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

ELECTRIC HEATER

DESCRIPTION & OPTIONS

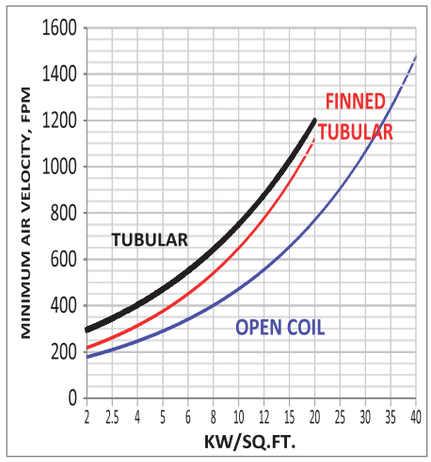
- Slip-in type electric heater made of galvanized steel of appropriate gauge.
- Configuration of the electric heater can be arranged as per customer requirements.
- Heating elements are available in Open Coil, Tubular or Finned Tubular types.
- Available in ON/Off, STAGING and MODULATING electric control.
- 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:

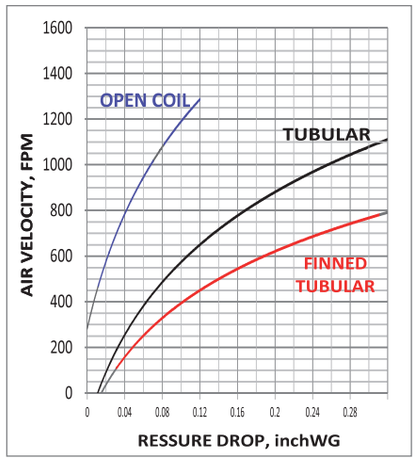
The following components can be provided upon request:

- 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:

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

1) CONVENTIONAL STAGED CONTROL:

		ALLOWABLE MAXIMUM KWATT		
		1 PHASE		3 PHASE
SIZE	STAGES	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:

	ALLOWABLE MAXIMUM KWATT		
	1 PHASE		3 PHASE
SIZE	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:	□ OPEN COIL			□ TUBULAR		□ FINNED TUBULAR
ELEMENT CONSTRUCTION:	□ GRADE C NiCr 60 (standard) □ GRADE A NiCr 80			□ INCOLOY 800 Nickel Alloy (standard) □ S.S. ELEMENT		
POWER PHASE:	□ SINGLE			□ 3 PHASE		
POWER VOLTAGE:	□ 120V		□ 240V		□ 380V	
POWER FREQUENCY:	□ 50Hz			□ 60Hz		
HEATING STAGES:	**STAGE NO.**	**CONTROL SIGNAL**	**KW**	**STAGE NO.**	**CONTROL SIGNAL**	**KW**
	STAGE 1	□ ON/OFF □MODULATING		**STAGE 3**	**ON/OFF**	
	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)** □ fixed (PDN) □ adjustable (PDA)					
MAGNETIC CONTACTORS	**STANDARD (OPTIONAL ONLY WITH STEP CONTROLLED HEATERS)**					
DISCONNECT SWITCH	**OPTIONAL:** □ Disconnect switch (door interlock) (DS) □ Toggle switch (TS)					
TIME DELAY SWITCH	**OPTIONAL:** □ Thermal relay (RT) □ Silent relay (CS) □ Mercury contactor (CM)					
TRANSFORMER	**OPTIONAL (STANDARD ONLY WITH HEC)**					
POWER FUSES	**OPTIONAL:** □ Line fuses (LF) □ Stage fuses (SF) □ 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:** □ Line Power (LP) □ Stage ON (LS) □ Heating ON (LH) □ Overheat (LO) □ No airflow (LN)					
VOLT FREE CONTACTS	**OPTIONAL**					
STEP CONTROLLER	**OPTIONAL**					
AUTOMATIC CIRCUIT BREAKER	**OPTIONAL**					