

Horizontal and Vertical Belt Drive Blower Coil Units (Models AHI and AVI)

Model AHI Horizontal and Model AVI Vertical Belt Drive Blower Coils are designed to maximize flexibility of selection and installation.

The units are also designed to exceed the stringent quality standards of the institutional market, while remaining cost competitive in the light commercial segment of the market.



Figure 1: Model AHI Horizontal Belt Drive Blower Coil Unit



Figure 2: Model AVI Vertical Belt Drive Blower Coil Unit

Coil and Filter Data

Table 1: Coil Face Area and Filter Data

Unit Size	Coil Face Area Square Feet (Square Meters)	2" Flat Filters (Quantity) And Size Inches (Millimeters)	Filter Face Area Square Feet (Square Meters)
08	2.1 (0.20)	(1) 16 x 20 x 2 (406 x 508 x 51)	2.2 (0.20)
12	2.7 (0.25)	(1) 16 x 25 x 2 (406 x 635 x 51)	2.8 (0.26)
16	3.5 (0.33)	(2) 16 x 20 x 2 (406 x 508 x 51)	4.4 (0.41)
20	4.9 (0.46)	(1) 16 x 20 x 2 (406 x 508 x 51) (1) 16 x 25 x 2 (406 x 635 x 51)	5.0 (0.46)
30	6.5 (0.60)	(2) 16 x 25 x 2 (406 x 635 x 51) (1) 20 x 25 x 2 (508 x 635 x 51)	9.0 (0.84)
40	8.4 (0.78)	(3) 20 x 25 x 2 (508 x 635 x 51)	10.4 (0.97)

Notes:

Standard filters are 2" throwaway; optional filters are 2" pleated.

Filter sizes are nominal and standard size, measured in inches (millimeters).

Coil and filter face areas are measured in square feet (square meters).

Cooling and heating coils have same face area.

Table 2: Nominal Coil Connection Sizes

UNIT SIZE	COIL TYPE														
	WATER					STEAM				REFRIGERANT					
	1 ROW	2 ROW	3 ROW	4 ROW	6 ROW	1 ROW		2 ROW		3 ROW		4 ROW		6 ROW	
						STM.	COND.	STM.	COND.	LIQ.	SUCT.	LIQ.	SUCT.	LIQ.	SUCT.
08	5/8" (16)	5/8" (16)	7/8" (22)	7/8" (22)	7/8" (22)	1 1/8" (29)	7/8" (22)	1 1/8" (29)	7/8" (22)	5/8" (16)	5/8" (16)	5/8" (16)	5/8" (16)	5/8" (16)	5/8" (16)
12	5/8" (16)	5/8" (16)	7/8" (22)	7/8" (22)	7/8" (22)	1 1/8" (29)	7/8" (22)	1 1/8" (29)	7/8" (22)	5/8" (16)	7/8" (22)	5/8" (16)	7/8" (22)	5/8" (16)	7/8" (22)
16	5/8" (16)	7/8" (22)	7/8" (22)	7/8" (22)	1 1/8" (29)	1 1/8" (29)	7/8" (22)	1 3/8" (35)	1 1/8" (29)	5/8" (16)	7/8" (22)	5/8" (16)	7/8" (22)	5/8" (16)	7/8" (22)
20	5/8" (16)	7/8" (22)	1 1/8" (29)	1 1/8" (29)	1 1/8" (29)	1 3/8" (35)	1 1/8" (29)	1 3/8" (35)	1 1/8" (29)	5/8" (16)	7/8" (22)	5/8" (16)	7/8" (22)	5/8" (16)	7/8" (22)
30	7/8" (22)	1 1/8" (29)	1 1/8" (29)	1 1/8" (29)	1 3/8" (35)	1 5/8" (41)	1 1/8" (29)	1 5/8" (41)	1 1/8" (29)	5/8" (16)	1 1/8" (29)	5/8" (16)	1 1/8" (29)	5/8" (16)	1 1/8" (29)
40	1 1/8" (29)	1 3/8" (35)	1 3/8" (35)	1 3/8" (35)	1 5/8" (41)	2 1/8" (54)	1 3/8" (35)	2 1/8" (54)	1 3/8" (35)	5/8" (16)	1 1/8" (29)	5/8" (16)	1 1/8" (29)	7/8" (22)	1 3/8" (35)

Notes:

Water coils are based on standard Gallons Per Minute (GPM) circuiting. Consult the factory for applications requiring special circuiting.

Refrigerant coil connection sizes for single circuit coils and may vary with application. Contact the factory for double circuit coils.

All dimensional data is Outside Diameter (OD), measured in inches (millimeters).

Fan Performance Data

Table 3: Forward Curved Fan Performance Data

TSP (in-wg)	Unit Size	08					12					16				
	Actual CFM	600	700	800	900	1000	1000	1100	1200	1300	1400	1400	1500	1600	1700	1800
2.4	RPM	-	-	-	-	1746	-	-	-	-	1710	-	-	-	-	-
	BHP	-	-	-	-	0.70	-	-	-	-	1.02	-	-	-	-	-
2.2	RPM	-	-	-	1670	1674	-	-	-	1638	1638	-	-	-	-	1415
	BHP	-	-	-	0.57	0.65	-	-	-	0.87	0.95	-	-	-	-	1.08
2.0	RPM	-	-	-	1594	1598	-	-	-	1561	1568	-	-	-	1349	1353
	BHP	-	-	-	0.52	0.59	-	-	-	0.79	0.88	-	-	-	0.92	0.99
1.8	RPM	-	-	1510	1514	1524	-	-	1481	1485	1494	-	-	1279	1283	1287
	BHP	-	-	0.41	0.47	0.55	-	-	0.66	0.73	0.81	-	-	0.78	0.84	0.91
1.6	RPM	-	-	1425	1430	1446	-	1397	1397	1406	1415	-	1206	1210	1214	1218
	BHP	-	-	0.37	0.43	0.50	-	0.53	0.59	0.66	0.74	-	0.65	0.70	0.76	0.82
1.4	RPM	-	1331	1335	1347	1366	-	1306	1314	1323	1335	1128	1132	1136	1140	1149
	BHP	-	0.28	0.33	0.39	0.45	-	0.47	0.53	0.60	0.67	0.53	0.58	0.63	0.68	0.75
1.2	RPM	-	1235	1242	1259	1283	1209	1216	1225	1236	1249	1048	1052	1057	1067	1077
	BHP	-	0.24	0.29	0.34	0.40	0.37	0.42	0.47	0.53	0.59	0.46	0.51	0.55	0.61	0.67
1.0	RPM	1125	1129	1145	1168	1200	1109	1118	1130	1144	1163	962	969	979	988	1002
	BHP	0.17	0.21	0.25	0.30	0.36	0.32	0.36	0.41	0.47	0.53	0.40	0.44	0.49	0.54	0.60
0.8	RPM	1009	1022	1044	1075	1113	1002	1014	1030	1049	1073	872	882	895	909	923
	BHP	0.14	0.17	0.21	0.26	0.32	0.26	0.31	0.35	0.40	0.47	0.34	0.38	0.42	0.47	0.52
0.6	RPM	884	906	939	979	1024	885	903	926	951	984	777	791	806	822	838
	BHP	0.11	0.14	0.18	0.22	0.28	0.21	0.25	0.30	0.35	0.41	0.28	0.32	0.36	0.40	0.45
Fan Size		0904R					0906R					1008R				
Coil Face Area		2.1					2.7					3.5				
FPM @ CFM		286	333	381	429	476	370	407	444	481	519	400	429	457	486	514
Continued on next page . . .																

TSP (in-wg) (Cont.)	Unit Size	20					30					40				
	Actual CFM	1800	1950	2100	2250	2400	2600	2800	3000	3200	3400	3600	3800	4000	4200	4400
2.4	RPM	-	-	-	-	1507	-	-	-	1034	1037	-	-	-	1021	1023
	BHP	-	-	-	-	1.60	-	-	-	2.01	2.20	-	-	-	2.00	2.15
2.2	RPM	-	-	-	1441	1446	-	-	-	992	996	-	-	977	979	980
	BHP	-	-	-	1.37	1.49	-	-	-	1.88	2.06	-	-	1.72	1.86	1.99
2.0	RPM	-	-	1373	1377	1382	-	-	945	949	952	-	932	933	934	937
	BHP	-	-	1.15	1.26	1.37	-	-	1.59	1.75	1.91	-	1.46	1.58	1.71	1.85
1.8	RPM	-	-	1305	1310	1315	-	896	899	903	906	-	885	886	888	892
	BHP	-	-	1.05	1.15	1.25	-	1.33	1.47	1.61	1.76	-	1.33	1.44	1.57	1.71
1.6	RPM	-	1230	1234	1239	1251	844	847	851	854	858	834	835	837	841	844
	BHP	-	0.87	0.95	1.04	1.16	1.09	1.21	1.34	1.47	1.60	1.10	1.20	1.31	1.43	1.56
1.4	RPM	1150	1154	1159	1170	1182	792	796	799	803	810	781	783	787	790	794
	BHP	0.70	0.77	0.85	0.95	1.05	0.98	1.09	1.21	1.32	1.46	0.98	1.08	1.18	1.29	1.41
1.2	RPM	1068	1073	1085	1097	1114	737	741	745	752	759	726	729	732	737	743
	BHP	0.61	0.68	0.76	0.85	0.96	0.87	0.97	1.07	1.19	1.31	0.86	0.96	1.05	1.16	1.27
1.0	RPM	981	993	1006	1024	1042	677	682	689	697	705	666	670	676	681	687
	BHP	0.52	0.60	0.67	0.76	0.86	0.75	0.84	0.95	1.05	1.17	0.75	0.83	0.93	1.02	1.12
0.8	RPM	892	908	926	947	969	613	621	629	637	648	602	608	614	622	631
	BHP	0.45	0.52	0.59	0.68	0.77	0.64	0.72	0.82	0.92	1.03	0.64	0.72	0.79	0.89	0.99
0.6	RPM	800	820	842	865	889	544	553	564	576	590	532	541	550	559	570
	BHP	0.38	0.44	0.51	0.59	0.68	0.53	0.61	0.70	0.79	0.90	0.52	0.60	0.67	0.76	0.85
Fan Size		1010R					1509R					1511R				
Coil Face Area		4.9					6.5					8.4				
FPM @ CFM		367	398	429	459	490	400	431	462	492	523	429	452	476	500	524

Notes:

Consult the factory for applications at operating conditions not shown above.

Fan motor voltage, fan rotation, and fan RPM may require field setting/adjustment.

Drive losses not included in fan performance.

Fan Performance Curves

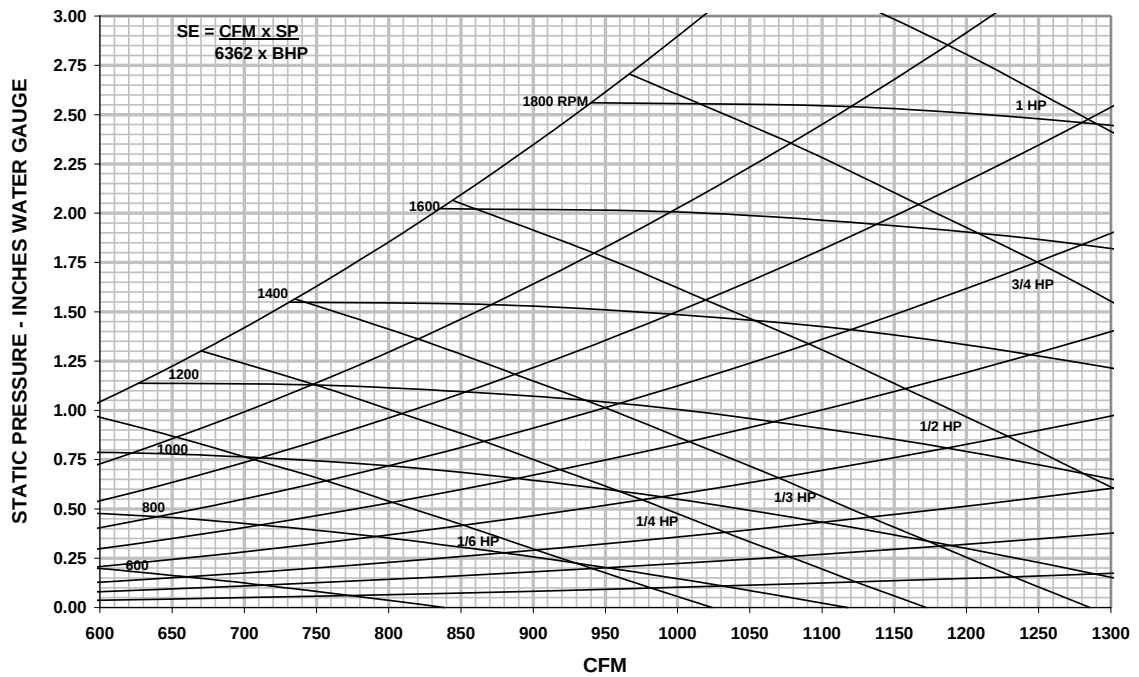


Figure 3: Unit Size 08 (Fan 0904R)

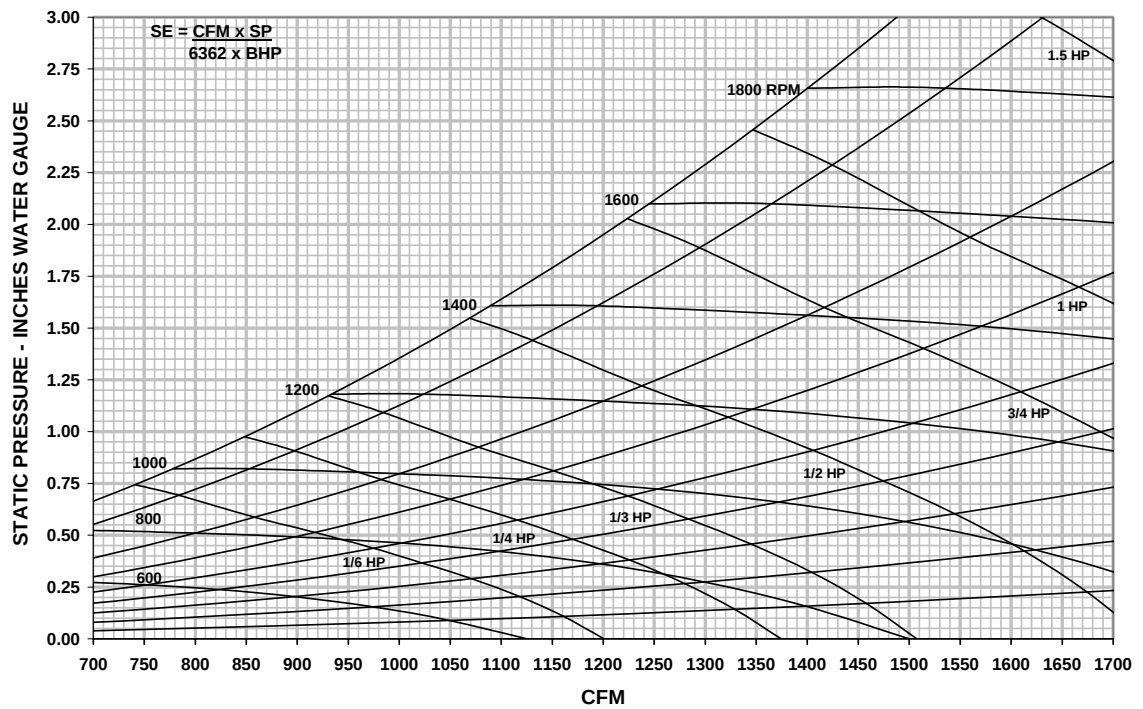


Figure 4: Unit Size 12 (Fan 0906R)

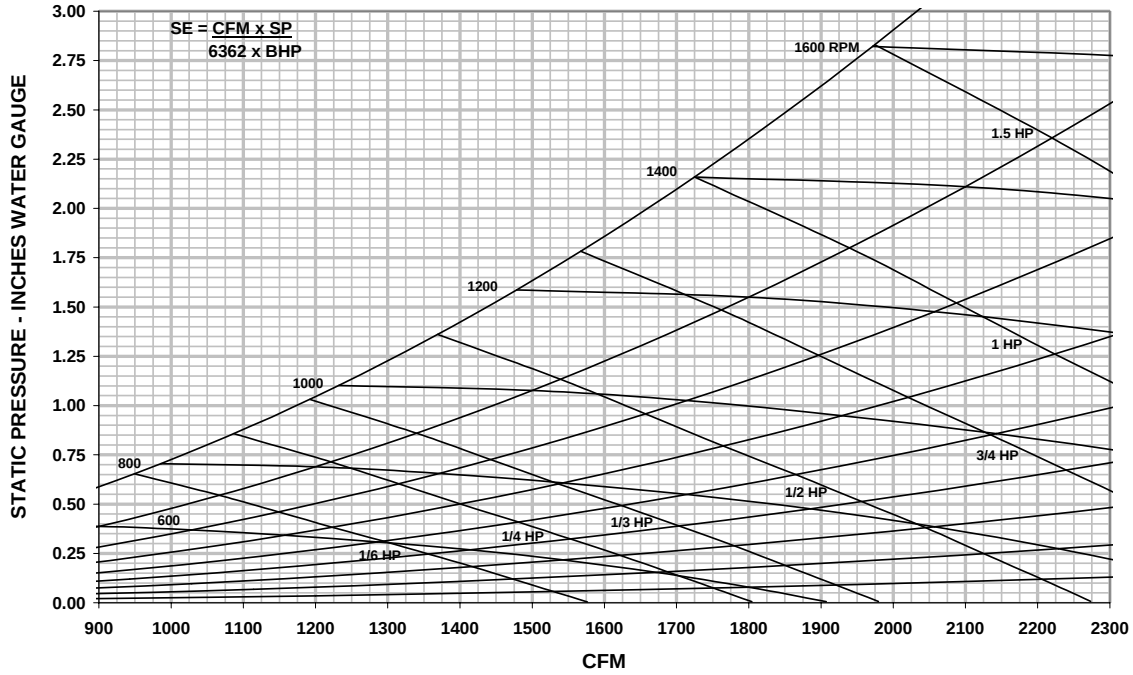


Figure 5: Unit Size 16 (Fan 1008R)

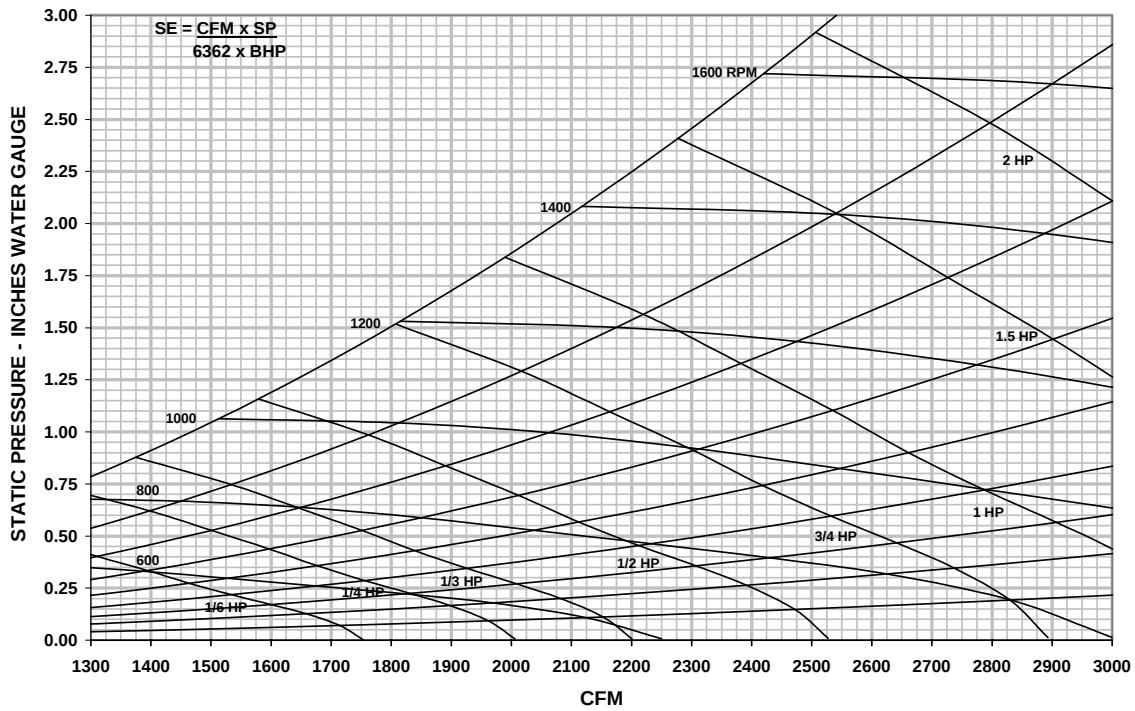


Figure 6: Unit Size 20 (Fan 1010R)

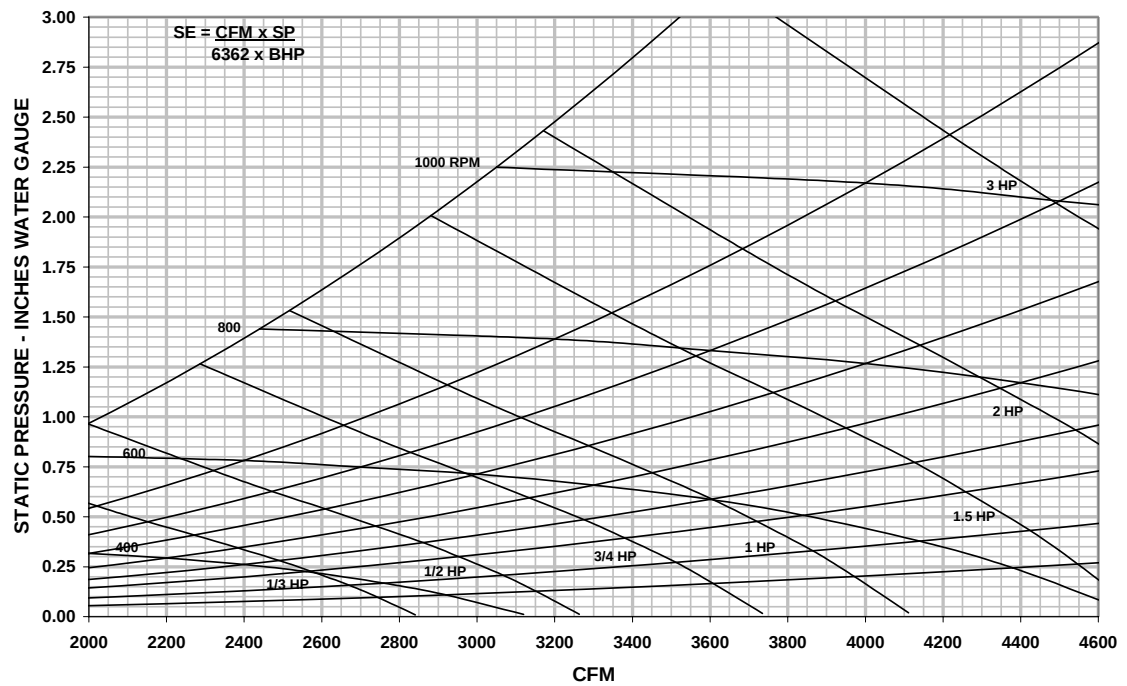


Figure 7: Unit Size 30 (Fan 1509R)

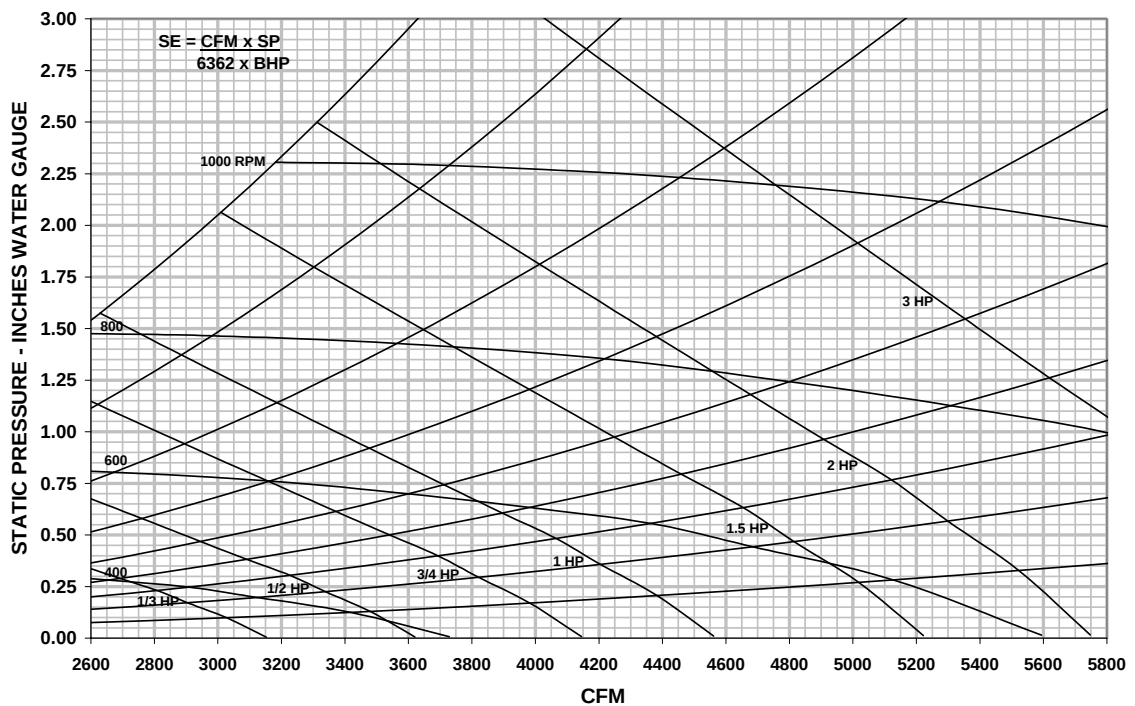
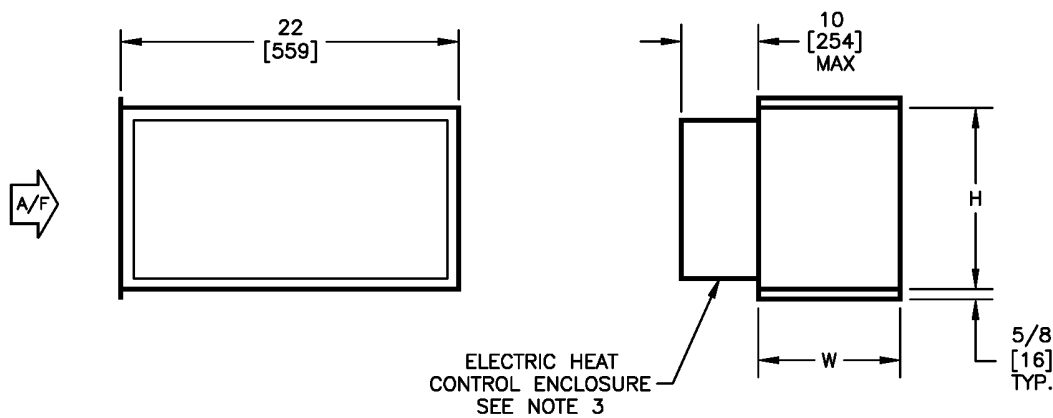


Figure 8: Unit Size 40 (Fan 1511R)

Dimensional Data

Drawings are not to scale and are not for installation purposes.

- NOTES:
- 1. All dimensions are Inches [millimeters].
All dimensions are $\pm 1/4"$ [6mm]. Metric values are soft conversion.
 - 2. Motor/drive location may be specified Left or Right Hand. Standard control enclosure location matches motor/drive position.
 - 3. Provide sufficient clearance to permit access to controls and comply with applicable codes and ordinances.
 - 4. Available for horizontal discharge only.



BT
BLOW THRU
ELECTRIC HEAT
SECTION

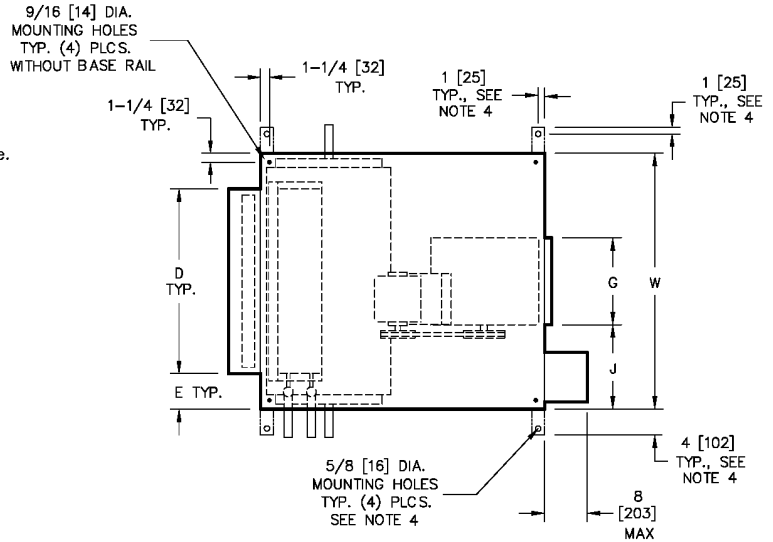
DIMENSIONS – In [mm]

UNIT SIZE	H	W	Weight lbs [kg]
08	11–7/8 [302]	8–7/8 [225]	42 [19]
12	11–7/8 [302]	8–7/8 [225]	42 [19]
16	12 [305]	10–7/8 [276]	42 [19]
20	12 [305]	13–7/8 [352]	50 [23]
30	16–5/8 [422]	13–7/8 [352]	55 [25]
40	16–5/8 [422]	15–5/8 [397]	55 [25]

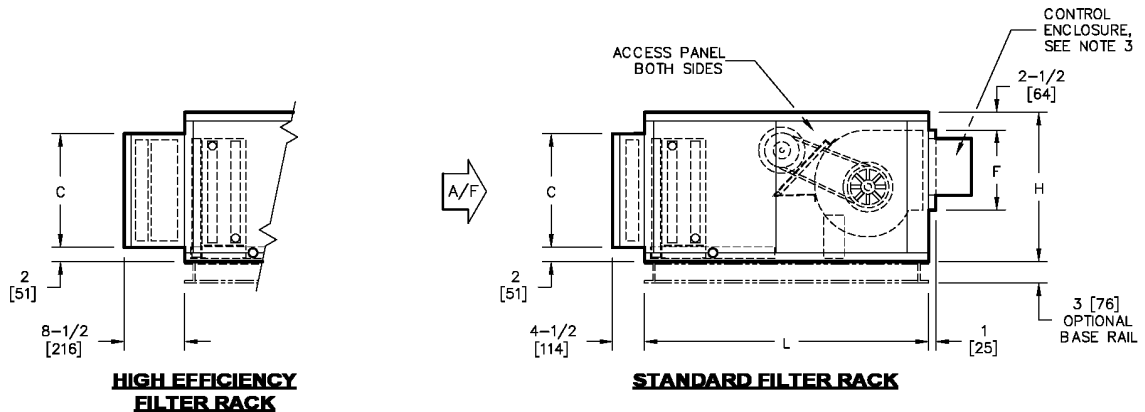
Figure 9: Model AHI/AVI, Blow-Through Electric Heat

NOTES:

1. All dimensions are inches [millimeters].
All dimensions are 1/4" [6mm]. Metric values are soft conversion.
2. Right hand unit shown, left hand unit opposite.
Motor/drive location may be specified Left or Right Hand. Standard control enclosure location matches motor/drive position.
3. Provide sufficient clearance to permit access to controls and comply with applicable codes and ordinances.
4. Base rail is optional on the base unit.
Base rails must be used with mixing box.
5. See coil connection detail drawings for coil connection sizes and locations.



TOP VIEW



SIDE VIEWS

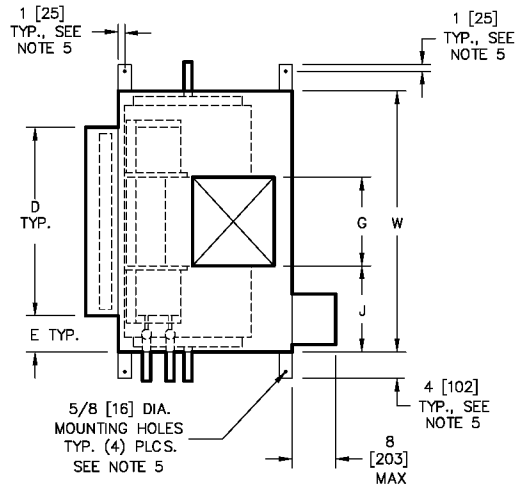
DIMENSIONS

SIZE	FAN SIZE	L	W	H	C	D	E	F	G	J
08	9 X 4 [229 X 102]	40 [1016]	30 [762]	21 [533]	16 [406]	20 [508]	5 [127]	10-1/4 [260]	6-7/8 [175]	11-9/16 [294]
12	9 X 6 [229 X 152]	40 [1016]	36 [914]	21 [533]	16 [406]	25 [635]	5-1/2 [140]	11-1/4 [286]	8-1/4 [210]	13-7/8 [352]
16	10 X 8 [254 X 203]	40 [1016]	44 [1118]	21 [533]	16 [406]	39-1/2 [1003]	2-1/4 [57]	11-3/8 [289]	10-1/4 [260]	16-7/8 [429]
20	10 X 10 [254 X 254]	40 [1016]	50 [1270]	21 [533]	16 [406]	44-1/2 [1130]	2-3/4 [70]	11-3/8 [289]	13-1/4 [337]	18-3/8 [467]
30	15 X 9 [381 X 229]	46 [1168]	59 [1499]	30 [762]	25 [635]	51 [1295]	4 [102]	16 [406]	13-1/4 [337]	22-7/8 [581]
40	15 X 11 [381 X 279]	46 [1168]	68 [1727]	30 [762]	25 [635]	59 [1499]	4-1/2 [114]	16 [406]	15 [381]	26-1/2 [673]

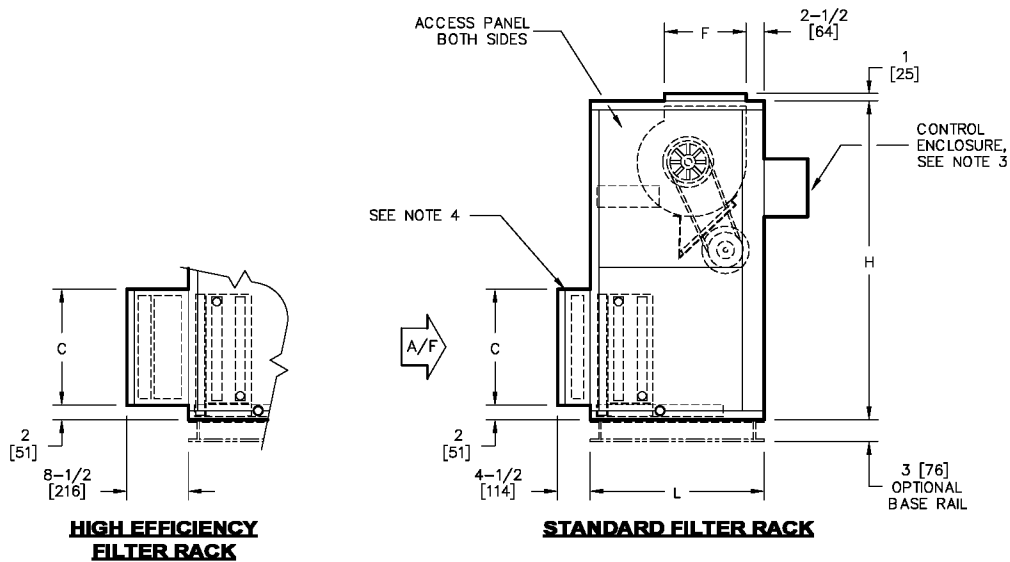
Figure 10: Model AH1, Discharge Arrangement 3

NOTES:

1. All dimensions are inches [millimeters].
All dimensions are 1/4" [6mm]. Metric values are soft conversion.
2. Right hand unit shown, left hand unit opposite.
Motor/drive location may be specified Left or Right Hand. Standard control enclosure location matches motor/drive position.
3. Provide sufficient clearance to permit access to controls and comply with applicable codes and ordinances.
4. Flat filter rack may be located at unit inlet as required.
5. Base rail is optional on the base unit.
Base rails must be used with mixing box.
6. See coil connection detail drawings for coil connection sizes and locations.



TOP VIEW

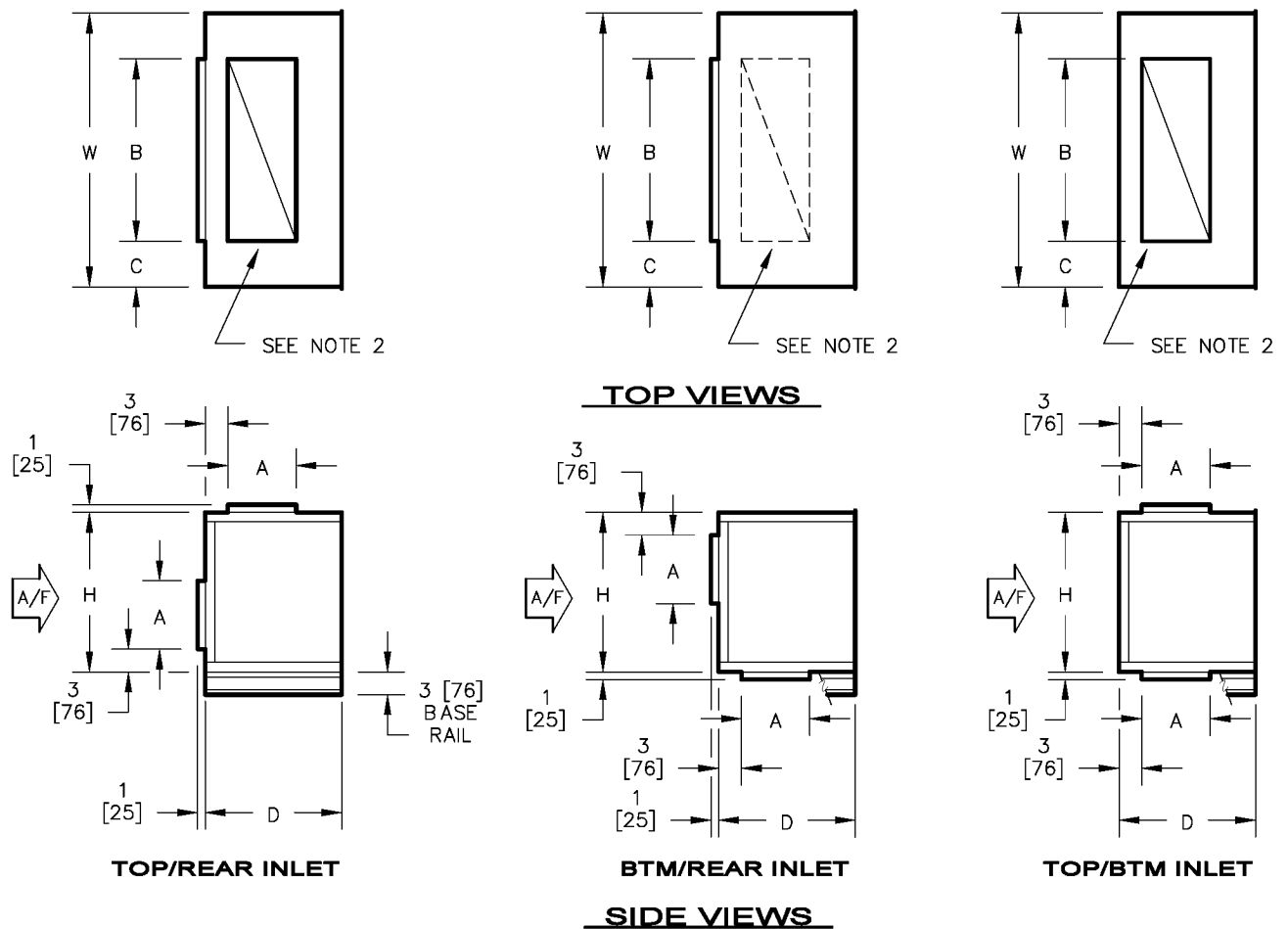


SIDE VIEWS

DIMENSIONS

SIZE	FAN SIZE	L	W	H	C	D	E	F	G	J
08	9 X 4 [229 X 102]	24 [610]	30 [762]	44 [1118]	16 [406]	20 [508]	5 [127]	10-1/4 [260]	6-7/8 [175]	11-9/16 [294]
12	9 X 6 [229 X 152]	24 [610]	36 [914]	44 [1118]	16 [406]	25 [635]	5-1/2 [140]	11-1/4 [286]	8-1/4 [210]	13-7/8 [352]
16	10 X 8 [254 X 203]	24 [610]	44 [1118]	44 [1118]	16 [406]	39-1/2 [1003]	2-1/4 [57]	13-1/2 [343]	10-1/4 [260]	16-7/8 [429]
20	10 X 10 [254 X 254]	30 [762]	50 [1270]	50 [1270]	16 [406]	44-1/2 [1130]	2-3/4 [70]	13-1/2 [343]	13-1/4 [337]	18-3/8 [467]
30	15 X 9 [381 X 229]	30 [762]	59 [1499]	56 [1422]	25 [635]	51 [1295]	4 [102]	16 [406]	13-1/4 [337]	22-7/8 [581]
40	15 X 11 [381 X 279]	30 [762]	68 [1727]	59 [1499]	25 [635]	59 [1499]	4-1/2 [114]	16 [406]	15 [381]	26-1/2 [673]

Figure 11: Model AVI, Discharge Arrangement 2



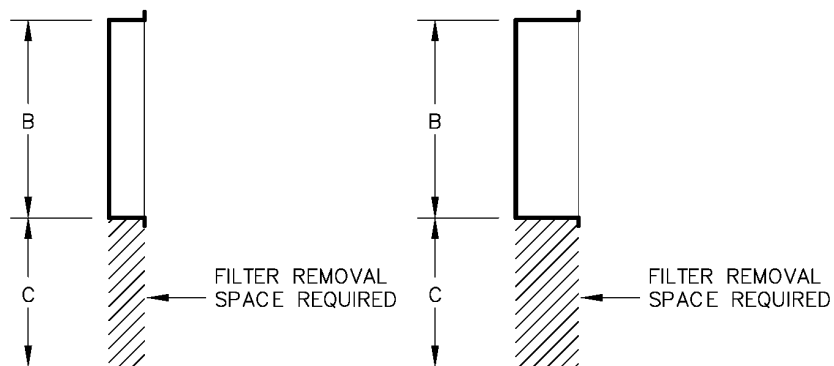
- NOTES:
1. All dimensions are Inches [millimeters].
All dimensions $\pm 1/4"$ [6mm].
Metric values are soft conversion.
 2. Damper drive rods are internal, located on both sides of unit.
 3. Mixing box includes space for standard flat filter rack.
 4. Base rails must be used with mixing box.

UNIT SIZE	H	W	A	B	C	D
08	21 [533]	30 [762]	9 [229]	18 [457]	6 [152]	18 [457]
12	21 [533]	36 [914]	9 [229]	24 [610]	6 [152]	18 [457]
16	21 [533]	44 [1118]	9 [229]	30 [762]	7 [178]	18 [457]
20	21 [533]	50 [1270]	12 [305]	36 [914]	7 [178]	21 [533]
30	30 [762]	59 [1499]	12 [305]	45 [1143]	7 [178]	21 [533]
40	30 [762]	68 [1727]	15 [381]	48 [1219]	10 [254]	24 [610]

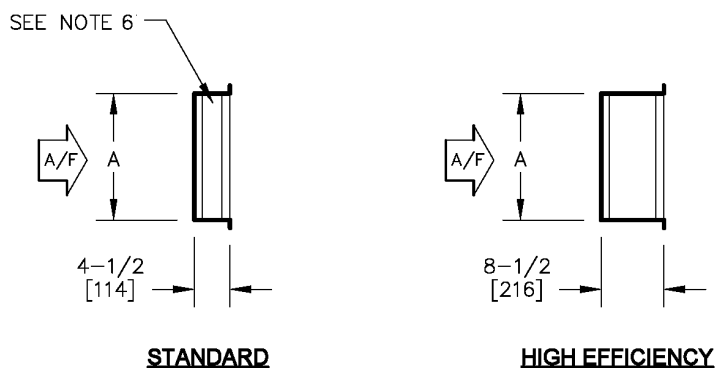
Figure 12: Model AH/AVI, Standard Mixing Box

NOTES:

1. All dimensions are Inches [millimeters].
All dimensions $\pm 1/4"$ [6mm].
Metric values are soft conversion.
2. Flat filter rack may be located at unit inlet as required.
3. Standard rack will accept nominal 1" or 2" thick filters.
4. High eff. rack will accept nominal 2" and/or 4" thick filters.
5. 1" duct connection space provided on entering side of rack for connection of field ductwork.
6. Hinged cover provided on both sides of externally mounted filter racks. Internal standard filter racks have pivoting bar type filter retainer.
7. See individual unit submittal drawings for location of filter rack on unit.



TOP VIEWS

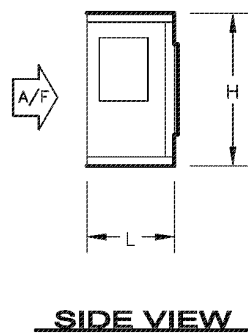
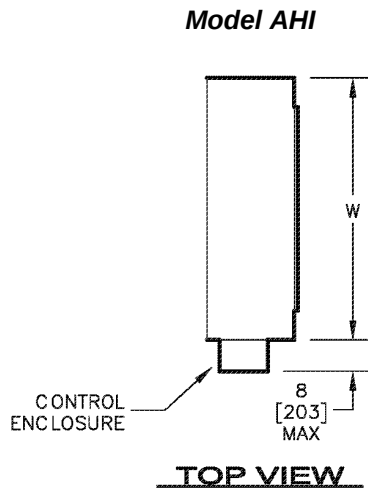


SIDE VIEWS

DIMENSIONS - In [mm]

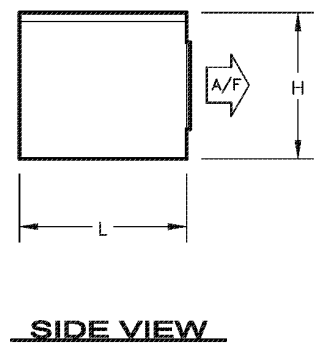
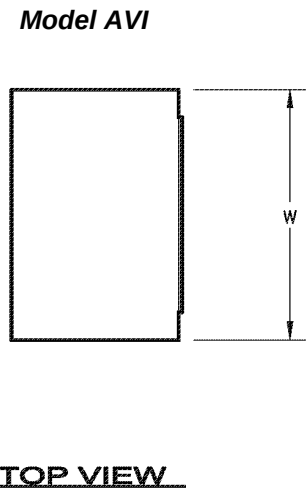
UNIT SIZE	A	B	C	QTY & SIZE FILTERS
08	16 [406]	20 [508]	20 [508]	(1) 16 X 20
12	16 [406]	25 [635]	25 [635]	(1) 16 X 25
16	16 [406]	39-1/2 [1003]	20 [508]	(2) 16 X 20
20	16 [406]	44-1/2 [1130]	25 [635]	(1) 16 X 20 (1) 16 X 25
30	25 [635]	51 [1295]	25 [635]	(2) 16 X 25 (1) 20 X 25
40	25 [635]	59 [1499]	25 [635]	(3) 20 X 25

Figure 13: Model AHI/AVI, Standard Flat Filter Rack



DIMENSIONS - In [mm]

UNIT SIZE	H	W	L	SUPPLY GRILLE
08	21 [533]	30 [762]	9 [229]	16 X 12 [406 X 305]
12	21 [533]	36 [914]	9 [229]	20 X 12 [508 X 305]
16	21 [533]	44 [1118]	12 [305]	26 X 12 [660 X 305]
20	21 [533]	50 [1270]	12 [305]	28 X 14 [711 X 356]
30	30 [762]	59 [1499]	15 [381]	24 X 18 [610 X 457]
40	30 [762]	68 [1727]	15 [381]	32 X 18 [813 X 457]



DIMENSIONS - In [mm]

UNIT SIZE	H	W	L	SUPPLY GRILLE
08	12 [305]	30 [762]	24 [610]	18 X 8 [457 X 203]
12	12 [305]	36 [914]	24 [610]	22 X 8 [559 X 203]
16	14 [356]	44 [1118]	24 [610]	24 X 10 [610 X 254]
20	16 [406]	50 [1270]	30 [762]	24 X 12 [610 X 305]
30	16 [406]	59 [1499]	30 [762]	36 X 12 [914 X 305]
40	18 [457]	68 [1727]	30 [762]	42 X 14 [1067 X 356]

NOTES:

1. All dimensions are Inches [millimeters]. All dimensions $\pm 1/4"$ [6mm]. Metric values are soft conversion.
2. Base rail not shown.
3. Discharge plenum shipped attached to unit.
4. Discharge plenum includes a double deflection discharge grille.
5. Discharge plenum may not be combined with blow-thru electric heat option.

Figure 14: Model AHI/AVI, Discharge Plenums

NOTES:

1. All dimensions are Inches [millimeters].
All dimensions $\pm 1/4"$ [6mm].
2. Vertical unit shown, typical for both vertical and horizontal units.
3. Support used on units with length over 50 [1270].

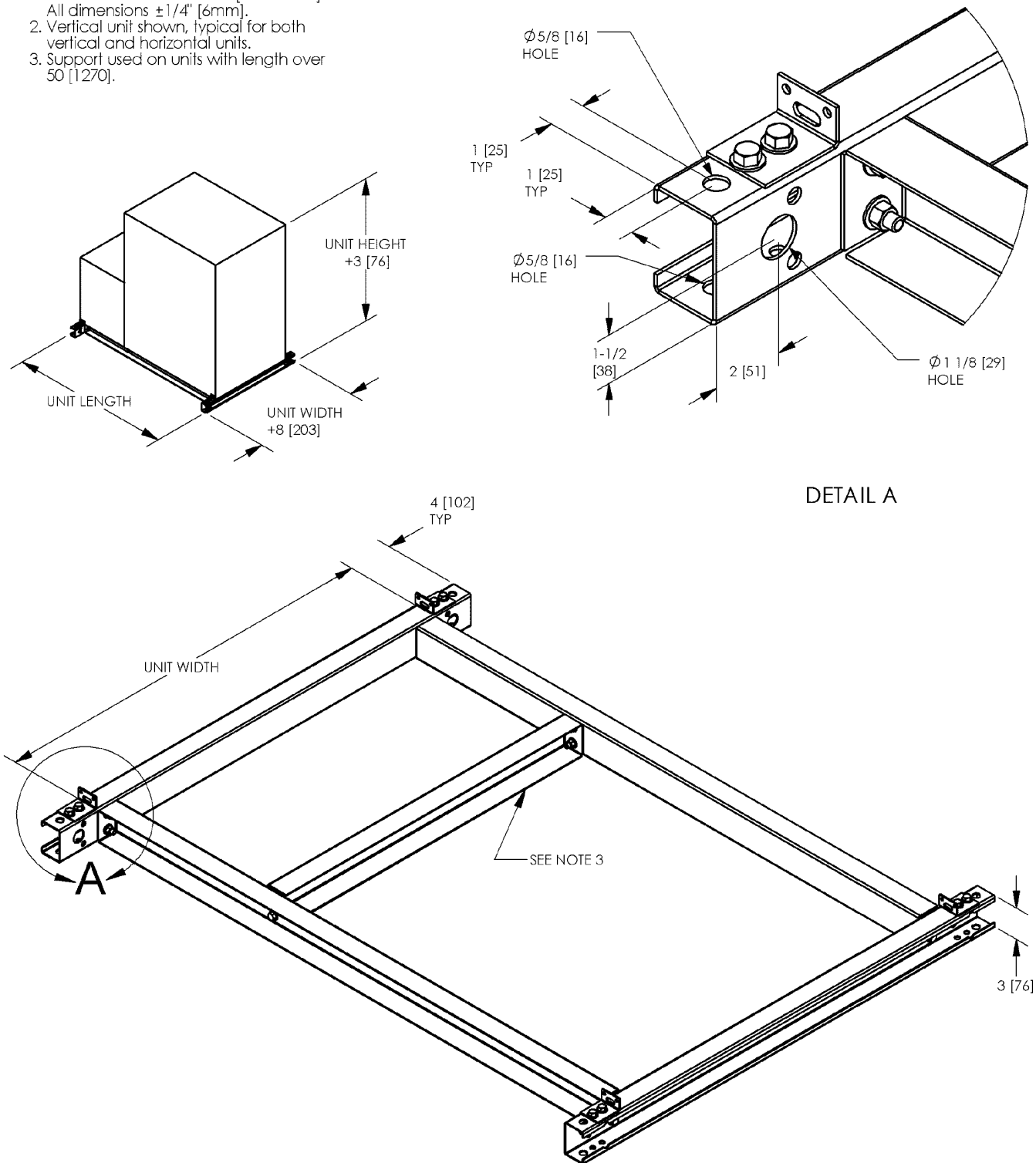


Figure 15: Model AHI/AVI, Base Rail Assembly

Unit Discharge Options

Model AHI (Horizontal)

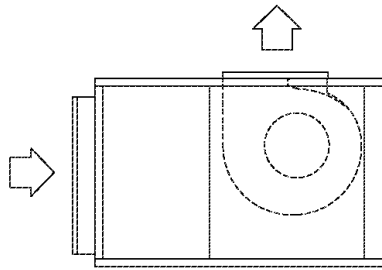


Figure 16: Arrangement 1

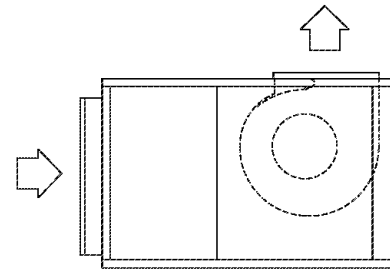


Figure 18: Arrangement 2

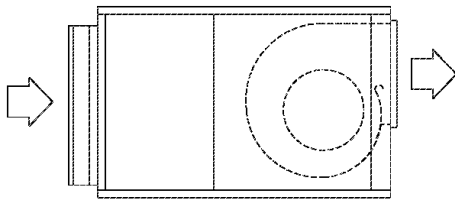


Figure 17: Arrangement 3

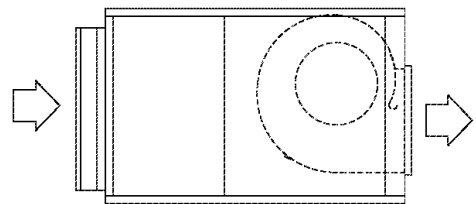


Figure 19: Arrangement 4

Model AVI (Vertical)

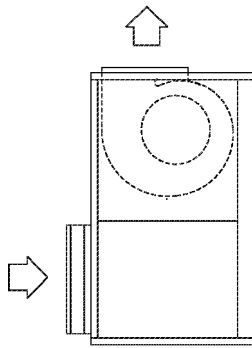


Figure 20:
Arrangement 1

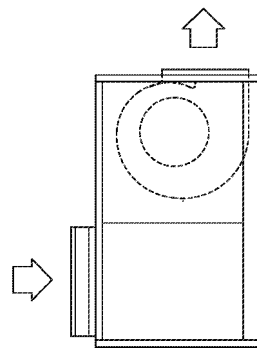


Figure 21:
Arrangement 2

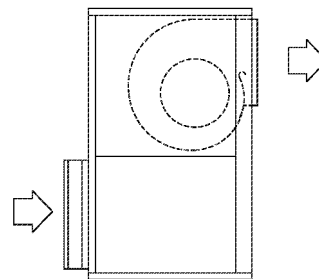


Figure 22:
Arrangement 3

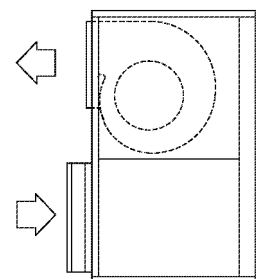


Figure 23:
Arrangement 7

Notes:

See *Dimensional Data* for unit dimensions.

All drawings subject to change without prior notice.

Fan arrangements are also available with inlet damper section.

Electric heaters are available in fan arrangements 3 and 4 (Model AHI) and fan arrangement 3 (Model AVI).

Electrical and Weight Data

Table 4: Motor Electrical Data

Horsepower	Maximum Motor Amperage							
	Voltage							
	115/1	208/1	230/1	277/1	208/3	230/3	460/3	575/3
1/3	6.3	3.5	3.2	2.6	1.7	1.5	0.8	-
1/2	7.8	4.3	3.9	3.6	2.2	2.1	1.1	0.9
3/4	10.6	5.4	5.3	5.0	3.2	3.0	1.5	1.2
1	15.0	8.3	7.5	5.5	4.0	3.6	1.8	1.4
1 1/2	-	-	-	-	5.3	5.0	2.5	1.9
2	-	-	-	-	7.0	6.4	3.2	2.5
3	-	-	-	-	9.1	9.0	4.5	3.2
5	-	-	-	-	14.2	12.8	6.4	5.2

Notes:

Actual motor nameplate amperes may vary, but do not exceed values shown.

Consult the factory for applications requiring special motors.

Table 5: Unit Weight Data

Component		Unit Size					
		08	12	16	20	30	40
Base Unit		135 [61]	157 [71]	177 [80]	200 [90]	290 [131]	360 [163]
Damper Section		46 [21]	54 [24]	65 [29]	90 [41]	105 [46]	162 [73]
Blow-Through Electric Heater		42 [19]	42 [19]	42 [19]	50 [23]	55 [25]	55 [25]
Coil Rows	1 Row - Dry	12 [5]	14 [6]	17 [8]	21 [10]	26 [12]	32 [15]
	1 Row - Wet	14 [6]	16 [7]	20 [9]	25 [11]	32 [15]	41 [19]
	2 Row - Dry	17 [8]	21 [10]	26 [12]	33 [15]	42 [19]	52 [24]
	2 Row - Wet	21 [10]	26 [12]	32 [15]	42 [19]	54 [25]	69 [31]
	3 Row - Dry	23 [10]	28 [13]	35 [16]	45 [20]	57 [26]	72 [33]
	3 Row - Wet	29 [13]	36 [16]	44 [20]	59 [27]	75 [34]	95 [43]
	4 Row - Dry	29 [13]	35 [16]	44 [20]	57 [26]	73 [33]	91 [41]
	4 Row - Wet	37 [17]	45 [20]	56 [25]	74 [34]	96 [44]	121 [55]
	6 Row - Dry	40 [18]	49 [22]	62 [28]	81 [37]	104 [47]	132 [60]
	6 Row - Wet	52 [24]	64 [29]	81 [37]	106 [48]	138 [63]	178 [81]

Note: Unit weight data is shipping weight in pounds (kilograms).

Table 6: Motor/Drive Weight Data

Type	Motor hp							
	1/3	1/2	3/4	1	1 1/2	2	3	5
Single-Phase	37 [17]	37 [17]	45 [20]	47 [21]	--	--	--	--
Three-Phase	34 [15]	34 [15]	40 [18]	43 [20]	46 [21]	53 [24]	81 [37]	94 [43]

Notes:

The motor weight includes the motor, pulleys, belts, and motor base.

Motor/drive weight data is shipping weight in pounds (kilograms).

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