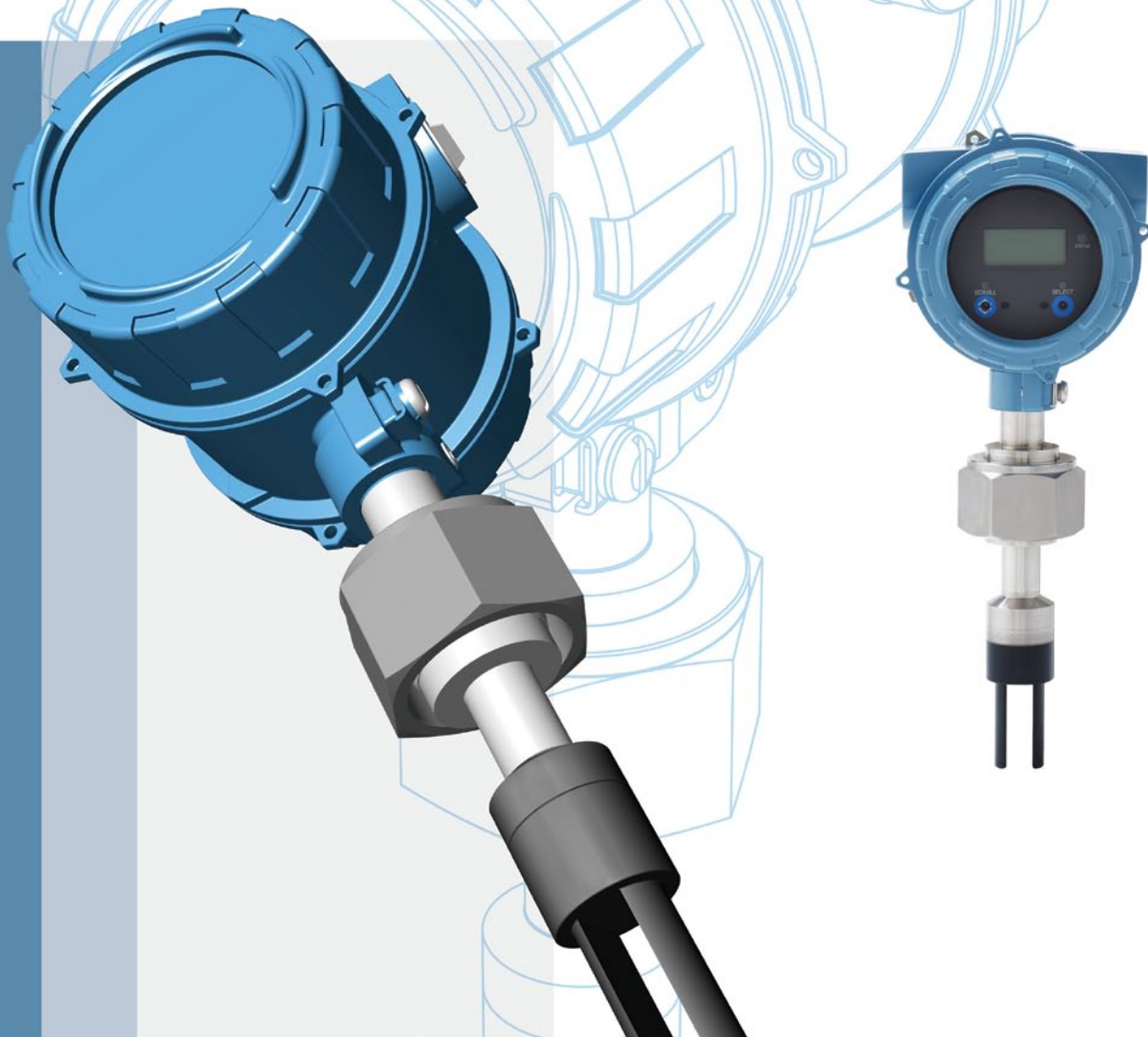


# REVOLUTIONIZE YOUR ONLINE VISCOSITY MEASUREMENT TECHNOLOGY



Micro Motion Fork Viscosity Meter

# INTRODUCING EMERSON'S MICRO MOTION® FORK VISCOSITY METER

Our Fork Viscosity Meter (FVM) delivers accurate, online viscosity and density measurement using a direct insertion tuning fork design. This rugged and reliable meter raises the standard for inline viscosity and density monitoring and enhances the product quality, blending operations, and efficient combustion of process liquids as diverse as lube oils, asphalts and refined products.

## Viscosity and Density Measurement with Performance and Confidence

The combination of our industry-leading technology, wide breadth of products, unparalleled application expertise and customer support allows us to deliver unbeatable performance and value, time and time again.



## The Micro Motion Fork Viscosity Meter Delivers:

### Superior Measurement Capabilities

- A rugged, multi-variable direct insertion sensor that provides the best, real-time measurement of viscosity ( $\pm 1\%$  of calibrated range max) and density ( $\pm 1.0 \text{ kg/m}^3$ )
- Application flexibility with pipeline, bypass (fast) loop and tank installation support

### A World-Class Leading Electronics Platform

- Local display and user interface that allows for a simplified device management, minimizing maintenance requirements
- Simple integration into DCS, PLC and flow computers (Analog 4-20mA, HART, Modbus RS485 and FOUNDATION fieldbus)
- Revolutionary device diagnostics and verification methods

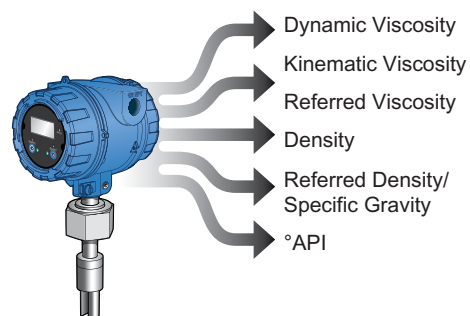
### Robust and Flexible Measurement

- Application-specific measurement and output configurations to ensure simple set-up and commissioning
- Optimized design; insensitive to vibration, temperature and pressure variations

PRODUCT HIGHLIGHTS

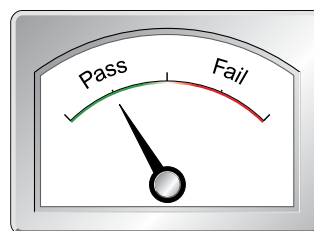
**Application-Specific Configurations**

Automatic, application-specific measurement and output configurations ensure simple set-up and commissioning



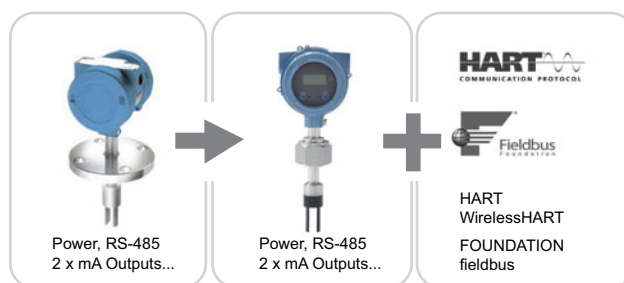
**Meter Diagnostics**

Built-in diagnostics for real-time monitoring and automated meter verification systems



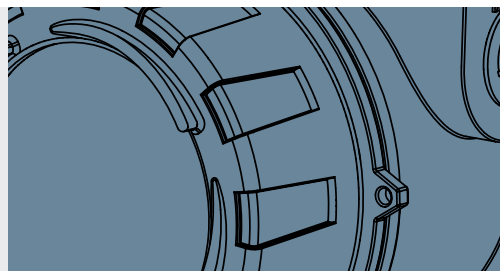
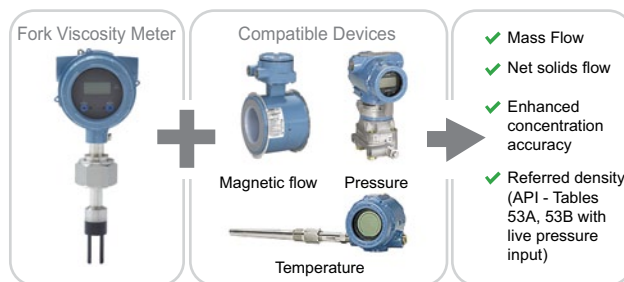
**Unrivalled Density Performance**

A choice of installation options for replacement solutions give you the performance you need



**Interconnectivity**

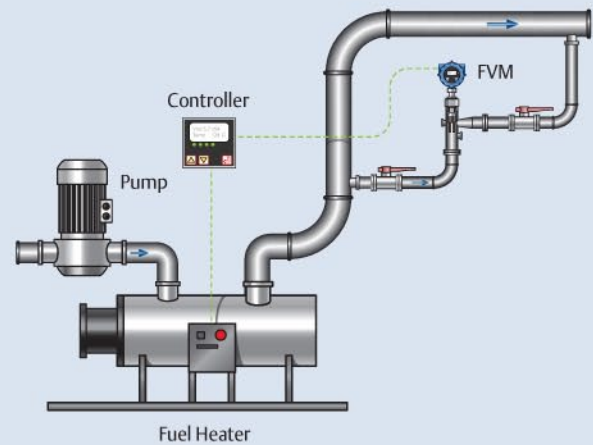
Integral HART I/O allows direct input of external temperature, pressure and flow measurements for enhanced outputs



# KEY APPLICATIONS

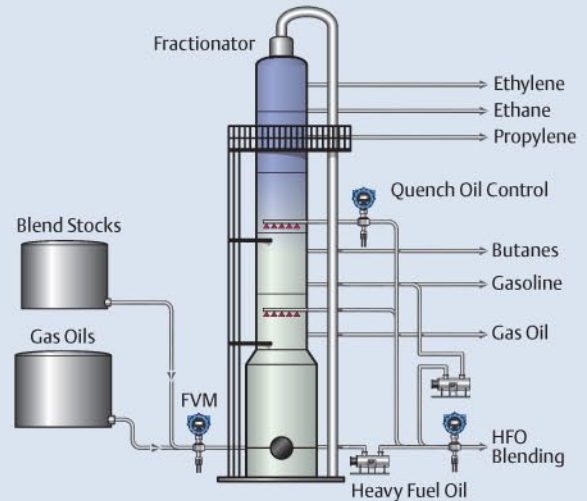
## Combustion Control

- **Oil Fired Heater and Boiler Control**  
Improved fuel atomization consistency with varying feed stock quality
- **Maintenance and Emissions**  
Reduced fiscal exposure through optimized maintenance cycles and reduced  $\text{NO}_x/\text{SO}_x$  levies



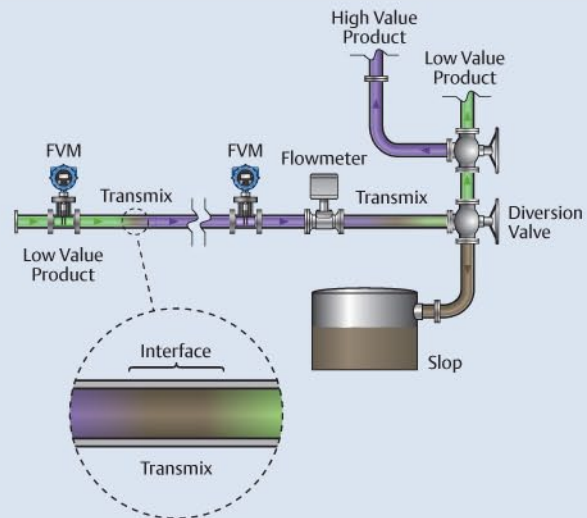
## Refining & Petrochemical

- **Product Detection and Quality**  
Optimize product uniformity and consistency while minimizing manual sampling
- **Product Blending**  
Minimize cutter-stock costs for accurate multi-grade Heavy Fuel Oil (HFO) production



## Pipeline & Terminals

- **Interface and Product Detection**  
Improve cut-over accuracy and product quality determination to reduce scrap, waste or down-grading of multi-product pipelines
- **Volumetric Flowmeter Viscosity Correction**  
Improved inventory accuracy through reduced K-factor and volumetric flow errors







**YOUR SOLUTION** FOR THE  
MOST DEMANDING PROCESS  
APPLICATIONS

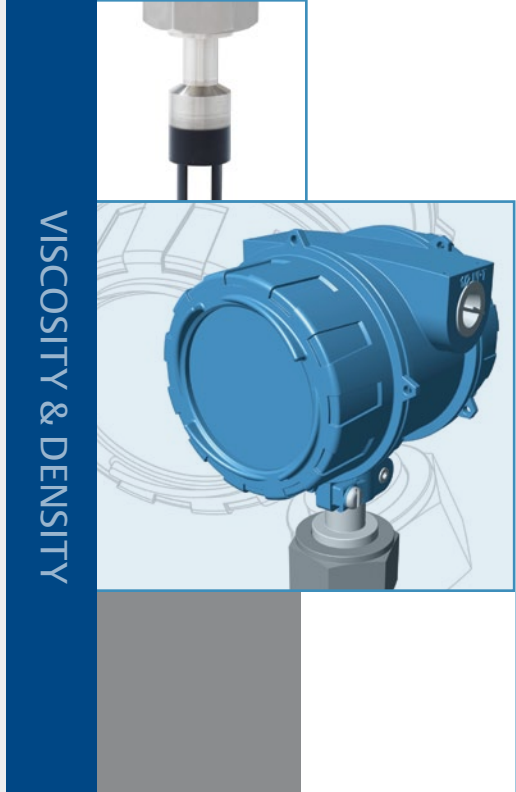


## MICRO MOTION

For over 30 years, Emerson's Micro Motion has been a technology leader delivering the most precise flow, density and concentration measurement devices for fiscal applications, process control and process monitoring. Our passion for solving flow and density measurement challenges is proven through the highly accurate and unbeatable performance of our devices.

# Fork Viscosity Meter Specifications

Viscosity Measuring Range	0-20,000cP
Viscosity Accuracy	±0.2cP (0-10cP) then ±1% Full scale of calibrated range max ±1cP (10-100cP), ±10cP (100-1000cP), ±125cP (1000-12,500cP)
Density Measuring Range	0-3000 kg/m <sup>3</sup> (0-3 g/cc)
Density Accuracy	±1.0 kg/m <sup>3</sup> (±0.0001 g/cc) Equivalent to: ±0.5° API, ±0.1% Conc.
Temperature Accuracy	BS1904, DIN 43760 Class 'B' (±0.30 ±0.005 X T)°C
Safety Approvals	ATEX, CSA, IECEx (Explosion/Flame-Proof) – Zones 1 & 2
Display	Two-line, LCD screen Optical switch configuration
Outputs	Standard: 4-20mA, HART, Modbus RS-485 Optional: FOUNDATION™ fieldbus, WirelessHART™
Protection Class	Ingress Protection: IP66/67, NEMA4 EMC compliant with EN61326
Dimensions	355 mm (h) x 163 mm (w) x 163 mm (d) (Typical short stem version)
Weight (Typical)	6.7 kg (15 lbs)



Compact Density Meter  
Peak Performance  
Precision Density Meter



Fork Density Meter  
Direct Insertion  
Density Meter



Gas Density Meter  
Fiscal Gas  
Density Meter



Specific Gravity Meter  
Gas Specific Gravity  
/BTU Meter



**Fork Viscosity Meter**  
**Multi-Variable  
Viscosity Meter**



Heavy Fuel Viscosity Meter  
Multi-Variable Marine & Power  
HFO Viscosity Meter

For more information, please visit: [www.MicroMotion.com/density](http://www.MicroMotion.com/density)

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