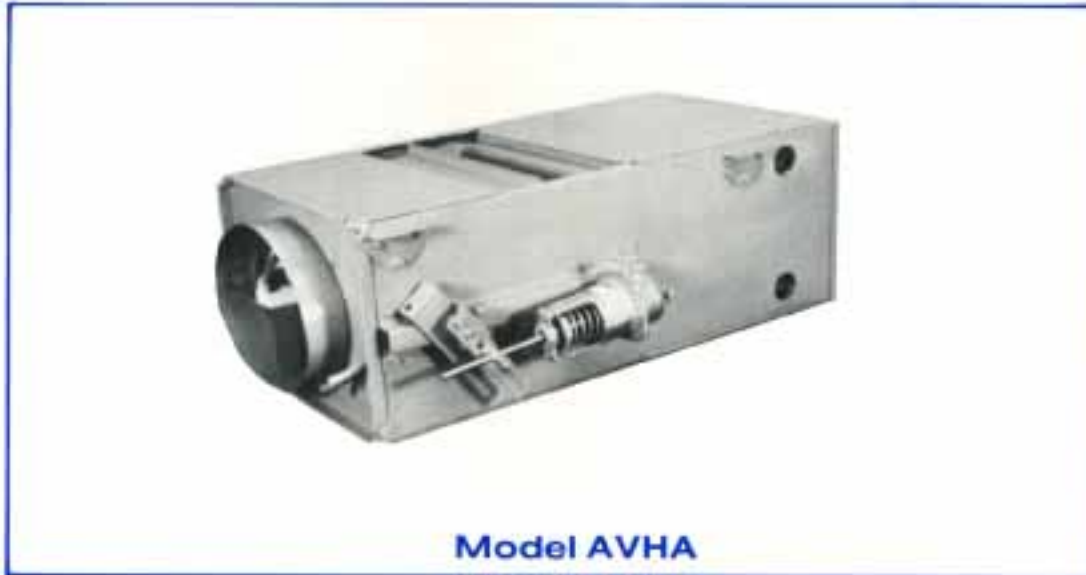


7 By-Pass Control Unit With Hot Water Reheat



The Carnes Model AVHA, By-Pass Control Hot Water Reheat Unit, provides variable air volume, with reheat capability, to individual zones while by-passing the unneeded air to the ceiling plenum for recirculation.

Although zone air volumes in small buildings may vary greatly, the cost of fan controls many times cannot be justified. Zone variable air volumes are realized with the by-pass reheat unit while the supply fan delivers a constant CFM.

The AVHA is compatible with reverse or direct acting pneumatic or electric thermostats. Zone thermostats directly controlling the by-pass damper assures that only the air that is needed is delivered to the zone.

Other Features Include:

- Air flow capacities to 3,200 CFM.
- Pneumatic, electric, or manual damper control.
- Thermally and accoustically insulated casing including coil compartment to prevent condensation.
- Reheat coils constructed of 1/2" O.D. copper tubes and fin spacing of 10 F.P.I. Available in one, two, three, or four rows. Pipe connections available either right hand or left hand, easily field reversed.
- Access door to coil.
- Open-end discharge provided with S and drive connection for easy installation.
- Balancing damper in by-pass is standard.
- Air flow sensor at inlet is standard.
- Optional hanger brackets.

SOUND DATA

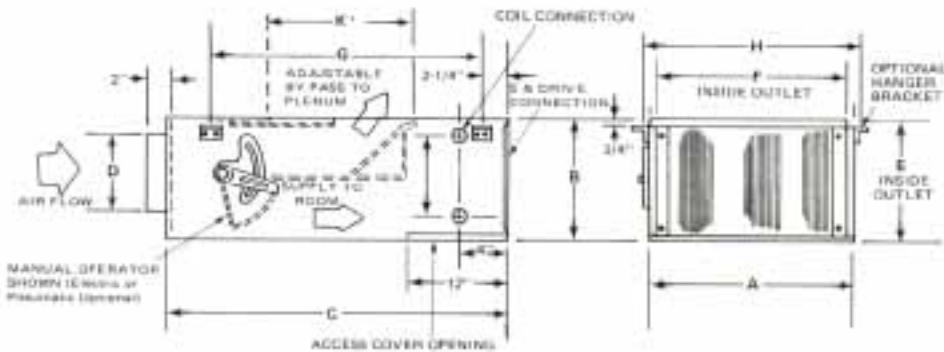
CFM	ΔP_s	Sound Power db Octave Band						Maximum Discharge NC	Radiated NC
		2	3	4	5	6	7		
SIZE 02									
40	.01	—	—	—	—	—	—	—	—
80	.02	—	29	29	28	—	—	—	—
120	.03	41	42	38	35	—	24	—	—
160	.05	50	48	44	43	31	29	23	—
200	.07	57	53	48	47	37	33	29	—
SIZE 04									
80	.02	—	21	30	24	—	—	—	—
160	.07	—	37	46	40	—	31	—	—
240	.10	42	44	53	51	38	27	39	—
320	.27	54	52	54	56	50	45	27	—
400	.40	59	57	57	55	49	46	33	—
SIZE 06									
120	.02	—	24	—	—	—	—	—	—
240	.06	—	37	31	—	—	—	—	—
360	.14	47	47	43	40	35	—	29	—
480	.25	54	53	49	48	43	37	36	23
600	.38	60	59	55	54	50	46	43	30
SIZE 08									
160	.02	—	25	25	—	—	—	—	—
320	.08	47	40	40	35	29	—	24	—
480	.17	52	49	46	42	39	30	31	—
640	.32	60	59	54	50	48	42	39	27
800	.47	67	64	60	58	56	51	47	35

SOUND DATA

CFM	ΔP_s	Sound Power db Octave Band						Maximum Discharge NC	Radiated NC
		2	3	4	5	6	7		
SIZE 12									
240	.02	38	34	31	29	27	22	—	—
480	.10	43	49	47	44	42	26	33	—
720	.24	49	52	50	51	51	36	42	24
960	.41	59	60	56	57	59	54	50	33
1200	.69	66	67	63	62	64	61	55	38
SIZE 16									
320	.04	44	36	32	29	23	26	—	—
640	.14	48	51	48	44	38	31	34	—
960	.25	54	54	51	51	47	41	39	25
1280	.42	61	62	58	58	56	51	47	31
1600	.61	67	67	63	63	61	57	52	37
SIZE 24									
480	.03	47	39	33	32	25	27	20	—
960	.10	51	54	49	47	40	33	36	—
1440	.22	57	57	52	55	53	47	44	29
1920	.37	60	64	58	56	54	49	45	26
2400	.56	65	69	64	62	60	56	52	41
SIZE 32									
640	.03	50	42	36	35	28	28	23	—
1280	.12	58	56	51	49	42	35	37	—
1920	.26	65	65	57	56	56	51	47	32
2560	.48	73	73	65	64	62	60	56	39
3200	.71	78	79	72	69	67	65	63	44

- NOTES:**
1. ΔP_s Static pressure difference from inlet to discharge with one row coil in place.
 2. Radiated NC is based on sound emanating from the casing with room absorption (10 db) and ceiling plenum absorption and transmission loss (10 db).
 3. Dash (—) indicates sound power or NC level less than 20 db.
 4. All values of NC include 10 db room absorption.
 5. For coil data, contact Carnes representative.

Dimensional Data—Model AVHA - By-Pass with Hot Water Reheat



Size	CFM	A (inches)	B (inches)	C (inches)	D (inches)	E & Drive Outlet		G (inches)	H (inches)	K (inches)	Weight Lbs.
						E (inches)	F (inches)				
02	200	13	8	23 1/2	5	8	13	13 1/2	14	5 1/2	22
04	400	13	8	23 1/2	5	8	13	13 1/2	14	5 1/2	22
06	600	14	10	23 1/2	5	10	14	13 1/2	15	6 1/2	24
08	800	17	10	23 1/2	5	10	17	13 1/2	18	6 1/2	29
12	1200	20	12	27	5	12	20	18 1/2	21	7 1/2	38
16	1600	22	14	29	5	14	22	19 1/2	23	8 1/2	46
24	2400	30	16	31	5	16	26	20 1/2	27	9 1/2	64
32	3200	32	18	43	5	18	32	22 1/2	30	11 1/2	88

○ INDICATES ELLIPTICAL
*By-Pass Opening - K x A

Size	CFM	J (inches)	PIPE SIZE CONNECTIONS				COIL WEIGHT LBS.			
			1-Row (inches)	2-Row (inches)	3-Row (inches)	4-Row (inches)	1-Row	2-Row	3-Row	4-Row
02	200	5 1/2	1/2	1/2	1/2	1/2	2 1/2	3 1/2	4 1/2	6
04	400	5 1/2	1/2	1/2	1/2	1/2	2 1/2	3 1/2	4 1/2	6
06	600	6 1/2	1/2	1/2	1/2	1/2	2 1/2	4 1/2	6	7 1/2
08	800	6 1/2	1/2	1/2	1/2	1/2	2 1/2	4 1/2	6 1/2	8 1/2
12	1200	8 1/2	1/2	1/2	1/2	1/2	3	4	6 1/2	11 1/2
16	1600	11 1/2	1/2	1/2	1/2	1/2	3	6	8 1/2	15
24	2400	13 1/2	1/2	1/2	1/2	1/2	3	6 1/2	11	20
32	3200	14 1/2	1/2	1/2	1/2	1/2	3	6 1/2	14	25

NOTE: PIPE CONNECTIONS ARE FEMALE
NPT COIL CONNECTIONS EITHER
RIGHT HAND OR LEFT HAND.