

The World Market for Magnetic Flowmeters, 4th Edition

Proposal



Publication Date: February 2009



Flow Research, Inc.
 27 Water Street
 Wakefield, MA 01880
 (781) 245-3200
 (781) 224-7552 (fax)
www.flowresearch.com



Photo of magnetic flowmeters from Flow Research archive

A Proposal for a Market Research Study on the Worldwide Magnetic Flowmeter Market

Flow Research is proposing a new market study on the worldwide magnetic flowmeter market. The study will be conducted by Flow Research. The primary goal is to determine the size of the magnetic flowmeter market in 2008. Forecasts through 2013 will be included. The study will be called **The World Market for Magnetic Flowmeters, 4th Edition**.

The study has multiple purposes:

- To determine worldwide market size for the magnetic flowmeter market in 2008
- To determine worldwide market shares for the magnetic flowmeter market in 2008
- To forecast market growth for all types of magnetic flowmeters through 2013
- To identify the industries and applications where magnetic flowmeters are used, and to identify market growth sectors
- To provide a product analysis for the main companies selling into the magnetic flowmeter market
- To provide strategies to manufacturers for selling into the magnetic flowmeter market
- To provide company profiles of the main suppliers of magnetic flowmeters.

Why Flow Research?

- We specialize in flowmeter markets and technologies
- We have researched all flowmeter types
- We study suppliers, distributors, and end-users
- Our worldwide network of contacts provides a unique perspective
- Our mission is to supply the data to help your business succeed

Background of Study

Magnetic flowmeters are among the most widely used types of flowmeters for measuring the flow of water and other liquids. They have been around for more than fifty years. The Tobinmeter Company first introduced magnetic flowmeters for commercial use in Holland in 1952. Foxboro introduced them to the United States in 1954. Since that time, more than 35 suppliers worldwide now offer magnetic flowmeters for sale.

Magnetic flowmeters generate more revenues worldwide than any other type of flowmeter, with the exception of DP flowmeters and primary elements. The story is different in terms of units, however. More positive displacement, turbine, DP, and variable area flowmeters are sold annually than are magnetic flowmeters. The higher average selling price of magnetic flowmeters enables them to generate more revenues annually than any of these other types of meters.

Magnetic flowmeters are most widely used in the water & wastewater and chemical industries. About half the revenues generated by magnetic flowmeters are sold into these industries. These meters are also widely used in the food & beverage and pharmaceutical industries, which often require flowmeters to conform to sanitary requirements. Flowmeter suppliers meet these requirements in part by placing sanitary liners inside the meters to make them suitable for sanitary applications.

Operating Principle

Magnetic flowmeters use Faraday's Law of Electromagnetic Induction. According to this principle, when a conductive medium passes through a magnetic field, a voltage is generated. This voltage is directly proportional to the velocity of the conductive medium, the density of the magnetic field, and the length of the conductor. In Faraday's Law, these three values are multiplied together, along with a constant, to yield the magnitude of the voltage.

Magnetic flowmeters use wire coils mounted within or outside of the meter body. A current is then applied to these coils, generating a magnetic field. As the conductive liquid passes through the body of the meter, a voltage is generated and detected by electrodes, which are mounted on either side of the meter body. The flowmeter uses this value to compute the flowrate.

Magnetic flowmeters are used to measure the flow of conductive liquids and slurries, including paper pulp slurries and black liquor. Their main limitation is that they cannot measure hydrocarbons (which are nonconductive), and hence are not widely used in the oil & gas and refining industries. Magmeters, as they are often called, are highly accurate and do not create pressure drop. Their initial purchase cost is in the medium range, and comparable to the cost of vortex flowmeters. Magnetic flowmeters typically cost more than positive displacement and turbine flowmeters, but they cost significantly less than Coriolis and ultrasonic flowmeters.

Rationale for Study

Flow Research published the 3rd edition of our worldwide magnetic flowmeter study in September 2005. However, we have been following the magnetic flowmeter market regularly since then, providing quarterly updates in our **Market Barometer** (www.worldflow.com). We have also done user interviews that show that the interest in magnetic flowmeters among users remains at a very high level. We believe that this is an optimal time to quantify the growth in this market, and to take another in-depth look at what appears to be an expanding market.

Key Issues Addressed

This study will address the key issues in the magnetic flowmeter market, including:

- The growth outlook for magnetic flowmeters
- The demand for 2-wire meters
- The displacement of AC magnetic meters with DC types
- The competitive price pressure on magnetic flowmeters
- The need for insertion magnetic flowmeters
- Types of liners used in magnetic flowmeters
- Adoption rate of communication protocols in smart magnetic flowmeters
- Features that end-users are looking for in magnetic flowmeters

Proposed Segmentation

The proposed segmentation for this study is as follows:

Geographic Segmentation:

- North America
- Europe, including Central Europe and FSU
- Middle East/Africa
- Japan
- China
- Asia without Japan/China
- Latin America

What's in this for my company?

- See the emerging applications and where the growth is
- Understand world and regional markets
- Get to know your real competition
- Learn what other suppliers manufacture, where, and for whom
- The best information creates the best decisions

Study Segments

Magnetic Flowmeters by Type

- Smart
- Conventional

Multivariable vs. Single Variable

- Multivariable
- Single Variable

Liquid Applications

- Water
- Other Liquids

Liners

- PFA
- PTFE
- EPDM
- ETFE
- Ceramic
- Polypropylene
- Polyurethane
- Hard Rubber
- Soft Rubber
- Other

Mounting Types

- Wafer
- Flanged
- Insertion
- Sanitary/Hygienic

Wiring Types

- 2-Wire
- 4-wire
- Wireless/Battery

Configuration

- Integral
- Remote

Applications

- Custody Transfer
- Process Control
- Filling
- Batching
- Volume Measurement
- Commercial Billing

Coil Power Types

- AC
- Dual Frequency DC
- High Strength DC
- Standard DC

Line Sizes

- ½ inch or less
- > ½ inch to 1 inch
- > 1 to 2 inches
- > 2 to 4 inches
- > 4 to 8 inches
- > 8 to 12 inches
- > 12 to 20 inches
- > 20 to 24 inches
- > 24 to 30 inches
- > 30 to 36 inches
- > 36 to 48 inches
- > 48 to 78 inches
- > 78 inches

Communication Protocols

- Foundation Fieldbus™
- DeviceNet
- HART
- Profibus
- Modbus
- Serial
- Other

Study Segments *(continued)*

Hazardous vs Non-Hazardous

Safety Integrity Level (SIL) Compliance

- Level 1
- Level 2
- Level 3

Advanced Diagnostics

- Electrode coating
- Wiring check
- Calibration Verification
- High process noise
- Reverse Flow
- Loop Verification

Industries

- Oil & Gas
- Refining
- Chemical
- Food & Beverage
- Pharmaceutical
- Pulp & Paper
- Metals & Mining
- Electric Power
- Water & Wastewater
- District Energy
- Other

Magnetic Flowmeter Sales by Distribution Channel

- Direct Sales
- Independent Representatives
- Distributors
- E-Business

Magnetic Flowmeter Sales by Customer Type

- End-Users
- OEMs
- Systems Integrators
- Engineering and Consulting Firms

Strategies for Success

- Discussion of market forces at work
- Strategic action perspectives
- Real world success stories

Company Profiles

Profiles of all identified manufacturers including contact information, product line(s), and other essential information will be included.

Publication Date

The target date for publication of this study is February 2009.

Founding Sponsorship

We are offering the opportunity for companies to become Founding Sponsors for this study. The benefits of being a Founding Sponsor include being able to participate in determining study scope and direction, being sent regular updates on study progress, and receiving a favorable discount pricing package. The Founding Sponsor program is further detailed for your consideration later in this document. In the meantime, please review the segmentation and let us know if there is any additional segmentation you would like to see, or if you would like to propose changes to the existing segmentation.

Thank you in advance for your input, and we hope to hear from you!

Background

Dr. Jesse Yoder is President of Flow Research Inc., a company he founded in 1998. Dr. Yoder has 20 years' experience as a writer and an analyst in process control and instrumentation. Since 1990, he has written more than 100 market research studies, most of them regarding flow and instrumentation. Some of the recent and scheduled Flow Research studies are as follows:

- [Volume I: The World Market for Coriolis Flowmeters, 3rd Edition](#) (September 2008)
- [Volume II: The Global Market for Magnetic Flowmeters, 4th Edition](#) (February 2009)
- [Volume III: The World Market for Ultrasonic Flowmeters, 3rd Edition](#) (January 2008)
- [Volume IV: The World Market for Vortex Flowmeters, 3rd Edition](#) (March 2006)
- [Volume V: The World Market for DP Flowmeters and Primary Elements](#) (January 2007)
- [Volume VI: Worldwide Survey of Flowmeter Users, 2nd Edition](#) (January 2006)
- [Volume VII: The World Market for Positive Displacement Flowmeters](#) (2002)
- [Volume VIII: The World Market for Turbine Flowmeters](#) (2002)
- [Volume IX: The World Market for Pressure Transmitters, 2nd Edition](#) (October 2007)
- [Volume X: The World Market for Flowmeters \(includes all flow technologies\)](#) (April 2008)
- [Volume XI: The World Market for Gas Flow Measurement](#) (September 2004)
- [Volume XII: The World Market for Steam Flow Measurement](#) (March 2008)
- [Volume XIII: The World Market for Mass Flow Controllers](#) (July 2008)
- [The Market for Temperature Sensors in the Americas, 2nd Edition](#) (May 2006)
- [The Market for Temperature Transmitters in the Americas, 2nd Edition](#) (November 2006)

These studies are more fully described at www.flowresearch.com/flow.htm

Dr. Yoder has also written more than 80 articles on flow and instrumentation for trade journals. Links to many of these can be found at www.flowresearch.com/articles.htm.

Norman Weeks, Senior Market Analyst, joined Flow Research in November 2004 after a 24-year stint with Verizon. At Verizon, Norm specialized in creating innovative customer solutions, product management, and product marketing. He is now a fulltime market analyst for Flow Research, has completed several studies, and regularly contributes articles and editorial assistance to our *Market Barometer* and *Energy Monitor* publications.

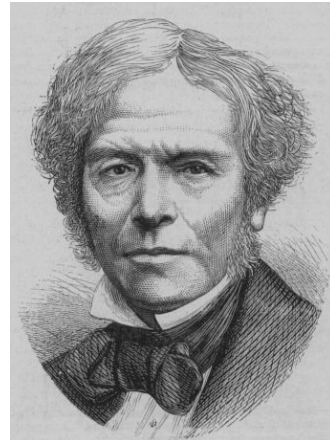
Belinda Burum, Vice President and Editor, has worked in high tech for 16 years as a technical writer and marketing communications manager. She joined the company in 2002, and has since worked on many projects. In addition to her work on market studies, Belinda also serves as an associate editor of the *Market Barometer* and the *Energy Monitor*.

Besides writing and publishing studies of this type, Flow Research specializes in user surveys that include a detailed analysis of customer perceptions. In addition, Flow Research provides quarterly updates on the flow and energy industries in the **Market Barometer** and the **Energy Monitor** publications. The **Energy Monitor** analyzes the current state of the oil & gas, refining, power, and renewables industries, and the implications for instrumentation supplier. Both reports are part of the Worldflow Monitoring Service; more details are available at www.worldflow.com.

For more information on Flow Research, please visit our website at www.flowresearch.com.



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Michael Faraday, 1791-1867

The Flow Research Founding Sponsor Program

To produce studies that most closely match our clients' needs, Flow Research instituted the Founding Sponsor Program. This program enables companies who wish to participate at a high level in a study's research to influence its scope and segmentation. In addition, Founding Sponsors receive regular updates from Flow Research on study progress, and receive a significant discount on the regular price of the study.

Procedure: Early in the planning phase of a study, Founding Sponsors receive a proposal that includes the proposed segmentation. Founding Sponsors can propose additional segmentation, and can also suggest changes to the proposed segmentation. While the decision to adopt particular segmentation ultimately lies with Flow Research, and is based on input from all contributors, we will do our best to accommodate the specific needs of each of our clients.

During the research phase of a study, Flow Research will issue regular reports that provide updates on the progress of the research. These reports will be sent to Founding Sponsors, who are then invited to provide any additional input or comments into the study.

Being a Founding Sponsor requires making an early commitment to purchase the study. However, in return, Founding Sponsors receive a significant discount off the regular price of the study. Payment can be made either in one amount at the beginning of the study, or split into two, with the second payment due upon delivery of the study.

For additional details, or to find out how the Founding Sponsor program applies to any particular study, please contact Flow Research. We look forward to working with you!

If you have any questions about the Founding Sponsor program, please contact Norm Weeks at (781) 245-3200, or norm@flowresearch.com.

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