



APPLICATION SPOTLIGHT

Air Flow Control Ensures Quality of Ice Cream Manufacturing



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APPLICATION:

During ice cream manufacturing, the ice cream mixture (paste) is fed with air into a helical screw freezing cylinder and then mixed by a scraper. Simultaneously, a cooler on the freezer cylinder wall freezes the paste. Super-high, molecular-weight polyethylene blades on the scraper rake the frozen paste off the cylinder wall. During this process, the paste is continuously frozen, scraped, and mixed with air to create a delicious ice cream of perfect texture.

The ice cream process requires feeding air into the paste at a specified proportion to produce ice cream with the right consistency. The ratio control between the paste (master) and the air injected by the flow controller (slave) is very critical for the quality, texture, consistency, appearance and, of course, taste of the ice cream.

PRODUCT SUPPLIED:

- Vögtlin Mass Flow Controllers

CHALLENGE:

Too much or too little air could jeopardize the ice cream quality. The paste and air must be fed at a constant ratio and rate for consistent results. Therefore, the flow controller must instantly balance any back pressure variations.

SOLUTION:

The Vögtlin flow controller ensures that exactly the correct amount of air mass mixes in the paste. The Vögtlin MEMS technology maintains long-term stability without a zero or span drift.

TECHNICAL ADVANTAGES:

Vögtlin flow technology offers the following performance benefits that work well in ice cream manufacturing:

- No zero shift
- Long-term stability
- High measurement precision
- Good repeatability and linearity
- Rapid response
- Dual temperature calibration for a perfect temperature compensation superior to alternative MFCs
- Standard analog and digital (Modbus) communication for easy integration. Other bus protocols optional available

