Density, Concentration and Net Flow Measurement

World-leading technology for all density applications

Micro Motion®

EMERSON™
Process Management

Exceptional Density, Concentration and Net Flow Measurement – only from Micro Motion®

Emerson's Micro Motion precision density measurement devices are designed to tackle the most demanding process and fiscal applications. With accuracy to ±0.0001g/cc for applications ranging from process monitoring to custody transfer, Micro Motion meters provide the highest quality density measurement possible.

Micro Motion Coriolis and dedicated density meters are ideal for real-time process monitoring, quality control and custody transfer applications

- API gravity / Corrected volume
- °Brix measurement
- Cementing
- Drilling fluid monitoring
- Fiscal mass metering from volume flow
- Gas density & specific gravity
- Net concentration
- Net solids
- Pipeline interface detection
- Product quality verification
- Water cut

Measurement Benefits

Increase production efficiency and quality

- Exceptional measurement accuracy ensures on-spec product with reduced rework and less material waste
- Whether full stream, slip stream or tank mounted, robust reliable measurement ensures increased production yields and accurate material allocation

Reduce costs

- Direct mass flow and density measurement removes the need for conventional temperature, pressure and flow computer instrumentation
- Reduced maintenance requirements via straight through density measurement in custody transfer applications where volumetric flow technologies are used.
- Dramatically reduce verification effort and expense by replacing master meter verifications with in-situ meter verification technology
- Superior meter stability, along with accredited gas and liquid calibrations that are insensitive to product changes, reduce operational and maintenance costs

Increase compliance and assurance

- Accredited, traceable gas and liquid calibrations provide unbeatable measurement confidence
- Optimized feed stock and fuel measurements ensures the highest possible quality control, energy efficiency while minimizing process emissions
- Using TÜV-certified measurement technology certified to IEC 61508 increases compliance and reduces device and documentation costs

MVD™ technology

Inherent Advantages of Micro Motion Meters

- Widest range of density, concentration and net flow measurement solutions
- Rugged, robust meters with no moving parts
- Industry leading flow and density accuracies that optimize plant efficiency
- Installation flexibility for tank, pipeline insertion, full-stream and slip-stream configurations
- Widest range of product measurement capability available - from fuel gas to corrosive acids and bases

Precise density measurement

keeps you in *control*

Emerson's Micro Motion meters are part of the PlantWeb® architecture and are the world's leading flow and density measurement technology for a wide range of fluid types -

- Alcohol
- Black liquor
- °Brix, Plato, Baume
- Brine
- Calcium carbonate
- Caustic
- Cement density
- Concentration
- Dairy separators
- Hydrogen peroxide
- Lime mud
- Net oil production and well testing
- Pounds sand added
- Refined products
- Resins
- Starch solids
- Starches
- Titanium Dioxide

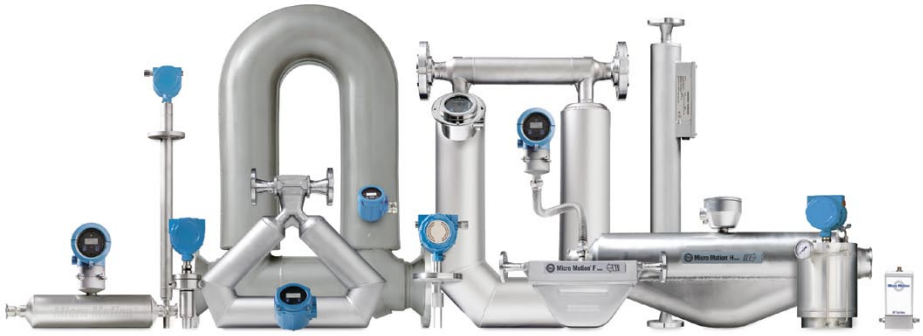
Designed for Reliability and Unbeatable Quality

Whether you need highly accurate fiscal density measurement, flow and temperature measurement, or on-line, real-time measurement of concentration and net flow, you want the best devices with the best performance. No matter what you need, look no further than Emerson's Micro Motion.

- World-leading accuracy from gas and liquid density devices (±0.0001 g/cc) and Coriolis multivariable meters, for both mass flow (±0.05%) and density (±0.0002 g/cc) measurement.
- Exceptional, true density measurement that identifies whether any density change is due to entrained gas and thereby minimizes the impact on custody transfer applications
- Insensitive to vibration, flow, temperature and pressure variations to perform well in the most demanding process and fiscal applications ensuring maximum uptime
- Internationally accepted, on-site accredited density laboratory for guaranteed performance

Summary Specifications Overview	Coriolis Multi-Variable Meters		Density & Concentration Meters					
								
	ELITE®	**F / H-Series**	**7835**	**7845**	**7847**	**7826/28**	**7812**	**3098**
Applications								
Fiscal Density Measurement	◐		●	◐			●	●
Interface Detection	●	●	●	●		●		
Fiscal Mass Flow / Net Flow	●							
Fluid Type								
Liquid	●	●	●	●	●	●		
Gas	●	●					●	●
Measurement								
Mass Flow, Density & % Concentration	●	●						
Liquid Density & % Concentration	●	●	●	●	●	●		
Gas Density							●	
Gas Specific Gravity								●
Sensor Type								
Dual Curved Tubes	●	●						
Single Straight Tube			●	●	●			
Tuning Fork						●		
Single Straight Cylinder							●	●
Performance								
Special Calibration Option	●	●	●	●	●		●	
Measurement Accuracy	±0.2kg/m³ ±0.0002g/cc	±1kg/m³ ±0.001g/cc	± 0.1kg/m³ ±0.0001g/cc	± 0.1kg/m³ ±0.0001g/cc	± 0.1kg/m³ ±0.0001g/cc	±1kg/m³ ±0.001g/cc	±0.1% reading	±0.1% reading
Materials								
Ni-Span-C			●				●	●
Stainless Steel 316	●	●		●	●	●		
Nickel Based	●	●				●		
Ti / Monel						●		

● **Recommended** ◐ **Possible**



Micro Motion, a division of Emerson Process Management, is known globally in over 85 countries for its quality and reliability. As part of the Emerson PlantWeb® digital plant architecture, Micro Motion enables increased plant availability, decreased costs and enhanced safety. With over 600,000 meters installed around the world, Micro Motion delivers application expertise, service and technical support not available elsewhere.

Benefit from the wide range of Micro Motion solutions available

- In-line meter verification of electronics and sensor – without the need for tools or down-time
- Exceptional measurement and operating performance in entrained gas conditions
- World-leading dedicated density measurement devices
- Solutions for high and extreme temperature applications
- Best-in-class compact and drainable Coriolis
- TÜV Safety-certified Coriolis for SIL-2 and SIL-3 applications

PlantWeb

WWW.micromotion.com

Emerson Process Management
Micro Motion Americas
Worldwide Headquarters
7070 Winchester Circle
Boulder, Colorado USA 80301
T: 800 522 6277
T: +1 (303) 527 5200
F: +1 (303) 530 8459

Mexico	T: 52 55 5809 5300
Argentina	T: 54 11 4837 7000
Brazil	T: 55 15 3238 3527
Venezuela	T: 58 26 1792 1858

Emerson Process Management
Micro Motion Europe/Middle East

Central & Eastern Europe	T: +41 41 7686 111
Dubai	T: 971 4 811 8100
France	T: 0800 917 901
Germany	T: 0800 182 5347
Italy	T: 8008 77334
The Netherlands	T: (31) 318 495 555
Belgium	T: +32 (0) 2 716 77 11
Spain	T: +34 (0) 913 586 000
U.K.	T: 0870 240 1978
Russia/CIS	T: +7 495 981 9811

Emerson Process Management
Micro Motion Asia Pacific

Australia	T: (61) 3 9721 0200
China	T: (86) 21 2892 9000
India	T: (91) 22 6662 0566
Japan	T: (81) 3 5769 6803
Korea	T: (82) 2 3438 4600
Singapore	T: (65) 6 777 8211

For a complete list of contact information and websites, please visit: www.emersonprocess.com/home/contacts/global

Micro Motion®

EMERSON™
Process Management

MC-00800 Rev B
03/2009