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Volume X: The World Market for Flowmeters, 10th Anniversary Edition and Module A: Strategies, Industries, & Applications, 10th Edition

Overview

Volume X, 10th Edition, 10 Technologies
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Volume X: The World Market for Flowmeters
Module A: Strategies, Industries, & Applications
10th Anniversary Edition

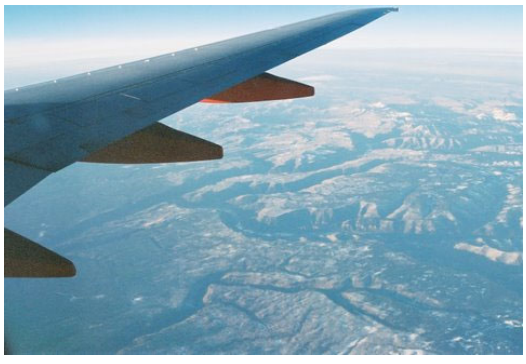
Volume X: The World Market for Flowmeters, 10th Anniversary Edition, presents a complete picture of the worldwide flowmeter market, all in one place. The standalone companion study, *Module A*, *Strategies, Industries, & Applications, 10th Edition,* includes sales strategies, applications, and industry segmentation for each flowmeter type.

Our comprehensive core study researches both new-technology and conventional flowmeters, as well as the emerging flow technologies of sonar and optical. This full-color, two-volume study includes:

- **Market size** of the worldwide markets for 10 flowmeter technologies for **2025**
- Market size **forecasts** for each flowmeter type through **2030**
- **Market shares** worldwide and by each flowmeter type in 2025
- Both **worldwide** and **regional** market size and market share data
- A **technology description and analysis** for each flowmeter type, including major competitive strengths and weaknesses
- **Growth factors** for each flowmeter technology
- **Company profiles** with product information for easy comparison

Make great decisions with our data

We believe the better information, the better the decision – and Flow Research has always been a source of reliable, accurate data that companies can trust. This study will quickly bring you up-to-speed on the global flowmeter market and its many components.



The view from 20,000 feet

A few of the ways businesses tell us they use our studies to succeed:

- Compare the growth rates and market sizes of various flow technologies
- Gain a worldwide perspective of competing suppliers in an industry, market, or technology
- Make an informed choice when considering a product purchase
- Use as a training or educational document
- Quickly survey and assess merger and/or acquisition opportunities
- Accurately forecast market demand for the many flowmeter technologies
- Understand the technical differences between new, conventional, and emerging technologies
- Have a reference standard of competitive technologies and models

Why we are publishing this study

The main goal of this study is to determine the size of the worldwide flowmeter market. We provide 2025 data on revenue, units, and average selling price for all 10 flow technologies, segmented by region, as well as market forecasts through 2030. We also provide product analysis and growth factors for each flowmeter type.

Flow Research has been providing comprehensive data on the entire flowmeter market since 2003, when we published our first *Volume X* study. Other editions followed in April 2008, October 2010, January 2013, August 2014, January 2017, May 2019, January 2022, and May 2024. Our first *Volume X* study found that the worldwide flowmeter market equaled $3.1 billion in 2002. Twenty years later our 8th edition found the market to be $7.0 billion in 2019. That edition used 2019 as the starting base year, and incorporated supplier input and available 2020 and 2021 data to assess the effects of the COVID-19 pandemic and report the growing signs of recovery. Our 9th Edition used 2022 as the base year. Now that the market has stabilized and is on an upward trajectory, we are gathering 2025 data for a fresh look at all flowmeter types.

Segmentation covers what our clients want

In order to make this market more understandable, we divide it into three flowmeter groups: new-technology, conventional, and emerging technology. From there, we look at each of the flowmeter technologies individually. Then we build up the total market from the individual flowmeter types. This technique gives you a comprehensive view of the parts and the whole.

This study provides these worldwide **geographic segments** for each flowmeter technology:

- North America (United States and Canada)
- Western Europe
- Eastern Europe/FSU (Former Soviet Union)
- Mideast/Africa
- Japan
- China
- Asia/Pacific (Rest of Asia)
- Latin America (Mexico, Caribbean, Central and South America)

The following **market segments** are common to each flowmeter technology chapter:

- Market size in dollars and units
- Manufacturer market shares
- Average selling prices by technology by region
- Technology analysis
- Product summaries by major manufacturer

Individual flowmeter technologies included in this study

New-Technology Flowmeters

- Coriolis
- Magnetic
- Ultrasonic
- Vortex
- Thermal

Conventional Technology

- Differential Pressure Flow Transmitters
- Primary Elements
- Positive Displacement Flowmeters
- Turbine Flowmeters
- Open Channel Flowmeters
- Variable Area Flowmeters

Key issues addressed in the 10th Edition of this study

- Factors affecting growth of markets
- Growth rates for each flowmeter type in each of the geographic regions
- Effect of large line size meters on the Coriolis flowmeter market
- Impact of the oil & gas industries on the flowmeter markets
- Continued expansion of magnetic and vortex flowmeter opportunities and markets
- Growth in the ultrasonic market, especially in custody transfer applications
- Comparison of DP flowmeters and primary elements to other flowmeter markets
- Impact of new-technology flowmeters on the turbine and positive displacement markets
- Mergers and acquisitions in the worldwide flowmeter market
- Effects of growth in China, India, and other developing countries on global markets
- A comparison of the new-technology and conventional flowmeter markets

Supplier information helps you compare manufacturer offerings

Detailed company profiles of all major suppliers in each of the individual flowmeter markets provide critical information combined into a single overall market view. The company profiles include contact information, revenues, product lines, company history and organization, recent acquisition activity, and sales strategies.

Company Profiles

- ABB
- Aichi Tokei Denki
- Armstrong: Veris Flow Measurement Group
- ARTang
- azbil Group
- Badger Meter
- BCST Group
- BR Instrumentation & Controls
- Bopp & Reuther Messtechnik
- Brooks Instrument
- Canalta Controls
- Crane Company: Panametrics
- Daniel
- Dresser Utility Solutions
- Emerson: Micro Motion, Rosemount, FLEXIM
- Endress+Hauser (including SICK)
- Fluid Components International (FCI), a DwyerOmega Brand
- Fuji Electric Company
- Goldcard Smart Group (including Tancy Instrument Group)
- Guidant (formerly TechnipFMC Measurement Solutions)
- GWF
- Honeywell (including Elster)
- IDEX Corporation: ADS, Liquid Controls, SAMPI
- KROHNE
- McCrometer
- Neptune Technology Group
- OVAL Corporation
- Primary Flow Signal (PFS)
- Red Seal Measurement
- Rheonik
- RMG Messtechnik
- Schneider Electric: Foxboro by Schneider Electric
- Sensia (now part of SLB)
- Siemens
- TASI Measurement: AW Lake Company, Fox Thermal, KEM Küppers, Litre Meter, ONICON, Seametrics, Sierra Instruments, Vögtlin Instruments, Vortek Instruments
- TMCO
- Tokyo Keiso
- Toshiba
- WIKA Group (including Euromisure)
- Yokogawa

Valuable summary data by technology

The **New-Technology Flowmeters** overview chapter provides technology descriptions, compares new-technology flowmeters to the differential pressure (DP) standard, describes the paradigm case method and its several criteria, and details new-technology flowmeter shipments on a worldwide and regional basis. Our paradigm case method of analysis determines the most suitable applications for each flowmeter type, backed up by our customer survey results, extensive supplier questionnaires, and other knowledge from our long-term involvement in the instrumentation field.

The **Conventional Flowmeters** and **Emerging Technology Flowmeters** overview chapters are equally detailed. We also include **individual chapters for each of the flowmeter types** in the new-technology and conventional groups.

Flow Research has conducted individual studies of each flowmeter type over the years, with periodic updates. *The World Market for Flowmeters, 10th Edition* brings our research on these individual flowmeter markets together into a comprehensive overview. Our method has always been to use a bottom-up approach when analyzing any market to both confirm data accumulated and trends we have been tracking as well as to discover important new trends.

Table of Contents: The World Market for Flowmeters, 10th Edition

Why you must have this study

- Stay current with data on flowmeter shipments
- Assess your competitive positions
- Understand how the flow technologies stack up against each other
- Benefit from knowledge gleaned from 30+ years of data and 300+ studies
- Be among the first to own an 'instant classic' – at a price you can afford
- Leverage insights from our onsite visits to suppliers and end users in the Middle East, Europe, the United States, and Australia
- Profit from strategies to help you build your product line

Plus over 170 informative tables like this one, and many color charts illustrating the data:

Shipments of All Flowmeters Worldwide by Technology
(Millions of Dollars)

Technology	2025	2026	2027	2028	2029	2030	CAGR
Coriolis	xxx.x	xxx.x	xxx.x	xxx.x	xxx.x	xxx.x	x.x%
Magnetic	xxx.x	xxx.x	xxx.x	xxx.x	xxx.x	xxx.x	x.x%
Ultrasonic	xxx.x	xxx.x	xxx.x	xxx.x	xxx.x	xxx.x	x.x%
Vortex	xxx.x	xxx.x	xxx.x	xxx.x	xxx.x	xxx.x	x.x%
Thermal	xxx.x	xxx.x	xxx.x	xxx.x	xxx.x	xxx.x	x.x%
Diff. Pressure	xxx.x	xxx.x	xxx.x	xxx.x	xxx.x	xxx.x	x.x%
Primary Elements	xxx.x	xxx.x	xxx.x	xxx.x	xxx.x	xxx.x	x.x%
Pos. Displacement	xxx.x	xxx.x	xxx.x	xxx.x	xxx.x	xxx.x	x.x%
Turbine	xxx.x	xxx.x	xxx.x	xxx.x	xxx.x	xxx.x	x.x%
Open Channel	xxx.x	xxx.x	xxx.x	xxx.x	xxx.x	xxx.x	x.x%
Variable Area	xxx.x	xxx.x	xxx.x	xxx.x	xxx.x	xxx.x	x.x%
Total	x,xxx.x	x,xxx.x	x,xxx.x	x,xxx.x	x,xxx.x	x,xxx.x	x.x%

Module A:
Strategies, Industries, & Applications, 10th Edition

Module A: Strategies, Industries, & Applications complements and builds on the data in *Volume X: The World Market for Flowmeters* to provide a complete world view of the flowmeter market. It can be ordered as a standalone report or as an add-on to the main study. This content-rich module discusses strategies, industries, and applications in depth. Charts illustrate the worldwide market data for nine major flow measurement technologies: Coriolis, magnetic, ultrasonic, vortex, thermal, differential pressure, primary elements, positive displacement, and turbine.

Strategies. Our tactical and strategic strategies for both the entire flowmeter market and individual flowmeter product lines can benefit companies already in the flowmeter market as well as companies considering joining the market.

Industries. Our focused insights into industry trends explain product improvements and the advantages and disadvantages inherent to each flowmeter type.

Applications. *Module A* includes data on the following industries common to all the flowmeter types:

- Oil and Gas
- Refining Industry
- Chemical Manufacturing
- Life Sciences
- Food and Beverage
- Pulp and Paper
- Metals and Mining
- Electric Power
- Water and Wastewater

Key topics addressed in Module A

- Tactical and strategic recommendations for suppliers in each market segment
- Discussion of market forces at work
- Best areas for future growth
- Strategic action perspectives
- Real-world success stories

We also provide data specific to each flowmeter type on these and many other applications:

- Custody Transfer
- In-Plant Process Measurement
- Hydrogen
- Compressed Natural Gas
- LNG
- Slurries
- Sanitary
- Water Flow
- Water-based Chemicals

Module A details worldwide shipments **by industry and application** in **dollars and percentages** for nine types of new-technology and conventional technology flowmeters, in the following regions:

- North America (United States and Canada)
- Western Europe
- Eastern Europe/FSU (Former Soviet Union)
- Mideast/Africa
- Japan
- China
- Asia/Pacific (Rest of Asia)
- Latin America (Mexico, Caribbean, Central and South America)

You will find:

- Shipments by industry and application in dollars and percentages, broken out by flowmeter type for base year 2025
- Forecasted growth rates by both application and industry through 2030
- Essential information on market outlook and industry trends by flowmeter type
- Realistic strategies for success for those entering or already in the flowmeter market

New-Technology vs. Conventional Flowmeters – what's the difference?

New-Technology flowmeters include Coriolis, magnetic, ultrasonic, vortex, thermal, and multiphase. They share four features:

1. Introduced since 1950
2. Incorporate technological advances that avoid some of the problems inherent in earlier flowmeters
3. Are the focus of more of the product development efforts by the major manufacturers
4. Feature superior measured performance, especially accuracy, on a standard basis

Conventional flowmeters include differential pressure, (primary elements used with DP), positive displacement, turbine, open channel, and variable area.

Applications by Flowmeter Type

Coriolis by Gas Applications

- Custody Transfer of Natural Gas
- Allocation Metering
- In-Plant Process Measurement
- Industrial Gases
- CNG
- Dispensing
- Utility Metering
- Hydrogen
- CCUS
- Other

Coriolis by Petroleum Liquid Applications

- Custody Transfer Up & Midstream
- Custody Transfer Downstream
- Allocation Metering
- LNG
- Batch/Filling
- In-Plant Process Measurement
- Other

Applications by Flowmeter Type

Coriolis by Non-Petroleum Liquid Applications
- Custody Transfer of Non-Petroleum Liquids
- In-Plant Process Measurement
- Batch/Filling
- Other

Magnetic
- Water Flow
- Water-Based Chemicals
- Hydrofracking
- Slurries
- Sanitary/Hygienic
- Process Control
- Custody Transfer
- Dosing/Filling Machines
- Other

Ultrasonic-Inline
- Custody Transfer of Natural Gas
- Custody Transfer of Petroleum Liquids
- Check Metering
- Leak Detection
- Process Measurement
- Flare Gas
- Stack Gas
- Liquefied Natural Gas (LNG)
- Hydrogen
- Renewable Gas (Biogas & RNG/Biomethane)
- Other

Ultrasonic-Clamp-on
- Check Metering
- Leak Detection
- Flare Gas
- Stack Gas
- Hydrogen (all types)
- Process Measurement
- Other

Ultrasonic-Insertion
- Check Metering
- Leak Detection
- Flare Gas Flow Measurement
- Stack Gas Flow Measurement
- LNG
- In-Plant Process Measurement
- Other

Vortex
- Natural Gas
- Other Gas
- Petroleum Liquids
- Non-Petroleum Liquids
- Saturated Steam
- Superheated Steam

Thermal
- Continuous Emissions Monitoring (CEM)
- Flare Gas/Stack Gas
- Landfill Gas
- Biogas
- Biomass
- Coal Mine Methane
- Boiler Inlet
- Wastewater Treatment
- Air/Compressed Air
- Sanitary/Hygienic
- Submetering
- Other

Primary Elements (includes DP Transmitters)
- Custody Transfer of Oils/Petroleum Liquids
- Custody Transfer of Gas
- Wet Gas Metering
- Allocation Metering of Oil/Petroleum Liquids
- Allocation Metering of Gas
- LNG
- Gas Gathering Stations
- CNG
- Wellhead Monitoring
- In-Plant Measurement
- HVAC
- Other

Positive Displacement
- Municipal Water
- Municipal / Industrial Gas
- Petroleum Liquids
- Industrial Liquids

Turbine
- Municipal Water
- Municipal / Industrial Gas
- Oil
- Industrial Liquids

Flow Research, Inc.

Dr. Jesse Yoder, president and founder of Flow Research

Flow Research is the only market research company that publishes studies on all nine flowmeter types and whose primary mission is to research process control instrumentation markets. In addition to studies on both new and conventional flowmeter types, we have researched pressure transmitters; temperature sensors and transmitters, infrared thermometers and thermal imagers; level devices; analytical instrumentation; and selected API-certified valves. We also publish studies on oil & gas and other major flowmeter markets. In addition, Flow Research started a working group on flowmeter calibration (FRWG.org) and published two studies on flowmeter calibration facilities, one each for liquids and gas.

Partnerships and Alliances

Flow Research helps flowmeter companies form alliances and partnerships to provide specific solutions or broaden their customer base and distribution channels. These partnerships can include manufacturers of valves, hoses, transmitters, or other flow-related products, as well as other flowmeter manufacturers.

Distributorships

Are you thinking about expanding your presence in the U.S.? We can help you find distributors for your flowmeters and other instrumentation.

Custom Projects

Companies commission us for custom projects when they want more detailed information on a specific subject than is possible in an off-the-shelf report. They may be evaluating the future or expansion of a product line, determining whether to acquire or merge with another company, or seeking to better understand their customer needs.

Consulting

We also work with companies individually to formulate strategies that help them succeed in an increasingly complex world. Dr. Yoder and his team have studied hundreds of companies and have advised most of the top flowmeter suppliers on market and product strategies.

Research Team Background

Dr. Jesse Yoder, the lead analyst for this study, is President of Flow Research Inc., which he founded in 1998. He has worked as a writer and analyst in process control and instrumentation since 1987 and has created market research studies since 1990. Since then, he has written over 300 market research studies, most of them on flow and instrumentation, and over 300 articles on flow and instrumentation for trade journals.

Dr. Yoder received a PhD in philosophy from the University of Massachusetts Amherst in 1984 and spent 10 years as an adjunct philosophy professor at the University of Massachusetts Lowell and Lafayette College. Dr. Yoder also worked for 10 years as a technical writer, including for the process control division of Siemens, and taught technical writing at Northeastern University and the UMass Lowell.

Dr. Yoder has received two U.S, patents for the flowtube meter, a new dual tube/dual sensor method of measuring flow, in 2015 and 2017. This meter's two prototypes have been tested at CEESI in Nunn, Colorado.

In 2015, ISA published Dr. Yoder's book, *The Tao of Measurement*, with Richard E. Morley as co-contributor. Topics included temperature, pressure, flow, time, length, and area. CRC Press published Dr. Yoder's two-book set, *Advances in Flowmeter Technology*, on the history, operating principles, growth factors, representative companies, and frontiers of research for all 10 types of flowmeters. Both books, *New-Technology Flowmeters* and *Conventional Flowmeters*, were published in 2023. CRC Press is publishing his latest book, *Mass Flow Measurement*, in June 2026.

Belinda Burum, Vice President, joined Flow Research in 2002. Since then, she has served as senior strategic advisor and been involved with most of our projects and publications. She has also worked as a writer and editor in journalism, advertising, and high tech marketing communications and customer references for 40+ years in the U.S. and Switzerland and is a published author and book editor.

Belinda Burum

Leslie Buchanan, Research and Publication Production Associate, joined Flow Research in 2010 with skills from a variety of work and life experiences in both the US and abroad. She assists with research and writing, and handles many publication aspects of Flow Research studies.

Leslie Buchanan

Dan Sparks, Research Director, earned a PhD in chemistry from the University of North Carolina, Chapel Hill. He served as director of product management and director of business development for Omega Engineering in Norwalk, Connecticut until February 2023, and before that was marketing director at Watlow; vice president and general manager at MTS Systems.

Dan Sparks

For more information on Flow Research, please visit our website at www.flowresearch.com. Please follow us on Facebook, LinkedIn (Flow Research, Inc.), and Instagram. We also invite you to join our Flow Research LinkedIn groups.

Recent and Currently Scheduled Flow Research Studies

New-Technology Flowmeter Studies

The World Market for Coriolis Flowmeters, 8th Edition	flowresearch.com/coriolis
The World Market for Magnetic Flowmeters, 8th Edition	flowresearch.com/mag
The World Market for Ultrasonic Flowmeters, 8th Edition	flowresearch.com/ultrasonic
The World Market for Vortex Flowmeters, 8th Edition	flowresearch.com/vortex
The World Market for Thermal Flowmeters, 3rd Edition	flowresearch.com/thermal
The World Market for Mass Flow Controllers, 4th Edition	flowresearch.com/mfc
The World Market for Multiphase Flowmeters, 2nd Edition	flowresearch.com/multiphase
Multiphase: Module A: The World Market for Watercut Meters	flowresearch.com/watercut

Conventional Flowmeter Studies

The World Market for Pressure Transmitters, 5th Edition	flowresearch.com/pressure
The World Market for Primary Elements, 3rd Edition	flowresearch.com/flowplate
The World Market for Positive Displacement Flowmeters, 3rd Edition	flowresearch.com/pd
The World Market for Turbine Flowmeters, 3rd Edition	flowresearch.com/turbine
The World Market for Variable Area Flowmeters	flowresearch.com/va

Cross-Technology Flowmeter Studies

Volume X: The World Market for Flowmeters, 10th Edition	flowresearch.com/volumex
Volume X: Module A: Strategies, Industries, and Applications	flowresearch.com/volumex
The World Market for Gas Flow Measurement, 5th Edition	flowresearch.com/gasflow
Gas Module A: Hydrogen, Natural Gas, and Other Applications	flowresearch.com/gasflow
Flowmeters in the Oil & Gas Industry	flowresearch.com/oilflow

Flow Calibration Studies

Core Study: Worldwide Gas Flow Calibration Facilities and Markets	flowresearch.com/calibration
Module A: Worldwide Liquid Flow Calibration Facilities and Markets	flowresearch.com/calibration

Temperature

Market for Temperature Sensors in the Americas, 3rd Edition	flowresearch.com/temp

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and
Module A: Strategies, Industries, & Applications, 10th Edition

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Why Flow Research? We . . .

- Specialize in flowmeter markets and technologies
- Research all flowmeter types
- Study suppliers, distributors, *and* end users
- Provide a unique perspective through our worldwide network of contacts
- See our mission as supplying the data to help your business succeed