



KEES, INC.

Products for Food Service & Sheet Metal Industry

400 S. INDUSTRIAL DRIVE - P.O. BOX 327 - ELKHART LAKE, WISCONSIN 53020 - (920) 876-3391 - FAX (920) 876-3065

Electric Heater Instructions

WARNING! Electrical shock hazard! Disconnect all power sources before doing any work on the unit.

General:

The requirements and practices described below are based on the National Electric Code and the Space Heating Standard of the Underwriters Laboratories Inc. (UL). Although UL requirements are uniform throughout the country, local electrical codes may deviate from the National Electric Code; therefore, local inspection authorities should be consulted regarding local requirements.

Electrical Wiring Instructions:

1. Separate circuits are required for the make-up air unit and the heater. The required minimum size of supply conductors is marked at the field wiring terminals within the heater control box.
2. Use the wiring diagram supplied with the heater as a guide in correlating field wiring with the heater internal wiring.
3. All field wiring to the heater must meet the requirements of the National Electric Code (NEC) and any other applicable local or state codes.
4. Wiring to the heater must be rated for 75°C minimum.
5. If a motor control center is included with the make-up air unit, the fan is interlocked to the control circuit by the factory so the electric heater is not on unless the fan is on. If the motor control center is not included then this must be done in the field.
6. If the heater does not have a built-in disconnect switch, then a remote disconnect provided by others must be installed in accordance with the NEC, Article 424-65.
7. If included, the step controller is pre-wired with the KW divided equally among the steps.
8. If included, the duct thermostat must be placed in the blower discharge to monitor the heated air.

Sequence of Operation:

1. Make-up air unit is started.
2. The step controller is allowed to regulate the heat if the following safety features are met:
 - a. fan interlock made
 - b. airflow switch made
 - c. automatic high temperature limit not tripped
 - d. manual high temperature limit not tripped
3. Above the temperature setpoint none of the elements are energized. As the temperature falls below the setpoint the first step is energized then additional ones if the setpoint is not met.
4. Unnecessary cycling is avoided by temperature and time delays programmed into the controller.