MB SERIES

MB • MBE • MB–HW • VMB • VMBE • VMB-HW

Multi-Position Chilled Water Fan Coil

120V, 240V or Direct Drive Motor

2 or 4 Pipe Cooling & Heating

Up to 10kW Electrical Heat

Factory Installed Filter

Convertible Horizontal Drain Pan

C ETL LISTED US
Intertek

AHRI CERTIFIED®
www.ahridirectory.org
Unitary Small AC
AHRI Standard 210/240
Certification applies only when the complete system is listed with AHRI.

TABLE OF CONTENTS

First Co.'s customer is ultimately responsible for confirming which fan coil models are compatible with selected outdoor unit(s) and which expansion valves (if any) are required. To determine certified indoor/outdoor combinations, go to www.firstco.com or contact the factory.

In keeping with its policy of continuous progress and product improvement, First Co. reserves the right to make changes without notice.

NOMENCLATURE

FULL SERIES

12 **MB** **E15**

NOMINAL CFM (100'S)

8 - 800 CFM
10 - 1000 CFM (4-pipe only)
12 - 1200 CFM
16 - 1600 CFM
20 - 2000 CFM

BASIC UNIT

MB
MBE
MB-HW
VMB
VMBE
VMB-HW

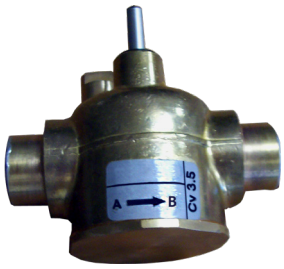
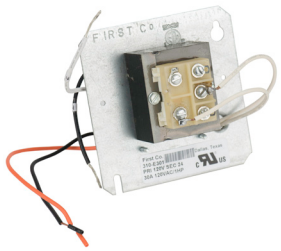
BASIC UNIT OPTIONS

E # – "E" designates electric heat
is kW of electric heat
2HW – 2 row hot water coil
3HW – 3 row hot water coil
4HW – 4 row hot water coil

MB SERIES

MULTI-POSITION CHILLED WATER FAN COIL

ACCESSORIES

			
POWER HEAD	**VALVE BODY (2-WAY)**	**HAND VALVE CP905**	**RELAY 310-E301**

MB SERIES – ACCESSORIES (FIELD INSTALLED)	
Power Heads: (Two power heads required for 4-pipe) - For all units	
E50131180 E50132180	24V 110V/50Hz - 120V/60Hz
Separate Valve Bodies: (Order power heads separately)	
E421317 E431317 E421417 E431417	3/4" 2-way - For (8-12MB/MBE/MB-HW (and 8-16MB-HW htg.coil) 3/4" 3-way - For (8-12MB/MBE/MB-HW (and 8-16MB-HW htg.coil) 1" 2-way - For 16 - 20MB/MBE/MB-HW (and 20MB-HW htg. coil) 1" 3-way - For 16 - 20MB/MBE/MB-HW (and 20MB-HW htg. coil)
Hand Valves: (Combination balance / shut-off) (2 usually required per coil)	
CP90 CP905	3/4" For 8-12MB/MBE/MB-HW (8-16MB-HW Htg. coil) 1" For 16-20MB/MBE/MB-HW (16 and 20MB-HW Htg. coil)
Relay - Transformer	
310-E301	120 / 24V for ALL 120V motors

NOTE:

1. Power head leads are 18".

MB SERIES

MULTI-POSITION CHILLED WATER FAN COIL

AUTOSPEED 24V™ THERMOSTATS

(PART #'S T200/T201)

For Accurate, Efficient, and Quiet Fan Coil Operation.

The new ***Autospeed 24V™ Thermostat*** (part #'s T200 and T201) provides a 24V AC single stage temperature control of 2 pipe and 4 pipe fan coil applications. The T200/T201 thermostat offers maximum comfort and efficiency by ***automatically selecting the appropriate High, Medium, or Low fan speed,*** depending on room temperature and thermostat temperature setting. This automatic fan speed control not only brings the room temperature to the desired set point quickly, it maintains the room temperature with the most efficient fan speed selection. Once the desired room temperature is achieved the fan coil operates on low speed for extremely quiet operation.

T200
(Shown with wall plate)

T200/T201 THERMOSTAT FEATURES

- Compatible with 2 pipe and 4 pipe fan coils: Series HBC/PHBC/RHBC/CHBC, MB/MB-HW, HYB/PHYB, and CW/CW-HW
- Cycle fan or continuous fan operation
- **T200**-Manual Heat / Cool changeover switch
- **T201**-Automatic Heat / Cool changeover switch
- Large LED digital display
- Allows less expensive 24V control wiring from the fan coil to the thermostat, rather than larger, more expensive line voltage wiring.
- 3-speed fan operation, with speed indicator lights
- Fan speed determination:
  - If room temperature is 4°F off thermostat set point, fan will operate on High speed.
  - If 3°F off set point, fan will operate on Medium speed.
  - If within 2°F of set point, fan will operate on Low speed.
- One or 3 hour Auto override - Fan speed defaults to "Auto" mode after 1 hour if the user manually changes it to a particular fan speed.
- Temperature set range: 64°F – 88°F.
- Adjustable high and low temperature set points
- Selectable Fahrenheit / Centigrade display
- Power switch turns system Off/On
- Requires 7-wire 24V thermostat wire
- No batteries required
- Set points are permanently retained in memory in case of power interruption
- Simple operation
- Mercury Free
- Wall plate included

DISPLAY CODES		
DISPLAY	**STEADY**	**FLASHING**
P1	Auto fan timer - 1 hour (default)	Auto fan timer - 3 hour
P2	Continuous fan (default)	Cycled fan
P3	°F (default)	°C
P4	Cycled fan standard	Cycled fan overdrive (default)
P5	Low temp limit 64°F (default)	Low temp limit 67°F
P6	Hi temp limit 88°F (default)	Hi temp limit 84°F

MB SERIES

MULTI-POSITION CHILLED WATER FAN COIL

FEATURES

The **MB Series** 2-pipe fan coil comes with a 4 row cooling / heating coil and a 120V multi-speed motor. No controls are furnished.

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.

MB

MOTORS

Standard motors are **PSC 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 throw away filters are factory installed.

AGENCY LISTING

All standard models are **ETL Listed**.

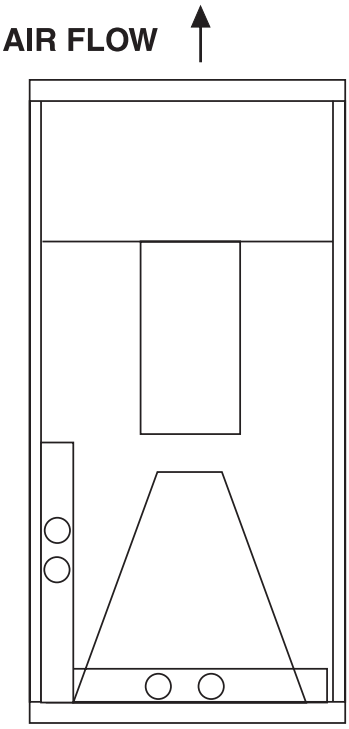
OPTIONAL "AUTOSPEED 24V" CONTROL

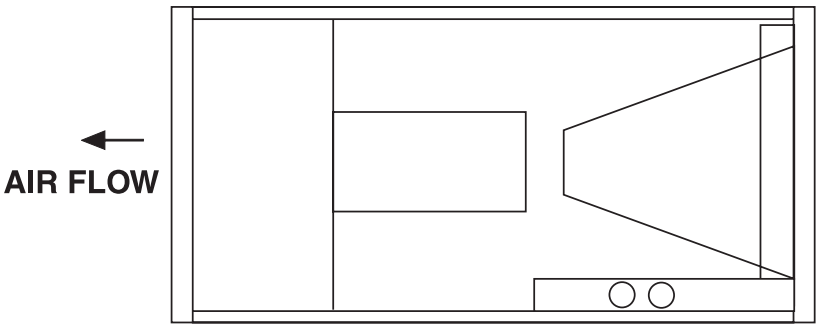
The MB and MB-HW models are available with an optional 24V 3-speed control board and a 24V 3-speed digital wall thermostat. This option, called the "Autospeed 24V", provides maximum comfort and efficiency by automatically selecting the appropriate High, Medium, or Low fan speed, depending on room temperature and thermostat temperature setting.

MB SERIES

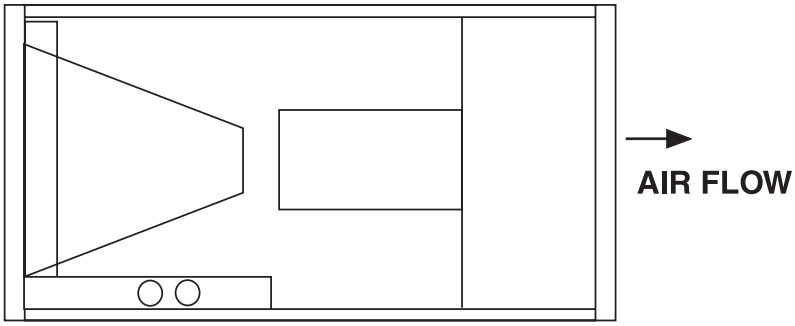
MULTI-POSITION CHILLED WATER FAN COIL

3–WAY AIRFLOW





(STANDARD HORIZONTAL POSITION)



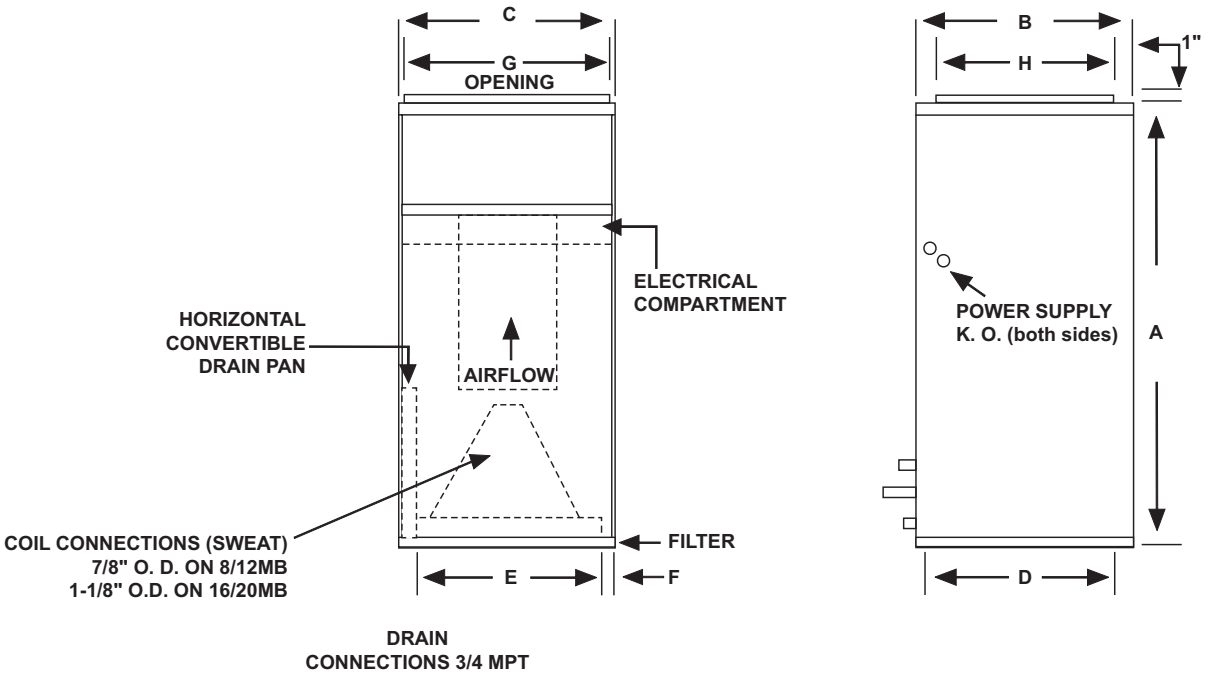
(ALTERNATE HORIZONTAL POSITION)
(FIELD-CONVERTIBLE)

MB

MB SERIES

MULTI-POSITION CHILLED WATER FAN COIL

DIMENSIONS



MB – PHYSICAL DIMENSIONS											
UNIT MODEL	A	B	C	D	E	F	G	H	COIL CONNEC-TIONS	FILTER SIZE	SHIP WT. (LBS)
8MB	40	20	20	18-1/2	16	2	18	16	7/8 SWEAT	18 X 20 X 1	115
12MB	42	23	20	21-1/2	16	2	18	17	7/8 SWEAT	20 X 22 X 1	120
16/20MB	48	28	21-1/4	26-1/4	17-1/4	2	19-1/4	18	1-1/8 SWEAT	20 X 25 X 1	210

ADDITIONAL FEATURES

- 4 row cooling / heating coil
- 120V multi-speed motor
- Vertical / Horizontal drain pan (right-to-left and left-to right airflow)
- Manual air vent
- Throw away filter

MB

COOLING CAPACITY – MB

MB – CHILLED WATER COOLING CAPACITY - 4 ROW (MB, MB-HW, MBE SERIES)

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
8MB	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	15.3	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
10/12MB	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
16MB	1400	4.5	2.0	36.2	29.2	16.1	27.7	25.8	12.3	39.5	30.3	17.6	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
20MB	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	56.6	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

MB

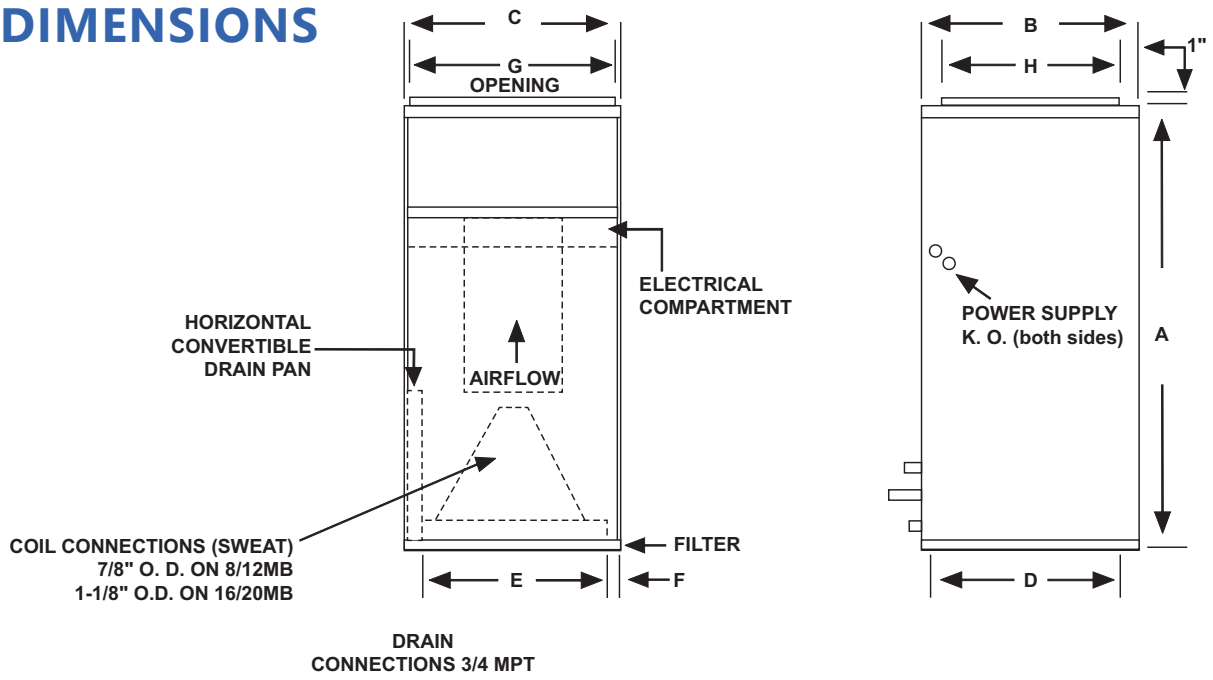
HEATING & BLOWER DATA

MB – HEATING DATA - 180°F EWT, 70°F EAT						
UNIT MODEL	CFM	GPM	P.D. (FT. WTR.)	HEAT BTUH (1000)	LVG AIR°F	LVG WTR°F
8MB	800	3.0 4.5 6.0	2.5 5.5 9.5	57.7 62.2 65.0	137 142 145	132 142 148
	600	3.0 4.5 6.0	2.5 5.5 9.5	47.8 51.0 53.1	144 149 152	138 147 152
12MB	1200	4.0 6.0 8.0	2.4 4.8 7.9	83.9 90.9 95.2	135 140 144	128 140 146
	1000	4.0 6.0 8.0	2.4 4.8 7.9	74.7 80.3 83.8	139 144 148	133 143 149
16MB	1600	6.0 8.0 10.0	3.3 5.4 7.9	118.7 124.7 129.5	138 142 145	131 139 144
	1400	6.0 8.0 10.0	3.3 5.4 7.9	108.3 114.0 118.1	142 145 148	134 142 146
20MB	2000	7.0 10.0 13.0	4.3 7.9 12.5	141.6 151.3 157.5	136 140 143	126 140 146
	1600	7.0 10.0 13.0	4.3 7.9 12.5	121.7 129.4 134.4	140 145 148	135 144 149

NOTE:
Discharge air temperature must not exceed 150°F

MB – BLOWER DATA									
UNIT MODEL	NOM. COOL TONS	MOTOR HP-AMP (120V)	MOTOR SPEED	CFM vs. EXTERNAL STATIC PRESSURE					
				0.05	0.10	0.20	0.30	0.40	0.50
8MB	2	1/5-3.0	High Med-Hi Med-Low Low	830 690 530 370	790 660 520 340	740 630 470 310	680 590 450 270	640 550 410 230	580 480 390 190
12MB	3	1/3-6.0	High Med-Hi Med-Low Low	1130 1000 870 670	1100 990 870 670	1070 980 860 660	1040 950 840 650	1010 900 820 630	950 870 760 610
16MB	4	1/2-8.0	High Med Low	1730 1550 1290	1700 1520 1290	1650 1490 1280	1580 1450 1250	1530 1380 1210	1440 1310 1170
20MB	5	3/4-10.5	High Med Low	1860 1530 1210	1820 1500 1230	1820 1550 1230	1810 1520 1220	1740 1490 1200	1670 1450 1180

DIMENSIONS



MBE – PHYSICAL DIMENSIONS											
UNIT MODEL	A	B	C	D	E	F	G	H	COIL CONNEC-TIONS	FILTER SIZE	SHIP WT. (LBS)
8MB	40	20	20	18-1/2	16	2	18	16	7/8 SWEAT	18 X 20 X 1	115
12MB	42	23	20	21-1/2	16	2	18	17	7/8 SWEAT	20 X 22 X 1	120
16/20MB	48	28	21-1/4	26-1/4	17-1/4	2	19-1/4	18	1-1/8 SWEAT	20 X 25 X 1	210

ADDITIONAL FEATURES

- Factory installed electric heat
- 4 row cooling coil
- 208/240V motor
- 240/24V transformer
- Circuit breaker disconnect (above 10kW) (Except 277V)
- Manual air vent
- Throw away filter
- Vertical / horizontal drain pan (right-to-left and left-to-right airflow)
- 277 V models available (10kW max)

MBE

ELECTRICAL DATA

MBE – ELECTRICAL DATA (240 / 208V)

UNIT MODEL		ELECTRIC HEAT CAPACITY				TOTAL AMPS		MIN. CIR. AMPACITY		MAX. FUSE OR HACR BREAKER	
		kW		BTUH							
		240V	208V	240V	208V	240V	208V	240V	208V	240V	208V
8MBE	**3**	3	2.3	10,200	7,700	14	13	18	16	20	20
	4	4	3	13,600	10,200	19	16	23	20	25	20
	5	5	3.8	17,000	13,000	23	20	28	25	30	25
	6	6	4.5	20,500	15,400	27	24	36	29	40	30
	8	8	6	27,300	20,500	35	31	46	38	50	40
	10	10	7.5	34,100	25,600	44	38	54	47	60	50
12MBE	**5**	5	3.8	17,000	13,000	24	21	30	26	30	30
	8	8	6	27,300	20,500	36	32	46	40	50	40
	10	10	7.5	34,100	25,600	45	39	56	49	60	50
	(1) 15	15	11.3	51,100	38,500	45	39	56	49	60	50
						21	18	26	23	30	25
16MBE	**5**	5	3.8	17,000	13,000	25	22	30	27	30	30
	8	8	6	27,300	20,500	37	33	47	40	50	40
	10	10	7.5	34,100	25,600	46	40	57	50	60	50
	(1) 15	15	11.3	51,100	38,500	46	40	57	50	60	50
						21	18	27	23	30	25
	(1) 20	20	15	68,200	51,100	46	40	57	50	60	50
						42	36	53	46	60	50
	(1) 25	25	18.75	85,250	63,900	46	40	57	50	60	50
						42	36	53	46	60	50
						21	18	27	23	30	25
20MBE	**5**	5	3.8	17,000	13,000	27	24	34	30	35	30
	8	8	6	27,300	20,500	40	35	49	44	50	45
	10	10	7.5	31,100	25,600	48	42	60	53	60	60
	(1) 15	15	11.3	51,100	38,500	48	42	60	53	60	60
						21	18	27	23	30	25
	(1) 20	20	15	68,200	51,100	48	42	60	53	60	60
						42	36	53	46	60	50
	(1) 25	25	18.75	85,300	63,900	48	42	60	53	60	60
						42	36	53	46	60	50
						21	18	27	23	30	25

(1) 15kW and 20kW models require 2 supply circuits. 25kW models require 3 supply circuits.

NOTES:

Units suitable for installation with 0" clearance to combustible material.

ELECTRICAL DATA (CONT'D)

MBE – ELECTRICAL DATA (277V)						
UNIT MODEL	ELECTRIC HEAT CAPACITY			TOTAL AMPS	MIN. CIR. AMPACITY	MAX. FUSE OR HACR BREAKER
	kW	HP	BTUH			
8MBE	0 3 5 6 8 10	1/6	- 10,200 17,000 20,500 27,300 34,100	1.2 12 20 23 30 38	– 15 24 29 38 47	– 15 25 30 40 50
12MBE	0 5 8 10	1/3	– 17,000 27,300 34,100	2.4 21 32 39	– 26 40 49	– 30 40 50
16MBE	0 5 8 10	1/2	– 17,000 27,300 34,100	3.0 21 32 39	– 27 40 49	– 30 40 50
20MBE	0 5 8 10	3/4	– 17,000 27,300 34,100	4.0 22 33 40	– 28 40 50	– 30 40 50

MBE

COOLING CAPACITY

MBE – CHILLED WATER COOLING CAPACITY - 4 ROW (MB, MB-HW, MBE SERIES)

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
8MB	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	15.3	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
10/12MB	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
16MB	1400	4.5	2.0	36.2	29.2	16.1	27.7	25.8	12.3	39.5	30.3	17.6	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
20MB	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	56.6	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

NOTE:
1. All cooling coils have four rows.
2. Contact factory for capacities at other conditions.

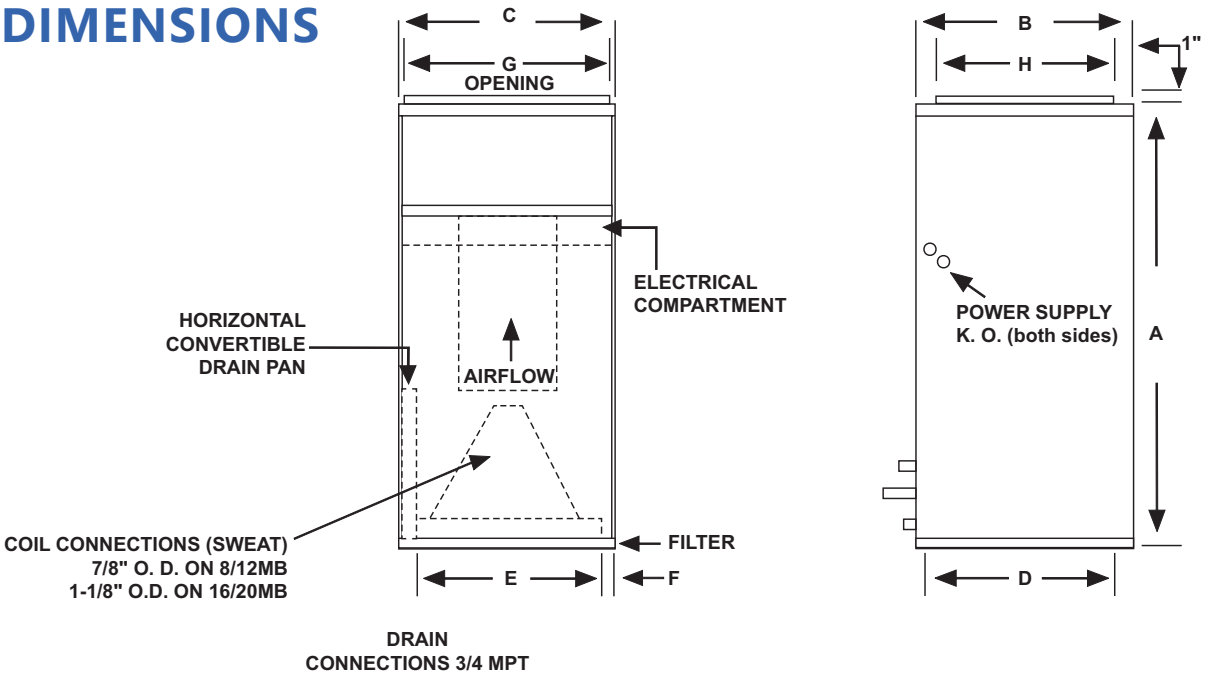
BLOWER DATA

MBE – BLOWER DATA

UNIT MODEL	NOM. COOL TONS	MOTOR HP-AMP (240V)	MOTOR SPEED	DUTY	CFM vs. EXTERNAL STATIC PRESSURE						
					0.05	0.10	0.15	0.20	0.30	0.40	0.50
8MBE	2	1/6-2.0	High	Cool	900	880	860	830	790	700	600
			Low	Heat	740	710	690	660	630	570	490
12MBE	3	1/3-2.5	High	Cool	1410	1380	1340	1310	1270	1190	1060
			Low	Heat	1710	1150	1130	1100	1080	1030	970
16MBE	4	1/2-3.5	High	Cool	1760	1730	1680	1640	1580	1480	1360
			Med	Cool	1490	1460	1430	1400	1370	1300	1210
			Low	Heat	1280	1260	1230	1210	1190	1130	1080
20MBE	5	3/4-5.0	High	Cool	2130	2110	2090	2060	2025	1930	1820
			Low	Heat	1690	1680	1660	1640	1620	1580	1540

NOTE:
16MBE is factory wired on high speed for cooling.

DIMENSIONS



MB–HW PHYSICAL DIMENSIONS										
UNIT MODEL	A	B	C	D	E	F	G	H	FILTER SIZE	SHIP WT. (LBS)
8MB-HW	40	20	20	18-1/2	16	2	18	16	18 X 20 X 1	120
10/12MB-HW	42	23	20	21-1/2	16	2	18	19	20 X 22 X 1	135
16MB-HW	48	28	21-1/4	26-1/4	17-1/4	2	18	24	20 X 25 X 1	210
20MB-HW	52	28	25-1/4	26-1/2	21-1/4	2	22	24	14 X 24 X 1 (2 required)	260

ADDITIONAL FEATURES

- Separate cooling and heating coils (4 row cooling coil)
- 120V multi-speed motor
- Vertical / Horizontal drain pan
  (right-to-left and left-to-right airflow)
- Manual air vent
- Throw away filter

MB-HW

HOT WATER COIL DATA

MB–HW – HOT WATER COIL PERFORMANCE DATA							
UNIT MODEL	CFM	GPM	P.D. (FT. WTR.)	HEATING BTUH (1000) AT ENTERING WATER TEMPERATURE (1)			
				120°F	140°F	160°F	180°F
8MB-2HW	800	1	0.13	13.6	19.0	24.4	29.9
		2	0.51	18.6	26.0	33.4	40.9
		3	1.13	20.9	29.3	37.7	46.0
	600	1	0.13	12.5	17.5	22.5	27.5
		2	0.51	16.5	23.1	29.7	36.3
		3	1.13	18.3	25.6	32.9	40.2
8MB-3HW	800	1	0.22	16.5	23.1	29.7	36.3
		2	0.83	23.2	32.6	41.9	51.2
		3	1.83	26.4	37.0	47.6	58.1
	600	1	0.22	15.2	21.3	27.4	33.5
		2	0.83	20.5	28.7	36.9	45.1
		3	1.83	22.9	32.0	41.1	50.3
10MB-3HW	1000	2	1.04	26.1	36.5	46.9	57.4
		4	3.64	32.4	45.4	58.4	71.3
		6	7.55	35.1	49.1	63.1	77.2
	800	2	1.04	23.9	33.5	43.1	52.6
		4	3.64	29.0	40.6	52.2	63.8
		6	7.55	31.0	43.4	55.8	68.2
12MB-3HW	1200	2	1.04	27.6	38.7	49.8	60.8
		4	3.64	35.1	49.2	63.3	77.3
		6	7.55	38.4	53.8	69.2	84.5
	1000	2	1.04	26.1	36.5	46.9	57.4
		4	3.64	32.4	45.4	58.4	71.3
		6	7.55	35.1	49.1	63.1	77.2
16MB-4HW	1600	4	1.40	49.6	69.5	89.4	109.2
		6	2.89	56.5	79.1	101.7	124.3
		8	4.83	60.4	84.6	108.8	132.9
	1400	4	1.40	47.0	65.8	84.6	103.4
		6	2.89	52.9	74.1	95.3	116.4
		8	4.83	56.2	78.7	101.2	123.7
20MB-4HW	2000	5	1.86	61.7	86.4	111.1	135.8
		7	3.33	68.9	96.5	124.1	151.6
		9	5.15	73.4	102.8	132.2	161.5
	1700	5	1.86	57.8	80.9	104.0	127.1
		7	3.33	63.7	89.2	114.7	140.2
		9	5.15	67.4	94.4	121.4	148.3

(1) Contact factory for capacities at other conditions.

COOLING CAPACITY & BLOWER DATA

MB–HW CHILLED WATER COOLING CAPACITY - 4 ROW (MB, MB-HW, MBE SERIES)

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
8MB	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	15.3	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
10/12MB	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
16MB	1400	4.5	2.0	36.2	29.2	16.1	27.7	25.8	12.3	39.5	30.3	17.6	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
20MB	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	56.6	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

NOTE:
1. All cooling coils have four rows.
2. Contact factory for capacities at other conditions.

MB–HW BLOWER DATA

UNIT MODEL	NOM. COOL TONS	MOTOR HP-AMP (120V)	MOTOR SPEED	CFM vs. EXTERNAL STATIC PRESSURE					
				0.05	0.10	0.20	0.30	0.40	0.50
8MB-HW	2	1/5-4.5	High	810	770	720	670	630	570
			Med	750	710	670	640	590	540
			Low	680	660	630	600	550	470
10MB-HW	2.5	1/5-4.5	High	990	970	950	880	840	800
			Med	830	810	790	770	740	700
			Low	650	620	610	590	570	540
12MB-HW	3	1/2-8.0	High	1270	1210	1160	1110	1050	970
			Med	1200	1170	1120	1070	990	930
			Low	1150	1110	1060	1000	950	890
16MB-HW	4	3/4-10.5	High	1570	1510	1460	1400	1340	1240
			Med	1440	1400	1350	1290	1220	1150
			Low	1230	1210	1170	1130	1090	1050
20MB-HW	5	1-10.4	High	1900	1840	1770	1700	1620	1500
			Med	1690	1630	1570	1510	1410	1340
			Low	1440	1400	1350	1270	1200	1140

MB SERIES

VMB

MULTI-POSITION CHILLED WATER FAN COIL

FEATURES

The **VMB** Series includes a programmable, high efficiency motor that redefines comfort and energy savings. The **VMB** 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 **VMB** 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 **VMB** 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.

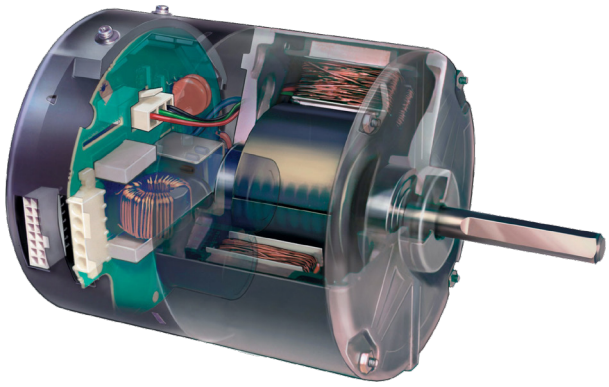
Self-Regulating Constant Airflow - The **VMB** motor is factory programmed to maintain a predetermined level of airflow over a wide range of external static pressures, ensuring optimum system performance and whole-house comfort. The benefits of constant fan operation are:

VMB

- **Consistent air distribution** (and temperature) throughout the home
- **Better indoor air quality** (further improved with the addition of high efficiency filter) - This allows the air to be filtered without excessive drafts and without sacrificing efficiency.
- **Better humidity control** - The **VMB** 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.
- **Optional 0-10VDC Control** available if specified.

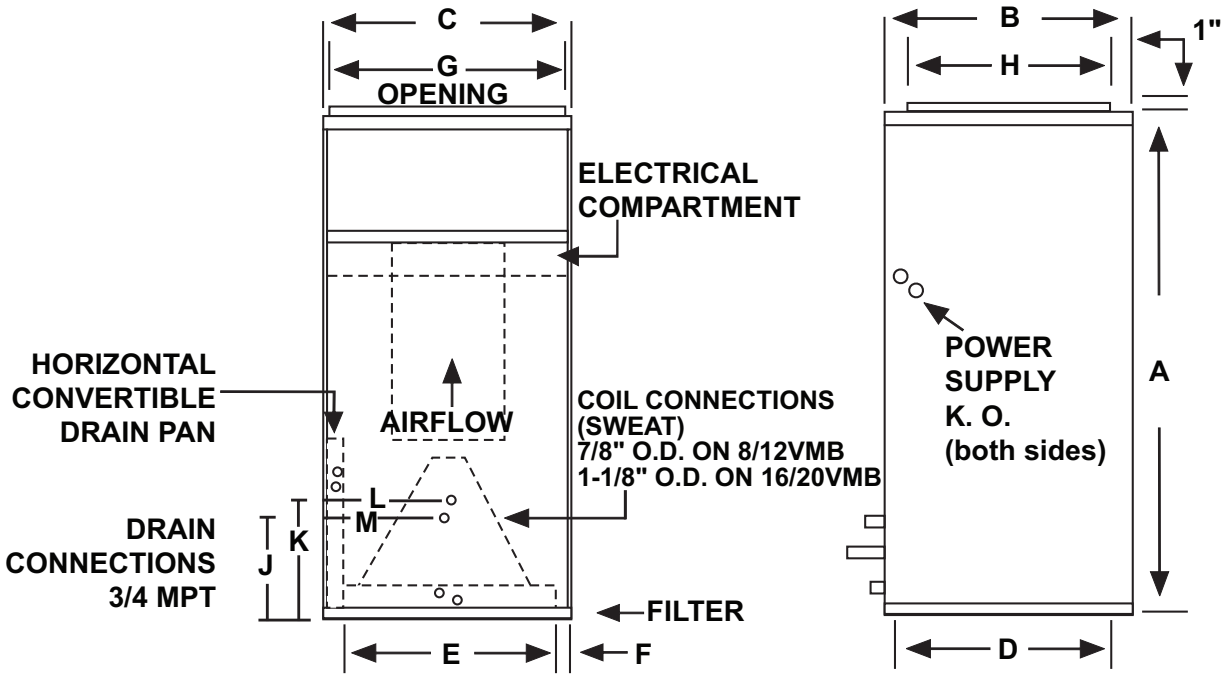
Additional Standard Features:

- Vertical/horizontal drain pans
- Attractive baked-on powder coat finish
- Fully insulated cabinet
- 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.
- High efficiency pleated filter(s)
- Variable speed motor
- Manual air vent
- Pleated filter(s)



Variable Speed ECM Motor

DIMENSIONS



VMB – PHYSICAL DIMENSIONS										
UNIT MODEL	A	B	C	D	E	F	G	H	COIL CONNECTIONS	FILTER SIZE
8VMB	40	20	20	18-1/2	16	2	18	16	7/8 SWEAT	18 X 20 X 1
12VMB	42	23	20	21-1/2	16	2	18	17	7/8 SWEAT	20 X 22 X 1
16/20VMB	48	28	21-1/4	26-1/4	17-1/4	2	19-1/4	18	1-1/8 SWEAT	20 X 25 X 1

ELECTRICAL DATA (120V & 277V)

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

VMB – ELECTRICAL DATA - 277				
UNIT MODEL	MOTOR HP (277V)	MOTOR AMPS	MIN. CIR. AMPACITY	MAX. HACR BREAKER
8VMB-277	1/3	1.9	3	15
12VMB-277	1/2	3.2	4	15
16VMB-277	3/4	4.8	6	15
20VMB-277	1	6.4	8	15

AIR FLOW DATA

VMB – AIR FLOW DATA									
MODEL	OPERATING MODE	CONTROL BOARD SELECTION TAPS							
		COOL (CFM) (2)				HEAT (CFM) (1)			
		A	B	C	D	A	B	C	D
8VMB	COOLING or HEATING THERMOSTAT SIGNAL	– – –	– – –	– – –	– – –	800	700	600	500
	CONTINUOUS BLOWER	400	350	300	250	– – –	– – –	– – –	– – –
12VMB	COOLING or HEATING THERMOSTAT SIGNAL	– – –	– – –	– – –	– – –	1200	1050	900	750
	CONTINUOUS BLOWER	600	525	450	375	– – –	– – –	– – –	– – –
16VMB	COOLING or HEATING THERMOSTAT SIGNAL	– – –	– – –	– – –	– – –	1600	1400	1200	1000
	CONTINUOUS BLOWER	800	700	600	500	– – –	– – –	– – –	– – –
20VMB	COOLING or HEATING THERMOSTAT SIGNAL	– – –	– – –	– – –	– – –	1825	1700	1600	1400
	CONTINUOUS BLOWER	900	850	800	700	– – –	– – –	– – –	– – –

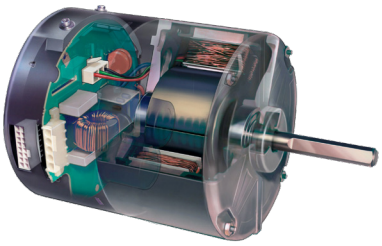
NOTES:
1. The HEAT select tap controls the maximum CFM in both heating and cooling modes.
2. The COOL select tap only controls the CFM when fan switch on thermostat is set to "ON" (continuous blower).
3. The COOL and HEAT taps are factory set on "A"
4. Digital thermostats for these units must have a “C” terminal.

Airflow shown are 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%.

For additional sales and technical information on variable speed motors visit: www.thedealertoolbox.com

VMB



Variable Speed ECM Motor

COOLING PERFORMANCE DATA

VMB – COOLING PERFORMANCE

UNIT MODEL	NOM 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
8VMB	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	15.3	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
12VMB	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
16VMB	1400	4.5	2.0	36.2	29.2	16.1	27.7	25.8	12.3	39.5	30.3	17.6	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
20VMB	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	56.6	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

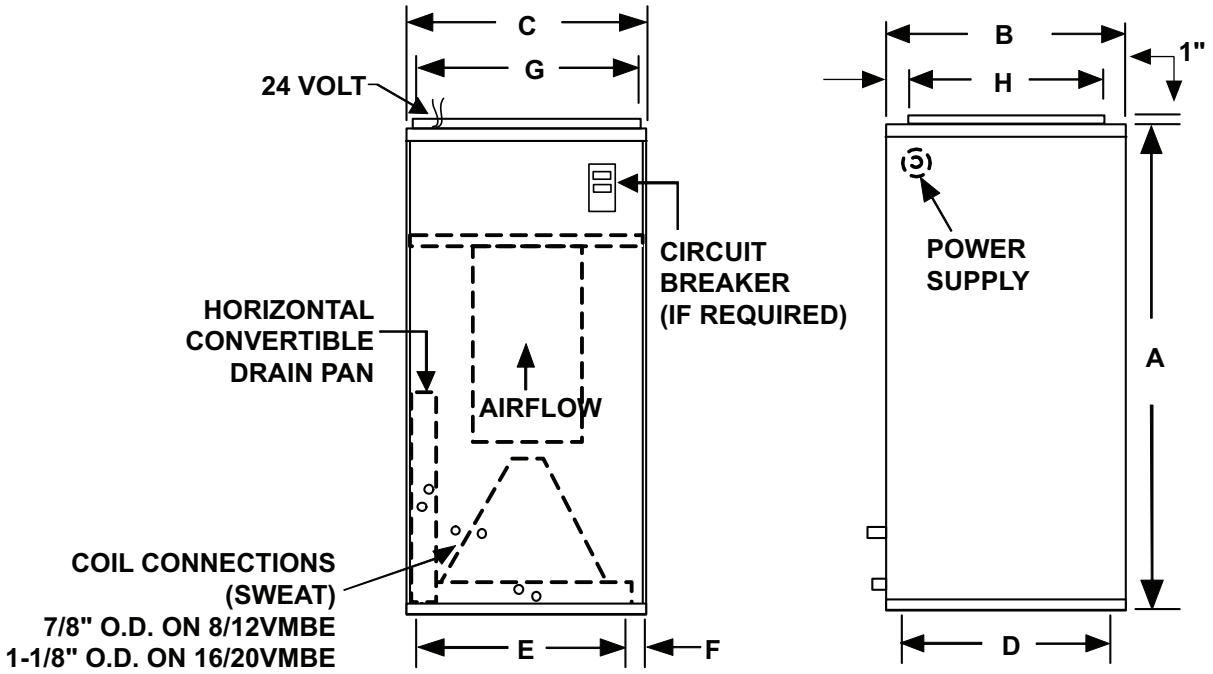
HEATING PERFORMANCE DATA

VMB – HEATING PERFORMANCE DATA							
UNIT MODEL	NOM. COOLING BTUH	NOM. CFM	GPM (HTG)	P.D. (FT. WATER)	BTUH (1000) AT ENTERING WATER TEMPERATURE		
					140°F	160°F	180°F
8VMB	18,000 / 24,000	800	6.0	9.5	45.5	58.5	*
			4.5	5.5	43.5	56.0	68.4
			3.0	2.5	40.4	52.0	63.5
		700	6.0	9.5	41.4	53.3	*
			4.5	5.5	39.7	51.1	*
			3.0	2.5	37.0	47.6	58.2
		600	4.0	4.4	35.1	45.1	*
			3.0	2.5	33.5	43.0	*
			2.0	1.2	31.0	39.8	48.7
		500	4.0	4.4	30.9	39.8	*
			3.0	2.5	29.6	38.0	*
			2.0	1.2	27.6	35.5	43.4
12VMB	30,000 / 36,000	1200	8.0	7.9	66.6	85.7	104.7
			6.5	5.5	66.4	85.3	104.3
			5.0	3.6	61.5	79.0	96.6
		1050	8.0	7.9	60.7	78.1	*
			6.5	5.5	58.9	75.7	*
			5.0	3.6	56.3	72.4	88.5
		900	6.0	4.8	52.3	67.3	*
			4.5	3.0	49.8	64.1	78.3
			3.0	1.5	48.0	61.8	75.5
		750	6.0	4.8	46.1	59.2	*
			4.5	3.0	44.1	56.7	*
			3.0	1.5	41.1	52.9	64.6
16VMB	42,000 / 48,000	1600	10.0	8.0	90.6	116.5	*
			8.0	5.4	87.3	112.3	137.2
			6.0	3.3	82.7	106.3	129.9
		1400	10.0	8.0	82.7	106.3	*
			8.0	5.4	79.8	102.6	*
			6.0	3.3	75.8	97.4	119.1
		1200	6.0	3.3	68.5	88.0	*
			5.0	2.4	66.2	85.2	104.1
			4.0	1.6	63.4	81.6	99.7
		1000	6.0	3.3	60.7	78.1	*
			5.0	2.4	58.9	75.8	*
			4.0	1.6	56.6	72.8	*
20VMB	48,000 / 60,000	2000	13.0	12.5	110.2	141.7	173.2
			10.0	8.0	105.9	136.1	166.4
			7.0	4.3	99.1	127.4	155.7
		1800	13.0	12.5	102.2	131.4	*
			10.0	8.0	98.3	126.3	154.4
			7.0	4.3	92.0	118.2	144.5
		1600	9.0	6.6	89.1	114.5	*
			7.0	4.3	85.2	109.6	133.9
			5.0	2.4	79.6	102.3	125.0
		1400	9.0	6.6	81.3	104.6	*
			7.0	4.3	78.0	100.2	*
			5.0	2.4	73.1	94.0	114.9

NOTES:

1. Heat BTU is at 70° Entering Air Temperature.
2. * Capacity exceeds the leaving air temperature maximum

DIMENSIONS



VMBE – PHYSICAL DIMENSIONS									
UNIT MODEL	A	B	C	D	E	F	G	H	FILTER SIZE
8VMBE	40	20	20	18-1/2	16	2	18	16	18 X 20 X 1
12VMBE	42	23	20	21-1/2	16	2	18	17	20 X 22 X 1
16/20VMBE	48	28	21-1/4	26-1/4	17-1/4	2	19-1/4	18	20 X 25 X 1

ADDITIONAL FEATURES

- Factory installed electric heat (0-20kW)
- Upflow / horizontal drain pans
- Higher efficiency pleated filter
- Factory installed service switch (above 10kW)
- Primary and secondary drain connections on cooling coil
- Fully Insulated cabinet
- Compatible with most properly sized and installed zone control systems. Contact the zone control manufacturer
- 208/230V motor, 24V controls
- High capacity 4-row cooling coil
- Optional 277V model available. Contact factory.
- Manual air vent

VMBE

AIRFLOW DATA

AIR FLOW DATA (SEE "HEATING SELECT TAPS" BELOW EACH TABLE FOR PROPER FIELD SET-UP)												
MODEL	OPERATING MODE	THERMOSTAT TERMINALS			CONTROL BOARD SELECT TAPS							
		"X" ENERGIZED TERMINALS			COOL TAP				HEAT TAP (See notes below)			
		Y1	G	W1	A	B	C	D	A	B	C	D
8VMBE	COOLING	X	X	– – –	800	720	600	525	– – –	– – –	– – –	– – –
	CONTINUOUS BLOWER	– – –	X	– – –	400	360	300	265	– – –	– – –	– – –	– – –
	ELECTRIC HEAT	– – –	– – –	X	– – –	– – –	– – –	– – –	790	730	660	600
Heating Select Taps A 800 CFM unit with 0 – 15kW electric heat B 800 CFM unit with 0 – 5kW max. electric heat C 600 CFM unit with 0 – 10kW electric heat D 600 CFM unit with 0 – 5kW max. electric heat												
12VMBE	COOLING	X	X	– – –	1200	1050	950	850	– – –	– – –	– – –	– – –
	CONTINUOUS BLOWER	– – –	X	– – –	600	525	475	425	– – –	– – –	– – –	– – –
	ELECTRIC HEAT	– – –	– – –	X	– – –	– – –	– – –	– – –	1130	1000	875	790
Heating Select Taps A 1200 CFM unit with 0 – 15kW electric heat B 1200 CFM unit with 0 – 10kW max. electric heat C 950 CFM unit with 0 – 10kW electric heat D 950 CFM unit with 0 – 5kW max. electric heat												
16VMBE	COOLING	X	X	– – –	1600	1400	1250	1100	– – –	– – –	– – –	– – –
	CONTINUOUS BLOWER	– – –	X	– – –	800	700	625	550	– – –	– – –	– – –	– – –
	ELECTRIC HEAT	– – –	– – –	X	– – –	– – –	– – –	– – –	1500	1360	1190	1060
Heating Select Taps A+10% 1600 CFM unit with 20kW electric heat A 1600 CFM unit with 10 – 20kW max. electric heat B 1600 CFM unit with 0 – 10kW max. electric heat C 1250 CFM unit with 10 – 15kW electric heat D 1250 CFM unit with 0 – 10kW max. electric heat												
20VMBE	COOLING	X	X	– – –	1825	1700	1600	1400	– – –	– – –	– – –	– – –
	CONTINUOUS BLOWER	– – –	X	– – –	900	850	800	700	– – –	– – –	– – –	– – –
	ELECTRIC HEAT	– – –	– – –	X	– – –	– – –	– – –	– – –	1825	1700	1500	1300
Heating Select Taps A 2000 CFM unit with 15 – 20kW electric heat B 2000 CFM unit with 0 – 15kW max. electric heat C 1600 CFM unit with 10 – 20kW electric heat D 1600 CFM unit with 0 – 10kW max. electric heat												

Airflow shown are dry coil at 240 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:"
If humidistat function is activated the cooling CFM will be reduced by 20%.
Adjust profile (+) will increase airflow by 10%, while tap (-) will decrease airflow by 10%.

Digital thermostats for these units must have a “C” terminal.
For additional sales and technical information on variable speed motors visit: www.thedealertoolbox.com

PERFORMANCE DATA (240V)

PERFORMANCE DATA - 240V				CIRCUIT 1			CIRCUIT 2			CIRCUIT 3		
UNIT MODEL	kW (@ 240V)	MOTOR AMPS	MOTOR HP	L1 - L2 TOTAL AMPS 240V/ 208V	L1 - L2 MIN. CIR. AMPAC-ITY 240V/ 208V	L1 - L2 MAX. CIR. PROTEC-TION 240V/ 208V	L3 - L4 TOTAL AMPS 240V/ 208V	L3 - L4 MIN. CIR. AMPAC-ITY 240V/ 208V	L3 - L4 MAX. CIR. PROTEC-TION 240V/ 208V	L5 - L6 TOTAL AMPS 240V/ 208V	L5 - L6 MIN. CIR. AMPAC-ITY 240V/ 208V	L5 - L6 MAX. CIR. PROTEC-TION 240V/ 208V
8VMBE0	0	1.9	1/3	1.9	3/3	15/15	– – –	– – –	– – –	– – –	– – –	– – –
8VMBE3	3	1.9	1/3	15/13	18/16	20/20	– – –	– – –	– – –	– – –	– – –	– – –
8VMBE4	4	1.9	1/3	17/15	24/20	25/20	– – –	– – –	– – –	– – –	– – –	– – –
8VMBE5	5	1.9	1/3	21/18	29/25	30/25	– – –	– – –	– – –	– – –	– – –	– – –
8VMBE6	6	1.9	1/3	25/22	36/30	40/30	– – –	– – –	– – –	– – –	– – –	– – –
8VMBE8	8	1.9	1/3	33/29	46/39	50/40	– – –	– – –	– – –	– – –	– – –	– – –
8VMBE10	10	1.9	1/3	42/36	55/48	60/50	– – –	– – –	– – –	– – –	– – –	– – –
12VMBE0	0	2.8	1/2	2.8	4/4	15/15	– – –	– – –	– – –	– – –	– – –	– – –
12VMBE5	5	2.8	1/2	24/21	30/26	30/30	– – –	– – –	– – –	– – –	– – –	– – –
12VMBE8	8	2.8	1/2	36/32	46/40	50/40	– – –	– – –	– – –	– – –	– – –	– – –
12VMBE10	10	2.8	1/2	45/39	56/49	60/50	– – –	– – –	– – –	– – –	– – –	– – –
12VMBE15	15	2.8	1/2	45/39	56/49	60/50	21/18	27/23	30/25	– – –	– – –	– – –
16VMBE0	0	4.7	3/4	4.7	6/6	15/15	– – –	– – –	– – –	– – –	– – –	– – –
16VMBE5	5	4.7	3/4	26/23	32/29	35/30	– – –	– – –	– – –	– – –	– – –	– – –
16VMBE8	8	4.7	3/4	33/29	48/42	50/45	– – –	– – –	– – –	– – –	– – –	– – –
16VMBE10	10	4.7	3/4	46/41	58/50	60/50	– – –	– – –	– – –	– – –	– – –	– – –
16VMBE15	15	4.7	3/4	46/41	58/50	60/50	21/18	27/23	30/25	– – –	– – –	– – –
16VMBE20	20	4.7	3/4	46/41	58/50	60/50	42/36	53/46	60/50	– – –	– – –	– – –
20VMBE0	0	7.1	1	7.1	9/9	15/15	– – –	– – –	– – –	– – –	– – –	– – –
20VMBE5	5	7.1	1	28/26	36/32	40/35	– – –	– – –	– – –	– – –	– – –	– – –
20VMBE8	8	7.1	1	41/36	52/46	60/50	– – –	– – –	– – –	– – –	– – –	– – –
20VMBE10	10	7.1	1	47/42	59/53	60/60	– – –	– – –	– – –	– – –	– – –	– – –
20VMBE15	15	7.1	1	47/42	59/53	60/60	21/18	27/23	30/25	– – –	– – –	– – –
20VMBE20	20	7.1	1	47/42	59/53	60/60	42/36	53/46	60/50	– – –	– – –	– – –

NOTES:
1. 15kW and 20kW models require 2 supply circuits.
2. Units suitable for installation with 0" clearance to combustible material.

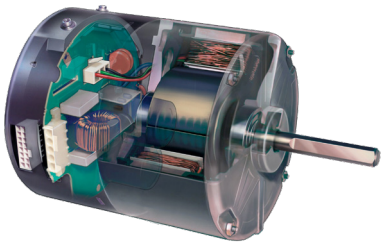
CW COOLING CAPACITY DATA

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°FWB 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
8VMBE	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
12VMBE	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
16VMBE	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
20VMBE	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

NOTE:

1. All cooling coils have four rows.
2. Contact factory for capacities at other conditions.

VMBE



Variable Speed ECM Motor

PERFORMANCE DATA (277)

PERFORMANCE DATA - 277V						
UNIT MODEL	kW (@ 277V)	MOTOR AMPS	MOTOR HP	TOTAL AMPS	MIN. CIR. AMPACITY	MAX. CIR. AMPACITY
8VMBE0-277	0	1.9	1/3	1.9	3	15
8VMBE3-277	3	1.9	1/3	12.7	16	20
8VMBE4-277	4	1.9	1/3	16.3	21	25
8VMBE5-277	5	1.9	1/3	20.8	25	25
8VMBE6-277	6	1.9	1/3	23.6	30	30
8VMBE8-277	8	1.9	1/3	30.8	39	40
8VMBE10-277	10	1.9	1/3	38.0	48	50
12VMBE0-277	0	3.2	1/2	3.2	4	15
12VMBE5-277	5	3.2	1/2	21.3	27	30
12VMBE8-277	8	3.2	1/2	32.0	40	40
12VMBE10-277	10	3.2	1/2	39.3	50	50
16VMBE0-277	0	4.8	3/4	4.8	6	15
16VMBE5-277	5	4.8	3/4	22.9	29	30
16VMBE8-277	8	4.8	3/4	33.7	43	45
16VMBE10-277	10	4.8	3/4	40.9	52	60
20VMBE0-277	0	6.4	1	6.4	8	15
20VMBE5-277	5	6.4	1	24.5	31	35
20VMBE8-277	8	6.4	1	35.3	45	45
20VMBE10-277	10	6.4	1	42.5	54	60

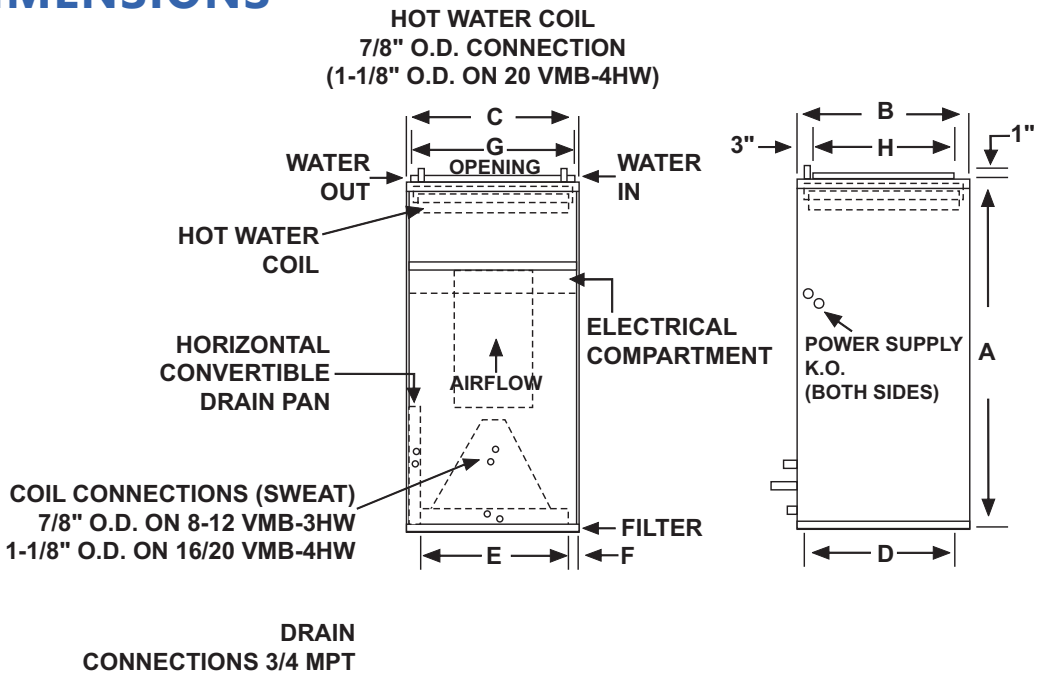
NOTES:
1. Units suitable for installation with 0" clearance to combustible material.

CW COOLING CAPACITY DATA (277)

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°FWB 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
8VMBE-277	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
12VMBE-277	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
16VMBE-277	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
20VMBE-277	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

NOTE:
1. All cooling coils have four rows.
2. Contact factory for capacities at other conditions.

DIMENSIONS



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

ADDITIONAL FEATURES

- Vertical/horizontal drain pans
- 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 zone control manufacturer.
- Optional 208/230 and 277V models available. Contact factory.

VMB-HW

ELECTRICAL DATA

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

AIR FLOW DATA

VMB-HW AIR FLOW DATA													
MODEL	**OPERATING MODE**	**THERMOSTAT TERMINALS "X" ENERGIZED TERMINAL**				**CONTROL BOARD SELECTION TAPS**							
						COOL (CFM)				**HEAT (CFM)**			
		Y1	**HUM**	**G**	**W1**	**A**	**B**	**C**	**D**	**A**	**B**	**C**	**D**
8VMB-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
12VMB-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
16VMB-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
20VMB-4HW	**COOLING**	X	– – –	– – –	– – –	1825	1700	1600	1400	– – –	– – –	– – –	– – –
	COOL & DEHUMIDIFY	X	X	– – –	– – –	1600	1440	1280	1120	– – –	– – –	– – –	– – –
	CONTINUOUS BLOWER	– – –	– – –	X	– – –	1000	900	800	700	– – –	– – –	– – –	– – –
	HEATING	– – –	– – –	– – –	X	– – –	– – –	– – –	– – –	1825	1700	1500	1250

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

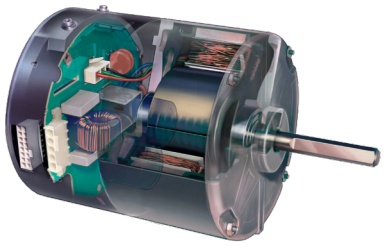
NOTES:
The cooling and heating speed taps are factory set on “A”.
The delay profile is factory set on “Arid” setting.
The adjust profile is factory set on “Normal:”
Adjust profile (+) will increase airflow by 10%, while tap (-) will decrease airflow by 10%.
Digital thermostats for these units must have a “C” terminal.

COOLING PERFORMANCE DATA

VMB-HW COOLING PERFORMANCE DATA

UNIT MODEL	NOM. CFM	GPM	P.D. (FT. WTR.)	45°F ENTERING WATER						42°F ENTERING WATER					
				80°F DB/67°FWB 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
8VMB-3HW	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
12VMB-3HW	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
16VMB-4HW	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
20VMB-4HW	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

VMB-HW



Variable Speed ECM Motor

HEATING PERFORMANCE DATA

VMB-HW 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
			1	0.5	20.7	29.0	37.3	45.6
		700	3	1.8	24.8	34.7	44.6	54.5
			2	0.8	22.0	30.8	39.6	48.4
			1	0.5	19.7	27.6	35.5	43.4
		600	3	1.8	22.9	32.0	41.1	50.3
			2	0.8	20.5	28.7	36.9	45.1
			1	0.5	18.6	26.0	33.4	40.9
		500	3	1.8	20.5	28.7	36.9	45.1
			2	0.8	18.7	26.2	33.7	41.2
			1	0.5	17.1	24.0	30.9	37.7
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	---
			7	3.3	55.5	76.2	97.0	---
			5	1.9	51.3	70.5	89.8	109.2

NOTES:
(1) Heat BTU is at 65°F Entering Air Temperature.

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