

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 control valve for cooling loads. As cooling loads diminish, the secondary air supply fan 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.

#### Typical Sequence of Operation—Model AVFB

Central fan on — Day (occupied) operation.

When the central system fan is "on", the AVFB operates as a standard throttling control unit for cooling loads. As the cooling load diminishes and the control valve throttles to a minimum or closed position, the fan is energized by the P/E switch to draw in warm plenum air or hydronically or electrically reheated air.

Central fan off — Night (unoccupied) operation.

When the central system fan is "off", the primary air supply valve is closed. The unit fan is then turned on and off by the P/E switch on demands for heat and no heat respectively.

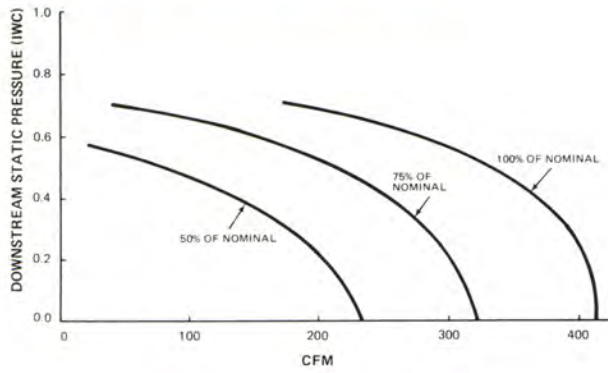
#### Features Include:

- Fourteen unit sizes offering air flow capacities to 6000 CFM Primary Air and 3200 CFM Secondary Air with low pressure drop and low sound levels.
- Two ratio configurations are available.
- Access panel for internal components.
- Standard 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 switch.
- All units are equipped with pressure independent 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 AVJB*) Coil is attached to secondary air inlet.
- Optional single and two stage electric reheat coils. (*Model AVJB*) Coil is installed at primary air discharge.
- Velocity sensor and calibration chart for measuring air flow through the primary air damper.
- Optional filter rack.
- Optional quick release access panel.

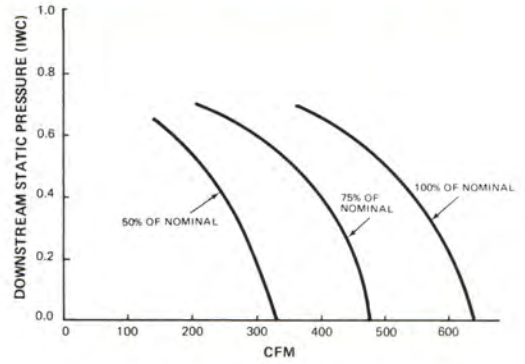
#### Available Modules:

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

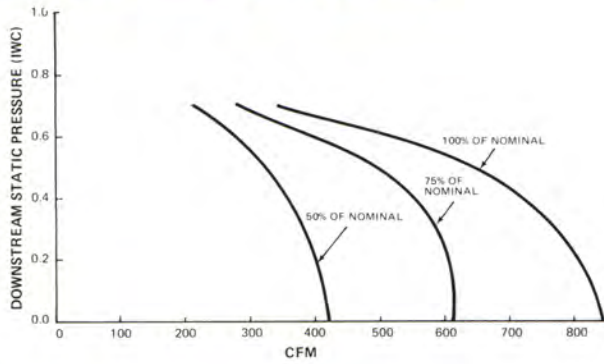
UNIT SIZE 04 1:1 and UNIT SIZE 08 2:1



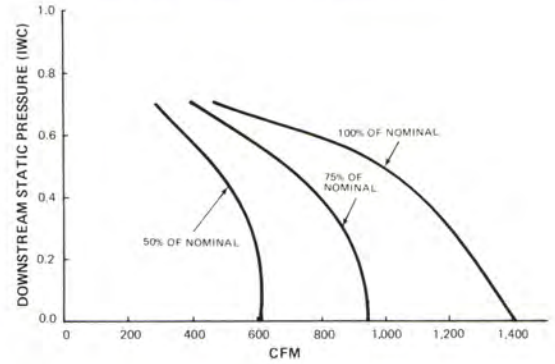
UNIT SIZE 06 1:1 and UNIT SIZE 12 2:1



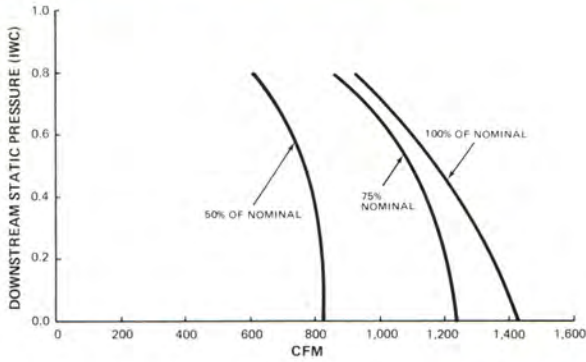
UNIT SIZE 08 1:1 and UNIT SIZE 16 2:1



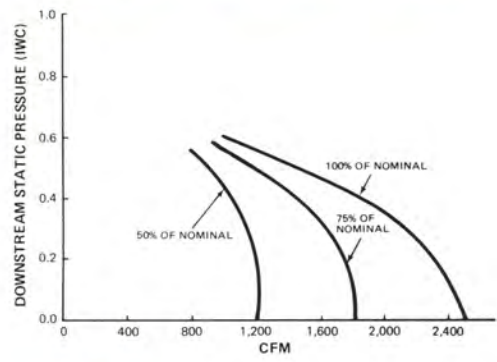
UNIT SIZE 12 1:1 and UNIT SIZE 24 2:1



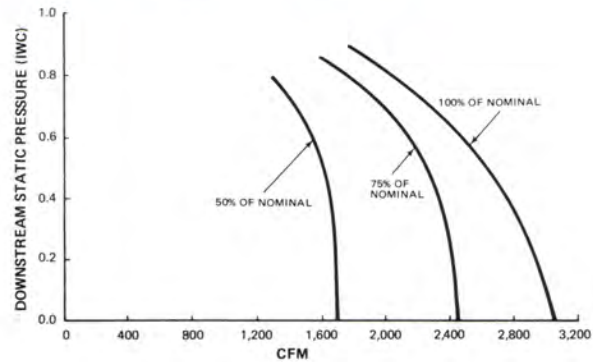
UNIT SIZE 16 1:1 and UNIT SIZE 32 2:1

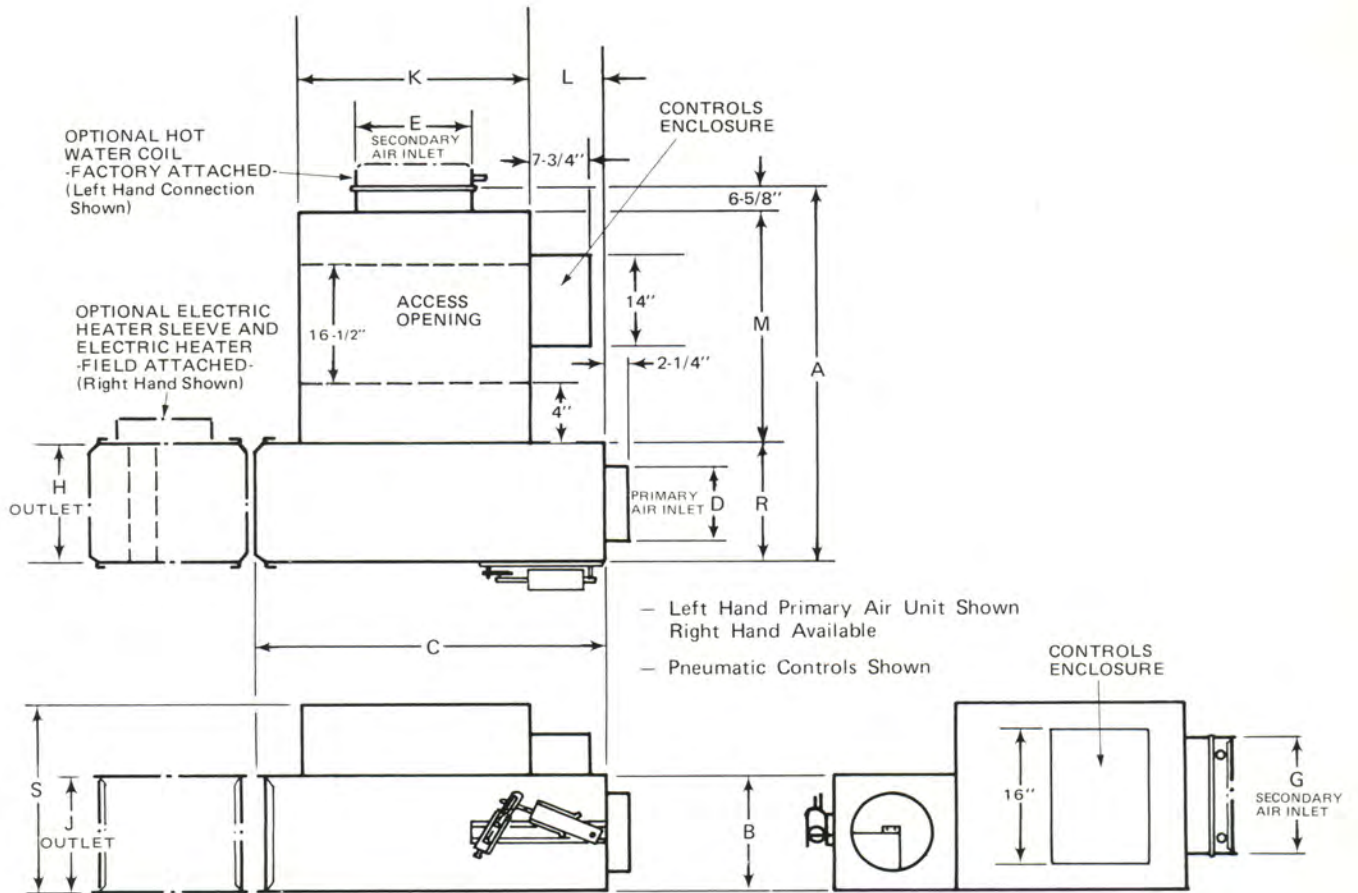


UNIT SIZE 24 1:1 and UNIT SIZE 45 2:1



UNIT SIZE 32 1:1 and UNIT SIZE 60 2:1

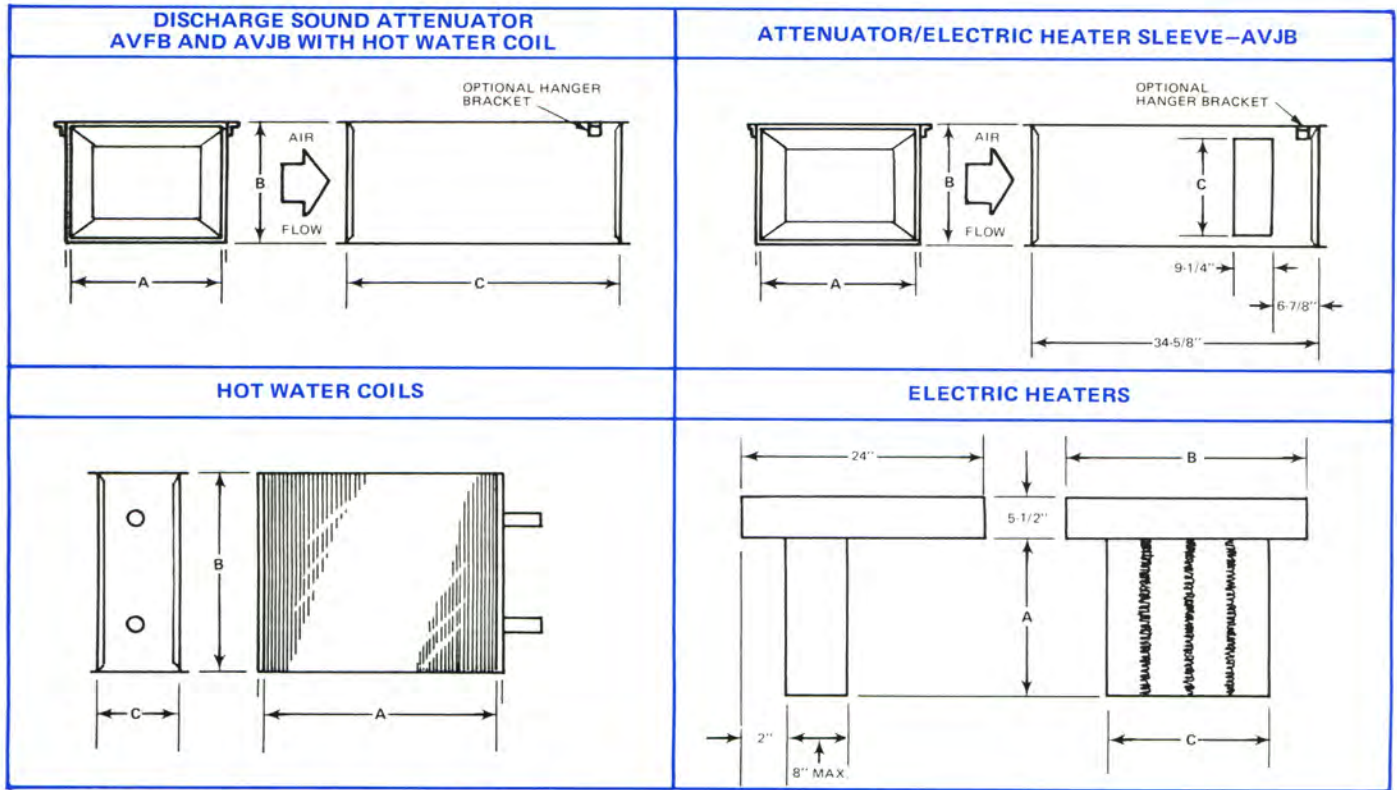




DIMENSIONS IN INCHES																	
Unit Type	Unit Size	Prim. Nom. CFM	Sec. Nom. CFM	Fan H.P.	A	B	C	D	Secondary Air Inlet		S&Drive Outlet		K	L	M	R	S
									E	G	H	J					
1:1	04	400	400	1/8	45-1/8	8	27-1/2	6	10	8	10	8	19-1/2	5-7/8	28-1/2	10	18
	06	600	600	1/6	47-1/8	10	30-7/8	7	12	10	12	10	24	5-5/8	28-1/2	12	18
	08	800	800	1/4	47-1/8	10	33-5/8	8	14	12	12	10	26	5-1/2	28-1/2	12	18
	12	1200	1200	1/3	49-1/8	12	40	10	16	14	14	12	31	6-3/4	28-1/2	14	18
	16	1600	1600	1/2	51-1/8	14	41-1/2	12	18	16	16	14	33-1/2	6-1/8	28-1/2	16	18
	24	2400	2400	(2) 1/3	53-1/8	16	57-5/8	14	20	18	18	16	42	13-3/4	28-1/2	18	18
	32	3200	3200	(2) 1/2	55-1/8	18	59-7/8	16	24	18	20	18	46-1/2	12-1/4	28-1/2	20	20
2:1	08	800	400	1/8	45-1/8	10	29-3/8	8	10	8	12	10	19-1/2	8	28-1/2	12	18
	12	1200	600	1/6	49-1/8	12	33-5/8	10	12	10	14	12	24	7-3/4	28-1/2	14	18
	16	1600	800	1/4	51-1/8	14	36-3/8	12	14	12	16	14	26	8-1/2	28-1/2	16	18
	24	2400	1200	1/3	53-1/8	16	42-5/8	14	16	14	18	16	31	9-3/4	28-1/2	18	18
	32	3200	1600	1/2	55-1/8	18	45-1/2	16	18	16	20	18	33-1/2	10-1/8	28-1/2	20	18
	45	4500	2400	(2) 1/3	59-1/8	18	59-7/8	18 x 16	20	18	24	18	42	15-3/4	28-1/2	24	18
60	6000	3200	(2) 1/2	67-1/8	18	59-7/8	24 x 16	24	18	32	18	46-1/2	12-1/4	28-1/2	32	20	

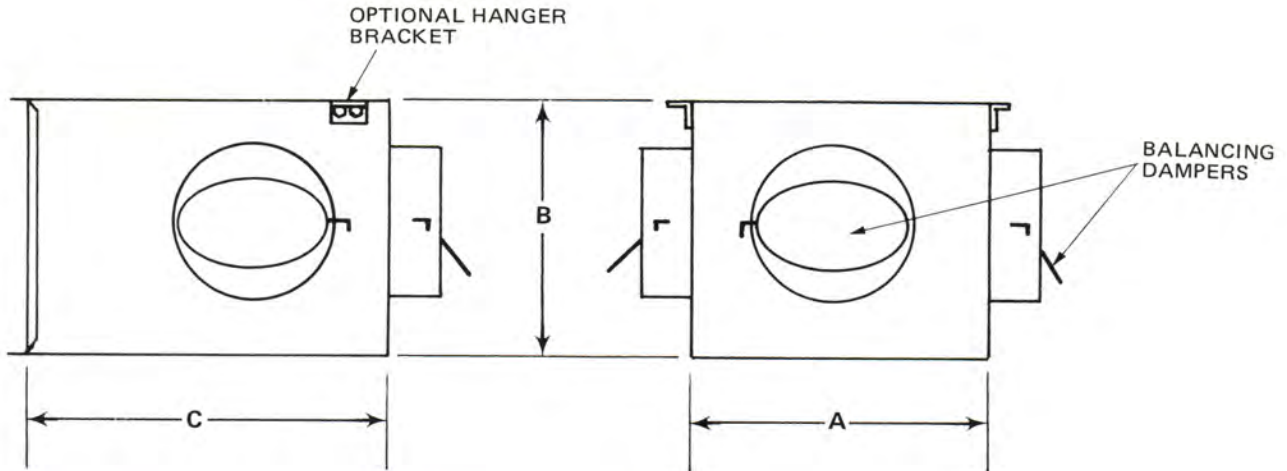
**5** Dimensional Data—Model AVFB/AVJB—INTERMITTENT VOLUME FAN POWERED UNIT

DIMENSIONS LISTED IN INCHES									
Unit Size	Sound Attenuator - AVFB and AVJB With Hot Water Coil				Unit Size	Attenuator Electric Heater Sleeve - AVJB			
	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	12	10	34½	17	08	12	10	6½	17
12	14	12	34½	17	12	14	12	8½	20
16	16	14	34½	20	16	16	14	10½	23
24	18	16	22½	17	24	18	16	12½	26
32	20	18	22½	19	32	20	18	14½	28
45	24	18	22½	20	45	24	18	14½	30
60	32	18	22½	24	60	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.)		1:1&2:1 UNIT SIZES	A	B	C	Weight (lbs.)
1:1	2:1			1 ROW	2 ROW	1 ROW	2 ROW	1 ROW	2 ROW					
04	08	10	8	3⅞	4½	½	½	4	5	04	8¼	8	4	5
06	12	12	10	3⅞	4½	½	½	4	7	06	10¼	10	6	10
08	16	14	12	3⅞	4½	½	½	5	8	08	10¼	10	6	10
12	24	16	14	3⅞	4½	½	⅝	6	11	12	12¼	12	8	10
16	32	18	16	3⅞	4½	½	⅝	7	13	16	14¼	14	10	16
24	45	20	18	3⅞	4½	⅝	¾	8	14	24	16¼	16	12	23
32	60	24	18	3⅞	4½	⅝	¾	10	16	32	18¼	18	14	32
										45	22¼	18	14	42
										60	30¼	18	14	74



AVFB/AVJB MULTI-DISCHARGE ADAPTOR (Top View)

UNIT SIZE	DIMENSIONS		B	DIMENSION	E	DIMENSION	J	DIMENSION	K	DIMENSION	L	DIMENSION	M	DIMENSION	N	DIMENSION	O	DIMENSION	P	DIMENSION																	
	AIR FLOW LEFT TO RIGHT																				C	H	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	A	B																																			
04	10	8	7	11-3/4	6,7	11-3/4	5,6	11-3/4	5	23-3/4	5	23-3/4	6	23-3/4	6	35-3/4	6,7	23-3/4	7,8	35-3/4																	
06	12	10	8	11-3/4	7,8	11-3/4	5,6	11-3/4	5	23-3/4	5	23-3/4	6	23-3/4	6	35-3/4	6,7	23-3/4	7,8	35-3/4																	
08	12	10			8		6,7,8		5,6		5		6		6		6,7		7,8																		
12	14	12			10		8,10		7,8		6,7		6		6		6,7		7,8																		
16	16	14			10		8,10		8		7,8		7		6,7		6,7		7,8																		
24	18	16					10		8,10		8		8		7,8		7,8		7,8																		
32	20	18							10		10		8		7,8		7,8		7,8																		
45	24	18											8,10		8,10		8,10		8,10																		
60	32	18													8,10		8,10		8,10																		

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