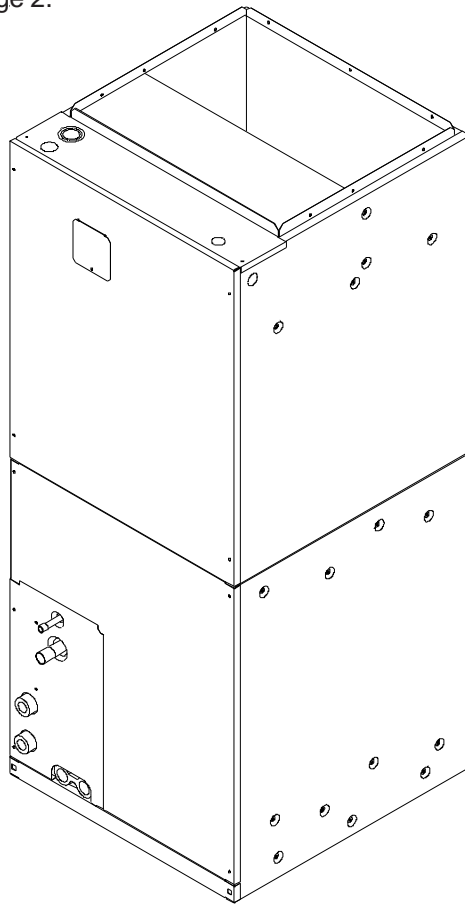


TECHNICAL MANUAL

MBR Blowers

- Refer to Service Manual RS6100004 for installation, operation, and troubleshooting information.
- All safety information must be followed as provided in the Service Manual.
- Refer to the appropriate Parts Catalog for part number information.
- Models listed on page 2.

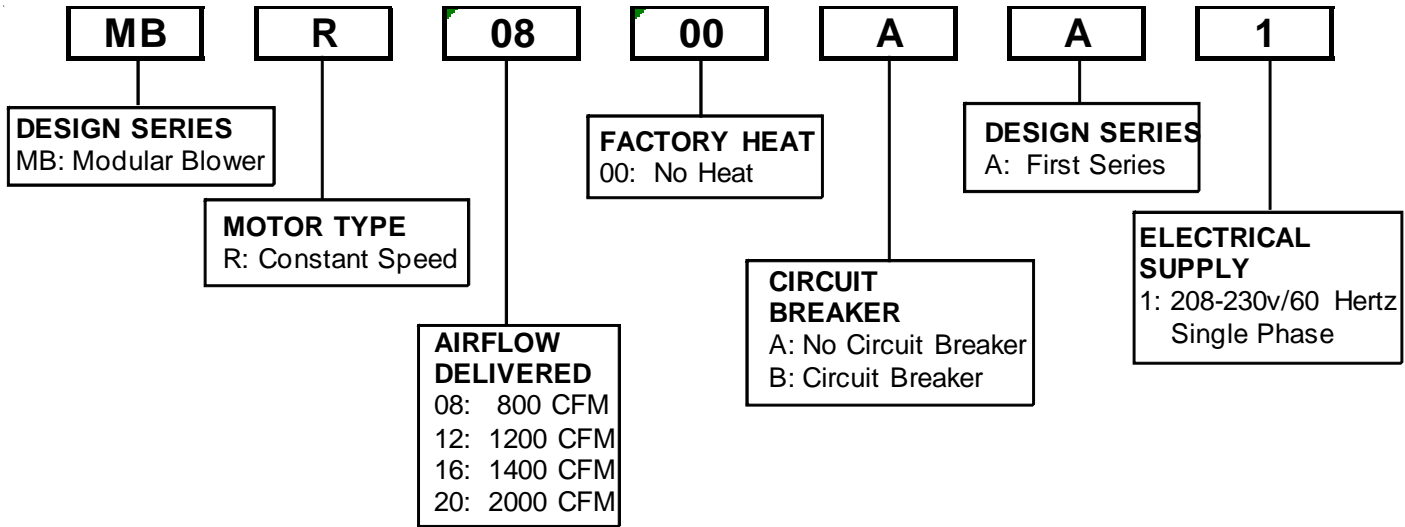


This manual is to be used by qualified, professionally trained HVAC technicians only. The manufacturer does not assume any responsibility for property damage or personal injury due to improper service procedures or services performed by an unqualified person.

RT6223004
October 2013

PRODUCT IDENTIFICATION

The model number is used for positive identification of component parts used in manufacturing. Please use this number when requesting service or parts information.



MBR0800
MBR1200
MBR1600
MBR2000

WARNING

HIGH VOLTAGE!

Disconnect ALL power before servicing or installing this unit. Multiple power sources may be present. Failure to do so may cause property damage, personal injury or death.



WARNING

The manufacturer will not be responsible for any injury or property damage arising from improper service or service procedures. If you install or perform service on this unit, you assume responsibility for any personal injury or property damage which may result. Many jurisdictions require a license to install or service heating and air conditioning equipment.

WARNING

Installation and repair of this unit should be performed ONLY by individuals meeting the requirements of an "entry level technician" as specified by the Air-Conditioning, Heating, and Refrigeration Institute (AHRI). Attempting to install or repair this unit without such background may result in product damage, personal injury or death.

PRODUCT DESIGN

The MBR Blower Cabinets are used in combination with a cased evaporator coil. This combination of blower and coil functions as the indoor part of a split air-conditioning system, and may be matched with a remote condensing or heat pump unit. The blower cabinet can also function as an electric furnace when used with an electric heater.

NOTE: The electric heating elements for electric furnace installation are not shipped with the cabinet and are field-installed.

Systems should be properly sized by heat gain and loss calculations made according to methods of the Air Conditioning Contractors Association (ACCA) or equivalent. It is the contractor's responsibility to ensure the system has adequate capacity to heat or cool the conditioned space.

CLEARANCES AND ACCESSIBILITY

The unit can be positioned for upflow, counterflow, horizontal right or horizontal left operation. Zero clearance is allowed on all sides for combustible materials. Thirty-six inches should be allotted on the door side for maintenance and service.

To reduce risk of rusting, do not install the unit blower directly on the ground or on a floor that is likely to be wet. In such environments, the unit must be elevated by use of a sturdy, nonporous material.

INSULATION

To ensure efficient operation, review the following precautions.

- If the unit is located in an area with high ambient temperature and/or high humidity, the air handler may be subject to nuisance sweating of the casing. On these installations, a wrap of 2" fiberglass insulation with a vapor barrier is recommended.
- The factory recommends insulating the duct running through any unconditioned spaces.

To reduce operating sound and vibration transmission use flexible canvas duct connections at the cabinet.

WARNING

The United States Environmental Protection Agency ("EPA") has issued various regulations regarding the introduction and disposal of refrigerants introduced into this unit. Failure to follow these regulations may harm the environment and can lead to the imposition of substantial fines. These regulations may vary by jurisdiction. Should questions arise, contact your local EPA office.

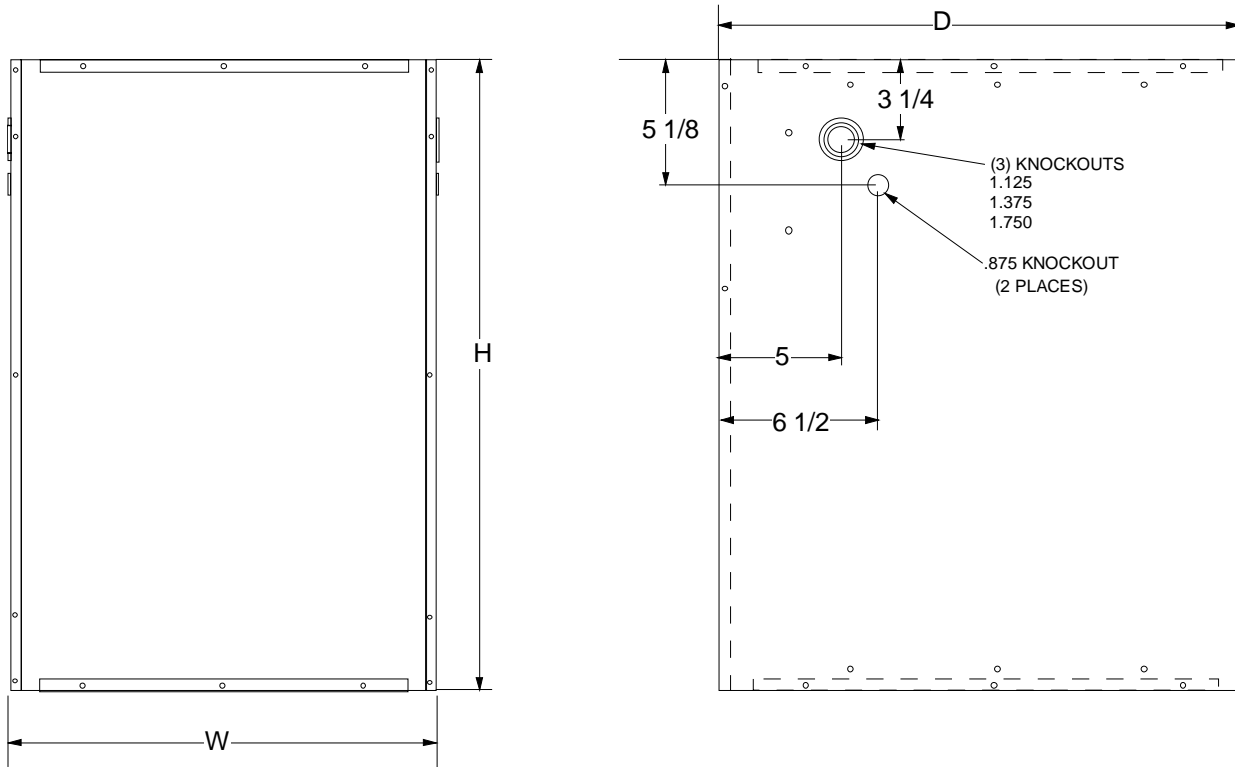
WARNING

Do not connect or use any device that is not design certified by the manufacturer for use with this unit. Serious property damage, personal injury, reduced unit performance and/or hazardous conditions may result from the use of such non-approved devices.

WARNING

To prevent the risk of property damage, personal injury, or death, do not store combustible materials or use gasoline or other flammable liquids or vapors in the vicinity of this appliance.

BLOWER SPECIFICATIONS



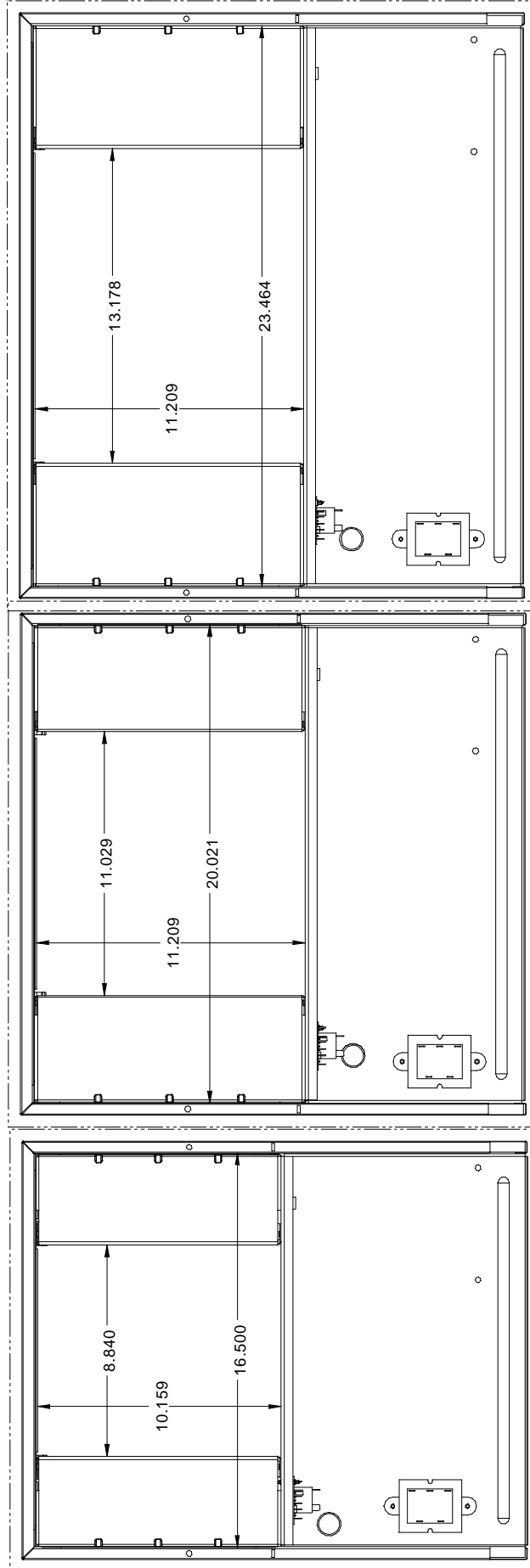
MBR800/1200/1600/2000

MODEL	Physical Information				Dimensions, inches (mm)			Shipping
	Blower Wheel (D x W)	Blower Motor (HP)	MCA ¹	MOP ¹	W	H	D	Weight lbs.(kg)
MBR800	9X6	1/4	1.9	15	17½ (445)	26 (660)	21 (533)	72 (32.6)
MBR1200	9x8	1/3	3.0	15				
MBR1600	10x8	1/3	3.8	15	21 (533)	30 (762)	21 (533)	82 (37.2)
MBR2000	10x10	1/2	4.9	15	24½ (622)	30 (762)	21 (533)	94 (42.6)

¹Minimum Circuit Ampacity (MCA) and Maximum Overcurrent Protection (MOP) for blower without supplemental heat installed. Refer to unit nameplate for MCA and MOP with approved accessory heaters installed.

BLOWER SPECIFICATIONS

BLOWER OPENING DIMENSIONS (TOP VIEW)



LARGE

MEDIUM

SMALL

MBR800/1200/1600/2000

BLOWER SPECIFICATIONS

HKR HEATER DATA

BLOWER	ELECTRIC HEATER KIT					
	NO HEAT KIT	HKR-03*	HKR05-(C)'	HKR-06*	HKR-08(C)*	HKR-10(C)*
MBR						
0800AA-1AA	X	X	X	X	X	X
1200AA-1AA	X	X	X	X	X	X
1600AA-1AA	X	X	X	X	X	X
2000AA-1AA	X	X	X	X	X	X

^ = Circuit 1: Single Phase for Air Handler Motor
Circuit 2: 3-Phase for HKR3 Heater Kits

* = Revision level that my or may not be designated
C = Circuit Breaker option

X = Allowable combinations
~ = Restricted combinations

BLOWER	ELECTRIC HEATER KIT				
	HKR-15C*	HKR-20C*	HKR-21C*	^HKR3-15*	^HKR3-20*
MBR					
0800AA-1AA	~	~	~	~	~
1200AA-1AA	X	X	X	X	X
1600AA-1AA	X	X	X	X	X
2000AA-1AA	X	X	X	X	X

^ = Circuit 1: Single Phase for Air Handler Motor
Circuit 2: 3-Phase for HKR3 Heater Kits

* = Revision level that my or may not be designated
C = Circuit Breaker option

X = Allowable combinations
~ = Restricted combinations

BLOWER PERFORMANCE DATA

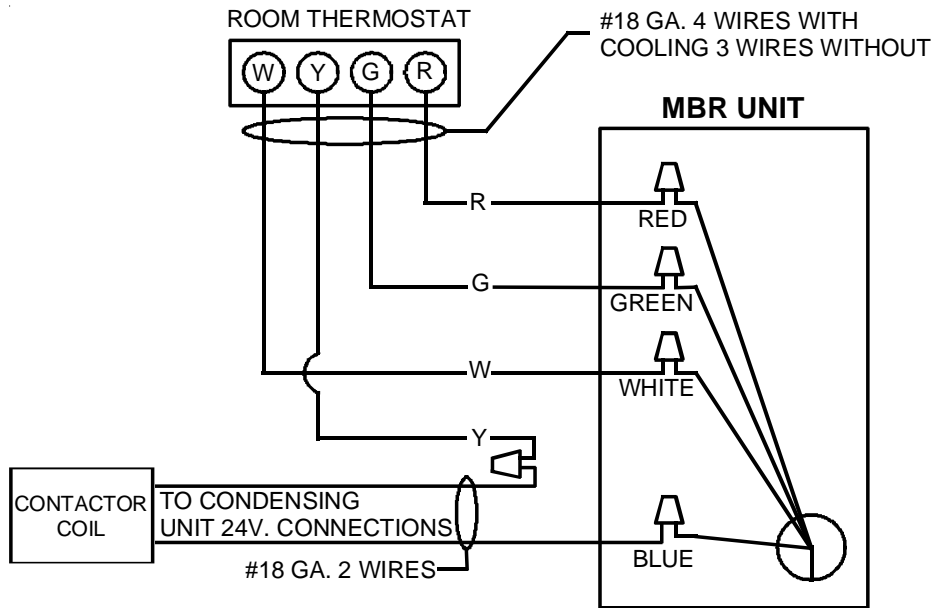
SPEED	STATIC	MBR0800**-* SCFM	MBR1200**-* SCFM	MBR1600**-* SCFM	MBR2000**-* SCFM
HIGH	0.1	1240	1500	1800	2160
	0.2	1170	1460	1740	2080
	0.3	1120	1360	1680	1990
	0.4	1060	1280	1610	1890
	0.5	980	1200	1520	1790
	0.6	900	1110	1430	1690
MEDIUM	0.1	900	1380	1540	1730
	0.2	850	1320	1490	1670
	0.3	790	1270	1450	1590
	0.4	740	1200	1400	1520
	0.5	680	1140	1350	1420
	0.6	605	1040	1280	1320
LOW	0.1	650	1170	1130	1520
	0.2	590	1130	1100	1450
	0.3	540	1080	1070	1360
	0.4	500	1020	1030	1290
	0.5	430	950	990	1200
	0.6	330	830	930	1090

External static is for blower @ 230 volts, it does not include coil, air filter or electric heaters.

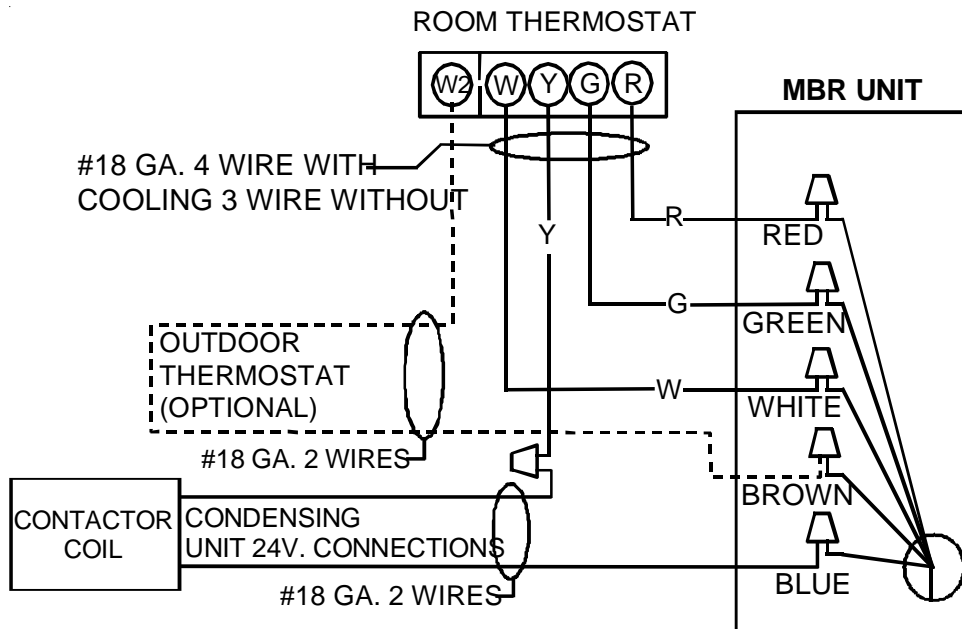
WIRING DIAGRAMS

WARNING

HIGH VOLTAGE!
DISCONNECT ALL POWER BEFORE SERVICING OR INSTALLING THIS UNIT. MULTIPLE POWER SOURCES MAY BE PRESENT. FAILURE TO DO SO MAY CAUSE PROPERTY DAMAGE, PERSONAL INJURY OR DEATH.



Low Voltage Wiring Diagram for Cooling Unit with optional heat kit 10KW and below



Low Voltage Wiring Diagram for Cooling Unit with optional heat kit 15KW and above

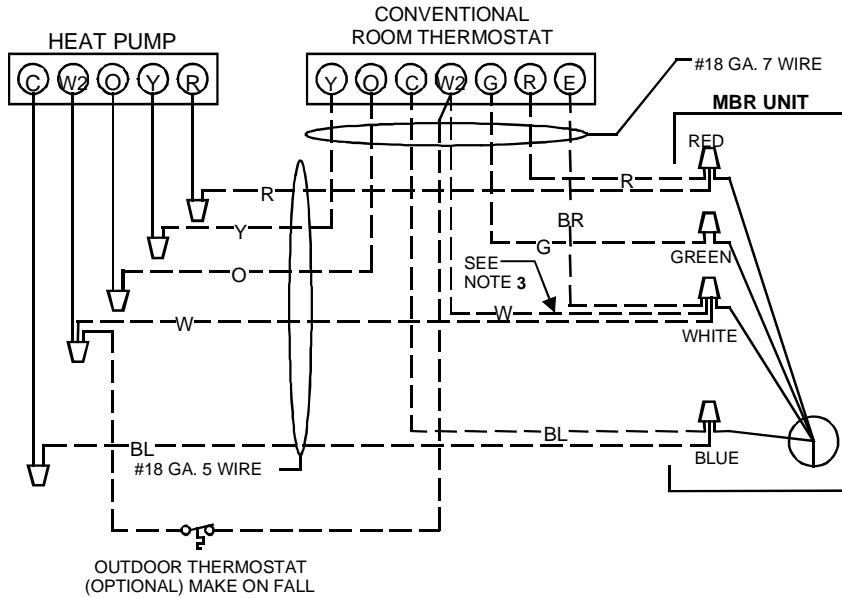
Wiring is subject to change. Always refer to the wiring diagram on the unit for the most up-to-date wiring.

WIRING DIAGRAMS

WARNING

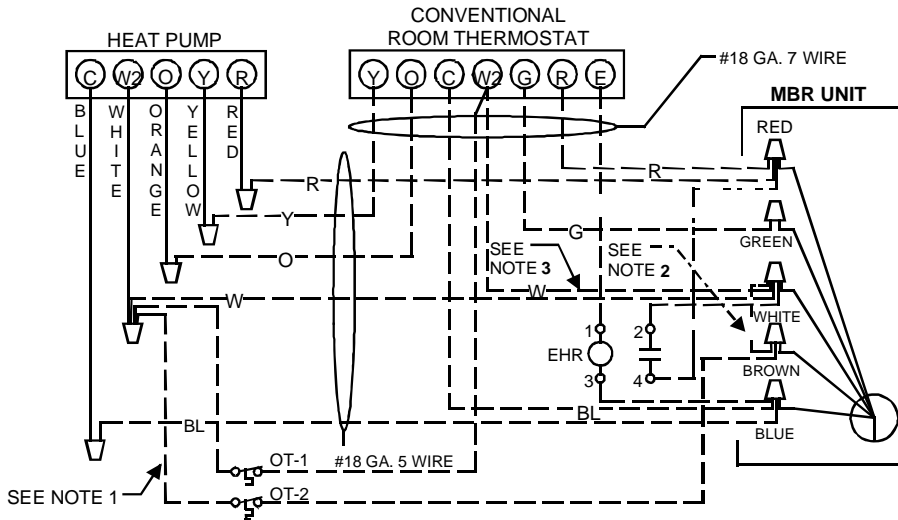
HIGH VOLTAGE!
DISCONNECT ALL POWER BEFORE SERVICING OR INSTALLING THIS UNIT. MULTIPLE POWER SOURCES MAY BE PRESENT. FAILURE TO DO SO MAY CAUSE PROPERTY DAMAGE, PERSONAL INJURY OR DEATH.

**MBR
SYSTEM COMPOSITE DIAGRAM
800-2000
10 KW & BELOW**



#18 GA. 6 WIRE NEEDED WHEN OT IS USED

**MBR
SYSTEM COMPOSITE DIAGRAM
1200-2000
ABOVE 10 KW**



#18 GA. 7 WIRE NEEDED WHEN (2) OTs ARE USED

NOTES

- 1) OUTDOOR THERMOSTAT (OT-1) SHOULD BE THE FIRST TO CLOSE AND THE FIRST TO OPEN.
- 2) IF OUTDOOR THERMOSTAT IS NOT USED, TIE WHITE AND BROWN WIRES FROM AIR HANDLER TOGETHER.
- 3) REMOVE WIRE WHEN USING OUTDOOR T-STAT.
#18 GA. 7 WIRE NEEDED WHEN (2) OTs ARE USED

NOMENCLATURE

- OT - OUTDOOR THERMOSTAT (OPTIONAL)
 MOF - MAKE ON FALL
 EHR - EMERGENCY HEAT RELAY (OPTIONAL)

COLOR CODES

- R - RED
 Y - YELLOW
 BL - BLUE
 V - VIOLET
 BR - BROWN
 O - ORANGE
 W - WHITE
 PK - PINK
 G - GREEN

Wiring is subject to change. Always refer to the wiring diagram on the unit for the most up-to-date wiring.

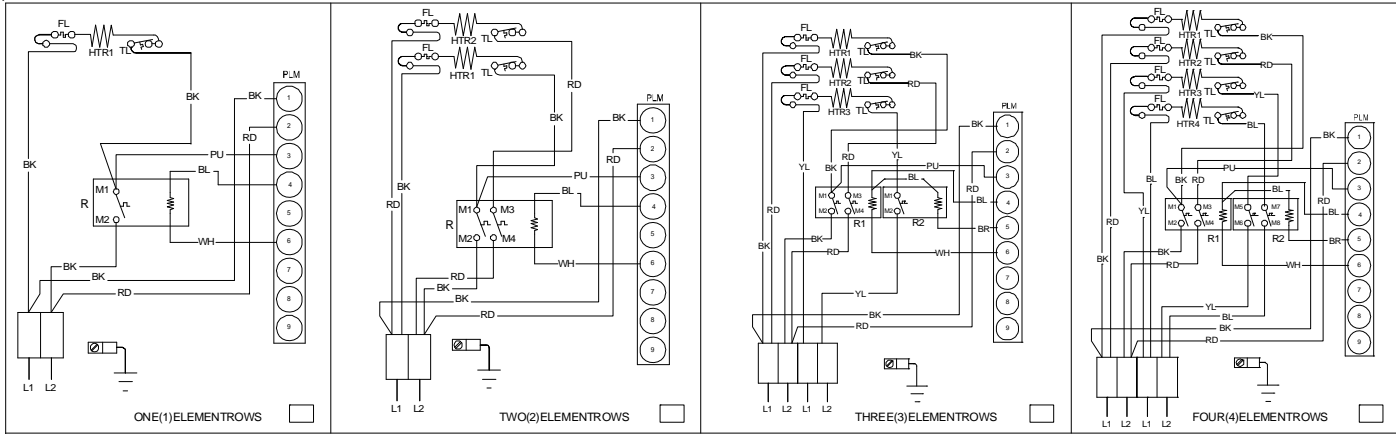
WIRING DIAGRAMS



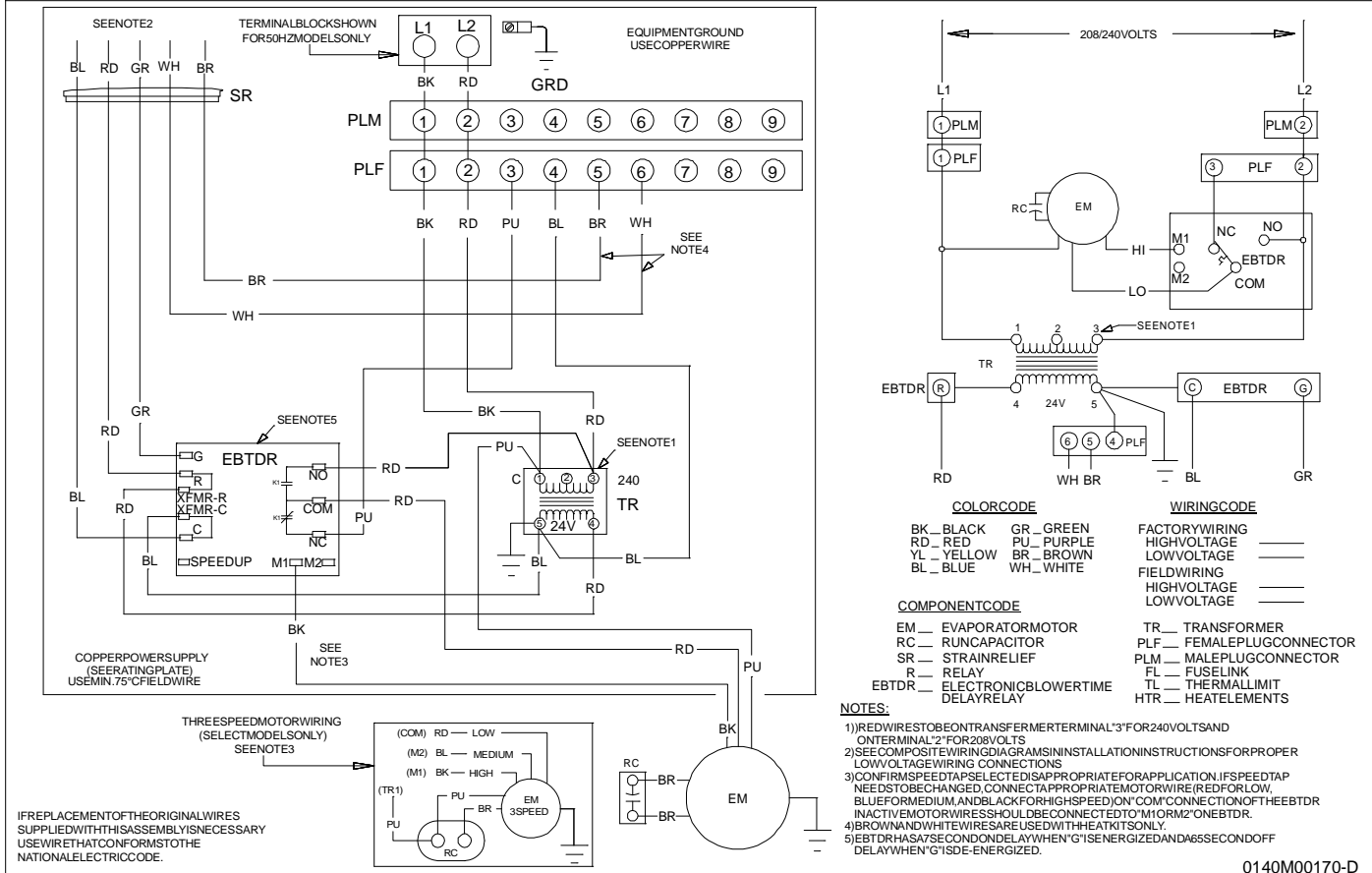
WARNING

HIGH VOLTAGE!
DISCONNECT ALL POWER BEFORE SERVICING OR INSTALLING THIS UNIT. MULTIPLE POWER SOURCES MAY BE PRESENT. FAILURE TO DO SO MAY CAUSE PROPERTY DAMAGE, PERSONAL INJURY OR DEATH.





NOTE: WHEN INSTALLING HEATER KIT, ENSURE SPEED TAP DOES NOT EXCEED MINIMUM BLOWER SPEED (MBS) SPECIFIED FOR HEAIR HANDLER/HEATER KIT COMBINATION ON THIS UNIT'S S&R PLATE. AFTER INSTALLING OPTIONAL HEAT KIT, MARK 'X' IN THE PROVIDED ABOVE. MARK ACCORDING TO NUMBER OF HEATER ELEMENT ROWS INSTALLED. NO MARK INDICATES NO HEAT KIT INSTALLED.



0140M00170-D

Wiring is subject to change. Always refer to the wiring diagram on the unit for the most up-to-date wiring.