Flow, Density and Viscosity Measurement



Best-in-class technology for outstanding results

Measurement stability and repeatability that stands up to even the most difficult application and process challenges.



Industry-Leading Flow Measurement Technologies



Emerson delivers outstanding results that ensure the success of your process and operation. We provide unmatched value with a wide breadth of products that include Coriolis, Magnetic and Vortex flow meters, as well as density and viscosity measurement.

Look closer to discover why Micro Motion[®] and Rosemount[™] flow technologies are unmatched in the industry and what they can do.

Micro Motion and Rosemount flow and density measurement products are manufactured, calibrated and supported all over the globe. With highly accredited facilities and support services, Emerson global flow service and technology centers provide the highest quality engineering, production, service, training and calibration available.

Locations to serve you: Boulder, CO, USA • Eden Prairie, MN, USA • Sorocaba, Brazil • Nanjing, China • Pudong, China • Pune & Mumbai, India • Chiba, Japan • Chihuahua, Mexico • Ede, The Netherlands • Manila, Philippines • Chelyabinsk, Russia • Dubai, UAE • Slough, UK



From consultation to solution to optimization and beyond, we're dedicated to helping you find the right flow technology for your business needs.

Leading Technology

Through our world-class research and development capabilities, Emerson drives product development solutions and advanced diagnostic insights to help solve your process application challenges.

Product Breadth

Our extensive array of materials, configurations and electronics capabilities enable flexible and easy installation for every operating environment across a wide range of industries.

Unparalleled Value

Our application expertise covers more than 40 years of experience and more than 1,000,000 devices installed worldwide for proven reliability, performance and accuracy in any environment.

Global Support

With the largest team of technology experts around the world, Emerson is your partner for flow measurement solutions, allowing you to better manage your process and increase plant availability.

Micro Motion Coriolis Flow Meters



Simplified Solutions

- A broad range of simple-to-use, high-performance products that excel under the widest range of conditions and applications
- Simple integration through scalable transmitter platforms

Measurement Confidence

- High accuracy and repeatability over wide turndown ratios
- Simultaneous density and mass flow measurement to monitor your fluid quality and state

Process Insights

- Smart Meter Verification continually monitors in-situ meter health and performance
- Eliminates costly trips to the field for technicians, reducing proving and proof-test costs

Coriolis Overview

Emerson is dedicated to offering Micro Motion Coriolis products that deliver the three things that we believe are key to the success of your process: simplified solutions, measurement confidence and process insights.

Emerson offers a wide range of Coriolis flow meter products for any application — all of which are easy to install, configure and maintain. Not only do our products exhibit unparalleled real-world performance, but they also provide actionable insights that help you optimize your process and set you up for success. To optimize your process and ensure that it is running smoothly, you need to have the right insights. Our technology and experts provide you with just that. Emerson technologies offer powerful integrated diagnostics that provide you with process data and actionable information, enabling you to make quick, effective decisions. With our meters, issues such as two-phase flow or corrosion can easily be detected and addressed.



5700

5700 transmitters are full-featured, field-mount devices that deliver increased confidence in flow measurement with their advanced capabilities in meter verification, process data handling and entrained gas alerts.

Smart Meter Verification

Smart Meter Verification Basic verifies complete measurement performance across a Coriolis sensor and electronics and is automatically included with most transmitters. Smart Meter Verification Professional provides a simple path to instrument and process compliance. Smart Meter Verification integrates with digital automation hosts to enhance safety, maintenance and compliance programs.

Micro Motion Density & Viscosity Portfolio

Compact Density Meter (CDM)

The Compact Density Meter (CDM) is the next generation in fiscal custody transfer and precision process density and concentration measurement. Fork Density Meter (FDM)

The Fork Density Meter (FDM) is the latest development in direct insertion density and concentration. This meter builds upon the success of the Micro Motion 7826 and 7828 density meters.

Fork Viscosity Meter (FVM)

The Fork Viscosity Meter (FVM) is the latest development in multivariable direct insertion viscosity meters. These unique meters provide unbeatable installation flexibility, robustness and market-leading communications flexibility.

Gas Density Meter (GDM)

The Gas Density Meter (GDM) is the next generation in fast response direct gas density measurement. It's designed for applications such as fiscal custody transfer where reliability and accuracy are critical.

Gas Specific Gravity Meter (SGM)

The Gas Specific Gravity Meter (SGM) is the industry standard for direct measurement of specific gravity, molecular weight, relative density, Calorific Value/BTU and Wobbe Index. Heavy Fuel Viscosity Meter (HFVM)

The HFVM Viscomaster is a high performance, multivariable viscosity meter designed for the measurement and control of heavy fuel oil (HFO) that supply engines, turbines and burners in Marine and Power applications.

Rosemount Vortex & Magnetic Flow Meters

Reliability By Design

- A unique all-cast, all-welded Vortex meter body design without ports or gaskets offers a reliable, non-clog solution for increased availability
- Dual compartment Magnetic transmitter housing and all-welded sensor prevent moisture ingress and maintain safe local configuration

Industry-Leading Performance

- Decrease downtime with Rosemount Vortex meters that offer no moving parts to maintain or repair and an online removable sensor
- A temperature characterization and verification process for Magnetic transmitters minimizes the effects of ambient temperature changes

Valuable Diagnostics

- Vortex diagnostic capabilities verify the meter health of critical sensing components to keep your process running
- Smart Meter Verification for Magnetic flow meters continually monitors meter performance without stopping the process

Vortex & Magnetic Overview

Emerson's Rosemount Magnetic and Vortex flow meters are designed to ensure your peace of mind and deliver complete confidence in every part of your process. These products offer reliability, industry-leading performance and valuable diagnostics.

We understand how important it is for you to be able to trust in every product you use, so we've designed our Magnetic and Vortex flow meters to deliver unmatched reliability. Confidence in your measurement is key to your process. That's why we are dedicated to the pursuit of ultimate real-world performance, even in the most critical and complex applications. Whatever your measurement needs, you can trust our industry-leading products to deliver unparalleled accuracy.

Emerson technologies offer powerful integrated diagnostics that provide you with process data and actionable information, enabling you to make quick, effective decisions. Our diagnostic capabilities verify the meter health of critical sensing components to keep your process running and avoid unplanned shutdowns.

Rosemount Vortex Flow Meter Portfolio

Flanged

The Rosemount 8800 Flanged Vortex flow meter is ideal for all applications from general purpose to the most demanding application.

CriticalProcess

The Rosemount 8800 CriticalProcess Vortex flow meter eliminates unnecessary process shutdowns, increasing availability without requiring bypass piping.

MultiVariable

The Rosemount 8800 MultiVariable Vortex flow meter combines your temperature and flow devices into a single highly accurate instrument.

Reducer

The Rosemount 8800 Reducer Vortex flow meter handles lower flows better than any other Vortex meter. The common face-to-face dimension allows you to change the meter without impacting the piping layout.

Dual/Quad

The Rosemount 8800 Dual and Quad Vortex flow meters are flanged flow meters with redundant electronics and sensors. Use these SIL certified flow meters for SIS and other applications where redundancy is critical.

Threaded End

The Rosemount 8800 Threaded End Vortex flow meter simplifies installation with NPT threaded process connections which match existing threaded pipe unions.

Wafer

The Rosemount 8800 Wafer Vortex flow meter is a lightweight, cost-effective solution that is easy to install and ideal for utility applications.

Weld-End

The Rosemount 8800 Weld-End Vortex flow meter is directly welded into your process piping, eliminating flange gaskets. This is the only Vortex flow meter available with zero potential leak points.

The Rosemount 8600 Utility Vortex flow meter offers a cast construction to minimize potential leak points and is optimized for a variety of general purpose and utility steam applications.

Rosemount Magnetic Sensor Portfolio

8705 Flanged Sensor 8721 Hygienic Sensor 8711 Wafer Sensor An all-welded design ensures reliability An economical, compact, and lightweight Specifically designed for food, beverage, in the harshest environments. A wide alternative to flanged magnetic flow and pharmaceutical applications that meters with included alignment spacers range of sizes, liners, and electrode require reliable, safe, and hygienic material options are available to meet for easy installation. operation. most process conditions. 8707 High Signal System 8750W Utility Water **Liner Options System** PFA, PTFE, ETFE Polyurethane Achieve stable flow measurement in the A reliable, robust design makes this utility most difficult high-noise applications while magnetic flow meter system ideal for maintaining the benefits of DC technology. water, wastewater, and utility flow Linatex Neoprene applications.

Rosemount Magnetic Transmitter Portfolio

8712E

This remote-mount transmitter has an easy-to-use LOI with dedicated configuration buttons, and is available with Smart Meter Verification.

8732

This integral-mount transmitter with explosion-proof housing supports a variety of communication protocols and is available with Smart Meter Verification.

8712H

Designed to pair with the 8707, this transmitter provides increased signal strength, advanced signal processing, and superior filtering techniques for demanding slurry applications.

Rosemount Magnetic Sensor Specifications

	Flanged (8705)	High Signal [™] (8707)	Wafer (8711)	Hygienic (8721)	Utility (8750W)
Approvals					
Process Applications	•	•	•		
Utility Water-Based Flows	•		•		•
High Consistency Slurry	•	•			
Hygienic (Sanitary)				•	
High Pressure (Up to ANSI Class 2500)	•	•			
Line Sizes					
Nominal Line Size - Inches	½ to 36	3 to 36	0.15 to 8	½ to 4	½ to 48*
Nominal Line Size - Millimeters	15-900	60-900	4-200	15-100	15-1200*
*Line sizes up to 120-in (3000 mm) available on spe	cial request				

	Process Temp Limits	Line Size (8705/8707)	Line Size (8711)	Line Size (8721)	Line Size (8750W)
Liner Selection					
PFA - Fluoropolymer ⁽¹⁾	-20 to 350° F (-29 to 177° C)	½ to to 14 inch (15 to 350 mm)	0.15 to 0.3 inch (4 to 8 mm)	½ to 4 inch (15 to 100 mm)	
PTFE - Fluoropolymer (1)	-20 to 350° F (-29 to 177° C)	½ to to 36 inch (15 to 900 mm)	½ to 8 inch (15 to 200 mm)		½ to 48 inch (15 to 1,200 mm)
ETFE - Fluoropolymer (1)	-20 to 300° F (-29 to 149° C)	½ to 16 inch (15 to 400 mm)	½ to 8 inch (15 to 200 mm)		
Polyurethane - Water with No Chemicals	-0 to 140° F (-18 to 60° C)	1 to 36 inch (25 to 900 mm)			½ to 48 inch (15 to 1,200 mm)
Adiprene	0-200° F (-18 to 93° C)	1 to 12 inch (25 to 300 mm)			
Neoprene	-0 to 176° F (-18 to 80° C)	1 to 36 inch (25 to 900 mm)			½ to 48 inch (15 to 1,200 mm)
Linatex - Mining Slurries, Large Debris	-0 to 158° F (-18 to 70° C)	1 to 36 inch (25 to 900 mm)			

Electrode Selection	Description
Туре	
Button	Standard design. Suitable for most applications including slurries.
Bullet-Nose	Used where coating is a concern and no solids are present.
Material ⁽²⁾	
316L Stainless Steel	Standard material. Compatible with most water-based applications.
Nickel Alloy 276	Typically used in medium to high acid concentrations and sea water.
Platinum ⁽³⁾	Typically used in most aggressive liquor applications.
Tantalum ⁽³⁾	Typically used in high concentration acids (hydrochloric, hydroflouric).
Titanium ⁽³⁾	Typically used in high concentration caustic (sodium, potasium hydroxide).

(1) Fluoropolymer MWP 1000psi (2) Alternate materials available (3) Not availible on 8750W

	8732E	8712E	8712H High Signal™	8750W
Selection Considerations				
Mounting	Integral or Remote ⁽⁴⁾	Wall Mount Remote	Wall Mount Remote	Integral, Remote or Wall Mount
LOI	4-button	Dedicated 15-button	Dedicated 15-button	4-button or 15-button
Output & Communciation Protocols	4-20 mA, HART, 10 kHz Pulse FOUNDATION fieldbus, Profibus PA, Modbus	4-20 mA, HART, 10 kHz Pulse, Modbus	4-20 mA, HART, 1 kHz Pulse	4-20 mA, HART, 10 kHz Pulse FOUNDATION fieldbus, Profibus PA, Modbus
Power Supply	90-250AC, 12-42DC	90-250AC, 12-42DC	115V AC Only	90-250AC, 12-42DC
Diagnostic & Enhanced Features				
Standard	•	•	•	•
DA1 – Process Diagnostics	•	•		•
DA2- SMV	•	•		•
D01 – FOUNDATION fieldbus/Profibus PA/Process Diagnostics ⁽⁵⁾	•			
D02-FOUNDATION fieldbus/Profibus PA/SMV ⁽⁵⁾	•			
D1– High Accuracy Calibration	0.15% ± 1 mm/s	0.15% ± 1 mm/s	± 0.25%	± 0.25%
AX- DI/DO	•	•		•

(4) 2" pipe mount (5) Use DA1 or DA2 for 8750W

Rosemount Vortex Flow Meter Specifications

	Flanged & Reducer	Wafer	Critical Process	Threaded Vortex	Dual/Quad	Weld-End	MultiVariable Flanged and Reducer	8600 Utility Vortex
Application Best Practices								
Critical Process Applications			•		•	٠		
Utility Water and Gas	•	•		•				•
Cryogenic						•		
Saturated Steam	•						•	•
Produced Water		•		•				
Safety Instrumented Systems					•			
High Pressure (ASME Class 1500)*	•		•		•	•	•	
Capabilities								
Clog-Free, Gasket-Free Meterbody	•	•	•	٠	•	٠	•	
Isolated Sensor	•	•	•	•	•	•	•	
Mass Blanaced Sensor and ADSP for Vibration Immunity	•	•	•	•	•	•	•	•
Flow Simulation and Signal/Trigger for MEter Verification	•	•	•	•	•	•	•	•
Single Sensor (Ican be used for all line sizes and meter types)	•	•	•	•	•	•	•	
Wetted Materials								
Stainless Steel	•	•	•	٠	•	٠	•	•
Nickel Alloy	•	•	•		•	•	•	
Duplex	•				•	•	•	
Carbon Steel	•		•		•	•	•	
Measured Variables								
Flow	•	•	•	•	•	٠	•	•
Temperature							•	
Output Variables					1		'	
Flow	•	•	•	٠	•	٠	•	•
Temperature							•	
Density							•	
T-Compensated Mass Flow (Saturated Steam, water, custom liquids)	•		•	•		•	•	•
Outputs								
4-20mA/HART®	•	•	•	٠	•	٠	•	•
10 kHz Pulse	•	•	•	•	•	•	•	•
FOUNDATION™ fieldbus	•	•	•	•	•	•	•	
Mounting								
Integral	•	•	•	٠	•	•	•	•
Remote	•	•	•	•	•	•	•	•
Hazardous Area Approvals								
FM - Ex-Proof, IS, Dust, FISCO (FF)	•	•	•	٠	•	•	•	•
CSA - Ex-Proof, IS, Dust, FISCO (FF)	•	•	•		•	•	•	•
ATEX - Flameproof, IS, Dust, Type-N, FISCO (FF)	•	•	•		•	٠	•	•
IECEx - Flameproof, IS, Dust, Type-N, FISCO (FF)	•	•	•		•	•	•	•
NEPSI - Flameproof, IS, Type-N, FISCO (FF)	•	•	•		•	•	•	•
TIIS - Flameproof	•	•	•		•	•	•	
Accuracy								
Liquids	0.65% of rate	0.65% of rate	0.65% of rate	0.65% of rate	0.65% of rate	0.65% of rate	0.65% of rate	0.75% of rate
Gases	1.00% of rate	1.00% of rate	1.00% of rate	1.00% of rate	1.00% of rate	1.00% of rate	1.00% of rate	1.00% of rate
Mass Flow of Saturated Steam							2.00% of rate	
Mass Flow of Water							0.70% of rate	
Nominal Line Sizes								
Inches	1⁄2-12	1⁄2-8	1-12	1⁄2-2	1⁄2-12	1⁄2-12	1½-12	1-8
Millimeters	15-300	15-200	25-300	15-50	15-300	15-300	40-300	25-200

*De-rated up to 2500 pounds available - consult factory

Micro Motion Coriolis Sensor Specifications

	ELITE [®]	F-Series	H-Series	T-Series	TA-Series	R-Series	LF-Series
Application Type							
Continuous Control	٠	•	•	•	•	•	•
Batching / Loading / Blending	٠	•	•	•	•	•	•
Custody	٠	•	•				
Measurement Accuracy		•					
Liquid & Slurry - Flow	±0.05%	±0.10%	±0.10%	±0.15%	±0.10%	±0.4%	±0.50%
Liquid & Slurry - Density	$\pm 0.0002 \text{ g/cm}^3$ ($\pm 0.2 \text{ kg/m}^3$)	±0.0005 g/cm ³ (±0.5 kg/m ³)	±0.0005 g/cm ³ (±0.5 kg/m ³)	±0.002 g/cm ³ (±2.0 kg/m ³)	±0.001 g/cm ³ (±1.0 kg/m ³)	±0.003 g/cm ³ (±3.0 kg/m ³)	$\pm 0.005 \text{ g/cm}^3$ ($\pm 5.0 \text{ kg/m}^3$)
Gas - Flow	±0.25%	±0.50%	±0.50%	±0.50%	±1.0%	±0.75%	±0.50%
Capabilities							
Self Draining	¢	•	•	•		•	
Sanitary / Hygienic	•		•	•			
Two-Phase Flow / Entrained Gas	٠	•	•				
Smart Meter Verification	•	•	•		•		
High Temperature*	¢	•					
High Pressure * *	¢	•					
Cryogenic*	¢	•					
Wetted Materials		1		I			
300-Series Stainless Steel	٠	•	•			•	•
Super Duplex	•						
Nickel Alloy C22	٠	•					
Nickel Alloy B3							
Ni-Span-C [®]							
Titanium				•			
Monel®							
Zirconium							
Tantalum					•		
Nominal Line Sizes							
Inches	1/10-14	1/10-4	1/4-4	1/4-2	1/10 - 2	1/4-3	1/32-1/4
Millimeters	2-406	6-100	6-100	6-50	6-50	6-75	0.8-6

Supported on all models Supported on some models
 *Standard temperature is -148 to +400°F (-100 to +204°C) High temperature is above +400°F (+204°C) Cryogenic is below -148°F (-100°C)
 ** Above 1494 PSI (103bar)

Micro Motion Density & Viscosity Specifications

Application TypeCentrony Control A Cataloy I flanding A <		CDM	FDM	FVM	HFVM	GDM	SGM
Cardinage Canadity Cana	Application Type						
Backing (Jacaning (Jacaning (Jacaning (Jacaning (Jacaning (Jacaning (Jacaning (Jacaning) Accord (Jacaning) A	Continuous Control	•	٠	•	•	•	•
Catcher <t< td=""><td>Batching / Loading / Blending</td><td>•</td><td>•</td><td>•</td><td>•</td><td>•</td><td>•</td></t<>	Batching / Loading / Blending	•	•	•	•	•	•
Measurement Accuracy-0.0001 girm-0.001 girm-0.001 girm0.000 girm0	Custody Transfer	•				•	•
Under Standing10001 gramm10001 gramm10000 gramm10000 gramm10000 gramm100000 gramm100000 gramm1000000000000000000000000000000000000	Measurement Accuracy						
Liquid - ViscosityIndex and any seriesIndex and any seriesIndex and any seriesGas - DensityInternational seriesInternational seriesInternational seriesInternational seriesGas - DensityInternational seriesInternational seriesInternational seriesInternational seriesGas - DensityInternational seriesInternational seriesInternational seriesInternational seriesSet DrainingInternational seriesInternational seriesInternational seriesInternational seriesNotational Line StatusInternational seriesInternational seriesInternational seriesInternational seriesNotational Line StatusInternational seriesInternational seriesInternational seriesInternational seriesOutput ViriblesInternational seriesInternational seriesInternational seriesInternational seriesDensityInternational seriesInternational seriesInternational seriesInternational seriesDensityInternational seriesInternational seriesInternational seriesInternational seriesNotational SeriesInternational seriesInternational seriesInternational seriesInternational series<	Liquid & Slurry - Density	±0.0001 g/cm ³	±0.001 g/cm ³	±0.001 g/cm ³	±0.001 g/cm ³		
Gas-Density Specific GravityUp to 20.1%Up to 20.1% </td <td>Liquid - Viscosity</td> <td></td> <td></td> <td>±0.2 cP (for 0.5 -10 cP) ±1% of calibration range max</td> <td>±0.2 cP (for 0.5 - 10 cP) ±1% of calibration range max</td> <td></td> <td></td>	Liquid - Viscosity			±0.2 cP (for 0.5 -10 cP) ±1% of calibration range max	±0.2 cP (for 0.5 - 10 cP) ±1% of calibration range max		
Gas-Damily (Specific Gravity)Internal (Specific Gravity)Up to a.0.1%CapabilitiesCapabilitiesSelf DrainingImage: Specific Gravity (SDV)Image: Specific Gravity (SDV)Image: Specific Gravity (SDV)Now Density Verification (SDV)Image: Specific Gravity (SDV)Image: Specific Gravity (SDV)Image: Specific Gravity (SDV)Nickal Alloy (C2)Image: Specific Gravity (SDV)Image: Specific Gravity (SDV)Image: Specific Gravity (SDV)Image: Specific Gravity (SDV)Nickal Alloy (C2)Image: Specific Gravity (SDV)Image: Specific Gravity (SDV)Image: Specific Gravity (SDV)Image: Specific Gravity (SDV)Nickal Alloy (C2)Image: Specific Gravity (SDV)Image: Specific Gra	Gas - Density					Up to ±0.1%	Up to ±0.1%
CapabilitiesImage: Capability of the second sec	Gas - Density / Specific Gravity						Up to ±0.1%
Self painingImage </td <td>Capabilities</td> <td></td> <td></td> <td></td> <td>· · · · · · · · · · · · · · · · · · ·</td> <td></td> <td></td>	Capabilities				· · · · · · · · · · · · · · · · · · ·		
Two-Pase Row / Entrained casImage Row / Entrained	Self Draining	٠	•	•	•		
Known Density Verification (KDV)Image: Stain less SteelImage: Stain less SteelImage	Two-Phase Flow / Entrained Gas	•					
High PressneImage: state of the	Known Density Verification (KDV)	•	•	•	•	•	•
Wetter labImage: stainless SteelImage: stainless Steel	High Pressure		•	•	•	•	
300-series Stateles SteeleImage: Steele State Steele S	Wetted Materials			'	· · · · · ·		
Nickel Alloy C22••••••••Nispar C*II <t< td=""><td>300-Series Stainless Steel</td><td>•</td><td>•</td><td>•</td><td>•</td><td>•</td><td>•</td></t<>	300-Series Stainless Steel	•	•	•	•	•	•
NiSpan-C*Interminant<	Nickel Alloy C22	•	٠	•			
TitaniumImage: state in the stat	Ni-Span-C [®]					•	•
ZiroriumImage: space sp	Titanium		٠				
Nominal Line Sizes I I of Larger	Zircorium		•				
Inches 1 1 or Larger 1 or Larger 1 or Larger 1 dor Larger 1 dor Larger 1 dor Larger 1 dor Larger 25 or Larger 26	Nominal Line Sizes			I	<u>і</u>		
Millimeters2325 or Larger25 or Larger6 or Larger6 or LargerOutput VariablesUnitable Section 1000 Section	Inches	1	1 or Larger	1 or Larger	1 or Larger	1⁄4 or Larger	1⁄4 or Larger
Output Variables Density Ime Period Ime Period Signal (TPS) Ime P	Millimeters	23	25 or Larger	25 or Larger	25 or Larger	6 or Larger	6 or Larger
DensityImage of the set of the	Output Variables			1	11		
Time PeriodImage of the set of	Density	•	•	•	•	•	•
TemperatureImage: Section of the section	Time Period	•	•			•	
Drive GainImage: started in the started i	Temperature	•	•	•	•	•	•
External Temperature InputImage: Section of the section	Drive Gain	•	•				
External Pressure InputImage: Section Constraint of Constrain	External Temperature Input	•	٠	•	•	•	•
Flow Rate (Velocity)Image: Section of the	External Pressure Input	•				•	•
Referred VelocityImage: Sectific Gravity, Molecular WeightImage: Sectific Gravity, Molecular WeightIma	Flow Rate (Velocity)	•					
Specific Gravity, Molecular WeightIndexIndexIndexIndexLocal DisplayIndexIndexIndexIndexIndex2-LineIndexIndexIndexIndexIndexOutputsIndexIndexIndexIndexIndex4-20 mAIndexIndexIndexIndexIndex4-20 mA + HART®IndexIndexIndexIndexIndex1420 mA + HART®IndexIndexIndexIndexIndex150 mA + HART®IndexIndexIndexIndexIndex160	Referred Velocity			•	•		
Local Display 2-Line 	Specific Gravity, Molecular Weight						•
2-line●●●●●Outputs4-20 mA●●●●●4-20 mA + HART®●●●●●1me Period Signal (TPS)●●●●●Discrete Output●●●●●●Modbus/RS-485●●●●●●2700 FOUNDATION™ fieldbus (Remote Mount Only)●●●●●●Transmitter Mounting●●●●●●●AfEX●●●●●●●●CSA●●●●●●●●Itegra●●●●●●●●Aringo●●●●●●●●	Local Display			1	I		
Outputs4-20 mAImage: Constraint of the second seco	2-Line	•	٠	•	•	•	•
4-20 mAImage: state of the state	Outputs			1	I		
4-20 mA + HART®Image: Sector of the sector of t	4-20 mA	•	•	•	•	•	•
Time Period Signal (TPS)●●●●●●●Discrete Output●● </td <td>4-20 mA + HART®</td> <td>•</td> <td>•</td> <td>•</td> <td>•</td> <td>•</td> <td>•</td>	4-20 mA + HART®	•	•	•	•	•	•
Discrete OutputImage: Section of the sect	Time Period Signal (TPS)	•	٠			•	•
Modbus/RS-485Image: Constraint of the state o	Discrete Output	•	•	•		•	•
2700 UNDATION™ fieldbus (Remote Mount Only)Image: Second	Modbus/RS-485	•	٠	•	•	•	•
(Remote Mount Only)Integral	2700 FOUNDATION™ fieldbus	•	•	•			
IntegralImage: Constraint of the second of the	(kemote Mount Unly)	-	_				
ApprovalsImage: Constraint of the second	Integral		•			•	
ATEX•••••CSA••••••IECeX••••••Marine••••••	Approvals	•				•	
CSA	ATEX	•	•	•	•	•	•
IECeX	CSA	•	•	•		•	•
Marine	IECeX	•	•	•		•	•
	Marine	-	-	-	•	-	-

Micro Motion Coriolis Transmitter Specifications

	1500	1700	4200	2400S	2500	2700	FMT	3300	3350	3500	3700	5700
Output Variables			·	· ·				·				
Mass / Volume Flow	•	•	•		•		•		•		٠	•
Net Product Content / Flow [†]			•		•	•				•	•	•
Temperature			•	•	٠	•	٠			•	٠	•
Density					•	•	•			•	•	
Concentration			•	•	•	•				•	•	•
Local Display	I		1			1		I	1			
2-Line		•										
Multi-line			•					•	•	•	•	
Graphical			•									•
Power	I		1			1		I	1			
AC		•							•		٠	•
DC	•	٠			٠	•	٠	•	•	•	•	٠
Loop Powered (2-wire)			•									
Output	1		1					I	1			
4-20 mA/HART	•	•	•		•		•	•	•	•	٠	•
10 kHz pulse	•	٠			٠	•	•	•	•	•	•	
Discrete	•	٠	•	•	٠	•	٠	•	•	•	٠	٠
WirelessHART®	•	٠			٠	•		•	•	•	•	
Modbus®	•	•			•	•	•	•	•	•	•	•
Ethernet/IP (with Ethernet/IP module)	•	•			•		•				•	
FOUNDATION™ fieldbus						•						•
PROFIBUS-PA												
PROFIBUS-DP				•			•					
DeviceNet™				•								
1000 Hz			•	_								
Inputs			_	1				I				
10 kHz pulse								•	•			
Discrete				•	•	•	•	•	•	•	•	•
4-20 mA												
HART®	•	•	•	•	•	•	•			•	•	•
4-wire Coriolis Sensor	•	•			•							
9-wire Coriolis Sensor	•	•	•		•	•				•	•	•
Mounting				1				I				
Integral - Field		٠	•		٠		٠					•
Remote - Field		•			•	•			•		•	
Remote - Control Room	•			_	•			•		•		
Remote - Pack / Panel Mount												
Special Application Types				1								
Batch Controller									•		٠	٠
Custody Transfer						•		•	•	•	•	٠
Two-Phase Flow / Entrained Gas	•	•			•					•	•	٠
Filling & Dosing	•						•					
Smart Meter Verification	•				•					•	•	
SIS Certified		•	•			•						•
Hazardous Area Approvals			l					l 	l			-
C1D1		•	•		•							•
C1D2		•	•		•		•		•		•	•
Zone 1		٠	•		•	•			•		٠	٠
Zone 2		•	•		•		•				•	

• Supported on all models • Supported on some models † Flow rate of product based on concentration. For example, in a dissolved sugar solution, the measurement is the flow rate of the sugar alone and in a net oil application the measurement is water alone or oil alone.

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