

**1.5 - 5.0 COOLING**



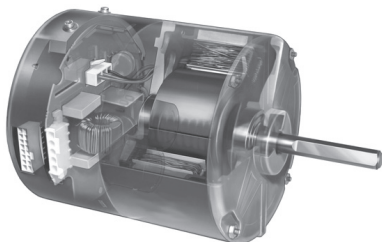
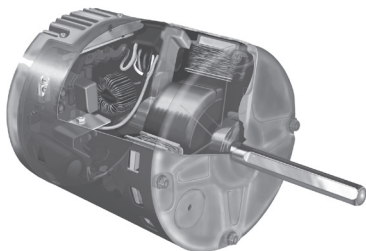
The AVMB-HW series includes a programmable, high efficiency motor that redefines comfort and energy savings. The AVMB-HW motor automatically adjusts its torque and speed to maintain a preprogrammed level of constant airflow over a wide range of external static pressures. This variable speed technology offers better indoor air quality, more precise humidity control, quieter operation, consistent indoor air temperature, and lower utility bills.

**High Efficiency** – At full load conditions the AVMB-HW motor is 20% more efficient than an induction motor and at constant fan speed it consumes only 60-80 watts of power compared to 400 watts for a standard induction motor.

**Quiet Operation** – The versatile AVMB-HW motor quietly “ramps up” when the unit is turned on and “ramps down” when the thermostat is satisfied, eliminating the annoying sounds of changing airflow.

**Self-Regulating Constant Airflow** – The AVMB-HW motor is factory programmed to maintain a predetermined level of airflow over a wide range of external static pressures, ensuring optimum system performance and whole-house comfort. The benefits of constant fan operation are:

- Consistent air distribution (and temperature) throughout the home.
- Better indoor air quality (further improved with the addition of a high efficiency filter) - This allows the air to be filtered without excessive drafts and without sacrificing efficiency.
- Better humidity control - The AVMB-HW is designed to extract much more moisture from the air than a conventional system by slowing the airflow over the cooling coil. The result is an improved summer comfort level at higher indoor temperatures.



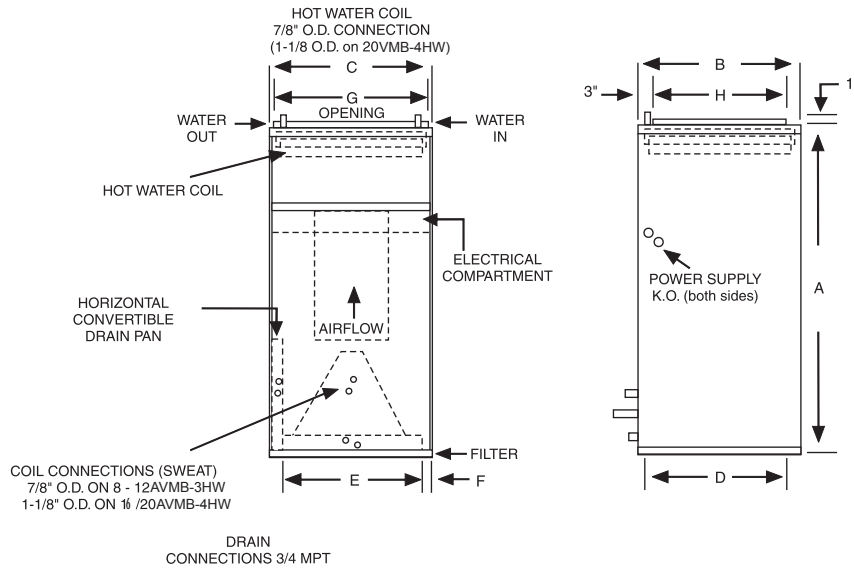
**Variable Speed Motor**

**Additional Standard Features**

- Vertical/horizontal drain pans
- Blower door safety switch (except 16/20AVMB-3HW)
- Hot water coil assembly slides out for easier service
- Manual air vent on hot water coil
- Fully insulated cabinet
- Higher efficiency pleated filter
- Primary and secondary drain connections on cooling coil
- 120V motor, 24V control
- Compatible with most properly sized and installed zone control systems. Contact the zone control manufacturer.
- Optional 208/230 and 277V model available. Contact factory.

**Product Specifications**  
Variable Speed  
4-Pipe Hydronic Fan Coil

**PRODUCT INFO**



**Features:**

1. Separate cooling and heating coils (4 row cooling coil)
2. Variable speed motor
3. Vertical / Horizontal drain pan (right-to-left and left-to-right airflow)
4. Manual air vent
5. Pleated filter(s)

ELECTRICAL DATA				
UNIT MODEL	MOTOR HP (120V)	MOTOR AMPS	MIN. CIR. AMPACITY	MAX. HACR BREAKER
8AVMB-3HW	1/3	4.8	6.0	15
12AVMB-3HW	1/2	7.3	10	15
16AVMB-4HW	1	10.5	14	15
20AVMB-4HW	1	11.5	15	15

PHYSICAL DIMENSIONS										
UNIT MODEL	A	B	C	D	E	F	G	H	FILTER SIZE	SHIP WT. (LBS.)
8AVMB-3HW	40	20	20	18-1/2	16	2	18	16	18 X 20 X 1	145
12AVMB-3HW	42	23	20	21-1/2	16	2	18	19	20 X 22 X 1	165
16AVMB-4HW	48	28	21-1/4	26-1/4	17-1/4	2	18	24	20 X 25 X 1	225
20AVMB-4HW	52	28	25-1/4	26-1/2	21-1/4	2	22	24	14 X 24 X 1 (2 required)	285

AIR FLOW DATA														
MODEL	OPERATING MODE	THERMOSTAT TERMINALS "X" ENERGIZED TERMINAL				CONTROL BOARD SELECTION TAPS								
		Y1	HUM	G	W1	COOL (CFM)				HEAT (CFM)				
						A	B	C	D	A	B	C	D	
8AVMB-3HW	COOLING	X				800	720	640	560					
	COOL & DEHUMIDIFY	X	X			640	575	510	450					
	CONTINUOUS BLOWER			X		400	360	320	280					
	HEATING				X					800	700	600	500	
12AVMB-3HW	COOLING	X				1200	1050	950	850					
	COOL & DEHUMIDIFY	X	X			960	840	760	680					
	CONTINUOUS BLOWER			X		600	525	475	425					
	HEATING				X					1200	1050	900	750	
16AVMB-4HW	COOLING	X				1600	1420	1270	1120					
	COOL & DEHUMIDIFY	X	X			1280	1135	1015	900					
	CONTINUOUS BLOWER			X		800	710	635	560					
	HEATING				X					1600	1400	1200	1000	
20AVMB-4HW	COOLING	X				2000	1800	1600	1400					
	COOL & DEHUMIDIFY	X	X			1600	1440	1280	1120					
	CONTINUOUS BLOWER			X		1000	900	800	700					
	HEATING				X					2000	1750	1500	1250	

For additional sales and technical information on variable speed motors, visit [www.thedealertoolbox.com](http://www.thedealertoolbox.com)

Digital thermostats for these units must have a "C" terminal.

Airflow shown are at standard air conditions, dry coil at 120 volts.  
Max. ext. static pressure is 0.50" wtr

**NOTES:**

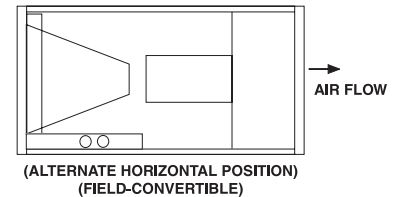
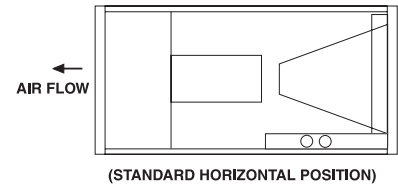
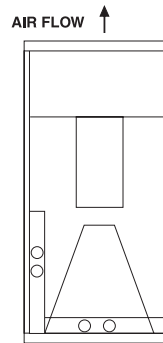
- The cooling and heating speed taps are factory set on "A".
- The delay profile is factory set on "Arid" setting.
- The adjust profile is factory set on "Normal."
- Adjust profile (+) will increase airflow by 10%, while tap (-) will decrease airflow by 10%



CHILLED WATER COOLING CAPACITY - 4 ROW															
UNIT MODEL	CFM	GPM	P.D. (FT. WTR.)	45°F ENTERING WATER						42°F ENTERING WATER					
				80°F DB/67°F WB ENT. AIR			75°F DB/63°F WB ENT. AIR			80°F DB/67°F WB ENT. AIR			75°F DB/63°F WB ENT. AIR		
				TOTAL MBH	SENS. MBH	TEMP. RISE	TOTAL MBH	SENS. MBH	TEMP. RISE	TOTAL MBH	SENS. MBH	TEMP. RISE	TOTAL MBH	SENS. MBH	TEMP. RISE
8AVMB-HW	600	3.0	2.5	19.0	13.8	12.7	14.5	12.1	9.7	20.7	14.4	13.8	15.8	12.6	10.5
		4.5	5.5	22.4	15.1	9.9	17.1	13.1	7.6	24.4	15.9	10.8	18.6	13.7	8.3
		6.0	9.5	24.4	15.9	8.2	18.7	13.7	6.2	26.6	16.8	8.9	20.3	14.4	6.8
	800	3.5	3.4	23.1	17.3	13.2	17.6	15.2	10.1	25.2	18.1	14.4	19.2	15.8	11.0
		5.0	6.7	26.9	18.7	10.7	20.5	16.3	8.2	29.3	19.6	11.7	22.4	17.1	8.9
		6.5	11.0	29.2	19.6	9.0	22.3	17.0	6.9	31.8	20.6	9.8	24.3	17.8	7.5
12AVMB-HW	1000	4.0	2.4	28.3	21.6	14.1	21.6	19.0	10.8	30.8	22.5	15.4	23.6	19.7	11.8
		6.0	4.8	33.9	23.7	11.3	25.9	20.6	8.6	36.9	24.8	12.3	28.2	21.6	9.4
		8.0	7.9	37.3	25.0	9.3	28.5	21.7	7.1	40.6	26.3	10.2	31.0	22.7	7.8
	1200	5.0	3.5	33.7	25.5	13.5	25.8	22.4	10.3	36.8	26.6	14.7	28.1	23.3	11.3
		6.5	5.5	38.0	27.1	11.7	29.1	23.7	8.9	41.5	28.4	12.8	31.7	24.7	9.7
		8.0	7.9	41.0	28.2	10.3	31.3	24.6	7.8	44.7	29.6	11.2	34.1	25.7	8.5
16AVMB-HW	1400	4.5	2.0	36.2	29.2	16.1	27.7	25.8	12.3	39.5	30.3	17.5	30.1	26.7	13.4
		6.0	3.3	42.4	31.4	14.1	32.4	27.6	10.8	46.2	32.8	15.4	35.3	28.7	11.8
		7.5	4.8	46.9	33.1	12.5	35.8	28.9	9.6	51.1	34.7	13.6	39.0	30.2	10.4
	1600	6.0	3.3	44.2	34.1	14.7	33.8	30.0	11.3	48.2	35.5	16.1	36.8	31.2	12.3
		8.0	5.4	51.0	36.6	12.7	38.9	32.0	9.7	55.5	38.3	13.9	42.4	33.4	10.6
		10.0	7.9	55.7	38.4	11.1	42.5	33.4	8.5	60.7	40.3	12.1	46.3	34.9	9.3
20AVMB-HW	1600	6.5	3.8	46.1	34.8	14.2	35.2	30.6	10.8	50.3	36.3	15.5	38.4	31.8	11.8
		8.5	6.0	52.3	37.1	12.3	39.9	32.4	9.4	57.0	38.8	13.4	43.5	33.8	10.2
		10.5	8.6	46.6	38.7	10.8	43.2	33.7	8.2	61.7	40.7	11.8	47.1	35.2	9.0
	2000	7.0	4.3	52.4	40.9	15.0	40.0	36.1	11.4	57.1	42.6	16.3	43.6	37.4	12.5
		10.0	7.9	61.7	44.3	12.3	47.1	38.8	9.4	67.3	46.4	13.5	51.4	40.5	10.3
		13.0	12.5	67.5	46.5	10.4	51.6	40.5	7.9	73.6	48.8	11.3	56.2	42.4	8.6

HEATING PERFORMANCE DATA									
UNIT MODEL	NOM. COOLING BTUH	NOM. CFM	GPM (HTG)	P.D. (FT. WATER)	BTUH (1000) AT ENTERING WATER TEMPERATURE				
					120°F	140°F	160°F	180°F	
8VMB-3HW	18,000/ 24,000	800	3	1.8	26.4	37.0	47.6	58.1	
			2	0.8	23.3	32.6	41.9	51.2	
		700	3	1.8	24.8	34.7	44.6	54.5	
			2	0.8	22.0	30.8	39.6	48.4	
		600	3	1.8	22.9	32.0	41.1	50.3	
			2	0.8	20.5	28.7	36.9	45.1	
		500	3	1.8	20.5	28.7	36.9	45.1	
			2	0.8	18.7	26.2	33.7	41.2	
12VMB-3HW	30,000/ 36,000	1200	6	7.5	38.4	53.8	69.2	84.5	
			4	3.6	35.1	49.2	63.3	77.3	
			2	1.0	27.6	38.7	49.8	60.8	
		1050	6	7.5	37.2	51.0	64.9	78.9	
			4	3.6	34.2	46.9	59.8	72.7	
			2	1.0	27.2	37.4	47.7	58.0	
		900	6	7.5	33.1	46.4	59.7	72.9	
			4	3.6	30.8	43.1	55.4	67.7	
			2	1.0	25.1	35.1	45.1	55.2	
		750	6	7.5	29.9	41.8	53.7	65.7	
			4	3.6	28.0	39.2	50.4	61.6	
			2	1.0	23.3	32.6	41.9	51.2	
16VMB-4HW	42,000/ 48,000	1600	8	4.8	60.4	84.6	108.8	132.9	
			6	2.9	56.5	79.1	101.7	124.3	
			4	1.4	49.6	69.5	89.4	109.2	
		1400	8	4.8	56.2	78.7	101.2	123.7	
			6	2.9	52.9	74.1	95.3	116.4	
			4	1.4	47.0	65.8	84.6	103.4	
		1200	8	4.8	51.4	71.9	92.4	113.0	
			6	2.9	48.7	68.2	87.7	107.2	
			4	1.4	43.9	61.4	78.9	96.5	
		1000	8	4.8	45.8	64.1	82.4	100.7	
			6	2.9	43.8	61.3	78.8	96.3	
			4	1.4	40.1	56.1	72.1	88.2	
20VMB-4HW	48,000/ 60,000	2000	9	5.1	73.4	102.8	132.2	161.5	
			7	3.3	68.9	96.5	124.1	151.6	
			5	1.9	61.7	86.4	111.1	135.8	
		1750	9	5.1	71.1	97.7	124.4	151.2	
			7	3.3	67.0	92.1	117.3	142.7	
			5	1.9	60.4	83.0	105.9	128.8	
		1500	9	5.1	62.8	87.9	113.0	138.1	
			7	3.3	59.7	83.6	107.5	131.4	
			5	1.9	54.6	76.4	98.2	120.1	
		1250	9	5.1	58.0	79.5	101.1	125.0	
			7	3.3	55.5	76.2	97.0	120.0	
			5	1.9	51.3	70.5	89.8	109.2	

### 3-WAY AIRFLOW



**NOTES:**

- (1) Heat BTU is at 65° Entering Air Temperature.
- (2) 190° EWT would increase the 180° EWT heating capacities by 9.1%. 200° EWT would increase the 180° EWT heating capacities by 18.2%.

**General Construction Features**

**Basic Unit**

All models are manufactured with heavy gauge galvanized steel to resist corrosion.

Each cabinet is fully insulated.

Coil connections are stubbed out the cabinet for easier installation.

**Coils**

Coils have 3/8 inch copper tubing expanded to high efficiency aluminum fins. Manual air vents are provided and all coils are pressure tested to 350 psig.

**Drain Pans**

All fan coils can be installed vertically or horizontally (right-to-left airflow) with no modification. Horizontal drain pans can be repositioned within the cabinet to allow horizontal installation with left-to-right airflow. Each drain pan is coated with a "mastic" material to reduce corrosion.

Threaded primary and secondary

drain connections are also provided.

**Motors**

Standard motors are variable speed type with internal thermal overload protection and are mounted with rubber isolation bushings.

Blower wheels are centrifugal, forward curved, and dynamically balanced.

**Filters**

One inch pleated filters are factory installed.

**Agency Listing**

All standard models are U.L. Listed.

ACCESSORIES:		
Programmable Thermostat		
Part Number	Description	For
T832	Touchscreen, 7-day programmable, with humidity control	All Models

NOTE: Contact factory for brochure

T832



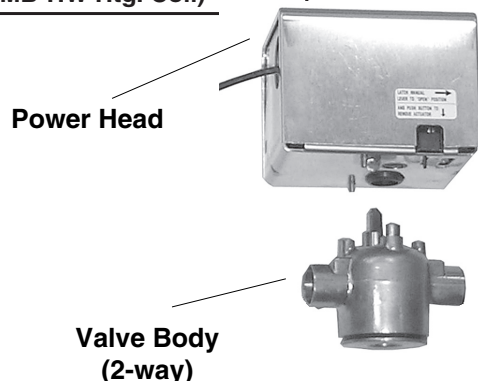
ACCESSORIES: (field installed)	
POWER HEADS: (two power heads required for 4-pipe)	
E50131180	24V
SEPARATE VALVE BODIES: (order power heads separately)	
E421317 E431317 E421417 E431417	3/4" 2-way - For 8-12AVMB-HW (and 8-16AVMB-HW Htg. Coil) 3/4" 3-way - For 8-12AVMB-HW (and 8-16AVMB-HW Htg. Coil) 1" 2-way - For 16-20AVMB-HW (and 20AVMB-HW Htg. Coil) 1" 3-way - For 16-20AVMB-HW (and 20AVMB-HW Htg. Coil)
HAND VALVES: (Combination balance / shut-off) (2 usually required per coil)	
CP90 CP905	3/4" - For 8-12AVMB-HW (and 8-16AVMB-HW Htg. Coil) 1" - For 16-20AVMB-HW (and 20AVMB-HW Htg. Coil)

**NOTE:**

1. Power head leads are 18".



CP905



Power Head

Valve Body (2-way)