

Micro Motion

Coriolis Solutions
for Oil & Gas
Metering and
Measurement
Systems



Emerson's Micro Motion Coriolis Technology

offers *superior solutions* that deliver:

- *Enhanced production*
- *Improved operations*
- *Precision custody transfer*
- *Process optimization*



The benefits of Micro Motion Coriolis meter technology

For over 25 years, Emerson's Micro Motion® Coriolis meters have delivered undisputed leadership in product innovation, application knowledge, and dedication to quality and superior support.

See how Micro Motion meters can improve your profits through:

IMPROVED PRODUCT QUALITY – Better long term measurement performance and multivariable technology (density) to assess product quality

OPTIMIZED THROUGHPUT – High accuracy flow measurements with less variability

AVAILABILITY – Increased measurement operations data reliability

OPERATIONS AND MAINTENANCE – No moving parts, no calibration drift and clean in place without dismantling for less maintenance and increased reliability

SAFETY, HEALTH AND ENVIRONMENT – Remote diagnostics capability and fewer maintenance interventions

UTILITIES – Optimize utilities process units and more efficient fuel consumption rates

WASTE AND REWORK – Advanced diagnostics contributing to more predictive / proactive maintenance with less abnormal situation operations

LOWER CAPITAL EXPENDITURES – One meter to measure mass, volume, density and temperature. No flow conditioning, straight runs or special mounting requirements.

Micro Motion Coriolis meters meet or exceed the requirements for:

- Major world area approvals for gas and liquid custody transfer
- API Ch. 5 crude oil and hydrocarbon products
- API Ch. 20.1 allocation measurements
- AGA#11/API MPMS Ch. 14.9 custody transfer of natural gas
- GOST standard



ACCURACY, RELIABILITY AND STABILITY

SUPERIOR METERING AND MEASUREMENT SYSTEMS

Volume, mass, density and temperature measurements from a single device serve a wide range of applications.



Crude Oil Custody Transfer

- Improve measurement performance
- Reduce costly maintenance
- Lower parts inventory
- Long term meter factor stability
- Less downtime



Natural Gas / Liquids Cavern Storage

- Less meters due to bi-directional flow capabilities
- Improve inventory balance
- Reduce maintenance
- Identification of misdirected flow
- Early indication of measurement problems

Net Oil Computer – Production / Test Separators

- Reduce net oil and watercut measurement uncertainty
- Switch from three-phase to lower cost two-phase separators
- Reduce manifold and pipeline costs
- Less maintenance



Pipeline Custody Transfer

- Reduce measurement uncertainty
- Data validation through integrated proving systems
- Lower total cost of ownership
- Improve measurement reliability
- Smaller footprint
- High turndown
- No upstream conditioning required

Natural Gas Liquids (LPG, LNG, NGL)

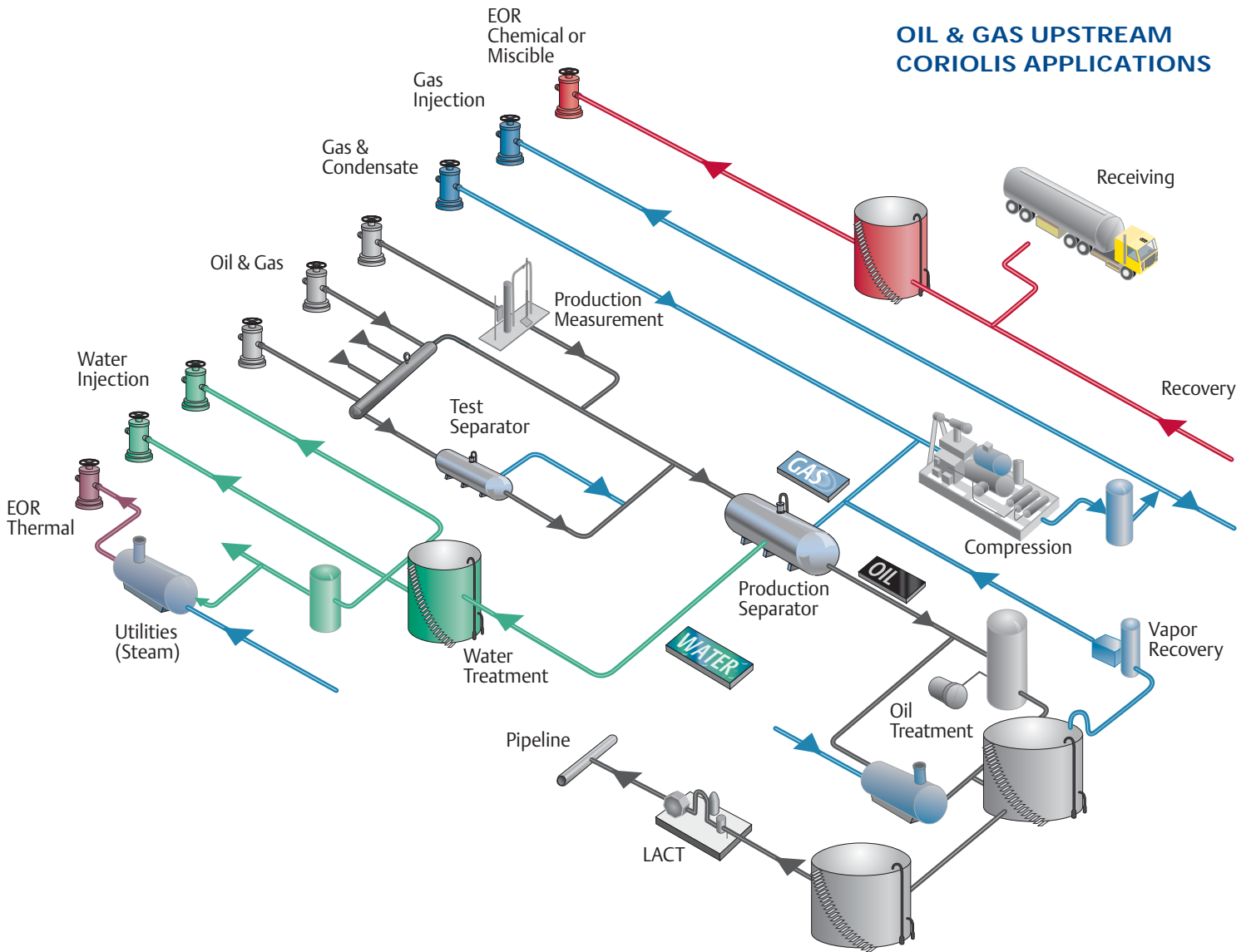
- Direct mass measurement
- Single, full stream measurement of density
- Flowing density for Mass and/or Volume calculations



Pipeline Leak Detection

- More information for pipeline operations
- Detection of smaller leaks
- Reduce probability of false alarms
- Minimize environmental risks

OIL & GAS UPSTREAM CORIOLIS APPLICATIONS



Coriolis Proving (Master Meters)

- Compact, portable systems
- In-line designs
- Improve reliability
- Traceable standards
- World area approvals



Natural Gas Custody Transfer

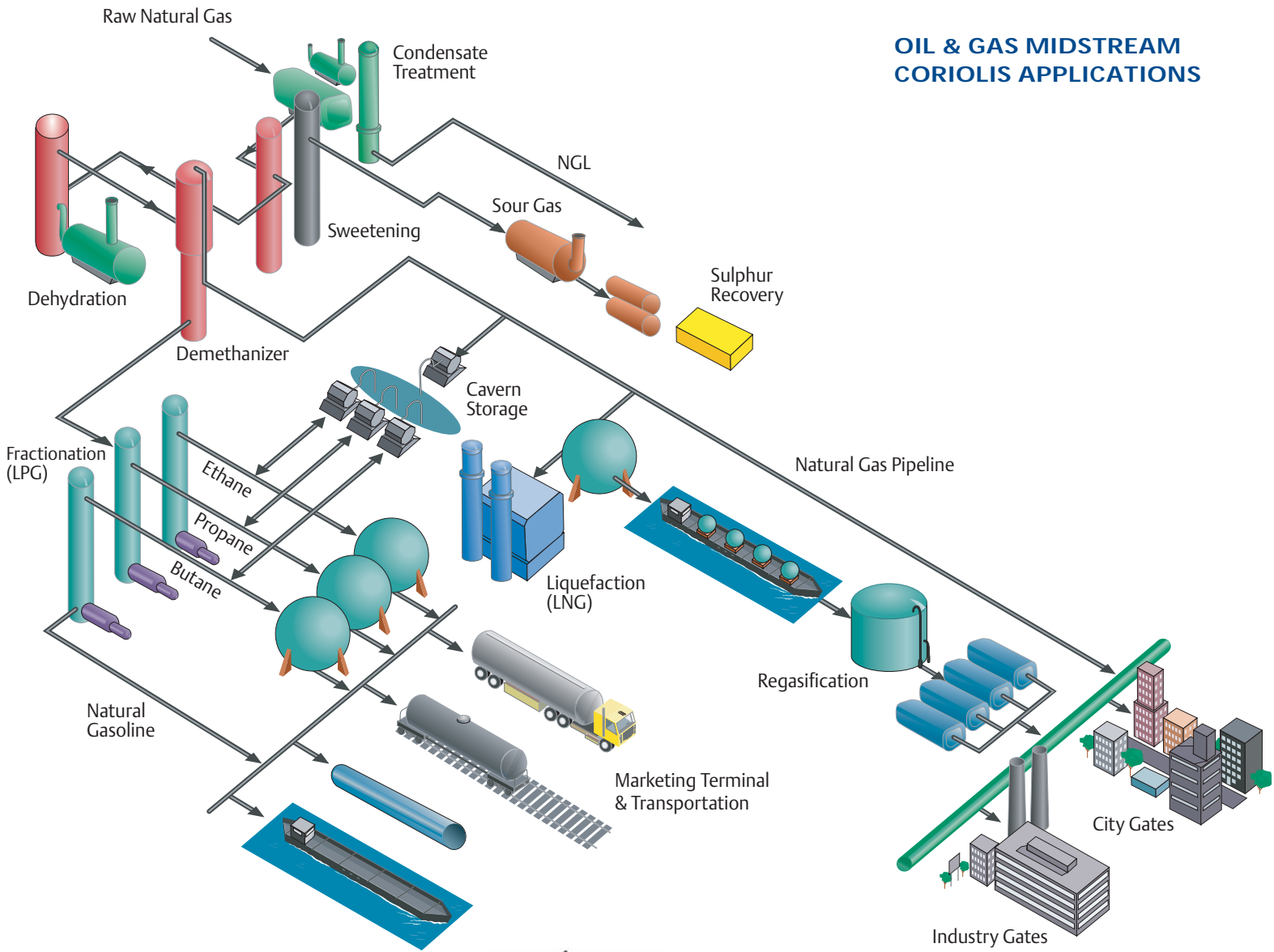
- Remote diagnostics
- Smaller system size
- Improve billings
- Fewer maintenance field trips
- Verifiable measurement



Loading & Terminals

- Precise delivery
- Automated loading / unloading
- Multi-product capability in one meter
- Bi-directional flow
- Self-draining
- Load in mass and/or volume

OIL & GAS MIDSTREAM CORIOLIS APPLICATIONS



Density Measurement

- Product purity / quality verification
- Process diagnostics
- Full stream density measurement
- Online API gravity
- Interface detection



Multi-phase Measurement System

- Accurate well production data
- Continuous measurement
- Representative well production data
- Increase oil production
- Reduce operations cost
- Improve reservoir modeling and characterization
- Reduce foot print



Natural Gas Processing

- Optimize control
- Improve process diagnostics
- Direct mass liquids measurement
- Increase turndown
- Accurate allocation
- Accurate mass balance

LEADERSHIP

Turn to Emerson for complete measurement systems, innovative designs and reliable solutions for the oil and gas industry. Service and support of Micro Motion products is consistently rated as exceptional by our users. We have local and global service and training to meet your needs. See what a difference product and application experts can make in solving your challenges quickly and courteously.



 **PlantWeb** www.emersonprocess.com/plantweb

Optimizing Your Performance

PlantWeb is a revolutionary field-based architecture that optimizes plant performance. It delivers asset management, process control and management execution through three key components:

- Intelligent field devices
- Standards and platforms
- Integrated modular software

PlantWeb differs from any traditional approach to process automation with several advantages:

- Engineered to efficiently gather and manage the new wealth of information from intelligent field devices
- Designed from the ground up for FOUNDATION™ fieldbus
- Networked, not centralized
- Uses standards at every level of the architecture
- Goes beyond mere process control by providing management execution and asset management
- Installation savings are guaranteed

 WWW.micromotion.com/oil

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