



Evaporator Basic Electrical Requirements.

Professional electricians have wired the evaporator to UL and CSA standards. Each state, province and country, which this product maybe sold in, has a specific electrical code, which must be followed when being connected to the power supply. Each system must be connected by a certified electrician and inspected by the local authority.

In very simplistic terms, if you wanted to dry your hair you could not simply hook the hair dryer directly to the power source. You require, wire from the power pole, meter, main disconnect, fuse panel, wire to the plug and the plug. Now you are able to dry your hair. The same requirements are needed to connect the evaporator to a power source, either diesel generation or utility electrical source.

Things you need to think about/know...

<u>Service Power Requirement</u>		Service Size for the 3-phase power minimum			
Hertz	60 Hz	60 Hz	60 Hz	50 Hz	
40 hp Motor	230 volt	460 volt	575 volt	380 volt	
	(104 amp)	(52 amp)	(41 amp)	(63 amp)	
Main Switch	200 amp	100 amp	100 amp	200 amp	
“D” fuses	175 amp	90-amp	70 amp	110 amp	
Copper Wire	#1	#6	#6	#6	

<u>Requirement for 40 hp Evaporator & 15 hp Pump</u>				
Hertz	60 Hz	60 Hz	60 Hz	50 Hz
	230 volt	460 volt	575 volt	380 volt
Service Size	(104+42)	(52 + 21)	(41 + 17)	(63 + 21)
Main Switch	200 amp	200 amp	100 amp	100 amp
“D” fuses	200 amp	110 amp	90-amp	90 amp
Copper Wire	#4	#4	#4	#2

<u>Requirement for 40 hp Evaporator & 20 hp Pump</u>				
Hertz	60 Hz	60 Hz	60 Hz	50 Hz
	230 volt	460 volt	575 volt	380 volt
Service Size	(104 + 46.2)	(52 + 23.1)	(41 + 18.4)	(63 + 23)
Main Switch	200 amp	200 amp	100 amp	100 amp
“D” fuses	200 amp	110 amp	90 amp	150 amp
Copper Wire	#4	#4	#4	#2

Requirement for 40 hp Evaporator & 30 hp Pump

Hertz	60 Hz	60 Hz	60 Hz	50 Hz
	230 volt	460 volt	575 volt	380 volt
Service Size	(104 + 69.2)	(52 + 34.6)	(41 + 27.2)	(63 + 34)
Main Switch	200 amp	200 amp	200 amp	100 amp
“D” fuses	200-amp	110 amp	90 amp	150 amp
Copper Wire	#4	#4	#4	#2

Requirement for two 40 hp Evaporators & 30 hp Pump (Dual pack)

Hertz	60 Hz
	460 volt
Service Size	(52+52+34.6)
Main Switch	200 amp
“D” fuses	200-amp
Copper Wire	#2/0

Requirement for two 30 hp Evaporators & 30 hp Pump (Dual pack)

Hertz	60 Hz
	460 volt
Service Size	(34.6+34.6+34.6)
Main Switch	200 amp
“D” fuses	200-amp
Copper Wire	3/0

Wire sizing stated in this information packet is for service size minimum, not the wiring to the unit at site location. *The electrician providing installation service must calculate this.*

Examples of minimum Conductors size for various motors to transformers distances. This is **example** of the effect of distance on the conductor’s sizes. **The electrician providing the installation service must calculate this.**

Hp	Motor Volts	Transformer KVA	Conductor sizes (AWG) for various motors to transformer distances				
			100 ft	150 ft	200 ft	300 ft	500 ft
15	230	20	4	4	4	2	0
15	460	20	12	10	10	8	0
40	230	Consult power	1	0	00	0000	300
40	460	Company	6	6	4	2	0

Site Questions

- 1) What voltage and amperage capacity do we have at the site? ie: 220 v, 380 v, 480 v, 575 volt cycle 50 hz or 60 hz.
- 2) Where is the source power? How far is it from where we need it?
- 3) Do you have a place to install the Meter, switchgear, main disconnect, fuse panel.
- 4) How far is it from the source panel or main disconnect to the desired location of the evaporator system. We would recommend minimum 300’ feet on line power and 500’ for generator installation.
- 5) The length of run from the switchgear to the evaporator station is very important. This length is required to calculate the correct wire size to insure constant voltage supply. Incorrect wire sizing will cause the motor to run in an overload state and reduce the operational life of the equipment.
- 6) Will the wire from the main disconnect to the evaporator be above grade or below grade? What are the laws effecting these styles of installations? What type of wire should be used?

- 7) If your electrical contractor does not understand these questions or how to calculate the demand on the wire, we would suggest that you find another contractor with this knowledge!
- 8) Review general set up instructions attached with this document as part of your site preparation before proceeding.
- 9) Develop a basic strategies and layout on paper before submitting your requirement for tender to an electrical contractor. The contractor will be required to provide the inspection authority with a basic plan to request permits for installation.

If you have further questions about electrical please call 1 800 495 6145 to the factory Mon-Friday 8-4Pm