

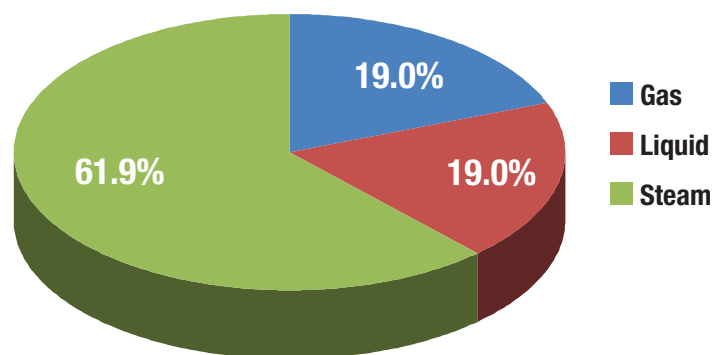


## Versatile Flowmeter to See Growth Due to Industry Approvals

**V**ortex flowmeters have a bluff body as a component, inserted in the flowstream. A bluff body is an obstruction with a broad, flat front. In a vortex meter, the bluff body is mounted at right angles to the flowstream. As the fluid impacts the bluff body, a series of alternating vortices is generated. Flow velocity is proportional to the frequency of the vortices. Flowrate is calculated by multiplying the area of the pipe times the velocity of the flow.

Sierra Instruments ([www.sierrainstruments.com](http://www.sierrainstruments.com)) introduced the first multivariable vortex flowmeter in 1997. This meter included an RTD temperature sensor and a pressure transducer with a vortex-shedding flowmeter. By using the information from these sensors, the flowmeter can determine volumetric flow, temperature, pressure, fluid density, and mass flow. Since that time, a number of new suppliers have introduced multivariable vortex flowmeters. These include ABB ([www.abb.com](http://www.abb.com)), Yokogawa ([www.yokogawa.com](http://www.yokogawa.com)), KROHNE ([www.krohne.com](http://www.krohne.com)), and Endress+Hauser ([www.endress.com](http://www.endress.com)). While multivariable

→ Shipments of Multivariable Vortex Flowmeters by Fluid Type in Eastern Europe in 2009 (Percent of Dollars)



Source: *The World Market for Vortex Flowmeters, 4th Edition*

flowmeters are somewhat more expensive than their single-variable counterparts, they enable users to obtain significantly more information about the process than a single-variable volumetric meter.

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In January 2007, an API committee approved a draft standard for the use of vortex flowmeters for custody transfer of liquid and gas. This approval is likely to boost sales of vortex meters over time, as suppliers develop products that conform to the standard. The standard is being updated in 2010.

Custody-transfer of natural gas is a fast-growing market, especially with the increased popularity of natural gas as an energy source. Natural gas changes hands, or ownership, at a number of points between the producer and the end-user. This changing of hands occurs at custody-transfer points, and it is highly regulated by the American Gas Association (AGA) and the American Petroleum Institute (API, [www.api.org](http://www.api.org)). Some other geographic regions have their own regulatory bodies. In January 2007, an API committee approved a draft standard for the use of vortex flowmeters for custody transfer of liquid and gas. This approval is likely to boost sales of vortex meters over time, as suppliers develop products that conform to the standard. The standard is being updated in 2010.

[www.flowvortex.com](http://www.flowvortex.com)