HORSEPOWER AMPERE TABLE

The electrical ratings of many types of controls are often given in amperes. In general, these ampere ratings correspond to certain horespower ratings. The ampere rating of all motors will not necessarily correspond to the horespower rating shown in the table. Therefore, the control device in question must have a rating that is equal to (or greater than) the actual full load and locked rotor currents on the motor.

Approximate Horsepower	120 Volts A.C.		240 Volts A.C.	
	Full Load	Locked Rotor	Full Load	Locked Rotor
1/10	3.0	18.0	1.5	9.0
1/8	3.8	22.8	1.9	11.4
1/6	4.4	26.4	2.2	13.2
1/4	5.8	34.8	2.9	17.4
1/3	7.2	43.2	3.6	21.6
1/2	9.8	58.8	4.9	29.4
3/4	13.8	82.8	6.9	41.4
1	16.0	96.0	8.0	48.0
1 1/2	20.0	120.0	10.0	60.0
2	24.0	144.0	12.0	72.0
3	34.0	204.0	17.0	102.0

TEST FOR CORRECT SYSTEM AIRFLOW: A/C

Indoor Wet Blub °F	Indoor Dry Bulb °F							
	70	72	74	76	78	80	82	84
58	51	52	53	54	55	56	57	58
60	52	53	54	55	56	57	57	59
62	53	55	55	56	57	58	59	60
64	55	56	57	57	58	59	60	61
66	56	57	58	59	60	61	62	63
68	58	59	60	61	62	63	64	64
70	60	61	62	63	64	65	66	66
72		63	64	65	66	67	68	68
74			65	67	68	69	70	70
76						71	72	72

Required Supply Air Temp °F

Measure the indoor wet bulb & indoor dry bulb temps. Find the intersection of wet and dry bulb temps. If the air exiting the duct is 3° colder than the required supply air temp, the airflow is too low; replace the filter and/or clean evap and/or increase the blower speed. If the temp is higher than required, the system has too much airflow and/or low refrigerant and/or weak compressor valves.

TEMPERATURE CONVERSION

To convert degree Fahrenheit to degree Centigrade, use formula:

(°F-32) X 5/9 = °C

To convert degree Centigrade to degree Fahrenheit, use formula:

(°C X 9/5) +32° = °F

PRESSURE CONVERSION TABLE

1 Inch Water = .0361 lbs/sq. in. or .0735 in. Mercury

1 Inch Mercury = 13.6 in. water or .491 lbs/sq. in.

1PSI = 27.7 in. water or 2.036 in. Mercury

HEAT AND POWER EQUIVALENTS

1 BTU = 252 Calories

1Hp = .746 Kw.

1 Kw (1000 Watts) = 3413 BTU/Hr.

1 Watt = 3.413 BTU/Hr.

1BTU/Hr. = 0.293 Watts

OHM'S LAW VARIATIONS

I (Amps)	=	P (Watts) / E(Volts)	or	E (Volts) / R (Ohms)
R (Ohms)	=	E (Volts) / I (Amps)	or	P (Watts) / I² (Amps)
E (Volts)	=	I (Amps) x R (Ohms)	or	P (Watts) / I (Amps)
P (Watts)	=	I² (Amps) x R (Ohms)	or	I (Amps) x E (Volts)

WET BULB CONVERSION

HUMIDITY %	°F Dry Bulb Temperature								
	100	95	90	85	80	75	70	65	60
10	63	61	58	55	52	50	47	44	41
20	69	66	63	60	56	53	50	47	43
30	74	71	67	64	60	57	53	50	46
40	79	75	71	68	64	60	56	52	48
50	83	79	75	71	67	63	58	54	50
60	87	83	78	74	70	66	61	57	52
70	91	87	82	78	73	68	63	58	
80	94	90	85	80	75	71	66		
90	97	93	88	83	78	73			

°F Wet Bulb Temperature is the Intersection of Dry Bulb & Humidity