



ELECTRIC RE-HEATING FOR SINGLE DUCT VAV - SDVE/SDVBPE MODELS

ELECTRIC HEATER

DESCRIPTION & OPTIONS

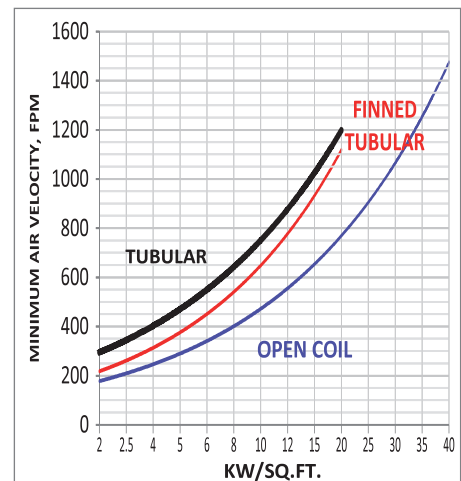
- Slip-in type electric heater made of galvanized steel of appropriate gauge.
- Configuration of the electric heater can be arranged as per customer requirements.
- Heating elements are available in Open Coil, Tubular or Finned Tubular types.
- Available in ON/Off, STAGING and MODULATING electric control.
- Primary over temperature protection is provided by auto reset thermal disc-type cutout.
- Air flow switch (requires min Pt total pressure of 0.07 inch WG at the face of the electric coil).

OPTIONS:

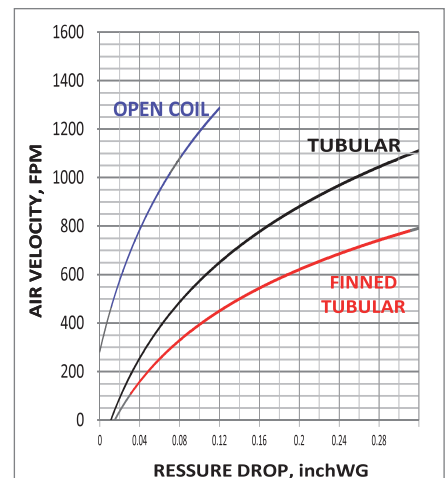
The following components can be provided upon request:

- Secondary over temperature protection with manual reset (push button) thermal disc-type cutout.
- 24V transformer & control fuse.
- Magnetic / safety contactors.
- Line and control terminal blocks.
- Up to 3 steps of heater.
- Patented Modulating HEC controls.
- Available in ETL/CSA or UL listed optional assemblies.
- Door-interlocking disconnect switch.
- Main power fuses.
- Mercury contactors.
- Proportional SSR control (0-100%).
- Discharge temperature limiting control.
- Electronic Flow Sensor can be provided.

MINIMUM AIR VELOCITY REQUIREMENTS:



HEATER'S ELEMENT PRESSURE DROP DATA:





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HEATER CONTROL & POWER:

$$kW = CFM \times \Delta T^{\circ}F / 3160 = m^3/h \times \Delta T^{\circ}C / 2769$$

1) CONVENTIONAL STAGED CONTROL:

SIZE	STAGES	ALLOWABLE MAXIMUM KWATT		
		1 PHASE		3 PHASE
		120V	240V	380V
100	1,2	3.5	3.5	3.5
150	1,2	5.5	6.0	6.0
200	1,2,3	5.5	11.0	11.0
250	1,2,3	5.5	11.5	17.0
300	1,2,3	5.5	11.5	30.0
350	1,2,3	5.5	11.5	39.0
400	1,2,3	5.5	11.5	39.0

Notes:

- 1- Low watt density elements (Max. 35W/in²)
- 2- Min. kW:
 - Single Phase = 0.5 kW/stage
 - Three Phase = 1.5 kW
- 3- Min. based on air velocity of 200 FPM across the coil.

2) MODULATING CONTROL:

SIZE	ALLOWABLE MAXIMUM KWATT		
	1 PHASE		3 PHASE
	120V	240V	380V
100	3.0	3.0	3.0
150	4.5	6.0	6.0
200	4.5	9.5	11.0
250	4.5	9.5	19.0
300	4.5	9.5	30.0
350	4.5	9.5	33.0
400	4.5	9.5	33.0

Notes:

- 1- Low watt density elements (Max. 35W/in²)
- 2- Min. kW:
 - Single Phase = 1.0 kW
 - Three Phase = 1.5 kW
- 3- Min. based on air velocity of 100 FPM across the coil.

* The Max Allowable KW shown is based on UL / NEC standards.

** The minimum air flow requirement for terminals with electric coils is the greater of 70 CFM/KW or the minimum allowable flow rate that can be accurately controlled. This allows proper operation of the electric coil and results in increased coil life with a maximum air temperature rise of 45° F to prevent thermal stratification in the space.

*** Uniform flow through a coil results in optimum performance, and therefore, we recommend a minimum length of 48" of full size discharge duct after the air terminal.





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HEATER'S STANDARD & OPTIONAL FEATURES:

ELEMENT TYPE:	<input type="checkbox"/> OPEN COIL	<input type="checkbox"/> TUBULAR	<input type="checkbox"/> FINNED TUBULAR
ELEMENT CONSTRUCTION:	<input type="checkbox"/> GRADE C NiCr 60 (standard) <input type="checkbox"/> GRADE A NiCr 80	<input type="checkbox"/> INCOLOY 800 Nickel Alloy (standard) <input type="checkbox"/> S.S. ELEMENT	
POWER PHASE:	<input type="checkbox"/> SINGLE		<input type="checkbox"/> 3 PHASE
POWER VOLTAGE:	<input type="checkbox"/> 120V	<input type="checkbox"/> 240V	<input type="checkbox"/> 380V
POWER FREQUENCY:	<input type="checkbox"/> 50Hz		<input type="checkbox"/> 60Hz
HEATING STAGES:	STAGE NO.	CONTROL SIGNAL	KW
	STAGE 1	<input type="checkbox"/> ON/OFF <input type="checkbox"/> MODULATING	
	STAGE 2	ON/OFF	
DISC-TYPE AUTOMATIC RE-SET THERMAL CUT-OUT	STANDARD		
MANUAL RE-SET THERMAL CUT-OUT	OPTIONAL		
AIR FLOW SWITCH (at least 0.07" WG)	STANDARD (OPTIONAL ONLY WITH HEC) <input type="checkbox"/> fixed (PDN) <input type="checkbox"/> adjustable (PDA)		
MAGNETIC CONTACTORS	STANDARD (OPTIONAL ONLY WITH STEP CONTROLLED HEATERS)		
DISCONNECT SWITCH	OPTIONAL: <input type="checkbox"/> Disconnect switch (door interlock) (DS) <input type="checkbox"/> Toggle switch (TS)		
TIME DELAY SWITCH	OPTIONAL: <input type="checkbox"/> Thermal relay (RT) <input type="checkbox"/> Silent relay (CS) <input type="checkbox"/> Mercury contactor (CM)		
TRANSFORMER	OPTIONAL (STANDARD ONLY WITH HEC)		
POWER FUSES	OPTIONAL: <input type="checkbox"/> Line fuses (LF) <input type="checkbox"/> Stage fuses (SF) <input type="checkbox"/> BOTH LF & SF		
CONTROL FUSES	OPTIONAL (STANDARD ONLY WITH HEC)		
SCR Modulating Controller (0-10 VDC)	OPTIONAL		
SOLID STATE RELAY	OPTIONAL (STANDARD ONLY WITH HEC)		
PILOT LIGHT	OPTIONAL: <input type="checkbox"/> Line Power (LP) <input type="checkbox"/> Stage ON (LS) <input type="checkbox"/> Heating ON (LH) <input type="checkbox"/> Overheat (LO) <input type="checkbox"/> No airflow (LN)		
VOLT FREE CONTACTS	OPTIONAL		
STEP CONTROLLER	OPTIONAL		
AUTOMATIC CIRCUIT BREAKER	OPTIONAL		

