Electric Heater Formulas

Conversion

1 KW = 3413 BTU

Load Requirement

$$KW = \frac{CFM \times Temp.\ Rise}{3160}$$

Line Current (1 Phase)

$$Amps = \frac{KW \times 1000}{Volts}$$

Line Current (3 Phase)

$$Amps = \frac{KW \times 1000}{Volts \times 1.73}$$

Applied vs. Rated KW Factors

Rated Voltage	Applied Voltage								
	120	208	220	230	240	277	440	460	480
120	1.00	3.00	3.36	3.67	4.00	5.33	13.44	14.69	16.00
208	.33	1.00	1.12	1.22	1.33	1.77	4.47	4.89	5.32
220	.30	.89	1.00	1.09	1.19	1.58	4.00	4.37	4.76
230	.27	.82	.91	1.00	1.09	1.45	3.66	4.00	4.36
240	.25	.75	.84	.92	1.00	1.33	3.36	3.67	4.00
277	.19	.56	.63	.69	.75	1.00	2.52	2.76	3.00
440	.07	.22	.25	.27	.30	.40	1.00	1.09	1.19
460	.07	.20	.23	.25	.27	.36	.91	1.00	1.09
480	.06	.19	.21	.23	.25	.33	.84	.92	1.00

1. Locate Heater Rated Voltage.
2. Locate Actual Applied Voltage.
3. Multiply Heater Rated KW by Factor Shown to Obtain Actual KW Capacity