

FREDERICKS DAIRY USES OPTIMASS TO HELP MANAGE MANUFACTURING COSTS



KROHNE OPTIMASS

Four KROHNE OPTIMASS Coriolis Mass flowmeters have been installed at Fredericks Dairies, the UK's second largest branded ice cream manufacturer, to enable the company to control manufacturing costs more accurately. The instruments are being used to measure the amount of chocolate applied to ice creams on four production lines that operate 24 hours a day, five days per week during the summer. Chocolate is the most expensive ingredient used in the manufacturing process and controlling the amount applied to each ice cream is essential to managing and minimising costs.

The chocolate is fed from storage tanks and pre-heated to 45°C before passing through the straight-tube OPTIMASS flowmeters at a rate of 10 litres per minute and a viscosity less than 2 pa. Each OPTIMASS is of hygienic design and some incorporate a stainless steel hot water jacket to help maintain the chocolate at a temperature that will prevent it from solidifying.

Previously Fredericks Dairies relied on manually analysing production samples of ice cream to determine the weight of chocolate that was being used on each ice cream. This process, however, did not provide the level of accuracy the company required to control costs effectively.

The OPTIMASS flowmeters are capable of measuring to an accuracy of ± 0.1 per cent of actual measured flow rate and now provide Fredericks Dairies with significantly greater accuracy than it could achieve previously.

Operators are now able to take regular measurement readings from the OPTIMASS flowmeters over a pre-determined period of time. These are then compared with the total amount of chocolate purchased to help identify under or overdosing of chocolate. If necessary, corrections can then be made to manufacturing processes to ensure that the right amount of chocolate is applied.

"Accuracy was the most important factor when I was researching different measurement technologies," said Mike Sexton, project engineer at Fredericks Dairies. "I quickly came to the conclusion that a mass flowmeter would give me the best combination of value for money and accuracy.

"From there KROHNE carried out tests on samples, which proved that the instruments would give us the level of accuracy we wanted."

KROHNE developed the world's first Coriolis mass flowmeter with a single, straight-tube design. The OPTIMASS was launched in 2002 incorporating this innovative development. It incorporates KROHNE's patented AST® (Adaptive Sensor Technology) design, which ensures stable operation under varying process conditions.

The instrument is manufactured from materials that conform to Food and Drug Administration (FDA) guidelines and complies with EHEDG (European Hygienic Engineering & Design Group) and 3A standards. It is available with a wide range of industry standard hygienic process connectors which makes it ideally suited for use in food applications.

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