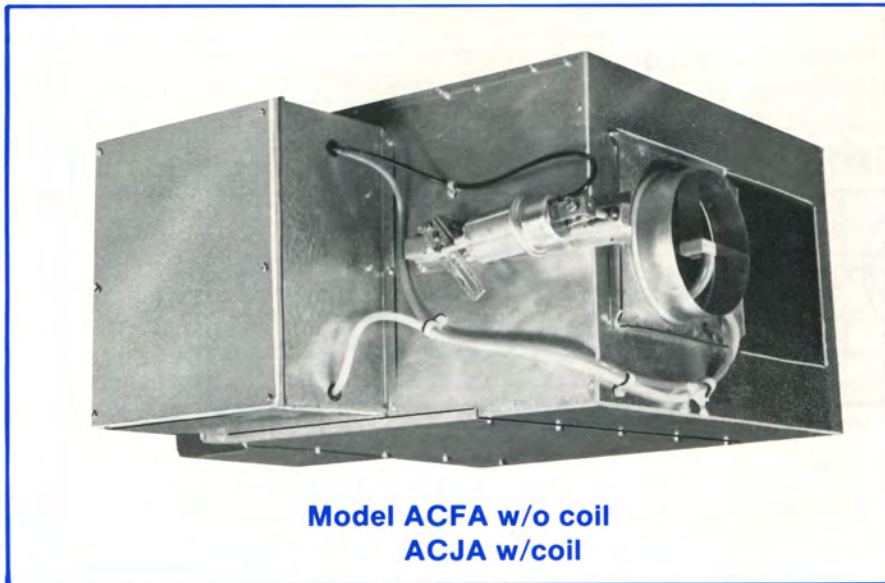


## 5 Fan Powered Unit—Constant Volume



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.

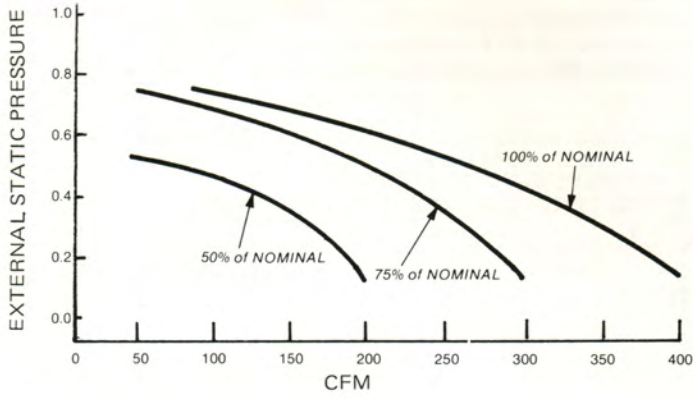
### Features Include:

- 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.

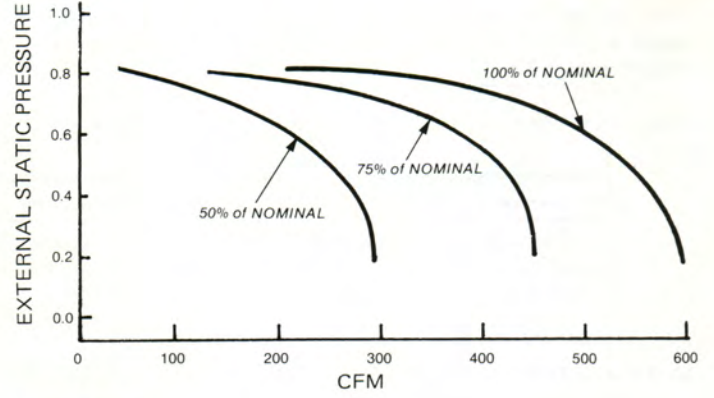
### Available Modules:

- 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.

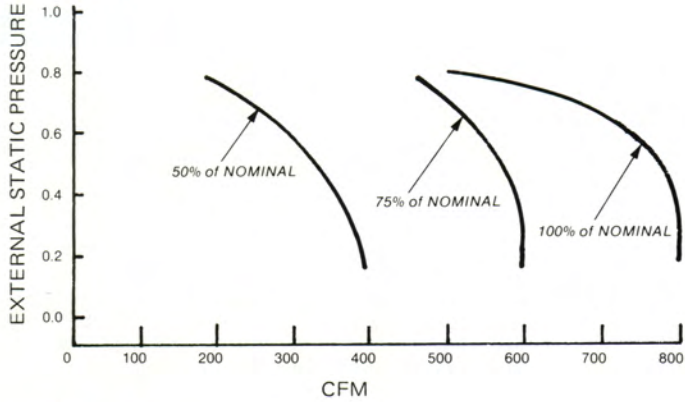
UNIT SIZE 04



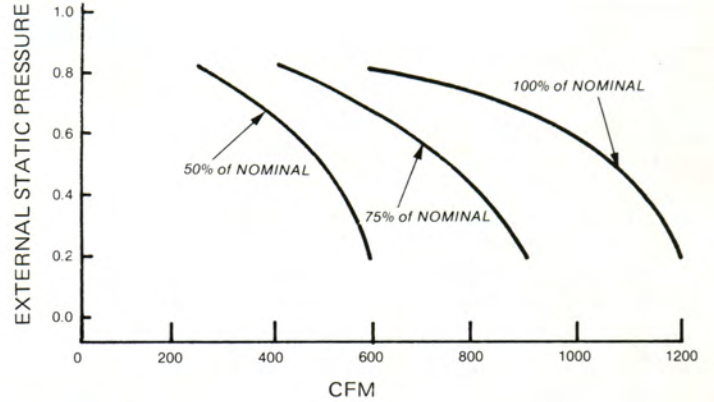
UNIT SIZE 06



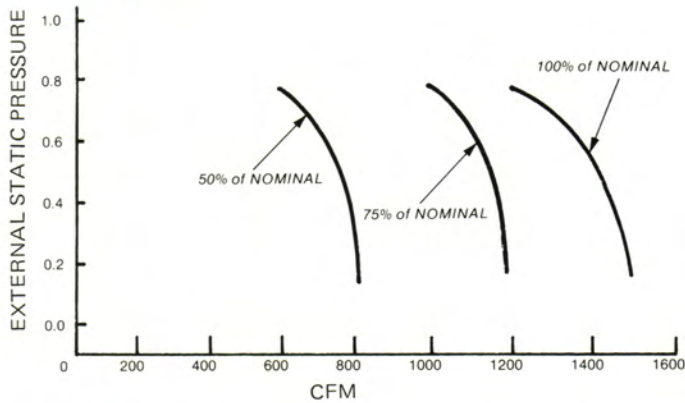
UNIT SIZE 08



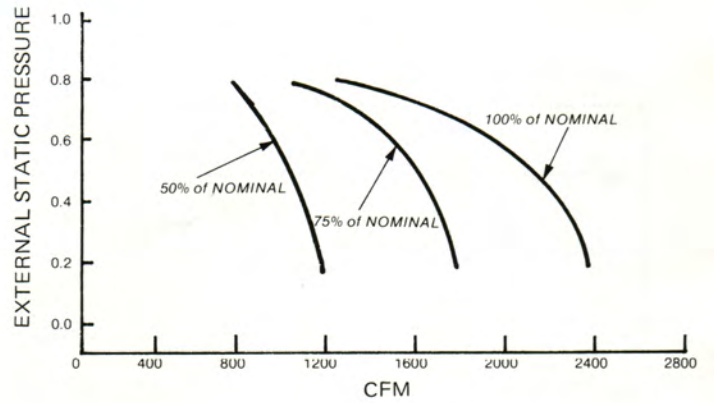
UNIT SIZE 12



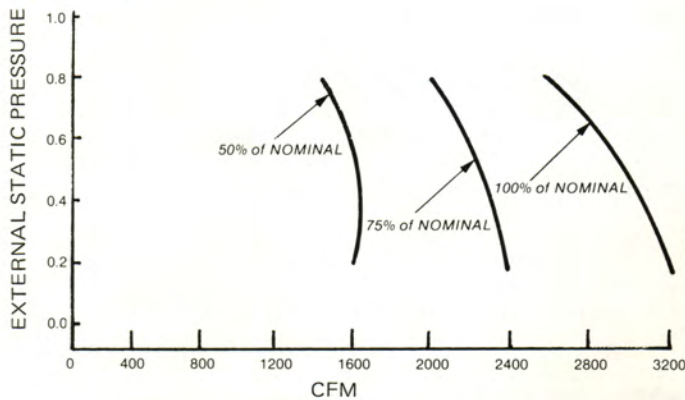
UNIT SIZE 16



UNIT SIZE 24



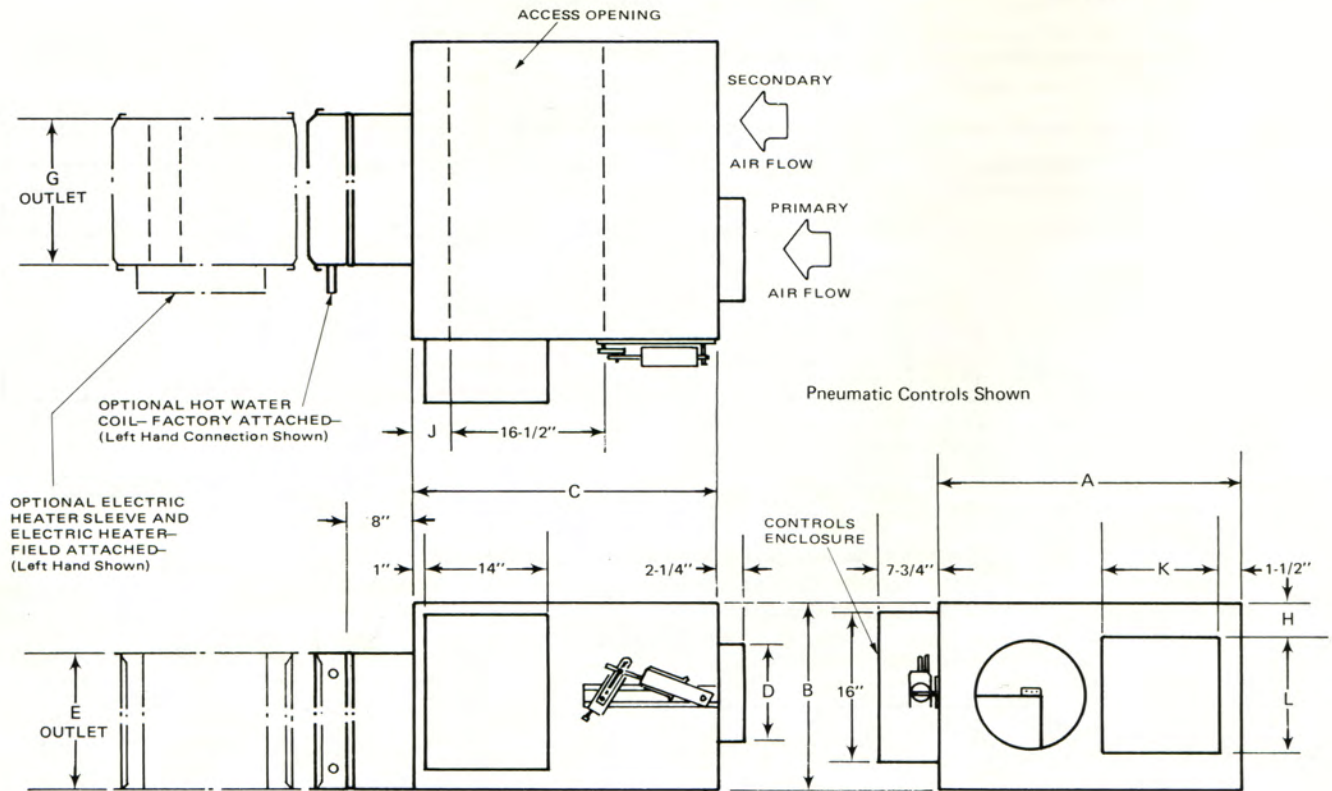
UNIT SIZE 32



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

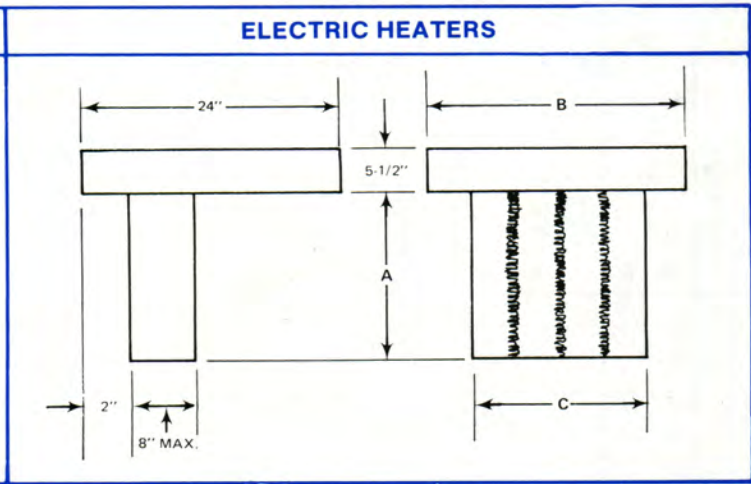
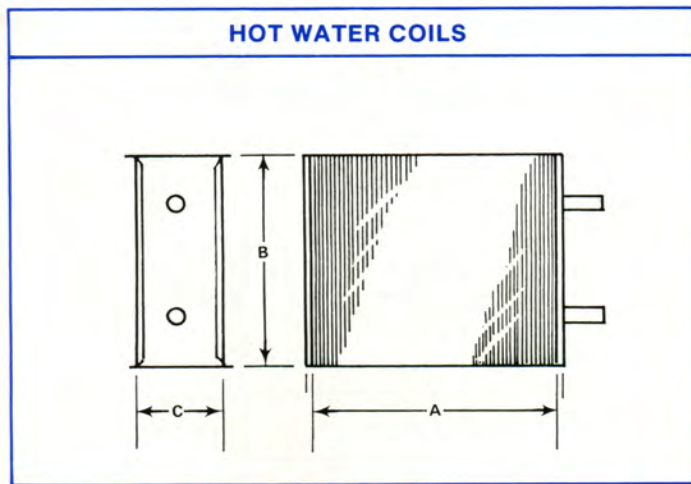
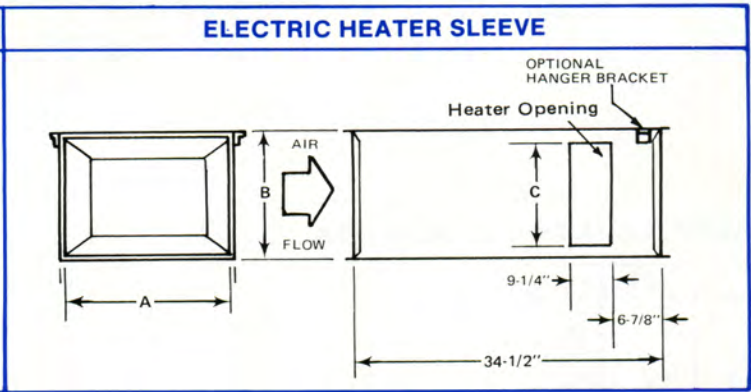
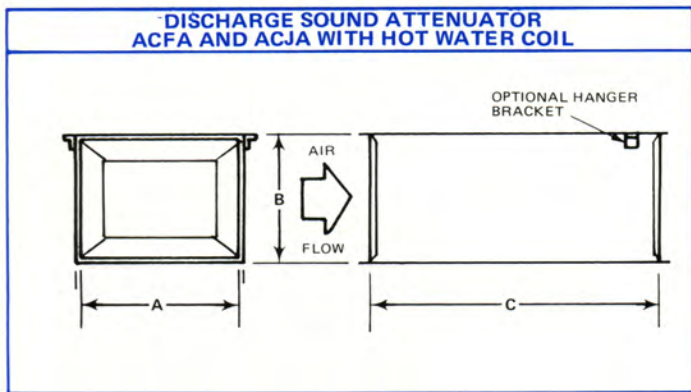
**5**

**Dimensional Data—Model ACFA/ACJA—CONSTANT VOLUME FAN POWERED UNIT**



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

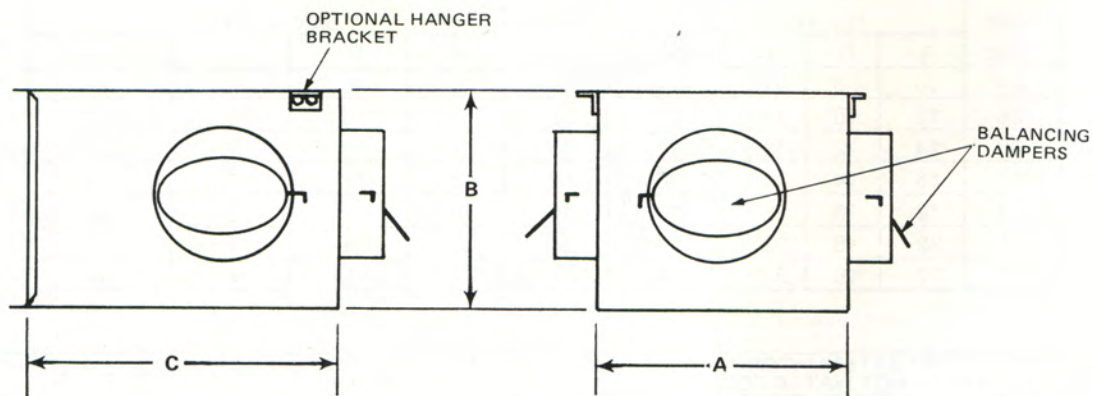
DIMENSIONS LISTED IN INCHES									
Unit Size	Sound Attenuator ACFA and ACJA With Hot Water Coil				Unit Size	Attenuator/Electric Heater Sleeve—ACJA			
	A	B	C	Weight		A	B	C	Weight
04	10	8	34½	14	04	10	8	4½	14
06	12	10	34½	17	06	12	10	6½	17
08	14	12	34½	17	08	14	12	8½	20
12	16	14	34½	20	12	16	14	10½	23
16	18	16	22½	17	16	18	16	12½	26
24	32	18	22½	24	24	32	18	14½	36
32	32	18	22½	24	32	32	18	14½	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	3½	4½	1/2	1/2	4	5	04	8¼	8	4	5
06	12	10	3½	4½	1/2	1/2	4	7	06	10¼	10	6	10
08	14	12	3½	4½	1/2	1/2	5	8	08	12¼	12	8	10
12	16	14	3½	4½	1/2	5/8	6	11	12	14¼	14	10	16
16	18	16	3½	4½	1/2	5/8	7	13	16	16¼	16	12	23
24	32	18	3½	4½	5/8	3/4	12	21	24	30¼	18	14	74
32	32	18	3½	4½	5/8	3/4	12	21	32	30¼	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.



ACFA/ACJA MULTI-DISCHARGE ADAPTOR (Top View)

UNIT SIZE	DIMENSIONS		D	E	F	G	H	I	J	K	L	M	N	O	P	Q
	AIR FLOW LEFT TO RIGHT															
04	10	8	7	11 3/4	6,7	5,6	5	23 3/4	6,7	6	23 3/4	6	23 3/4	6	35 3/4	
06	12	10	8	11 3/4	7,8	5,6	5	23 3/4	7,8	7	23 3/4	7	23 3/4	6,7	35 3/4	
08	14	12		11 3/4	10	8,10	7,8	23 3/4	8,10	8	23 3/4	8	23 3/4	7,8	35 3/4	
12	16	14		11 3/4	10	8,10	8	23 3/4	8,10	8	23 3/4	8	23 3/4	7,8	35 3/4	
16	18	16		11 3/4	10	8,10	8,10	23 3/4	8,10	8,10	23 3/4	8,10	23 3/4	7,8	35 3/4	
24/32	32	18		11 3/4	10	8,10	8,10	23 3/4	8,10	8,10	23 3/4	8,10	23 3/4	7,8	35 3/4	

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