

Foaming in the hopper. Why and what to do?



Possible causes and solutions:

- Foam can be caused by excessive whipping / mixing or using an electric beater or stick blender which whips excessive air into the liquid. Solution: Use the correct mixing procedure as stated with instructions. This should prevent any foaming.
- Water used is too cold. Solution: Use water between 16°C and 25°C for mixing.

If it appears in the hopper of the pump Soft-Serve machines it can be caused by:

- Excessive pressure in the barrel caused by a runaway pump. Sometimes the pump malfunctions and doesn't shut off (called a runaway pump). You will hear the pump constantly running, causing excessive pressure in the barrel which will also cause air to escape through the hopper. Solution: Contact your service technician.
- Pump timing is not set correctly when high numbers of small cones are served in quick succession. When this happens, you may find extended run time on the pump causing excessive pressure in the barrel. This will cause the pressure to escape through the hopper causing bubbling and entrapment of air resulting in foam. Solution: Ask your technician to shorten the run time on the pump to a maximum of 5 seconds.
- Seal on the connector pipe between the barrel and hopper is ill-fitting or damaged causing air to escape from the barrel. This causes air bubbling through the hopper liquid causing foam. Solution: Replace or reseal.
- Mix level in hopper is too low when agitators are present. When the level in the hopper drops, agitators become high shear devices which can whip up foam in the hopper. Solution: Keep hopper levels topped up.

Remember, pump machines should NOT have any foam in the hopper. If foam is present, find the cause and address it.

If foam appears in the hopper of the gravity Soft-Serve machines it can be caused by:

- Forgetting to invert mix-feed tube during stand-by periods (most gravity machines).

- When a gravity machine is put on stand-by overnight or during extended no-use periods, you must invert the mix-feed tube if it is the type that can be inverted. The ones that can be inverted have a drainage hole on the side of the tube on the one end, but not on the other end. So where does this air come from? When the machine is put on stand-by, the Soft-Serve in the barrel melts; the air escapes from the Soft-Serve to the top of the barrel and finds its way up through the mix-feed tube and through the drainage hole causing the air to bubble slowly through the mix in the hopper. Because the mix has been designed to capture the air, the formation of foam occurs readily. Some mixes have a better ability to capture air than others, but be that as it may, foam can still form in the hopper.



The correct procedure for stand-by is as follows:

Invert the mix-feed tube. You will see the mix-feed tube has a drainage hole in the side which when correctly positioned in the hopper, allows liquid Soft-Serve to drain down into the barrel. When you invert it, that hole in the side of the tube will be at the top. The other end (now at the bottom) does not have a hole on the side and essentially, the hopper and barrel are now blocked off from each other.

At this point, put the machine on stand-by. Now when the Soft-Serve in the barrel melts over minutes or hours and air escapes from the Soft-Serve, liquid cannot drain down through the mix-feed tube, and the air will stay in the barrel.

When you want to put the machine back to normal use, first switch the machine to 'auto' and then wait until it cycles off (usually takes around 10 minutes at which point the product will be frozen again and will be ready to serve) and only then invert the mix-feed tube.

Do not forget to invert the mix-feed tube otherwise it will result in a 'starving barrel' which may cause damage to your machine.