



Compensating Installation Instructions Manual

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COMPENSATING HOOD SYSTEM ELECTRIC DUCT HEATER INSTALLATION INSTRUCTIONS

General:

Install the hood, wet chemical fire suppression system, exhaust fan, supply fan and all related ductwork. Mount the RPD20 control on a wall in the vicinity of the hood 50" off the finished floor.

Electric Duct Heater General Information:

It is essential that extreme care be exercised so as not to damage or dislocate any part of the heater, especially exposed heating elements. Damage to any such components will result in improper operation or failure of the heater.

The heater must be installed so that the coiled heating elements are horizontal. Mount heater as illustrated on label on the terminal box cover.

The heater must be positioned in the duct away from blowers, sharp bends, filter supports and other obstructions and conditions likely to disturb uniformity of air flow. A minimum distance of 30 inches must be maintained between the heater and any opening in the ductwork such as a diffuser.

Electric Duct Heater Mounting Procedures:

Insert Type Heaters:

1. Support duct with necessary hangers.
2. Cut opening in side of duct, full height x full depth of heater plus 1/8 of an inch.
3. Insert heater
4. Drill duct through prepunched holes in mounting flanges of duct heater.
5. Secure heater in place with sheet metal screws.
6. Install the two stage ductstat approximately two to three feet downstream of the heater in the ductwork. The ductstat bulb should be mounted in the duct with a bulb holder supplied by the ductstat manufacturer. Locate the bulb in an area of the duct where the most air will pass over it.

Electric Duct Heater Clearances:

The ***insert heater*** is approved for zero clearance to combustible materials. For field service and maintenance, provide a minimum clearance of duct width plus 4 inches measured from the terminal box cover to the nearest obstruction. If heater can not be readily removed, access doors should be provided in the ductwork for access to the heater coils. Do not insulate, paint, or block terminal box or components attached.

Electric Duct Heater Field Wiring:

Connect power wiring and control wiring per the field wiring diagrams supplied for the project. Supply and control terminals must be wired as per wiring diagrams on the inside of the terminal box cover. Special attention is drawn to the maximum size of supply wire marked on wiring diagram. Wires in terminal box must be kept as short as possible, and the voltage drop in the control circuit wiring must not exceed 2% of the control voltage.

If not already supplied in the terminal box a remote fused disconnect switch must be provided in accordance with the Canadian Electrical Code.

Electric Duct Heater Operation:

The heater **must not be** installed in ducts where combustible materials are in the supply air stream.

The minimum air velocity through each heater is specified on its' name plate. Lower than minimum air flow will cause cycling or automatic reset thermal cutout or failure of heating elements.

The air temperature must not exceed 27 C (81F) at heater inlet and 66 C (151 F) at the heater outlet.

To ensure proper operation of the air flow proving switch the supply air flow direction is marked on the heater terminal box.. If the heater is installed incorrectly the pressure switch will not activate. To close the switch it is necessary to maintain a minimum 0.07 inches water column pressure differential non pulsing.

The manual reset thermal cutout is standard on all heaters. Check automatic reset thermal cutout and heating elements before resetting manual cutout. If the automatic reset thermal cutout is found defective, replace it before resetting manual reset thermal cutout.

Electric Duct Heater Maintenance:

The open coil elements used in the duct heater are self cleaning. Heaters installed in large duct, where a possibility of uneven airflow exists, should be given yearly visual inspections.

Built in controls performing daily under normal operating conditions should be given the same periodic attention as similar devices installed elsewhere. Where necessary replace components such as fuses, only with identical ones.

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