ELECTRIC OPEN COIL HVAC DUCT HEATERS

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HEATER TYPE

This print covers the following heater types:

HUA	Open Coil Standard, Slip-In	KUB	Open Coil, Custom Slip-In
HUP	Open Coil Standard, Flanged	PUB	Open Coil, Custom Flanged
HX-830U Remote Panel			

Heatrex duct heaters utilize the finest construction principles and techniques. 80% nickel, 20% chromium coils are supported by ceramic bushings mounted in corrosion-resistant steel brackets, using a patented floating design that prevents breakage due to thermal expansion. The coils are machine crimped into stainless steel terminals which are insulated with high temperature ceramic bushings. The heater frame is constructed of heavy gauge corrosion-resistant steel and is provided with generous flanges for structural rigidity. All heaters, except HUP, are suitable for installation in ducts with up to one inch of interior lining.

All heaters include both automatic and manual reset thermal cutouts (not heat limiters or fusible links). All controls are factory-wired to clearly marked terminal blocks for field connections. Properly sized knockouts are provided. All heaters are supplied complete with wiring diagrams and installation instructions, and all are given a dielectric test at a minimum of 1200 volts before shipment.

UNDERWRITERS LISTING AND NATIONAL ELECTRIC CODE

Heatrex duct heaters and panels with a "U" in the type designation are listed by UL under reference E23192 and E53412. As such, they are suitable for installation with zero spacing between the duct and combustible surfaces and for use with heat pumps and central air conditioners. They are also supplied with all necessary provisions for installation in full accordance with the National Electric Code.

INSTALLATION

Heatrex slip-in duct heaters are installed by inserting through a rectangular opening cut in the side of the ductwork and are secured to the duct with sheet metal screws. To install Heatrex flanged duct heaters, flanges must be provided on the duct to match the heater flanges, both on the entering and leaving air sides. The heater is secured to the ductwork by sheet metal screws or bolts through the mating flanges.

When the duct heater is being used in conjunction with an air conditioning or heat pump unit, it must be installed at least 48" from that unit. Per NEC requirements, a minimum of 3-1/2 feet of accessible working space clearance must be provided on the terminal box side of the heater. Care should be taken to follow all instructions found in the Installation, Operating and Maintenance instruction sheet supplied with each heater.

CONTROL OPTIONS

The following table indicates the basic control components which are supplied with each of the standard control options.

STANDARD CONTROL OPTIONS

Option	G Basic	J Pneumatic	K SCR
Thermal Cutouts	●	●	●
Airflow Switch	●	●	●
Control Transformers	●	□	□
Fuses (for heaters over 48 amps)	●	●	●
Disconnect Switch	●	●	●
Contactors (de-energizing)	●	□	□
PE Switches		●	
SCR Controller			●
Thermostat	□		□

● Standard □ Provided as necessary

SPECIAL FEATURES

Heatrex heaters are available with a wide variety of special features and constructions. Your quotation or certified print includes a column for special feature codes. The codes in this column, as defined by the table below, describes details of both the standard control options, as well as any special features on the heater in question.

SPECIAL FEATURE CODE DEFINITIONS

A60, A62	PE Switch - Close on Rise
B	Terminal Box - Bottom
B1	Terminal Box - Side Cover
B2	Terminal Box - Insulated
B3	Enclosure - Weatherproof NEMA 4 Type
B4	Enclosure - Dust-tight - NEMA 12 Type
B5	Panelboard - Required for Heater Control
B7	Enclosure - Dustproof
B8	Enclosure - Outdoor - 3R Type
B9	Enclosure - Stainless Steel Weatherproof NEMA 4X Type
C, C4, C8	Contactor - Magnetic De-energizing
C1, C5, C9	Contactor - Magnetic Disconnecting
C2, C6, C10	Contactor - Mercury De-energizing
C3, C7, C11	Contactor - Mercury Disconnecting
D3	Derated Coils - 25 Watts per Square Inch
D4	Derated Coils - 35 Watts per Square Inch
E20 to E22	SCR Controller
E30	SCR input - 2200 Ohms
E31	SCR input - 135 Ohms
E32	SCR input - with transducer
E33	SCR input - slave for vernier
E34	SCR input - 4 - 20mA
E35	SCR input - 0 - 10VDC
E36	SCR input - 0 -10VDC Thermostat Controlling Master SCR
E37	SCR input - Pulse Thermostat Controlling Slave SCR
F	Fuses - Minimum NEC
F1	Fuses - Per Circuit
F3	Circuit Breaker - Minimum NEC
F5	Circuit Breaker - Per Circuit
F6	Time Delay Fusing
G1	Slip-and-Drive Connection
G2	Extended Cold Section
G3	Recessed Terminal Box
GG2	Insulated Duct Construction (extended cold section)
GG3	Insulated Duct Construction (recessed terminal box)
H1	Aluminized Steel Frame & Terminal Box
H2	Stainless Steel Frame & Terminal Box
H3	Stainless Steel Elements
L3 to L6	Terminal Box Overhang (See Figs. 10 & 11)
L7	No Overhang, C=M (See Fig. 7)
M to M7	Manual Thermal Cutout
M8	Remote Manual Reset Rod
N (000)	Fan Relay (000 is control voltage)
P1	Pilot Light Each Stage On
P2	Pilot Light Insufficient Air
P3	Pilot Light Heater On
P4	Pilot Light - Overtemperature
Q, Q1	Disconnect Switch Power
Q2	Pilot Switch - Control Circuit
Q3, Q4	Airflow Switch Positive
Q5, Q6	Airflow Switch Negative
Q8	Disconnect Switch - Control Circuit
Q10	Disc. Switch - Control Circuit Fan Relay
	STEP CONTROLLER
S5	2200 Ohm input - Deadband
S16	135 Ohm input - Proportional
S18	4-20 mA input - Proportional
S19	with Transducer - Proportional
S20	0-10VDC input - Proportional
S21	Step Controller - 0-10 VDC Thermostat
T1, T5	Control Circuit Transformer, Fused Primary
T2 to T4	Control Circuit Transformer
U3 to U9	Airflow Direction (see Figs. 10 & 11)
V	Protective Screens - Both Sides
V1	Pressure Plate - Inlet Side
V2	Protective Screens - One Side
Z to Z5	Automatic Thermal Cutout