



Arla® Pro Q&A: Soft Serve

MACHINE SPECIFIC QUESTIONS AND ANSWERS:

Q: What does overrun mean?

A: Overrun is the amount of air that you pump into the soft serve mix. For example 60% overrun means that 1 liter of mix will produce 1.6 liters of finished soft serve.

Q: What is pasteurization of soft serve?

A: Pasteurization of your soft serve mix involves heating the mix to a specific temperature for a specified period to kill harmful bacteria. This process is particularly important if the product has been in the machine for an extended period, as it ensures the mix remains safe for consumption.

Q: How can pasteurization affect my soft serve?

A: Pasteurization can affect the flavor, color, consistency and texture of the soft serve. Arla's soft serve mixes are tested to maintain top performance through up to three pasteurization cycles.



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Q: What is the difference between a gravity-fed and pump-fed soft serve machine?

A: Strictly from a mechanical perspective, the main difference is how the mix enters the freezing cylinder. In gravity-fed machines, gravity pulls the mix through a feed tube and into the freezing cylinder.

In pump-fed machines, a pump does the heavy lifting. In pump-fed machines the pump in the hopper of the machine pumps the mix into the freezing cylinder.

Q: What are the main benefits of a pump-fed machine?

A: A pump-fed machine can achieve up to 60% overrun on average, while a gravity-fed machine typically operate at a fixed ratio of 30%. Pump-feed machines allow you to better control the amount of air in the mix.

Q: Are there additional benefits of a pump-fed machine?

A: Yes! Pump-fed machines deliver more consistent texture and flavour, which is essential for customer satisfaction. They also produce high volumes quickly, making them ideal for businesses with high customer demand.

Q: What are the downsides of a pump-fed machine?

A: Pump-fed machines tend to have a higher initial cost, and spare parts are often more expensive. They also have more moving parts, making maintenance complex. They also require more frequent cleaning.

Q: What are the benefits of a gravity-fed machine?

A: Gravity-fed machines are often smaller machines taking up less space and uses less energy, therefore gravity machines are often cheaper. Less cleaning is required for a gravity machine.

Q: What are the downsides of a gravity-fed machine?

A: Gravity-fed machines may struggle to maintain consistent product texture and flavour. Also, compared to pump-fed machines, they operate at a much slower rate, which can be an issue with high customer traffic.

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Q: What is the difference between a water-cooled and an air-cooled soft serve machine?

A: Water-cooled machines require a water inlet and outlet, making them less portable. They produce the best quality product and have the highest output per hour.

Air-cooled machines, on the other hand, are more portable but may not match the performance of water-cooled machines in terms of product quality and output. They are also noisier and generate more heat.

FYI: Both pump-feed and gravity machines can come in water-cooled and air-cooled versions.

Q: Which machine should I choose?

A: That depends entirely on your business needs. If you're a small business looking for an affordable and reliable machine that doesn't need to be super-fast, a gravity-fed machine is a great option. However, if speed, consistency, and higher overrun are critical for your success, a pump-fed machine is likely the better choice.



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ADJUSTMENT OF MACHINE SETTINGS:

Q: How can I adjust the temperature in a soft serve machine to enhance flavor and suit other applications?

A: Decrease temperature: For a firmer, denser product. A colder product will have less pronounced flavor notes.

Increase temperature: For a softer, creamier product. A warmer product will have more pronounced flavor notes.

Q: How can I adjust overrun in a soft serve machine to enhance flavor and suit other applications?

Increase Overrun: Incorporating more air into the mix results in a lighter, fluffier texture. A high overrun will result in a slower melt. The flavor will be lighter. If you want the vanilla flavor to be less intense, you can increase the overrun.

Decrease Overrun: Reducing the amount of air results in a denser, creamier product. A low overrun will result in a faster melt and more intense flavours.

Q: Why is my soft serve too icy?

A: There can be several reasons for example

Overfrozen mix: Leaving the product in the freezing cylinder for too long can cause it to become icy. Try pulling some product out to bring in fresh mix from the hopper.

Scraper Blades: Worn scraper blades can prevent the product from being properly scraped off the freezing cylinder walls, leading to larger ice crystals.

Air Incorporation: If the air tubes or pumps are blocked or not functioning properly, the mix won't get enough air, resulting in a denser, icier product.

Overrun Settings: Excessive air (overrun) can also cause issues. Adjusting the overrun settings on your machine might help achieve the ideal consistency.

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Q: Why is my soft serve too grainy?

A: Factors such as lactose crystals, air bubbles, and ice crystals can all affect the texture.

Lactose Crystals: If soft serve is not properly mixed or stored, lactose can crystallize and form small, hard particles that give a grainy texture.

Air Bubbles: Soft serve should have a smooth and creamy consistency, which is achieved by incorporating air during the freezing process. If there are too many or too large air bubbles, it can result in an uneven texture that feels grainy.

Ice Crystals: If soft serve is not frozen properly or stored at too high a temperature, large ice crystals can form. These crystals can give a gritty sensation in the mouth, rather than the desired smooth consistency.

Q: Why is my soft serve melting too fast?

A: There can be several reasons such as:

Temperature Settings: Ensure your machine is set to the correct temperature. If it's too warm, the soft serve will melt quickly.

Overrun Issues: Too little air incorporated into the mix. Increasing the overrun may help solve this.



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PRODUCT SPECIFIC QUESTIONS AND ANSWERS:

Q: What is the advantage of using vegetable oil instead of full dairy fat?

A: Vegetable oils can help achieve a smooth and creamy texture and are often cheaper than dairy fat.

Q: Why is our Slower Melt melting slower?

A: This is due to the fat and stabilizer system uniquely developed for Arla Foods.

Q: How does UHT processing affect my soft serve mix?

A: UHT extends the shelf life of your soft serve mix and allows for ambient storage. All Arla Pro Soft Serve mixes are UHT treated.

Q: What is the difference between a soft serve and a shake base?

The difference lies in the stabilizers and emulsifiers. Soft Serve Base: Contains stabilizers and emulsifiers to maintain its structure and prevent ice crystal formation.

Milkshake Base: Also includes stabilizers and emulsifiers, but in different proportions to ensure a smooth, drinkable texture.

Q: Can I add flavors to my soft serve?

A: Yes, you can add flavors to your soft serve base to create a wide range of soft serve options. Some machines can blend syrups into the mix automatically, or have syrup dispensers that pump it in. Alternatively you can blend the soft serve mix together with a syrup before pouring it into the hopper. However, the syrup should be developed specifically for soft serve or ice cream. This means that it cannot have any particles that could potentially clog the pipes.

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