


Installation Instructions

NOTE: Read the entire instruction manual before starting the installation.

SAFETY CONSIDERATIONS

Installing and servicing of heating and air conditioning equipment can be hazardous due to system pressures and electrical components. Only trained personnel should install or service heating and air conditioning equipment.

Untrained personnel can perform basic maintenance functions such as cleaning coils, or cleaning and replacing filters. All other operations should be performed by trained personnel. When working on heating and air conditioning equipment, observe precautions in literature, on tags, and on labels attached to the unit. Follow all safety codes. Wear safety glasses and work gloves. Have a fire extinguisher available.

Recognize safety information. This is the safety-alert symbol . When you see this symbol on the unit and in instructions or manuals, be alert to the potential for personal injury.

Understand the signal words DANGER, WARNING, and CAUTION. These words are used with the safety-alert symbol. DANGER identifies the most serious hazards which **will** result in severe personal injury or death. WARNING signifies hazards which **could** result in personal injury or death. CAUTION is used to identify unsafe practices, which **may** result in minor personal injury or product and property damage. NOTE is used to highlight suggestions which **will** result in enhanced installation, reliability, or operation.

WARNING

ELECTRICAL SHOCK HAZARD

Failure to follow this warning could result in personal injury or death.

Before installing, modifying or servicing system, always turn off main power to system. There may be more than one disconnect switch. Lock out and tag switch with a suitable warning label.

CAUTION

PERSONAL INJURY HAZARD

Failure to follow this caution may result in personal injury.

Sheet metal parts may have sharp edges or burrs. Use care and wear appropriate protective clothing and gloves when handling parts.

INSTALLATION

This instruction describes the installation of Part No. EHK2 accessory heaters in FFM, FMA and WAMA fan coils.

NOTE: Electric heaters require a minimum airflow. Minimum airflow and motor speed selection are listed in Table 2.

Install Electric Heater Assembly

NOTE: Ensure heater coils are not deformed or damaged during heater installation.

1. Make sure power to unit is off.
2. Remove blower access panel of fan coil unit.
3. Remove the plate covering the opening at the back of the top compartment.
4. Insert heater assembly into the opening, coils first. Ensure the arrow stamped into the heater plate is orientated up to correspond with the airflow direction. Use care not to damage the coils during insertion.
5. Use the previously removed cover-plate screws to secure the heater assembly. (See Fig. 1) Discard cover plate.

Attach Circuit Breaker Bracket

1. Snap the circuit breaker onto the circuit breaker bracket.
2. Install the breaker assembly using the mounting holes in the top compartment.
3. Secure using provided screws.
4. Disconnect and discard the factory-installed high voltage wiring harness.
5. Connect the heater assembly wiring harness to the unit-wiring connector.
6. Use wire ties to secure wires away from sharp edges.
7. Apply the supplemental wiring diagram provided with the heater kit over the existing wiring diagram on the fan coil.

WARNING

ELECTRICAL SHOCK HAZARD

Failure to follow this warning could result in personal injury or death.

Ensure fuse box is closed before power is turned to ON position. There may be more than one power supply.

ELECTRICAL CONNECTIONS

Refer to unit instructions for recommended wiring procedures. Install wiring in accordance with all applicable local and national codes. (See Table 4.) Connect heater wiring harness plug to receptacle on fan-coil wire harness. A positive connection must be made between plug and receptacle. Plug will interlock with receptacle when properly seated. Harness contains both 24V control and high-voltage wiring. Blower power is provided through heater harness.

Power Connections

NOTE: Heater supply circuit wire size and overcurrent protection must comply with National Electrical Code (NEC) and UL branch circuit requirements. (See Table 4) Wires and overcurrent protection, integral to the heater, are not required to meet branch circuit requirements. **Internal circuit protection of 60 amps (maximum) is acceptable.**

The 5-kW through 10-kW circuit breaker heaters can be wired for single-supply circuit only.

Table 1 – Accessory Heater Usage

| ELECTRIC HEATER PART NUMBER | SIZES USED WITH | kW | INTERNAL CIRCUIT PROTECTION |
|-----------------------------|-----------------|-----|-----------------------------|
| EHK2-05B | 18-36 | 5 | Circuit Breaker |
| EHK2-08B | 18-36 | 7.5 | Circuit Breaker |
| EHK2-10B | 18-36 | 10 | Circuit Breaker |

Table 2 – Minimum CFM

| Fan Coil Unit Size | EHK2-05B | EHK2-08B | EHK2-10B |
|--------------------|----------|----------|----------|
| 18 | 325 | 350 | 375 |
| 24 | 450 | 475 | 500 |
| 30 | 575 | 600 | 625 |
| 36 | 700 | 725 | 750 |

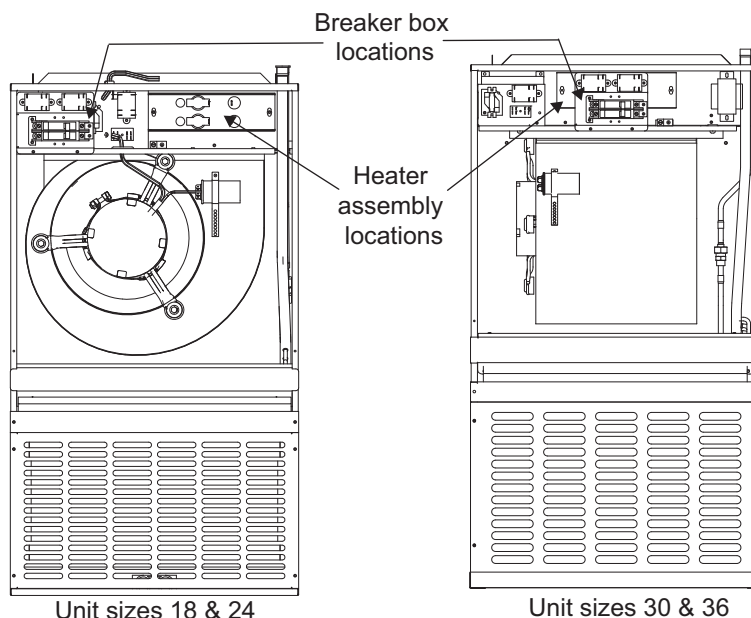


Fig. 1 - Installation Locations for EHK2 Heaters

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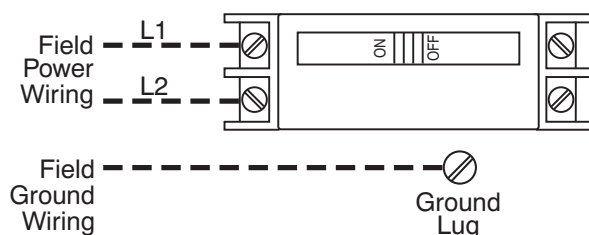


Fig. 2 - 5-kW, 7.5-kW, 10-kW Circuit Breaker and Disconnect Heaters

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Ground Connections

⚠ WARNING

ELECTRICAL SHOCK HAZARD

Failure to follow this warning could result in personal injury or death.

According to NEC, ANSI/NFPA 70, and local codes, cabinet must have an uninterrupted or unbroken ground to minimize personal injury if an electrical fault should occur. The ground may consist of electrical wire or metal conduit when installed in accordance with existing electrical codes. (See Ground/Conduit Note below.)

NOTE: Use UL-listed conduit and conduit connector for connecting supply wire(s) to unit to obtain proper grounding. If

conduit connection uses reducing washers, a separate ground wire must be used. Grounding may also be accomplished by using grounding lugs provided in control box.

Fan Speeds

Before operating unit, be sure that the proper blower speed has been selected. Fan speeds are selected manually. (See Table 3)

To change the fan speed:

NOTE: The low fan speed tap should not be used for simultaneous heat pump and electric heat applications. Always ensure the minimum CFM shown in Table 2 is met.

The factory default is medium speed. To select the desired fan speed for cooling, simultaneous heat pump and electric heat operation, and anytime a “G” signal is present; connect the desired fan motor speed tap wire to Fan Relay Terminal No. 4.

To select the desired fan speed for heating operation, anytime the “G” signal is not present; connect the desired fan motor speed tap wire to Fan Relay Terminal No. 6.

Always connect the unused fan-motor wire to the dummy terminal block. The factory default for electric heat only operation is low speed.

Table 3 – Color Code for Motor Lead Wires

| MOTOR SPEED TAP | WIRE COLOR |
|-----------------|------------|
| Common | Purple |
| High | Black |
| Medium | Red |
| Low | Blue |

VERIFY INSTALLATION

After completion of heater installation, check wiring to ensure tightness and that proper connections and routings have been made. Ensure all electrical covers are in place. Reinstall blower access panel before turning unit power on.

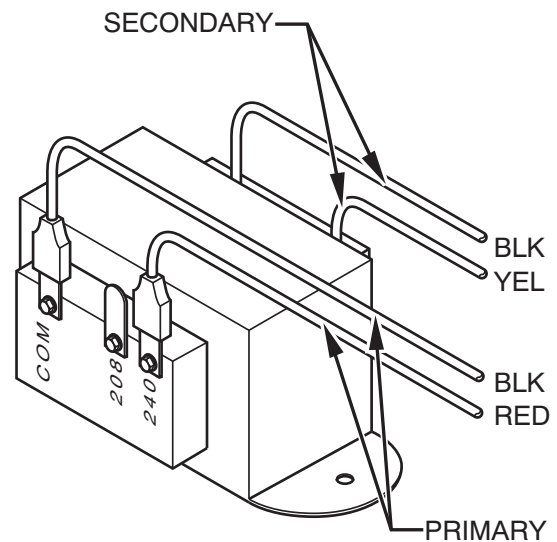


Fig. 3 - Connection of Transformer

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Table 4 – Electric Heater Electrical Data

| Heat Kit Model | Used on Size | Nominal Heat Capacity @ 240V | Shipping Weight | Heater Capacity (MBH) | | Minimum Circuit Ampacity (MCA) | | MAX. Fuse or Breaker Heat Kit Ampacity (HACR) | | Min Wire Size (AWG) †† | | Min Ground Wire Size | | Max Wire Length (Ft) ‡‡ | |
|----------------|--------------|------------------------------|-----------------|-----------------------|------|--------------------------------|------|---|------|------------------------|------|----------------------|------|-------------------------|------|
| | | KW | | 208V | 240V | 208V | 240V | 208V | 240V | 208V | 240V | 208V | 240V | 208V | 240V |
| EHK2-05B | 18 | 5 | 5.1 (2.3) | 12.3 | 16.4 | 23.6 | 27.1 | 30 | 30 | 10 | 10 | 10 | 10 | 73 | 74 |
| EHK2-08B | | 7.5 | | 22.2 | 25.6 | 34.9 | 40.1 | 50 | 50 | 8 | 8 | 10 | 10 | 76 | 77 |
| EHK2-10B | | 10 | | 24.6 | 32.8 | 46.2 | 53.1 | 60 | 60 | 6 | 6 | 10 | 10 | 92 | 92 |
| EHK2-05B | 24 | 5 | 5.1 (2.3) | 12.3 | 16.4 | 23.9 | 27.3 | 30 | 30 | 10 | 10 | 10 | 10 | 73 | 73 |
| EHK2-08B | | 7.5 | | 22.2 | 25.6 | 35.2 | 40.4 | 50 | 50 | 8 | 8 | 10 | 10 | 76 | 76 |
| EHK2-10B | | 10 | | 24.6 | 32.8 | 46.4 | 53.4 | 60 | 60 | 6 | 6 | 10 | 10 | 91 | 92 |
| EHK2-05B | 30 | 5 | 5.1 (2.3) | 12.3 | 16.4 | 24.2 | 27.7 | 30 | 30 | 10 | 10 | 10 | 10 | 72 | 72 |
| EHK2-08B | | 7.5 | | 22.2 | 25.6 | 35.5 | 40.7 | 50 | 50 | 8 | 8 | 10 | 10 | 75 | 76 |
| EHK2-10B | | 10 | | 24.6 | 32.8 | 46.8 | 53.7 | 60 | 60 | 6 | 6 | 10 | 10 | 91 | 91 |
| EHK2-05B | 36 | 5 | 5.1 (2.3) | 12.3 | 16.4 | 24.9 | 28.3 | 30 | 30 | 10 | 10 | 10 | 10 | 70 | 71 |
| EHK2-08B | | 7.5 | | 22.2 | 25.6 | 36.2 | 41.4 | 50 | 50 | 8 | 8 | 10 | 10 | 74 | 74 |
| EHK2-10B | | 10 | | 24.6 | 32.8 | 47.4 | 54.4 | 60 | 60 | 6 | 6 | 10 | 10 | 90 | 90 |

* †† Copper wire must be used. If other than uncoated (non-plated), 75°C ambient, copper wire (solid wire for 10 AWG and smaller, stranded wire for larger than 10 AWG) is used, consult applicable tables of the National electric Code (ANSI/NGPA 70).

* ‡‡ Length shown is as measured 1 way along wire path between unit and service panel for a voltage drop not to exceed 2%.

