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For Immediate Release

Flow Research Finds Worldwide Flowmeter Market Continuing to Climb

Wakefield, Massachusetts; April 17, 2024 — A new study from Flow Research, *Volume X: The World Market for Flowmeters, 9th Edition* (www.flowvolumex.com), finds that the worldwide flowmeter market is strong and trending upward as the economy continues to grow and rising oil prices drive exploration and production. Other forces, such as continued population growth and economic expansion, are also fueling growth.

The comprehensive new Flow Research study reveals that the worldwide market for all types of flowmeter technologies totaled \$7.6 billion in 2022 and \$7.9 billion in 2023, with revenues forecast to reach \$9.6 billion in 2027. Coriolis and magnetic flowmeters are the revenue leaders in the flowmeter market, with ultrasonic flowmeters projected to have the fastest growth rates throughout the forecast period.

Ultrasonic flowmeters are heavily dependent on the oil & gas industry, which is one of the reasons we are forecasting growth in this market. In fact, the oil & gas industry, including refining, accounted for more than 60 percent of revenues worldwide for inline ultrasonic flowmeters in 2022. Ultrasonic flowmeters feature high accuracy, high reliability, high turndown ratios, long service life, low maintenance, relatively low cost, diagnostics, no moving parts, and redundancy. In addition, ultrasonic meters dominate the gas custody transfer market, which is one of the fastest growing areas within the entire flowmeter market.

The flowmeter market experienced a downturn in 2020, along with the overall economy in the United States and many other countries. The flowmeter market has rebounded strongly since then, both in 2022 and 2023. The numbers show that the flowmeter market has moved on from the COVID-19 pandemic, and is now benefiting from pent-up demand as goods and services supplied by the process industries become available again.

New-tech growing faster than conventional flowmeters

Although new-technology flowmeters are leading the way, conventional flowmeters also experienced modest increases in both 2022 and 2023. New-technology flowmeters – meters first introduced after 1950 – include Coriolis, magnetic, ultrasonic, vortex, and thermal flowmeters. Conventional flowmeters include differential pressure (DP), positive displacement, turbine, open channel, and variable area flowmeters.

Despite the large installed base of conventional flowmeters, user requirements for increased accuracy, reliability, and managed network capabilities are causing some end-users to switch to new-technology meters. However, conventional meters are still a major force in the flowmeter market. Conventional meters, especially DP flow, positive displacement, and turbine meters, have the advantage of a large installed base. In addition, they were among the first types of flowmeters to receive approvals from industry associations for custody transfer applications. While many new-technology flowmeters have also received these approvals, the changeover to these new-technology flowmeters is taking time. Some end-users prefer to stay with an existing known technology unless it is no longer doing its job.

Coriolis, magnetic, and ultrasonic flowmeters drive the total flowmeter market, and the decreased demand and supply of oil & gas during the pandemic significantly affected the Coriolis and ultrasonic markets. Going forward, however, the tightness in supply and increases in demand for both oil and natural gas could cause faster than projected growth in these flowmeter markets.

Magnetic flowmeters are widely used in both the industrial and municipal water & wastewater industries. Climate change and water shortages are increasing the need to measure water supplies and usage more closely. Although many flowmeter types can measure clean water, magnetic

flowmeters are one of the few types that excel in wastewater measurement. New industry standards are now in place that apply to using magnetic flowmeters for water utility measurement. As a result, they are now displacing positive displacement and turbine meters in some commercial and industrial applications. While magnetic flowmeters do not measure hydrocarbons, they are used in the oil & gas industry for fracking applications. These include measuring water injected into oil and gas wells and water flowing from them for capture, disposal, or recycling.

Both Coriolis and ultrasonic flowmeters have received industry association approvals for custody transfer of both gas and liquids, but, unlike Coriolis meters, ultrasonic flowmeters perform very well in the large line sizes often used in oil & gas pipelines.

Product improvements spur growth

In addition to growth factors related to the oil & gas industry, product improvements in both new and conventional flowmeters are contributing to the upward trend in the worldwide market. Flowmeter suppliers are actively engaged in research & development, which is resulting in a steady stream of new products. Some product improvements include enhancements in gas flow measurement, self-diagnostics, more advanced and more widely adopted communication protocols, advanced materials for meter bodies and liners, larger line sizes, increased accuracy, and greater reliability. Suppliers are also making battery-powered units, multivariable meters, smaller meter bodies for tight spaces, and self-monitoring or self-calibrating meters.

Redundancy is important in flow measurement and is just behind accuracy and reliability as the two most important criteria for successful flow measurement. Redundant measurement greatly increases the probability that no measurement will be lost, and that accurate measurement will continue even when one sensor or transmitter is down. Some environmental reporting requirements, for example, mean that companies cannot afford to have their flowmeters go out of commission, so they build redundancy into their measurements. Vortex and turbine suppliers have brought out flowmeters with two sensors, as well as dual flowmeters calibrated together. Another form of redundancy is to run two flowmeters in series for highly important custody transfer measurements.

Meters flow with market ups and downs

The oil & gas industry drives much of the flowmeter market. It is good news then, for flowmeter suppliers that 2022 was extraordinarily profitable for many fossil fuel companies. Global energy prices, driven by energy supply concerns, rose sharply in 2022, causing revenues to soar. In addition, the changing energy landscape – especially the transition to renewables, including green hydrogen – is creating new opportunities and challenges for flowmeter suppliers.

Russia's invasion of Ukraine is responsible for much of the rise in fuel prices. In 2021, Russia was the world's largest exporter of fossil fuels. The country's restrictions on supplying natural gas supply to Europe, coupled with European sanctions on imports of Russian oil and coal, dramatically shifted global energy trade flows, causing supply shortages, particularly for natural gas, and pushing oil and gas prices higher.

In 2015, when oil prices began dropping and many oil and gas exploration projects were postponed or cancelled, associated instrumentation industries experienced a ripple effect. This downturn especially impacted the Coriolis, ultrasonic, differential pressure, positive displacement, and turbine flowmeter markets, and new-technology flowmeters showed a decline for the first time in many years.

As oil prices began recovering in 2018, the worldwide flowmeter market began to ride the wave and experienced a strong year in 2019. Then the worldwide pandemic hit, causing reduced demand in many industrial markets, including the flowmeter market. The worldwide flowmeter market declined in 2020, and the effects of the pandemic continued in 2021. However, as economic conditions improved significantly in 2021, the worldwide flowmeter market approached the 2019 level and continued on an upward trajectory in 2022.

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

“While 2023 was not as strong a year as 2022 for the oil markets, oil prices remained north of \$70 and \$80 for much of the year in 2023. The effect of pent-up demand, which began in 2022, kept demand for refined petroleum products high. Despite growth in inflation and the effects of two wars, economies remained strong

and stayed in recovery and growth mode throughout 2023. This period of growth in oil production has been very favorable to the flowmeter market, especially to ultrasonic, Coriolis, turbine, differential pressure, and positive displacement flowmeters. These meters are all approved for custody transfer applications and are designed to accurately and reliably measure high-value products such as refined fuels and natural gas.”

Volume X: The World Market for Flowmeters, 9th Edition draws on three decades of research by Dr. Yoder, who authored his first worldwide flowmeter study in 1994 for Find/SVP. The first Flow Research *Volume X* study was published in 2003, followed by editions in 2008, 2010, 2013, 2014, 2017, 2019, and 2022. The current edition analyzes 13 flowmeter technologies and 12 flowmeter types.

Volume X contains data and analysis designed for any company concerned with developing strategies and products. It displays in one glance a comparison of the revenues, units sold, and compound annual growth rate for all the main types of flowmeters. Growth factors and limiting factors for each flowmeter type explain the rationale of the market forecasts and what can be expected over the next three years. No other study exists that provides this type of all-in-one view of the flowmeter market. Even companies that sell only one or two types of flowmeters can benefit from learning about the eight or nine other types of flowmeters they are competing against.

About Flow Research

Flow Research (www.flowresearch.com) is the only independent market research company whose primary mission is to research flowmeter and other instrumentation products and markets worldwide. Flow Research, founded in 1998 in Wakefield, Massachusetts, specializes in flow measurement devices, and conducts market research studies in a wide variety of instrumentation areas. These studies are developed through interviews with suppliers, distributors, and end users. Topics include all of the flowmeter technologies – both new and conventional – as well as temperature sensors, temperature transmitters, level products, and pressure transmitters. The company has a special focus on the energy industries, especially on oil and gas production and measurement.

For more information, visit www.flowresearch.com or call +1 781 245-3200.
For information on the Volume X study, visit www.flowvolumex.com.

**The Worldwide Market for Flowmeters 2022 to 2027
(Millions of Dollars)**

