

Model AVE

The **Carnes Model AVE** is available as a basic control unit with electric reheat and open end discharge, with an optional attenuator module.

This unit offers low pressure drop, low sound levels, and valve characteristics which create stable control conditions within the conditioned space.

Features Include:

- Air flow capacities from full shut-off to 7,300 CFM (0-3,000 FPM for each unit size).
- Open-end discharge units are provided with slip and drive connections for easy installation.
- Thermally and acoustically insulated casing meets **UL** and **NFPA** standards. (Electric coil is uninsulated).
- Low leakage damper design.
- Pneumatic, electric, electronic, or manual control options available.
- Averaging type air flow sensor at inlet of unit.
- Optional cross flow averaging type velocity sensor at inlet of unit.
- Optional pressure independent and pressure dependent controls.
- Optional hanger brackets.
- Optional internal foil faced insulation
- Optional fiber-free lining.
- Optional controls enclosure.
- Optional access panel for component inspection.

Available Modules:

- Basic Control Unit with attached or unattached electric reheat coil — **Model AVE**
- Sound Attenuator — **Model AXA**



Foil Faced Insulation
Available



A Participating Member
in the ARI 880
Certification Program

AVE

Discharge and Radiated (NC) Noise Criteria

Inlet Size (Inches)	CFM	Minimum Pressure Drop (Damper Full Open)			
		Min. Δ P _s		Min. Δ P _t	
		Unit w/Coil	With Atten.	Unit w/Coil	With Atten.
5	75	.02	.02	.04	.01
	100	.03	.01	.07	.05
	200	.11	.06	.25	.20
	300	.23	.15	.55	.47
	350	.30	.22	.74	.65
6	110	.04	.01	.05	.03
	200	.06	.02	.13	.09
	300	.09	.06	.24	.30
	400	.14	.10	.40	.35
	500	.21	.16	.61	.56
7	140	.00	.00	.02	.02
	200	.01	.00	.04	.04
	400	.05	.01	.19	.14
	600	.12	.03	.42	.33
	700	.17	.04	.59	.45
8	185	.00	.01	.02	.02
	400	.01	.02	.08	.09
	600	.03	.03	.19	.20
	800	.05	.05	.34	.33
	100	.08	.06	.53	.51
10	300	.00	.01	.02	.02
	500	.00	.00	.04	.04
	800	.00	-.01	.11	.09
	1200	.00	-.03	.24	.21
	1500	.00	-.05	.38	.33
12	430	.00	.00	.02	.01
	800	.00	-.02	.05	.03
	1200	.00	-.03	.12	.09
	1800	.00	-.05	.26	.21
	2300	.00	-.07	.43	.36
14	600	.01	.01	.02	.02
	1000	.00	-.01	.05	.03
	1600	-.01	-.04	.11	.08
	2400	-.02	-.08	.24	.19
	3100	-.03	-.11	.41	.33
16	780	.00	.01	.01	.03
	1600	.00	-.02	.07	.05
	2400	.00	-.05	.15	.10
	3600	-.01	-.09	.34	.24
	4200	-.01	-.11	.46	.34
18	1100	.01	.02	.02	.03
	2300	.06	.07	.12	.13
	3600	.17	.17	.32	.33
	4500	.29	.27	.53	.51
	5500	.48	.41	.84	.77
24	1480	.01	.00	.02	.01
	3200	.04	.00	.09	.05
	4800	.09	.02	.20	.13
	6000	.17	.04	.31	.21
	7300	.29	.16	.54	.41

Min. Δ P _s (Damper Full Open)		1.0" Δ P _s			1.5" Δ P _s			3.0" Δ P _s							
Δ Pt	Discharge NC		Rad. NC	Δ Pt	Discharge NC		Rad. NC	Δ Pt	Discharge NC		Rad. NC				
	Unit w/Atten.	NC	Unit w/Atten.		NC	Unit w/Atten.	NC		Unit w/Atten.	NC					
.04	—	—	—	1.02	14	13	—	1.52	15	14	—	3.02	20	19	11
.07	10	—	—	1.04	126	15	10	1.54	19	16	11	3.04	22	22	12
.25	12	11	—	1.14	23	23	13	1.64	25	25	14	3.14	32	31	19
.55	15	13	12	1.32	29	28	17	1.82	31	31	19	3.32	37	37	23
.74	15	13	14	1.43	30	28	19	1.93	32	30	21	3.43	39	37	26
.05	—	—	—	1.02	16	15	—	1.52	19	18	11	3.02	25	23	21
.13	11	—	—	1.06	21	20	12	1.56	23	22	13	3.06	29	28	22
.24	12	10	10	1.14	23	23	14	1.64	24	22	14	3.14	31	31	23
.40	13	11	13	1.25	24	23	15	1.75	25	23	18	3.25	32	31	23
.61	.14	12	18	1.40	24	23	18	1.90	29	27	20	3.40	33	31	24
.02	—	—	—	1.02	21	21	12	1.52	22	22	13	3.02	33	31	17
.04	—	—	—	1.03	23	23	13	1.53	28	27	14	3.03	35	34	19
.19	11	10	11	1.14	24	23	14	1.64	30	28	16	3.14	36	34	23
.42	13	12	12	1.30	26	25	17	1.80	30	30	20	3.30	35	35	26
.59	13	12	14	1.41	27	26	19	1.91	30	30	21	3.41	35	35	37
.02	—	—	—	1.02	21	21	12	1.52	21	21	13	3.02	32	31	17
.08	11	—	—	1.07	22	22	14	1.57	24	23	15	3.07	34	33	22
.19	12	10	10	1.16	23	22	15	1.66	27	25	19	3.16	34	34	24
.34	12	11	12	1.29	24	22	18	1.79	28	25	21	3.29	33	33	27
.53	14	13	18	1.45	25	23	21	1.95	28	27	23	3.45	34	34	29
.02	—	—	10	1.02	22	20	16	1.52	29	29	30	3.02	35	35	26
.04	—	—	12	1.04	23	22	18	1.54	28	28	22	3.04	35	35	29
.11	10	—	14	1.11	24	23	20	1.61	29	28	23	3.11	35	35	30
.24	13	12	16	1.24	24	23	21	1.74	29	29	25	3.24	36	35	32
.38	13	12	18	1.38	25	22	22	1.88	30	29	25	3.38	36	35	32
.02	—	—	—	1.02	22	22	14	1.52	28	28	15	3.02	34	34	23
.05	—	—	—	1.05	23	23	16	1.55	27	27	21	3.05	34	34	30
.12	11	10	11	1.12	25	24	20	1.62	30	28	25	3.12	35	35	32
.26	12	11	14	1.27	26	24	23	1.77	31	29	29	3.27	35	35	36
.43	14	13	20	1.43	27	24	25	1.93	31	29	31	3.43	36	35	38
.02	—	—	—	1.02	22	22	14	1.52	27	26	18	3.02	38	38	25
.05	—	—	—	1.05	22	22	18	1.55	28	27	22	3.05	39	38	29
.11	10	—	11	1.12	24	23	21	1.62	28	28	25	3.12	40	38	32
.24	12	11	18	1.26	25	24	22	1.76	30	29	27	3.26	40	38	34
.41	12	12	25	1.44	25	24	25	1.94	30	30	30	3.44	42	40	36
.01	—	—	—	1.02	20	20	15	1.52	29	28	19	3.02	37	37	25
.07	10	—	11	1.07	21	21	20	1.57	29	28	23	3.07	37	36	31
.15	12	10	13	1.15	23	21	22	1.65	30	28	27	3.15	38	36	33
.34	13	12	20	1.33	23	21	25	1.83	30	28	29	3.33	38	36	36
.46	14	13	23	1.45	24	23	27	1.95	31	28	30	3.45	38	37	37
.02	—	—	10	1.01	19	19	18	1.51	23	23	21	3.01	31	30	27
.12	10	10	13	1.06	21	21	22	1.56	25	24	25	3.06	34	33	31
.32	13	12	20	1.15	22	20	25	1.65	25	24	29	3.15	34	32	35
.53	15	14	26	1.24	23	22	27	1.74	28	25	30	3.24	35	33	35
.84	18	14	33	1.36	25	22	28	1.86	29	25	31	3.36	35	33	37
.02	—	—	—	1.01	21	20	17	1.51	24	23	22	3.01	31	30	32
.09	11	10	13	1.05	22	21	22	1.55	25	24	28	3.05	33	31	35
.20	14	14	20	1.11	24	21	27	1.61	28	27	31	3.11	35	34	39
.31	15	14	27	1.17	24	21	28	1.67	28	27	33	3.17	35	34	40
.54	20	19	33	1.25	25	22	31	1.75	30	27	34	3.25	35	33	43

- NOTES:**
1. Δ P_s static pressure difference from inlet to discharge.
 2. Δ P_s is the minimum pressure required to deliver CFM shown with the primary damper in wide open position.
 3. Δ P_t is the total pressure difference from inlet to discharge.
 4. Dash (—) indicates NC level less than 10.

NC levels are derived from tests conducted in accordance with ARI Standard 880-98 and are calculated in accordance with ARI Standard 885-98 as application data based on the following:

- Discharge NC levels are based on —
- a) 5 foot rectangular 12" x 12" duct lined with 1" fiberglass insulation.
 - b) Rectangular tee attenuation entering branch duct.
 - c) 6 foot lined flex duct (8" diameter).
 - d) Maximum of 300 CFM per outlet.
 - e) Space effect factor (5000 ft³) at 5 feet from outlet.
 - f) End reflection.
 - g) Environmental adjustment factor.
- Radiated NC levels are based on—

- a) Plenum / ceiling effect - 5/8" mineral fiber tile, 35 lb / ft³ - 3 foot plenum.
- b) Space effect factor (5000 ft³) at 10 feet from source.
- c) Environmental adjustment factor.

NC is not part of the ARI 880 Certification Program.

Sound Data (Sound Power by Octave Band)

Discharge Sound Power

Inlet Size (Inches)	CFM	Minimum ΔP_s							1.0" ΔP_s							1.5" ΔP_s							3.0" ΔP_s							
		ΔP_s	Sound Power (db) by Octave Band							Sound Power (db) by Octave Band							Sound Power (db) by Octave Band							Sound Power (db) by Octave Band						
			(2)	(3)	(4)	(5)	(6)	(7)	(7)	(2)	(3)	(4)	(5)	(6)	(7)	(7)	(2)	(3)	(4)	(5)	(6)	(7)	(7)	(2)	(3)	(4)	(5)	(6)	(7)	
5	75	.02	39	27	21	19	17	15	50	49	48	44	43	39	51	51	51	47	17	43	53	55	55	53	53	50				
	100	.03	42	31	27	24	22	19	53	52	50	46	45	40	54	54	53	49	48	44	56	57	58	55	54	52				
	200	.11	48	43	40	36	34	26	60	58	56	51	48	43	62	60	59	54	52	47	64	64	63	60	58	54				
	300	.23	51	50	48	43	40	30	65	62	59	53	50	45	66	64	62	57	54	49	68	68	66	62	60	56				
	350	.30	53	53	51	46	43	32	67	64	61	55	51	45	68	66	63	58	55	49	70	69	68	63	61	57				
6	110	.04	39	22	15	14	13	12	47	48	48	48	46	42	48	50	52	51	50	47	50	54	57	57	57	57	56			
	200	.06	44	34	28	27	24	18	54	53	52	51	48	44	55	55	55	55	52	49	57	59	61	61	57	57				
	300	.09	48	42	37	35	31	22	59	56	54	54	50	44	60	58	58	57	54	50	62	62	63	63	61	58				
	400	.14	51	48	43	41	37	25	62	59	56	55	51	45	65	63	61	61	57	52	65	64	65	65	62	59				
	500	.21	53	52	48	46	41	27	65	60	58	57	52	46	66	63	61	61	57	52	68	66	66	66	62	60				
7	140	.00	37	19	10	10	—	10	49	54	50	49	43	39	50	57	54	52	48	43	53	63	61	59	55	51				
	200	.01	40	27	19	19	16	15	53	56	52	51	45	40	54	59	56	55	49	45	57	64	63	61	56	52				
	400	.05	47	40	35	35	28	23	61	59	55	55	48	43	62	62	59	58	52	47	65	68	66	65	59	55				
	600	.12	51	48	44	45	36	28	65	61	57	57	49	45	67	65	61	61	54	49	70	70	68	67	61	56				
	700	.17	53	52	48	49	38	30	67	62	58	58	50	45	69	65	62	62	54	49	71	71	69	68	61	57				
8	185	.00	37	20	12	12	10	11	53	53	52	51	45	41	55	56	56	55	49	45	58	62	62	61	57	53				
	400	.01	44	35	30	30	24	21	59	58	56	56	48	44	61	61	60	59	53	49	65	67	66	66	60	57				
	600	.03	48	43	40	40	31	27	63	61	58	58	50	46	65	64	62	62	55	50	68	70	68	69	62	58				
	800	.05	50	49	47	47	37	30	65	63	60	60	52	47	67	66	63	64	56	51	71	72	70	70	63	59				
	1000	.08	52	54	52	52	41	33	67	64	61	61	52	48	69	68	65	65	57	52	73	73	71	72	64	60				
10	300	.00	36	22	13	13	12	12	55	59	55	54	48	43	57	62	59	58	53	48	61	67	66	66	60	56				
	500	.00	41	33	25	25	21	19	59	61	58	56	50	46	61	64	62	61	55	50	65	70	69	68	62	58				
	800	.00	45	42	36	36	30	25	63	63	60	59	52	48	65	66	64	63	56	52	69	72	71	71	64	60				
	1200	.00	49	50	46	46	38	30	66	65	62	61	54	49	69	68	66	66	58	54	72	74	73	73	65	62				
	1500	.00	51	54	52	51	42	33	68	66	63	62	54	50	70	69	67	67	59	55	74	75	75	74	66	63				
12	430	.00	37	23	15	14	13	13	55	60	56	53	48	44	58	64	61	57	52	49	63	70	68	65	59	57				
	800	.00	42	35	32	28	24	21	61	63	60	56	51	47	63	67	64	61	55	52	68	73	72	68	62	59				
	1200	.00	46	43	42	37	31	27	64	65	62	58	52	49	67	68	67	63	56	54	72	75	74	71	63	61				
	1800	.00	49	51	53	47	38	32	68	66	65	61	54	51	70	70	69	65	58	55	75	76	76	73	65	63				
	2300	.00	51	56	59	52	42	36	70	67	66	62	55	52	73	71	70	66	59	56	77	77	78	74	66	64				
14	600	.01	41	23	16	15	15	13	58	60	58	56	49	45	61	64	62	60	54	49	66	71	69	68	61	57				
	1000	.00	45	33	31	27	25	21	62	62	61	58	52	47	65	66	65	63	56	51	70	73	72	71	63	59				
	1600	-.01	48	42	45	38	35	28	66	64	63	60	53	48	69	68	68	65	58	53	74	75	75	73	65	61				
	2400	-.02	52	50	57	48	44	35	69	65	66	62	55	50	72	69	70	67	59	54	77	77	77	75	67	62				
	3100	-.03	54	55	65	54	49	39	71	66	66	63	56	51	74	70	71	68	60	55	80	78	79	76	68	63				
16	780	.00	38	24	16	15	14	14	59	61	57	51	48	43	63	65	61	55	52	48	68	72	68	62	59	55				
	1600	.00	47	40	37	32	29	25	65	65	62	57	52	47	68	69	66	60	56	51	73	75	73	67	63	59				
	2400	.00	52	49	50	41	38	31	68	67	65	60	54	49	71	70	69	64	58	54	76	77	76	70	66	61				
	3600	-.01	57	58	62	51	47	37	70	68	68	63	56	51	74	72	72	67	61	56	79	79	79	73	68	63				
	4200	-.01	59	61	67	54	50	40	72	69	69	64	57	52	75	73	73	68	61	57	80	79	80	74	69	64				
18	1100	.01	34	22	15	11	10	—	58	60	57	58	56	50	61	64	62	60	55	55	67	71	69	70	68	63				
	2300	.07	48	43	39	34	32	25	64	65	61	60	58	52	68	69	65	64	62	57	73	76	73	72	70	65				
	3600	.19	57	56	54	48	45	37	68	69	63	61	59	54	71	72	68	65	63	59	77	79	75	73	71	67				
	4500	.33	62	63	61	55	51	43	70	70	64	61	59	55	73	74	69	66	64	59	79	81	76	73	71	67				
	5500	.52	65	68	68	62	57	48	71	71	65	62	60	55	75	75	70	66	64	60	81	82	77	74	72	68				
24	1480	.01	39	32	25	21	19	17	61	65	60	60	58	52	64	68	64	64	62	57	70	74	70	71	69	64				
	3200	.04	53	50	46	40	37	32	67	69	64	63	61	55	70	72	68	67	65	59	75	78	74	74	72	67				
	4800	.09	60	60	57	50	47	39	70	71	67	65	62	56	73	74	70	69	66	61	78	80	76	76	73	68				
	6000	.17	64	65	62	56	52	44	72	72	68	66	63	57	75	75	71	70	67	62	80	81	77	77	74	69				
	7300	.29	68	70	68	61	57	47	73	73	69	66	64	58	76	76	72	71	68	62	82	82	79	77	75	70				

- NOTES:**
1. Based on tests conducted in accordance with ARI Standard 880-98.
 2. ΔP_s static pressure difference from inlet to discharge.
 3. ΔP_s is the minimum pressure required to deliver CFM shown with primary damper in wide open position.
 4. Dash (—) indicates db level less than 10.



A Participating Member in the ARI 880 Certification Program

Sound Data (Sound Power by Octave Band)

Radiated Sound Power

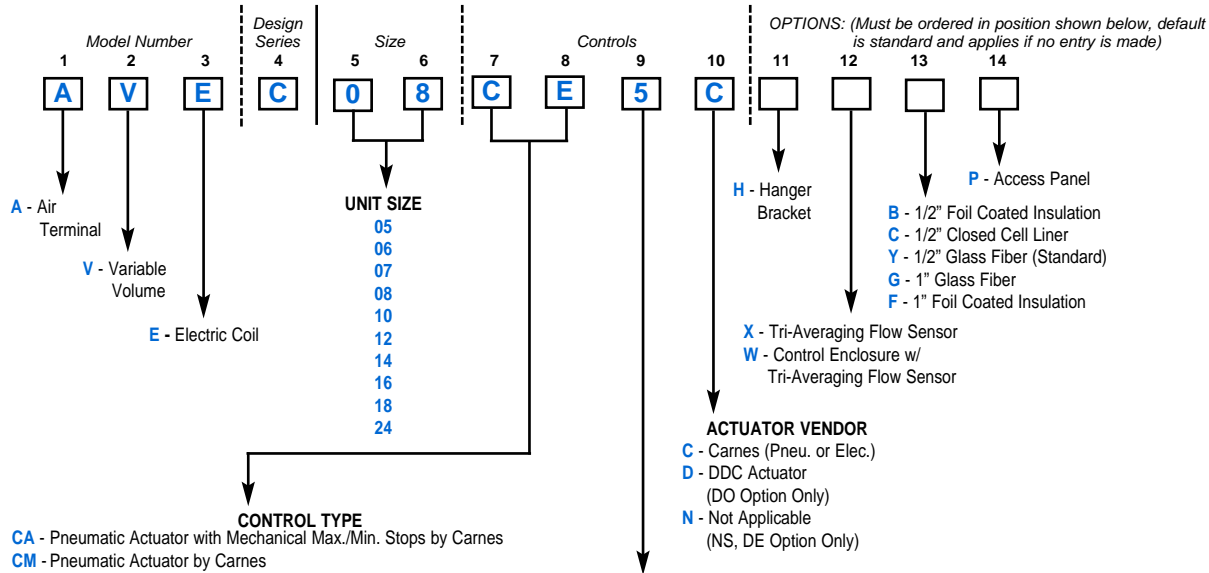
Inlet Size (Inches)	CFM	Minimum ΔP_s							1.0" ΔP_s							1.5" ΔP_s							3.0" ΔP_s							
		ΔP_s	Sound Power (db) by Octave Band							Sound Power (db) by Octave Band							Sound Power (db) by Octave Band							Sound Power (db) by Octave Band						
			(2)	(3)	(4)	(5)	(6)	(7)	(2)	(3)	(4)	(5)	(6)	(7)	(2)	(3)	(4)	(5)	(6)	(7)	(2)	(3)	(4)	(5)	(6)	(7)				
5	75	.02	25	12	—	—	—	42	33	27	27	26	43	35	30	30	31	31	44	39	35	35	38	39						
	100	.03	30	19	11	—	—	46	37	31	30	29	47	39	34	33	34	33	48	43	39	38	40	41						
	200	.11	42	34	29	23	18	13	54	47	42	37	36	55	49	44	40	40	57	53	49	46	46	46						
	300	.23	48	43	39	34	29	24	60	53	47	42	39	67	60	55	50	45	62	59	55	50	50	49						
	350	.30	51	46	43	38	34	28	62	55	50	43	41	38	62	57	52	46	45	64	61	57	51	51	51					
6	110	.04	29	13	11	—	—	38	37	36	32	29	30	39	39	39	35	34	41	42	44	41	41	44						
	200	.06	39	27	22	15	11	12	46	43	40	36	34	47	45	43	39	39	49	49	48	45	46	47						
	300	.09	45	36	30	24	20	19	52	48	43	38	37	53	50	46	42	42	55	53	51	48	49	49						
	400	.14	50	43	35	31	30	24	56	51	45	40	40	36	59	55	50	46	43	59	57	53	49	52	50					
	500	.21	54	48	39	36	36	27	60	54	46	42	41	37	61	56	50	46	43	62	59	54	51	53	52					
7	140	.00	41	—	—	—	—	42	42	38	33	33	29	43	45	42	37	37	35	45	50	48	43	45	45					
	200	.01	43	17	—	—	—	46	44	41	35	34	31	47	47	44	39	39	50	52	50	45	47	46						
	400	.05	48	34	26	21	18	17	55	49	45	39	37	34	56	52	48	43	42	59	57	54	49	50	49					
	600	.12	50	44	38	32	23	21	60	51	48	42	39	36	61	54	51	45	44	64	59	57	52	52	51					
	700	.17	51	48	43	36	25	22	62	52	48	42	40	37	63	55	52	46	44	65	60	58	52	52	51					
8	185	.00	32	17	—	—	—	42	42	38	35	33	30	44	45	42	39	37	36	47	50	48	45	45	45					
	400	.01	40	29	20	20	17	21	52	48	43	40	36	34	54	51	47	44	40	58	57	53	50	48	48					
	600	.03	44	36	30	29	23	23	58	52	46	42	37	35	59	55	49	46	42	63	60	55	52	50	50					
	800	.05	47	40	37	36	27	24	61	54	48	44	38	36	63	57	51	48	43	67	62	57	54	51	51					
	1000	.08	49	44	42	41	30	25	64	56	49	45	39	37	66	59	52	49	44	69	64	58	55	52	52					
10	300	.00	39	41	40	38	28	17	49	49	47	46	40	34	51	53	51	49	44	38	54	59	57	54	50	46				
	500	.00	43	42	41	39	30	21	53	51	49	46	42	36	55	55	53	50	45	40	59	61	59	55	51	48				
	800	.00	47	44	42	40	33	24	57	53	51	47	43	38	59	56	54	50	46	42	63	62	60	55	52	49				
	1200	.00	50	45	43	40	35	27	61	54	52	48	44	39	63	58	56	51	47	43	66	64	62	56	53	51				
	1500	.00	52	46	44	41	36	29	63	55	53	48	44	40	65	59	56	51	47	44	68	65	62	56	53	52				
12	430	.00	38	17	12	10	12	14	51	48	43	35	34	30	54	52	48	40	39	36	59	59	55	48	48	46				
	800	.00	44	27	25	20	18	18	56	52	48	40	37	34	59	56	52	45	43	40	64	63	60	53	51	49				
	1200	.00	48	35	34	27	22	21	60	54	51	43	40	36	62	58	56	48	45	42	67	65	63	56	54	52				
	1800	.00	51	42	43	34	26	24	63	57	54	47	42	39	66	61	59	51	47	44	71	68	66	59	56	54				
	2300	.00	54	46	49	38	28	26	65	58	56	49	43	40	68	62	60	53	49	46	73	69	68	61	57	55				
14	600	.01	40	23	17	13	14	15	52	50	46	39	36	34	55	54	50	43	40	38	60	59	56	49	46	46				
	1000	.00	44	31	28	21	19	19	56	53	49	43	39	36	59	56	53	46	43	41	64	62	59	52	49	48				
	1600	-.01	47	38	38	28	23	22	60	56	52	45	41	39	63	59	56	49	45	43	68	65	62	55	51	50				
	2400	-.02	50	44	46	35	27	25	64	58	54	48	43	41	67	62	58	52	47	45	72	67	64	58	53	52				
	3100	-.03	52	48	51	39	30	27	66	60	56	50	44	42	69	63	60	53	48	46	74	69	66	59	54	53				
16	780	.00	42	30	21	15	13	14	53	52	45	39	36	33	57	55	49	43	40	38	62	61	56	50	46	45				
	1600	.00	47	40	34	26	22	20	58	56	50	44	41	38	62	59	54	48	45	42	67	65	61	55	51	49				
	2400	.00	49	45	41	32	26	24	61	58	52	47	43	40	64	62	56	51	47	45	70	67	63	57	54	52				
	3600	-.01	52	51	48	38	31	28	64	61	55	49	46	43	67	64	59	53	50	47	73	70	66	60	56	54				
	4200	-.01	53	53	51	40	33	29	65	62	56	50	47	44	68	65	60	54	51	48	74	71	67	61	57	55				
18	1100	.01	46	29	18	16	16	19	58	54	49	41	34	32	61	57	52	45	38	36	66	62	57	51	45	43				
	2300	.07	54	46	38	30	25	26	63	58	53	43	36	33	66	61	56	47	40	37	71	66	61	53	47	44				
	3600	.19	59	56	51	38	31	31	66	61	55	44	37	34	69	64	58	48	41	38	74	69	63	55	48	45				
	4500	.33	62	61	57	42	34	33	67	62	57	45	38	35	70	65	60	49	42	39	75	70	65	55	49	46				
	5500	.52	64	66	63	46	37	35	69	63	58	45	38	35	71	66	61	49	42	39	76	71	66	56	49	46				
24	1480	.01	36	22	18	13	15	12	60	53	48	43	39	37	63	58	53	49	45	43	70	65	62	58	55	53				
	3200	.04	53	44	37	24	27	23	65	57	51	45	42	38	69	61	56	51	48	45	75	68	65	60	57	55				
	4800	.09	61	56	47	30	33	29	68	58	52	46	43	39	71	63	57	52	49	45	78	70	66	61	59	56				
	6000	.17	66	62	53	33	36	32	69	59	53	47	44	40	73	64	58	52	50	46	79	71	67	62	60	56				
	7300	.29	70	67	58	36	39	35	71	60	54	47	45	40	74	64	59	53	51	46	81	72	68	62	60	57				

- NOTES:**
1. Based on tests conducted in accordance with ARI Standard 880-98.
 2. ΔP_s static pressure difference from inlet to discharge.
 3. ΔP_s is the minimum pressure required to deliver CFM shown with primary damper in wide open position.
 4. Dash (—) indicates db level less than 10.



A Participating Member
in the ARI 880
Certification Program

MODEL NUMBERING SYSTEM - Model AVE



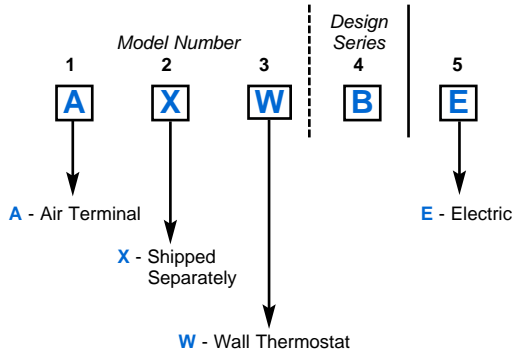
- CONTROL TYPE**
- CA - Pneumatic Actuator with Mechanical Max./Min. Stops by Carnes
 - CM - Pneumatic Actuator by Carnes
 - CE - Pneumatic Actuator by Carnes, Reset Controller by Carnes
 - CX - Pneumatic Actuator by Carnes (Multi-function) Reset Controller by Carnes
 - ER - Electric Actuator with Reheat Switch by Carnes (Enclosure Included)
 - EK - Electric Actuator with (2) Reheat Switches by Carnes (Enclosure Included)
 - ET - Analog Electronic Velocity Controller with Integral Damper Actuator (Enclosure Included)
 - DO - DDC Provided by Others, Mounted and Wired by Carnes, w/Carnes Inlet Sensor w/ 3/8" Damper Shaft, w/Enclosure
 - DE - DDC Enclosure with Carnes Inlet Sensor, w/Bare 3/8" Damper Shaft
 - MA - Manual Damper by Carnes
 - NS - No Damper Controls, w/Carnes Inlet Sensor, w/bare 3/8" Damper Shaft (No Enclosure)

- CONTROLS, DAMPERS AND COIL ARRANGEMENTS**
- *1 - Normally Open - Right Hand Controls
(All Electric/Electronic/Manual Control Types/DO, DE, NS)
(All Pneumatic Control Types for Reverse Acting Thermostat)
 - *2 - Normally Open - Left Hand Controls
(All Electric/Electronic/Manual Control Types/DO, DE, NS)
(All Pneumatic Control Types for Reverse Acting Thermostat)
 - 3 - Normally Closed - Right Hand Controls
(All Pneumatic Control Types for Direct Acting Thermostat)
 - 4 - Normally Closed - Left Hand Controls
(All Pneumatic Control Types for Direct Acting Thermostat)
 - 5 - Normally Open - Right Hand Controls
(All Pneumatic Control Types for Direct Acting Thermostat)
 - 6 - Normally Open - Left Hand Controls
(All Pneumatic Control Types for Direct Acting Thermostat)
 - 7 - Normally Closed - Right Hand Controls
(All Pneumatic Control Types for Reverse Acting Thermostat)
 - 8 - Normally Closed - Left Hand Controls
(All Pneumatic Control Types for Reverse Acting Thermostat)

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

NOTE: Hand of controls is determined by facing the averaging flow sensor (inlet of the unit) with the supply air hitting the back of your head.

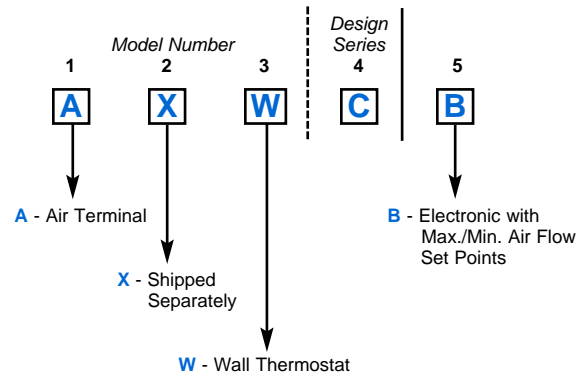
▼ Electric Thermostat



A Carnes Electric Thermostat **must be ordered** with the Electric ER and EK Control Options.

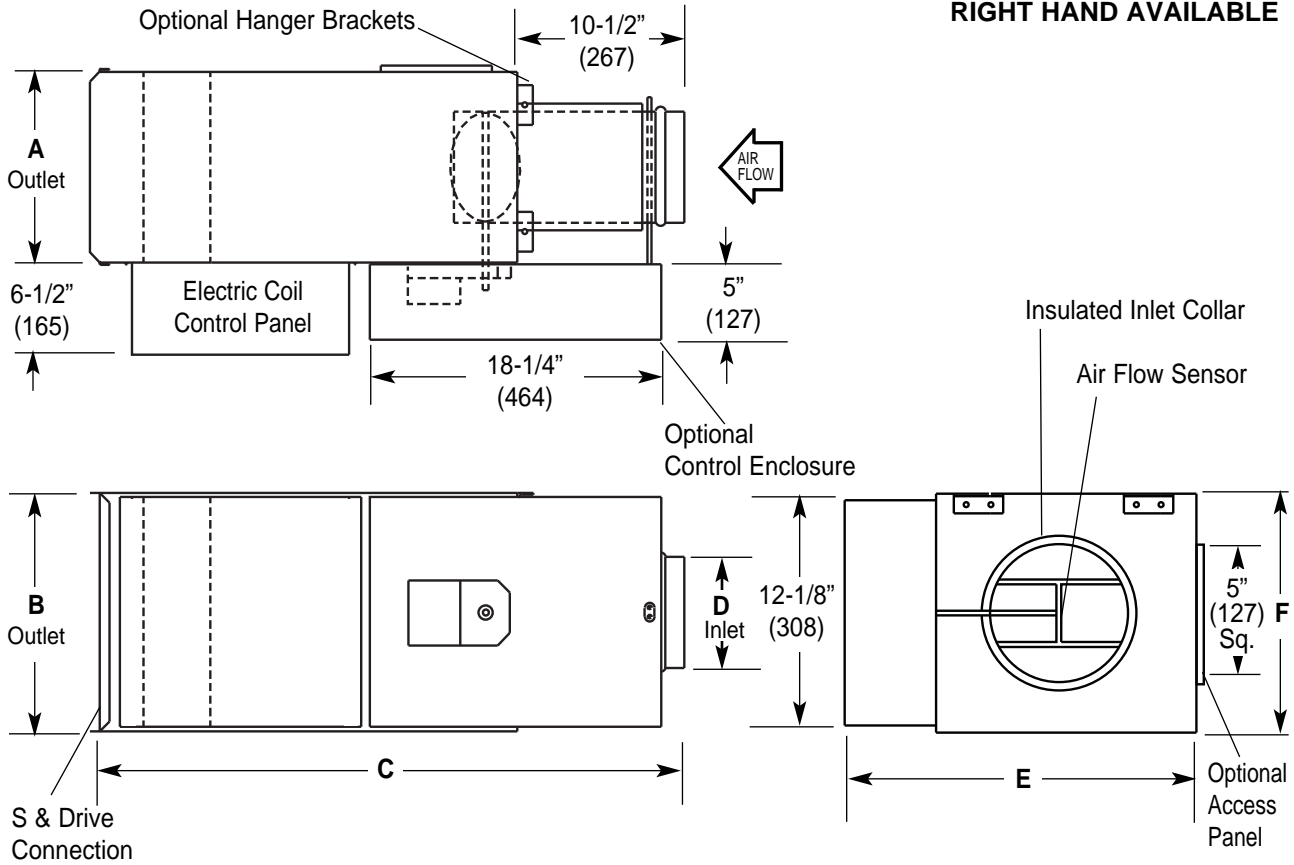
Power Transformers are included with the Electric Heater.

▼ Electronic Thermostat



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

**LEFT HAND UNIT SHOWN
RIGHT HAND AVAILABLE**



DIMENSIONS LISTED IN INCHES (Metric In Millimeters)								
Unit Size	CFM (L/s) Range	Outlet		C	Inlet		E	F
		A	B		D			
05	0-350 (0-165)	12 (305)	7-1/2 (191)	44-3/8 (1127)	4-7/8 (124)	18-1/2 (470)	7-5/8 (194)	
06	0-500 (0-236)	12 (305)	7-1/2 (191)	44-3/8 (1127)	5-7/8 (149)	18-1/2 (470)	7-5/8 (194)	
07	0-700 (0-330)	12 (305)	10 (254)	44-3/8 (1127)	6-7/8 (175)	18-1/2 (470)	10-1/8 (257)	
08	0-1000 (0-472)	12 (305)	10 (254)	44-3/8 (1127)	7-7/8 (200)	18-1/2 (470)	10-1/8 (257)	
10	0-1500 (0-708)	14 (356)	12-1/2 (318)	44-3/8 (1127)	9-7/8 (251)	20-1/2 (521)	12-5/8 (321)	
12	0-2300 (0-1085)	16 (406)	15 (381)	44-3/8 (1127)	11-7/8 (302)	22-1/2 (572)	15-1/8 (384)	
14	0-3100 (0-1463)	20 (508)	17-1/2 (445)	44-3/8 (1127)	13-7/8 (352)	26-1/2 (673)	17-5/8 (448)	
16	0-4200 (0-1982)	24 (610)	17-1/2 (445)	44-3/8 (1127)	15-7/8 (403)	30-1/2 (775)	17-5/8 (448)	
18	0-5500 (0-2596)	32 (445)	17-1/2 (445)	44-3/8 (1127)	15-7/8 x 17-7/8 (403 x 454)	38-1/2 (978)	17-5/8 (448)	
24	0-7300 (0-3445)	32 (445)	17-1/2 (445)	44-3/8 (1127)	15-7/8 x 23-7/8 (403 x 607)	38-1/2 (978)	17-5/8 (448)	