IDHC

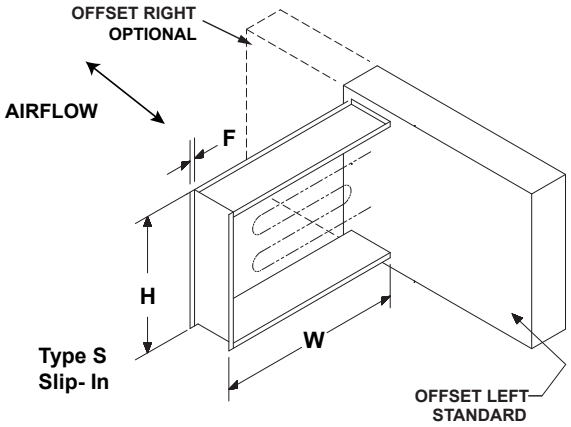
Duct Heater

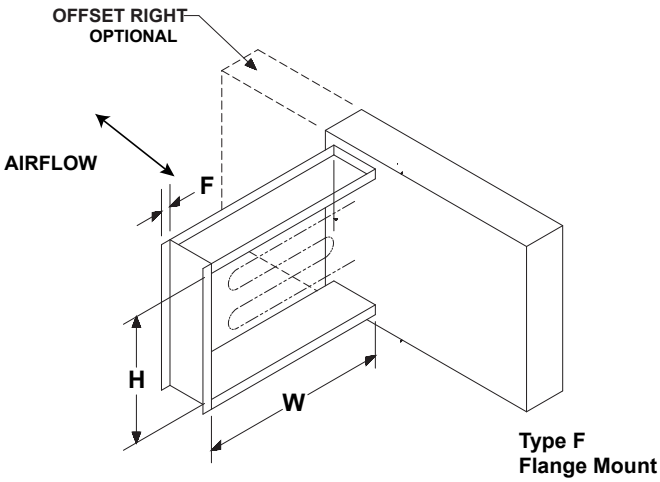
The IDHC series is a custom duct heater featureing much larger sizes. The IDHC has the following standard features:

- UL 1996 certified
- 50/60 Hz compability
- A disconnecting magnetic control contactor per stage, or each 48 amp circuit within a stage
- Zero clearance rating
- Fan interlock
- Power terminal board
- Control terminal board
- Grounding lugs
- Automatic limit switch for primary over temperature protection
- Manual reset limit switch for secondary over temperature protection

Capacity is dependent on voltage/phase and heater dimensions.

Capacity : 500 kW maximum





Construction	Standard	Optional
Airflow Direction	Horizontal bi-directional	Vertical up
Contactor	Magnetic	Mercury
Control Box Offset	Left	Right
Control Voltage	24V	120V
Element Wire	Standard	80/20
Heater Control	Stage	SCR, Vernier SCR, Pneumatic
Heater Type	Slip in	Flange
Heater Voltage/ Phase	120/1	208/1, 208/3, 230/1, 230/3, 277/1, 460/3, 480/1, 480/3
Material	Galvanized Steel	-
Recess	None	1,2,3

Standard heater allows airflow in either direction for horizontal duct applications.

Size Limitations

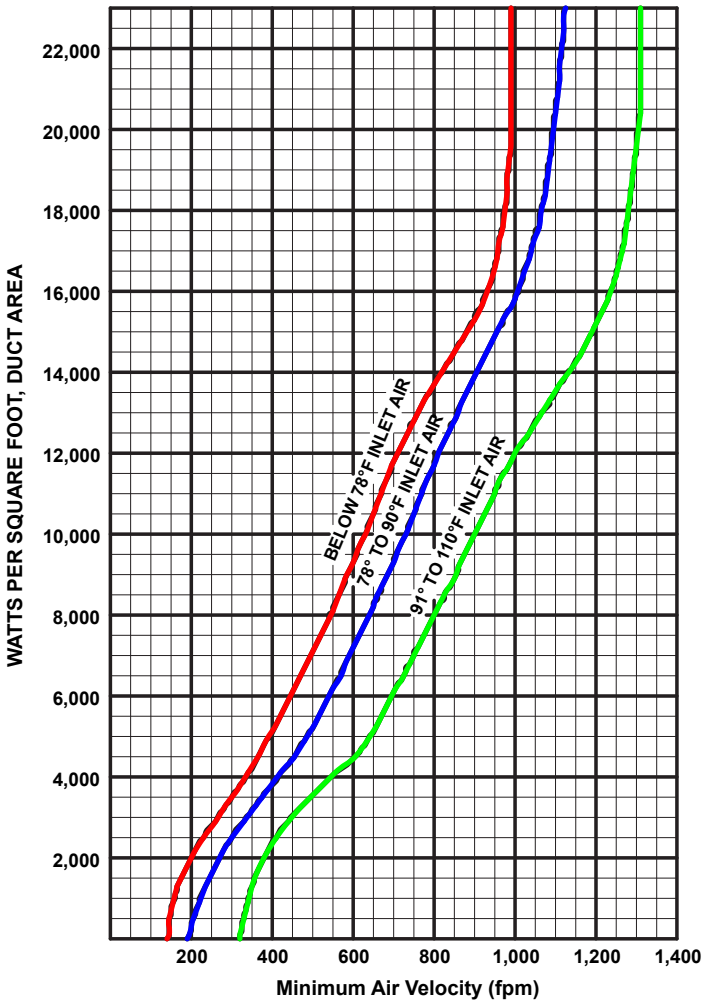
W x H	*Minimum Size*	*Maximum Size*
Inches	8 x 8	120 x 144
mm	203 x 203	3048 x 3658

Installation instructions available at www.greenheck.com.

Options available:

- Airflow switch
- Control transformer
- Disconnect switchwith door interlock
- Dust tight box with gasketed door
- PE (pressure electric) switch
- Pilot light
- Room thermostat
- Time delay relay
- Vapor barrier
- Primary power fusing
- De-rated coils
- Element wrapper recess for internally insulated ducts
- Flush mount control cabinet for tight ceiling/floor installations
- Stainless steel hardware
- Right offset control cabinet

Minimum Air Velocities



General

A. The minimum airflow through 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. (square foot) of duct area, divide the total watts required by the duct size (Watt density = watts/duct area (ft^2).

Example: Duct size equal 2 ft. x 3 ft., total watts equal 20,000 watts per sq. ft.

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

C. If airflow in the duct is expressed in FPM, 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 per 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 the velocity must be increased, the kW required must be reduced, or both must be done.

D. In cases where the airflow is expressed in CFM, convert to FPM by dividing the CFM by the duct area.

$$\frac{CFM}{\text{Duct Area}(ft^2)} = FPM$$

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