Flippable Electric Duct Heater E Series

- Patent pending flippable design
- Can be installed 6 different ways
- Better heater coverage
- Lower coil watt density
- Integration with VAV single duct valves and controls
- Design program offers wider distribution of kilowatt sizes
- Solid state relay controls
- Heats large volumes of air with fast warm-ups and cool-downs
- Our open design provides low pressure drops with no build up of excessive temperatures and the low static pressures allow you to use smaller, more economical blowers
- Available in voltages up to 600 volts: single and three phase
- Two frame types are available: slip in and flange.

The E Series Flippable Duct Heater

EVH and EDH, products, brings innovation and flexibility to the electric duct heater and variable air volume, (VAV), heater markets. Both series include symmetrical design features that provide flexibility during installation at a project or work site. Duct heaters are used in forced air applications to provide standalone space heat or to supplement existing heating systems. Installation examples include space heating, primary heating, reheating, multi-zone or VAV, Replacement of existing and secondary/auxiliary heating. All models may be flipped and rotated as long as the diffusor/radiant screen is moved to the inlet air side where applicable.

For EVH Models:
Minimum air velocity is 70 CFM per KW (75-80 recommended)
Maximum inlet air temp is 100 degrees F°
Maximum heater KW is 16.5 KW per ft^2 of duct cross section.

For EDH Models:
Minimum air velocity is 70 CFM per KW (75-80 recommended)
Maximum inlet air temp is 100 degrees F°
Maximum heater KW is 18 KW per ft^2 of duct cross section.

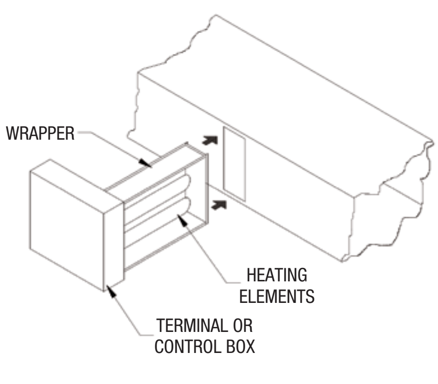
Engineering Specifications

Composition and Materials: All sheet metal housing. 0.034+.008/-.00 minimum spangle galvanized sheet steel grade G-90.

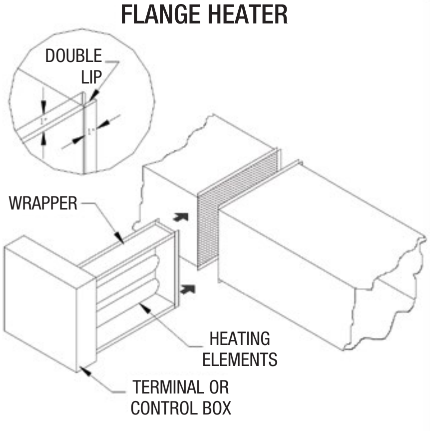
Standard Features: Open-coil element, airflow switch, detailed wiring diagram, Control terminal board and Grounding lugs, Power fusing over 48 amps included, A disconnecting magnetic control contactor per stage or each 48-amp circuit within a stage, Automatic high-limit switch for primary over-temperature protection, Manual reset high-limit switch for secondary over-temperature protection, The wire rack element suspension system allows for a low pressure drop across the coils, In horizontal applications, airflow can travel in either direction without any modification, allowing for easy field modifications, Control box features hinge and latch for easy access.

Approvals: cULus, ETL, UL International

SLIP-IN HEATER



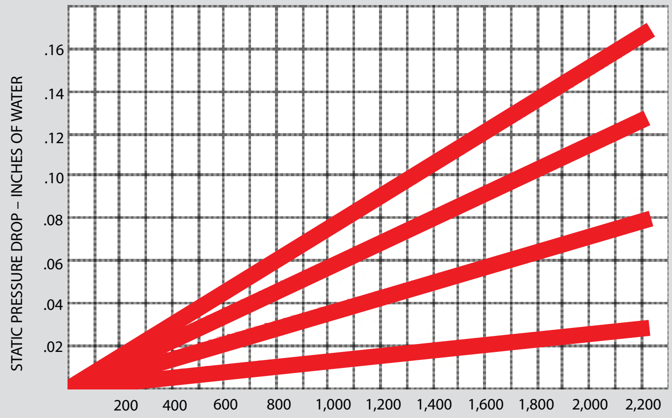
FLANGE HEATER



TECHNICAL DATA

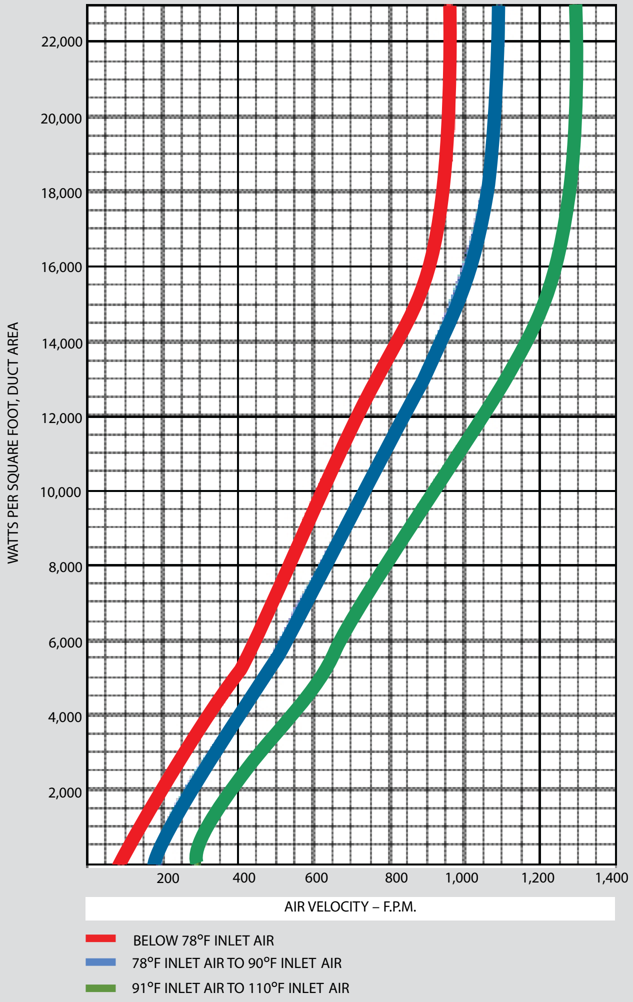
DETERMINING MAXIMUM HEATER KW
Duct Width (inches) x Duct Height (inches)
Total Square Inches x 156
Maximum Watts per Square Inch of Duct Face Area
Duct Width (feet) x Duct Height (feet)
Total Square Feet x 22.464
Maximum KW per Square Foot of Duct Face Area

PRESSURE DROP THROUGH HEATER



1, 2, 3 and 4 – the number of rows of heater coils
When the number of rows of heater coils is unknown, assume 4

MINIMUM AIR VELOCITIES



General

A. The minimum airflow in a duct heater is directly related to the inlet air temperature. Consideration must be given to both airflow across the heater and the inlet temperature.

B. To calculate the watts per sq. ft. of duct area, divide the total watts required by the duct area.

Example

C. Duct size equals 2 ft. x 3 ft., total watts equal 20,000 watts per square foot equals

$$\frac{20,000}{6} = 3333$$

D. If the air handling equipment is expressed in F.P.M., then a direct cross reference can be made by comparing the temperature of the air (as it enters the duct heater) to the KW rating on the table at the rated air velocity.

1. Draw a line horizontally from the watts/sq. ft. required to the inlet air temperature being used.
2. From this point of intersection on the inlet temperature line, draw a line down vertically to establish the air velocity.
3. In cases where the velocity is less than that determined from the chart, then either the velocity must be increased, the KW required must be reduced or both must be done.

E. In cases where the airflow is expressed in C.F.M., convert to F.P.M. by dividing the C.F.M. by the duct area.

$$\frac{\text{C.F.M.}}{\text{Duct Area}} = \text{F.P.M.}$$