

**ESTE ELECTRIC DUCT HEATER FEATURES:**

- Single point electrical connection to the electric duct heater with factory wired fan / airflow controls
- Primary over temperature protection provided by an auto reset thermal cutout – disc type
- Secondary over temperature protection with manual reset (push button) thermal cutout – disc type
- Air proving switch (requires min Pt total pressure of .10" w.g. at the face of the electric coil)
- Derated Nickel Chrome heating elements
- 24vac Class 2 control transformer (inherently limiting) Additional +15VA provided for airflow controller & actuator
- Magnetic disconnecting / safety contactors as required (UL listed for minimum of 250,000 cycles)
- Line and control terminal blocks
- 1,2, or 3 steps of heat
- ETL listed assembly

**OPTIONAL DUCT HEATER FEATURES:**

- Door-interlocking disconnect switch (non-fused)
- Main power fuses (fuses and fuse blocks)
- Time proportioning control (0-100%) by switching Solid State Relays (SSR)
- Discharge air temperature limiting control

**Table 44: Electric Heating Coil Performance - KW Range**

Unit Size	Fan CFM	# Steps / SSR	1 - Phase								3 - Phase			
			120 VAC		208 VAC		240 VAC		277 VAC		208 VAC		480 VAC	
			KW Range		KW Range		KW Range		KW Range		KW Range		KW Range	
			Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
ESTE-17	500	1, SSR	0.5	5.0	0.5	7.0	0.5	7.0	0.5	7.0	0.5	7.0	1.0	7.0
		2	1.0		1.0		1.0		1.0		1.0			
		3	1.5		1.5		1.5		1.5		2.0			
ESTE-33	1100	1, SSR	0.5	5.0	0.5	9.0	0.5	10.5	0.5	12.0	0.5	15.0	1.0	15.5
		2	1.0		1.0		1.0		1.0		1.0			
		3	1.5		1.5		1.5		1.5		2.0			
ESTE-50	1600	1, SSR	0.5	5.0	0.5	9.0	0.5	10.5	0.5	12.0	0.5	15.0	1.0	20.0
		2	1.0		1.0		1.0		1.0		1.0			
		3	1.5		1.5		1.5		1.5		1.5			
ESTE-75	2000	1, SSR	0.5	4.5	0.5	8.5	0.5	10.0	0.5	11.5	1.0	15.0	1.0	28.5
		2	1.0		1.0		1.0		1.0		1.0			
		3	1.5		1.5		1.5		1.5		1.5			
ESTE-10	2400	1, SSR	0.5	4.0	0.5	8.0	0.5	9.5	0.5	11.0	1.0	14.5	1.0	32.5
		2	1.0		1.0		1.0		1.0		1.0			
		3	1.5		1.5		1.5		1.5		1.5			
Motor Nameplate Voltage			120 VAC		240 VAC		240 VAC		277 VAC		240 VAC		277 VAC	

**Notes:**

1. The maximum allowable KW shown is based on UL / NEC standards, in conjunction with laboratory tests performed in the Anemostat Air Distribution Laboratory
2. Electric coil selection requires a MINIMUM of 70 CFM / KW during coil heating. For Model ESTE series fan terminals, the coil is located at the discharge of the fan such that: Fan CFM = Electric Coil CFM.
3. At the minimum of 70 CFM / KW: Coil Air Temp Rise ( $\Delta T$ ) = BTUH / (CFM x 1.08) = 3,413 BTUH / (70 x 1.08) = 45° F. To prevent stratification with overhead heating, the discharge temperature of the fan terminal should be limited to room temperature + 15° F.
4. Uniform flow through the coil results in optimum performance. We recommend a minimum length of 48" of full size discharge duct after the air terminal