Measurement Systems

Experts in Oil and Gas Flow Measurement
Accuracy
Leaders in Oil and Gas Flow Measurement

ABOUT US
FMC Technologies is a global leader providing integrated measurement systems and associated services to the oil and gas industry.

From a simple single-stream skid to a more complex metering installation, we offer solutions for allocation transfer, custody transfer, and fiscal and royalty measurement across oil and gas production and distribution, committing ourselves to helping customers measure and understand their oil and gas flow on any asset, anywhere in the world.

Our experts provide the right technology for the right application, resulting in increased measurement system reliability, sustainability, accuracy and regulatory compliance throughout the equipment’s life cycle.

OUR HERITAGE
Our trusted heritage allows us to achieve technical superiority for our customers. By combining over 80 years of international engineering experience, technical know-how and best-in-class project management, we have successfully installed over 2,000 projects in over 100 countries.

FMC Technologies’ Measurement Solutions business began as Erie Meter, the first manufacturer of electric service station pumps and the innovator of the Smith Meter® turbine and positive displacement meters, recognized worldwide as the standard for custody transfer measurement.

FMC Technologies, Inc. (NYSE:FTI) is a leading global provider of technology solutions for the energy industry. Named by FORTUNE® Magazine as the World’s Most Admired Oil and Gas Equipment, Service Company in 2012, FMC Technologies has approximately 19,000 employees and operates 30 production facilities in 16 countries. FMC Technologies designs, manufactures and services technologically sophisticated systems and products, such as subsea production and processing systems, surface wellhead systems, high pressure fluid control equipment, measurement solutions and marine loading systems for the oil and gas industry.
Measurement Systems
Product Line and Technologies

PRODUCT LINE OVERVIEW

Our measurement systems product line includes systems and solutions for a variety of onshore and offshore environments, from refinery complexes, regasification terminals and onshore pipelines to floating production vessels and offshore platforms.

- Automatic custody transfer (ACT) measurement systems
- Lease automatic custody transfer (LACT) measurement systems
- Offshore production platform measurement systems
- Onshore production gathering measurement systems
- FPSO, FSO and FPU measurement systems
- FLNG and FSRU measurement systems
- Marine Terminal (vessel) loading and offloading measurement systems
- Pipeline measurement systems
- Gas transmission (pipeline) measurement systems
- Gas processing plant (GPP) measurement systems
- City gate gas measurement systems
- Liquid natural gas (LNG) measurement systems
- Refinery and petrochemical plant input and output measurement systems
- Storage terminal and tank farm input and output measurement systems
- Quality measurement systems capable of auto-sampling, measuring density and viscosity, and analyzing BTU content and S&W
- Meter provers for integrated, stand-alone, mobile or master meter applications
- Flow computers and flow computer system consoles
- Supervisory control systems
“With our technical expertise, we can advise on the best solutions to meet your needs.”

FLOW METER TECHNOLOGIES

FMC Technologies has a broad range of flow meter technologies that address the variety of applications and environments found in the field. With our technical expertise, we can advise on the best solutions to meet your needs.

<table>
<thead>
<tr>
<th>Meter Type</th>
<th>Liquid</th>
<th>Gas</th>
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<td>PD</td>
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<tr>
<td>Helical</td>
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<td>Ultrasonic</td>
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<td>Venturi</td>
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<tr>
<td>Magnetic</td>
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</tbody>
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FLOW COMPUTERS AND CONTROL SYSTEMS

Our flow computers and control systems are an excellent choice for managing and monitoring liquid and gas measurement systems. By incorporating the widest range of industry standard flow meters, instrumentation, valve actuators and process control systems, FMC Technologies provides customers with a full range of solutions to attain cost-effective, accurate and innovative measurement systems.

The Fmc\(^2\) flow management computer is the most advanced in the industry. Flexible, compact, fully programmable, fully configurable and micro-processed-based, the Fmc\(^2\) is the culmination of our experience in developing new technologies for custody transfer measurement in the oil and gas industry.

The Kongsberg FPM 207CE is a panel-mount or rack-mount flow computer designed for fiscal measurement, custody transfer and batch loading of petroleum products in both gas and liquid phases. Its powerful software and hardware is capable of handling multi-stream applications with a variety of flow meters.

Our flow computers can act as a high-integrity stand-alone flow computer, or as a powerful building block for integration into a supervisory computer control system.
Aftermarket Services and Training

FMC Technologies’ aftermarket service offers a comprehensive range of services that can be tailored to suit the needs of our customers. Our aftermarket service ensures the accuracy, reliability and regulatory compliance of all liquid and gas measurement systems, regardless of manufacturer, throughout the equipment’s life cycle.

Our aftermarket support team is dedicated to providing customers first-class service, globally, 24/7, to enhance metering system effectiveness, improve productivity and increase profitability.

TRAINING
FMC Technologies offers customized as well as standard courses on measurement theory, metering equipment and technology, systems operations and maintenance procedures. Operator and maintenance-crew technical competency assessment and training programs are also available.

OPERATIONS AND MAINTENANCE CONTRACT
Available periodic or full-time services from FMC Technologies include remote diagnostic support via phone, email and Internet; on-site support for troubleshooting and repair; and calibration services and specialized technical and consulting services from our flow specialists for periodic preventative maintenance and audits. Services are also offered to provide complete on-site management of metering-related maintenance and operations activities.

REMOTE SUPPORT AND ON-SITE SERVICES
FMC Technologies offers services for remote diagnostic support via phone, email and Internet, as well as on-site support for troubleshooting and repair.

UPGRADES AND RETROFIT
Project engineering services from FMC Technologies advise and assist in the increase or decrease of metering capacity, the upgrade of metering system components and the upgrade of control systems to current technology, helping ensure compliance with evolving regulations.

SPARES AND PARTS
FMC Technologies also has the spare parts you need to maintain your metering systems, including commissioning and start-up spares, two-year operating spares and one-off spare part requests for quotation (RFQs). Programs for maintaining inventory of critical spare parts to help ensure minimal system downtime are also available.

“...dedicated to providing customers first-class service, globally, 24/7.”
With more than 80 years of technical expertise, we have over 2,000 successfully installed projects in over 100 countries worldwide.
A Global Operations, Sales and Service Network

- Corporate
  - Houston, Texas, USA

- Operations
  - Corpus Christi, Texas, USA
  - Kongsberg, Norway

- Sales
  - Houston, Texas, USA
  - London, UK
  - Dubai, UAE
  - Singapore
“...we can ensure the quality, consistency and reliability of our products and services.”

A GLOBAL NETWORK
Through our established global network of operational bases, manufacturing and fabrication facilities and our worldwide sales and service organization, we can ensure the quality, consistency and reliability of our products and services.

MANUFACTURING AND FABRICATION FACILITIES
The 45,000-square-foot Kongsberg facility in Norway and the Corpus Christi facility in Texas, USA, with 50,000 square feet of indoor area and an additional 50,000 square feet of outside assembly space, are used for engineering and manufacture of metering systems for liquid and gas, including prover loops, control systems and analysis packages.

In addition, proprietary computer software is developed at Corpus Christi and Kongsberg for flow-computer instruments and control systems. Both plants are quality-accredited to ISO 9001 by Lloyds and DNV.

OUR PERSONNEL
Personnel at both sites are experienced in all disciplines associated with integrated systems, including design, electrical and instrumentation, piping, pressure vessels, manifolds and structural steelwork. Positional welding is performed by personnel qualified to ASME Section IX in accordance with ANSI B31.3 and B31.4, as well as ASME Section VIII. B.
Our Core Values

Our core values define who we are and set us apart from our competition. We rigorously follow these values to realize our vision of being the leader in our market, recognized for setting technical and performance standards and creating customer success.

SAFETY AND SUSTAINABILITY
We protect the health and safety of our people and promote the sustainability of the environment and the communities where we operate.

COLLABORATION
We promote an environment of open and sharing cooperation within the company and with our suppliers and customers.

INNOVATION
We believe the best is yet to be invented. We encourage purposeful creativity and thoughtful risk taking to create value for all stakeholders.

VALUING PEOPLE
We have the best people, invest in their development and provide opportunities for their growth. Our strength and success comes from respecting people, embracing diversity and valuing different cultures.

INTEGRITY
We do what is right and we do what we say. We always act ethically, lawfully and in accordance with our values.

CUSTOMER-CENTERED
We create value by building close partnerships with our internal and external customers to achieve mutual success.

QUALITY
We embrace the Five Absolutes of Quality. Through strict conformance to requirements, a prevention mindset and a zero-defect performance standard, we eliminate the price of non-conformance and create customer success.
We put you first.
And keep you ahead.