

Micro Motion Terminal Measurement Solutions

Superior flow and density measurement

Best-in-class measurement



“I need to have more control over my terminal so I can run it closer to its operational goal.”



Cavern Storage



Fuel Blending



Crude Receiving



Terminal Truck Loading



Rail Car Loading

As an operations manager, you have three distinct business drivers you must balance as you operate your terminal. The first is managing health, safety, security, and environmental regulations. Ensuring smooth and efficient material management—the way you move products coming into and out of your terminal—is another. The third is meeting dynamic market and customer demands.

Each one influences the way you operate your terminal. When these drivers are equally balanced, you are managing your terminal at its operational goal. Unfortunately, achieving this balance is difficult for two main reasons. First, these drivers are interlinked. Your terminal has to be flexible so you can respond to changes in customer and market demand. This, in turn, affects how well you move materials in and out of your terminal. And health, safety, security, and environmental concerns clearly influence how you manage both. Second, because each driver has its own unique set of challenges, they are often in conflict with each other. This conflict can create an imbalance in the way you manage your terminal, and pull you away from your operational goals.

What if you could ...

Measure vital material properties and quantities with pinpoint precision

- ✓ Improve your loss/gain balance while simultaneously reducing maintenance requirements and downtime
- ✓ Emerson's Micro Motion® Coriolis flow and density meters are designed to be immune to changing fluid property, process, and field conditions
- ✓ Have confidence in your measurements with Smart Meter Verification and onboard diagnostics

Continuously adapt processes to optimize terminal performance

- ✓ Using Micro Motion Coriolis flow and density meters with other solutions from Emerson will give you the flexibility you need to meet changing market and customer dynamics
- ✓ Achieve a broader range of recipes and improve the quantity and quality of the products and services you provide
- ✓ Ensure that your terminal is equipped to handle new process changes, at any time

Monitor key operating indicators with greater accuracy (HSSE)

- ✓ Ensure staff safety in a way that won't impair or interrupt terminal operations by remotely monitoring your equipment's performance
- ✓ Stay in compliance with health and safety regulations more efficiently, while having more accurate measurements protecting you against overfills and potentially harmful situations
- ✓ When you use Emerson's Micro Motion Coriolis meters in your blending systems, you will be able to achieve RVP blend ratios that comply with EPA regulations and optimize profitability

With Emerson, you'll be able to reduce measurement uncertainty and automate processes so you can overcome challenges related to materials movement management. You'll also have access to solutions that will give you the flexibility you need to meet changing market and customer dynamics. Finally, you'll have access to process and performance diagnostics along with other solutions that will help you operate more safely and maintain contractual and regulatory compliance more efficiently.

- You can measure more accurately over a wide range of conditions, which will help you stay in compliance even as your process conditions change.
- You can measure any fluid - liquid, slurry or gas - with one instrument.
- Install a meter anywhere with no flow conditioning or straight piping requirements.
- Widest turndown flow rate range and bi-directional capability will simplify your operations for loading/off-loading and inventory accounting.
- Emerson's portfolio of metering technologies are designed to deliver robust, accurate performance with minimal intervention from your maintenance staff.
- Our metering technologies provide you access to on-line, process and performance diagnostics that will give you the confidence that you are operating your terminal within safety limits.
- Improve your sustainability and cost of ownership with long-term reliability and maintenance free technology.

Inventory and Storage Management

Micro Motion delivers best-in-class measurement in flow and density to meet the challenges of precision, multi-product transfer and inventory accounting.

- Reduce loss/gain uncertainty and resultant fiscal exposure with the highest measurement reproducibility of any flowmeter available.
- Reduce total cost of ownership with long-term reliability, simplified installation, and maintenance free devices.

Application Solutions

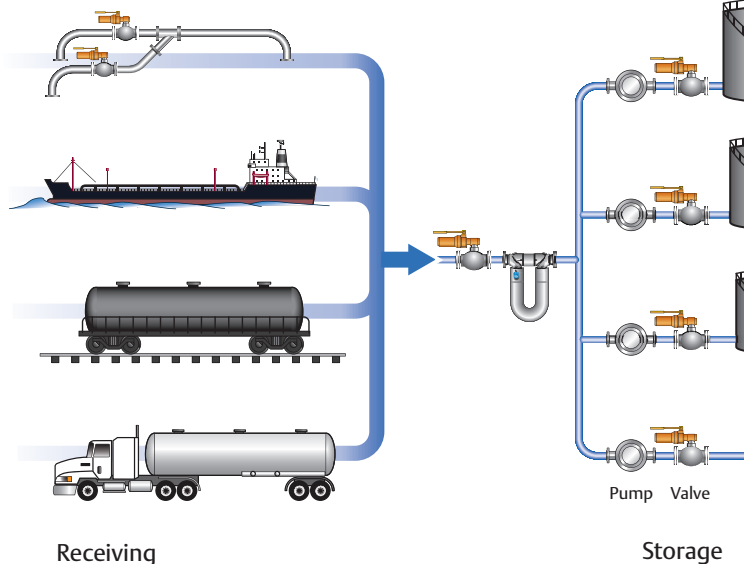
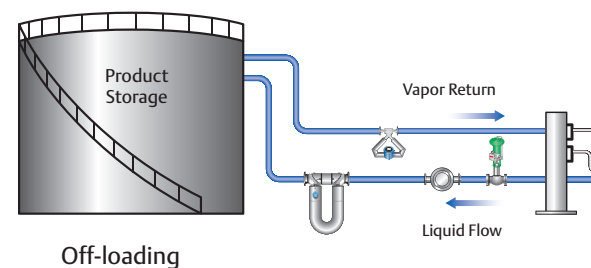
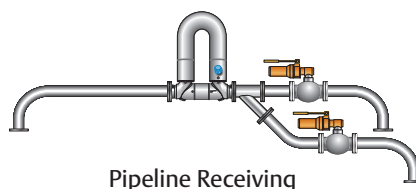
- Tank Dewatering and Brine Detection
- Tank and Cavern Storage Management and Accounting
- Vapor Recovery Accounting
- Heating Systems Control

Receiving

Pipeline and transport vessel receipt accuracy is critical to terminal and storage operational excellence. With unwavering long-term accuracy and reliability, Micro Motion delivers best-in-class pipeline and liquids transfer meters.

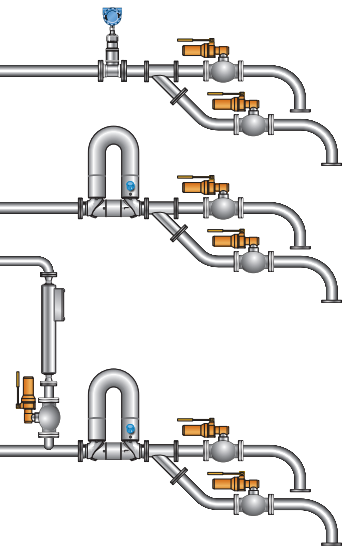
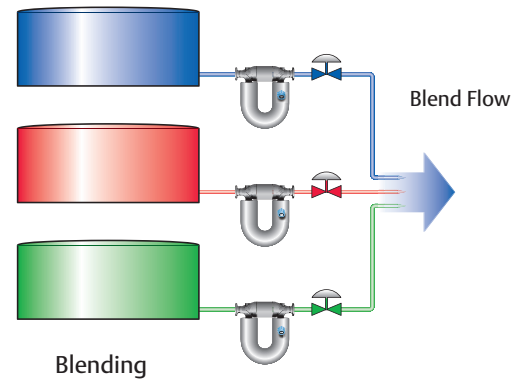
Application Solutions

- Receiving
- Off-loading
- Interface Detection
- Precision Batch Control



Blending

With an increasing number of products, increasing range of blends, and ever tightening quality requirements, meeting tomorrow's blending needs are as important as today's. Micro Motion is the standard in achieving world-class blending efficiency, flexibility, precision, and profitability.



Interface Detection



Micro Motion Coriolis flow and density measurement is ideal for a range of terminal applications

- Product Receipt
- Inventory Accounting and Storage Management
- Product Blending and Additive Injection
- Vapor Recovery
- Tank Dewatering
- Loading & Off-loading

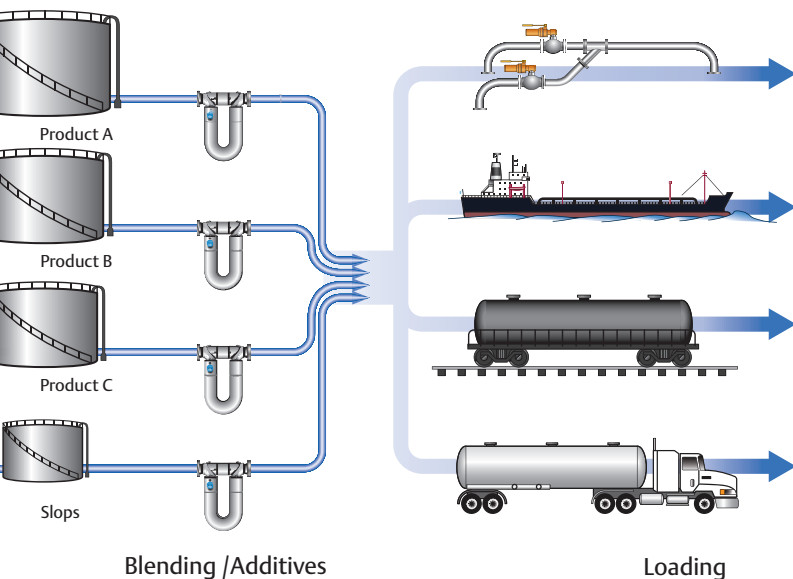
Micro Motion Coriolis meters meet or exceed the requirements for API, ISO, NMI, GOST, NTEP, and OMIL MID custody transfer compliance



Interface Detection



Marine Terminal Fuel Loading



Loading – Tank, Truck, Rail, Marine

Improve load accuracy, reduce load time, and improve operational efficiency with Micro Motion Coriolis meters.

- Best-in-class batching/filling accuracy eliminates complexity, uncertainty and fiscal exposure associated with conventional metering, gauging and weigh scale processes.
- Immunity to changing fluid or process conditions makes Micro Motion Coriolis ideal for multi-product loading and off-loading.



Flow and Density Meters

- Receipts, shipments
- Inventory transfer
- Leak detection
- Batch tracking
- Loading

Micro Motion® ELITE® Meters

±0.05% liquid mass flow accuracy
±0.0002 g/cm³ liquid density accuracy
Line Sizes from 0.1" to 12"
DIN equivalent; DN15 to DN300

Micro Motion® High Performance Measurement Systems

Large line size skids (12-48") with built in validation, redundancy, and minimal uncertainty

Micro Motion® F-Series Meters

±0.10% liquid mass flow accuracy
±0.001 g/cm³ liquid density accuracy
Line sizes from 0.25 to 3"



Density Meters

- Net volume
- Blend/Product quality
- Volumetric conversion to mass
- Interface detection

Micro Motion® Tube Density Meters

Industry standard density meters for fiscal measurement
±0.0001 g/cm³ density accuracy
±0.005 kg/m³ per °C temperature stability



Micro Motion® Fork Density Meters

Flexible installation with compact design and hot-tap retractor fork option
±0.001 g/cm³ density accuracy



Viscosity Meters

- Turbine meter factor correction
- Heating and blending control
- Interface detection
- Blend/Product quality

Micro Motion® Fork Viscosity Meters

Viscosity, density, and temperature from a single device
Compact, rugged design with flexible installation options

FOR MORE INFORMATION, VISIT WWW.MICROMOTION.COM



Terminal Receiving

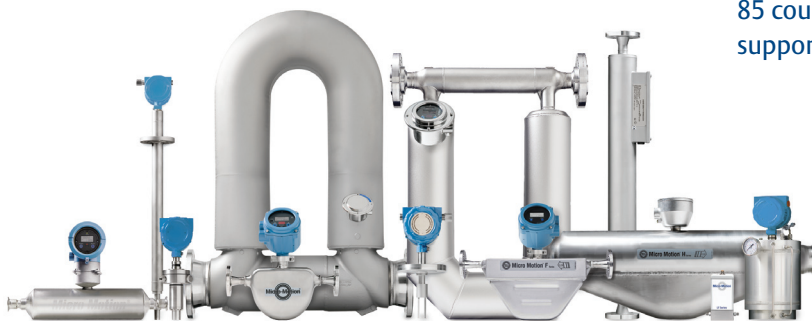
WORLD-LEADING
MICRO MOTION CORIOLIS
flow and density
technology

SETS THE STANDARD
FOR RELIABLE, REPEATABLE,
HIGH PERFORMANCE
MEASUREMENT



Terminal Inventory Accounting

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



Cover photo: Ethanol Blending

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