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For Immediate Release

New-Technology Flowmeters Dominate New Product Development and Industry Approvals in Gas Flowmeter Market, According to New Flow Research Study

Wakefield, Massachusetts; March 3, 2016 — A new research study from Flow Research finds substantial growth in the gas flow measurement market. According to this new study, *The World Market for Gas Flow Measurement, 3rd Edition*, by Flow Research (www.flowresearch.com), the worldwide market exceeded \$1.7 billion in 2014. New-technology gas flowmeters made up \$788 million of this total, while traditional technology gas flowmeters revenues were \$930 million. Coriolis and ultrasonic are the fastest growing gas flowmeter markets.

New-technology flowmeters include Coriolis, ultrasonic, magnetic, vortex, and thermal. They were introduced after 1950 and are generally the subject of more product development by suppliers than other types of flowmeters. Of these five flowmeter types, the Coriolis and ultrasonic are the fastest growing markets.

Coriolis

Coriolis flowmeters are used to measure gas flows, but they have some limitations. Coriolis meters have an easier time measuring liquids than gases, because liquids are denser than gases. Coriolis flowmeters also become expensive and unwieldy in line sizes above four inches. However, in the past several years, a number of suppliers have begun producing Coriolis flowmeters in line sizes above six inches. These include Endress+Hauser, Micro Motion

KROHNE, and Shanghai Yinuo of China. Rheonik used to be the only supplier in this large size market. As a result of this influx of manufacturing capability in the large-line segment, Coriolis flowmeters may begin gaining wider acceptance in large line size applications. Even so, they cannot compete with ultrasonic and turbine meters for line sizes 20 inches and up.

Ultrasonic

Ultrasonic flowmeters are widely used for gas flow measurement. Inline models send an ultrasonic signal from one side of the pipe to the other and then send a signal in the reverse direction. When the signal travels with the flow, it moves more quickly than when it travels against the flow. Ultrasonic flowmeters measure the transit time of the signal in each direction, with the flow and against the flow. Flowrate is proportional to the difference in these two “transit times.” Clamp-on models measure flow in a similar way, but the transducers are mounted outside the pipe. The accuracy of clamp-on models is typically not as high as that of the inline versions. However, their ability to measure flow without pipe penetration makes them valuable for check metering and temporary flow measurement.

Vortex

Vortex flowmeters are among the most versatile of flowmeters and can readily measure gas, steam, and liquid flows. For many years, vortex flowmeters lacked the necessary industry approvals to compete in custody-transfer markets. Then, in January 2007, the American Petroleum Institute (API) approved a draft standard for the use of vortex flowmeters for custody-transfer purposes. Companies such as Schneider Foxboro and Emerson Process Management have been active in working with the API on the development and approval of this standard. The standard applies to liquid, steam, and gas flows. The standard was extended in 2010. Then, in 2013, it was split into a liquid and a gas standard. These standards are awaiting final approval by the API.

Thermal

Thermal flowmeters are used almost exclusively to measure gas flow. Thermal flowmeters typically inject heat into the flowstream and then measure how quickly this heat dissipates. This value is proportional to mass flow. Two different technologies for thermal measurement are

constant power and constant temperature. One main application for thermal flowmeters is measuring stack gas flows. In the early 1990s, EPA requirements created a need to measure sulfur dioxide (SO₂), nitrous oxide (NO_x), and other industrial pollutants being emitted from smoke stacks. Due to the large size of these stacks, multiple measuring points were necessary for accurate measurement. Multi-point thermal flowmeters were developed in response to this requirement. Today, a broader need to measure greenhouse gas emissions is generating added momentum in the thermal flowmeter market.

This study, *The World Market for Gas Flow Measurement, 3rd Edition*, (<http://www.gasflows.com>) analyzes the world market for all types of flowmeters used for gas flow measurement. It includes a technology analysis, 2014 market size and market share data, market growth projections through 2019, and provides in-depth segmentation of the market by various product and geographic categories.

According to Dr. Jesse Yoder, president of Flow Research:

“While the first new-technology flowmeters were introduced in the 1950s with the introduction of magnetic flowmeters, most of the initial development of these flowmeters came in the 1970s. Coriolis and ultrasonic are the two fastest growing new-technology gas flowmeter markets. Both are widely used for natural gas custody transfer applications, and both have benefited from industry approvals by the American Gas Association (AGA). For ultrasonic meters, much new product development has gone into developing more accurate and reliable multipath meters. For Coriolis meters, developing meters with large line sizes is the cutting edge of this market.”

About Flow Research

Flow Research, with headquarters in Wakefield, Massachusetts, is the only independent market research company whose primary mission is to research flowmeters and other instrumentation products and markets worldwide. Flow Research has years of experience in doing both off-the-shelf studies and custom work. Published studies can be purchased by anyone interested in the topics. These studies are developed through interviews with suppliers, distributors, and end-users, and are presented in a clear and consistent manner. Topics include all of the flowmeter technologies – both new and traditional – as well as temperature sensors, temperature transmitters, level products, and pressure transmitters.

A growing area of interest – especially related to custody transfer – is flowmeter calibration. Flow Research has recently completed two studies, one on gas and one on liquid, of flow calibration facilities and markets. This series is called *Worldwide Flowmeter Calibration Facilities and Markets* (<http://www.flowcalibration.org>).

The company also focuses on the energy industries, especially on oil and gas production and measurement. Special topics include custody transfer, multiphase measurement, and liquefied natural gas (LNG). A series of quarterly reports called the *Worldflow Monitoring Service* (<http://www.worldflow.com>) provides regular updates on both the flowmeter markets and the energy industries

For more information, visit Flow Research at <http://www.flowresearch.com> or call +1 781-245-3200.