

APPLICATION REPORT Food & Beverage

Inline aromatisation of foam in the manufacture of confectionery

- Continuous inline dosing of flavour and colouring to foam base mass
- Stable composition of the product
- High level of repeatability, even in the case of fluctuating consumption



1. Background

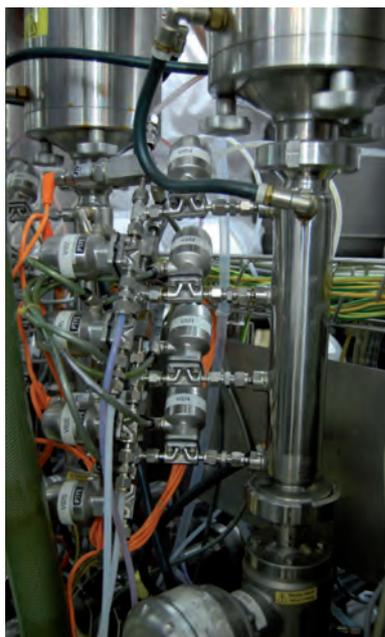
As well as licorice, products made from fruit gum, such as jelly babies, are firm favourites in sweet shops. Depending on the type however, such sweets either contain sweet foam or even are made entirely of sweet foam. This is the case with many of the products from the MEDERER Süßwarenvertriebs GmbH Company in Fürth, which markets its products under the brandname Trolli. The sweets can consist of several layers where typically, the lower layer is made of foam and the top one of fruit gum. One example of this is the well know "Sour apple rings" from Trolli.

2. Measurement requirements

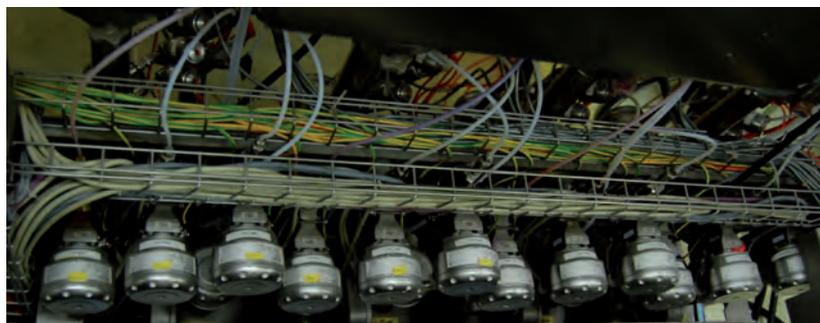
To start with, the fresh foam is produced in a special mix machine and then aerated. Following this, the foam is given its taste and colour through the inline dosing of additives. Then, the foam leaves the machine and is formed into the required shapes, e. g. bears, frogs or rings in the so-called Mogul machine, by being dosed into starch filled mould boards.

3. KROHNE solution

In order for the foam to have the required flavouring and colouring, various flowmeters have been deployed on each line. An electromagnetic flowmeter OPTIFLUX 6000 (DN 25 / 1") measures the volume flow of the fresh, still tasteless foam as it comes out of the mix machine. At the same time, various additives, namely the colouring, citric acid and aromas are metered in.



Three of these products are measured using an OPTIFLUX 6000 with smaller diameters (DN 2.5 / 1/10" and DN 4 / 1/8"). One medium does not have sufficient conductivity and for that reason is measured using a small Coriolis mass flowmeter OPTIMASS 3000 (DN 3).



Measurement of the metered flavours using OPTIFLUX 6000 and OPTIMASS 3000.

Inline metering: main flow with OPTIFLUX 6000 (DN 25 / 1"); the flavours are metered in through the side-mounted valves.

Because of the difficult installation conditions in the dispensing system, the measurement systems were delivered as a remote version. The signal converters were installed as 19" rack versions in a separate cabinet. The connection to the control system was realized through a Profibus DP communication.

4. Customer benefits

Two systems of this type were built by the Hansa Industrie Mixer Company and installed and commissioned at Mederer in Fürth. Even though measuring foam with a high air content is not easy, the flowmeters are working to the complete satisfaction of the customer. In spite of the very restricted space available for the installation of 16 measuring devices, the system offers high levels of repeatability and accuracy.

5. Products used

OPTIFLUX 6300 R

- Electromagnetic flowmeter for hygienic applications
- Separate signal converter for installation in a 19" rack
- Nominal width range: DN 2.5...150 / 1/10"...6"
- Vacuum-resistant liner, even with high temperature changes

OPTIMASS 3300 R

- Coriolis mass flowmeter for very small quantities
- Records mass flow volumes of just a few grams per minute
- Secondary pressure containment for high safety



Contact

Would you like further information about these or other applications?
Do you require technical advice for your application?
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