

Berner Energy Electrical Calculations - ERV

<i>Calculation Chart</i>			
<i>Electrical Parts</i>	<i>Input Amp Draw</i>		
	<i>208 Volt</i>	<i>240 Volt</i>	<i>480 Volt</i>
Biggest Fan HP Motor			
Smallest Fan HP Motor			
Heat Wheel Motor			
Enthalpy Wheel Rotation Detection			
Damper Motor - total			
Radiant Defrost Heater - total			
Temperature Sensors - total			
Lights and Receptical			
Variable Frequency Drive per Fan - total			
Misc. Panel Requirments	3.6	3.2	1.6

<i>Electrical Load Results</i>	<i>208 Volt</i>	<i>240 Volt</i>	<i>480 Volt</i>
Full Load Amps - FLA			
Minimum Circuit Ampacity - MCA			

Direction: Insert the amps for each component (*In the area marked Calculation Chart*) that you plan on using from the chart on the right labeled *Electrical Component Amps*. You can find the Fan and Heat Wheel Motor HP on the data sheets under each model *Selection Tab* and *cfm selection*. First input the amps for the largest fan motor (supply or exhaust). Second input the smallest motor amps (if the fan motors are the same then input the amps in both). Third input the designated Heat Wheel Motor amps. Fourth input only the Accessories Amp Draws that you wish to use.

To calculate FLA: Add each column per Desired Voltage

To calculate MCA: (Largest Fan Motor x 1.25) Plus FLA

<i>Electrical Component Amp Draw</i>			
<i>Fan Motors</i>	<i>208 Volt</i>	<i>240 Volt</i>	<i>480 Volt</i>
3/4 HP Motor	3.50	3.20	1.60
1 HP Motor	3.10	3.00	1.50
1 1/2 HP Motor	4.50	4.40	2.20
2 HP Motor	6.00	5.90	3.00
3 HP Motor	8.60	8.40	4.20
5 HP Motor	14.00	12.70	6.40
7 1/2 HP Motor	21.00	19.00	9.50
10 HP Motor	27.30	24.70	12.30
15 HP Motor	41.00	38.00	19.00
20 HP Motor	54.00	50.00	24.90
25 HP Motor	66.00	60.00	30.00
30 HP Motor	78.00	71.00	35.00

<i>Heat Wheel Motor</i>	<i>208 Volt</i>	<i>240 Volt</i>	<i>480 Volt</i>
1/4 HP Motor 3820 - 5855 units	1.00	1.00	0.50
1/3 HP Motor 6875 - 7812 units	1.20	1.20	0.60
1/2 HP Motor 8815 - 9620 units	1.80	1.80	0.90

<i>Accessories Amp Draw</i>	<i>208 Volt</i>	<i>240 Volt</i>	<i>480 Volt</i>
Enthalpy Wheel Rotation Detection	0.20	0.20	0.10
Damper Motor - each	0.75	0.75	0.50
Radiant Defrost Heater Pkg. - each	4.57	3.95	1.97
Temperature Sensor - each	0.50	0.50	0.25
Lights and Receptical	12.00	12.00	6.00
Variable Frequency Drive per Fan - each	0.50	0.50	0.25

Caution: FLA & MCA may vary +/- 5 amps depending on Manufactures of Parts