

Micro Motion® Multi-Variable Flowmeters Control Spray Concentration and Add Just Enough Flavoring to Confectionery

RESULTS

- Concentration measurement
- Spraycoater flow control
- Flavorings dosing
- Fruit concentration control



APPLICATION

Sweets, biscuits and even tobacco have flavoring added by spraying or extruding product onto the base material on a conveyor; sugar or similar coatings are also added by similar spray processes.

CHALLENGE

The spray or coating must be of the right consistency to stick onto the target base material, and remain there. The spray flow rate must be controlled to deliver the correct volume of spray for the items being coated or flavored, which is variable and depends on the conveyor speed.

Cost control requires that the consistency and quantity delivered are correct, to avoid giving too much product away, or having product wastage.

SOLUTION

Micro Motion® multi-variable flowmeter applications in confectionery are as diverse as the products produced. Some examples are:

1. Sugar coating is applied by spray to many sweets, biscuits and even cornflakes. To ensure the sugar is the right concentration to adhere, but not damage the product base, the density measurement from the Micro Motion multivariable flowmeter monitors the solution recirculation flow, and does not allow spraying until the mixture is correct. A flow measurement signal is used to adjust spray delivery rate with conveyor speed.

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Multi-line dosing of flavorings using Micro Motion T-Series straight tube mass flowmeters.



For more information:
www.EmersonProcess.com/solutions/food_bev
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2. Chocolate coatings and toppings are measured for consistency and delivery rate in a similar manner. Chocolate paste consistency and aeration level are also measured using Micro Motion density signals, particularly for production of chocolate bars.
3. Cream aeration and the syrup concentration in fruit syrups are controlled using measurements of density from Micro Motion multi-variable flowmeters. The right consistency is important for providing the correct quantity of such toppings and fillings, which would represent considerable extra cost if the material supplied were too concentrated.
4. Flavoring, such as packet-mint peppermint flavoring, is a critical part of the process. Excess wastes money, and not enough causes fast complaints! Micro Motion supplies the multi-variable flowmeters that control production of some of the best known brands of mint sweets.

Coatings, even if just sugar syrup, and flavorings, are one of the highest cost elements in confectionery, so the accurate control of the coating concentration, at the minimum level required, produces significant cost savings. Previous control techniques typically use such concentration adjustment on a regular timed basis, rather than the continuous automatic control possible using a Micro Motion multi-variable flowmeter.



Hygienic versions of Micro Motion R-Series and T-series mass flowmeters.