

Models ASFC/ASFE 1:1 Ratio w/o coil
Models ATFC/ATFE 2:1 Ratio w/o coil

Models ASWC/ASWE 1:1 Ratio w/Hot Water Coil
Models ATWC/ATWE 2:1 Ratio w/Hot Water Coil

Models ASEC/ASEE 1:1 Ratio w/Electric Coil
Models ATEC/ATEE 2:1 Ratio w/Electric Coil



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(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.

Typical Sequence of Operation

Central fan on — Day (occupied) operation.

When the central system fan is "on", the intermittent fan unit 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 for pneumatic controls or an electric contactor for electronic controls 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 for pneumatic controls or an electric contactor for electronic controls on demands for heat and no heat respectively.

Note: For electronically controlled units, minimum CFM must be zero. A minimum setting other than zero may cause the damper to throttle open when central system is off.

Features Include:

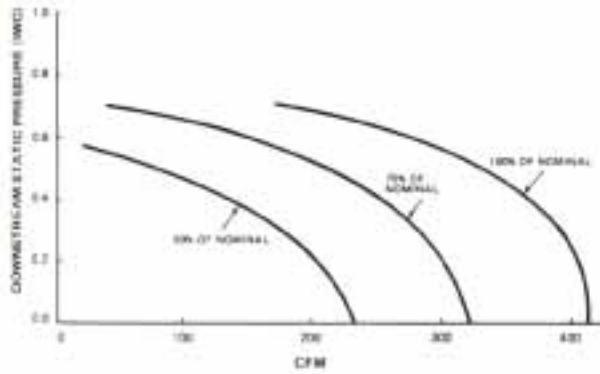
- Air flow capacities from full shut-off to 8000 CFM primary air and 3200 CFM secondary air.
- Two primary to secondary air ratio configurations are available.
- Access panel for internal fan and control components.
- Forward curved centrifugal type fan assembly(s).
- 115, 208 or 277 volt, single phase SCR speed controller.
- Permanent split capacitor type fractional horsepower motor(s).
- Fan/motor assemblies are isolated from the casing using rubber isolators to minimize vibration transmission.
- All units are equipped with pneumatic or electronic pressure independent controls.
- Field adjustable P/E switch with pneumatic controls.
- Insulation is 1½ lb. density fiberglass with surface treated to prevent erosion, meets NFPA 90A requirements.
- Velocity sensor and calibration chart for measuring air flow through the primary air damper.
- Optional ETL listing (Models ASFE/ATFE/ASWE/ATWE/ASEE/ATEE).
- Optional one or two row hot water coils (Models ASWC/ASWE/ATWC/ATWE). Coil is attached to primary air discharge.
- Optional one, two or three stage electric reheat coils (Models ASEC/ASEE/ATEC/ATEE). Coil is attached to primary air discharge.
- Optional filter rack.
- Optional quick release access panel.
- Optional fire rated tubing.
- Optional foil coated insulation (hospital, laboratory, etc. applications).

Available Modules:

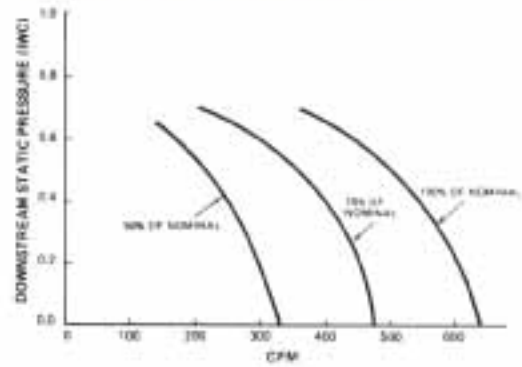
- Basic control unit—Models ASFC/ASFE/ATFC/ATFE.
- Basic control unit with hot water coil—Models ASWC/ASWE/ATWC/ATWE.
- Basic control unit with or without electric coil—Models ASEC/ASEE/ATEC/ATEE.
- Discharge sound attenuator—Model AXAA (See Section 5-Accessories).
- Multi-discharge adaptor—Model AXMA (See Section 5-Accessories).

Performance Data—Models ASFC/ATFC/ASWC/ATWC/ASEC/ATEC ASFE/ATFE/ASWE/ATWE/ASEE/ATEE CFM vs External Static Pressure

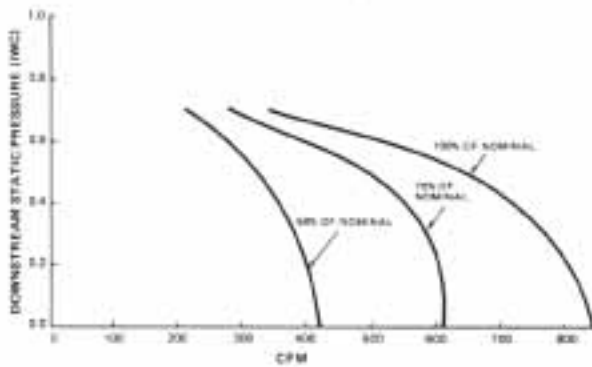
UNIT SIZE 04 1:1 and UNIT SIZE 08 2:1



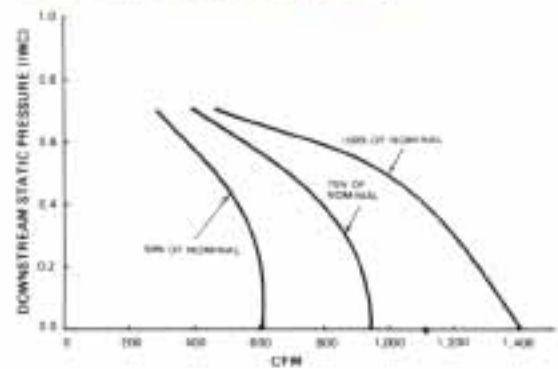
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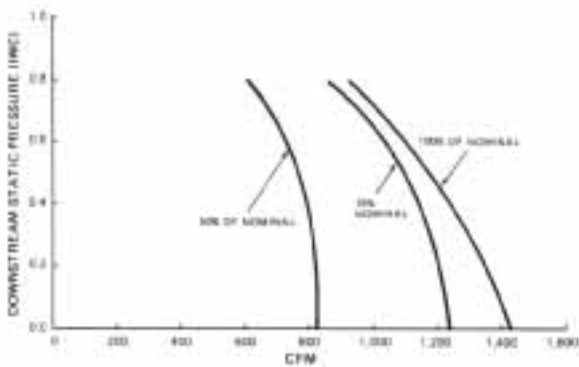
UNIT SIZE 08 1:1 and UNIT SIZE 16 2:1



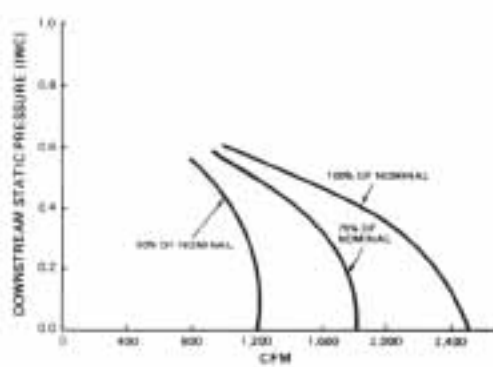
UNIT SIZE 12 1:1 and UNIT SIZE 24 2:1



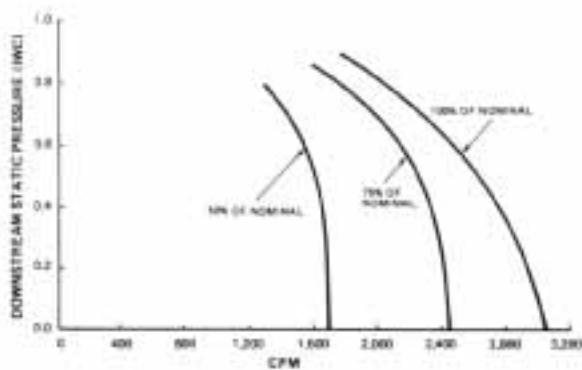
UNIT SIZE 16 1:1 and UNIT SIZE 32 2:1



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



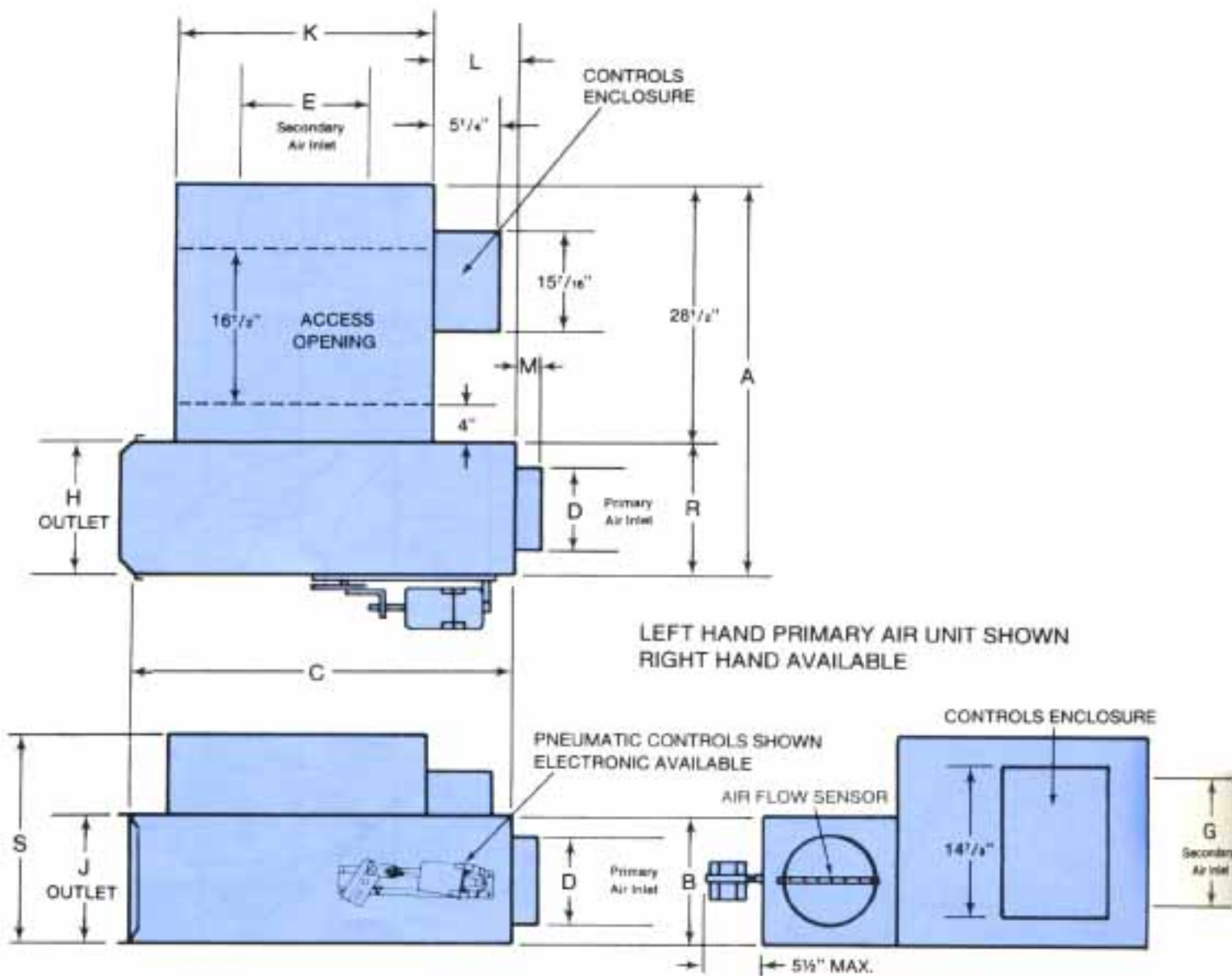
UNIT SIZE 32 1:1 and UNIT SIZE 60 2:1



MOTOR FULL LOAD AMPS

Unit Size 2:1	Unit Size 1:1	HP	Volts	Full Load Amps
08	04	1/8	115	2.1
			208/277	1.1
12	06	1/6	115	3.0
			208/277	1.5
16	08	1/4	115	4.2
			208/277	2.1
24	12	1/3	115	6.4
			208/277	3.2
32	16	1/2	115	8.2
			208/277	4.1
45	24	(2)1/3	115	12.8
			208/277	6.4
60	32	(2)1/2	115	16.4
			208/277	8.2

2 Dimensional Data—Models ASFC/ATFC/ASFE/ATFE Intermittent Volume Fan Powered Units



DIMENSION 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						
ASFC ASFE 1:1 Ratio	04	400	400	1/8	38 1/2	8	27	6	10	8	10	8	19 1/2	5 1/2	2 1/4	10	18	
	06	600	600	1/8	40 1/2	10	30 3/4	7	12	10	12	10	24	5 1/2	2 1/4	12	18	
	08	800	800	1/8	40 1/2	10	33 1/4	8	14	12	12	10	26	5 1/2	2 1/4	12	18	
	12	1200	1200	1/5	42 1/2	12	39 1/2	10	16	14	14	12	31	6 1/4	2 1/4	14	18	
	16	1600	1600	1/2	44 1/2	14	41	12	18	16	16	14	33 1/2	6 1/4	2 1/4	16	18	
	24	2400	2400	(2) 1/5	46 1/2	16	57 1/2	14	20	18	18	16	42	13 3/4	2 1/4	18	18	
32	3200	3200	(2) 1/2	48 1/2	18	59 3/4	16	24	18	20	18	46 1/2	12 1/4	2 1/4	20	20		
ATFC ATFE 2:1 Ratio	08	800	400	1/8	40 1/2	10	28 3/4	8	10	8	12	10	19 1/2	8	2 1/4	12	18	
	12	1200	600	1/8	42 1/2	12	33 1/4	10	12	10	14	12	24	7 3/4	2 1/4	14	18	
	16	1600	800	1/8	44 1/2	14	36 3/4	12	14	12	16	14	26	9 1/2	2 1/4	16	18	
	24	2400	1200	1/5	46 1/2	16	43 1/4	14	16	14	18	16	31	10 1/4	2 1/4	18	18	
	32	3200	1600	1/2	48 1/2	18	45	16	18	16	20	18	33 1/2	10 1/4	2 1/4	20	18	
	45	4500	2400	(2) 1/5	52 1/2	18	59 3/4	18 x 16	20	18	24	18	42	15 1/4	3 1/4	24	18	
60	6000	3200	(2) 1/2	60 1/2	18	59 3/4	24 x 16	24	18	32	18	46 1/2	12 1/4	3 1/4	32	20		

