

The Margarita Guys



Frozen Delight - Delivered Just Right!

877-99FIESTA

Poor Freezing Performance

An unfortunately common complaint from all granita machine users, including those using the Bunn CDS and Ultra machines, is poor freezing performance. You set the machine up before the party, put in the product, and it takes a long time to freeze or struggles to keep the product frozen at the proper consistency. This usually occurs when the machines are used in a rental or home setting.

While this could be caused by a problem with the machine like low refrigerant or a mechanical problem, there are many easy to fix problems that usually cause this issue. If you're experiencing poor freezing performance with your CDS or Ultra machine, always try the free fixes listed below first.

1. Insufficient power

These are commercial grade machines with a big compressor, a cooling fan motor and two auger motors. They require a dedicated 15 amp circuit. Most homes today have sufficient electrical circuits to meet the machine's needs, but it has to be the only thing on that circuit. By circuit I don't mean outlet. Each circuit in your home is individually protected by its own circuit breaker or fuse and each circuit almost always feeds power to multiple outlets. So, you have to be sure the machine is the only thing drawing power on the entire circuit.

When other items are on the same circuit, the voltage can drop. Instead of popping the fuse or circuit breaker, the safety switches in the machine usually turn off the compressor. After the compressor cools down, the switches turn the compressor back on. So it may look like the refrigeration system is working properly but in reality the compressor is not staying on long enough to keep the product frozen. Check the circuit and remove everything else, including other appliances, lights, the DJ, the bounce house, etc.

Finally, if you must use an extension cord it must be no longer than 25 feet long and 12 gauge wire. Do not use a longer extension cord or a cord with a higher gauge wire. If you need a longer cord, it will have to be 10 gauge wire (you won't find these at the hardware store).

2. Air filter is clogged

You should be cleaning the air filter (silver mesh square on the back of the machine) regularly. Pull the top tabs down and then out to remove and inspect the filter. Clean it with hot water and Simple Green, let it dry and reinstall. If the machine cannot get air it will overheat and the refrigeration system performance will suffer. If the filter is too dirty to clean, buy a new one.

When the filter is off, make sure the condenser fins (the "radiator" behind the filter) are all clean, too. If the machine was run without the filter the condenser will clog and require a difficult to accomplish cleaning job.

3. Improper product

The machines are designed to operate and freeze product that is created with a specific amount of sugar, which is known as “brix” (pronounced “bricks”). A properly operating machine may create a cooling drum (the “evaporator”) temperature in the single digits on the Fahrenheit scale. Plain water will freeze up and damage the auger, auger shaft, or auger motor. A mix with too much sugar may not freeze at all. Measuring brix requires an expensive tool called a refractometer. Since you won’t be buying one of those, just be sure you are using a high quality product that is specifically designed to work with your machine. The ideal brix for your machine is 12. Also, no carbonated mixes (don’t try to use Pepsi or Coke as your mix).

4. Too much alcohol

The freezing point of alcohol is much lower than water, and can actually be used as an “anti-freeze”. So, putting too much alcohol in your mix may drive the freezing point of the mixture too low for the machine to freeze. We mix our drinks with one half gallon of alcohol to each 2.5 gallons of mix (1 part alcohol to 5 parts water-based mix). You can probably get away with using two half gallons (1 part alcohol to 2 parts water-based mix), but your goal is to make a great drink not to get everybody drunk. Just remember that adding more alcohol lowers the freezing point of your product and forces the machine to work harder.

5. Outside temperature too hot

The CDS and basic Ultra-2 machines are designed to work in an environment no hotter than 80 degrees Fahrenheit. Many places in the U.S. get lots hotter than that outdoors in the summer. Putting the machine in direct sunlight makes matters worse. We’ve seen machines working great and freezing the product into ice crystals only to have the crystals melt as they are pushed away from the cooling drum – don’t expect a CDS or basic Ultra machine to work properly if it is outside and the temperature is 100 degrees Fahrenheit.

In mid-2009 Bunn released a new “Heavy Duty” Ultra-2 Machine that has a bigger capacity compressor. This machine will work properly in hotter environments than will the CDS or standard Ultra machines. Contact the Margarita Guys at ask@margaritaguys.com if you are interested in one of these Heavy Duty Ultra-2 machines.

6. Thickness setting too low

Once set to “Ice”, the machine uses two main data inputs to determine when the compressor will turn on and off and when the refrigerant solenoids will let refrigerant flow to each of the cooling drums: temperature and torque. Inside the cooling drum is a “thermistor” that sends a signal to the machine’s main computer, telling it the temperature of the product. There are no adjustments for temperature. The second is torque, and you can adjust this input to vary the thickness of the product.

Inside the machine is an auger shaft – the front of it sticks out of the cooling drum and the plastic auger is driven around by this shaft. Each auger shaft is driven by its own motor in the back of the cooling drum. The motor is connected to the auger shaft with special springs that stretch as the product becomes thicker. The machine has a mechanism for measuring this movement (two pins sticking up from the auger and motor shafts as they pass through the Torque Sensor Board). By adjusting the thickness dials up or down in the CDS drawer or by using the membrane switches on the Ultra machines, you tell the main computer how much torque is required to turn the compressor off. If your product is not freezing as hard as you desire, try turning up the thickness.

Hopefully knowing about these six issues and the easy and free fixes will solve your poor freezing performance problems. You should always check and resolve all of these issues before giving up on your machine or calling the service technician to ensure you don't pay for a service call that you don't need.

As always, if you have any questions please contact us at ask@margaritaguys.com.

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