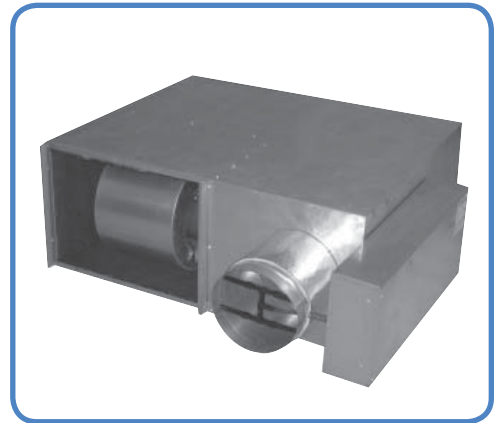


Models ASF w/o Reheat
 ASW w/Hot Water Reheat
 ASE w/Electric Reheat

The Carnes intermittent fan terminal unit provides constant air volume to the space for reheat applications while retaining a variable air volume system during normal cooling operation. The primary air control assembly operates independently as a standard throttling valve for cooling loads. As cooling loads diminish, the secondary air supply fan(s) is energized to induce warm ceiling plenum air. A wide variety of control sequences makes this fan powered unit compatible with the most energy efficient system design.



Features Include:

- Seventeen unit/inlet size variations offering air flow capacities to 4200 CFM primary air and 1870 CFM secondary air with low pressure drop and low sound levels.
- Durable 22 gauge galvanized steel casing construction.
- Bottom access panel for internal components.
- Flange or slip and drive discharge connections.
- Forward curved centrifugal type fan assemblies with thermally protected, Permanent Split Capacitor type 120 or 277 volt fractional horsepower motors.
- Fan/motor assemblies are isolated from the casing using rubber isolators to minimize vibration transmission.
- Adjustable SCR fan speed control.
- Field adjustable P/E switch with pneumatic controls.
- Performance data based on tests conducted in accordance with AHRI Standard 880-2008.
- Tri-Averaging type velocity sensor and calibration chart for measuring primary air flow.
- Secondary air filter rack.
- All units equipped with pneumatic or electronic pressure independent controls.
- Insulation is 1" thick, 1-1/2 lb. dual density fiberglass with surface treatment to prevent air erosion. UL listed and meets NFPA 90A requirements.
- Damper controls and fan controls are located in one enclosure.
- Low leakage primary air damper design.
- AHRI listed.
- Optional ETL listing.
- Optional secondary air sound baffle. Sound baffle is factory attached to secondary air inlet. (Contact Carnes.)
- Optional one to four row hot water coils (Model ASW). Coil is factory attached to primary air discharge.
- Optional electric reheat coils (Model ASE). Coil is factory attached to primary air discharge.
- Optional secondary air filters, Class I (re-usable) and Class II (throw away).
- Optional non-fused or fused fan disconnect switch.
- Optional foil coated insulation.
- Optional fiber-free liner.

Available Modules:

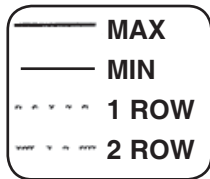
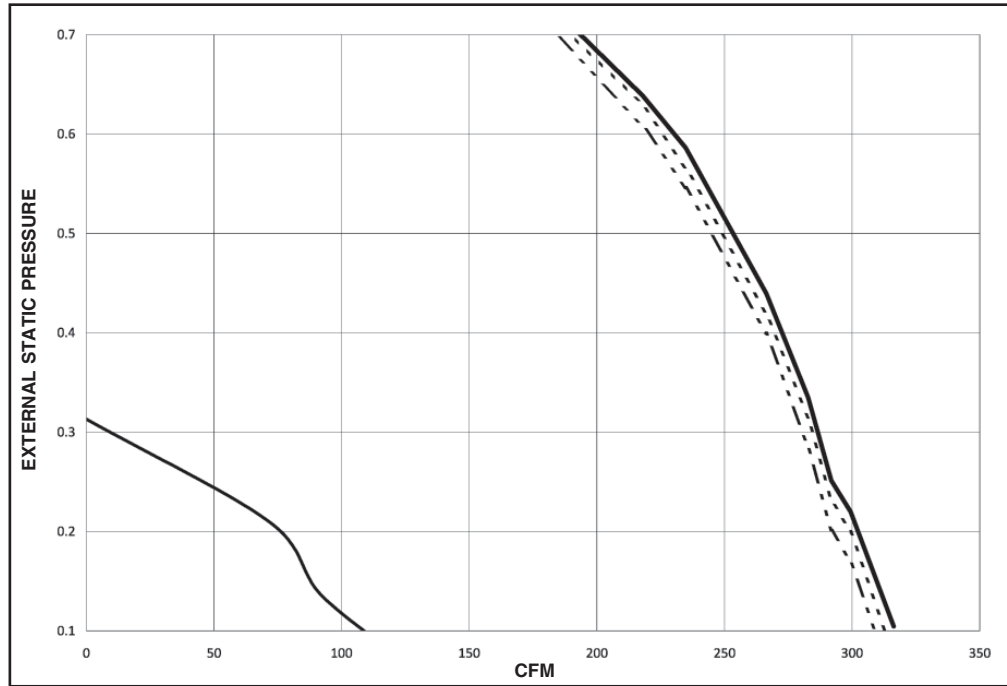
- Basic control unit — **Model ASF.**
- Basic control unit with hot water coil — **Model ASW.**
- Basic control unit with or without electric coil — **Model ASE.**



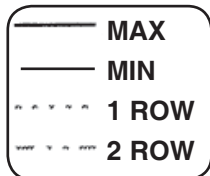
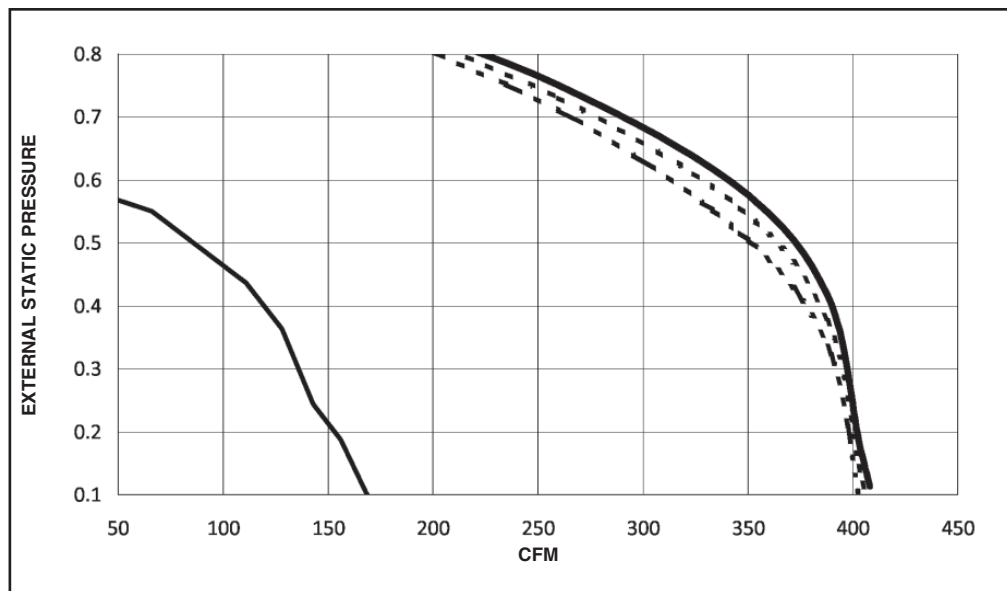
IAQ Insulation
 Available

FAN CURVES CFM vs EXTERNAL STATIC PRESSURE

FAN SIZE A — AS 05, 06, 07
1/6 H.P. Motor



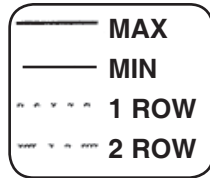
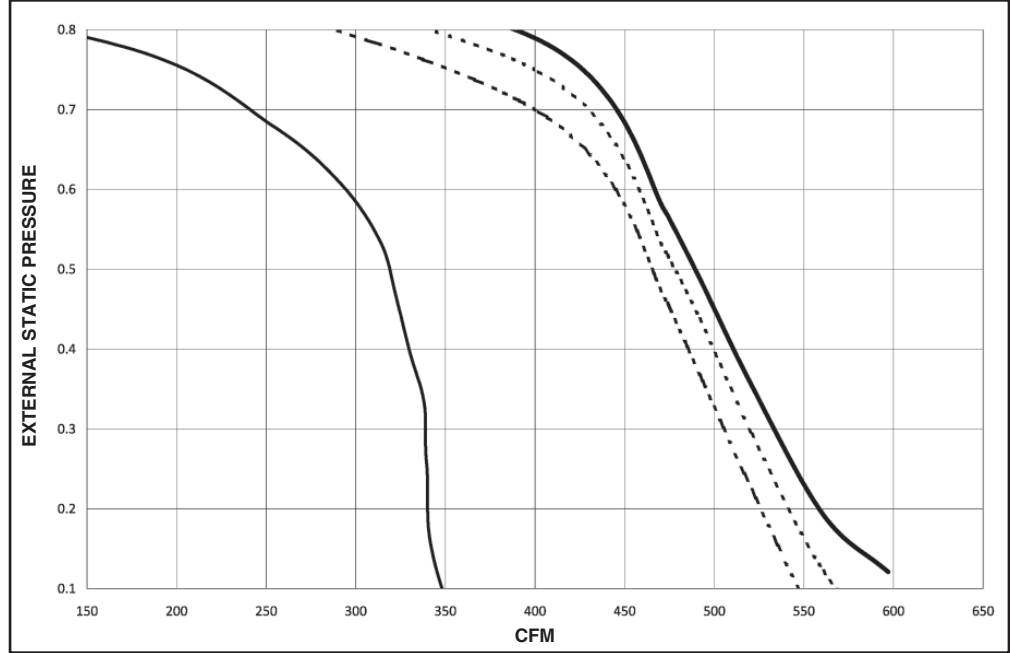
FAN SIZE B — AS 06, 07, 08
1/6 H.P. Motor



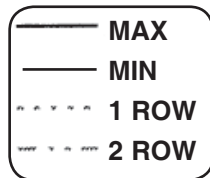
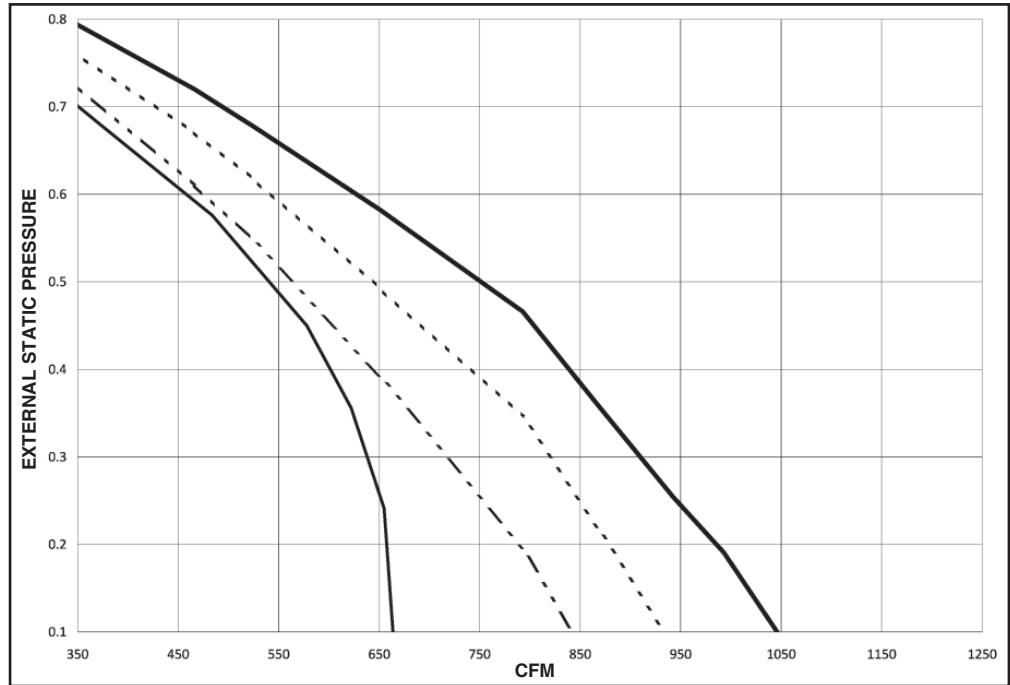
- NOTES: 1. External Static Pressure (ESP) consists of down stream ductwork, coils, flex, duct, etc.
2. Pressure drop due to heating coils are treated as external static pressure.
3. For proper operation, the downstream ESP must be at least 0.20" w.g.

FAN CURVES CFM vs EXTERNAL STATIC PRESSURE

FAN SIZE C — AS 07, 08, 10
1/6 H.P. Motor



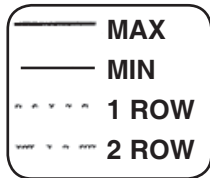
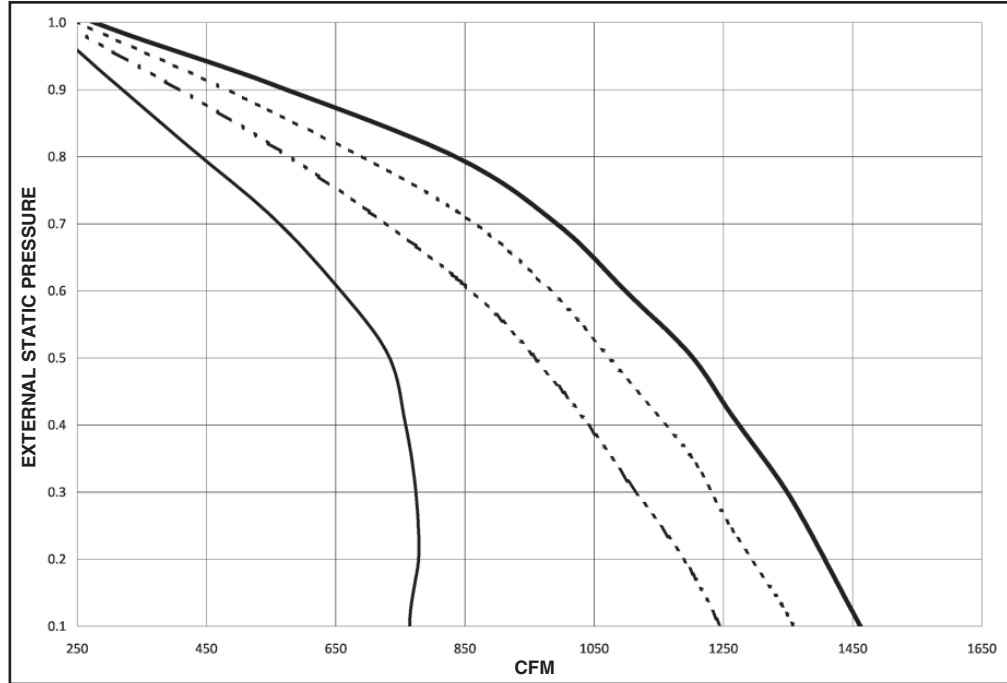
FAN SIZE D — AS 08, 10
1/4 H.P. Motor



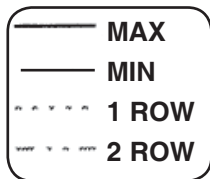
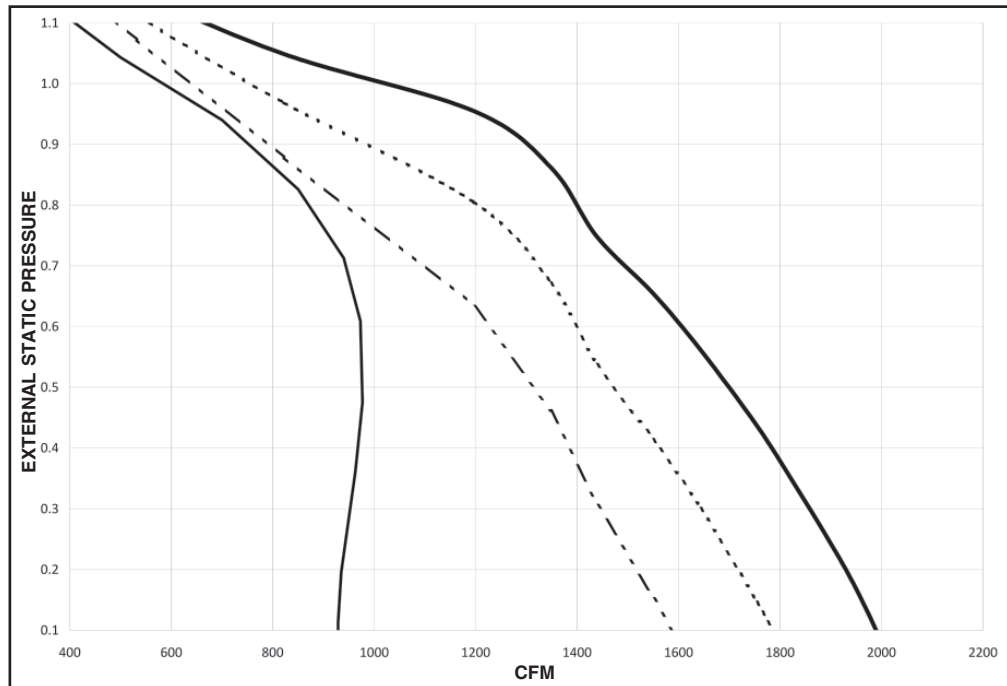
- NOTES:
1. External Static Pressure (ESP) consists of down stream ductwork, coils, flex, duct, etc.
 2. Pressure drop due to heating coils are treated as external static pressure.
 3. For proper operation, the downstream ESP must be at least 0.20" w.g.

FAN CURVES CFM vs EXTERNAL STATIC PRESSURE

FAN SIZE E — AS 10, 12, 14
1/4 H.P. Motor



FAN SIZE F — AS 12, 14, 16
1/2 H.P. Motor



- NOTES: 1. External Static Pressure (ESP) consists of down stream ductwork, coils, flex, duct, etc.
 2. Pressure drop due to heating coils are treated as external static pressure.
 3. For proper operation, the downstream ESP must be at least 0.20" w.g.

Fan Powered Units

**DISCHARGE AND RADIATED Noise Criteria
(Fan Off -100% Primary Air)**

Model AS_H

Inlet (Fan) Size	CFM	Minimum Pressure Drop ΔPs			Minimum ΔPs		1.0" ΔPs		1.5" ΔPs		3.0" ΔPs	
		Base Unit	1-Row	2-Row	Dis NC	Rad NC	Dis NC	Rad NC	Dis NC	Rad NC	Dis NC	Rad NC
5 (A)	75	.017	.021	.019	—	—	—	—	—	—	—	—
	100	.028	.033	.030	—	—	—	—	—	—	—	—
	200	.115	.128	.191	—	—	—	—	—	—	10	—
	300	.248	.275	.274	—	—	15	—	17	—	18	—
	350	.346	.375	.385	—	—	14	10	14	10	17	11
6 (A,B)	110	.011	.016	.019	—	—	—	—	—	—	—	—
	200	.045	.054	.064	—	—	—	—	—	—	—	10
	300	.091	.071	.124	—	—	—	—	10	—	14	10
	400	.159	.197	.219	—	—	10	—	13	—	15	10
7 (A,B,C)	500	.253	.301	.342	—	—	15	—	17	11	22	13
	140	.004	.016	.019	—	—	—	—	—	—	—	10
	200	.013	.028	.038	—	—	—	—	—	—	—	10
	400	.062	.096	.126	—	—	—	—	—	—	14	10
	600	.147	.213	.272	—	—	15	—	18	13	22	17
8 (B,C,D)	700	.187	.272	.336	—	—	16	11	18	15	24	18
	185	.010	.018	.022	—	—	—	—	—	—	—	—
	400	.035	.068	.089	—	—	—	—	—	—	10	—
	600	.071	.140	.185	—	—	—	—	10	—	15	10
	800	.130	.233	.294	—	—	11	—	14	10	18	15
10 (C,D)	1000	.199	.358	.449	10	—	16	11	20	14	24	20
	300	.004	.023	.044	—	—	—	—	—	—	—	—
	500	.008	.055	.104	—	—	—	—	—	—	14	—
	800	.020	.125	.180	—	—	—	—	12	10	19	15
	1200	.042	.247	.433	—	—	15	11	17	17	24	23
10 (E)	1500	.066	.381	.647	—	—	22	17	23	19	28	26
	300	.016	.023	.037	—	—	—	—	—	—	10	—
	500	.029	.051	.080	—	—	—	—	—	—	12	—
	800	.067	.119	.180	—	—	—	—	—	—	14	15
	1200	.141	.248	.360	—	—	14	—	17	14	21	20
12 (E,F)	1500	.218	.382	.553	—	—	18	14	22	18	27	24
	430	.017	.037	.056	—	—	—	—	—	—	11	—
	800	.038	.088	.151	—	—	—	—	—	—	13	14
	1200	.076	.181	.306	—	—	11	—	12	10	18	19
	1800	.155	.360	.636	—	—	20	13	23	17	26	22
14 (E,F)	2300	.247	.559	.984	14	—	24	17	30	22	33	27
	600	.004	.022	.040	—	—	—	—	—	—	13	—
	1000	.006	.048	.081	—	—	—	—	12	—	16	14
	1600	.008	.110	.182	—	—	15	—	19	14	24	21
	2400	.011	.237	.391	—	—	26	17	30	22	33	27
16 (F)	3100	.016	.364	.599	15	—	31	22	35	26	40	32
	780	.001	.031	.048	—	—	—	—	14	—	14	11
	1600	.003	.104	.165	—	—	12	—	17	14	23	22
	2400	.006	.232	.356	—	—	22	14	24	19	31	30
	3600	.012	.447	.689	13	—	30	22	33	26	39	33
4200	.019	.572	.893	17	—	32	24	36	30	41	36	

- NOTES:** 1. ΔPs static pressure difference from inlet to discharge.
 2. ΔPs is the minimum required to deliver CFM shown the primary damper in open position.
 3. ΔP does not include hot water or electric coils.
 4. Dash (—) indicates NC level less than 10.

NC level are derived from tests conducted in accordance with AHRI Standard 880-2008 and are calculated in accordance with Appendix E of AHRI Standard 885-2008 as application data based on the following:

Discharge NC levels are based on -

- a) 5 foot rectangular duct lined with 1" fiberglass insulation.
- b) 5 foot lined flex duct (8" diameter).
- c) Flow division.
- d) Space effect factor (2400 ft³) at 5 feet from outlet.
- e) End reflection.
- f) Environment adjustment factor.

Radiated NC levels are based on -

- a) Plenum/ceiling effect - mineral fiber tile
- b) Environment adjustment factor.

NC is not part of the AHRI 880 Certification Program.

DISCHARGE AND RADIATED SOUND DATA
(FAN ON -100% Secondary Air)

Model AS_H

Fan Size	Inlet Size	ESP	CFM	Discharge Sound							Max. NC	Radiated Sound							Max. NC
				Sound Power db								Sound Power db							
				Octave Band								Octave Band							
				2	3	4	5	6	7		2	3	4	5	6	7			
A	5,6,7	.25	100	40	33	24	23	23	22	—	55	45	42	38	28	24	15		
		.25	200	39	40	34	32	24	22	—	59	48	45	42	35	29	20		
		.25	300	49	49	41	41	36	32	—	62	52	48	45	39	36	24		
B	6,7,8	.25	145	39	36	26	24	21	20	—	58	48	44	41	33	26	19		
		.25	270	45	45	39	37	31	26	—	61	51	48	44	38	33	23		
		.25	430	57	58	50	49	45	43	15	69	61	54	52	48	46	33		
C	7,8,10	.25	320	48	47	41	40	35	31	—	62	53	48	45	39	36	24		
		.25	480	60	59	51	50	47	45	16	70	63	56	53	50	48	35		
		.25	600	66	66	56	57	53	51	24	75	68	59	58	54	53	41		
D	8,10	.25	600	57	55	50	48	44	41	11	62	57	55	52	43	39	30		
		.25	800	61	59	55	53	49	48	15	67	62	60	57	49	47	35		
		.25	1000	66	65	60	59	56	56	22	73	68	65	63	54	54	40		
E	10,12,14	.25	1000	58	55	54	52	47	46	10	69	61	56	52	52	48	33		
		.25	1300	63	59	59	56	52	53	17	74	67	59	56	57	54	40		
		.25	1530	68	64	61	61	57	57	21	77	70	63	59	61	58	44		
F	12,14,16	.25	1100	59	55	54	52	48	46	10	69	63	57	53	51	47	33		
		.25	1600	67	64	62	60	56	56	21	75	71	65	61	59	58	42		
		.25	2100	72	68	65	65	61	61	25	80	76	69	66	65	64	48		

- NOTES:** 1. ΔP_s static pressure difference from inlet to discharge.
 2. ΔP_s is the minimum required to deliver CFM shown the primary damper in open position.
 3. ΔP does not include hot water or electric coils.
 4. Dash (—) indicates NC level less than 10.

NC level are derived from tests conducted in accordance with AHRI Standard 880-2008 and are calculated in accordance with Appendix E of AHRI Standard 885-2008 as application data based on the following:

Discharge NC levels are based on -

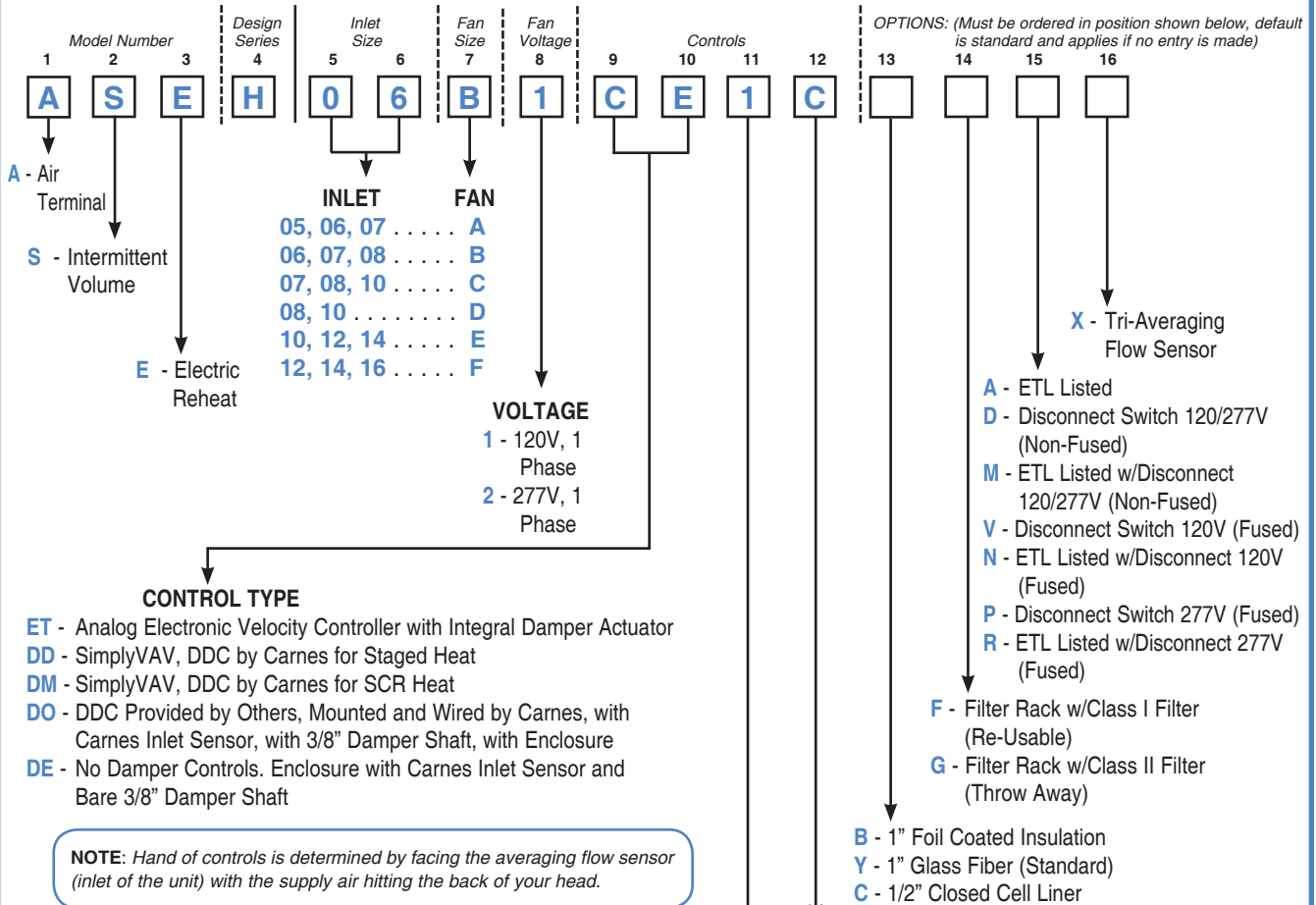
- a) 5 foot rectangular duct lined with 1" fiberglass insulation.
- b) 5 foot lined flex duct (8" diameter).
- c) Flow division.
- d) Space effect factor (2400 ft³) at 5 feet from outlet.
- e) End reflection.
- f) Environment adjustment factor.

Radiated NC levels are based on -

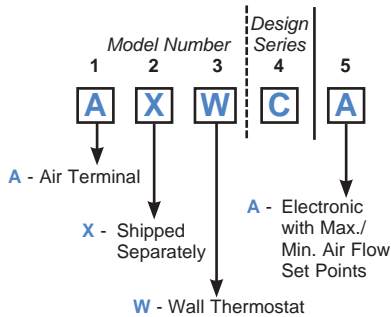
- a) Plenum/ceiling effect - mineral fiber tile
- b) Environment adjustment factor.

NC is not part of the AHRI 880 Certification Program.

Fan Powered Units

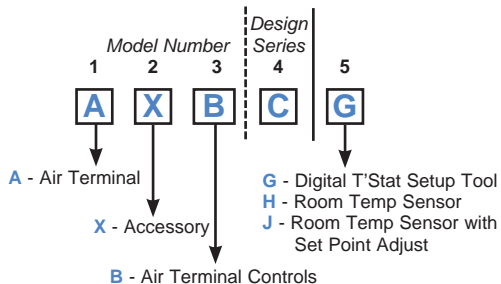


▼ **Electronic Thermostat**



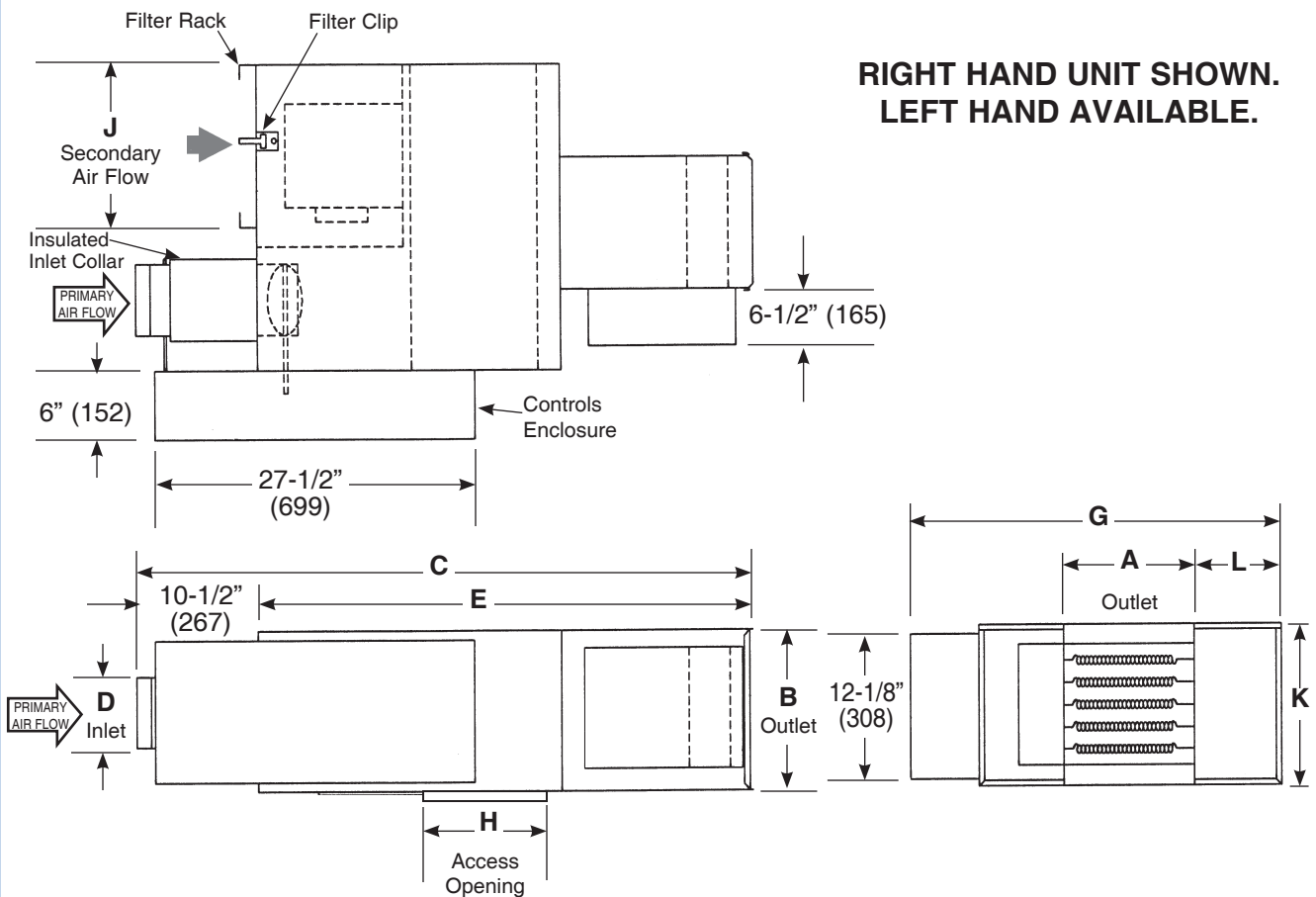
A Carnes Electronic Thermostat **must be ordered** with the ET Electronic Control Option.

▼ **Direct Digital Control (DD/DC/DM)**



* Electronic and DDC Units **DO NOT** fail open. '1' or '2' is used for Right or Left Hand Only. Electronic Units are shipped with the Damper in the Open Position.

Model ASEH



Fan Powered Units

DIMENSIONS LISTED IN INCHES (MILLIMETERS)															
Fan Size	Inlet Size	Primary Nominal CFM(L/s)	Secondary Nominal CFM (L/s) @ .25"E.S.P.	Fan H.P.	Outlet		C	Inlet		E	G	H	J	K	L
					A	B		D							
A	05	350 (165)	290 (137)	1/6	14 (356)	14 (356)	63-3/4 (1619)	4-7/8 (124)	51-1/4 (1302)	35 (889)	10 (254)	15-1/2 (394)	14 (356)	7-1/2 (191)	
	06	500 (236)						5-7/8 (149)							
	07	700 (330)						6-7/8 (175)							
B	06	500 (236)	400 (189)	1/6	14 (356)	14 (356)	63-3/4 (1619)	5-7/8 (149)	51-1/4 (1302)	35 (889)	10 (254)	15-1/2 (394)	14 (356)	7-1/2 (191)	
	07	700 (330)						6-7/8 (175)							
	08	1000 (472)						7-7/8 (200)							
C	07	700 (330)	570 (269)	1/6	14 (356)	14 (356)	69-3/4 (1771)	6-7/8 (175)	57-1/4 (1454)	37 (940)	16 (406)	17-1/2 (445)	14 (356)	8-1/2 (216)	
	08	1000 (472)						7-7/8 (200)							
	10	1500 (708)						9-7/8 (251)							
E	10	1500 (708)	1300 (614)	1/4	16 (406)	17-1/2 (445)	71-3/4 (1822)	9-7/8 (251)	59-1/4 (1505)	50 (1270)	16 (406)	24-1/2 (622)	17-1/2 (446)	14 (356)	
	12	2300 (1086)			11-7/8 (302)			10 (254)							
	14	3100 (1463)			13-7/8 (352)			14 (356)							
F	12	2300 (1086)	1870 (883)	1/2	16 (406)	17-1/2 (445)	71-3/4 (1822)	11-7/8 (302)	59-1/4 (1505)	50 (1270)	16 (406)	24-1/2 (622)	17-1/2 (446)	14 (356)	
	14	3100 (1463)			13-7/8 (352)			10 (254)							
	16	4200 (1982)			15-7/8 (403)			10 (254)							

NOTE: Outlet is designed for slip and drive duct connection.