

# The World Market for Mass Flow Controllers, 2<sup>nd</sup> Edition

## Overview



**Publication Date:  
May 2012**



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## **Worldwide Mass Flow Controller Market Overview**

Flow Research has conducted a new market study on the worldwide mass flow controller market. The main goal of the study was to determine the size of the mass flow controller market in 2011, and to forecast market size through 2016. The study is called *The Worldwide Market for Mass Flow Controllers, 2<sup>nd</sup> Edition*.

The study accomplished several important objectives:

- Determine the 2011 market size in US dollars and unit volumes for mass flow controllers worldwide, both thermal and non-thermal types
- Determine the 2011 market shares of leading suppliers of mass flow controllers worldwide
- Forecast market growth for all types of mass flow controllers through 2016
- Identify industries and applications where mass flow controllers are used, and identify growth areas
- Provide a product analysis for the main companies selling into the mass flow controller market
- Provide strategies to manufacturers for selling into the mass flow controller market
- Provide company profiles of the main suppliers of mass flow controllers

Several suppliers asked us to do this 2<sup>nd</sup> Edition of the study because the market has changed substantially since our first edition study was published in 2008. New environmental applications such as fuel cells and solar/photovoltaic have opened up new application avenues for mass flow controllers. The push for automation in factories will continue to favor the installation of MFCs, and growth in the emerging markets of China, India, Indonesia, and Malaysia will continue to drive growth in the mass flow controller market.

The semiconductor market continues to be cyclical in nature, but is still the dominant industry for mass flow controllers. This study sizes the semiconductor market, and also provides market shares for suppliers to this large market. However, the study has a special emphasis on the industrial segments that provide applications for mass flow controllers outside the semiconductor market. Some of these segments are growing rapidly and hold the promise of longterm applications for MFCs. In addition, they are not cyclical in the way that semiconductor is, so they can provide some predictability for companies that want more stable sales growth.

In addition to looking at these new industry segments, we have also expanded our geographic regions. And, there is a great deal of other new segmentation in this study. This includes breakouts for petroleum-based liquids, nonpetroleum based liquids, air, and gases; breakouts of MFCs by flowrates; and breakouts by seal type. All in all, this study is more comprehensive than the first edition study, and is also very timely given the growth in the industrial segment markets.

## **Rationale for Study**

This new edition of the study includes both the semiconductor and the industrial markets for mass flow controllers (MFC's). In our 2008 study, much of the MFC market was found in the semiconductor market. While this is still true, some MFC suppliers have since made strategic decisions to focus on industrial markets as a way of reducing the cyclical nature of their business. The semiconductor market is notoriously cyclical, and suppliers to it have historically experienced the same uneven fortunes in nearly direct proportion to their reliance upon it. As a result, some MFC suppliers have entered new industrial markets as a way to grow their revenues, evening out their production rates, and making their balance sheets more predictable.

In addition to the semiconductor and industrial segmentation, we have included laboratory/research applications.

The study divides the worldwide market into the following geographic regions:

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

This study includes both thermal and non-thermal mass flow controllers. Non-thermal mass flow controllers are typically DP flow based, with a laminar flow element.

## **Primary Segmentation**

### **Shipments of Mass Flow Controllers by Technology Worldwide and by Region:**

- Thermal
- Differential Pressure (DP)

### Shipments of Mass Flow Controllers by Type Worldwide and by Region

- Semiconductor
- Industrial
- Laboratory/Research

→ The study segments the above industries by the eight geographic regions, providing both revenues and unit sales for each.

**Shipments of Mass Flow Controllers by Industry Segments.** We have identified the following industrial segments as ones where MFCs are typically used:

- |                             |                      |
|-----------------------------|----------------------|
| • Aerospace                 | • Gas Distribution   |
| • Analytical/Gas Analyzers  | • Heat Treating      |
| • Automotive                | • LED Lighting       |
| • Biotech/Pharmaceutical    | • Medical            |
| • Chemical/Petrochemical    | • Metals Processing  |
| • Electronics Manufacturing | • Packaging          |
| • Fiber Optics/Glass        | • Power              |
| • Food & Beverage           | • Solar/Photovoltaic |
| • Fuel Cells                | • Other              |
| • Furnaces                  |                      |

### Additional Segmentation

#### Shipments of Mass Flow Controllers by Control Function Worldwide and by Region:

- With Control Function
- Flowmeter Only

→ This study distinguishes between those mass flowmeters that are shipped as controllers, and those that are shipped as flowmeters without control.

#### Shipments of Mass Flow Controllers by Flowrate:

- |                  |                    |
|------------------|--------------------|
| • <10 sccm       | • >50 - 100 slpm   |
| • 10 - 1000 sccm | • >100 - 200 slpm  |
| • 1 - 10 slpm    | • >200 - 500 slpm  |
| • >10 - 30 slpm  | • >500 - 1000 slpm |
| • >30 - 50 slpm  | • >1000 slpm       |

#### Average Selling Price of Mass Flow Controllers Worldwide and by Region:

- The average selling price of mass flow controllers worldwide and by region
- The average selling price of mass flow controllers by industrial segment and by fluid type (i.e. Gas, Petroleum liquids, and Non-petroleum liquids)

**Shipments of Mass Flow Controllers by Seal Type:**

- Metal
- Elastomer
- Other

**Shipments of Mass Flow Controllers by Distribution Channel Worldwide and by Region:**

- Direct Sales
- Independent Representatives
- Distributors
- Resellers (e.g. private label, catalog)
- E-Business

**Shipments of Mass Flow Controllers by Customer Type Worldwide and by Region:**

- End-User
- Original Equipment Manufacturers (OEMs)
- Systems Integrators
- Engineering Companies

## Background

Dr. Jesse Yoder is President of Flow Research Inc., a company he founded in 1998. Dr. Yoder has 24 years' experience as a writer and analyst in process control and instrumentation. Since 1990, he has written more than 120 market research studies, most of them in the area of flow and instrumentation. Some of the recent and scheduled Flow Research studies are as follows:

- Volume I: The World Market for Coriolis Flowmeters, 3<sup>rd</sup> Edition* (Q3 2012)
- Volume II: The Global Market for Magnetic Flowmeters, 5<sup>th</sup> Edition* (Q4 2012)
- Volume III: The World Market for Ultrasonic Flowmeters, 3<sup>rd</sup> Edition* (Q2 2012)
- Volume IV: The World Market for Vortex Flowmeters, 3<sup>rd</sup> Edition* (July 2010)
- Volume V: The World Market for DP Flowmeters and Primary Elements* (January 2007)
- Volume VI: Worldwide Survey of Flowmeter Users, 2<sup>nd</sup> Edition* (January 2006)
- Volume VII: The World Market for Positive Displacement Flowmeters* (March 2012)
- Volume VIII: The World Market for Turbine Flowmeters* (January 2012)
- Volume IX: The World Market for Pressure Transmitters, 2<sup>nd</sup> Edition* (August 2011)
- Volume X: The World Market for Flowmeters, 4<sup>th</sup> Edition (all flow technologies)* (Q3 2012)
- Volume XI: The World Market for Gas Flow Measurement* (six studies) (Q2/Q3 2011)
- Volume XII: The World Market for Steam Flow Measurement* (March 2008)
- Volume XIII: The World Market for Mass Flow Controllers, 2<sup>nd</sup> Edition* (May 2012)
- Volume IV: The World Market for Thermal Flowmeters* (October 2009)
- Volume XV: The World Market for Liquid Analytical Instruments* (February 2011)

These above studies are further described at [www.flowstudies.com](http://www.flowstudies.com). Dr. Yoder has also written more than 170 articles on flow and instrumentation for trade journals. Links to many of these can be found at [www.flowarticles.com](http://www.flowarticles.com).

Norm Weeks, 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, having completed several studies, and is a regular contributor to our quarterly publications line.

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 then worked on many projects. In addition to her work on market studies, Belinda is serving as 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**. 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](http://www.worldflow.com). For more information on Flow Research, please visit our website at [www.flowresearch.com](http://www.flowresearch.com).



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## The Flow Research Founding Sponsor Program

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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 +1 781 245-3200, or [norm@flowresearch.com](mailto:norm@flowresearch.com).

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