

# Beverage Measurement Solutions

Superior flow and density measurement



Best-in-class measurement

# “Do you have the control you need to run your beverage plant at its operational best?”

As an operations manager, you have three distinct business drivers you must balance as you operate your beverage facility:

1. Producing high quality, consistent products that are safe for your customers
2. Maximizing your plant's profitability by efficiently converting syrups, concentrate, water and CO<sub>2</sub> into desirable consumer beverages
3. Protecting the safety of your workers and the environment

Managing these oftentimes conflicting goals is what you get paid to do. 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 manager.

## What if you could ...

- **Hit final product Brix targets within  $\pm 0.02^\circ$**  on a consistent and repeatable basis?
- **Identify** the process units in your facility where the largest **sugar losses** were being incurred?
- **Reduce syrup loss** by 3-5 liters per product change-over?
- **Reduce turn-around time** on product changeovers and CIP by 25%?

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

- Syrup receiving
- Intra-plant transfers
- Batch additions
- In-line blending
- Concentration (Brix) monitoring/control
- Syrup and final product filling
- CO<sub>2</sub> blending





## Improve product quality and reduce sugar 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 Brix concentration ensures repeatable, high-quality final products
- Direct mass measurement enables plant wide mass-balancing by eliminating volumetric inaccuracies caused by temperature and density changes
- Online, process and performance diagnostics ensure equipment is running as expected

## Unique advantages of Micro Motion products

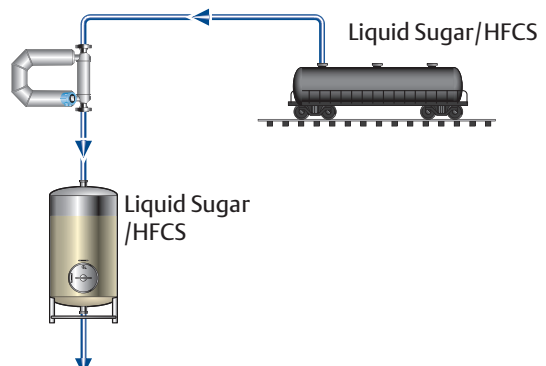
- Unmatched, direct mass flow accuracy
- Measurement accuracy maintained in the presence of entrained gases
- Simultaneous, real-time Brix measurement
- In situ Smart Meter Verification eliminates the need for periodic and disruptive calibration checks
- Simple, fast installation and commissioning

## Syrup Receiving and Internal Transfers

Micro Motion flowmeters provide world-class, mass-based flow accuracy and real-time concentration measurement. These powerful outputs allow you to not only precisely measure the **quantity** of syrup received or transferred, but also the **quality** of that syrup in terms of sugar concentration (°Brix or %HFCS).

### Micro Motion Coriolis Flowmeters

- Direct mass flow measurement accuracy of  $\pm 0.05\%$
- Concentration measurement provides Brix content of the entire load or transfer

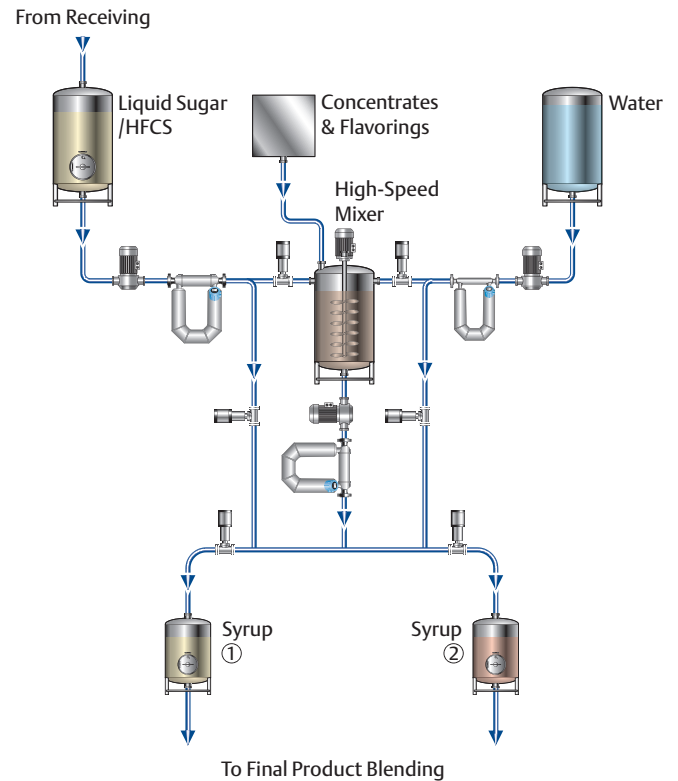


## Syrup Make-Up

Missing quality targets on syrup can have a huge impact on your downstream beverage processes and on external customers who rely on you for consistent product for their fountain machines. Given the cost of concentrates, sugars, sweeteners and other ingredients, over-shooting specifications will result in costly product losses. Micro Motion Coriolis meters measure your ingredients on a mass-basis with accuracies of  $\pm 0.05\%$ , allowing you to tighten target set points and reduce product losses. Utilizing the Coriolis meter's real-time precision concentration capabilities to monitor Brix, allows you to adjust blend rates on the fly as sugar concentration changes.

### Micro Motion Coriolis Flowmeters

- Direct mass flow measurement accuracy of  $\pm 0.05\%$
- Concentration measurement accuracy of  $\pm 0.02^\circ\text{Brix}$



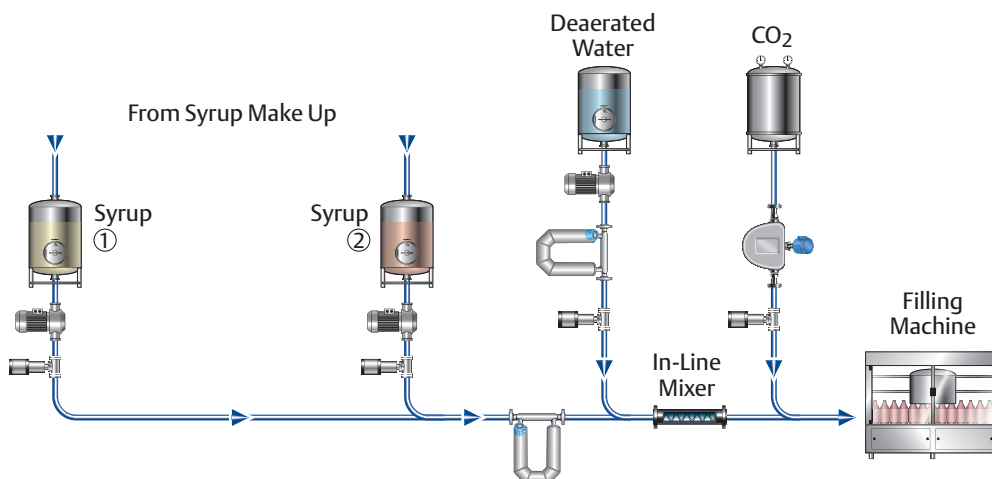
## Final Product Blending & Carbonization

A critical measurement in beverage production is the Brix concentration of the final product going to the filling machine. Micro Motion Coriolis meters provide real-time monitoring and control of final Brix to an accuracy of  $\pm 0.02^\circ$ , ensuring you meet final product quality specifications without giving away a drop of costly syrup. In addition, Coriolis meters can be used to inject the exact amount of  $\text{CO}_2$  into finished product on a mass-basis prior to the filling operation, guaranteeing proper carbonization of every bottle or can.

**PRECISION MEASUREMENT**  
for beverage applications

### Micro Motion Coriolis Flowmeters

- Direct mass liquid flow measurement accuracy of  $\pm 0.05\%$
- Gas accuracy of 0.25% mass



# Micro Motion® Flow and Density Meters



## Micro Motion® ELITE® Coriolis Flow and Density Meters

Flow range	0.01 to 120,000 lb/min (0.35 – 3,266,000 kg/hr)
Liquid mass flow accuracy	±0.05% or ±0.1%
Liquid volume flow accuracy	±0.05% or ±0.1%
Gas flow accuracy	±0.25% or ±0.35%
Liquid density accuracy	±0.0002 g/cc, ±0.0005 g/cc
Nominal line size	1/12" to 16" (2 to 400 mm)



## Micro Motion® ELITE® CMFS Coriolis Flow and Density Meters

Flow range	0.07 to 1980 lb/min (2 – 54000 kg/hr)
Liquid mass flow accuracy	±0.05%
Liquid volume flow accuracy	±0.05%
Gas flow accuracy	±0.25%
Liquid density accuracy	±0.0002 g/cm <sup>3</sup>
Nominal line size	1/10" to 2" (2 to 50 mm)



## Micro Motion® F-Series Coriolis Flow and Density Meters

Flow range	6.5 to 10,000 lb/min (180 to 272,000 kg/hr)
Liquid mass flow accuracy	±0.10%, ±0.15% or ±0.20%
Liquid volume flow accuracy	±0.15% or ±0.30%
Gas flow accuracy	±0.50%
Liquid density accuracy	±0.001 g/cc, ±0.002 g/cc
Nominal line sizes	¼" to 4" (6 to 100 mm)

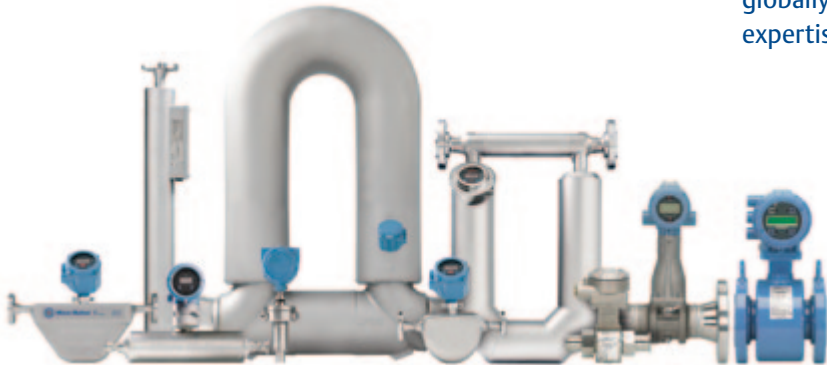


EMERSON WORLD-LEADING  
FLOW AND DENSITY  
technology

SETS THE STANDARD FOR  
RELIABLE, REPEATABLE,  
HIGH PERFORMANCE  
MEASUREMENT



Emerson's Micro Motion and Rosemount devices are known globally in over 85 countries for quality, reliability, application expertise, and support not available elsewhere.



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