STANDARD ECM **MODULAR MULTI-POSITION** AIR HANDLERS

MODELS: ME SERIES - 208/230 V - 1 PHASE







LIST OF SECTIONS

GENERAL 1 SAFETY 1 UNIT INSTALLATION 2 DUCT WORK AND CONNECTIONS 5 ELECTRIC HEATER INSTALLATION 6 LINE POWER CONNECTIONS 6 LOW VOLTAGE CONTROL CONNECTIONS 7 BLOWER SPEED CONNECTIONS 7	UNIT DATA MAINTENANCE AIR SYSTEM ADJUSTMENT TYPICAL THERMOSTAT CONNECTIONS WIRING DIAGRAM TYPICAL THERMOSTAT CONNECTIONS START UP SHEET	14 14 14 15 17
LIST OF F Return Air Duct Attachment 2 Typical Installation 3 Coil and Air Handler Attachment Details 3 Gasket Location 4 Dimensions and Duct Connection Dimensions 4 Typical Horizontal Installation 5 Duct Attachment 5 Duct Work Transition 6 Line Power Connections 7	Blower Speed Connections Duct Static Measurements Typical Thermostat Wiring Diagram - Single Stage Outdoor - ECM Wiring Diagram - Standard ECM - Single Phase Heat Kits Wiring Diagram - Three Phase Heat Kits Typical Thermostat Wiring Diagram - 2 Stage Heat Pump with ECM Blower Motor	14 15 16

Dimensions4	Electric Heat Performance Data: 208/230-1-60 and 208/230-3-60	9
Physical and Electrical Data - Cooling Only	Electrical Data for Single Source Power Supply: 208/230-1-60 10	0
Electrical Data - Cooling Only8	Electrical Data for Multi-source Power Supply: 208/230-1-60 1	1
Minimum Fan Speed - Electrical Heat with Heat Pump8	Electrical Data for Single Source Power Supply: 208/230-3-60 1	1
Default Blower Speeds for FER Compliance - Electrical Heat Only9	Electrical Data for Multi-source Power Supply: 208/230-3-60 12	2
KW and MBH Conversions - For Total Power Input Requirement 9	Airflow Data (CFM)	2

SECTION I: GENERAL

The ME modular air handler series provides the flexibility for installation in any position. This unit may be used for upflow, downflow, horizontal right, or horizontal left applications.

These units may be located in a closet, utility room, attic, crawl space, or basement. These versatile models may be used for cooling or heat pump operation with or without electric heat or indoor coil.

Top or side power and control wiring, color coded leads for control wiring, and electric heaters all combine to make the installation easy and minimize installation cost.

Electric heat kits are available as field installed accessories. Single phase kits are available from 2.5 kW to 25 kW. 208-230 volt three phase kits are available from 10 kW to 25 kW.

SECTION II: SAFETY



This is a safety alert symbol. When you see this symbol on labels or in manuals, be alert to the potential for personal injury.

Understand and pay particular attention to the signal words DANGER, WARNING, or CAUTION.

DANGER indicates an imminently hazardous situation, which, if not avoided, will result in death or serious injury.

WARNING indicates a potentially hazardous situation, which, if not avoided, could result in death or serious injury.

CAUTION indicates a potentially hazardous situation, which, if not avoided may result in minor or moderate injury. It is also used to alert against unsafe practices and hazards involving only property damage.

A WARNING

FIRE OR ELECTRICAL HAZARD

Failure to follow the safety warnings exactly could result in serious injury, death or property damage. A fire or electrical hazard may result causing property damage, personal injury or loss of life.

A WARNING

The air handler area must <u>not</u> be used as a broom closet or for any other storage purposes, as a fire hazard may be created. Never store items such as the following on, near or in contact with the furnace.

- 1. Spray or aerosol cans, rags, brooms, dust mops, vacuum cleaners or other cleaning tools.
- 2. Soap powders, bleaches, waxes or other Cleaning compounds; plastic items or containers; gasoline, kerosene, cigarette lighter fluid, dry cleaning fluids or other volatile fluid.
- 3. Paint thinners and other painting compounds.
- 4. Paper bags, boxes or other paper products

Never operate the air handler with the blower door removed. To do so could result in serious personal injury and/or equipment damage.

A WARNING

Improper installation, adjustment, alteration, or maintenance may create a condition where the operation of the product could cause personal injury or property damage. Refer to this manual for assistance, or for additional information, consult a qualified contractor, installer, or service agency.

A CAUTION

This product must be installed in strict compliance with the installation instructions and any applicable local, state, and national codes including, but not limited to building, electrical, and mechanical codes.

SAFETY REQUIREMENTS

- Failure to carefully read and follow all instructions in this manual can result in air handler malfunction, death, personal injury and/or property damage.
- This air handler must be installed in accordance with all national and local building/safety codes and requirements, local plumbing or wastewater codes, and other applicable codes.
- This air handler must be installed only in a location and position specified in the "Unit Installation" section of this Instruction Manual
- The air handler is not to be used for temporary heating of buildings or structures under construction.
- Always install the air handler to operate within the air handler's intended maximum outlet air temperature.
- The unit rating plate displays the air handler model number. The
 unit dimensions for the supply air plenum are provided in Figure 5
 and Table 1 of this Instruction Manual. The plenum must be
 installed according to the instructions. The return air duct attachment is shown in Figure 1.
- Clearance from combustible material is provided under "Clearances" in the "Unit Installation" section.
- It is necessary to maintain clearances for servicing. Access must be allowed for electric heaters and blower.
- The unit rating plate and power supply must be verified to ensure that the electrical characteristics match.
- Air handler shall be installed so the electrical components are protected from water.
- Installing and servicing heating/cooling equipment can be hazardous due to the electrical components. Only trained and licensed personnel should install, repair, or service heating/cooling equipment. Unlicensed service personnel can perform basic maintenance functions such as cleaning and replacing the air filters. When working on heating/cooling equipment, the precautions in the manuals and on the labels attached to the unit and other safety precautions must be observed as applicable.

ACAUTION

These air handlers should be transported and handled in an upright, upflow position. Failure to do so may result in unit damage and personal injury. Configuration conversions should be done at site of installation.

 These instructions cover minimum requirements and conform to existing national standards and safety codes. In some instances these instructions exceed certain local codes and ordinances, especially those who have not kept up with changing residential and non-HUD modular home construction practices. These instructions are required as a minimum for a safe installation.

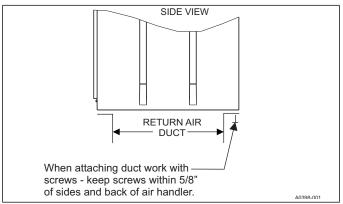


FIGURE 1: Return Air Duct Attachment

INSPECTION

As soon as a unit is received, it must be inspected for possible damage during transit. If damage is evident, the extent of the damage must be noted on the carrier's freight bill. A separate request for inspection by the carrier's agent must be made in writing. Also, before installation the unit must be checked for screws or bolts that may have loosened in transit. There are no shipping or spacer brackets which need to be removed.

It must be verified that all accessories such as heat kits and coils are available. Installation of these accessories or field conversion of the unit must be done before setting the unit in place or connecting any wiring, duct work, or piping.

SECTION III: UNIT INSTALLATION

UNIT SIZING

- The size of the unit must be based on an acceptable heat loss or gain calculation for the structure. The ACCA – Manual J or other approved methods may be used.
- Only connect the air handler to a duct system which has an external static pressure within the allowable range.
- Airflow must be within the minimum and maximum limits approved for electric heat, indoor coils, and outdoor units.

Entering Air Temperature Limits						
Wet Bulb	Temp.°F	Dry Bulb	Temp. °F			
Min.	Max.	Min.	Max.			
57	72	65	95			

- When an air handler is installed so that supply ducts carry air circulated by the air handler to areas outside the space containing the air handler, the return air shall also be handled by duct(s) sealed to the air handler casing and terminating in the space to be cooled/heated.
- Refer to the unit rating plate for the air handler model number, and then see the dimensions page of this instruction for supply air plenum dimensions. The plenum must be installed according to the instructions.
- The installer must check available supply power and verify that it is within the normal operating voltage range for the unit. The acceptable voltage range for these units is as follows:

Air Handler Voltage	Normal Operating ¹ Voltage Range
208-230-1-60	187-253

1. Rated in accordance with ARI Standard 110, utilization range "A".

CLEARANCES

Clearances must be taken into consideration, and provided for as follows:

- Maintenance and servicing access minimum 36" from front of unit recommended for blower motor / coil replacement.
- The duct work connected to this unit is designed for zero clearance to combustible materials.
- A combustible floor base accessory is available for downflow applications of this unit, if required by local code.

LOCATION

Location is usually predetermined. Check with owner's or dealer's installation plans. If location has not been decided, consider the following in choosing a suitable location:

- Select a location with adequate structural support, space for service access, and clearance for air return and supply duct connections.
- Using hanging brackets to wall mount this single piece air handler unit is not recommended.
- Normal operating sound levels may be objectionable if the air handler is placed directly over certain rooms, for example, a bedroom or a study.
- If using the air handler unit with an indoor coil, select a location that permits installation of the condensate line to an open drain or outdoors, allowing condensate to drain away from the structure.

NOTICE

The primary and secondary drain line must be trapped to allow proper drainage of condensate water. The secondary drain line should be piped to a location that will give the occupant a visual warning that the primary drain is clogged. If the secondary drain line is not used, it must be capped.

- When an indoor coil is installed in an attic or above a finished ceiling, an auxiliary drain pan must be provided under the air handler as specified by most local building codes.
- · Proper electrical supply must be available.
- If unit is located in an area of high humidity (that is, an unconditioned garage or attic), nuisance sweating of casing may occur.
 On these installations, unit duct connections and other openings must be properly sealed, and a wrap of 2" fiberglass insulation with vinyl vapor barrier must be used.

AIR HANDLER CONFIGURATION

These air handler units are supplied ready to be installed in an upflow, downflow, horizontal right or horizontal left position. Refer to Figure 2. The unit requires no conversion procedures.

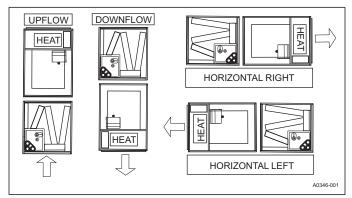


FIGURE 2: Typical Installation

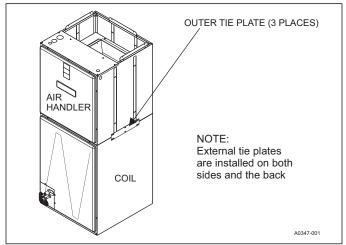


FIGURE 3: Coil and Air Handler Attachment Details

AIR HANDLER AND COIL UPFLOW, DOWNFLOW, AND HORIZONTAL POSTIONS

- 1. Apply neoprene gasket to the return air end of air handler.
- Attach three tie plates to external sides and back of air handler casing using screws. Refer to Figure 3.
- 3. Position blower casing over appropriate coil opening (depending on configuration). Refer to Figure 2.
- Attach the three tie plates to coil casing using screws. Refer to Figure 3
- 5. Remove coil access panel and coil filter door.
- 6. Slide the coil out of the coil cabinet, and set coil to the side.
- 7. Locate 2" wide foam gasket.
- 8. Apply foam gasket over the air handler and coil mating seams on the interior of both unit sides and back. Refer to Figure 4.
- Slide the coil into the housing, and install the coil access panel and coil filter door.



FIGURE 4: Gasket Location

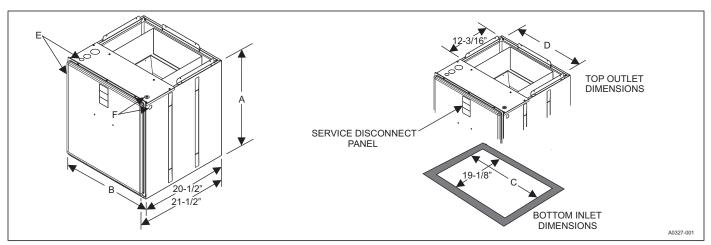


FIGURE 5: Dimensions and Duct Connection Dimensions

TABLE 1: Dimensions

		Dime	Wiring Knockou	ıt Dimensions ¹			
ME MODELS	Α	В	С	D	E	F	
	Height	Width	Bottom Opening	Top Opening	Power	Control	
ME08B	21-1/2	17-1/2	16-1/2	16-1/2		7/0 (4/0)	
ME12B	21-1/2	17-1/2	16-1/2	16-1/2			
ME12C	22-1/2	21	20	20	7/8 (1/2)		
ME14D	22-1/2	24-1/2	23-1/2	23-1/2	1-3/8 (1) 1-23/32 (1-1/4)	7/8 (1/2)	
ME16C	22-1/2	21	20	20	1 20/02 (1 1/1)		
ME20D	22-1/2	24-1/2	23-1/2	23-1/2			

^{1.} Dimensions are in inches.

SECTION IV: DUCT WORK AND CONNECTIONS

A WARNING

Use only 1/2" screws to connect duct work to bottom of unit.

Air supply and return may be handled in one of several ways best suited to the installation. Upflow, horizontal, or downflow applications may be used.

The vast majority of problems encountered with heating and cooling systems can be linked to improperly designed or installed duct systems. It is therefore highly important to the success of an installation that the duct system be properly designed and installed.

When installing a central air return grille in or near the living space, it is advisable to design the duct work so that the grille is not in direct line with the opening in the unit. One or two elbows and acoustical duct liner ensure a quieter system. For operation where the return air duct is short or sound may be a problem, use acoustical duct liner inside the duct. Use flexible duct connectors to minimize the transmission of vibration/ noise into the conditioned space.

A WARNING

Do not bring in return air from a location which could introduce hazardous substances into the airflow.

Use 1/2" screws to connect duct work to cabinet. If pilot holes are drilled, drill only through field duct and unit flange.

Insulation of duct work is a must where it runs through an unheated space during the heating season or through an uncooled space during the cooling season. The use of a vapor barrier is recommended to prevent absorption of moisture from the surrounding air into the insulation.

The supply air duct must be properly sized by use of a transition to match the unit opening. All ducts must be suspended using flexible hangers and must never be fastened directly to the structure.

A CAUTION

This unit is not designed for non-ducted (freeblow) applications. Do not operate without duct work attached to unit.

Equipment should never be operated without filters.

Duct work must be fabricated and installed in accordance with local and/or national codes. This includes the standards of the National Fire Protection Association for Installation of Air-Conditioning and Ventilating Systems, NFPA No. 90B. If electric heat is used, non-flammable material must be used. Duct systems must be designed in accordance with the Air Conditioning Contractors of America (ACCA) – Manual D.

HORIZONTAL SUSPENSION

For suspension of these units in horizontal applications, it is recommended to use angle steel support brackets with threaded rods, supporting the units from the bottom, at the locations shown in Figure 6.

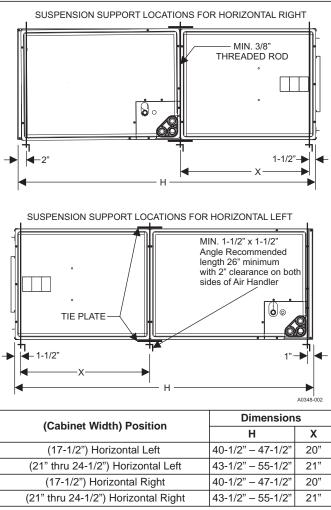


FIGURE 6: Typical Horizontal Installation

DUCT FLANGES

Three duct flanges are provided to assist in positioning and attaching duct work to the air handler. These flanges are included in the unit parts bag. With the screws from the parts bag, install one of the duct flanges. Duct flanges have holes on both legs with one leg longer than the other. The longer leg can be used to mate against the air handler so that different thicknesses of duct board can be made flush with the outer surface of the air handler. Repeat the procedure for the other two flanges. Refer to Figure 7. If the flanges are not used, they may be discarded.

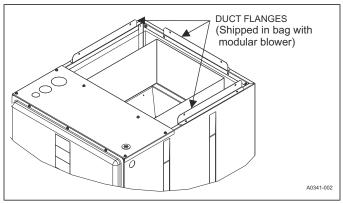


FIGURE 7: Duct Attachment

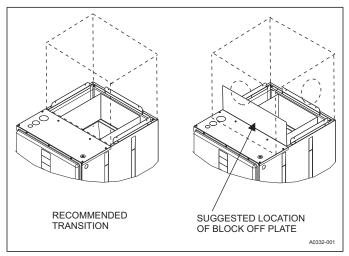


FIGURE 8: Duct Work Transition

UNIT CONNECTIONS

There are several ways to handle the supply and return air duct connections. The location and sizing of the connections depends on the situation and the method best suited to the installation. Upflow, horizontal, or downflow applications may be used.

The supply air duct must be properly sized by use of a transition to match the unit opening. Refer to Table 1 for air handler unit inlet and outlet dimensions.

A CAUTION

Use 1/2" screws to connect duct work to unit. Longer screws will pierce the drain pan and cause leakage. If pilot holes are drilled, drill only though field duct and unit bottom duct flange.

Duct work that is not designed to match the supply air opening can cause turbulence inside the plenum. This turbulence can change the airflow patterns across the electric heater limit switches. If the factory suggested transition cannot be fabricated, it is recommended that a block off plate (approximately 8" high and running the full width of the plenum) be attached to the supply opening. Refer to Figure 8 as a visual aid. The use of this block off plate enables better air circulation across the limit switches.

AIR FILTERS

Return air filters are required and must be field supplied. Filtration must be accomplished external to the unit.

A CAUTION

Equipment should never be operated without a filter.

SECTION V: ELECTRIC HEATER INSTALLATION

If the air handler requires electric heat, install the electric heat kit according to the installation instructions included with the kit. After installing the kit, mark the air handler nameplate to designate the heat kit that was installed. If no heater is installed, mark the name plate appropriately to indicate that no heat kit is installed.

Use only 6HK Revision C or later heat kits, as listed on air handler name plate and in these instructions. Use data from Tables 4 to 10 for information on required minimum motor speed tap to be used for heating operation and maximum over-current protection device required as listed for combination of air handler and heat kit.

For Upflow, Downflow, and Horizontal left-hand applications, the kits can be installed without modification.

Field modification is required for Horizontal right-hand airflow application only. Follow instructions with heater for modification.

NOTICE

In some horizontal applications, the service disconnects on the electric heat kits must be rotated 180° so the up position of the disconnect is the ON position. This service disconnect orientation change is required by UL1995, Article 26.19 (in reference to all circuit breakers).

SECTION VI: LINE POWER CONNECTIONS

Power may be brought into the unit through the supply air end of the unit (top left when unit is vertical) or the left side panel. Use the hole appropriate to the unit's orientation in each installation to bring conduit from the disconnect. The power lead conduit must be terminated at the electrical control box. To determine proper wire sizing, refer to Table 3, Tables 8 to 11, and the latest edition of the National Electrical Code or the Canadian Electrical Code as relevant and local codes. To minimize air leakage, seal the wiring entry point at the outside of the unit.

All electrical connections to air handlers must be made with copper conductors. **Direct connection of aluminum wiring to air handlers is not approved.**

If aluminum conductors are present, all applicable local and national codes must be followed when converting from aluminum to copper conductors prior to connection to the air handler.

The chosen conductor and connections all must meet or exceed the amperage rating of the overcurrent protector (service disconnect or fuse) in the circuit.

Additionally, existing aluminum wire within the structure must be sized correctly for the application according to National Electrical Code and local codes. Caution must be used when sizing aluminum rather than copper conductors, as aluminum conductors are rated for less current than copper conductors of the same size.

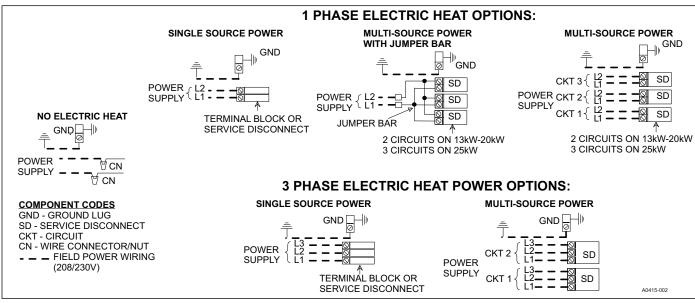


FIGURE 9: Line Power Connections

SECTION VII: LOW VOLTAGE CONTROL CONNECTIONS

The 24 volt power supply is provided by an internally wired low voltage transformer which is standard on all models. If the unit is connected to a 208 volt power supply, the low voltage transformer must be rewired to the 208 volt tap. See the unit wiring diagram.

Field supplied low voltage wiring can exit the unit through the top right (when unit is vertical upflow) or the right side panel. Refer to Figure 5. Remove desired knockout and pierce foil faced insulation to allow wiring to pass through. Use as small of a hole as possible to minimize air leakage. Install a 7/8" plastic bushing in the selected hole and keep low voltage wiring as short as possible inside the control box.

To further minimize air leakage, seal the wiring entry point at the outside of the unit.

The field wiring is to be connected at the pigtails supplied with the air handler. Refer to Figures 12 and 13 for system wiring.

NOTICE

All wiring must comply with local and national electrical code requirements. Read and heed all unit caution labels.

NOTICE

It is possible to vary the amount of electric heat turned on during the defrost cycle of a heat pump. Standard wiring will only bring on the first stage of electric heat during defrost. See Table 7 for additional information on heat during defrost cycle.

SECTION VIII: BLOWER SPEED CONNECTIONS

Adjust the blower motor speed to provide airflow within the minimum and maximum limits approved for indoor coils, electric heat, and outdoor units. Make speed tap adjustments at the motor terminal block. See Table 12 for airflow data. Connect the motor wires to the motor speed tap receptacle for the speed required.

The standard ECM motor operates when a 24 VAC signal is sent to any of its five speed taps. If simultaneous 24 VAC inputs are present, the motor operates at the highest speed tap that is energized. The lowest speed is 1, and the highest speed is 5. The air handler comes factory wired with the electric heat kit connected to tap 5 for the heating speed, and the Yellow cooling/heat pump lead connected to tap 4 for the cooling/heat pump heating speed.

Move the electric heat kit wire for the heating speed from tap 5 to the appropriate speed tap according to Table 4. If electric heat requires speed tap 5, the highest speed tap available for cooling/heat pump heating is tap 4.

The circulating blower (Green) thermostat input is factory connected to speed tap 1, which is the lowest speed. For applications utilizing multistage outdoor air conditioners or heat pumps, the circulating blower speed (Green) thermostat input is utilized for the first-stage blower speed. The circulating blower (Yellow) thermostat input is utilized for the second-stage or full blower speed. See Figure 15 for wiring details.

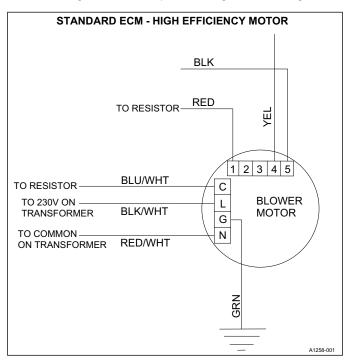


FIGURE 10: Blower Speed Connections

SECTION IX: UNIT DATA

TABLE 2: Physical and Electrical Data - Cooling Only

Models		ME08B	ME12B	ME12C	ME14D	ME16C	ME20D
Blower - Diameter x Width		10 x 8	10 x 8	11 x 10	11 x 10	11 x 10	11 x 10
Mater HP		1/3 HP	1/2 HP	1/2 HP	1/2 HP	3/4 HP	3/4 HP
Motor	Nominal RPM	1050	1050	1050	1050	1050	1050
Voltage		208/230	208/230	208/230	208/230	208/230	208/230
Full Lo	oad Amps @230 V	2.6	3.8	3.8	3.8	5.4	5.4
	Туре			DISPOSABLE (OR WASHABLE		
- 101	Size	16 x 20 x 1	16 x 20 x 1	20 x 20 x 1	22 x 20 x 1	20 x 20 x 1	22 x 20 x 1
Filter ¹	Bottom Rack Kit	1BR01117	1BR01117	1BR01121	1BR01124	1BR01121	1BR01124
	Permanent Type Kit	1PF0601	1PF0601	1PF0602	1PF0603	1PF0602	1PF0603
Shipping / Operating Weight (lb)		52/51	52/51	68/67	75/74	68/67	75/74

^{1.} Field supplied.

TABLE 3: Electrical Data - Cooling Only

Models	Motor FLA ¹	Minimum Circuit Ampacity	MOP ²
ME08B	2.6	3.3	
ME12B/ME12C/ME14D	3.8	4.8	15
ME16C/ME20D	5.4	6.8	

^{1.} FLA = Full Load Amps.

TABLE 4: Minimum Fan Speed - Electrical Heat with Heat Pump

	Nom. kW		Air Handler Models							
Heat Kit Models ^{1,2,3}	@240 V	ME08B	ME12B	ME12C	ME14D	ME16C	ME20D			
6HK(0,1)6500206	2.4 kW	Medium Low (2)	Medium Low (2)	Medium Low (2)	Medium Low (2)	Medium Low (2)	Medium Low (2)			
6HK(0,1)6500506	4.8 kW	Medium (3)	Medium Low (2)	Medium (3)	Medium Low (2)	Medium Low (2)	Medium Low (2)			
6HK(0,1)6500806	7.7 kW	Medium High (4)	Medium Low (2)	Medium High (4)	Medium (3)	Medium Low (2)	Medium Low (2)			
6HK(0,1)6501006 6HK36501025	9.6 kW	Medium High (4)	Medium Low (2)	Medium High (4)	Medium (3)	Medium Low (2)	Medium Low (2)			
6HK(1,2)6501306	12.5 kW	High (5)	Medium High (4)	Medium High (4)	Medium (3)	Medium Low (2)	Medium Low (2)			
6HK(1,2)6501506 6HK36501525	14.4 kW	-	High (5)	Medium High (4)	Medium (3)	Medium Low (2)	Medium Low (2)			
6HK(1,2)6501806 6HK36501825	17.3 kW	-	High (5)	Medium High (4)	Medium High (4)	Medium (3)	Medium (3)			
6HK(1,2)6502006 6HK46502025	19.2 kW	-	High (5)	High (5)	-	Medium High (4)	Medium (3)			
6HK(1,2)6502506 6HK46502525	24 kW	-	-	-	-	-	Medium (3)			

^{1.} (0,1) - 0 = no service disconnect OR 1 = with service disconnect

^{2.} MOP = Maximum Overcurrent Protection device; must be HACR type circuit breaker or time delay fuse. Refer to the latest edition of the National Electrical Code or in Canada the Canadian Electrical Code and local codes to determine correct wire sizing.

^{2. (1,2) - 1 =} with service disconnect, no breaker jumper bar OR 2 = with service disconnect and breaker jumper bar

^{3. 6}HK3 = 3-phase with terminal block connectors only. 6HK4 = 3-phase with service disconnect

TABLE 5: Default Blower Speeds for FER Compliance - Electrical Heat Only

Model Number	High Sales Volume	Nom. kW		Default Blow	er Speeds	
Woder Number	Heat Kit ^{1,2,3}	@240 V	w1/[w1+w2]	Heat	Max. Airflow	Continuous Fan
ME08B	6HK(0,1)6500506	4.8 kW	w1	Medium (3)	High (5)	Low (1)
ME12B	6HK(0,1)6500806	7.7 kW	w1	Medium (3)	High (5)	Low (1)
ME12C	6HK(0,1)6501006	9.6 kW	w1	Medium (3)	High (5)	Low (1)
ME14D ⁴	6HK(1,2)6501506	14.4 kW	w1+w2	Medium (3)	High (5)	Low (1)
ME16C ⁴	6HK(1,2)6501506	14.4 kW	w1+w2	Medium Low (2)	High (5)	Low (1)
ME20D	6HK(1,2)6502006	19.2 kW	w1	Low (1)	High (5)	Low (1)

- 1. (0,1) 0 = no service disconnect OR 1 = with service disconnect
- 2. (1,2) 1 = with service disconnect, no breaker jumper bar OR 2 = with service disconnect and breaker jumper bar
- 3. 6HK3 = 3-phase with terminal block connectors only. 6HK4 = 3-phase with service disconnect
- 4. For ME14D and ME16C models with a 15 kW (6HK*65015**) heat kit, tie the AHU W1 and W2 thermostat inputs together for FER compliance.

TABLE 6: KW and MBH Conversions - For Total Power Input Requirement

For a power distribution voltage that is different than the provided nominal voltage, multiply the kW and MBH data from the table by the conversion factor in the following table.

DISTRIBUTION POWER	DISTRIBUTION POWER NOMINAL VOLTAGE			
208 V	240 V	0.75		
220 V	240 V	0.84		
230 V	240 V	0.92		

TABLE 7: Electric Heat Performance Data: 208/230-1-60 and 208/230-3-60

		Nominal kW		Total	Heat ⁴		kW Staging			
Heater Models ^{1,2,3}		@240 V	k	W	MBH		W1 Only		W1 + W2	
		02.0	208 V	230 V	208 V	230 V	208 V	230 V	208 V	230 V
	6HK(0,1)6500206	2.4	1.8	2.2	6.2	7.5	1.8	2.2	1.8	2.2
	6HK(0,1)6500506	4.8	3.6	4.4	12.3	15	3.6	4.4	3.6	4.4
	6HK(0,1)6500806	7.7	5.8	7.1	19.7	24.1	5.8	7.1	5.8	7.1
	6HK(0,1)6501006	9.6	7.2	8.8	24.6	30.1	7.2	8.8	7.2	8.8
1PH	6HK(1,2)6501306	12.5	9.4	11.5	32	39.2	3.1	3.8	9.4	11.5
	6HK(1,2)6501506	14.4	10.8	13.2	36.9	45.1	3.6	4.4	10.8	13.2
	6HK(1,2)6501806	17.3	13	15.9	44.3	54.2	6.5	7.9	13	15.9
	6HK(1,2)6502006	19.2	14.4	17.6	49.2	60.2	7.2	8.8	14.4	17.6
	6HK(1,2)6502506	24	18	22	61.5	75.2	7.2	8.8	18	22
	6HK36501025	9.6	7.2	8.8	24.6	30.1	7.2	8.8	7.2	8.8
	6HK36501525	14.4	10.8	13.2	36.9	45.1	10.8	13.2	10.8	13.2
3PH	6HK36501825	17.3	13	15.9	44.3	54.2	6.5	7.9	13	15.9
	6HK46502025	19.2	14.4	17.6	49.2	60.2	7.2	8.8	14.4	17.6
	6HK46502525	24	18	22	61.5	75.2	9	11	18	22

- 1. (0,1) 0 = no service disconnect OR 1 = with service disconnect
- 2. (1,2) 1 = with service disconnect, no breaker jumper bar OR 2 = with service disconnect and breaker jumper bar
- 3. 6HK3 = 3-phase with terminal block connectors only. 6HK4 = 3-phase with service disconnect
- 4. For different power distributions, see the conversion table above.

 TABLE 8: Electrical Data for Single Source Power Supply: 208/230-1-60

	Heater	Heater	Field Wiring				
Air Handler Models	Models ^{1,2}	Amps @240 V	Min. Circu	it Ampacity	MOP. ³		
			208 V	230 V	208 V	230 V	
	6HK(0,1)6500206	10	14.1	15.2	15	20	
MEOOD	6HK(0,1)6500506	20	24.9	27.2	25	30	
ME08B	6HK(0,1)6500806	32	38.1	41.8	40	45	
ME08B	6HK(0,1)6501006	40	46.5	51.1	50	60	
	6HK(1,2)6501306	52	59.7	65.8	60	70	
	6HK(0,1)6500206	10	15.6	16.7	20	20	
	6HK(0,1)6500506	20	26.4	28.7	30	30	
	6HK(0,1)6500806	32	39.6	43.3	40	45	
ME12B	6HK(0,1)6501006	40	48.0	52.6	50	60	
IVIL 12B	6HK(1,2)6501306	52	61.2	67.3	70	70	
	6HK(1,2)6501506	60	69.7	76.5	70	80	
	6HK(1,2)6501806	72	82.9	91.2	90	100	
	6HK(1,2)6502006	80	91.3	100.4	100	110	
	6HK(0,1)6500206	10	15.6	16.7	20	20	
	6HK(0,1)6500506	20	26.4	28.7	30	30	
	6HK(0,1)6500806	32	39.6	43.3	40	45	
ME12C	6HK(0,1)6501006	40	48.0	52.6	50	60	
IVIL 120	6HK(1,2)6501306	52	61.2	67.3	70	70	
	6HK(1,2)6501506	60	69.7	76.5	70	80	
	6HK(1,2)6501806	72	82.9	91.2	90	100	
	6HK(1,2)6502006	80	91.3	100.4	100	110	
	6HK(0,1)6500206	10	15.6	16.7	20	20	
	6HK(0,1)6500506	20	26.4	28.7	30	30	
	6HK(0,1)6500806	32	39.6	43.3	40	45	
ME14D	6HK(0,1)6501006	40	48.0	52.6	50	60	
	6HK(1,2)6501306	52	61.2	67.3	70	70	
	6HK(1,2)6501506	60	69.7	76.5	70	80	
	6HK(1,2)6501806	72	82.9	91.2	90	100	
	6HK(0,1)6500206	10	17.6	18.7	20	20	
	6HK(0,1)6500506	20	28.4	30.7	30	35	
	6HK(0,1)6500806	32	41.6	45.3	45	50	
ME16C	6HK(0,1)6501006	40	50.0	54.6	60	60	
IVIL 100	6HK(1,2)6501306	52	63.2	69.3	70	70	
	6HK(1,2)6501506	60	71.7	78.5	80	80	
	6HK(1,2)6501806	72	84.9	93.2	90	100	
	6HK(1,2)6502006	80	93.3	102.4	100	110	
	6HK(0,1)6500206	10	17.6	18.7	20	20	
	6HK(0,1)6500506	20	28.4	30.7	30	35	
	6HK(0,1)6500806	32	41.6	45.3	45	50	
	6HK(0,1)6501006	40	50.0	54.6	60	60	
ME20D	6HK(1,2)6501306	52	63.2	69.3	70	70	
	6HK(1,2)6501506	60	71.7	78.5	80	80	
	6HK(1,2)6501806	72	84.9	93.2	90	100	
	6HK(1,2)6502006	80	93.3	102.4	100	110	
	6HK(1,2)6502506	100	114.9	126.3	125	150	

 ^{(0,1) -} maybe 0 (no service disconnect) or 1 (with service disconnect).
 (1,2) maybe 1 (with service disconnect, no breaker jumper bar) or 2 (with service disconnect and breaker jumper bar).
 MOP = Maximum Overcurrent Protection device; must be HACR type circuit breaker or time delay fuse. Refer to the latest edition of the National Electrical Code or in Canada the Canadian Electrical Code and local codes to determine correct wire sizing.

TABLE 9: Electrical Data for Multi-source Power Supply: 208/230-1-60

			Min. Circuit Ampacity						MOP. ³					
Air Handler	Heater ^{1,2}	Heater	208 V 230 V					208 V 230 V						
Models	Models	Amps @240 V			Circ	uit			Circuit					
		02.00	1st ³	2nd	3rd	1st ³	2nd	3rd	1st ³	2nd	3rd	1st ³	2nd	3rd
ME08B	6HK16501306	52	22.0	37.6	-	24.0	41.5	-	25	40	-	25	45	-
	6HK16501306	52	23.5	37.6	-	25.5	41.5	-	25	40	-	30	45	-
ME12B	6HK16501506	60	26.4	43.3	-	28.7	47.9	-	30	45	-	30	50	-
IVIE IZD	6HK16501806	72	43.8	39.0	-	47.9	43.1	-	45	40	-	50	45	-
	6HK16502006	80	48.1	43.3	-	52.7	47.9	-	50	45	-	60	50	-
	6HK16501306	52	23.5	37.6	-	25.5	41.5	-	25	40	-	30	45	-
ME12C	6HK16501506	60	26.4	43.3	-	28.7	47.9	-	30	45	-	30	50	-
METZC	6HK16501806	72	43.8	39.0	-	47.9	43.1	-	45	40	-	50	45	-
	6HK16502006	80	48.1	43.3	-	52.7	47.9	-	50	45	-	60	50	-
	6HK16501306	52	23.5	37.6	-	25.5	41.5	-	25	40	-	30	45	-
ME14D	6HK16501506	60	26.4	43.3	-	28.7	47.9	-	30	45	-	30	50	-
	6HK16501806	72	43.8	39.0	-	47.9	43.1	-	45	40	-	50	45	-
	6HK16501306	52	25.5	37.6	-	27.5	41.5	-	30	40	-	30	45	-
ME16C	6HK16501506	60	28.4	43.3	-	30.7	47.9	-	30	45	-	35	50	-
IVIETOC	6HK16501806	72	45.8	39.0	-	49.9	43.1	-	50	40	-	50	45	-
	6HK16502006	80	50.1	43.3	-	54.7	47.9	-	60	45	-	60	50	-
	6HK16501306	52	25.5	37.6	-	27.5	41.5	-	30	40	-	30	45	-
Ţ	6HK16501506	60	28.4	43.3	-	30.7	47.9	-	30	45	-	35	50	-
ME20D	6HK16501806	72	45.8	39.0	-	49.9	43.1	-	50	40	-	50	45	-
	6HK16502006	80	50.1	43.3	-	54.7	47.9	-	60	45	-	60	50	-
	6HK16502506	100	50.1	43.3	21.7	54.7	47.9	24.0	60	45	25	60	50	25

TABLE 10: Electrical Data for Single Source Power Supply: 208/230-3-60

	Heaten	Heater	Field Wiring							
Air Handler Models	Heater Models ¹	Amps	Min. Circu	it Ampacity	MOP. ²					
Models	Wodels	@240 V	208 V	230 V	208 V	230 V				
ME08B	6HK36501025	23.1	28.3	30.9	30	35				
	6HK36501025	23.1	29.8	32.4	30	35				
ME12B	6HK36501525	34.6	42.2	46.2	45	50				
IVIE 12B	6HK36501825	41.6	49.8	54.6	50	60				
	6HK46502025 ³	46.2		60.1	60	70				
	6HK36501025	23.1	29.8	32.4	30	35				
ME12C	6HK36501525	34.6	42.2	46.2	45	50				
IVIE 12C	6HK36501825	41.6	49.8	54.6	50	60				
	6HK46502025 ³	46.2	54.8	60.1	60	70				
	6HK36501025	23.1	29.8	32.4	30	35				
ME14D	6HK36501525	34.6	42.2	46.2	45	50				
	6HK36501825	41.6	49.8	54.6	50	60				
	6HK36501025	23.1	31.8	34.4	35	35				
ME16C	6HK36501525	34.6	44.2	48.2	45	50				
IVIE TOC	6HK36501825	41.6	51.8	56.6	60	60				
	6HK46502025 ³	46.2	56.8	62.1	60	70				
	6HK36501025	23.1	31.8	34.4	35	35				
	6HK36501525	34.6	44.3	48.2	45	50				
ME20D	6HK36501825	41.6	51.9	56.7	60	60				
	6HK46502025 ³	46.2	56.8	62.0	60	70				
	6HK46502525 ³	57.7	69.3	75.9	70	80				

 ^{(0,1) -} maybe 0 (no service disconnect) or 1 (with service disconnect).
 (1,2) maybe 1 (with service disconnect, no breaker jumper bar) or 2 (with service disconnect and breaker jumper bar).

MOP = Maximum Overcurrent Protection device; must be HACR type circuit breaker or time delay fuse. Refer to the latest edition of the National Electrical Code or in Canada the Canadian Electrical Code and local codes to determine correct wire sizing.

 ⁶HK3 = 3-phase with terminal block connections only. 6HK4 = 3-phase with service disconnect.
 MOP = Maximum Overcurrent Protection device; must be HACR type circuit breaker or time delay fuse. The 1st circuit includes blower motor amps. Refer to the latest edition of the National Electrical Code or in Canada the Canadian Electrical Code and local codes to determine correct wire sizing.
 The 20 kW and 25 kW heater models (6HK46502025 and 6HK46502525) come with service disconnects standard. Single source power MCA and MOP requirements are given here only for reference if used with field installed single point power modification.

TABLE 11: Electrical Data for Multi-source Power Supply: 208/230-3-60

		Heater		Min. Circui	t Ampacity	1	MOP. ²				
Air Handler	Heater Models ¹	Amps	20	208 V		230 V		3 V	230 V		
Models		@240 V	Circuit				Circuit				
		@240 V	1st ²	2nd	1st ²	2nd	1st ²	2nd	1st ²	2nd	
ME12B	6HK46502025	46.2	29.8	25.0	32.4	27.6	30	25	35	30	
ME12C	6HK46502025	46.2	29.8	25.0	32.4	27.6	30	25	35	30	
ME16C	6HK46502025	46.2	31.8	25.0	34.4	27.6	35	25	35	30	
ME20D	6HK46502025	46.2	31.8	25.0	34.4	27.6	35	25	35	30	
IVILZUD	6HK46502525	57.7	38.0	31.3	41.3	34.6	40	35	45	35	

 $^{1. \ \, \}text{The 20 kW and 25 kW heater models (6HK46502025 and 6HK46502525) come with circuit breakers standard.}$

TABLE 12: Airflow Data (CFM)¹

Madala		Blower	External Static Pressure (in. wc.)							
Models	CM Models	Motor Speed	0.10	0.20	0.30	0.40	0.50	0.60	0.70	
		High (5)	939	893	871	837	804	767	714	
		Medium High (4)	833	803	765	737	697	639	587	
	CM18B	Medium (3)	638	605	576	494	454	380	278	
		Medium Low (2)	538	489	456	374	283	211	157	
		Low (1)	478	446	367	272	211	150	23	
		High (5)	923	892	862	833	797	743	688	
		Medium High (4)	846	816	786	750	710	638	599	
ME08B	CM24B	Medium (3)	631	605	575	512	442	370	282	
		Medium Low (2)	570	530	460	402	328	232	186	
		Low (1)	477	448	372	292	203	157	24	
		High (5)	937	905	877	841	798	748	704	
		Medium High (4)	846	808	778	733	667	636	572	
	CM30B	Medium (3)	638	609	556	495	463	399	336	
		Medium Low (2)	560	484	469	408	321	265	201	
		Low (1)	481	448	390	328	252	166	92	
		High (5)	1355	1334	1302	1270	1231	1201	1170	
		Medium High (4)	1273	1244	1213	1177	1142	1109	1073	
	CM18B	Medium (3)	1074	1041	1009	974	936	894	809	
		Medium Low (2)	862	826	798	766	688	607	587	
		Low (1)	659	616	560	512	457	387	275	
	CM24B	High (5)	1359	1331	1301	1269	1234	1202	1171	
		Medium High (4)	1272	1245	1209	1174	1143	1106	1073	
		Medium (3)	1072	1040	1007	973	937	874	778	
		Medium Low (2)	857	821	794	756	676	613	567	
MEAOD		Low (1)	654	606	557	504	443	379	271	
ME12B		High (5)	1354	1325	1294	1263	1230	1198	1168	
		Medium High (4)	1268	1235	1203	1171	1139	1107	1075	
	CM30B	Medium (3)	1069	1038	1003	974	935	876	781	
		Medium Low (2)	859	818	794	756	681	620	563	
		Low (1)	654	608	552	503	434	364	289	
		High (5)	1348	1317	1285	1254	1222	1189	1157	
		Medium High (4)	1258	1225	1192	1160	1126	1093	1063	
	CM36B	Medium (3)	1062	1029	993	964	929	879	778	
		Medium Low (2)	860	822	791	761	682	616	568	
		Low (1)	642	599	554	502	431	367	294	
		High (5)	1360	1334	1291	1253	1207	1172	1076	
		Medium High (4)	1274	1242	1202	1157	1109	1040	1000	
ME12C	CM61C	Medium (3)	1060	1022	968	923	854	766	694	
		Medium Low (2)	910	863	806	722	660	567	524	
		Low (1)	655	585	511	436	385	323	267	

Continued on next page

^{2.} MOP = Maximum Overcurrent Protection device; must be HACR type circuit breaker or time delay fuse. The 1st circuit includes blower motor amps. Refer to the latest edition of the National Electrical Code or in Canada the Canadian Electrical Code and local codes to determine correct wire sizing.

TABLE 12: Airflow Data (CFM)¹ (Continued)

Models	CM Models	Blower	0.10				ure (in. wc.	<u>, </u>	
	OH HIOUEIS	Motor Speed	0.10	0.20	0.30	0.40	0.50	0.60	0.7
		High (5)	1583	1546	1516	1477	1435	1401	136
	0.400	Medium High (4)	1499	1456	1426	1393	1349	1306	126
	CM30D	Medium (3)	1295	1247	1217	1181	1135	1080	100
		Medium Low (2)	1099	1075	1026	983	909	840	78
		Low (1)	906	875	834	754	675	589	52
		High (5)	1604	1563	1524	1479	1450	1410	137
		Medium High (4)	1508	1464	1428	1384	1350	1308	12
ME14D	CM36D	Medium (3)	1300	1250	1209	1175	1132	1075	100
		Medium Low (2)	1102	1058	1028	986	909	838	78
		Low (1)	912	884	831	763	694	568	53
		High (5)	1544	1520	1482	1440	1411	1367	132
		Medium High (4)	1455	1426	1393	1349	1305	1272	120
	CM42D	Medium (3)	1263	1238	1197	1157	1100	1033	98
		Medium Low (2)	1074	1037	993	946	877	810	72
		Low (1)	888	853	787	736	644	571	50
		High (5)	1776	1735	1700	1657	1617	1577	152
		Medium High (4)	1701	1663	1621	1583	1538	1497	14
	CM36C	Medium (3)	1522	1475	1442	1394	1349	1301	124
		Medium Low (2)	1297	1250	1203	1151	1101	1050	95
		Low (1)	1112	1052	1002	951	854	816	75
		High (5)	1754	1719	1678	1644	1599	1562	15
		Medium High (4)	1676	1637	1599	1562	1517	1476	142
	CM42C	Medium (3)	1495	1454	1411	1371	1328	1280	12:
		Medium Low (2)	1286	1235	1198	1143	1097	1036	99
ME16C		Low (1)	1119	1055	1006	948	900	804	75
ME16C		High (5)	1769	1727	1689	1650	1608	1568	152
		Medium High (4)	1692	1648	1605	1568	1525	1485	14
	CM48C	Medium (3)	1554	1505	1461	1420	1373	1326	12
		Medium Low (2)	1308	1256	1213	1164	1088	1007	94
		Low (1)	1116	1057	1007	955	839	792	74
	CM60C	High (5)	1794	1757	1720	1686	1639	1589	154
		Medium High (4)	1700	1664	1624	1582	1543	1496	14
		Medium (3)	1530	1484	1444	1402	1356	1314	12
		Medium Low (2)	1305	1257	1217	1162	1115	1060	99
		Low (1)	1124	1060	1008	954	889	827	75
		High (5)	2061	2021	1979	1938	1904	1865	18
		Medium High (4)	1998	1949	1914	1879	1835	1797	17
	CM36D	Medium (3)	1769	1711	1677	1643	1603	1570	15
		Medium Low (2)	1557	1508	1469	1439	1398	1355	132
		Low (1)	1340	1291	1252	1216	1170	1132	10
		High (5)	2032	1996	1959	1913	1890	1849	18:
		Medium High (4)	1974	1938	1892	1855	1824	1785	17
	CM42D	Medium (3)	1752	1706	1680	1633	1591	1546	15
	J 125	Medium Low (2)	1545	1505	1468	1432	1393	1351	13
		Low (1)	1340	1296	1260	1219	1169	1118	10
		High (5)	2062	2024	1993	1952	1910	1868	18:
		Medium High (4)	2006	1958	1932	1890	1850	1815	17
ME20D	CM48D	Medium (3)	1785	1741	1698	1646	1610	1582	15
	0.01700	Medium Low (2)	1564	1521	1477	1443	1398	1362	13:
		Low (1)	1350	1305	1257	1226	1181	1112	102
		High (5)	1998	1959	1923	1888	1862	1826	178
		Medium High (4)	1933	1887	1855	1811	1791	1757	17
	CM60D						1567		
	CIVIDUD	Medium (3)	1703	1670	1633	1592		1531	148
		Medium Low (2)	1522	1474	1447	1403	1370	1328	12
		Low (1)	1306	1260	1223	1190	1131	1078	10
		High (5)	1940	1897	1868	1832	1806	1770	17:
	014045	Medium High (4)	1883	1860	1829	1789	1761	1728	168
	CM64D	Medium (3)	1686	1648	1619	1584	1537	1508	146
		Medium Low (2)	1490	1446	1415	1385	1346	1298	123
		Low (1)	1279	1248	1206	1167	1113	1062	97

^{1.} Air handler units have been tested to UL 1995 / CSA 22.2 No. 236 standards up to 0.50" wc. external static pressure.

Dry coil conditions only, tested without filters.

For optimal performance, external static pressures of 0.2" to 0.5" are recommended. Heating applications tested at 0.50" w.c. esp.

Airflow data shown is from testing performed at 230 V. AE units use a standard ECM constant torque motor, and there is minimal variation of airflow at other distribution voltage values.

SECTION X: MAINTENANCE

Filters must be cleaned or replaced when they become dirty. Inspect at least once per month. The frequency of cleaning depends upon the hours of operation and the local atmospheric conditions. Clean filters keep unit efficiency high.

COIL CLEANING

If the coil needs to be cleaned, clean it with water. As an alternative to water, EVAP-Green by Nu-Calgon is the only pH neutral coil cleaner approved for use when properly diluted.

Note: Rinse coils thoroughly after use of EVAP-Green for cleaning.

LUBRICATION

The bearings of the blower motor are permanently lubricated.

CONDENSATE DRAINS

During the cooling season, check the condensate drain lines to ensure that condensate is flowing from the primary drain but not from the secondary drain. If condensate ever flows from the secondary drain, shut off the unit promptly and clean the condensate pan and drains to ensure a free flowing primary drain.

SECTION XI: AIR SYSTEM ADJUSTMENT

To check the Cubic Feet per Minute (CFM), measure the static pressure drop across the air handler using a manometer and static pressure tips. To prepare coil for static pressure drop measurements run the fan only to assure a dry coil.

NOTICE

Refer to Table 12 for coil Airflow Data of Cubic Feet Per Minute (CFM). Run the fan on the highest speed to be used.

Drill 2 holes, one 12" away from the air handler in the supply air duct and on 12" away from the air handler in the return air duct (before any elbows in the duct work). Insert the pressure tips and read the pressure drop from the manometer. See Table 12 to determine the airflow, and make the necessary adjustments to keep the CFM within the airflow limitations of the coil.

EXTERNAL DUCT STATIC

Measure the supply air static pressure. Record this positive number. Measure the return air static pressure. Record this negative number. Treat the negative number as a positive, and add the two numbers together. This is total system static. If a filter rack is installed on the return air end of the air handler or indoor coil section, the return air duct static must be measured between the filter and the indoor coil.

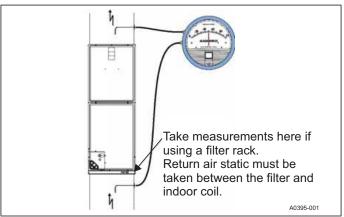


FIGURE 11: Duct Static Measurements

SECTION XII: TYPICAL THERMOSTAT CONNECTIONS

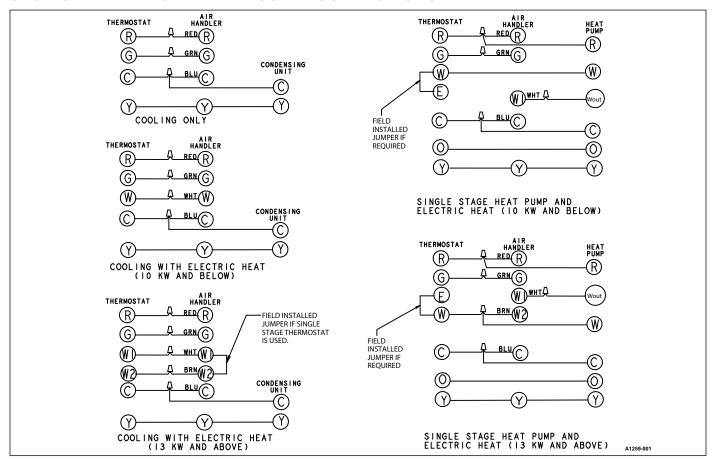


FIGURE 12: Typical Thermostat Wiring Diagram - Single Stage Outdoor - ECM

SECTION XIII: WIRING DIAGRAM

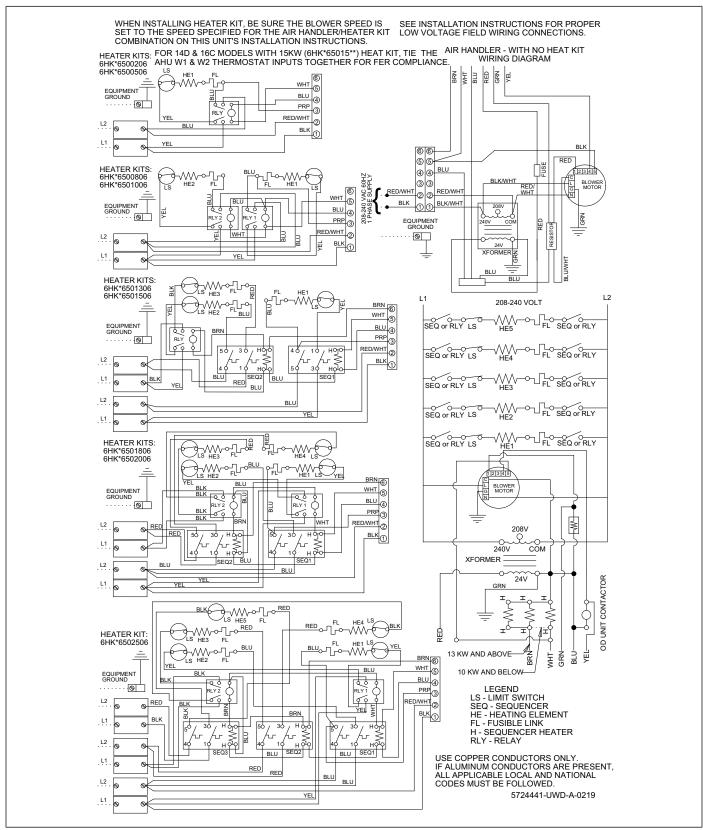


FIGURE 13: Wiring Diagram - Standard ECM - Single Phase Heat Kits

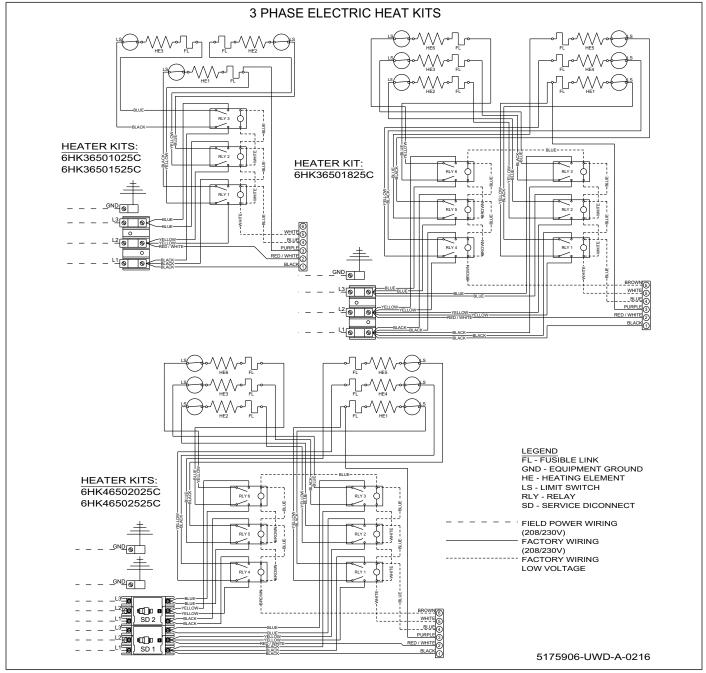


FIGURE 14: Wiring Diagram - Three Phase Heat Kits

SECTION XIV: TYPICAL THERMOSTAT CONNECTIONS

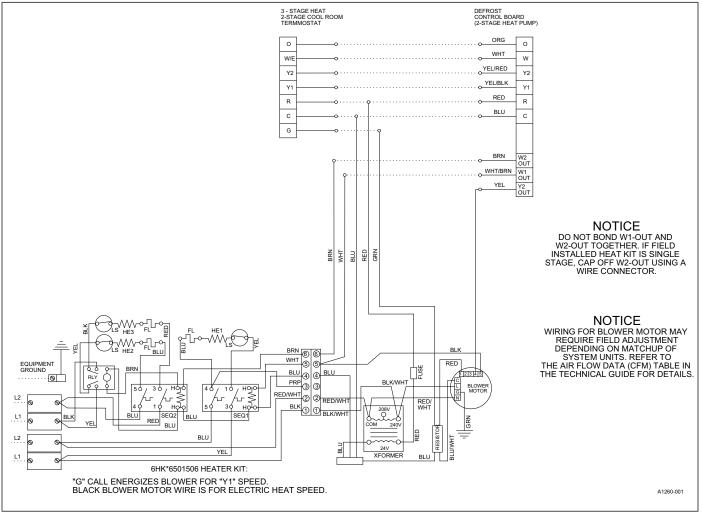


FIGURE 15: Typical Thermostat Wiring Diagram - 2 Stage Heat Pump with ECM Blower Motor

NOTES

SECTION XV: START UP SHEET

Print Form				l Air Handle at Start-Up			Reset Form		
	Proper star			•		ment longevity			
Start-Up Date	Company Na	ame			Start-Up	Technician			
Owner Information									
Name	Ad	ddress				Daytime Phone			
City		State or P	rovince			Zip or Postal Code	2		
Equipment Data									
Unit Model #		Uni	it Serial #						
General Information	n (Check all th	nat apply)							
New Construction		○ Up	flow		C	Horizontal Left			
Retrofit		○ Do	wn flow		\subset	Horizontal Right			
Unit Location and (Connection	s (Check al	ll that apply)					
☐ Unit is level	☐ Du	ct connectio	ns are comp	lete: 🗌 Su	pply	Return			
Condensate drain pro	perly connected	d per the inst	tallation inst	ructions	Cond	ensate trap has bee	n primed with water		
Filters									
Filters installed Nun	nber of filters	Filt	er size						
Electrical Connecti	ons & Inspe	ection (Co	omplete all t	hat apply)					
○ 208 volts AC									
Inspect wires and elec	trical connectio	ns Tr	ransformer w	vired properly	for primar	ry supply voltage	Ground connected		
Line Voltage Measured (Volts AC)	Lo	ow voltage v	alue between	"R" and "C	C" at control board (V	/olts AC)		
Thermostat wiring i	s complete 🗌	Thermosta	at cycle rate	or heat anticip	ator adjus	sted to Installation M	Nanual specifications		
Air Flow Setup									
		COOL	\bigcirc A	0	В	○ c	\bigcirc D		
Blower Type	○ ECM	ADJUST	\bigcirc A	0	В	○ c	\bigcirc D		
&	0 24	DELAY	\bigcirc A	0	В	○ c	\bigcirc D		
Set-Up		HEAT	\bigcirc A	0	В	○ c	\bigcirc D		
	○ X-13	<u> </u>	<u>2</u>	0	3	<u> </u>	<u> </u>		
	○ PSC	○ Low	○Mediu	m Low	Medium	○ Medium H	igh (High		
Supply static (inches of wa	Supply static (inches of water column) Supply air dry bulb temperature Outside air dry bulb temperature								
Return static (inches of wa	Return static (inches of water column) Return air dry bulb temperature Return air wet bulb temperature								
Total external static pressure Temperature drop Supply air wet bulb temperature									
Other Jumpers (Che	eck all that app	ly)							
HUM STAT C YE	S O NO	AC/HP	O AC	○ HP	COI	NT FAN C L	\bigcirc M \bigcirc H		
						(Continued on next Page		

Electric Heat (Cor	mplete all that apply)										
Electric heat kit - Mo	odel number		Serial number			Rated KW					
		Heater 1		Heater 2	Hea	ter 3					
	Measured Ampe	erage Heater 4		Heater 5	Hea	ter 6					
Number of elements		Heater 1		Heater 2		ter 3					
	Measured Volta	age									
		Heater 4		Heater 5	Hea	ter 6					
Heating return air dry bulb temperatu		Heating supply a dry bulb temperat			Air temperature rise						
Clean Up Job Sit											
•	cleaned, indoor and ou	ıtdoor debris remove	d from job site								
Tools have been re	emoved from unit										
All panels have be	en installed										
Unit Operation a	nd Cycle Test (Co	omplete all that appl	y)								
_	through continuous far			and correc	ting any problems						
	hrough cooling cycles	-	_								
Operate the unit t	hrough mechanical he	ating cycles from the	thermostat, not	ting and co	orrecting any probler	ns					
Operate the unit t	hrough emergency he	ating cycles from the	thermostat, not	ing and co	orrecting any problen	ns					
Owner Education	n										
Provide owner wi	th the owner's manual										
Explain operation	of system to equipme	nt owner									
Explain thermosta	at use and programmin	ng (if applicable) to ov	vner								
	tance of regular filter re		pment mainten	ance							
Comments and A	Additional Job Do	etails									

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