

5 Fan Powered Unit—Constant Volume



The Carnes constant volume fan terminal unit provides constant air volume to the space while retaining the advantages of a variable air volume system.

The primary air control assembly operates in the same manner as a standard throttling control valve when cooling loads are high. As cooling loads diminish an integral blower induces warm ceiling plenum air to maintain constant air volume.

Typical Sequence of Operation—Model ACFA

Central fan on — Day (occupied) operation

When the central station fan is on and a positive pressure of at least .10 IWC is present at the primary air inlet, the unit air flow switch senses this pressure and keeps the fan on all the time by overriding the unit P/E switch action.

Central fan off — Night (unoccupied) operation

When the central station fan is off a 0.0 to negative pressure is present at the primary air inlet. The air flow switch senses this negative pressure and is taken out of the circuit. The unit fan is then turned on and off by the P/E switch.

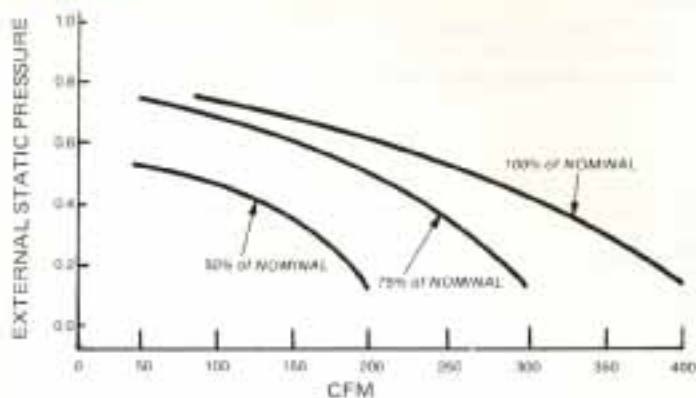
Features Include:

- Seven unit sizes offering air flow capacities to 3200 CFM with low pressure drop and low sound levels.
- Access panel for internal components.
- Standard round inlet sizes and "S" and drive discharge connections.
- Forward curved centrifugal type fan assemblies with SCR speed controlled permanent split capacitor type 115 or 277 volt fractional horsepower motors.
- Fan/motor assemblies are isolated from the casing using rubber isolators to minimize vibration transmission.
- Field adjustable P/E and air flow switches.
- All units are equipped with pressure independent pneumatic controls.
- Insulation is 1½ lb. density fiberglass with surface treated to prevent erosion, meets NFPA 90A requirements.
- Optional one or two row hot water coils. (*Model ACJA*) Coil is attached to unit discharge.
- Optional single and two stage electric reheat coils. (*Model ACJA*) Coil is attached to unit discharge.
- Velocity sensor and calibration chart for measuring air flow through the primary air damper.
- Optional filter rack.
- Optional quick release access panel.

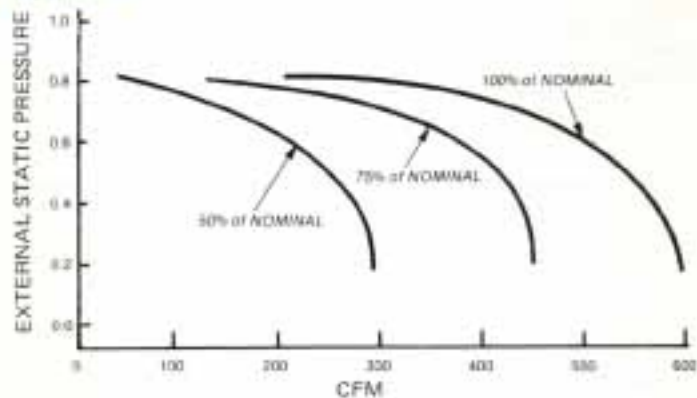
Available Modules:

- Basic Control Unit.
- Basic control unit with hot water coil.
- Sound attenuator.
- Multi-Discharge adaptor.
- Heater sleeve with factory installed electric heater.
- Heater sleeve for field installation of electric heater.

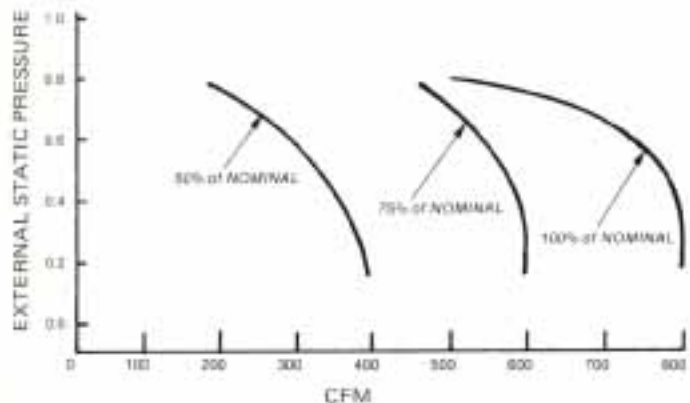
UNIT SIZE 04



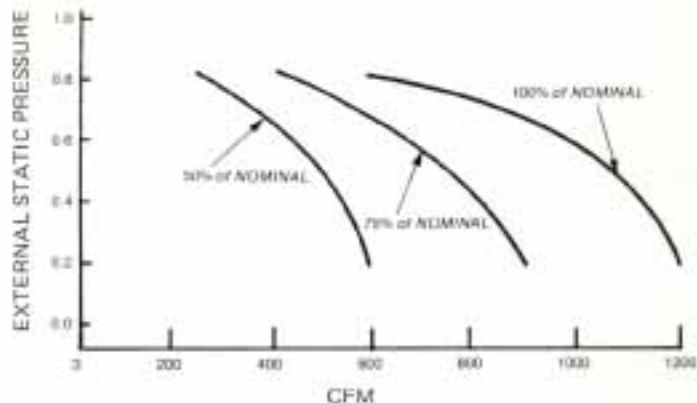
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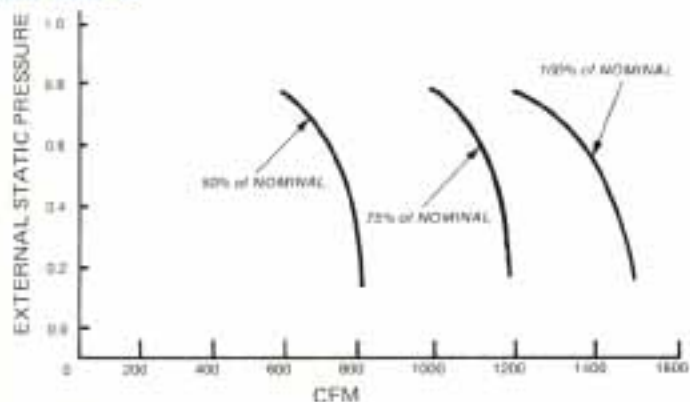
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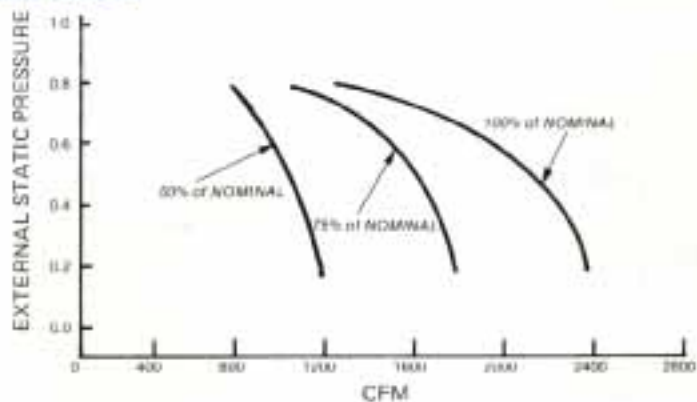
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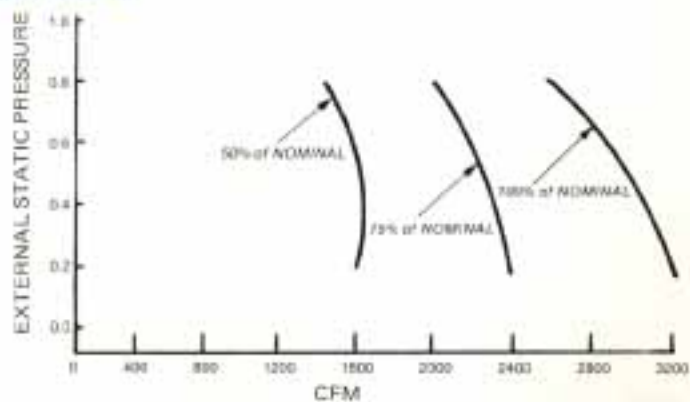
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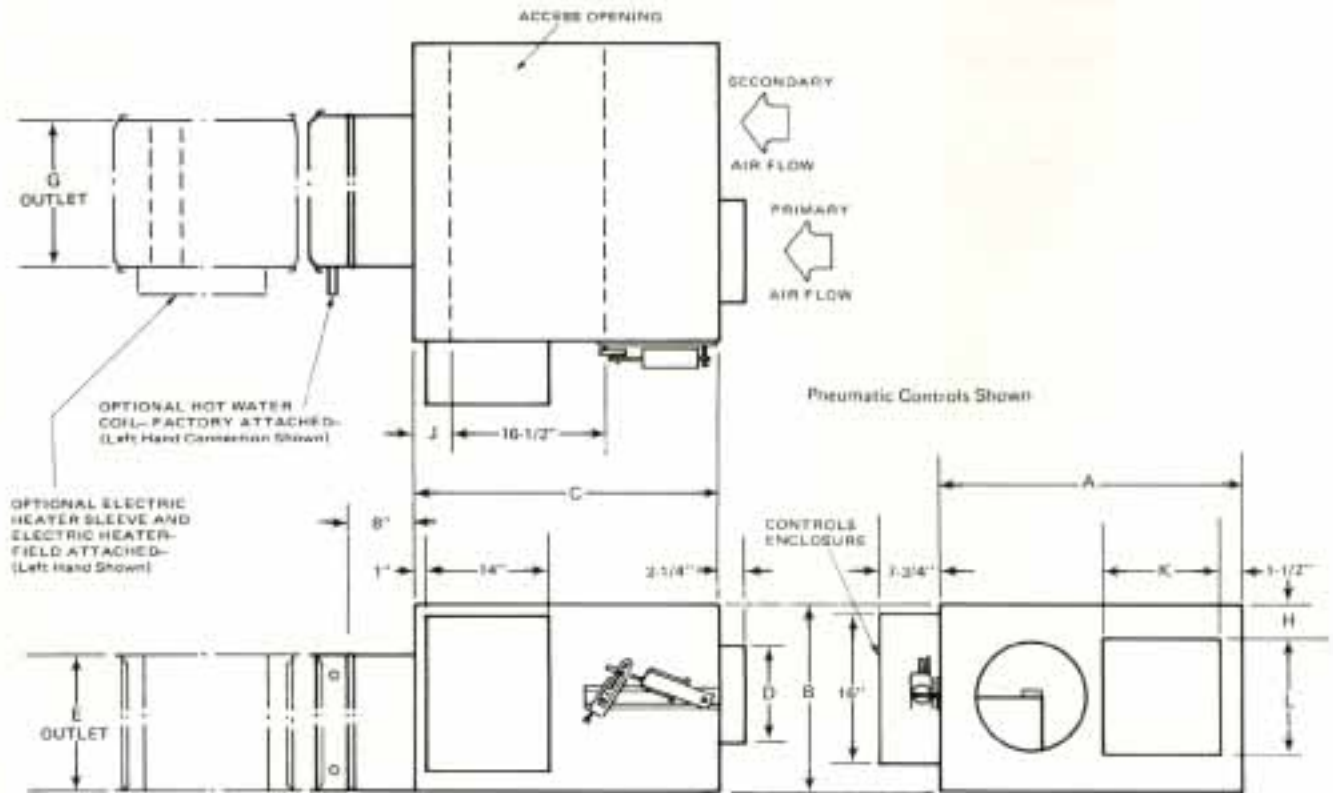
UNIT SIZE 24



UNIT SIZE 32

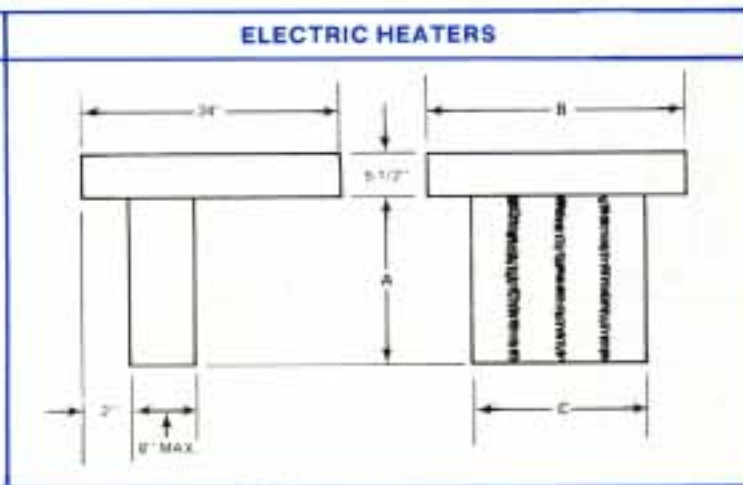
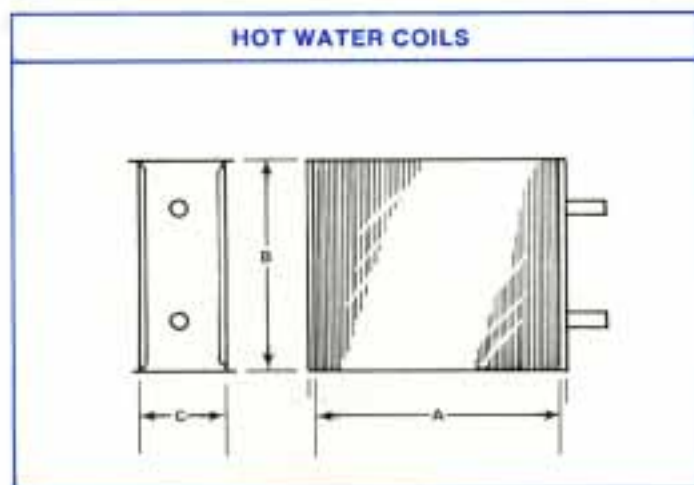
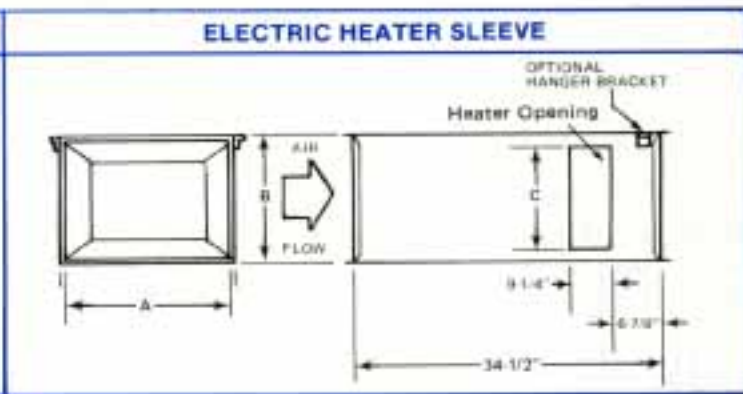
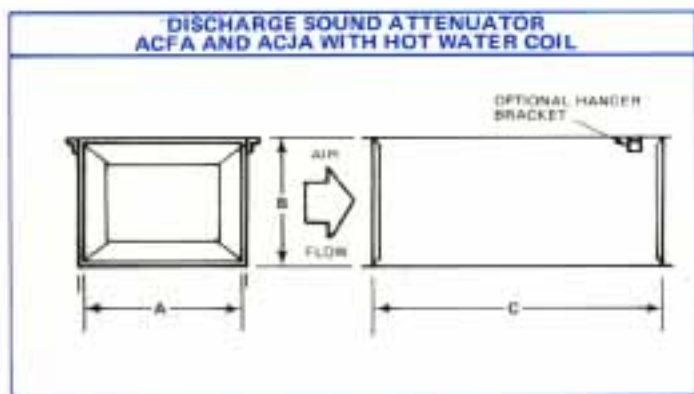


NOTE: Pressure drops due to heating coils are treated as external static pressures.



Dimensions in Inches													
UNIT Size	Nominal CFM	Fan HP	A	B	C	D	S & Drive Outlet		H	J	Secondary Air Inlet		Weight (LBS)
							E	G			K	L	
04	400	1/8	19½	18	26½	6	8	10	5	4	6½	8	56
06	600	1/6	24	18	28½	7	10	12	4	4	9	10	65
08	800	1/4	26	18	28½	8	12	14	4	4	11	10	68
12	1200	1/3	31	18	30½	10	14	16	3	4	14	12	85
16	1600	1/2	33½	18	33½	12	16	18	2	4	14½	14	90
24	2400	(2) 1/3	42	18	34½	14	18	32	1	4	21	16	133
32	3200	(2) 1/2	46½	20	37½	16	18	32	1	4	23½	18	144

DIMENSIONS LISTED IN INCHES									
Unit Size	Sound Attenuator ACFA and ACJA With Hot Water Coil				Unit Size	Attenuator/Electric Heater Sleeve—ACJA			
	A	B	C	Weight		A	B	C	Weight
04	10	8	3 1/2	14	04	10	8	4 1/2	14
06	12	10	3 1/2	17	06	12	10	6 1/2	17
08	14	12	3 1/2	17	08	14	12	8 1/2	20
12	16	14	3 1/2	20	12	16	14	10 1/2	23
16	18	16	2 1/2	17	16	18	16	12 1/2	26
24	32	18	2 1/2	24	24	32	18	14 1/2	36
32	32	18	2 1/2	24	32	32	18	14 1/2	36

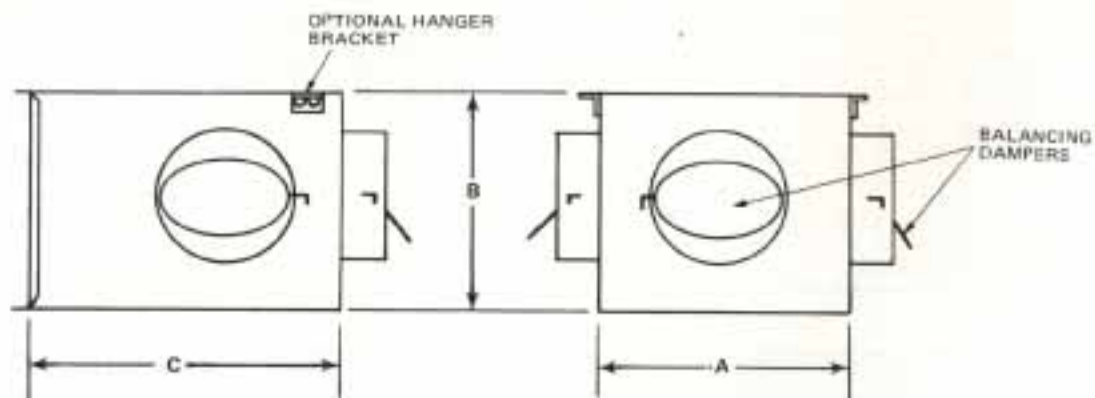


COIL AND HEATER DIMENSIONS IN INCHES

HOT WATER COILS									ELECTRIC HEATERS				
Unit Size	A	B	C		O.D. COIL CONN.		WEIGHT (lbs)		Unit Size	A	B	C	Weight (lbs)
			1 ROW	2 ROW	1 ROW	2 ROW	1 ROW	2 ROW					
04	10	8	3 1/2	4 1/2	1/2	1/2	4	5	04	8 1/2	8	4	5
06	12	10	3 1/2	4 1/2	1/2	1/2	4	7	06	10 1/2	10	6	10
08	14	12	3 1/2	4 1/2	1/2	1/2	5	8	08	12 1/2	12	8	10
12	16	14	3 1/2	4 1/2	1/2	5/8	6	11	12	14 1/2	14	10	16
16	18	16	3 1/2	4 1/2	1/2	5/8	7	13	16	16 1/2	16	12	23
24	32	18	3 1/2	4 1/2	5/8	3/4	12	21	24	30 1/2	18	14	74
32	32	18	3 1/2	4 1/2	5/8	3/4	12	21	32	30 1/2	18	14	74

NOTE: Hot water coil connections and electric heater may be ordered as right or left hand, determined by facing in direction of air flow.

5 Dimensional Data—Model ACFA/ACJA—Constant Volume Fan Powered Unit



ACFA/ACJA MULTI-DISCHARGE ADAPTOR (Top View)

UNIT SIZE	DIMENSIONS		DIMENSION	DIMENSION	DIMENSION	DIMENSION	DIMENSION	DIMENSION	DIMENSION	DIMENSION	DIMENSION
	A	B									
D4	10	8	7	11 1/2	5,6	5					
06	12	10	8	11 1/2	5,6	5					
08	14	12		11 1/2	8,10	7,8	23 1/2	6,7			
12	16	14		11 1/2	8,10	8	23 1/2	7,8	6	23 1/2	6
18	18	16		11 1/2	10	8,10	23 1/2	8	7	23 1/2	6,7
24/32	32	18		11 1/2			23 1/2		8	23 1/2	7,8
											8,10

NOTES: 1. All Dimensions in Inches.
 2. All Outlets are round with Diameter Dimension Given.