

DESCRIPTION

Reznor Model PCB indirect fired heating units are designed for indoor or outdoor installation in industrial and commercial applications. These units are suitable for a variety of space heating, cooling and ventilating applications.

Model PCB units offer a complete range of sizes for air handling capacities from 3,500 to 57,000 CFM and heating outputs from 240,000 to 4,500,000 BTUH. All models are available in either horizontal or vertical configuration and operate on natural gas, propane, oil or gas/oil combinations.

The primary combustion chamber is all-welded 400 series stainless steel construction with a minimum of 16 gauge material on tank, 16 gauge material on headers. Combustion chamber is free of all refractory lining. Metal temperature when fired at guaranteed rates is designed not to exceed 75% of the scaling temperature of the metal. The secondary heat exchanger section is constructed of staggered banks of 3" carbon steel tubes 16 gauge minimum and complete with headers and flue connections. Secondary tubes are completely welded to headers. Stainless steel tubing and headers available are recommended when heater handles air temperatures 40°F. inlet temperature or below.

Cabinets are constructed of 16 gauge steel or heavier and properly supported with welded structural angle, channel and tubular steel. All sheet metal cabinets are constructed with large modular design to accommodate multiple arrangements of sectionized components. All cabinetry structural steel and panels are thoroughly degreased, fully primed and finished with tow coats of external machinery enamel. Panel construction provides full and easy access to all compartments. The heat exchanger section has internal heat shields to protect the exterior unit skin and allows air to travel between exterior and the shield. Optional weatherproof enclosures over burner and control compartments are available. All joints and seams can be caulked and weatherproofed. All access doors can be fully gasketed for units installed outdoors.

Model PCB units are equipped with suitable number of DWDI-FC Class 1 centrifugal blowers mounted on tubular 4" shafts (size 65 and smaller uses solid shaft) and complete with V-belt drives sized for 50% greater than the required brake horse power. Fan motors are mounted on adjustable bases.

Motors and drives are mounted out of the airstream.

Safety controls include an electronic burner safety relay with main and pilot sensing and timer for purging the combustion chamber before every start-up, or as required. An automatic electronic ignition system, magnetic three-phase-across-the-line-overload pro-

tected starter with manual reset overloads, fuse blocks, fan and limit switches, draft switches, combustion air switches and control transformer to provide 115 volt 60 cycle single phase current are also included. Available with either room or discharge duct thermostat.

Burners are available for use with natural gas, propane, fuel oil or gas/oil combination. Gas burners include pilot ignition for use with (natural/manufactured mixed liquefied petroleum gas/liquefied petroleum gas-air mixture). Included in the manifold are main gas electric shut off valves with linkage to combustion air dampers. Main and pilot gas pressure regulator, pilots, solenoids, and necessary control and safety devices are also included.

Fuel oil burner is high pressure oil atomizing type with mechanically forced draft suitable for burning No. 2 fuel oil. Unit incorporates oil pump combustion air fan and drive, combustion air damper, oil solenoid valve in the burner control cabinet.

Combination fuel power burner equipped with components as included in gas burner and light oil burner described above. Automatic, fuel change-over accomplished by means of electrical toggle switch on the burner control cabinet.

All listed burners are available with either on-off, two-stage, or full modulated firing rates. Also available are FM, IRI compliance, or UL or ETL approvals.

Model PCB units are shop assembled and wired complete with burner, primary combustion chamber and secondary heat transfer surfaces, mechanical combustion system, fan and motor assembly, sheet metal casing, controls and safety devices, flame tested at the manufacturer's plant and shipped as a complete package assembly. Dampers, filters, mixing box, service platform, weather hood and bird-screen, if these are required, are mounted in factory. Units are disassembled only when required for shipping purposes.

Units are warranted to be free from defects in material or workmanship for one (1) year from the date of original installation or fifteen (15) months from date of shipment from factory.

NOTE: Not certified for residential use.

WARNING: HEATER IS NOT DESIGNED FOR USE IN HAZARDOUS ATMOSPHERES CONTAINING FLAMMABLE VAPORS OR COMBUSTIBLE DUST, OR ATMOSPHERES CONTAINING CHLORINATED OR HALOGENATED HYDROCARBONS.

Trademarks are the property of their respective organizations.

STANDARD FEATURES

- Modular Cabinet constructed of minimum 16 gauge steel
- Blower(s) with double width, double inlet, forward curved Class I blower wheels, AMCA rated
- Tubular base on units up through size 125
- Channel base on units size 150 and larger
- Full floating heat exchanger
- Horizontal or vertical configuration
- Hinged service access door to blower module
- Double wall heat exchanger module
- Belt guard
- Modular designed sections
- Full operating controls with room or discharge thermostat
- Stainless steel primary heat exchanger
- Tubular steel blower shafts (on size 75 and larger)
- Variable pitch driver pulley (up through 10 hp)
- Convenient access for field service or replacement of primary or secondary heat exchanger
- 208/230/460 polyphase open drip-proof motors, NEMA-T re-rate
- Adjustable motor mounts
- Step down transformer to convert power supply to 115VAC control circuit voltage

Control Options

- Remote control station
- Exhaust fan interlock
- Burner on/off outdoor air thermostat
- FM, IRI or special code requirements
- 8.1 remote station (S/O/W switch and 3 operating lights)
- 8.5 remote station (S/O/W switch, 3 operating lights and room thermostat)
- Night setback with switch, skip-a-day timeclock or 7-day timeclock
- Room thermostat
- Unit mounted on/off toggle switch
- Low limit
- Pre or post purge
- Clogged filter switch and light
- Fused main disconnect switch
- JIC electrical standards
- Audible alarm
- UL label on main control panel
- High pressure gas regulator
- Mixing box economizer control
- ETL label

OPTIONAL FEATURES

- Insulated cabinet
- Filter section with permanent aluminum mesh filters, fiberglass throwaway filters or 30% pleated filters
- Intake or discharge dampers
- Mixing box with opposed blade dampers, modulating motor and potentiometer
- Fresh air hood
- Weatherizing construction for outdoor installation
- Pitched gable roof
- Service platform with guard rail
- 12" high roof curb
- Vibration isolators: pad mounted neoprene, pad mounted spring, hanging neoprene, hanging spring or waffle pad (curb mounted units)
- Stainless steel secondary heat exchanger
- Double deflection discharge louvers
- Down discharge plenum
- Vertical mounting stand
- Enamel exterior finish
- Coil section

TECHNICAL DATA

MODEL	OUTPUT (MBH)		INPUT (MBH)		BLOWER SIZE	CFM		FLUE SIZE
	MAX	MIN	MAX	MIN		MAX	MIN	
35	350	240	435	300	(1) 15x15	6,000	3,500	6"
45	450	240	560	300	(1) 15x15	6,000	3,500	6"
50	500	240	630	300	(2) 12x12	8,000	4,000	6"
65	650	520	810	640	(2) 12x12	8,000	4,000	6"
75	750	520	940	650	(2) 15x15	12,000	6,000	6"
85	850	520	1,060	650	(2) 15x15	12,000	6,000	8"
100	1,000	520	1,250	650	(2) 15x15	12,000	6,000	8"
125	1,250	560	1,565	700	(2) 18x18	18,000	10,000	10"
150	1,500	560	1,880	700	(2) 20x20	24,000	13,000	12"
175	1,750	600	2,190	750	(2) 20x20	24,000	13,000	12"
200	2,000	600	2,500	750	(2) 25x25	37,000	21,000	12"
225	2,250	600	2,800	750	(2) 25x25	37,000	21,000	12"
250	2,500	600	3,130	750	(2) 25x25	45,000	21,000	14"
275	2,750	720	3,440	900	(2) 25x25	45,000	21,000	14"
300	3,000	720	3,750	900	(2) 25x25	45,000	30,000	14"
350	3,500	720	4,380	900	(2) 30x30	57,000	35,000	16"
400	4,000	1,400	5,000	1,750	(2) 30x30	57,000	35,000	16"
450	4,500	1,400	5,600	1,750	(2) 30x30	57,000	35,000	16"



MODEL PCB

ESTIMATED SHIPPING WEIGHT

UNIT	HOUSINGS				FILTERS	DAMPERS		WEATHERIZE		SERV PLTFRM.	
	HEAT EXCHANGER	BLOWER	COIL SECTION	MIX BOX	V-BANK	INLET	DISCH	F.A. HOOD	BLOW H-EXCH	BLOW H-EXCH	ADD SECT
45, 50, 65	1,000	540	375	445	420	240	240	80	100	480	240
75, 85, 95	1,000	540	375	445	420	240	240	80	100	480	240
100, 120	1,440	800	575	685	650	330	330	130	100	660	330
125, 150, 175	2,200	1,875	1,025	1,075	950	470	470	180	200	940	470
200, 250, 275	3,200	2,500	1,300	1,325	1,100	550	550	240	275	1,100	550
300, 350, 400	4,200	3,360	1,400	1,475	1,300	630	630	365	375	1,260	630

ESTIMATED SHIPPING WEIGHTS - BURNERS

Gas Burner	MBTU/hr	625	938	1,250	1,875	2,500	3,125	5,000
	WT.	155	190	230	290	300	340	340
#2 OIL BURNER	GPH	5	7	9	13	18	22	36
	WT.	125	125	220	220	310	360	385
COMB GAS #2 OIL	MBTU/hr	625	938	1,250	1,875	2,500	3,125	5,000
	GPH	5	7	9	13	18	22	31
	WT.	200	240	270	360	400	450	

MOTOR WEIGHTS

SIZE H.P.	3/4	1	1 1/2	2	3	5	7 1/2	10	15	20	25	30	40	50
Std. Weight	35	35	45	45	70	85	130	155	220	275	300	360	500	550
Two Speed Wt.	70	85	125	150	185	215	270	310	405	455	525	570	700	760
Frame Size - 1Ø	56	56	182T	184T	213T	215T	215T							
Frame Size - 3Ø	143T	143T	145T	145T	182T	184T	213T	215T	254T	256T	284T	286T	324T	326T

For total estimated shipping weight, add the weights of each module, burner and motor selected.

1. Determine desired MBH Output and CFM. Select appropriate size unit from the chart above.

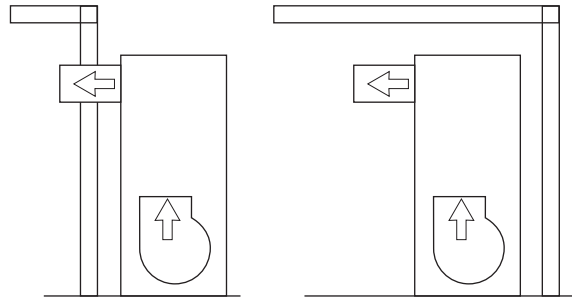
CONFIGURATION SELECTION GUIDE
Designed for Installation Almost Anywhere!

A building shouldn't have to be designed around an HVAC System. The HVAC System should be designed to fit the building design. That's the idea behind Reznor Model PCB. These space heating systems can be mounted almost anywhere there's an open space, and they can be mounted right side up, upside down or horizontal. All Model PCB units can be installed for recirculated air, 100% makeup air or combination.

NOTE: Burner side is considered the FRONT Side. On Horizontal Units, burner is located to the left as unit is viewed through air flow direction.

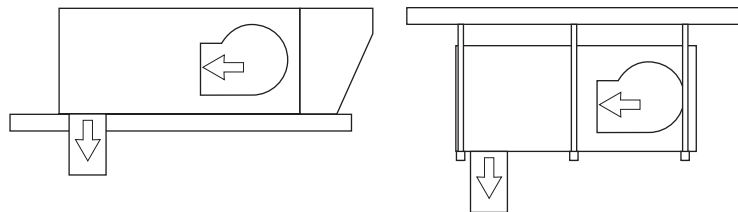
Some of the installation possibilities include:

- Rooftop
- Suspended
- Outside on the ground
- Outside on a wall
- Inside on a wall
- Inside on the floor

**Vertical Configurations**

Vertical units can be mounted on a wall on the inside or outside as shown. Units can also be suspended from the ceiling, placed in the middle of the floor of a building, or installed in a HVAC room/closet. Warm air can be discharged through nozzles or ducted throughout the building.

All filters and other accessories can be easily included.

**Horizontal Configurations**

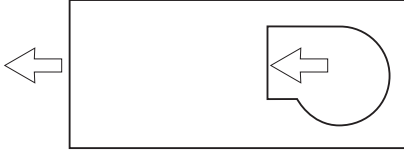
Horizontal units can be mounted on a roof curb or suspended from the ceiling as shown. Units can also be placed on an inside wall, outside wall or suspended from the roof next to an outside wall.

Filters and other accessories can be easily included.

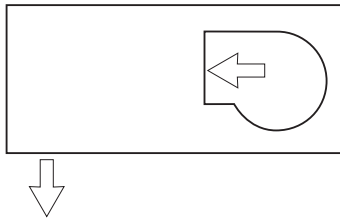
In keeping with our policy of continuous product improvement, we reserve the right to alter, at any time, the design, construction, dimensions, weights, etc., of equipment information shown here.

CONFIGURATION SELECTION GUIDE (cont'd)

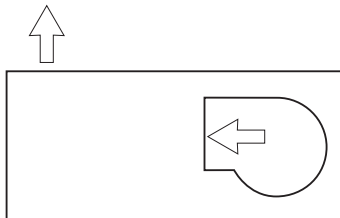
**HORIZONTAL
Model PCBH**



with Option AQ2 or AQ4
Horizontal Configuration with
Horizontal Supply Air Discharge

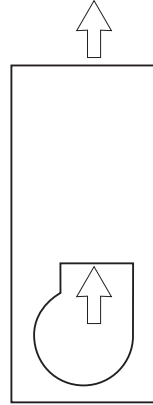


with Option AQ1 or AQ3
Horizontal Configuration with
Bottom Supply Air Discharge
(Order with roof curb for rooftop installation)

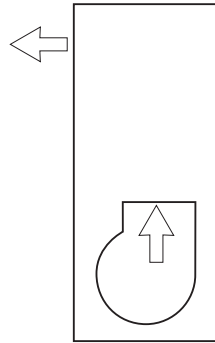


with Option AQ13 or AQ14
Horizontal Configuration with
Top Supply Air Discharge

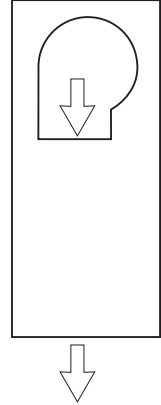
**VERTICAL
Model PCBV**



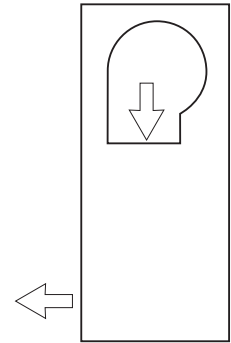
with Option AQ13 or AQ14
Vertical Upflow Configuration with Top
Supply Air Discharge



with Option AQ16 or AQ18
Vertical Upflow Configuration with Left
Supply Air Discharge



with Option AQ1 or AQ3
Vertical Downflow Configuration with
Bottom Supply Air Discharge

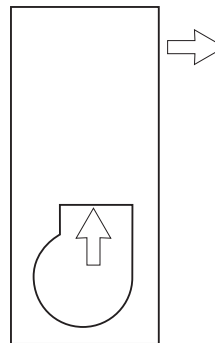


with Option AQ30 or AQ31
Vertical Downflow Configuration with Left
Supply Air Discharge

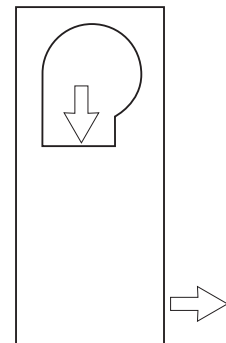
Above arrangements available at no additional charge. There is an additional charge for the below option. See price sheet.

Above arrangements available at no additional charge. There is an additional charge for the below option. See price sheet.

Above arrangements available at no additional charge. There is an additional charge for the below option. See price sheet.



with Option AQ15 or AQ17
Vertical Upflow Configuration with Right
Supply Air Discharge



with Option AQ26 or AQ 27
Vertical Downflow Configuration with
Right Supply Air Discharge

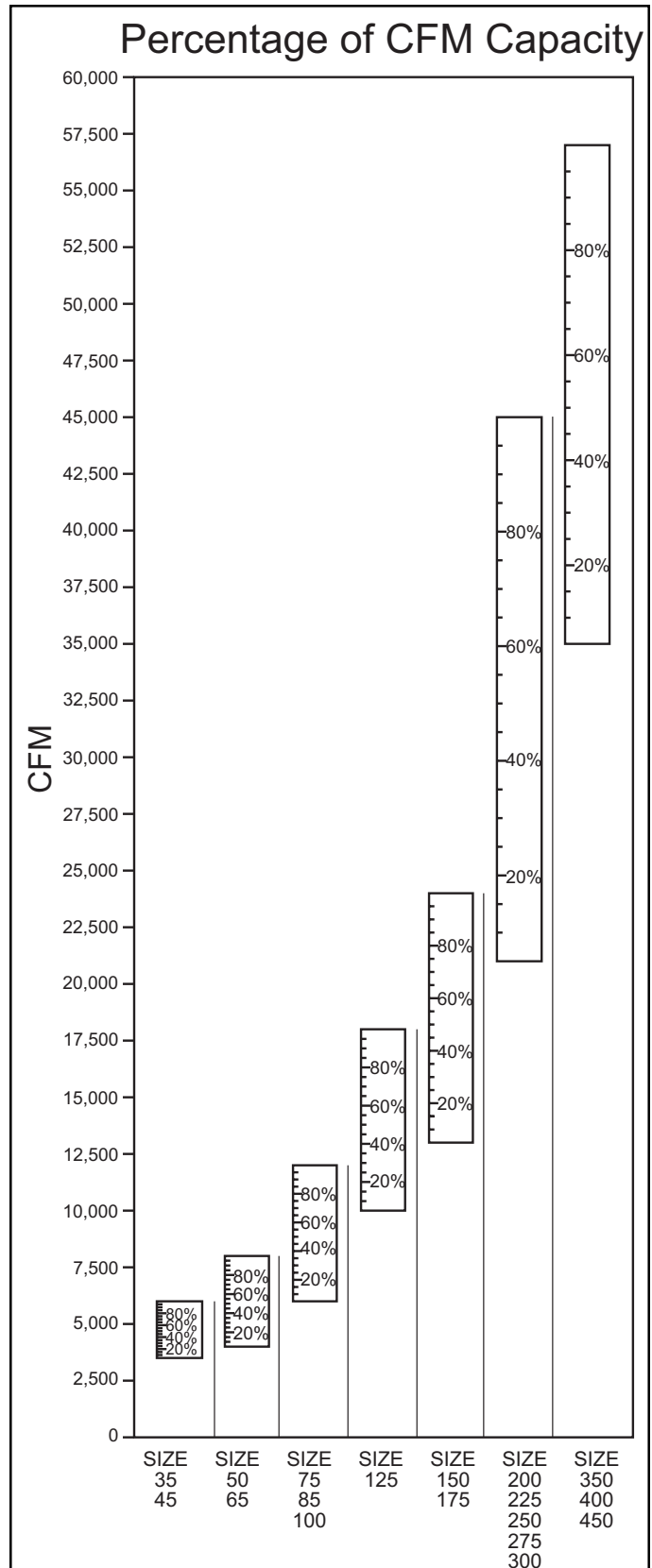
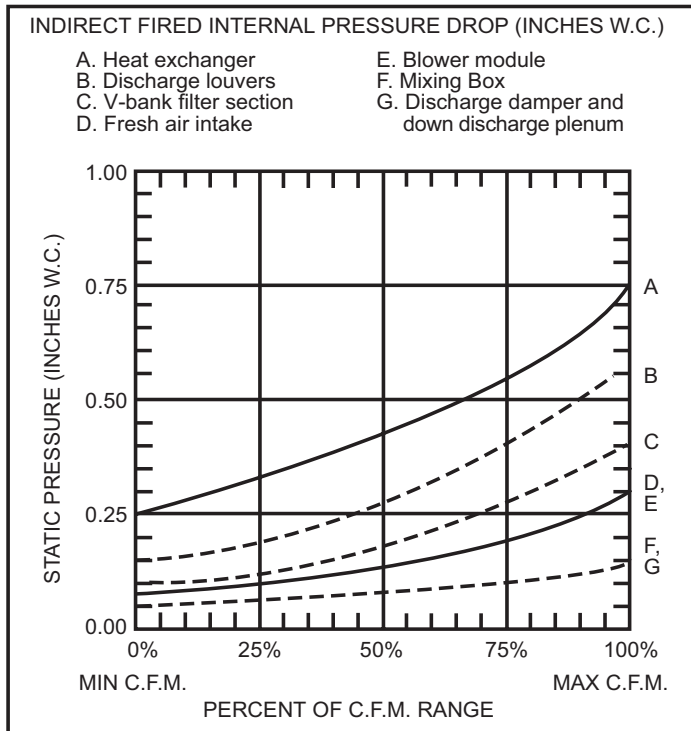
NOTE: Burner side is considered the FRONT Side. Front side is shown in each illustration.

SIZE SELECTION GUIDE

1. Determine desired MBH Output and CFM. Select appropriate size unit from the Technical Data chart on page 2.
2. Locate your CFM requirements on the side of "Percentage of CFM Capacity" Chart. Draw a horizontal line across it and through the size unit selected in step 1. Determine the percentage of capacity from the bar chart.
3. In "Internal Static Pressure" Chart draw a vertical line at the percentage determined in step 2. At the points where your vertical lines intersect the curved lines, go horizontally and read the individual static pressures of each component.
4. Add all of the individual components plus the external static pressure (from the job requirements) together to determine the total static pressure. Drive losses must be added to this figure:

total adjusted static pressure =
 total calculated static pressure (in. w.c.) x 1.08

Internal Static Pressure





MODEL PCB

INDOOR/OUTDOOR INDUSTRIAL SPACE HEATERS

Blower Horsepower Table

5. Enter Blower Horsepower Tables below at the CFM requirement in the appropriate table for the size unit selected. Go horizontally until you are under the total adjusted static pressure determined above. Read the BH (brake horsepower) and RPM required. Select the next highest horsepower motor for the job.

Size	Total S.P.		0.35		0.50		0.75		1.00		1.25		1.50		1.75		2.00		2.25		2.50	
	CFM	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	
35 / 45	3,500			625	0.75	690	0.80	785	0.92	855	1.16	924	1.36	977	1.58	1057	1.78	1120	2.00			
	4,000			650	0.95	720	1.05	796	1.17	863	1.41	929	1.60	943	1.85	1052	2.00	1118	2.20	1170	2.60	
	4,500					740	1.38	812	1.44	877	1.68	939	1.92	1000	2.18	1054	2.40	1122	2.60	1175	3.06	
	5,000					760	1.60	834	1.77	896	2.03	956	2.27	1010	2.54	1063	2.76	1125	3.00	1176	3.41	
	5,500							861	2.20	910	2.40	980	2.73	1020	3.00	1090	3.10	1135	3.50	1179	3.93	
	6,000							895	2.60	940	2.91	1000	3.10	1050	3.50	1100	3.80	1150	4.08	1184	4.16	

Size	Total S.P.		0.35		0.50		0.75		1.00		1.25		1.50		1.75		2.00		2.25		2.50	
	CFM	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	
50 / 65	4,000	625	0.76	718	0.90	765	1.00	912	1.12	1000	1.32	1083	1.56									
	4,400	650	0.85	740	1.00	770	1.10	917	1.22	1002	1.46	1084	1.70	1157	1.92	1276	2.40					
	4,800			745	1.20	780	1.28	923	1.38	1006	1.60	1086	1.84	1157	2.06	1265	2.52					
	5,200			750	1.35	800	1.48	931	1.52	1013	1.78	1090	2.02	1160	2.22	1265	2.60	1290	3.00			
	5,600			460	1.50	825	1.60	940	1.70	1020	1.96	1087	2.20	1164	2.42	1265	2.80	1295	3.30	1380	3.60	
	6,400			790	1.80	850	2.00	963	2.10	1037	2.50	1111	2.70	1177	2.98	1265	3.40	1295	3.80	1379	4.60	
	7,200					900	2.60	1000	2.70	1080	3.00	1130	3.30	1190	3.40	1265	4.40	1305	4.40	1381	5.20	
	8,000							1120	3.20	1118	3.60	1160	4.20	1218	4.60	1290	5.20	1320	5.50	1408	6.00	

Size	Total S.P.		0.35		0.50		0.75		1.00		1.25		1.50		1.75		2.00		2.25		2.50	
	CFM	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	
75 / 85 / 100	6,000			590	1.25	660	1.50	779	1.62	852	1.90	925	2.30	1015	2.72	1066	2.98					
	7,000			625	1.50	690	1.60	785	1.84	855	2.32	924	2.70	977	3.16	1057	3.56	1120	4.00			
	8,000			650	1.90	720	2.10	796	2.34	863	2.82	929	3.20	943	3.70	1052	4.00	1118	4.40	1170	5.20	
	9,000					740	2.75	812	2.88	877	3.36	939	3.84	1000	4.36	1054	4.80	1122	5.20	1175	6.12	
	10,000					760	3.20	834	3.54	896	4.06	956	4.54	1010	5.08	1063	5.51	1125	6.00	1176	6.81	
	11,000							860	4.40	910	4.80	980	5.45	1020	6.00	1090	6.20	1135	7.00	1179	7.85	
	12,000							895	5.20	940	5.81	1000	6.20	1050	7.00	1100	7.60	1150	8.15	1184	8.31	

Size	Total S.P.		0.35		0.50		0.75		1.00		1.25		1.50		1.75		2.00		2.25		2.50	
	CFM	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	
125	10,000	450	1.75	550	2.30	580	2.50	639	2.86	705	3.80	763	4.00	818	5.56	870	5.10					
	11,000	465	2.10	565	2.70	600	3.00	646	3.32	707	4.20	763	4.50	818	5.94	870	5.70					
	12,000	500	2.50	580	3.20	615	3.50	656	3.88	714	4.70	767	5.00	818	5.76	870	6.30					
	13,000	530	3.00	610	3.80	640	4.10	666	4.40	720	5.30	774	5.70	822	6.30	873	6.90	920	8.00			
	14,000	550	3.50	620	1.20	650	1.70	679	5.04	729	5.90	782	6.40	830	6.70	880	7.70	925	8.40	970	9.00	
	15,000			630	5.00	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			650	5.80	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			670	6.20	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					720	7.90	745	8.10	780	9.00	830	10.00	870	11.00	910	12.00	965	13.20	1000	13.80	

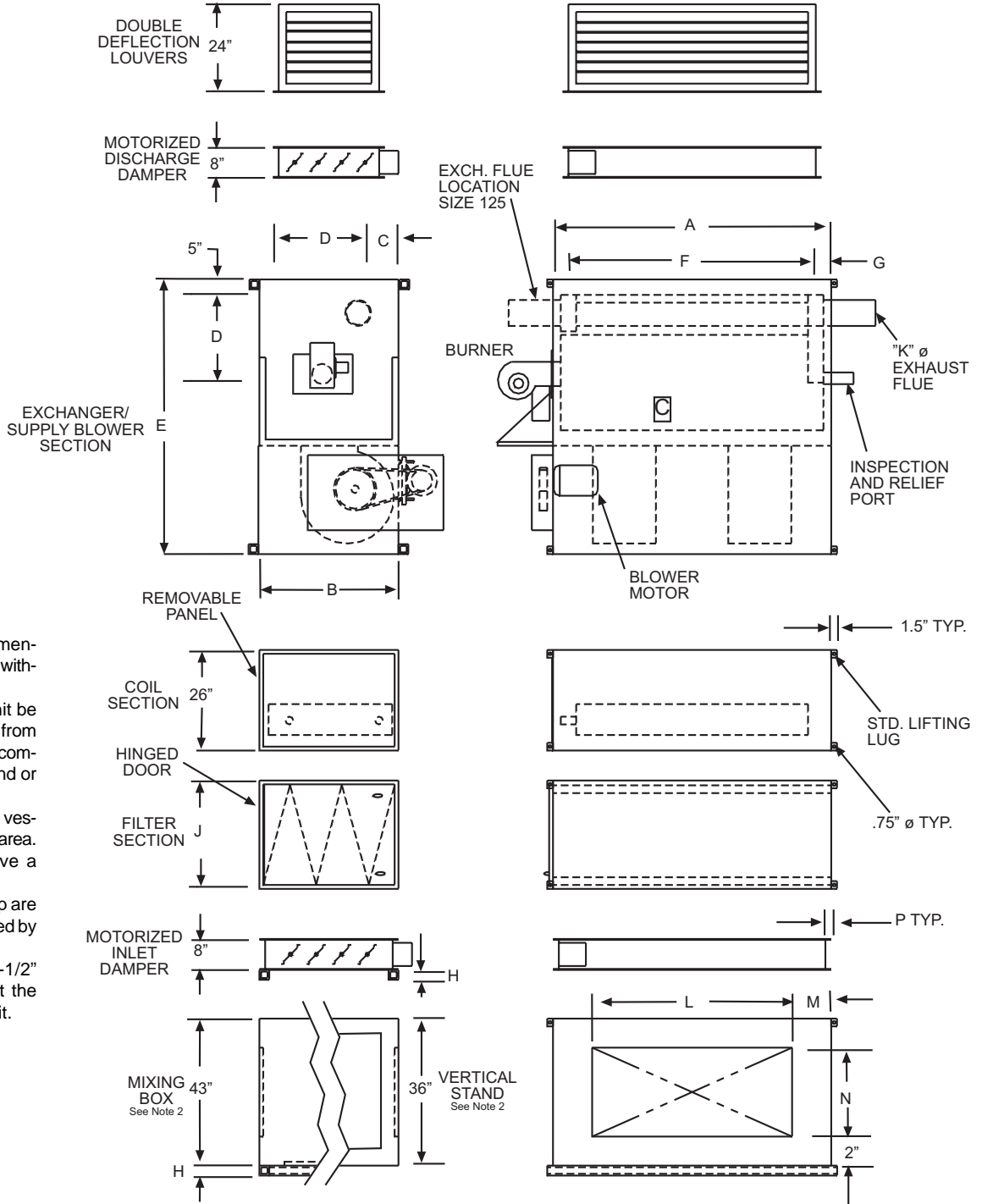
Size	Total S.P.		0.35		0.50		0.75		1.00		1.25		1.50		1.75		2.00		2.25		2.50	
	CFM	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	
150 / 175	13,000			439	2.40	511	2.85	578	3.60	636	4.20	700	4.80	748	5.40							
	14,000					518	3.30	582	4.05	645	4.80	700	5.40	751	6.00	805	6.75					
	15,000					528	3.90	592	4.65	650	5.40	705	6.00	755	6.75	805	7.50	851	8.25	900	9.00	
	16,000					538	4.50	600	5.10	654	6.00	708	6.60	760	7.50	807	8.25	852	9.00	900	9.75	
	17,000					550	4.95	606	5.70	660	6.60	713	7.50	765	8.25	812	9.00	855	9.60	900	10.50	
	18,000					575	5.90	618	6.60	670	7.50	721	8.25	770	9.00	814	9.75	860	10.80	904	12.00	
	19,000					590	6.25	625	6.90	678	8.25	728	9.00	775	9.75	821	10.50	863	11.70	906	12.75	
	20,000							633	8.15	685	8.83	735	9.75	782	10.50	825	11.70	868	12.75	913	13.50	
	21,000							650	9.00	700	9.75	746	10.50	792	12.00	834	12.75	876	13.80	917	14.85	
	22,000							665	9.30	715	10.75	755	12.00	800	12.75	840	13.80	881	15.00	923	15.75	
	23,000							680	9.90	725	12.00	765	12.75	809	13.80	849	15.00	890	16.20	930	17.25	
	24,000							690	10.80	740	13.00	780	14.00	818	15.00	857	16.35	900	17.40	937	18.75	

Blower Horsepower Table (cont'd)

Size	Total S.P. CFM	0.35		0.50		0.75		1.00		1.25		1.50		1.75		2.00		2.25		2.50	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
200 / 225 / 250 / 275 / 300	21,000	250	3.00	300	3.06	343	4.58	390	5.76	434	7.06										
	23,000			305	4.12	350	5.22	395	6.42	434	7.80										
	25,000			313	4.82	357	6.00	400	7.34	438	8.66	477	10.00								
	27,000					363	6.94	406	8.30	443	9.66	480	11.16	516	12.70						
	29,000					371	7.94	412	9.32	449	10.78	485	12.32	520	13.88	552	15.46	585	17.20		
	31,000					383	9.14	421	10.58	455	12.16	490	13.52	523	15.00	555	16.78	587	18.58	617	20.40
	33,000							428	11.88	462	13.44	497	15.00	527	16.56	558	18.28	588	20.00	617	22.00
	35,000							437	13.34	471	15.00	504	16.66	534	18.34	564	20.00	594	21.96	622	23.92
	37,000							447	15.00	480	16.66	512	18.34	540	20.00	569	21.93	598	23.90	625	25.88
	39,000									490	18.38	520	20.26	548	22.38	576	24.10	604	26.05	630	27.94
	41,000											525	22.00	550	24.00	580	26.00	610	28.00	630	29.00
	43,000											530	24.00	560	26.00	590	28.00	620	30.00	640	33.00
	45,000											545	27.00	570	28.00	600	30.00	625	33.00	650	34.50

Size	Total S.P. CFM	0.35		0.50		0.75		1.00		1.25		1.50		1.75		2.00		2.25		2.50	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
350 / 400 / 450	35,000			251	6.20	290	7.76	326	9.42	360	11.20										
	36,000			253	6.56	291	8.16	327	9.84	361	11.64										
	37,000			258	6.96	294	8.58	329	10.28	362	12.10										
	38,000			259	7.36	296	9.00	330	10.74	363	12.58	394	14.50								
	39,000					293	9.46	332	11.22	364	13.08	395	15.08								
	40,000					300	9.94	334	11.72	365	13.82	396	15.62								
	41,000					303	10.42	338	12.26	367	14.16	397	16.18								
	42,000					305	10.94	338	12.80	368	14.72	398	16.76								
	43,000					308	11.46	340	13.30	370	15.32	399	17.38	427	19.54						
	44,000					310	12.02	342	13.94	372	15.94	401	18.02	428	20.20	455	22.40				
	45,000					313	12.58	344	14.54	374	16.50	402	18.88	429	20.80	454	23.20				
	46,000					316	13.18	348	15.18	378	17.22	404	19.36	431	21.80	457	23.80				
	47,000					318	13.78	349	15.82	378	17.90	405	20.00	432	22.40	458	24.60	483	27.00		
	48,000							351	16.50	380	18.82	407	20.80	433	23.00	459	25.40	484	27.80		
	49,000							354	17.20	382	19.34	409	21.80	435	23.80	460	26.20	485	28.60	509	31.20
	50,000							356	17.90	384	20.00	411	22.40	436	24.60	461	27.00	486	29.60	510	32.20
	51,000							359	18.64	388	20.80	413	23.20	438	25.40	463	27.80	487	30.40	511	33.00
	52,000							361	19.14	389	21.80	415	24.00	440	26.40	464	28.80	488	31.40	512	34.00
	53,000							364	20.20	391	22.40	417	24.80	442	27.20	466	29.80	489	32.20	513	34.80
54,000							367	21.00	393	23.40	419	25.80	444	28.20	467	30.60	491	33.20	514	35.80	
55,000									396	24.20	421	26.60	446	29.00	469	31.60	492	34.20	515	36.80	
56,000									399	25.20	424	27.60	448	30.00	471	32.60	494	35.20	516	34.00	
57,000									401	26.00	426	28.80	450	31.00	473	33.60	495	36.20	517	39.00	

DIMENSIONS FOR VERTICAL UNIT SIZES 35 THROUGH 125



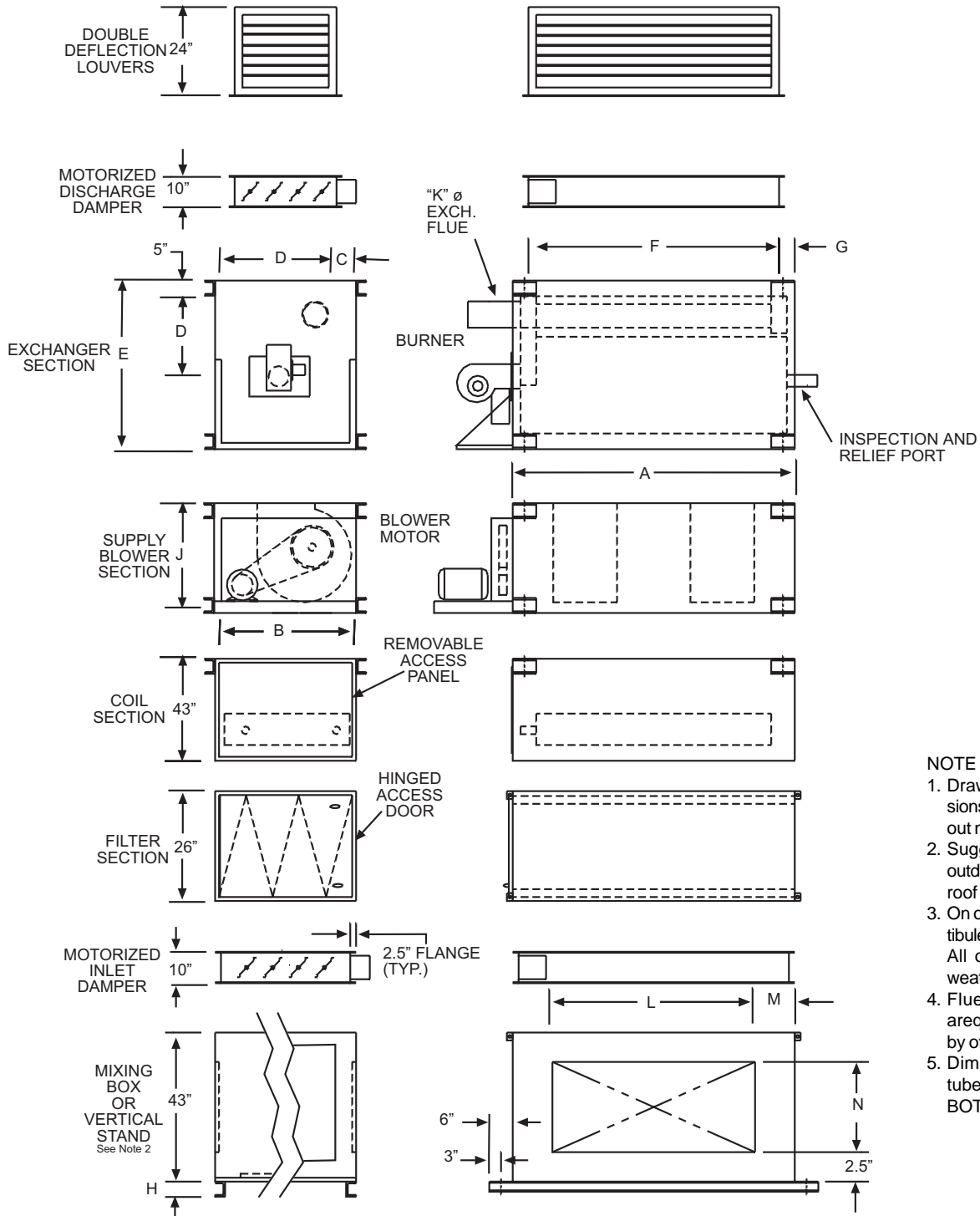
NOTE

1. Drawing is not to scale. Dimensions are subject to change without notice.
2. It is recommended that unit be mounted a minimum of 36" from floor or pad. This can be accomplished with a Vertical Stand or Mixing Box.
3. On outdoor units a louvered vestibule is added to the burner area. All other components have a weatherized enclosure.
4. Flue vent, chimney and cap are required on all units (supplied by others).
5. Dimension "H" (1-1/2"x1-1/2" tube) occurs only once at the BOTTOM of the overall unit.

DIMENSIONS (Accurate to within 1")

MODEL	A	B	C	D	E	F	G	H	J	K	L	M	N	P	FILTER (QUANTITY) SIZE
35/45	60	30	4.25	21.5	90	50	5	1.5	28	6	50	5	21.5	1	(6) 20 x 20 x 2
50/65/75	72	28	3.25	21.5	80	58	7	1.5	28	6	58	7	21.5	1	(4) 16 x 25 x 2
															(4) 20 x 25 x 2
85/100	72	36	5	26	90	58	7	1.5	36	8	58	7	33	1.25	(8) 16 x 20 x 2
															(8) 20 x 20 x 2
125	85	42	4.5	33	102	76	4.5	1.5	26	10	70	7.5	33	1.5	(16) 16 x 20 x 2
															(4) 20 x 20 x 2

DIMENSIONS FOR VERTICAL UNIT SIZES 150 THROUGH 450

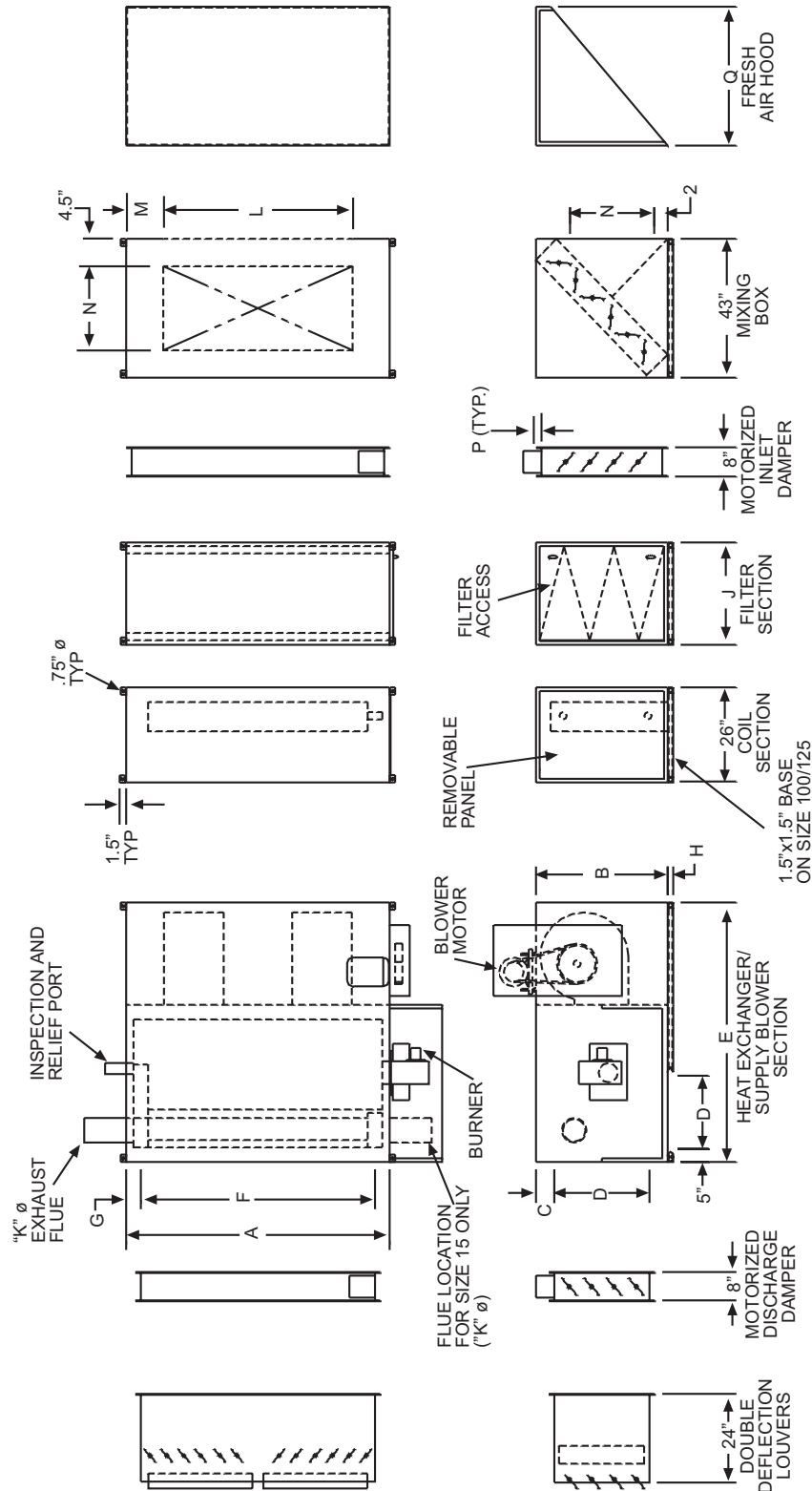


NOTE

1. Drawing is not to scale. Dimensions are subject to change without notice.
2. Suggested mounting height of outdoor unit is 36" minimum from roof surface to bottom of unit.
3. On outdoor units a louvered vestibule is added to the burner area. All other components have a weatherized enclosure.
4. Flue vent, chimney and cap required on all units (supplied by others).
5. Dimension "H" (1-1/2"x1-1/2" tube) occurs only once at the BOTTOM of the overall unit.

SIZE	A	B	C	D	E	F	G	H	J	K	L	M	N	FILTER (QUANTITY) SIZE
150/175	100	55	8.5	38	72	90	5	3	42	12	90	5	26	(20) 25 x 20 x 2
200/225	116	55	8.5	38	72	100	8	3	55	12	96	10	26	(20) 25 x 20 x 2
														(5) 16 x 20 x 2
250/275/300	116	60	4.5	51	90	100	8	4	55	14	96	10	36	(10) 20 x 20 x 2
														(15) 25 x 20 x 2
350/400/450	160	72	8	56	102	150	5	4	60	16	140	10	36	(40) 20 x 20 x 2

DIMENSIONS FOR HORIZONTAL UNIT SIZES 35 THROUGH 125

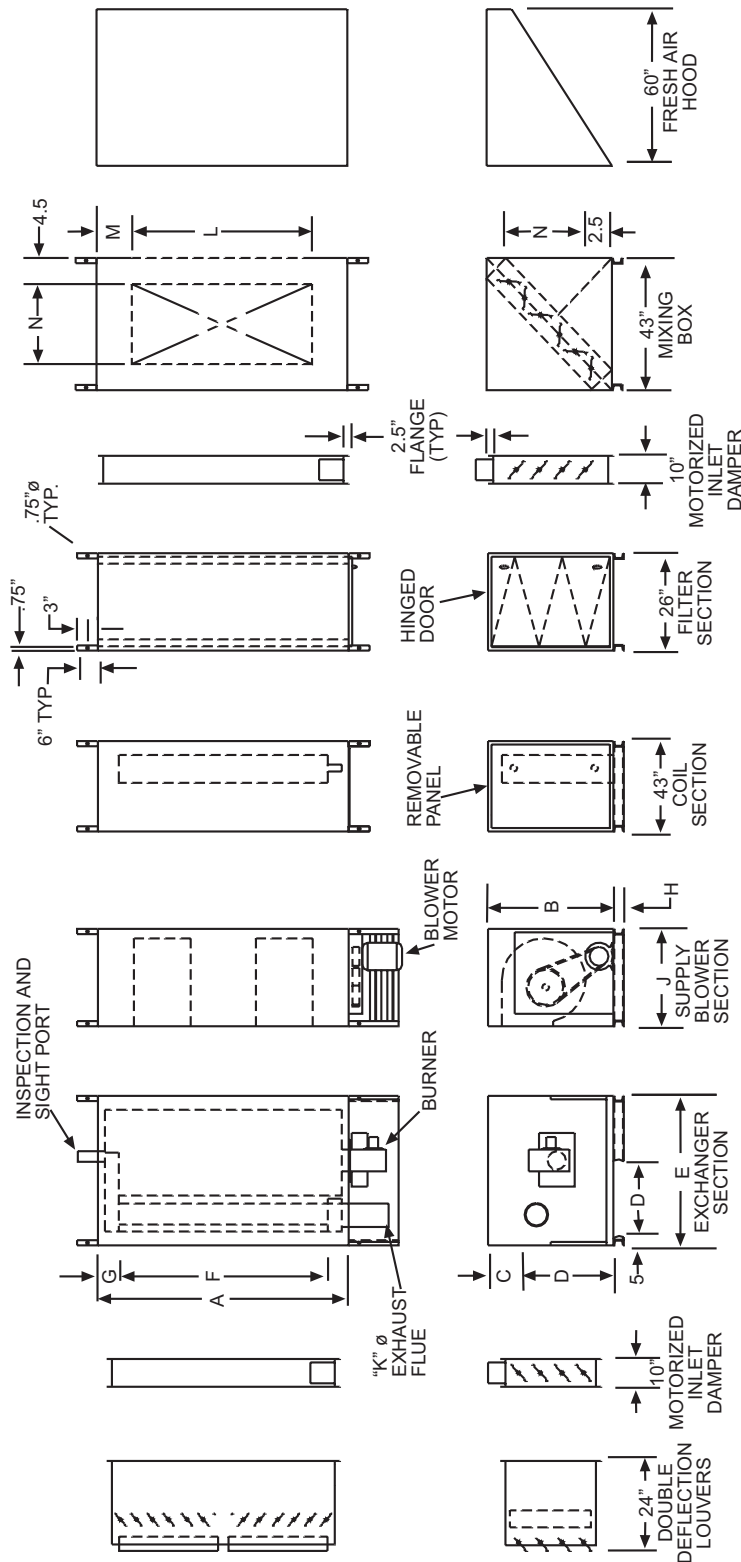


- NOTE**
1. Drawing is not to scale. Dimensions are subject to change without notice.
 2. Suggested mounting height of outdoor unit is 24" minimum from roof surface to bottom of unit.
 3. On outdoor units a lowered vestibule is added to the burner area. All other components have a weatherized enclosure.
 4. Flue vent, chimney and cap are required on all units (supplied by others).

HORIZONTAL DIMENSIONS FOR INDIRECT FIRED UNITS
MODELS 35, 45, 50, 65, 75, 85, 95, 100, 105, 110, 115, 120, 125

MODEL	A	B	C	D	E	F	G	H	I	J	K	L	M	N	P	Q	FILTER QUANTITY	FILTER SIZE
35/45	60	30	4.25	21.5	90	50	5	1.5	28	6	50	5	21.5	1	38	(6) 20 x 25 x 2		
50/65/75	72	28	3.25	21.5	80	58	7	1.5	28	6	58	7	21.5	1	38	(4) 20 x 25 x 2 (4) 16 x 25 x 2		
85/100	72	36	5	26	90	58	7	1.5	36	8	58	7	33	1.25	48	(8) 16 x 20 x 2 (8) 20 x 20 x 2		
125	85	42	4.5	33	102	76	4.5	1.5	26	10	70	7.5	33	1.5	48	(16) 16 x 20 x 2 (4) 20 x 20 x 2		

DIMENSIONS FOR HORIZONTAL UNIT SIZES 150 THROUGH 450



- NOTE**
1. Drawing is not to scale. Dimensions are subject to change without notice.
 2. Suggested mounting height of outdoor unit is 24" minimum from roof surface to bottom of unit.
 3. On outdoor units a louvered vestibule is added to the burner area. All other components have a weatherized enclosure.
 4. Flue vent, chimney and cap are required on all units (supplied by others).

SIZE	A	B	C	D	E	F	G	H	J	K	L	M	N	FILTER QUANTITY	SECTION SIZE
150/175	100	55	8.5	38	72	90	5	3	42	12	90	5	26	(20)	25 x 20 x 2
200/225	116	55	8.5	38	72	100	8	3	55	12	96	10	26	(15)	25 x 20 x 2
250/275/300	116	60	4.5	51	90	100	8	4	55	14	96	10	36	(10)	20 x 20 x 2
350/400/450	160	72	8	56	102	150	5	4	60	16	140	10	36	(15)	25 x 20 x 2
														(40)	20 x 20 x 2