

The Margarita Guys



Frozen Delight - Delivered Just Right!

**877-99FIESTA**

### **ELECTRICAL REQUIREMENTS FOR BUNN ULTRA AND CDS MACHINES**

One of the biggest and most confounding problems granita machine owners have is when a mix simply won't freeze up or sometimes freezes and then a half hour later is mushy or liquid. The first thing most think is that their machine has a problem, but usually that is not the case.

Like all granita machines, the refrigeration system of the Bunn Ultra and CDS machines are driven by a commercial compressor. The compressor requires a specific amount of power and the correct voltage to work properly. Specifically, CDS-2 or Ultra-2 machines require a dedicated 15 amp 120 volt 60 Hz circuit. If the circuit cannot by design deliver this amount of power, if there are other devices pulling power from the same circuit, if the outlet on the circuit is a far run from the power source and the correct wire size was not used when the circuit was installed, or if an extension cord is being used the machine will be unable to get the power it requires and you will experience problems.

Electricity is often a mysterious and sometimes scary thing for most people – they cannot see or touch it and it has never been well explained. So let's explain it right now. Think of electricity as you do tap water. At your house, when the kitchen sink faucet is turned off there is no flow of water but there is still water pressure against the valve in the faucet. When you open the faucet, water flows out. Depending on the pressure and the rate of flow, over a period of time an amount of water will fill the sink.

Think of electricity like water, but instead of water drops we're talking about electrons. At the electric plug in your wall, just like at the sink even if nothing is plugged in there is still electrical "pressure" at the plug (there are electrons ready to flow if something is plugged in and turned on). When you plug in a lamp and turn it on, electrons flow to the light bulb and the filament heats up and creates light. Over time, an amount of electricity has been spent lighting the light bulb (check your electric meter).

Back to your CDS or Ultra machine. For the compressor to work properly, it must receive the correct amount of pressure (voltage) and the correct amount of flow (current), and if either is low the machine will either work poorly or not at all. Low electrical power at your machine is usually caused by two common problems:

- The circuit is not dedicated to the machine. This means that other electrical items are attached to the same circuit and are using some of the power the machine needs for proper operation. This usually includes outdoor lights, a blender, a stereo, or something else plugged into the same circuit. Remember that a single circuit may have many plugs in many locations, so the offending item may not be plugged in to the same outlet as the machine.
- The machine is getting its power through an extension cord. Of course everyone wants their machine to be in the back yard or someplace far from a dedicated circuit, necessitating an extension cord. Unfortunately, extension cords act like small hoses attached to your garden hose valve – they restrict flow. If you must use an extension cord, use only one 25 foot long 12 gauge extension cord. If you must use a longer extension cord, it has to be even bigger wire (gauge is the wire size and the smaller the number the bigger the wire).

If you have other items pulling power from the same circuit or a long extension cord, one of two things will happen: either the circuit breaker (or fuse) will blow or the voltage will drop. If the breaker blows your problem is easy to see and fix (remove the other items on the circuit). The evil problem is the voltage drop. It is very hard to spot a voltage drop because the machine will stay on, the lights will work and the augers will spin, but the compressor will struggle and will never quite keep up with the demand. You will end up with no freezing, intermittent freezing, and if it goes on long enough an overheated compressor (leading to the compressor safety switch stopping all power from getting to the compressor).

So to solve the problem of poor freezing performance when using your Bunn CDS or Ultra machine, remember two things: always have a dedicated 120 volt 15 amp circuit for each machine and never use an extension cord longer than 25 feet or smaller than 12 gauge wire.

Please contact us at [ask@margaritaguys.com](mailto:ask@margaritaguys.com) if you have any questions.

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