



# Chemical Measurement Solutions

Superior flow and density measurement

# Best-in-Class Measurement for Chemical Solutions only from Emerson Process Management®

The chemical industry faces challenges for greater production at higher quality and lower cost from existing facilities, greater customization of final products, fluctuating feedstock and fuel costs as well as stricter environmental and safety mandates. Older, traditional measurement technologies were designed for yesterday's more predictable process world – they don't provide the accuracy, flexibility, or safety features you need to compete.

Process plant designers, engineers and operators worldwide are choosing Micro Motion® and Rosemount® flow and density technologies to reduce maintenance, improve safety and environmental compliance, increase yield and quality, reduce cycle time, and accurately measure fluids bought and sold.

- Measure mass and density directly over wide turndowns and changing fluid properties with a single precision multivariable device, eliminating complex inferred mass calculations
- Reduce maintenance due to no wearing parts
- Determine real-time, in-line density and concentration of the fluid - no sampling!
- Measure your acids and bases safely and effectively
- Increase accuracy and safety on steam measurement – flow and enthalpy
- Boost emissions compliance with more precise combustion control and lower energy usage
- Improve safety via reduced leak points, elimination of impulse lines, sample points, and reduce the removal and cleaning of meters for periodic calibration
- Meet SIS-proof tests with in-situ meter verification – all-welded designs



## Chemical Applications

- Batching
- Blending
- Catalyst Additives
- Check Metering
- Chemical Recovery
- Custody Transfer (Liquids and Gases)
- Density/Concentration
- Fiscal Transfer
- Fired Heater
- Gas Purity
- Mass Balance
- Process Steam
- Product Loadout
- Quench (Acids and Caustic)
- Reactor Feed (Gas and Liquid)
- Safety Shutdown
- Water and Wastewater





## Batching & Blending

- High precision addition of critical liquid and gaseous ingredients – ideal for challenging reaction chemistry
- Accurate net catalyst addition from flow and concentration measurement
- Conduct multi-product campaigns with a single flowmeter due to universal mass calibration

## Custody Transfer / Check Metering / Product Loadout

- Account for every pound produced, bought and sold
- Verify natural and industrial gas billed amounts
- Transact by mass, load by volume to prevent under/overflow

## Environmental, Health & Safety

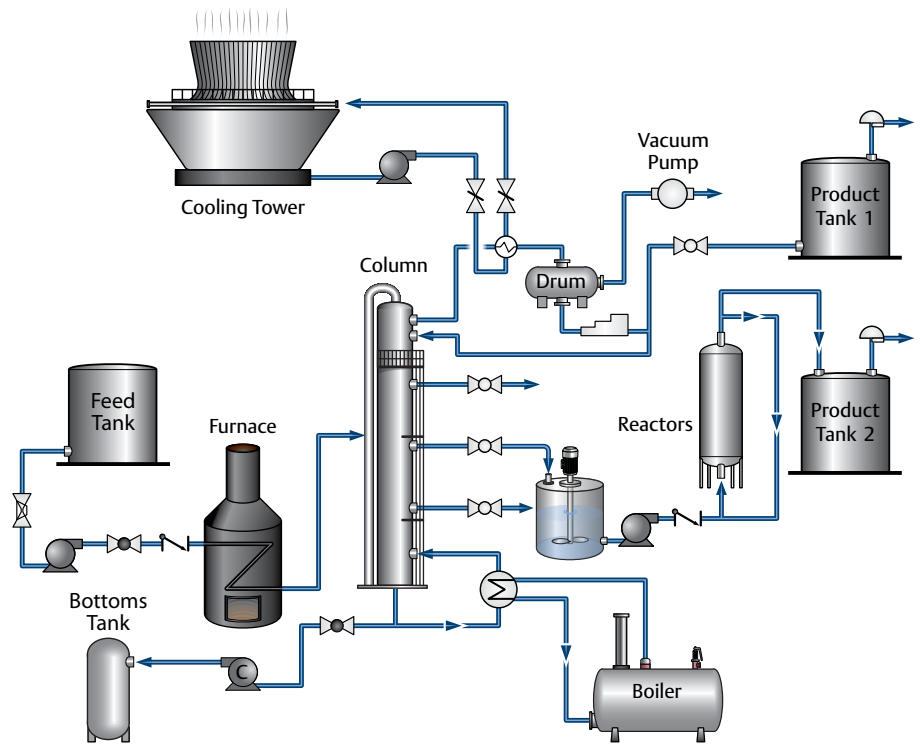
- Meet SIS requirements and proof tests with Smart Meter Verification
- Simplify installation for redundant measurements with dual and quad vortex designs
- Conduct proof tests with meter in-line, minimizing operator exposure
- Maximize safety and process availability simultaneously
- Meet regulatory and internal requirements such as Greenhouse Gas mandates

## Process Steam

- Safe, accurate steam measurement with an all-welded design and no impulse lines
- Integral temperature measurement for enthalpy

## Combustion Control

- Feed forward control of BTU load and combustion air to reduce HC, NO<sub>x</sub>, and SO<sub>x</sub> emissions
- Eliminate 90% of variation in heat load by measuring mass directly
- Measure BTU and Wobbe Index with fast response, in-line device



## Micro Motion® and Rosemount® Meters for Chemical Measurement

For complete product specifications, visit [www.emersonprocess.com](http://www.emersonprocess.com) in the Products link or contact your sales representative.



Micro Motion ELITE® Coriolis Flow and Density Meters



Micro Motion F-Series Coriolis Meters



Micro Motion T-Series Coriolis Meters



Micro Motion Specific Gravity Meter



Rosemount® 8700 Magnetic Flowmeter



Rosemount® 8800 Vortex Flowmeters



State-of-the-art global ISO/IEC17025 calibration facilities uniquely calibrate meters for both mass and density offering best measurement uncertainties of  $\pm 0.014\%$

**EMERSON WORLD-LEADING  
FLOW AND DENSITY  
technology  
SETS THE STANDARD FOR  
RELIABLE, REPEATABLE,  
HIGH PERFORMANCE  
MEASUREMENT**

### Calibration/Metrology Approvals

- National Voluntary Laboratory Accreditation Program
- Dutch Accreditation Council
- Singapore Accreditation Council



### Compliant with domestic and international standards\*

- Metrology (OIML R117/R137, NTEP, Measurement Canada)



- Hygienic approvals (ASME BPE, FDA, EHEDG, 3-A)



- Industry standards (API, NAMUR, PED, CRN, Dual Seal, ASME B31.3, AGA)



\*Selected approvals are pending

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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