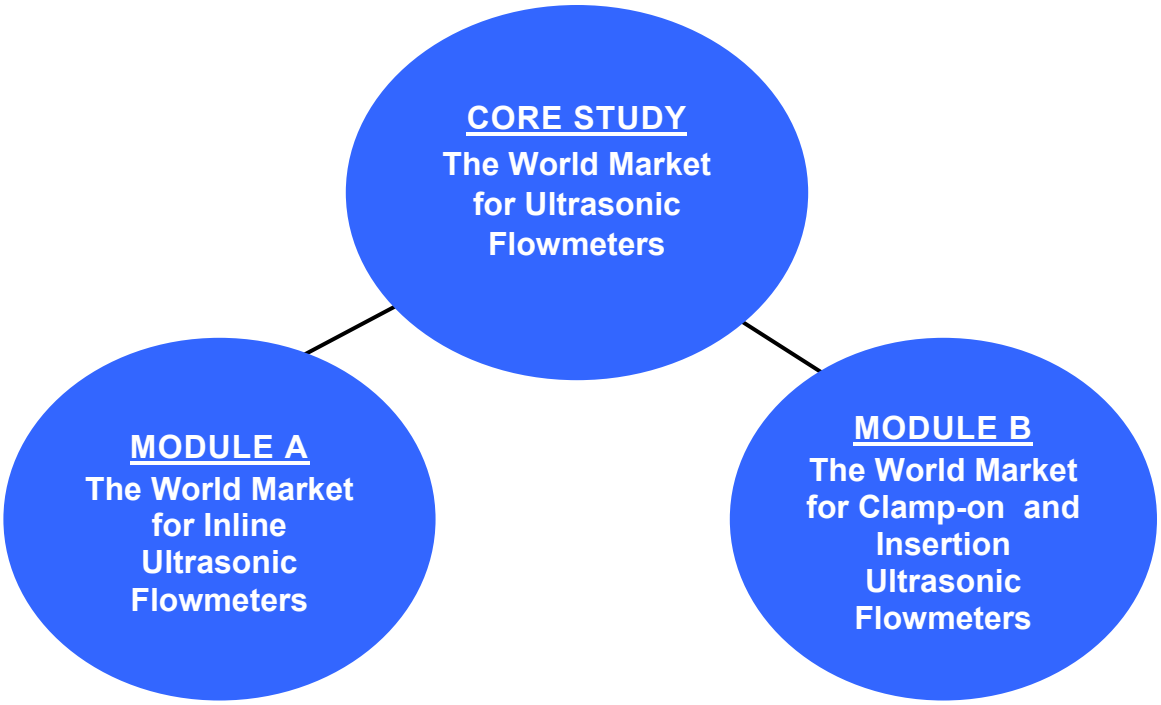
The World Market for Ultrasonic Flowmeters, 5th Edition

Flow Research will divide the study of this fast-growing market into three parts: a Core Study and two Modules. The Inline, Clamp-On, and Insertion markets will be individually analyzed.

Proposal



Publication Dates:
Q2 - Q4, 2016

Flow Research, Inc.
27 Water Street
Wakefield, MA 01880
United States
+1 781-245-3200
+1 781-224-7552 (fax)
www.flowresearch.com

www.FlowUltrasonic.com

Worldwide Ultrasonic Flowmeter Studies

Flow Research is planning to publish a new set of three market studies on the worldwide ultrasonic flowmeter market. A primary goal is to determine the size of the ultrasonic flowmeter market in 2015, and to forecast its market size through 2020. The three studies are called:

- **Core Study:** ***The World Market for Ultrasonic Flowmeters***
- **Module A:** ***The World Market for Inline Ultrasonic Flowmeters***
- **Module B:** ***The World Market for Clamp-on and Insertion Ultrasonic Flowmeters***

The three studies identify the following essential elements:

- Market size for all types of ultrasonic flowmeters in 2015 worldwide and by region
- Market shares for all types of ultrasonic flowmeters in 2015 worldwide and by region
- Market growth and forecasts for all types of ultrasonic flowmeters through 2020
- Industries and applications where ultrasonic flowmeters are currently used, and areas of new market growth
- Product analyses for the main companies selling into the ultrasonic flowmeter market
- Strategies to manufacturers for selling into the ultrasonic flowmeter market
- Company profiles of the main suppliers of ultrasonic flowmeters

As stated above, one goal of these studies is to determine the size of the ultrasonic flowmeter market worldwide in 2015. This market continues to be one of the fastest growing flowmeter markets, and is driven in part by the expanding market for custody transfer of natural gas. Ultrasonic flowmeters excel in this segment of the industrial process applications spectrum.

These studies address the key issues in the ultrasonic flowmeter market today, including:

- Growth in the transit time ultrasonic flowmeter market by number of paths
- Shipments of inline ultrasonic flowmeters by revenues and units
- Shipments of clamp-on and insertion ultrasonic flowmeters by revenues and units
- Comparisons of portable vs. fixed clamp-on ultrasonic flowmeters
- The expanding use of ultrasonic flowmeters for custody transfer of natural gas
- The emerging market for ultrasonic flowmeters in steam flow measurement
- The market for Doppler and hybrid ultrasonic flowmeters
- Mergers and acquisitions in the ultrasonic flowmeter market
- New entrants, mergers, and acquisitions in the ultrasonic flowmeter market

Transit Time and Doppler Flowmeters

One important issue is the contrast in growth between **transit time** and **Doppler** flowmeters. While Doppler flowmeters remain an excellent solution for dirty liquids, transit time flowmeters have been showing faster growth in recent years. Much of the new product development is going into transit time meters. Transit time flowmeters are typically more accurate than Doppler meters, and multipath transit time meters have become more widely used for custody transfer of natural gas. This study will also look at growth in the **hybrid** ultrasonic market.

This study will analyze the market for **multipath** ultrasonic meters for both gas and liquid, and segment this market by number of paths. The ultrasonic flowmeter market for custody transfer of natural gas is one of the fastest growing markets within flow, and is of great interest to users and suppliers alike. Multipath meters for petroleum liquids are also showing significant growth.

Steam flow measurement is a new frontier for ultrasonic flowmeters. This market has been dominated by differential pressure (DP) and vortex flowmeters, each of which can handle the unique flow measurement difficulties that the different steam types present. However, technology improvements have made steam flow measurement a new growth area for ultrasonic flowmeters. Steam flow measurement is growing in importance as companies look to increase energy efficiency and cut energy costs. The high accuracy and reliability of ultrasonic meters make them an attractive option for some steam flow applications.

Background of Technology

There are two main types of ultrasonic flowmeters: transit time and Doppler. A transit time ultrasonic flowmeter has both a sender and a receiver. It sends two ultrasonic signals across a pipe at an angle: one with the flow, and one against the flow. The meter then measures the "transit time" of each signal. When the ultrasonic signal travels with the flow, it travels faster than when it travels against the flow. The difference between the two transit times is proportional to flowrate.

Doppler flowmeters also send an ultrasonic signal across a pipe. However, instead of tracking the time the signal takes to cross to the other side, a Doppler flowmeter relies on having the signal deflected by particles in the flow stream. These particles are traveling at the same speed as the flow. As the signal passes through the stream, its frequency shifts in proportion to the mean velocity of the fluid. A receiver detects the reflected signal and measures its frequency. The meter calculates flow by comparing the generated and detected frequencies. Doppler ultrasonic flowmeters are good solutions for measuring the flow of dirty liquids or slurries. They are not used to measure gas or steam flow.

Ultrasonic flowmeters were first introduced for industrial use in 1963 by Tokyo Keiki in Japan. In 1972, Controlotron became the first U.S. manufacturer to market ultrasonic flowmeters in the United States. In the late 1970s and early 1980s, both Panametrics (now part of GE) and Ultraflux experimented with the use of ultrasonic flowmeters to measure gas flow.

Initially, ultrasonic flowmeters were not well understood, and were sometimes misapplied. Many technological improvements have been made in the past 15 years, and the limitations of ultrasonic meters are better understood. Advances in transit time technology have also broadened the types of liquids that transit time flowmeters can be used on. Many transit time meters today can handle liquids containing some impurities, and ultrasonic flowmeters have become a preferred measurement technology in the natural gas industry.

Rationale for Studies

Since completing our first ultrasonic study in 2001, we have been following this market very closely. We published the 2nd Edition of this study in 2003, the 3rd Edition in 2008, and the 4th Edition in 2013. We have placed ultrasonic technology with others, such as Coriolis and electromagnetic, within the "new technology" group of flowmeters. User interest and market growth are both especially significant within the new-tech process control instrumentation arena. Many of these developments have been described in our quarterly report, *Market Barometer*, where each includes an update on the ultrasonic flowmeter market.

The 2015 studies will build on the knowledge gained over the years since our last full treatment of the subject, but will also represent a completely fresh look at the market. **We will divide the research results into a Core Study and two Modules, and will once again analyze the inline, clamp-on, and insertion markets individually**. This method enables us to separate out unit price and unit quantity data for each technology, and provide a distinctive analysis for each of these three fundamentally different ultrasonic flowmeter types.

We are presenting these three studies to you to enable you to see both the forest and the trees when it comes to the ultrasonic flowmeter market. So far as we know, Flow Research stands alone in providing such a comprehensive analysis of the worldwide ultrasonic flowmeter market.

In flowmeter terminology, a path is defined as the route of travel between two ultrasonic transducers. The term 'path' is critical in ultrasonic technology, because many ultrasonic flowmeters have been developed with multiple paths. Some ultrasonic meters have a single path, requiring one pair of transducers, and some have dual paths, requiring two transducer pairs. An important group of ultrasonic flowmeters have three or more paths, and are called multipath. Many of these multipath meters are used for custody transfer applications.

Another term that is now in common use is 'chord'. Mathematically speaking, a chord is a straight line within a circle whose points lie on the circumference. However, the term 'chord' is also used by some ultrasonic manufacturers to refer to the route of travel between two transducers. In this way, a chord is like a path. However, a chord is considered to be the route of travel between a transducer and a wall or reflector when the signal is bounced off a wall or a reflector. So in this sense, an ultrasonic signal that bounces off a wall or reflector to a receiving transducer has one path and two chords. One chord is the path of the signal from Transducer A to the pipe wall or reflector, and the second chord is the path of the signal from the pipe wall or reflector to Transducer B.

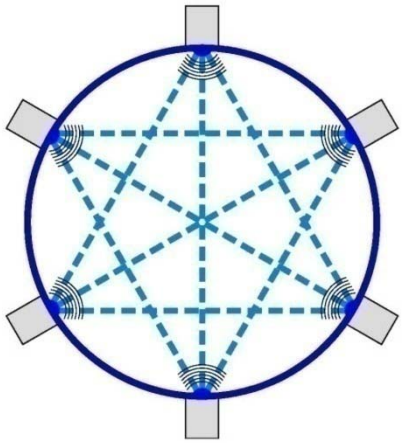


Illustration of an ultrasonic flowmeter with 18 non-parallel paths (this end-view image shows only one half the total number of paths)

Core Study: The World Market for Ultrasonic Flowmeters

The ***Core Study*** will include all three components of the worldwide ultrasonic flowmeter market:

- Inline ultrasonic flowmeters
- Clamp-on ultrasonic flowmeters
- Insertion ultrasonic flowmeters

The ***Core Study*** will contain its own set of segmentation based upon the worldwide findings of the two companion stand-alone studies, Modules A and B. These modules focus on the in-line and clamp-on/insertion markets, respectively. The ***Core Study*** is designed to provide a comprehensive view of the entire ultrasonic flowmeter market, and to combine the most important segmentation data of the inline (spoolpiece), insertion, and clamp-on components of this market.

The ***Core Study*** will combine all three submarkets into a single market. So if you need to know the geographic breakout of the total ultrasonic market, rather than only the geographic breakout for clamp-on meters, then the ***Core Study*** will provide that answer. Likewise, if you need to know the segmentation by fluid type or by industry for the total ultrasonic market, you can find the answers in the ***Core Study***.

The ***Core Study's*** greatest value is that it will analyze the entire ultrasonic market, while Modules A and B will be indispensable because they will provide distinct segmentation detail not available in the ***Core Study***. If you are looking for the big picture of the market, the ***Core Study*** may be the only study you need. If you also want the detailed segmentation contained in Modules A and B, then this is the perfect companion to those two studies.

Study Organization

The ***Core Study*** will contain its own sets of segmentation based upon the worldwide findings of the Modules A and B. The fundamental segmentation of single and dual path transit time, multipath transit time, Doppler, and hybrid is used, and is further segmented by the eight geographic regions. Worldwide totals are also presented for each technology.

Worldwide market size and market share data for 2015 will be included on both a dollar and unit basis for each of the three ultrasonic technologies. Market size data is also provided by geographic region. Annual forecast data for each technology type will also be provided on both a worldwide and regional basis for each year of the study period 2015 through 2020.

Ultrasonic technology is also set within the perspective of competing technologies in the worldwide flow marketplace. The ***Core Study*** provides reviews of nine other flowmeter technologies, and provides growth factors relevant to ultrasonic flowmeters. A product analysis for each more than twenty competing manufacturer product lines is provided. The average selling price for ultrasonic flowmeters on both a worldwide and regional basis is included, together with CAGR (cumulative average growth rates) for each region through 2020.

The following pages detail the information that will be available in the ***Core Study***.

Core Study: Worldwide Data Segmentation

CORE STUDY
All Ultrasonic Flowmeters

This volume is designed to provide a comprehensive view of the entire ultrasonic flowmeter market, and to combine the most important segmentation data of the inline (spoolpiece), insertion, and clamp-on components of this market.

The ***Core Study*** combines all the component data into a single picture of the entire ultrasonic market worldwide.

The study segmentation data for the ***Core Study*** is outlined below:

Geographic Segmentation

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

Market Shares of Ultrasonic Flowmeter Manufacturers

- Worldwide
- Inline
- Clamp-on
- Insertion

Average Selling Price of All Ultrasonic Flowmeters Worldwide and by Region

- North America (United States and Canada)
- Western Europe
- Eastern Europe/FSU
- Mideast/Africa
- Japan
- China
- Rest of Asia (including India)
- Latin America (Mexico, Central and South America)

CORE STUDY
All Ultrasonic Flowmeters

Shipments of All Ultrasonic Flowmeters by Technology Type Worldwide and by Region

- Transit Time – Single/Dual Path
- Transit Time - Multipath
- Doppler
- Hybrid

All Ultrasonic Flowmeters by Fluid Type

- Petroleum Liquids
- Non-petroleum Liquids
- Gas
- Steam

All Ultrasonic Flowmeters by Industry Worldwide by Gas and by Liquid

- Oil & Gas (production, transportation)
- Refining (refineries, gas processing
- Downstream Oil & Gas (transportation, distribution)
- Chemical
- Pharmaceutical
- Food & Beverage
- Pulp & Paper
- Metals & Mining
- Power
- Water & Wastewater
- Other

All Ultrasonic Flowmeters by Sales Channels Worldwide

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

All Ultrasonic Flowmeters by Customer Type Worldwide

- End-users
- Original Equipment Manufacturers (OEMs)
- Systems Integrators
- Engineers/Consultants
- Resellers (e.g., private label, catalog)

CORE STUDY
All Ultrasonic Flowmeters

Strategies for Success

- Competitive points of product emphasis
- Discussion of market forces at work
- Strategies for being competitive in the ultrasonic flowmeter market
- Pursuing new applications
- Technical developments
- Customer education and other market strategies and tactics
- Acquisitions and product partnerships
- Forming alliances to enhance product offerings

Company Profiles

- Business profiles of the main suppliers of ultrasonic flowmeters
- Histories, current organization, overall product line summaries
- Ultrasonic flowmeter product line descriptions
- Company strategies

The following is a partial list of the ultrasonic flowmeter suppliers profiled in these studies:

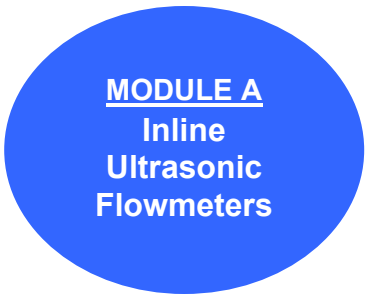
- Badger Meter
- Cameron Measurement Systems (including Caldon)
- Elis Plzen
- Emerson Daniel
- Endress+Hauser
- Flexim
- FMC Technologies
- Fuji Electric
- General Electric (GE Measurement)
- Honeywell (including Elster)
- IDEX (including Accusonic, Faure Herman, and Liquid Controls)
- KROHNE
- OVAL Corporation
- SICK AG
- Siemens
- Tokyo Keiki
- Tokyo Keiso
- Ultraflux

Publication Date

Core Study: **The World Market for Ultrasonic Flowmeters, 5th Edition** will be published in Q4 2016.

www.FlowUltrasonic.com

Module A: The World Market for Inline Ultrasonic Flowmeters



The inline market is quite different from the clamp-on and insertion markets. This applies to applications, industries, price points, and many other factors. By isolating the inline (spoolpiece) market from the clamp-on and insertion markets, a much more compelling and informative analysis results.

Creating three separate modules for the ultrasonic study has proved to be very enlightening. For example, multipath inline ultrasonic flowmeters are especially important in the fast-growing market for custody transfer of natural gas. This ultrasonic technology variation is highlighted here in ***Module A***, and it is analyzed in terms of dollar and unit shipments worldwide and by region, as well as by average selling prices worldwide and by region.

Other inline ultrasonic flowmeters are similarly treated, and important statistical data is provided in several categories - on both a worldwide and regional basis – for their uses by:

- Fluid Type
- Industry
- Applications by Gas
- Applications by Liquid
- Line Size
- Mounting Type
- Number of Paths
- Intelligence Level
- Communication Protocol
- Distribution Channel
- Customer Type

What's in this for your 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

Module A: Worldwide Data Segmentation

All segmentation will be provided on a worldwide basis as well as by the eight geographic regions below, with forecast data provided through 2020. The segmentation for this inline ultrasonic flowmeter study will be as follows:

Geographic Segmentation

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

MODULE A
Inline

Market Shares of Inline Ultrasonic Flowmeter Manufacturers

- Worldwide
- For each geographic region
- Single and Dual Path Ultrasonic Meters
- Multipath Ultrasonic Meters

Shipments of All Inline Ultrasonic Flowmeters Worldwide and by Region
See above segmentation of regions

Shipments of Transit Time Ultrasonic Flowmeters Worldwide and by Region by Number of Paths

- Single path transit time
- 2-path transit time (Dual Path)
- 3-path transit time
- 4-path transit time
- 5-path transit time
- 6 or more paths transit time

Shipments of Inline Ultrasonic Flowmeters Worldwide and by Region by Technology Type

- Single Path/Dual Path transit time
- Multipath transit time

Average Selling Prices of All Inline Ultrasonic Flowmeters Worldwide and by Region

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

Average Selling Prices of Inline Ultrasonic Flowmeters Worldwide and by Region by Technology

- Single Path/Dual Path transit time
- Multipath transit time

Shipments of Inline Ultrasonic Flowmeters Worldwide by Mounting Type

- Wafer
- Flanged
- Other

Shipments of Inline Ultrasonic Flowmeters Worldwide and by Region by Fluid Type

MODULE A
Inline

- Petroleum Liquids
- Non-petroleum Liquids
- Gas
- Steam

Shipments of Inline Ultrasonic Flowmeters Worldwide and by Region by Line Size

- < 2 inch
- 2-4 inches
- > 4-8 inches
- > 8-12 inches
- > 12-24 inches
- > 24 inches

Shipments of Inline Ultrasonic Flowmeters Worldwide and by Region by Intelligence Level

- Smart
- Conventional

Shipments of Smart Inline Ultrasonic Flowmeters Worldwide and by Region by Communication Protocol

- HART
- Foundation Fieldbus™
- Profibus®
- Modbus
- Proprietary digital
- Ethernet
- Other

Shipments of Inline Ultrasonic Flowmeters Worldwide and by Region for Gas Applications

- Custody Transfer: Natural Gas (transportation/transmission/pipeline)
- Check Metering
- Process Measurement
- Flare/Stack Gas Flow Measurement
- Other

Shipments of Inline Ultrasonic Flowmeters Worldwide and by Region for Liquid Applications

- Custody Transfer: Petroleum Liquids
- Custody Transfer: Non-petroleum Liquids
- Check Metering
- Process Measurement
- District Heating
- Other

MODULE A
Inline

Shipments of Inline Ultrasonic Flowmeters Worldwide and by Region by Industry

- Oil & Gas Flow (production, transportation)
- Refining (Oil/Gas Processing/Treatment)
- Downstream Oil & Gas (transportation, distribution)
- Chemical
- Food & Beverage
- Pharmaceutical
- Pulp & Paper
- Metals & Mining
- Power
- Water & Wastewater
- Other

Shipments of Inline Ultrasonic Flowmeters Worldwide and by Region by Distribution Channel

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

Shipments of Ultrasonic Flowmeters Worldwide and by Region by Customer Type

- End-Users
- Original Equipment Manufacturers (OEMs)
- Systems Integrators
- Engineers/Consultants
- Resellers

Strategies for Success

- Growth factors and technologies effecting change in the market
- Strategies for selling into the competitive inline ultrasonic flowmeter market

Company Profiles

- Business profiles of the main suppliers of ultrasonic flowmeters
- Histories, current organization, overall product line summaries
- Ultrasonic flowmeter product line descriptions
- Company strategies

Publication Date

Module A: **The World Market for Inline Ultrasonic Flowmeters** will be published in Q2 2016.

www.FlowUltrasonic.com

Module B: The World Market for Clamp-on and Insertion Ultrasonic Flowmeters

MODULE B
Clamp-on and Insertion Ultrasonic Flowmeters

Module B: ***The World Market for Clamp-On and Insertion Ultrasonic Flowmeters***, will contain its own set of segmentation designed to provide a comprehensive view of these two members of ultrasonic flowmeter technology and its markets. There will be segmentation to address the unique qualities of these two ultrasonic flowmeter designs. The study segmentation specific to clamp-on and insertion design types is outlined below.

Clamp-on and insertion ultrasonic flowmeters have established their own set of advantages within the flow measurement market. Clamp-on devices are highly versatile in that they can be installed in either a portable or fixed manner, making them ideal choices for economical meter upgrades, as check meters, and a host of other applications. Clamp-on ultrasonic flowmeters are suitable for use with gas, liquid, and steam flows. Insertion devices permit users to obtain the benefits of ultrasonic technology in virtually any line size.

Module B: Worldwide Data Segmentation

All segmentation will be provided on a worldwide basis as well as by the eight geographic regions below, with forecast data provided through 2020. The segmentation for this clamp-on and insertion flowmeter study will be as follows:

Geographic Segmentation

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

What's in this for your 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

Clamp-On Ultrasonic Flowmeters

Shipments of Clamp-On Ultrasonic Flowmeters Worldwide and by Region

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

Shipments are provided in both revenues and units

MODULE B
Clamp-on and Insertion

Market Shares for Leading Suppliers of Clamp-on Ultrasonic Flowmeters

- Worldwide
- For each geographic region

Shipments of Clamp-On Ultrasonic Flowmeters Worldwide and by Region by Technology

- Transit Time - Single/Dual Path
- Doppler
- Hybrid

Average Selling Prices of Clamp-On Ultrasonic Flowmeters Worldwide and by Region

- Average selling prices for all eight regions are provided

Average Selling Prices of Clamp-on Ultrasonic Flowmeters Worldwide and by Region by Technology Type

- Average selling prices for all eight regions are provided for each of the following technologies:
  - Transit Time - Single/Dual Path
  - Doppler
  - Hybrid

Shipments of Single and Dual Path Transit Time Clamp-On Ultrasonic Flowmeters Worldwide and by Region

- Dollars
- Units

Shipments of Doppler Clamp-On Ultrasonic Flowmeters Worldwide and by Region

- Dollars
- Units

Shipments of Hybrid Clamp-On Ultrasonic Flowmeters Worldwide and by Region

- Dollars
- Units

Shipments of Clamp-On Ultrasonic Flowmeters Worldwide and by Region by Mounting Type

- Portable clamp-on
- Fixed clamp-on

Shipments of Clamp-On Ultrasonic Flowmeters Worldwide and by Region by Fluid Type

- Petroleum Liquids
- Non-petroleum Liquids
- Gas
- Steam

MODULE B
Clamp-on and Insertion

Shipments of Clamp-On Ultrasonic Flowmeters Worldwide and by Region by Industry

- Oil & Gas (production, transportation)
- Refining
- Downstream Oil & Gas (transportation, distribution)
- Chemical
- Pharmaceutical
- Food & Beverage
- Pulp & Paper
- Metals & Mining
- Power
- Water & Wastewater
- Other

Shipments of Clamp-On and Insertion Ultrasonic Flowmeters Worldwide and by Region by Distribution Channel

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

Shipments of Clamp-On and Insertion Ultrasonic Flowmeters Worldwide and by Region by Customer Type

- End-Users
- Original Equipment Manufacturers (OEMs)
- Systems Integrators
- Engineers/Consultants
- Resellers

Insertion Ultrasonic Flowmeters

Shipments of Insertion Ultrasonic Flowmeters Worldwide and by Region

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

Shipments are provided in both revenues and units with annual forecasts to 2020

Shipments of Insertion Ultrasonic Flowmeters Worldwide and by Region by Technology

- Transit Time - Single/Dual Path
- Transit Time - Multipath
- Doppler
- Hybrid

Shipments are provided in both revenues and units with annual forecasts to 2020

Market Shares for Leading Suppliers of Clamp-On Ultrasonic Flowmeters

- Worldwide
- For each geographic region

MODULE B
Clamp-on and Insertion

Average Selling Prices of Insertion Ultrasonic Flowmeters Worldwide and by Region

- Average selling prices for all eight regions are provided

Shipments of Single and Dual Path Transit Time Insertion Ultrasonic Flowmeters Worldwide and by Region

- Dollars
- Units

Shipments of Multipath Transit Time Insertion Ultrasonic Flowmeters Worldwide and by Region

- Dollars
- Units

Shipments of Doppler Insertion Ultrasonic Flowmeters Worldwide and by Region

- Dollars
- Units

Shipments of Hybrid Insertion Ultrasonic Flowmeters Worldwide and by Region

- Dollars
- Units

Shipments of Insertion Ultrasonic Flowmeters Worldwide and by Region by Fluid Type

- Petroleum Liquids
- Non-petroleum Liquids
- Gas
- Steam

Shipments of Insertion Ultrasonic Flowmeters Worldwide and by Region by Industry

- Upstream Oil & Gas (production, transportation)
- Refining (Oil/Gas Processing, Treatment)
- Downstream Oil & Gas (transportation, distribution)
- Chemical
- Food & Beverage
- Pharmaceutical
- Pulp & Paper
- Metals & Mining
- Power
- Water & Wastewater
- Other

Revenue forecasts through 2020 are included for all industries

Strategies for Success

- Growth factors and technologies effecting change in the clamp-on and insertion markets
- Strategies for selling into the competitive clamp-on and insertion ultrasonic markets

MODULE B
Clamp-on and Insertion

Company Profiles

- Business profiles of the main suppliers of ultrasonic flowmeters
- Histories, current organization, overall product line summaries
- Ultrasonic flowmeter product line descriptions
- Company strategies

The following is a partial list of the ultrasonic suppliers to be profiled in Module B:

- Badger Meter
- Elis Plzen
- Endress+Hauser
- Flexim GmbH
- Fuji Electric
- General Electric
- Honeywell (Elster Group)
- IDEX (Accusonic, Faure Herman)
- KROHNE, Inc.
- SICK AG
- Siemens
- Tokyo Keiki
- Ultraflux
- And more

Publication Date

Module B: **The World Market for Clamp-on and Insertion Ultrasonic Flowmeters** will be published in Q3 2016.

www.FlowUltrasonic.com

Flow Research, Inc.
27 Water Street
Wakefield, MA 01880
United States
+1 781 245-3200
+1 781 224-7552 (fax)
www.flowresearch.com

Christian Doppler

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 standard retail 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.

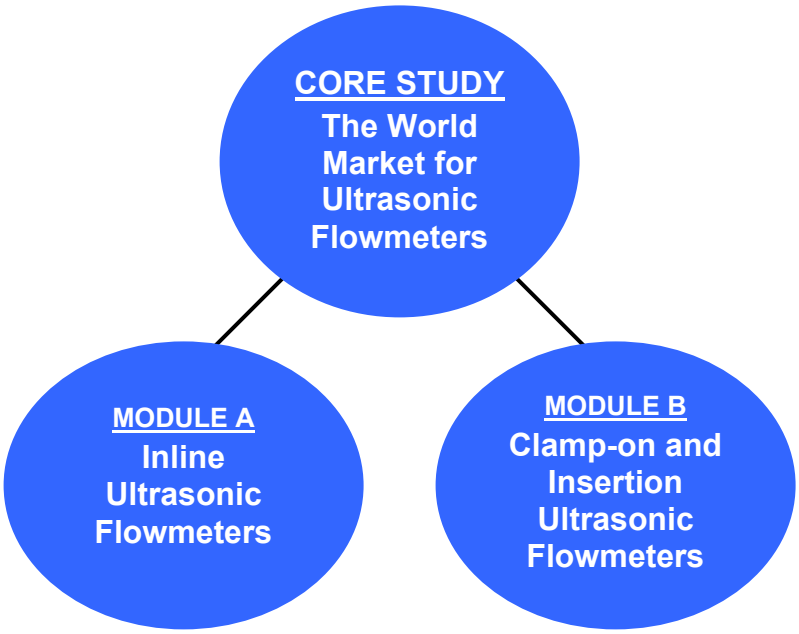
During the research phase of a study, Flow Research will issue regular reports that provide updates on the progress of the research. These reports will be sent to Founding Sponsors, who are then invited to provide any additional input or comments into the study.

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 +1 781 245-3200, or norm@flowresearch.com.

The World Market for Ultrasonic Flowmeters, 5th Edition



Six reasons to place your study order today!

- It will contain a complete analysis of the inline, clamp-on, and insertion ultrasonic flowmeter markets.
- It will be the only market research study available that clearly separates the data on the inline, clamp-on, and insertion ultrasonic flowmeter markets.
- It is backed up by 16 years of research into the ultrasonic and competing flowmeter markets.
- It will completely analyze the ultrasonic flowmeter market, including market size, market forecasts, market shares, strategies for success, and supplier profiles.
- It is being brought to you by Flow Research, the world's leading market research company on flowmeters and instrumentation.
- By ordering now prior to publication - whether you order one, two, or all three - you are guaranteed a sizable discount from the post-publication price.

www.FlowUltrasonic.com

Flow Research, Inc.

Flow Research is the only market research company whose primary mission is to research flowmeter and instrumentation markets.

Flow Research specializes in instrumentation, and conducts **market research studies** in a wide variety of instrumentation areas that can be purchased by anyone interested in the topics. We create these studies through interviews with suppliers, distributors, and end-users. Topics include all of the flowmeter technologies - both new and traditional - as well as temperature sensors, temperature transmitters, level products, pressure transmitters, liquid analytical instruments, and selected API-certified valves.

Ultrasonic Flowmeter Research Team Background

Dr. Jesse Yoder is President of Flow Research Inc., a company he founded in 1998. Dr. Yoder has 28 years of experience as a writer and as an analyst in process control and instrumentation. He is the lead analyst for this study. Since 1990, he has written more than 180 market research studies, most of them regarding flow and instrumentation. Dr. Yoder has also written more than 250 articles on flow and instrumentation for trade journals. Links to many of these can be found at www.flowarticles.com.

Norm Weeks, Senior Market Analyst, joined Flow Research in 2004 after a 24-year stint with Verizon. Norm's previous experiences include serving as Director of the Urban Fellows Institute in New York, and being a Customer Services manager at Automatic Data Processing. At Verizon, Norm specialized in creating innovative solutions for national and international enterprises, introducing new products and lifecycle management, and product marketing. At Flow Research, his contributions in development, research and writing have been significant to studies, custom projects, White Papers, and Worldflow's *Energy Monitor* and *Market Barometer*.

Leslie Buchanan, Research Associate, joined Flow Research in March 2010. She assists with research and writing for Flow Research studies and publications, develops and implements standards for publication formats, serves in customer liaison, and manages the contact database.

Nicole Riordan, Director of Marketing, joined Flow Research in 2009. She provides valuable assistance with many functions in the office, and heads our marketing and direct outreach efforts.

Vicki Tuck, Administrative Assistant, joined Flow Research in June, 2012. She has experience in both the fast-paced law firms of Boston, and in various nonprofit organizations. In addition to administrative support, she also collects news for Flow Research publications.

Christina Glaser, a Research Analyst, is a seasoned software programmer, systems architect, and developer with significant website experience. In addition to her technical talent, she brings significant customer savvy, with clients that have ranged from Staples to Microsoft.

Rich West, Research Associate, joined Flow Research in 2014 and has had an immediate impact in customer service relations and media administration. He also provides updates and input to manufacturer databases that are maintained for a variety of research purposes.

Flow Research studies contribute to an ongoing view of the flowmeter market

Listed below is a summary of Flow Research studies in process as well as studies completed during the last few years in the area of process control instrumentation. Conducting these studies has contributed to a more thorough understanding of the flowmeter technologies included in ***The World Market for Coriolis Flowmeters, 5th Edition***. The studies below are further described at www.flowstudies.com.

Recent and Currently Scheduled Flow Research Studies	***Websites***
New-Technology Flowmeter Studies	
The World Market for Coriolis Flowmeters, 5th Edition	*www.flowcoriolis.com*
The World Market for Magnetic Flowmeters, 6th Edition	*www.flowmags.com*
The World Market for Ultrasonic Flowmeters, 5th Edition	*www.flowultrasonic.com*
The World Market for Vortex Flowmeters, 5th Edition	*www.flowvortex.com*
The World Market for Thermal Flowmeters	*www.flowthermal.com*
The World Market for Mass Flow Controllers, 2nd Edition	*www.flowmfc.com*
Traditional Technology Flowmeter Studies	
The World Market for Pressure Transmitters, 4th Edition	*www.pressureresearch.com*
The World Market for Positive Displacement Flowmeters, 2nd Edition	*www.flowpd.com*
The World Market for Turbine Flowmeters, 2nd Edition	*www.flowturbine.comm*
Emerging Technology	
The World Market for Multiphase Flowmeters, 2nd Edition	*www.flowmultiphase.com*
Multiphase: Module A: The World Market for Watercut Meters	*www.flowmultiphase.com*
Mass Flow Controllers	
The World Market for Mass Flow Controllers, 2nd Edition	*www.flowmfc.com*
The World Market Update for Mass Flow Controllers	*www.flowmfc.com*
Cross-Technology Flowmeter Studies	
Volume X: The World Market for Flowmeters, 6th Edition	*www.flowvolumex.com*
Volume X: Module A: Strategies, Industries, and Applications	*www.flowvolumex.com*
The World Market for Natural Gas and Gas Flow Measurement, 3rd Edition	*www.gasflows.com*
The World Market for Liquefied Natural Gas (LNG)	*www.flowlng.com*
The World Market for Oil and Oil Flow Measurement	*www.oilflows.com*
Calibration	
Core Study: Worldwide Gas Flow Calibration Facilities and Markets	*www.flowcalibration.org*
Module A: Worldwide Liquid Flow Calibration Facilities and Markets	*www.flowcalibration.org*

The above flow studies and others are described at www.flowstudies.com

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 suppliers. Both publications 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.

The World Market for Ultrasonic Flowmeters, 5th Edition

Oman Gas Company, Photo by Flow Research

Flow Research, Inc.
27 Water Street
Wakefield, MA 01880
United States
+1 781 245-3200
+1 781 224-7552 (fax)
www.flowresearch.com

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

www.FlowUltrasonic.com