

**NOW AVAILABLE WITH
"AUTOSPEED 24V" CONTROL**



Product Specifications

**MB Series
MBE Series
MB-HW Series**

**Vertical / Horizontal
Direct Drive
Hydronic Fan Coils
300 - 2100 CFM**

NEW OPTION AVAILABLE: "AUTOSPEED 24V" CONTROL PACKAGE (With 24V, Automatic 3-speed fan selection)

MB Series
(2-pipe, cooling and heating)
(replaces the MH Series)



MB-HW Series
(4-pipe, cooling and heating)
(replaces the MH-HW Series)



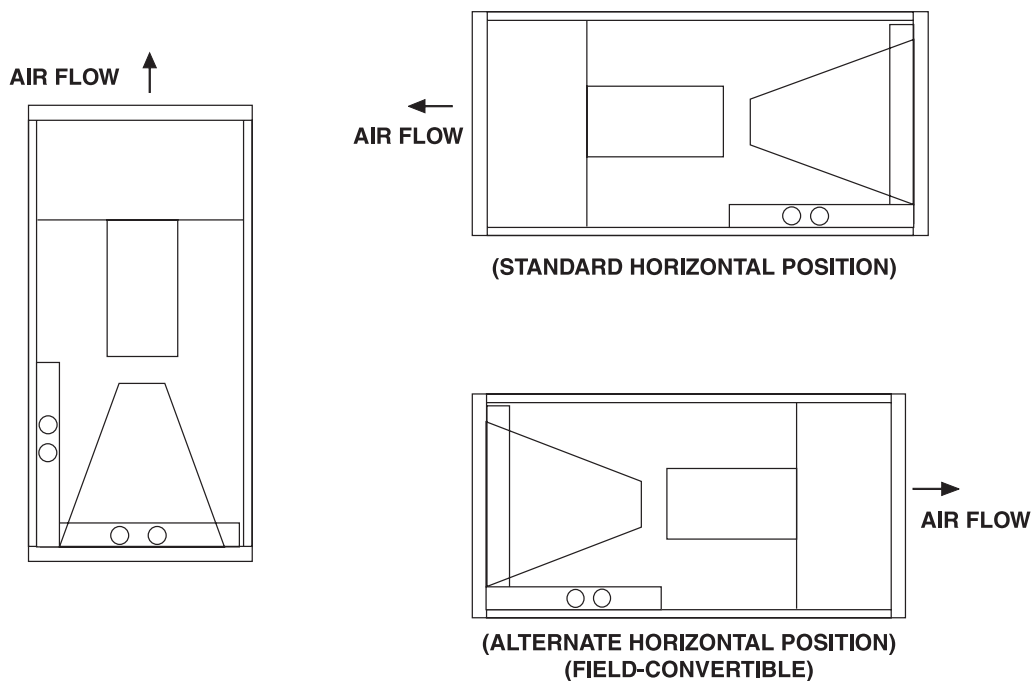
MBE Series
(2-pipe, cooling with electric heat)
(replaces the MHE Series)



Table of contents

<u>DESCRIPTION</u>	<u>PAGE</u>
General Construction Features.....	3
Model Number Nomenclature.....	3
MB Series - Cooling / Heating (2-pipe)	4
MB-HW Series - Cooling / Heating (4-pipe)	5
MBE Series - Cooling / Electric Heat	6
Cooling Capacities (all models)	7
Valves	7

3-WAY AIRFLOW (MB, MBE, MB-HW)



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 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 U.L. Listed.

MB Series

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.

MBE Series (240V)

The MBE Series 2-pipe fan coil comes with a 4 row cooling coil, 240V multi-speed motor, 240/24 transformer, and up to 25kW of factory installed electric heat. Models with more than 10kW also include a circuit breaker for branch circuit protection. Control voltage is 24V.

MBE Series (277V)

This fan coil comes with a 4 row cooling coil, 277V multi-speed motor, and up to 10kW of factory installed electric heat. A unit mounted disconnect is optional. All models are U.L. Listed.

MB-HW Series

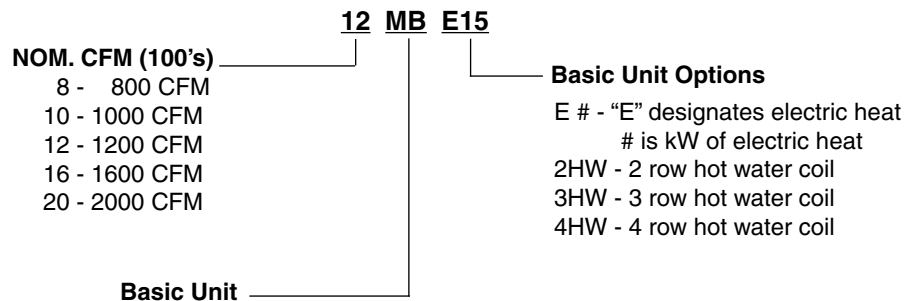
The MB-HW Series 4-pipe fan coil includes a 4 row cooling coil, a 2, 3, or 4 row heating coil installed in the reheat position, and a 120V multi-speed motor. No controls are furnished.

Additional Features

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. Contact the factory for information.

Model Number Nomenclature



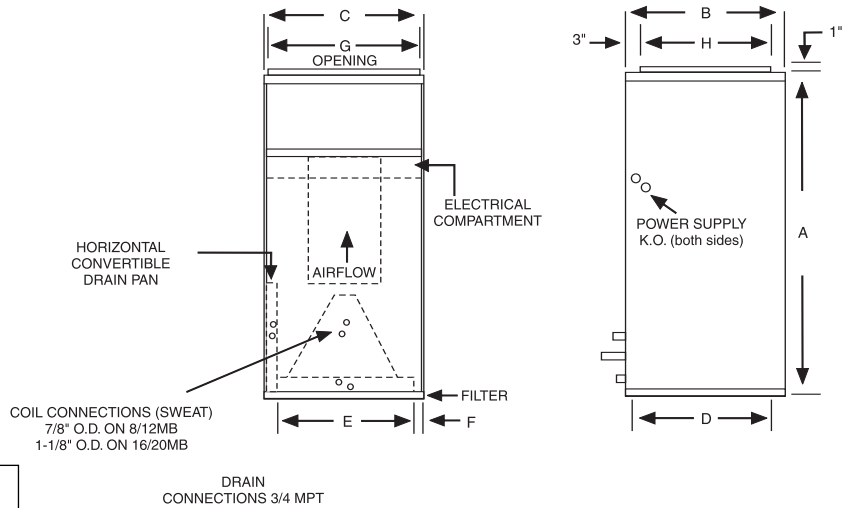
In keeping with its policy of continuous progress and product improvement, First Operations reserves the right to make changes without notice. Maintenance for all First Co. products is available under "Product Maintenance" at www.firstco.com.

MB Series

Cooling / Heating (2-pipe)



PHYSICAL DIMENSIONS											
UNIT MODEL	A	B	C	D	E	F	G	H	COIL CONNECTIONS	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	19	7/8 SWEAT	20 X 22 X 1	120
16/20MB	48	28	21-1/4	26-1/4	17-1/4	2	18	19-1/4	1-1/8 SWEAT	20 X 25 X 1	210



NOTE: See Page 7 for cooling capacities and hand/motorized valves

In keeping with its policy of continuous progress and product improvement, First Operations reserves the right to make changes without notice. Maintenance for all First Co. products is available under "Product Maintenance" at www.firstco.com.

- Features:**
1. 4 row cooling / heating coil
 2. 120V multi-speed motor
 3. Vertical / Horizontal drain pan (right-to-left and left-to right airflow)
 4. Manual air vent
 5. Throw away filter

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	2.5	57.7	137	132
		4.5	5.5	62.2	142	142
		6.0	9.5	65.0	145	148
	600	3.0	2.5	47.8	144	138
		4.5	5.5	51.0	149	147
		6.0	9.5	53.1	152	152
12MB	1200	4.0	2.4	83.9	135	128
		6.0	4.8	90.9	140	140
		8.0	7.9	95.2	144	146
	1000	4.0	2.4	74.7	139	133
		6.0	4.8	80.3	144	143
		8.0	7.9	83.8	148	149
16MB	1600	6.0	3.3	118.7	138	131
		8.0	5.4	124.7	142	139
		10.0	7.9	129.5	145	144
	1400	6.0	3.3	108.3	142	134
		8.0	5.4	114.0	145	142
		10.0	7.9	118.1	148	146
20MB	2000	7.0	4.3	141.6	136	126
		10.0	7.9	151.3	140	140
		13.0	12.5	157.5	143	146
	1600	7.0	4.3	121.7	140	135
		10.0	7.9	129.5	145	144
		13.0	12.5	134.4	148	149

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	920	890	825	750	680	580
			Med-Hi	750	730	680	610	540	450
			Med-Low	555	530	480	420	330	---
			Low	350	310	240	170	100	---
12MB	3	1/3-6.0	High	1220	1185	1120	1070	1015	960
			Med-Hi	1085	1060	1010	960	910	865
			Med-Low	935	915	875	830	775	700
			Low	750	730	695	650	605	550
16MB	4	1/2-8.0	High	1730	1690	1620	1540	1450	1350
			Med	1580	1550	1490	1430	1360	1270
			Low	1360	1340	1310	1270	1210	1100
			High	2030	2000	1950	1900	1840	1770
20MB	5	3/4-10.5	Med	1630	1615	1580	1540	1490	1440
			Low	1280	1270	1240	1210	1180	1140

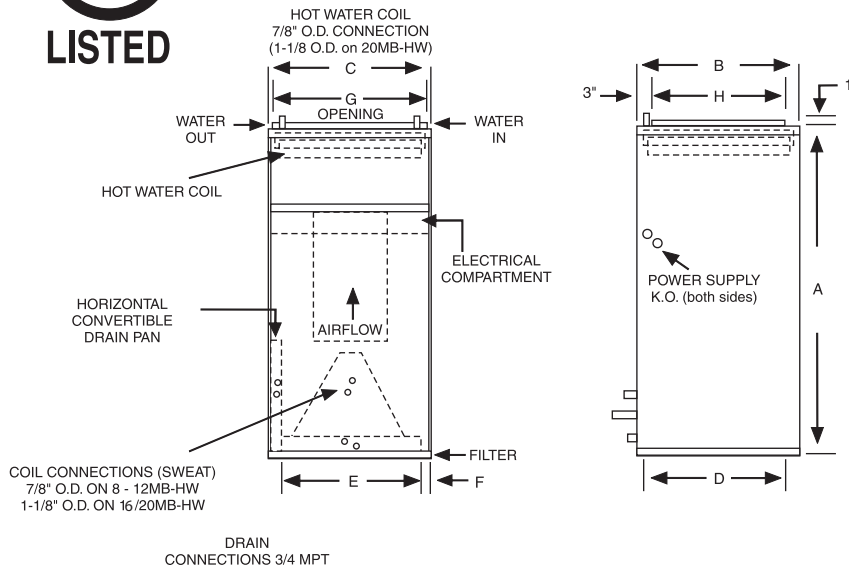
NOTE: Discharge air temperature must not exceed 150 degrees.



MB-HW Series

Cooling / Heating

(4-pipe)



Features:

1. Separate cooling and heating coils (4 row cooling coil)
2. 120V multi-speed motor
3. Vertical / Horizontal drain pan (right-to-left and left-to-right airflow)
4. Manual air vent
5. Throw away filter

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	180°F
8MB-2HW	800	1	0.13	13.0	18.2	28.6
		2	0.51	17.4	24.3	38.2
		3	1.13	18.9	26.5	41.7
	600	1	0.13	11.3	15.8	24.8
		2	0.51	14.9	20.8	32.7
		3	1.13	16.1	22.5	35.4
8MB-3HW	800	1	0.22	16.6	23.3	36.5
		2	0.83	22.2	31.1	48.8
		3	1.83	24.2	33.9	53.2
	600	1	0.22	14.2	19.9	31.2
		2	0.83	18.7	26.2	41.4
		3	1.83	20.2	28.3	44.5
10MB-3HW	1000	2	1.04	26.3	36.8	57.8
		4	3.64	30.7	43.0	67.6
		6	7.55	32.8	45.9	72.2
	800	2	1.04	23.1	32.3	50.7
		4	3.64	26.7	37.4	58.8
		6	7.55	28.4	39.8	62.5
12MB-3HW	1300	2	1.10	30.2	42.3	66.5
		4	3.64	35.9	50.3	78.9
		6	7.55	38.6	54.0	84.9
	1100	2	1.10	27.9	39.0	61.3
		4	3.64	32.7	45.7	71.8
		6	7.55	34.9	48.9	76.8
16MB-4HW	1700	4	1.40	50.5	70.7	111.2
		6	2.89	55.0	77.0	121.0
		8	4.83	57.9	81.0	127.4
	1500	4	1.40	46.7	65.3	102.6
		6	2.89	50.6	70.9	111.4
		8	4.83	53.2	74.4	116.9
20MB-4HW	2100	5	1.86	62.4	87.4	137.4
		7	3.33	67.0	93.9	147.5
		9	5.15	70.2	98.3	154.5
	1800	5	1.86	56.6	79.3	124.6
		7	3.33	60.6	84.8	133.3
		9	5.15	63.3	88.6	139.3

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

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	950	920	855	790	720	645	
			Med	860	835	785	720	650	580	
			Low	780	755	705	650	590	510	
10MB-HW	2.5	1/5-4.5	High	1120	1095	1045	995	940	880	
			Med	850	840	810	780	740	690	
			Low	680	670	655	625	585	510	
12MB-HW	3	1/2-8.0	High	1340	1310	1250	1190	1120	1050	
			Med	1290	1260	1200	1140	1080	1000	
			Low	1200	1170	1120	1070	1010	940	
16MB-HW	4	3/4-10.5	High	1810	1780	1760	1660	1590	1530	
			Med	1570	1550	1510	1460	1400	1340	
			Low	1280	1260	1220	1180	1130	1050	
20MB-HW	5	1-10.4	High	2160	2125	2055	1980	1895	1810	
			Med	1865	1840	1785	1710	1620	1525	
			Low	1560	1540	1490	1435	1365	1260	

NOTE: See Page 7 for cooling capacities and accessories

In keeping with its policy of continuous progress and product improvement, First Operations reserves the right to make changes without notice. Maintenance for all First Co. products is available under "Product Maintenance" at www.firstco.com.

(1) Contact factory for capacities at other conditions.

