



A Difficult Year

Flowmeter Markets Emerge From the Recession of 2009

The United States and world economies experienced a severe and prolonged recession in 2008 and 2009. Difficult as things were, they would have been significantly more difficult without the stimulus and bailout programs initiated by the United States, China, Germany, and other governments. The good news is that the U.S. economy came out of the recession in the third quarter of 2009, and the economies of many other countries also began showing improvement during this period. While high levels of unemployment still remains an issue, the pace of economic activity increased substantially in the latter part of 2009, and this pace is continuing in 2010.

Recessionary Trends

The worldwide flowmeter market does not exist in a vacuum. It is subject to the same economic pressures and forces as other important areas of the economy. If the economy as a whole experiences a downturn, the flowmeter market may also decline. However, what happens to the flowmeter market during an economic downturn or expansion depends more specifically on what is going on in the industries that are the main consumers of flowmeters. These industries include oil & gas, refining, chemical, food & beverage, water & wastewater, and the other process industries.

Many of the process industries experienced very difficult times in 2008 and 2009. In the chemical industry, plants were idled or shut down, and many layoffs occurred. The food & beverage industry suffered as consumers limited their purchases of more expensive food products and opted for more economical choices. The clean water and wastewater industries also suffered from the lack of funds for investment, although this industry did benefit from stimulus funds. Generally speaking, flowmeter-related industries suffered from rising commodity costs, reduced investment opportunities, lack of credit, and falling consumer demand.

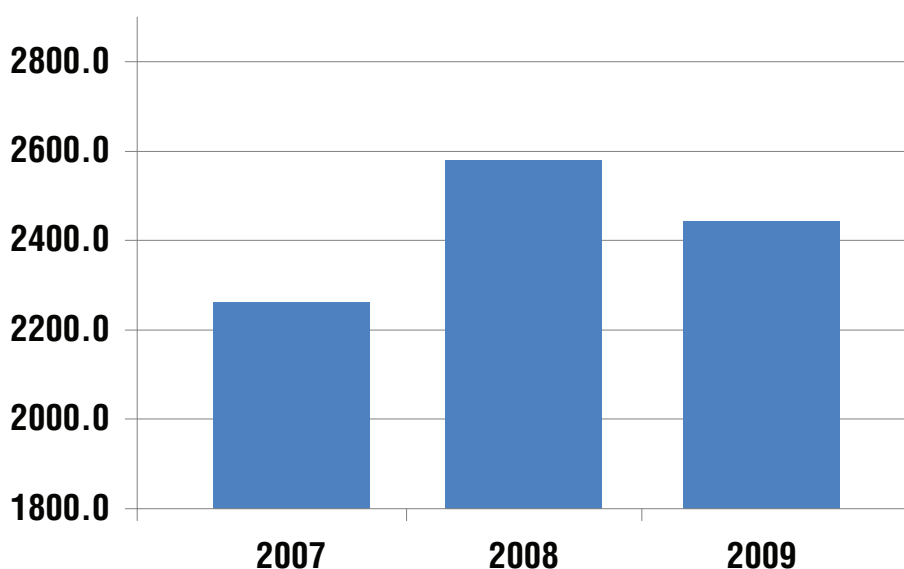
Of course, the extent to which flowmeters are used in the process industries is not so much tied to the purchasing behavior of consumers as it is to the existence of capital

projects. Companies typically order flowmeters in quantity when building new plants or refurbishing existing plants. And many new capital projects were delayed, put on hold, or canceled during the recent recession. Now that the recession is over, some of these projects will get the green light. However, this process takes time, which is why there is sometimes a delay between the end of an economic downturn and a rebound for the flowmeter and instrumentation business.

The oil & gas industry fared better than many of the process industries during the recession. The price of a barrel of crude oil more than doubled from less than \$40 in January 2009 to over \$80 per barrel in April 2010. Many of the large oil & gas companies continued their exploration and production projects during the recession. As a result, flowmeters and other instrumentation products that are tied into oil & gas and other energy-related areas fared better during the recession than those that were sold mainly into industries such as chemical and food & beverage.

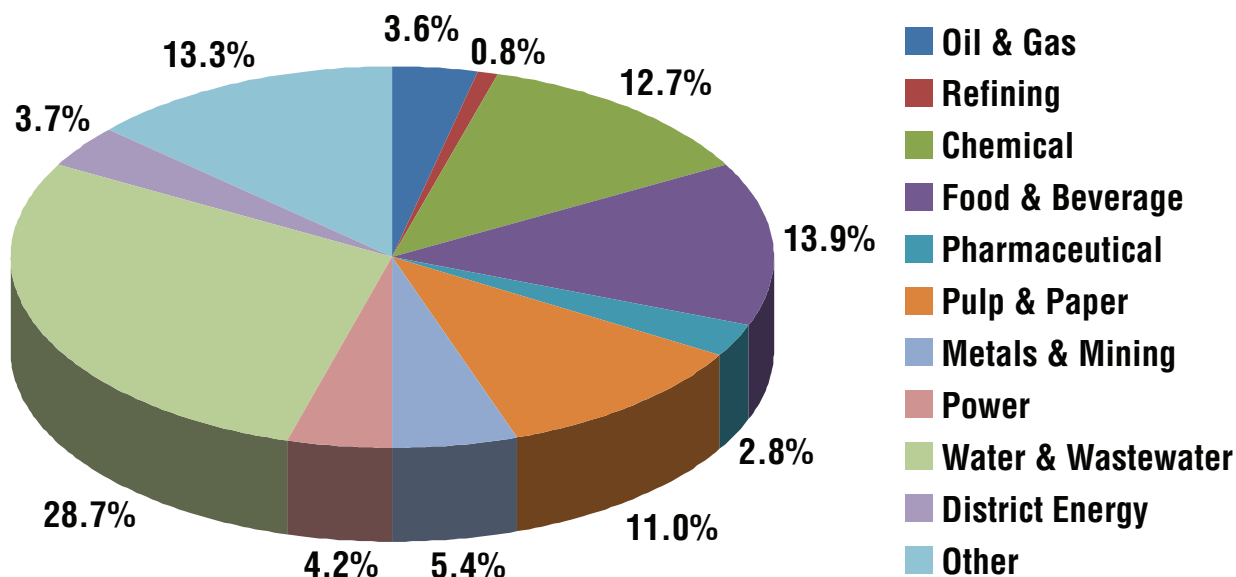
The Flowmeter Year That Was

Last year stands out as one of the first in many years that some new-technology flowmeter markets (i.e., Coriolis, magnetic, thermal, ultrasonic, vortex) failed to show a revenue increase. However, the results vary by technology.



Total Shipments Worldwide of New-Technology Flowmeters from 2007 to 2009 (Millions of Dollars) (Includes Coriolis, Magnetic, Thermal, Ultrasonic, and Vortex Flowmeters).

Source: Flow Research Inc.



Shipments of Magnetic Flowmeters by Industry Worldwide in 2008 (Percent of Dollars).

Source: The World Market for Magnetic Flowmeters, 4th Edition, Flow Research Inc. (May 2009).

Coriolis

The chemical, food & beverage, and pharmaceutical industries account for more than half the revenues from Coriolis flowmeters. Coriolis flowmeters are widely used for sanitary applications, which makes them especially useful in the food & beverage and pharmaceutical industries. Coriolis flowme-

ters are used in the oil & gas industry, but not so much upstream in oil & gas production as downstream in distribution. As a result of their dependence on process industries going through difficult times, the Coriolis flowmeter market experienced a small downturn in 2009.

Magnetic

Magnetic flowmeters rely on the water & wastewater industry more than any other, and secondarily on the chemical, food & beverage, and pulp & paper industries. Some funding for municipal projects occurs over many years, so some projects were less affected by the recent recession. And the industry has also benefited from the presence of stimulus funds. On the other hand, magnetic flowmeters have very little application in the oil & gas and refining industries. In 2009, the magnetic flowmeter market also experienced a small decline.

Ultrasonic

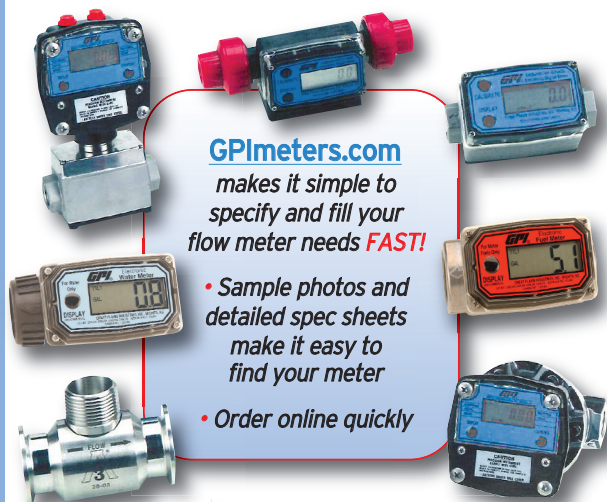
The oil & gas and refining industries account for more than 40 percent of ultrasonic flowmeter revenues. The market for custody transfer of natural gas using ultrasonic flowmeters is the fastest-growing niche within the flowmeter market. The slow but steady rise in oil prices continues to make exploration and production more profitable. While ultrasonic flowmeters are also sold into process industries – such as chemical and food & beverage – oil & gas, refining, and power are the predominant industries for ultrasonic flowmeters. As a result, the ultrasonic flowmeter market was able to hold its own in 2009.

Vortex

Close to one-third of vortex flowmeter revenues go into the chemical industry. Other important industries for vortex include oil & gas, refining, food & beverage, and power. Yet, the vortex flowmeter market seems to have withstood the recent recession

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better than any other new-technology flowmeter market. The vortex flowmeter market is the only new-technology flowmeter to show an increase in 2009 as compared to 2008. There are several possible explanations for why the vortex flowmeter market did so well, relatively speaking, in 2009. One is that the American Petroleum Institute (API, www.api.org) approved a draft standard for the use of vortex flowmeters for custody transfer of liquids and gases in January 2007. The existence of this standard may be having an impact on the use of vortex flowmeters in oil & gas. Secondly, a number of new suppliers have entered the vortex flowmeter market in the past five years. These include Aalborg (www.aalborg.com), Azbil (formerly Yamatake, www.azbil.com), and Nice Instrumentation (www.niceinstrumentation.com). In addition, there has been quite a lot of merger and acquisition activity in the vortex business involving firms such as Racine Federated (www.racinefed.com) and Spirax Sarco (www.spiraxsarco.com).

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Thermal

The top three industries for thermal flowmeters are power, chemical, and water & wastewater. Other important industries include metals & mining, oil & gas, and refining. Main applications for thermal flowmeters include submetering, compressed air, wastewater treatment, and boiler inlet. In 2009, the thermal flowmeter market showed a decline from 2008 levels. This market was subject to the same negative forces that impacted the other new-technology flowmeter markets.

The thermal flowmeter market may be better positioned for a rebound than some other flowmeter markets. Continuous emissions monitoring (CEM) and monitoring of carbon emissions are two primary applications for thermal flowmeters. As the environmental impact of carbon emissions has become more evident, a broad need to measure and reduce carbon emissions has developed. In the United States, the Obama Administration has set a goal of reducing greenhouse gas emissions by 80 percent by 2050. There is a strong long-term trend toward environmental monitoring that should benefit the thermal flowmeter market.

A Look Ahead

What are the prospects for the flowmeter market in 2010 and beyond? With the recession in the rear-view mirror and positive growth resuming, projects that were delayed or put on hold will go back online. Pent-up demand will potentially

result in a surge of orders as companies make up for lost time when they were unable or unwilling to place orders. A similar effect is currently being felt at the consumer level as pent-up demand is driving retail spending by teens and other consumers, especially for apparel items. In the case of the flowmeter market, pent-up demand should help drive flowmeter markets back to at least 2008 levels in 2010. And barring another unexpected economic calamity, growth should continue in 2011 and beyond. **FC**

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More specific information about the performance of different flowmeter markets in 2009 and the outlook for 2010 is available in the "Market Barometer," a quarterly publication by Flow Research that follows the flowmeter industry. For more information, visit www.worldflow.com.



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