

RECOMMENDED KW PER CROSSSECTIONAL DUCT AREA

Duct		6	8	10	12	14	16	18	20	22	24	26	28	30	32	36	42	48
Height INCH	Width INCH	MAXIMUM KW STANDARD DESIGN																
		4	2	3	4	5	5	6	7	8	9	10	10	11	12	13	15	17
6	3	5	6	7	8	10	11	12	13	15	16	17	18	19	22	26	30	
8	5	6	8	10	11	13	15	16	18	20	21	23	25	26	30	35	40	
10	6	8	10	12	14	16	18	20	23	25	27	29	31	33	37	43	50	
12	7	10	12	15	17	20	22	25	27	30	32	35	37	40	45	52	60	
14	8	11	14	17	20	23	26	29	32	35	37	40	43	46	52	61	70	
16	10	13	16	20	23	26	30	33	36	40	43	46	50	53	60	70	80	
18	11	15	18	22	26	30	33	37	41	45	48	52	56	60	67	78	90	
20	12	16	20	25	29	33	37	41	45	50	54	58	62	66	75	87	100	
22	13	18	22	27	32	36	41	45	50	55	60	64	68	73	82	96	110	

FORMULA FOR CALCULATING LINE CURRENTS

S.no	BTU / H	Kw	120V	230V	440V
1	10239	3	25	13.0	3.9
2	20478	6	50	26.0	7.9
3	30717	9	75	39.1	11.8
4	40956	12	100	52.1	15.7
5	51195	15	125	65.1	19.7
6	61434	18	150	78.1	23.6
7	71673	21	174.9	91.1	27.5
8	81912	24	200	104.2	30.4
9	9151	27	225	117.2	35.4
10	102390	30	250	130.2	39.3
11	112629	33	275	143.2	43.2
12	122868	36	300	156.2	47.2
13	133107	39	325	169.3	51.1
14	143346	42	350	182.3	55.0
15	153585	45	375	195.3	59.0
16	163824	48	400	208.3	62.9
17	170650	50	416.6	217.0	65.5

CALCULATING KW REQUIREMENT:

Once the volume of airflow (CFM – in cubic feet per minute and the required temperature rise (ΔT degrees F) through the heater are known, the required Kw rating (Kw) of the heaters can be determined from the formula:-

$$KW = \frac{CMF \times \Delta T^{\circ} F}{3193}$$

$$KW = \frac{\text{Liters / Second} \times \Delta T^{\circ} C}{837}$$

Where the desired heating capacity in BTU/Hr is known the Kw is determined from the following formula:-

$$KW = \frac{BTU/Hr}{3412}$$

SINGLE PHASE (1 PHASE)

$$AMPERES = \frac{WATTS}{LINE VOLTAGE}$$

THREE PHASE (3.PHASE)

$$AMPERES = \frac{WATTS}{LINE VOLTAGE \times 1.73}$$