

Electric Duct Heaters IDHB & IDHE Series



GREENHECK

Building Value in Air.

Heater Selection

Typical information you will need when selecting a duct heater.

Dimensions

Width
Height

Mounting Type

Slip In or
Flanged

Kilowatts (kW)

Power Source

Voltage and
Phase

Control Type

Staged
Pneumatic
SCR
Vernier SCR

Accessories

Control Panel

- Removable hinged access door with latch
- Detailed wiring diagram
- Multiple mounting positions (IDHE) allows flexibility in the field to position the offset on the left or right as preferred

Available Options:

- Dust tight box with gasketed door
- Vapor barrier
- Recess for internally insulated ducts

1. Airflow Switch

Fan interlock switch is standard.

Optional airflow switch senses air pressure across the heater surface closing the electrical switch and allowing the heater to activate. This switch is available with fixed or adjustable set point.

2. Disconnect Switch

A door interlocking disconnect switch prevents the control door from being opened until power to the heater is disconnected.

3. Power Fusing

UL and NEC codes require heaters having greater than 48 amps be subdivided into circuits of 48 amps or less. If 48 amps or greater, fusing comes standard. Less than 48 amps, fusing is optional.

4. Terminal Blocks

Terminal blocks are standard on all heaters for quick and easy integration with field-installed control wiring.

5. Contactors - Magnetic

Disconnecting contactors break all ungrounded lines on UL listed duct heaters and are UL approved for 250,000 cycles.

6. Control Transformer

Control transformers are used to provide single point wiring when the control voltage differs from the line voltage. The transformer is available as fused or unfused.



7. Capacity Controls

Staged Control

One to three stages are provided standard.

Pneumatic

Pneumatic controls allow a pneumatic building control system to operate heaters up to three stages. An airflow switch is standard with this option.

SCR

Solid state relays provide continuous modulation.

Vernier SCR

Vernier SCR control combines the benefits of Step and SCR control to provide precise proportional control on heaters in excess of 135 amps.

8. Elements

Standard heater elements are 60% Ni grade C wire which exhibit excellent performance in standard applications. Optional features:

- 80/20 NiCr grade A element wire: provides superior corrosion resistance in reheat and high humidity applications
- Derated coils: aid in longer element life in single and multi-zone air handler applications

Accessories

Pilot Lights

Pilot lights are installed on the side panel and used to indicate heater conditions as follows:

- heater energized
- stage energized
- airflow switch open



These are available with 24V or 120V control voltages.

Time Delay Relay

A time delay relay provides a delay of 30 to 60 seconds when energizing or de-energizing the circuit controlled. Standard control voltages are 24V through 277V.



Pressure Electric Switches (PE)

A PE switch controls the heater with a pneumatic air signal. It requires field adjustment for specific job requirements.



Thermostat

- Room stat: controls heater to maintain adjustable space temperature when heater is used as primary heating method.



- Duct stat: controls heater to maintain adjustable discharge temperature. This is the preferred method of control for preheat and reheat applications. This option is only available with SCR or Vernier SCR Controller Systems.



IDHB and IDHE

Application

Duct heaters are designed for comfort ventilation applications. They are used in forced air applications to provide standalone space heat or to supplement existing heating systems. Typical installations are:

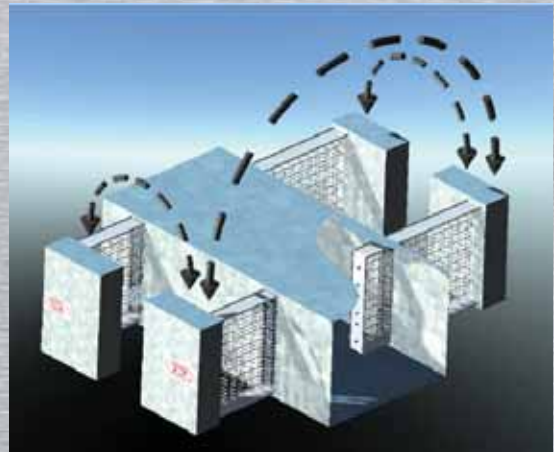
- Space heating
- Multi-zone or VAV
- Replacement
- Primary heating
- Reheat
- Make-up/outdoor air preheat
- Emergency/backup heat
- Secondary/auxiliary heating

Frame Types

- Slip in - allows you to slip the heater into the opening in the ductwork
- Flange - allows you to bolt into place between two sections of flanged duct

Advantages of the IDHE heater

- Less upfront coordination
 - You no longer need to know airflow direction or control box location
- Increased heater size
- Increased capacity
- Six mounting positions
- Improved performance
 - Reduced radiant loss
 - Longer service life



	IDHB	IDHE
Voltages	120/1 - 480/3	120/1 - 480/3
Capacity	18 kW per sq. foot	30 kW per sq. foot
Minimum Size	8 x 8 in.	8 x 8 in.
Maximum Size	36 x 36 in.	120 x 144 in.
Controls	Staged Pneumatic	Staged
		SCR
		Vernier SCR Pneumatic
Thermostat	Room	Room
		Duct
Rotatable	No	Yes
Airflow Direction	Horizontal Vertical Up	Horizontal
		Vertical Up
		Vertical Down

Why Would I Choose Greenheck Duct Heaters?

- The IDHE series is approved by UL for multiple mounting positions
- Hinged access cover with latch
- All limit controls are resettable
- Proven wire rack system that provides very low pressure drop and extended element life
- Zero clearance rating for installation into ducts
- All components (except SCR) are mounted inside the control panel
- Quick lead times - as fast as 3 days

FAQ

Q: Do I need to bring 24 VAC to control the heater?

A: No, every duct heater has an internal transformer to power the control circuit along with being able to provide power to an external thermostat. Bringing an external power source to the control circuit will damage the heater.

Q: My duct heater is placed upstream of my fan and my airflow switch is not making. Why?

A: The airflow switch from the factory is defaulted to look for positive pressure. If it is to be installed upstream, the sensing tube must be switched to the low port on the airflow switch to sense the negative pressure.

Q: How do you size a duct heater with internal insulation?

A: General rule:

Heater "H" = Duct "H" - (insulation thickness x 2)

Heater "W" = Duct "W" - insulation

Note: Heater will need a recess of one insulation thickness

Greenheck

P.O. Box 410 • Schofield, WI 54476-0410

TEL: 800.717.6540

dampers@greenheck.com