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Electric Heater Model	INSTALLATION INSTRUCTIONS	Air Handler Model
WARREN SP Series	DATE: 1-29-92	General Air Handlers with Minimum of 50 CFM/KW

GENERAL

This Warren Manufacturing Company electric heater is engineered, designed, and listed to be compatible with the particular air handler requirements. A minimum of 50 CFM per KW is necessary for satisfactory operation. Before proceeding, check the heater label for correct voltage and KW requirements.

Before installing the heater, inspect thoroughly for shipping damage. Notify carrier immediately if any damage is found. Check all porcelain insulators for breakage and inspect heater element wire to see that none have been deformed. Clean all dirt, dust, and moisture from equipment. Check for proper clearances of live parts, between phases, and to ground and make sure that all required barriers are in place. Check that conductors run in multiple to insure that they are properly phased.

HEATER INSTALLATION

1.Refer to base unit installation instruction as required.

2.Remove necessary air handler access panels to allow proper installation of heater.

3.Remove internal cover plate from heater opening. Save sheet metal screws. Discard cover plate.

4.Install heater assembly into air handler access opening of unit so that the mounting plate of the heater is flush with the base unit and heating elements are not in contact with any object.

5.Secure with sheet metal screws from cover plate.

ELECTRICAL CONNECTIONS

CAUTION: DISCONNECT ALL ELECTRICAL POWER BEFORE PROCEEDING. FAILURE TO DO SO MAY RESULT IN ELECTRICAL SHOCK.

1.All electrical connections, wire sizes and type, and conduit sizes shall meet the National Electric Code, State and Local Codes.

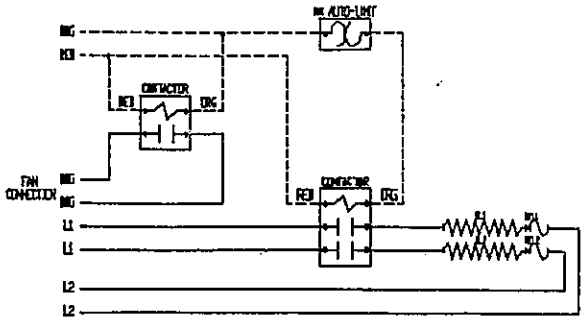
Main power supply, minimum wire sizes, circuits, fusing, etc. are shown on schematic wiring diagrams.

2.Refer to air handler unit instructions for recommended wiring procedures.

3.Connect low voltage control wires as shown in schematic diagram.

4.Connect power wiring as shown in schematic diagram. All connections should be made inside the air handler and comply with the National Electric Codes, State and Local Codes. Heaters with factory installed fuses or circuit breakers may be installed on a branch circuit protected by

TYPICAL WIRING DIAGRAM ONLY
Check wiring diagram supplied with heater for specific connections and information



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either a fuse or a circuit breaker. For all other heaters, the branch circuit must be protected by a fuse of a circuit breaker supplied by others.

5.Make all wire spliced connections inside air handler unit. Separate all wires from incoming power leads.

6.Be sure that all electrical terminal connections, clamps, screws, etc. are tight before proceeding.

7.Replace all access panels. Check operation as described in start-up section.

START-UP and CHECK-OUT

CAUTION: Before proceeding, verify that all wiring is correct per factory approved schematic. Notify factory immediately of any discrepancies.

1.Refer to base unit installation instructions as required.

2.Check for loose terminal connections.

3.Check that all fuse and circuit breaker short circuit interrupting rating are adequate.

4.Turn on unit and heater power.

5.Set thermostat to call for heat.

6.Check operation of heater.

7.Check that air flow across heater is at or above minimum recommended fan speed. Adjust as required.

8.Verify air handler (or package unit) evaporator fan motor amperage against rated amperage, both in cooling and heating modes to check sequence of control operation.

9.Any modification or repairs to this equipment without written permission from the factory will be done at the installers own risk and expense.

SERVICE

Because many differenct controls, contactors, sequencers, safeties, etc. may be specified and utilized for the electric heater, it is impossible to list all controls. Below are some of the more common controls and suggested problems and solutions. For specific list of controls provided with this heater, consult the wiring diagram furnished separately.

Fuses/Circuit Breaker - Malfunction will interrupt power to unit. *Check for cause of failure, correct, and replace fuses or reset circuit breaker.*

Limit Switch/Fusible Link - Malfunction prevents heating element(s) from being energized. *Replace switch if malfunction occurs.*

Sequencer - Malfunction will cause heater to not come on or not shut off. *Replace faulty sequencer.*

Contactor - Malfunction will cause heater to not come on or not shut off. *Replace faulty contactor. Do not attempt to replace coil or dress contacts.*

Transformer - Check that output voltage is 24 volts. *Replace faulty transformer.*

Fan Relay - Malfunction will cause fan to not come on or not shut off. *Replace faulty relay. Do not attempt to replace coil or dress contacts.*