Dairy Measurement Solutions
Superior flow and density measurement
As an operations manager, you have three distinct business drivers you must balance as you operate your dairy:

1. Producing high quality, consistent products that are safe for your customers
2. Maximizing your plant’s profitability by efficiently converting raw milk into desirable end products
3. Protecting the safety of your workers and the environment

Managing these oftentimes conflicting goals is what you get paid for. Sacrificing product quality for increased production will have disastrous effects on your brand while, conversely, focusing solely on quality could leave you producing at rates which fall far short of your production goals. Of course meeting production and quality targets cannot be achieved in a vacuum. We must produce our products without risking the safety of our employees or environment. Harmonizing these goals is the challenge of any dairy manager.

What if you could …

- **Identify** the process units in your dairy where the largest milk losses were being incurred?
- **Standardize milk to ±0.1%** milk fat on a consistent and repeatable basis?
- **Reduce unplanned shutdowns** caused by equipment failure?

Emerson flow and density measurement is ideal for a range of Dairy applications:

- Milk receiving
- Intra-plant transfers
- Pasteurization timing loops
- Separation and standardization
- Batch additions
- In-line blending
- Drying and evaporation feeds
- Steam and fuel flows

“Do you have the control you need to run your dairy at its operational goal?”
Operations managers worldwide are choosing Micro Motion® and Rosemount® measurement technologies to increase batch quality and reproducibility, maximize profitability, reduce maintenance, and improve safety and environmental compliance.

Improve product quality and reduce milk losses with best-in-class flow and density accuracy
• Precision flow accuracy enables tighter set points on critical batching and blending processes
• Real-time measurement of fat concentration ensures repeatable, high-quality final products
• Direct mass measurement enables plant-wide mass-balancing by eliminating temperature and density changes that can cause volumetric inaccuracies
• 3A/EHEDG approvals ensure hygienic standards are met
• On-line, process and performance diagnostics ensure processes are running as expected

Unique advantages of Emerson flow products
• Unmatched flow accuracy on Rosemount Magnetic flowmeters and Coriolis platforms
• Measurement accuracy maintained in the presence of two-phase flow (foaming)
• In-situ Smart Meter Verification eliminates the need for periodic and disruptive calibration checks
• Dual-seal transmitter housings protect electronics from aggressive wash-downs
• Simple and fast installation and commissioning

Dairy Applications
Separation and Standardization
Missing targets for milk fat concentration can lead to huge financial costs in terms of unneeded product give-away, or waste and rework as a result of missing targeted quality parameters.
• Rosemount Magnetic Flowmeters
  – Precise volumetric flow accuracy of ±0.15%
  – 3A/EHEDG certified
• Micro Motion Coriolis Flowmeters
  – Direct mass flow measurement accuracy of ±0.05%
  – Simultaneous concentration measurement to monitor and control separation
Milk Receiving and Internal Transfers

Emerson’s Coriolis flowmeters provide world-class volumetric and mass-based accuracy, and are designed to survive in harsh wash-down environments. Emerson provides two excellent options to replace truck scales on your receiving bays, improving the accuracy and reducing the time required for milk unloading.

- **Rosemount Magnetic Flowmeters**
  - Precise volumetric flow accuracy of ±0.15%
  - 3A/EHEDG certified
- **Micro Motion Coriolis Flowmeters**
  - Direct mass flow measurement accuracy of ±0.05%
  - Simultaneous concentration measurement provides milk fat analysis of the entire load

Pasteurization

One of the most critical meters in any dairy is the timing meter on a pasteurization loop. Erroneous measurements can result in wasted time and money for re-pasteurization or worse yet, scrapping milk that has been heated too long.

- **The Rosemount 8721 Magnetic flowmeter**
  - 3A and EHEDG approved
  - FDA approved for PMO
  - Dual-sealed design ensures transmitter electronics stay dry when exposed to harsh wash-downs
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<th><strong>Micro Motion® H-Series Coriolis Flow and Density Meters</strong></th>
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Emerson's Micro Motion and Rosemount devices are known globally in over 85 countries for quality, reliability, application expertise, and support not available elsewhere.