horizontal unit has horizontal inlet and discharge for 100% outside air
- Vertical unit has vertical inlet and horizontal left discharge
- Top and bottom lifting lugs provided for easy installation
- Hinged control panel access cover
- ETL listed
- Each unit pre-piped, pre-wired and fire-tested prior to shipment

OPTIONAL FEATURES - Factory Installed

- C.G.A. certification
- Propane gas fueled
- Weatherizing for outdoor installation
- Pitched roof for outdoor installation (standard on sizes 224-233)
- 200/1, 200/3, 230/3, 460/3, 575/3 supply voltage
- Adjustable drives over 10 hp
- Epack Compliant ODP motors - 2-speed; premium-efficiency ODP motors; TEFC motors; 5 - 75 HP
- UV flame supervision
- Vibration isolation
- Supply air dampers and actuators
- Discharge air louvers and plenums
- Fresh air hood
- Convenience outlet
- Freezestat
- Firestat
- Burners to meet ANSI, FM, IRI or FM/IRI requirements
- Proof of closure valve
- High ambient controls
- Service Platform
- Exhaust fan interlock
- Unit purge systems (pre-purge and post purge)
- 11 point circuit analyzer
- V-bank filter section with 2" permanent, 30% pleated or 30% polyester filters
- Mounting stand - Vertical unit
- Rail mounting/curb cap/curb angle - Horizontal unit
- UL listed control panel
- Audible alarm system

OPTIONAL FEATURES - Field Installed

- Remote console with optional control selection
- 16" or 24" roof curb - requires curb angle
- Remote overhead door switch
- 11 point circuit analyzer
- Fusible disconnect switches

**INDOOR/OUTDOOR HORIZONTAL AND
VERTICAL DIRECT-FIRED MAKEUP
AIR SYSTEM, DUAL BLOWER MODEL**
Technical Data

Size		218	221	224	230	233
CFM Range	Min	9,000	10,000	25,000	30,000	40,000
	Max.	20,000	30,000	45,000	60,000	75,000
Blower Size - 2 each (inches)		18 x 18	20 x 18	25 x 25	30 x 30	33 x 33
Max Motor Size		20 hp	30 hp	40 hp	50 hp	60 hp
Gas Direct Fired BTU Capacity	Min	70,000	100,000	140,000	200,000	300,000
	Max.	2,000,000	3,000,000	4,000,000	6,000,000	8,000,000
Max Temperature Rise (°F)		93°	93°	82°	93°	99°
Max Discharge Temp. (°F) ①		140°	140°	140°	140°	140°
Max Gas Pressure ②		5 PSI	5 PSI	5 PSI	5 PSI	5 PSI
Max Gas Train Size		1-1/4"	1-1/2"	2"	3"	3"
Ship Weight Lbs. ③	Base Unit	950	1,432	2,975	4,300	5,900
	Filter Section	300	625	980	1140	1430
	Fresh Air Hood	150	132	182	281	400
	Weatherizing	135	156	200	300	325
	Damper	150	325	470	560	690
	Roof Curb	150	200	300	375	450
	Service Platform	480	520	575	650	700

① For discharge temperatures higher than 140° double wall construction is required. Contact your factory representative.

② Gas supply regulator kit is required when gas pressure exceeds 5PSI. Maximum allowable gas pressure is 10 PSI.

③ Add 10% for crating.

Burner Capacity	Gas Pressure	Gas Train Size
Under 1,000 MBH	7" to 11"	1"
	12" to 1 PSI	1"
1,000 to 1,650 MBH	7" to 11"	1-1/4"
	12" to 1 PSI	1"
1,651 to 2,499 MBH	7" to 11"	1-1/2"
	12" to 5 PSI	1-1/4"
2,500 to 3,000 MBH	7" to 11"	2"
	12" to 5 PSI	1-1/2"
3,001 to 4,000 MBH	8" to 11"	2-1/2"
	12" to 5 PSI	2"
4,001 to 5,000 MBH	8" to 11"	3"
	12" to 20"	2-1/2"
	21" to 5 PSI	2"
5,001 to 6,000 MBH	11" to 20"	3"
	21" to 5 PSI	2-1/2"
6,001 to 8,000 MBH	12" to 5 PSI	3"

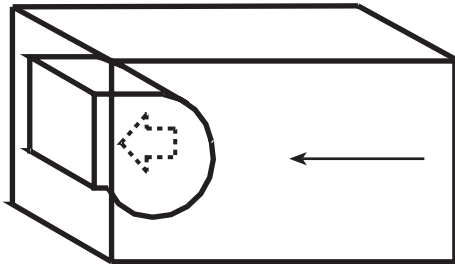
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In keeping with our policy of continuous product improvement, we reserve the right to alter, at any time, the design, construction, dimensions, weights, etc. of equipment shown here.

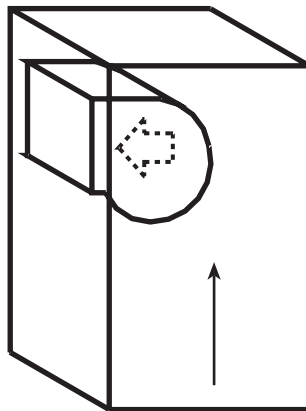
INDOOR/OUTDOOR HORIZONTAL AND VERTICAL DIRECT-FIRED MAKEUP AIR SYSTEM, DUAL BLOWER MODEL

Supply Air Discharge Arrangement Guide

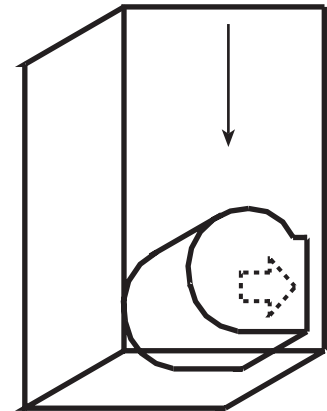
Units are shown as viewed from the “Control” side of the unit. Control side is considered the front of the unit and is on the **left side** as viewed in the direction of the air flow. For vertical units, control side of the unit is the **front**. See chart below for explanation of discharge arrangement options.



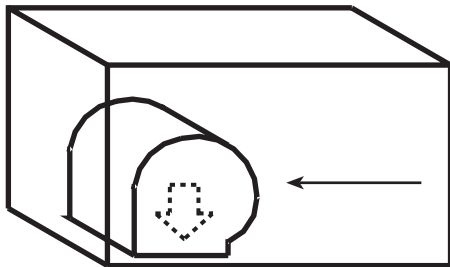
Horizontal Unit with Horizontal Discharge
Option AQ2 or AQ4



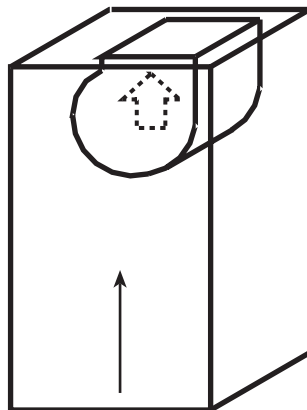
Vertical Upflow Unit with Horizontal Left Discharge
Option AQ24 or AQ25



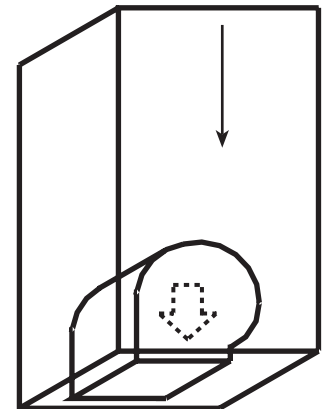
Vertical Downflow Unit with Horizontal Right Discharge
Option AQ26 or AQ27



Horizontal Unit with Bottom Discharge
Option AQ1, AQ3, or AQ3A



Vertical Upflow Unit with Top Discharge
Option AQ13 or AQ14



Vertical Downflow Unit with Bottom Discharge
Option AQ28 or AQ29

- AQ2** Horizontal Unit with Horizontal Discharge
- AQ4** Horizontal Unit with Horizontal Discharge Damper with Two Position Actuator
- AQ1** Horizontal Unit with Bottom Discharge
- AQ3** Horizontal Unit with Bottom Discharge Damper with Two Position Actuator for discharge damper in Curb. Two position discharge damper **MUST** be ordered
- AQ3A** Horizontal Unit with Bottom Discharge Damper with Two Position Actuator (Not for Curb Mounted Units)
- AQ24** Vertical Upflow Unit with Horizontal Left Discharge
- AQ25** Vertical Upflow Unit with Horizontal Left Discharge Damper with Two Position Actuator
- AQ13** Vertical Upflow Unit with Top Discharge
- AQ14** Vertical Upflow Unit with Top Discharge Damper with Two Position Actuator
- AQ26** Vertical Downflow Unit with Horizontal Right Discharge
- AQ27** Vertical Downflow Unit with Horizontal Right Discharge Damper with Two Position Actuator
- AQ28** Vertical Unit with Bottom Discharge
- AQ29** Vertical Unit with Bottom Discharge Damper with Two Position Actuator

INDOOR/OUTDOOR HORIZONTAL AND VERTICAL DIRECT-FIRED MAKEUP AIR SYSTEM, DUAL BLOWER MODEL

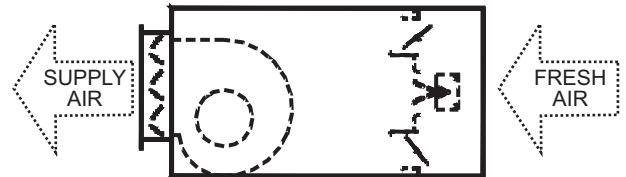
Air Flow Arrangement

Units are shown as viewed from the "Control" side of the unit. Control side is considered the front of the unit and is on the left side as viewed in the direction of the air flow.

Standard Air Flow

For makeup air applications where a constant air volume or varying quantity of air (between 25 and 100% of capacity) is required. Profile dampers are fixed.

Variable air volume unit includes modulating discharge damper and profile damper to control air over burner. Unit volume to be controlled by potentiometer, autocycle or space pressure panel.

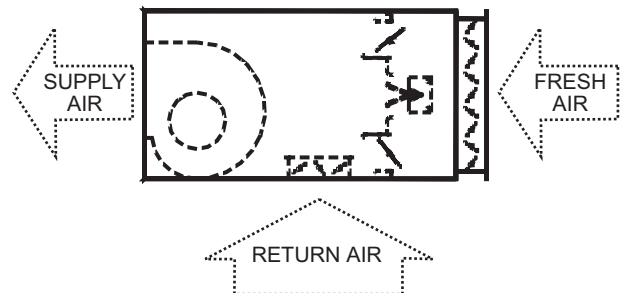


All units include profile dampers. Constant volume units have external manual adjustment. Variable volume and recirculating units have modulating damper actuators.

Recirculation Air Flow

For makeup air and heating application where a constant volume of air is required with varying quantities of outside and recirculated air (25% minimum outside air).

Recirculation air unit includes modulating outside and return air dampers to control quantities of outside and return air plus modulating profile dampers to control air over burner. Outside/Return air volume to be controlled by potentiometer, autocycle or space pressure panel.



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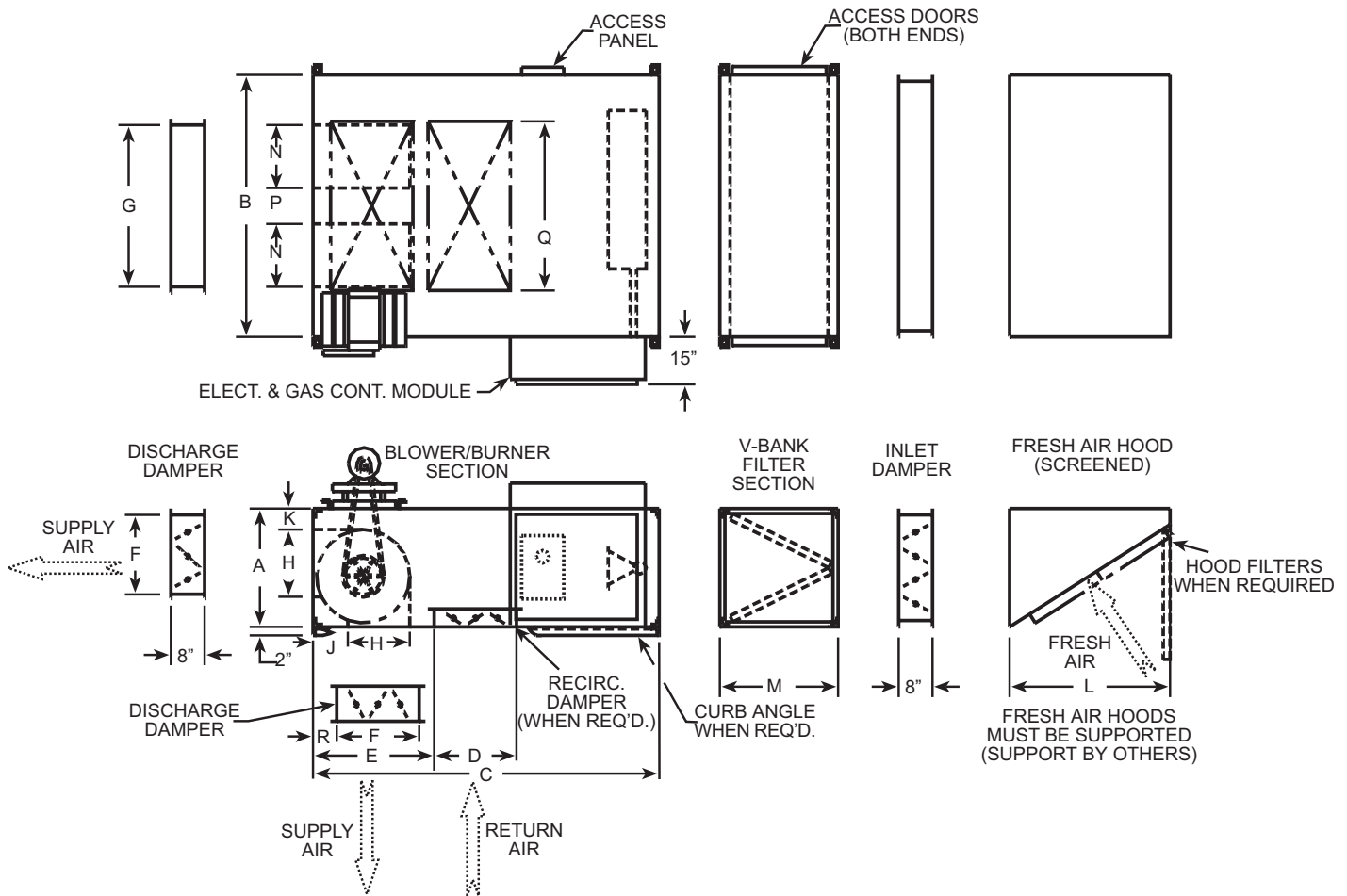
STANDARD PIPING SCHEMATIC	
DESCRIPTION	
1	MAIN GAS SHUTOFF
2	GAS PRESSURE REG.
3	MAIN GAS VALVE
4	SECOND GAS VALVE
5	METERING VALVE
6	PILOT GAS SHUTOFF
7	PILOT PRESSURE REG.
8	PILOT GAS VALVE
*9	LOW GAS PRESSURE SWITCH
*10	HIGH GAS PRESSURE SWITCH

**GAS TRAIN UP TO 1,000,000 MBH
STD/FM/IRI INSURANCE**

* REQUIRED FOR IRI GAS TRAIN

INDOOR/OUTDOOR HORIZONTAL AND VERTICAL DIRECT-FIRED MAKEUP AIR SYSTEM, DUAL BLOWER MODEL

**Dimensions for Model DFB 218 and 221
Horizontal Unit**



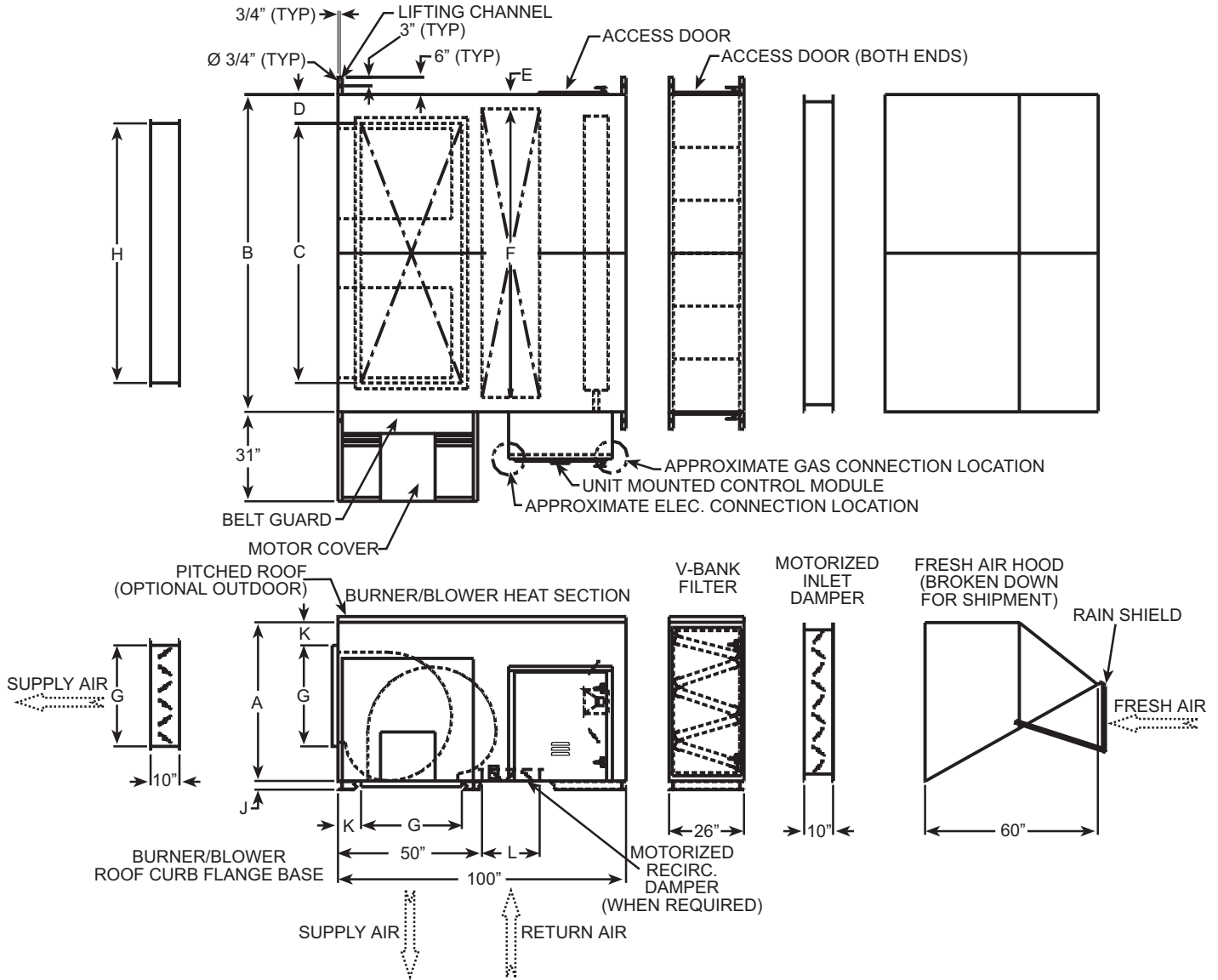
SIZE	DIMENSIONS																FILTERS			
	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	V-BANK		HOOD	
																	QTY	SIZE	QTY	SIZE
218	36	72	62	15	33	26	58	18-7/8	10-1/2	10-1/2	72	24	21-7/8	14-1/4	58	6	8	20x20x2	4	2x20x25
																	8	16x20x2	4	2x16x25
221	42	100	72	20	38	33	76	24-3/4	11-1/4	4-3/4	72	26	22-3/4	23-1/2	80	6	16	20x25x2	15	2x20x25

NOTES:

- 1) Drawing is not to scale. Dimensions subject to change without notification.
- 2) Units only supplied in left hand arrangement as shown.
- 3) Standard adjustable drive through 10 HP.
- 4) Outdoor units are provided with weatherproof housings over fan motor, drives and damper operator.
- 5) Horizontal unit with bottom discharge may carry over moisture. Do not install over damageable materials.
- 6) Unit should be installed a minimum of 24 inches above ground. Curb/stand not shown.
- 7) All units are pre-piped, pre-wired and fire-tested prior to shipment.

INDOOR/OUTDOOR HORIZONTAL AND VERTICAL DIRECT-FIRED MAKEUP AIR SYSTEM, DUAL BLOWER MODEL

**Dimensions for Model DFB 224 and 230
Horizontal Unit**



DIMENSIONS												V-BANK FILTERS	
SIZE	A	B	C	D	E	F	G	H	J	K	L	QTY	SIZE
224	55	110	90	10	5	100	35	90	3	8	20	18	20x20x2
												12	20x25x2
230	60	145	115	15	5	135	40	115	4	5	25	6	20x20x2
												30	20x25x2

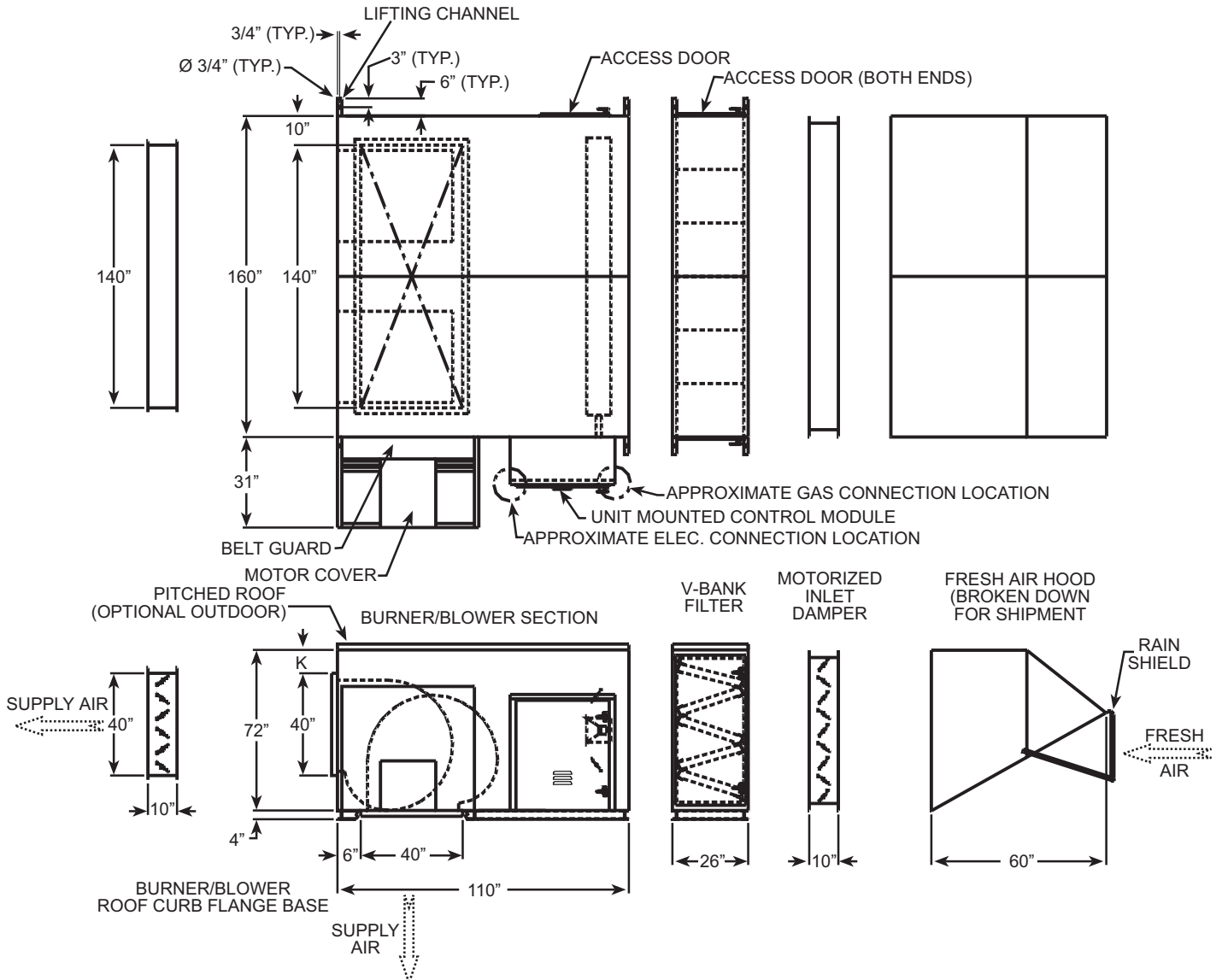
NOTES:

- 1) Drawing is not to scale. Dimensions subject to change without notification.
- 2) Horizontal units with horizontal or bottom discharge are standard. Consult your factory representative for other arrangements.
- 3) Unit should be installed at minimum 24" from ground. Curb/stand not shown.
- 4) Outdoor units are provided with weatherproof housings over fan motor, drives and damper operator.
- 5) Horizontal units with bottom discharge may carry over moisture. Do not install over damageable materials.
- 6) Inlet screen is provided on outdoor units.
- 7) All units are pre-piped, pre-wired and fire tested prior to shipment.

DFB

INDOOR/OUTDOOR HORIZONTAL AND VERTICAL DIRECT-FIRED MAKEUP AIR SYSTEM, DUAL BLOWER MODEL

**Dimensions for Model DFB 233
Horizontal Unit
for 100% outside Air**



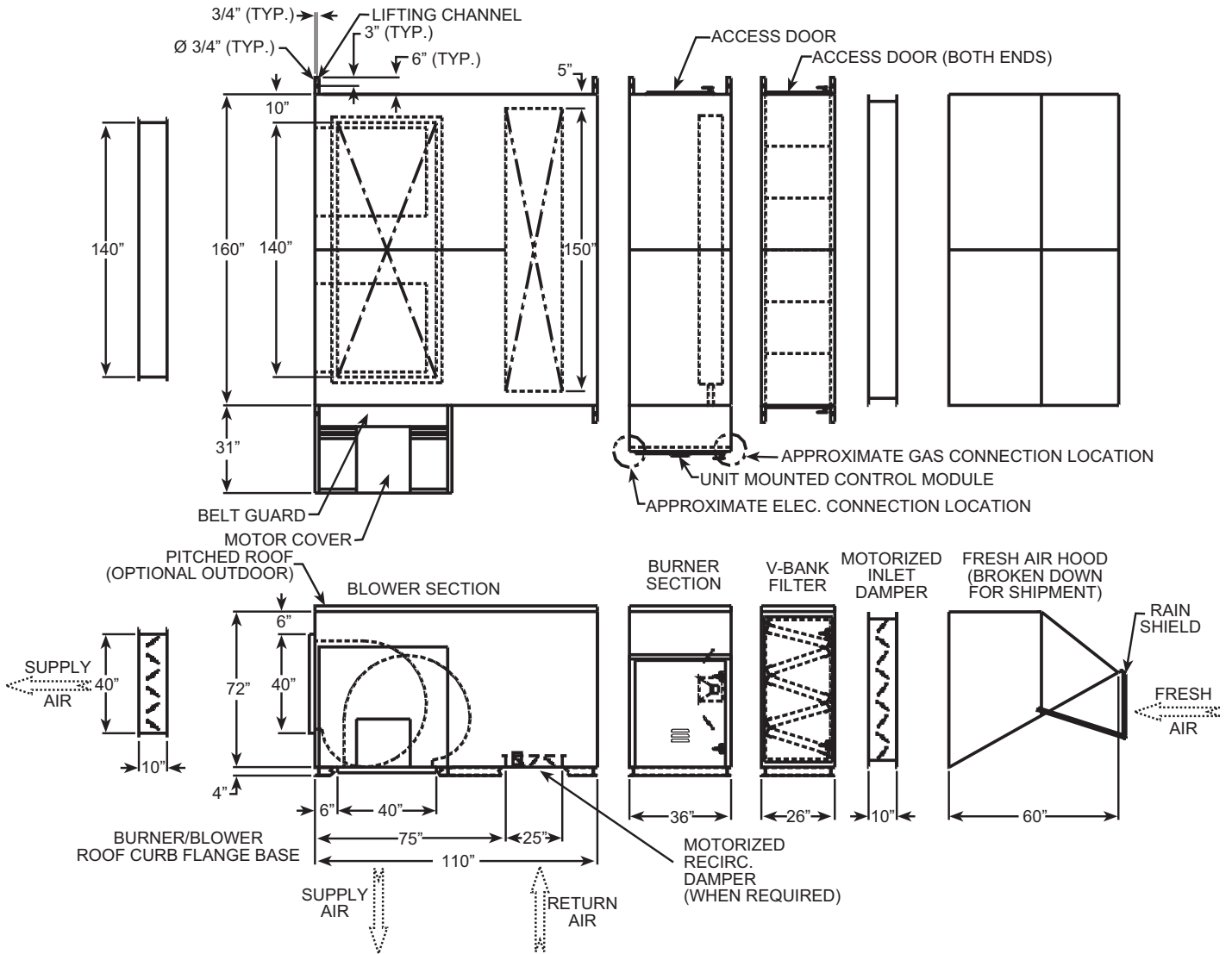
DIMENSIONS	
V-BANK FILTERS	
QTY	SIZE
56	2x20x20

NOTES:

- 1) Drawing is not to scale. Dimensions subject to change without notification.
- 2) For supply air other than horizontal or bottom discharge contact your factory representative.
- 3) Unit should be installed at a minimum 24" from ground. Curb/stand not shown.
- 4) Outdoor units are provided with weatherproof housings over fan motor, drives and damper operator.
- 5) Bottom discharge units may carry over moisture. Do not install over damageable materials.
- 6) Inlet screen is provided on outdoor units.
- 7) All units are pre-piped, pre-wired and fire-tested prior to shipment.

INDOOR/OUTDOOR HORIZONTAL AND VERTICAL DIRECT-FIRED MAKEUP AIR SYSTEM, DUAL BLOWER MODEL

**Dimensions for Model DFB 233
Horizontal Unit
with Air Recirculation Option**



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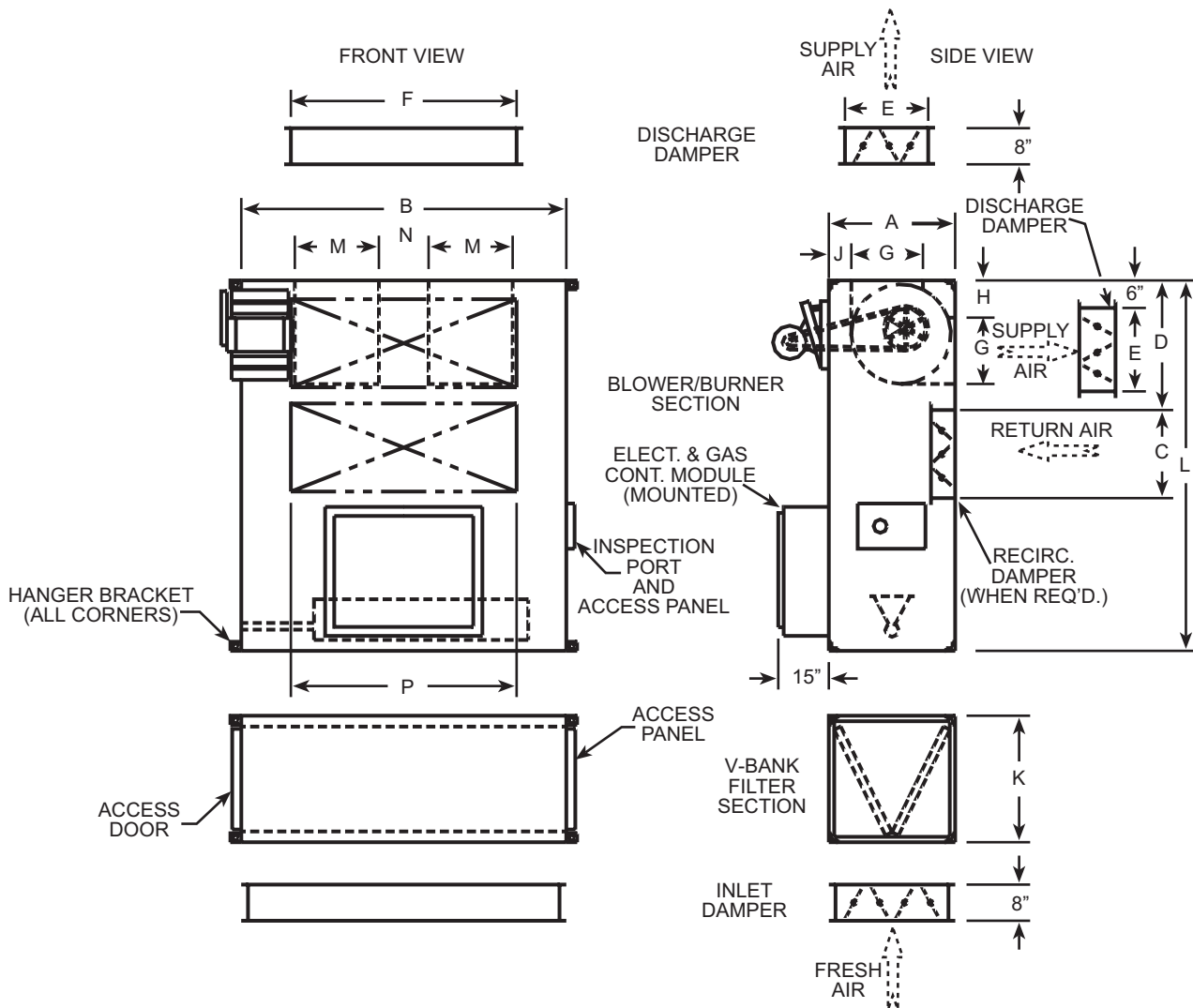
DIMENSIONS	
V-BANK FILTERS	
QTY	SIZE
56	2x20x20

NOTES:

- 1) Drawing is not to scale. Dimensions subject to change without notification.
- 2) For supply air other than horizontal or bottom discharge contact your factory representative.
- 3) Unit should be installed at a minimum of 24" from ground. Curb/stand not shown.
- 4) Outdoor units provided with weatherproof housings over fan motor, drives and damper operator.
- 5) Bottom discharge units may carry over moisture. Do not install over damageable materials.
- 6) Inlet screen is provided on outdoor units.
- 7) All units are pre-piped, pre-wired and fire-tested prior to shipment.

INDOOR/OUTDOOR HORIZONTAL AND VERTICAL DIRECT-FIRED MAKEUP AIR SYSTEM, DUAL BLOWER MODEL

**Dimensions for Model DFB 218 and 221
Vertical Unit**



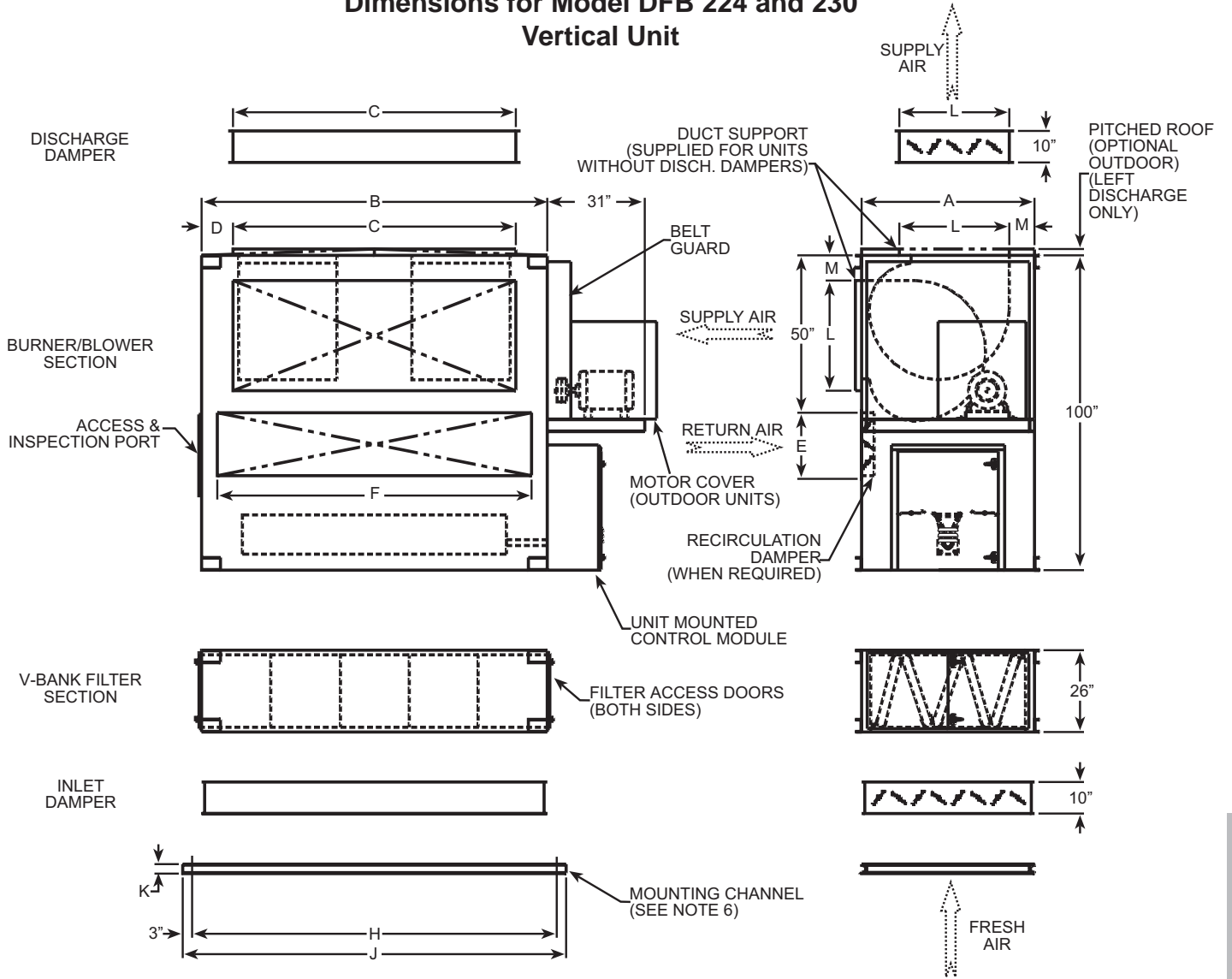
DIMENSIONS															V-BANK FILTERS	
SIZE	A	B	C	D	E	F	G	H	J	K	L	M	N	P	QTY.	SIZE
218	36	72	15	33	26	58	18-7/8	10-1/2	10-1/2	24	62	21-7/8	14-1/4	58	8	20x20x2
															8	16x20x2
221	42	100	20	38	33	76	24-3/4	11-1/4	4-3/4	26	72	21-3/4	23-1/2	80	15	20x25x2

NOTES:

- Outdoor units are supplied with weatherproof housings over motor drives and damper operator.
- Unit should be installed a minimum of 24" from ground. Stand not shown.
- Inlet screen is provided on outdoor units.
- Fan drives are adjustable through 10 hp motors.
- All units are pre-piped, pre-wired and fire-tested prior to shipment.
- Drawing is not to scale. Dimensions subject to change without notification.

INDOOR/OUDOOR HORIZONTAL AND VERTICAL DIRECT-FIRED MAKEUP AIR SYSTEM, DUAL BLOWER MODEL

Dimensions for Model DFB 224 and 230 Vertical Unit



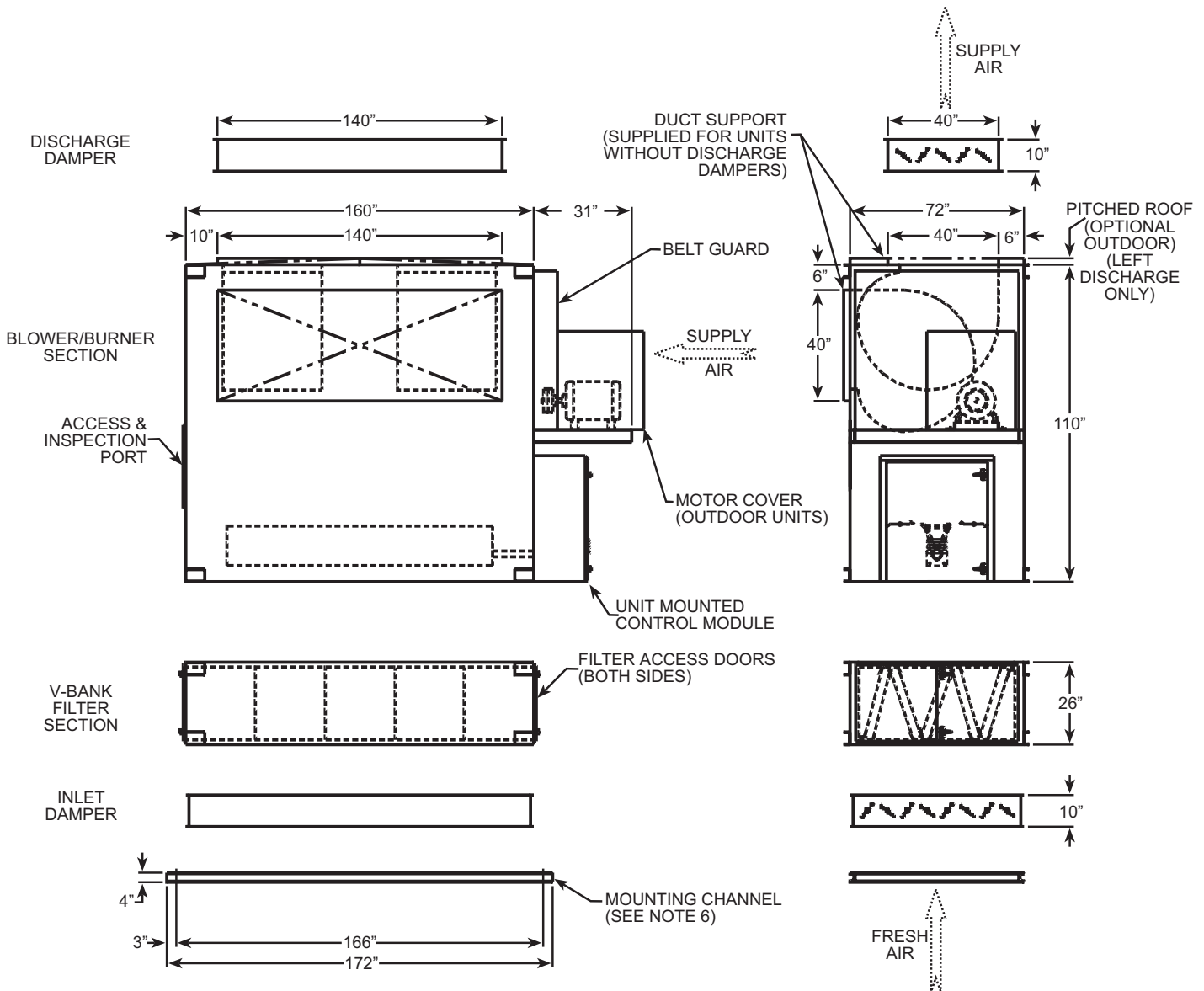
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DIMENSIONS													V-BANK FILTERS	
SIZE	A	B	C	D	E	F	G	H	J	K	L	M	QTY	SIZE
224	55	110	90	10	20	100	5	116	122	3	35	8	18	20x20x2
													12	20x25x2
230	60	145	115	15	25	135	7-1/2	151	157	4	40	5	6	20x20x2
													30	20x25x2

- NOTES:
- 1) Drawing is not to scale. Dimensions subject to change without notification.
 - 2) Unit should be installed a minimum of 36" from ground. Stand not shown.
 - 3) Outdoor units are provided with weatherproof housings over fan motor, drives and damper operator.
 - 4) All units are pre-piped, pre-wired and fire-tested prior to shipment.
 - 5) Inlet screen is provided on outdoor units.
 - 6) Mounted to unit bottom. Omitted with units with mounting stand.

INDOOR/OUTDOOR HORIZONTAL AND VERTICAL DIRECT-FIRED MAKEUP AIR SYSTEM, DUAL BLOWER MODEL

**Dimensions for Model DFB 233
Vertical Unit
for 100% Outside Air**



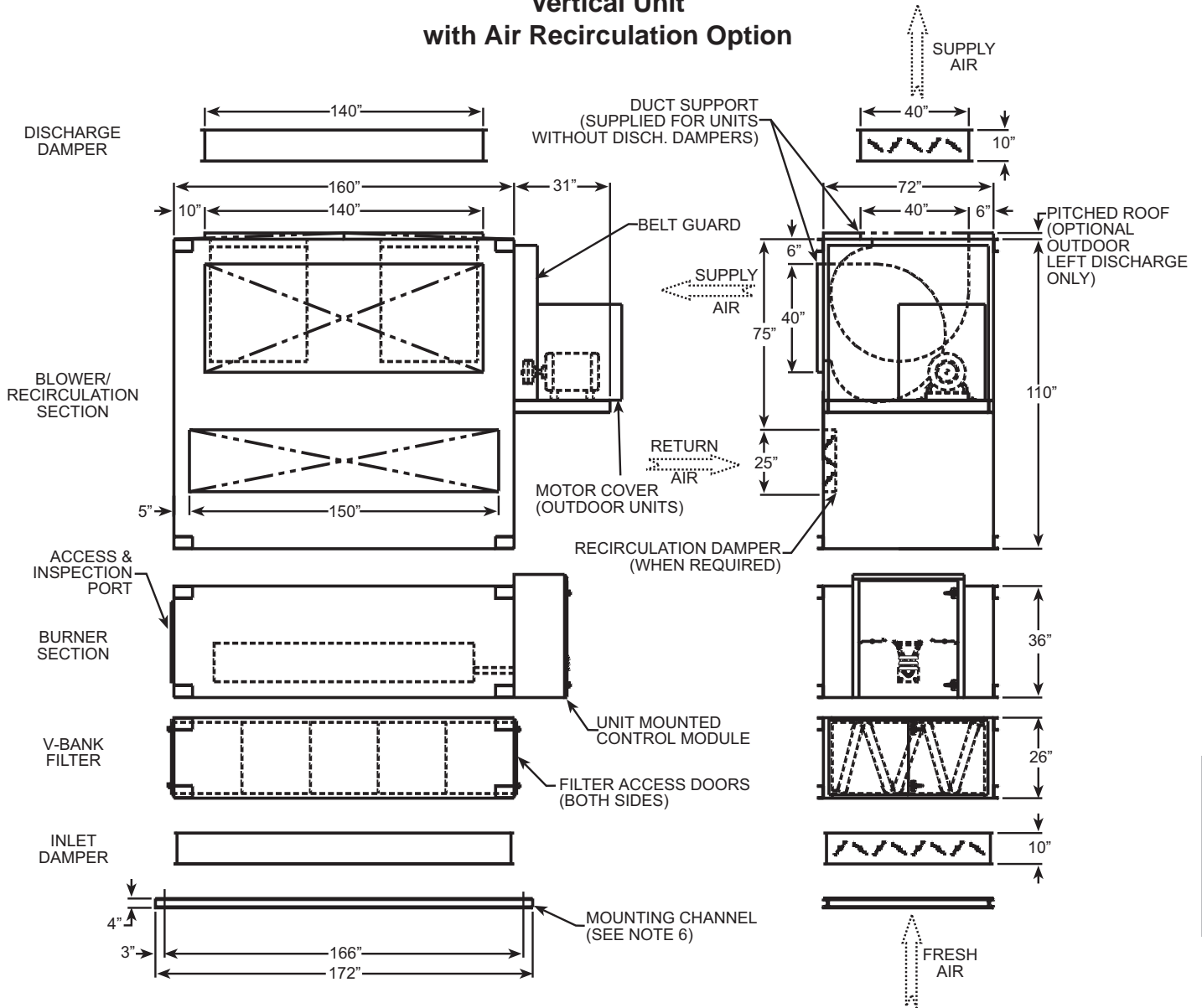
DIMENSIONS	
V-BANK FILTERS	
QTY	SIZE
56	2x20x20

NOTES:

- 1) Drawing is not to scale. Dimensions subject to change without notification.
- 2) Unit should be installed a minimum of 36" from ground. Stand not shown.
- 3) Outdoor units are provided with weatherproof housings over fan motor, drives and damper operator.
- 4) All units are pre-piped, pre-wired and fire-tested prior to shipment.
- 5) Inlet screen is provided on outdoor units.
- 6) Mounted to unit bottom. Omitted with units with mounting stand.

INDOOR/OUTDOOR HORIZONTAL AND VERTICAL DIRECT-FIRED MAKEUP AIR SYSTEM, DUAL BLOWER MODEL

Dimensions for Model DFB 233 Vertical Unit with Air Recirculation Option



DIMENSIONS	
V-BANK FILTERS	
QTY	SIZE
56	2x20x20

NOTES:

- 1) Drawing is not to scale. Dimensions subject to change without notification.
- 2) Unit should be installed a minimum of 36" from ground. Stand not shown.
- 3) Outdoor units are provided with weatherproof housings over fan motor, drives and damper operator.
- 4) All units are pre-piped, pre-wired and fire-tested prior to shipment.
- 5) Inlet screen is provided on outdoor units.
- 6) Mounted to unit bottom. Omitted with units with mounting stand.

**INDOOR/OUTDOOR HORIZONTAL AND
VERTICAL DIRECT-FIRED MAKEUP
AIR SYSTEM, DUAL BLOWER MODEL****CHOOSING DIRECT FIRED EQUIPMENT**

In choosing a direct-fired makeup air unit, you are getting the most efficient unit available. The quality and durability built into each and every unit gives you the best first-cost for your investment.

Along with quality, efficiency and durability, these units offers simplicity. Once you have carefully determined such factors as CFM required for your application, external static pressure, accessories and location of your unit, choosing the proper size is easy.

YOU NEED TO KNOW:

1. CFM Requirements
2. External Static Pressure
3. Temperature Rise
4. Optional components or accessories which affect system air flow (e.g. Filters, Dampers, Fresh Air Hood)
5. Available gas pressure
6. Available electrical service

YOU NEED TO SELECT:

1. Correct size unit
2. Blower Wheel RPM
3. Brake Horsepower
4. Motor Horsepower
5. Burner Capacity
6. Gas Train Size

The following four step selection procedure explains just how simple choosing the most efficient and economical makeup air heating equipment can be.

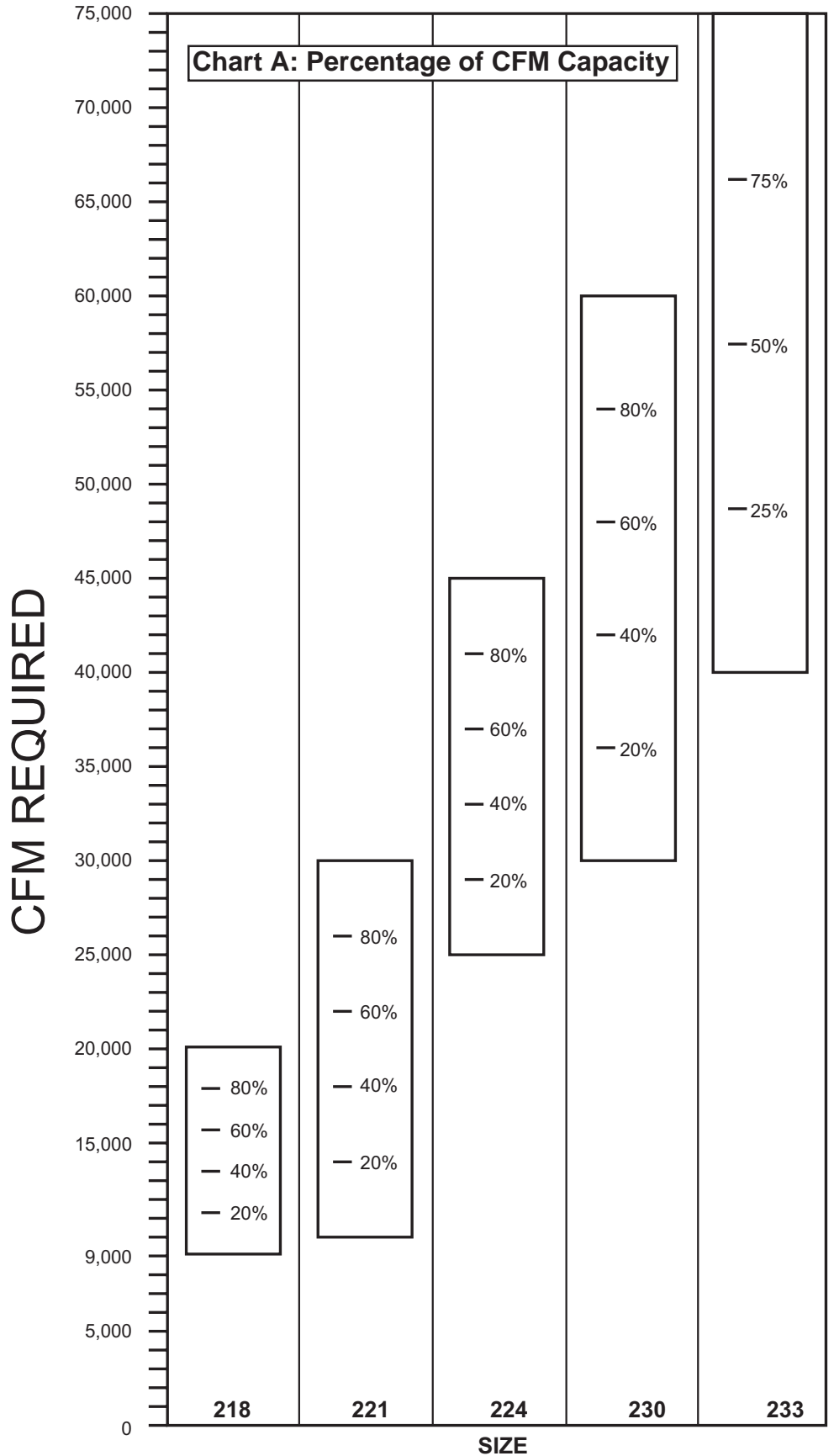
INDOOR/OUTDOOR HORIZONTAL AND VERTICAL DIRECT-FIRED MAKEUP AIR SYSTEM, DUAL BLOWER MODEL

The 4 Step Selection Method

Step 1 - Size

Direct Fired Equipment is selected according to the cubic feet per minute of air (CFM) required for the job. Enter the Percentage of CFM Capacity (Chart A) under CFM (on the left) to select the unit that delivers the proper air volume.

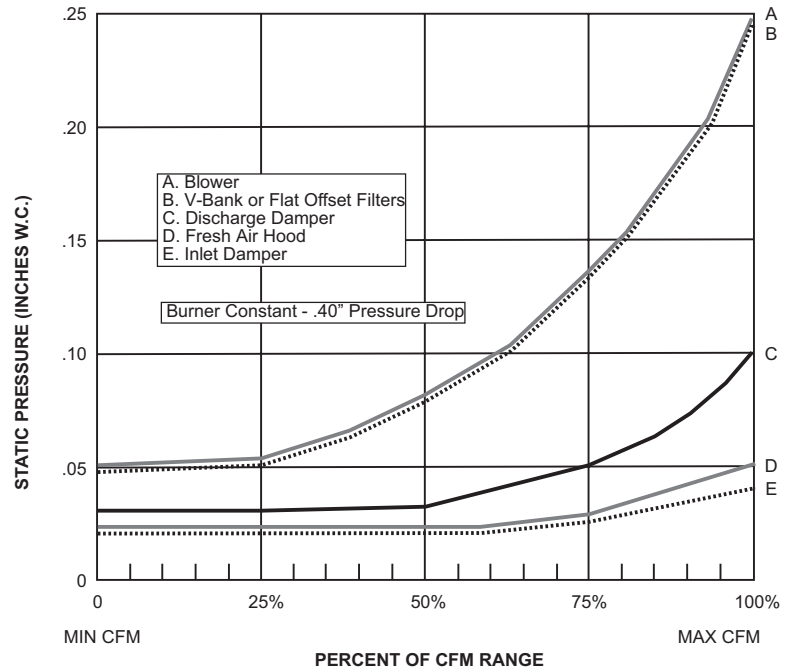
NOTE: If more than one size can deliver the same air volume (CFM), the smaller unit should be selected unless a significant savings in horsepower can be realized.



DFB

INDOOR/OUTDOOR HORIZONTAL AND VERTICAL DIRECT-FIRED MAKEUP AIR SYSTEM, DUAL BLOWER MODEL

Chart B:
STATIC PRESSURE CHART
INTERNAL STATIC PRESSURE CHART FOR DIRECT FIRED COMPONENTS



Step 2 - Motor Horsepower

Referring to the Percentage of CFM Capacity chart, find the reference percentage for entering the Static Pressure for Components and Accessories (Chart B).

Enter the Static Pressure for Components and Accessories chart at the approximate percentage of unit capacity (bottom of chart). Draw a vertical line up from that point until it intersects each component and accessory desired. Then, draw a horizontal line from each of the intersections to find the internal static pressure of each component and accessory.

Add all those internal static pressures to the external static pressure to find the total static pressure.

Then, enter the Blower motor Selection table for the selected model at the required CFM and continue horizontally until the total static pressure is reached. Read and record the revolutions per minute (RPM) of the blower wheel and the brake horsepower (BHP) required.

Select a motor horsepower just above the brake horsepower. Motor sizes available are 5, 7.5, 10, 15, 20, 25, 30, 40, 50, 60 and 75 HP. Availability of electrical service must be known to select motors.

Total Static Pressure Does Not Include 5% Drive Losses

Table 1: Blower Motor Selection Tables

Size	Total S.P.		Percentage of Capacity	0.75		1.00		1.25		1.50		1.75		2.00		2.25		2.50	
	CFM	OV		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
218	9,000	1071	0	550	2.20	633	2.44	702	3.20	763	3.60	-	-	-	-	-	-	-	-
	10,000	1745		580	2.50	639	2.86	705	3.80	763	4.00	818	5.56	870	5.10	-	-	-	-
	11,000	1920	20	600	3.00	646	3.32	707	4.20	763	4.50	818	5.64	870	5.70	-	-	-	-
	12,000	2094		615	3.50	656	3.88	714	4.70	767	5.00	818	5.76	870	6.30	-	-	-	-
	13,000	2269	40	640	4.10	666	4.40	720	5.30	774	5.70	822	6.30	873	6.90	920	8.00	-	-
	14,000	2443		650	4.70	679	5.04	729	5.90	782	6.40	830	7.50	880	7.70	925	8.40	970	9.00
	15,000	2618	60	670	5.40	690	5.95	744	6.50	790	7.40	845	8.00	890	9.00	930	9.60	973	10.00
	16,000	2792		685	6.20	705	6.40	755	7.60	800	8.40	850	8.80	895	9.90	945	10.70	975	11.00
	17,000	2967	80	700	6.60	730	6.80	770	8.40	815	9.00	860	9.80	905	10.40	955	12.00	985	12.40
	18,000	3141		720	7.90	745	8.10	780	9.00	830	10.00	870	11.00	910	12.00	965	13.20	1000	13.80
20,000	3490	100	730	8.90	750	9.00	820	10.81	855	12.40	900	13.40	945	14.70	980	15.60	1025	15.80	

INDOOR/OUTDOOR HORIZONTAL AND VERTICAL DIRECT-FIRED MAKEUP AIR SYSTEM, DUAL BLOWER MODEL

Table 1: Blower Motor Selection Tables - (cont'd)

Total Static Pressure Does Not Include 5% Drive Losses

Table with 20 columns: Size, Total S.P. (CFM, OV), Percentage of Capacity, and performance metrics (RPM, BHP) for static pressures 0.75, 1.00, 1.25, 1.50, 1.75, 2.00, 2.25, and 2.50.

Table with 20 columns: Size, Total S.P. (CFM, OV), Percentage of Capacity, and performance metrics (RPM, BHP) for static pressures 0.75, 1.00, 1.25, 1.50, 1.75, 2.00, 2.25, and 2.50.

Table with 20 columns: Size, Total S.P. (CFM, OV), Percentage of Capacity, and performance metrics (RPM, BHP) for static pressures 0.75, 1.00, 1.25, 1.50, 1.75, 2.00, 2.25, and 2.50.

Table with 20 columns: Size, Total S.P. (CFM, OV), Percentage of Capacity, and performance metrics (RPM, BHP) for static pressures 0.75, 1.00, 1.25, 1.50, 1.75, 2.00, 2.25, and 2.50.

DFB

INDOOR/OUTDOOR HORIZONTAL AND VERTICAL DIRECT-FIRED MAKEUP AIR SYSTEM, DUAL BLOWER MODEL

Step 3 - Burner Capacity

The formula for computing the direct-fired burner output is

$$\text{BTUH} = \text{CFM} \times 1.08 \times \text{Temperature Rise}$$

where CFM is cubic feet per minute of unit capacity, and Temperature Rise is the discharge air temperature desired minus the entering air temperature.

Step 4 - Gas Train Size

On the Gas Train Size table, enter the table at the burner capacity level that includes the BTUH your project demands and move across to the corresponding gas train size.

Table 2: Gas Train Size

Burner Capacity	Gas Pressure	Gas Train Size
Under 1,000 MBH	7" to 11"	1"
	12" to 1 PSI	1"
1,000 to 1,650 MBH	7" to 11"	1-1/4"
	12" to 1 PSI	1"
1,651 to 2,499 MBH	7" to 11"	1-1/2"
	12" to 5 PSI	1-1/4"
2,500 to 3,000 MBH	7" to 11"	2"
	12" to 5 PSI	1-1/2"
3,001 to 4,000 MBH	8" to 11"	2-1/2"
	12" to 5 PSI	2"
4,001 to 5,000 MBH	8" to 11"	3"
	12" to 20"	2-1/2"
	21" to 5 PSI	2"
5,001 to 6,000 MBH	11" to 20"	3"
	21" to 5 PSI	2-1/2"
6,001 to 8,000 MBH	12" to 5 PSI	3"

NOTE: For gas pressure above those listed, a high pressure regulator is required (See Options CZ5).

Other considerations: In order to choose discharge arrangements and available options such as Weatherizing (Options AYW), Belt Guards, Service Platform (Options SP), etc., refer to price sheet.