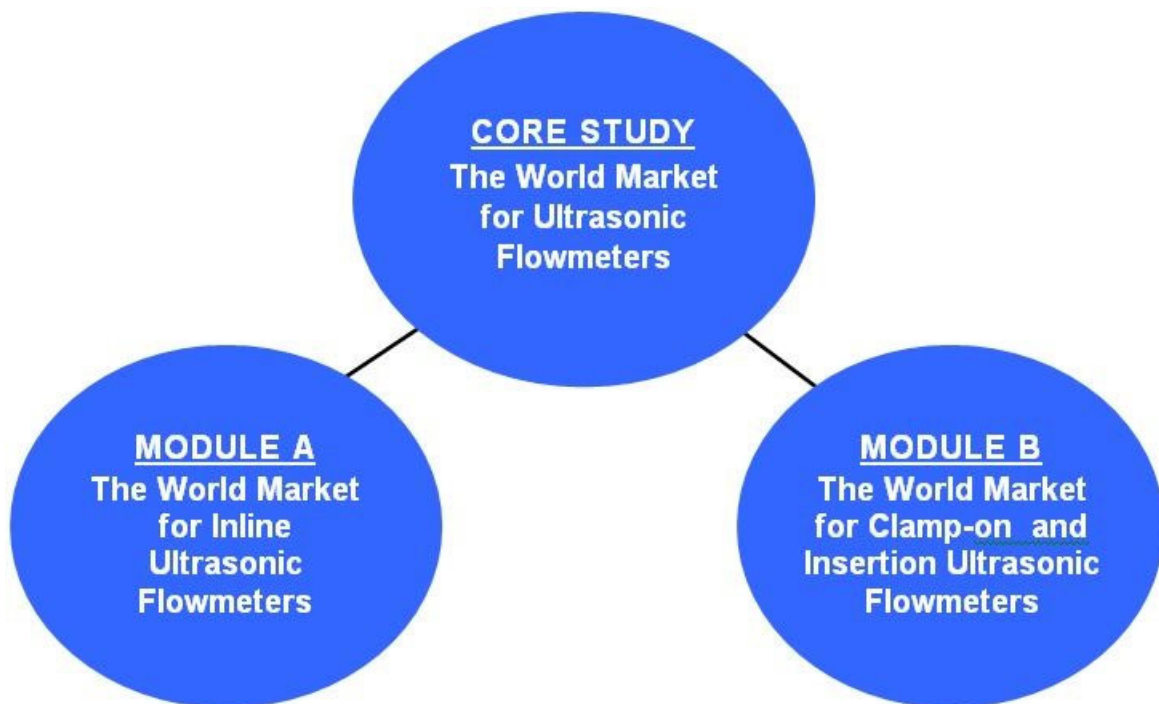


The World Market for Ultrasonic Flowmeters, 6th Edition

Flow Research covers this fast-growing market in three parts: a Core Study and two Modules. These modules individually analyze the Inline, Clamp-On, and Insertion markets.

Choose the modules that best fit your needs!

— Overview —



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Worldwide Ultrasonic Flowmeter Studies

Flow Research presents a new set of three market studies on the worldwide ultrasonic flowmeter market. These studies determine the size of the ultrasonic flowmeter market in 2019, and forecast its market size through 2024. The three studies are called:

- **Core Study:** *The World Market for Ultrasonic Flowmeters, 6th Edition*
- **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 2019 worldwide and by region
- Market shares for all types of ultrasonic flowmeters in 2019 worldwide and by region
- Market growth and forecasts for all types of ultrasonic flowmeters through 2024
- 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

This market continues to be one of the most dynamic 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.

Why three studies?

The ultrasonic flowmeter market is unique in that it consists of three distinct technology types: inline, clamp-on, and insertion. These three types have fundamentally different applications and are used in different industries. Some companies manufacture only one or two of these three types. By separating the data for each of these types into individual studies we are able to provide much more data for them than we can in a single study on the entire ultrasonic flowmeter market. These three studies together comprise nearly 1,400 pages. They also enable you, our valued client, to obtain research on only the flowmeter types that you manufacture or are interested in.

This gives you much greater value for your market research dollar.

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 analyzes the market for **multipath** ultrasonic meters for both gas and liquid, and segments 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.

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
- New entrants in the ultrasonic flowmeter market
- Mergers and acquisitions in the ultrasonic flowmeter market

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.

Ultrasonic flowmeters were first introduced for industrial use in 1963 by Tokyo Keiki in Japan. 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, the 4th Edition in 2013, and the 5th Edition in 2017. We place ultrasonic technology within the “new technology” group of flowmeters, with others such as Coriolis and electromagnetic. Both user interest and market growth are 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 issue includes an update on the ultrasonic flowmeter market.

This 6th Edition of our ultrasonic studies set builds on the knowledge gained over the years since our last full treatment of the subject, but also represents a completely fresh look at the market. **We divide the research results into a Core Study and two Modules, and once again have analyzed 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 present these three studies to you to enable you to see both the forest and the trees when it comes to the ultrasonic flowmeter market. Our understanding is that Flow Research is unique 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.

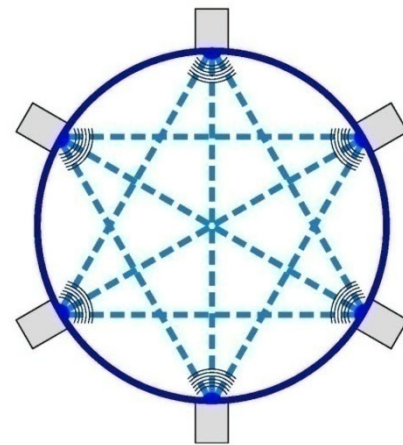


Illustration of an ultrasonic flowmeter with 18 non-parallel paths (this end-view image shows only one half the total number of paths)

Core Study: The World Market for Ultrasonic Flowmeters



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

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

The *Core Study* contains 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 inline 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* combines 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* provides important value in that it analyzes the ultrasonic market as a whole, while Modules A and B are indispensable in that they provide more 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 specifics contained in *Modules A* and *B*, then the *Core Study* is the perfect companion to those studies.

Study Organization

The *Core Study* contains the fundamental segmentation of the three distinct technologies of inline, clamp-on, and insertion, and is further segmented by the eight geographic regions. Worldwide totals are also presented for each of the three technologies.

Worldwide market size data for 2019 is 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 is provided on both a worldwide and regional basis for each year of the study period of 2019 through 2024. Market data includes CAGR (compound average growth rates) for each region through 2024. The average selling price for ultrasonic flowmeters on both a worldwide and regional basis is included.

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 of the major competing manufacturer product lines is provided.

The following pages list in further detail the information available in the *Core Study*.

Core Study: Worldwide Data Segmentation

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.

**CORE STUDY
All Ultrasonic
Flowmeters**

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
- Asia / Pacific (including India)
- Latin America (Mexico, Central and South America)



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

- Inline
- Clamp-on
- Insertion

Average Selling Price of All Ultrasonic Flowmeters

- Worldwide
- By Region

All Ultrasonic Flowmeters by Fluid Type Worldwide and by Region

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



All Ultrasonic Flowmeters by Industry Worldwide and by Region

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

CORE STUDY
All Ultrasonic
Flowmeters

Inline Ultrasonic Flowmeters by Distribution Channel Worldwide and by Region

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

Inline Ultrasonic Flowmeters by Customer Type Worldwide and by Region

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

Clamp-on and Insertion Ultrasonic Flowmeters by Distribution Channel Worldwide and by Region

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

Clamp-on and Insertion Ultrasonic Flowmeters by Customer Type Worldwide and by Region

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

Market Shares of Ultrasonic Flowmeter Manufacturers

- Worldwide
- Inline
- Clamp-on
- Insertion

Strategies for Success

- Competitive points of product emphasis
- Discussion of market forces at work
- Competing 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:

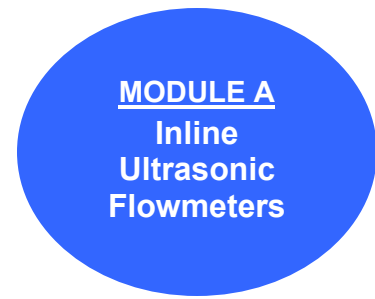
- | | |
|---|--------------------------|
| • Baker Hughes | • OVAL Corporation |
| • Emerson Automation Solutions – Daniel | • RMG |
| • Endress+Hauser | • Schlumberger – Cameron |
| • Faure Herman | • SICK |
| • FLEXIM | • Siemens |
| • Fluenta | • TechnipFMC |
| • Fuji Electric | • Tokyo Keiki |
| • Honeywell Elster | • Tokyo Keiso |
| • KROHNE | • Ultraflux |

Publication Date

Core Study: The World Market for Ultrasonic Flowmeters, 6th Edition Q4 2020

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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 type 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.

This study provides segmentation in the following categories:

- Technology Type
- Single/Dual Path Transit Time
- Multipath Transit Time
- Mounting Type
- Single and Dual Transmitters
- Fluid Type
- Intelligence Level
- Communication Protocol
- Petroleum Liquids Applications
- Non-petroleum Liquids Applications
- Gas Applications
- Line Size
- Industry
- 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 is provided on a worldwide basis as well as by the eight geographic regions below, with forecast data provided through 2024. The segmentation for this inline ultrasonic flowmeter study is as follows:

Geographic Segmentation

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

**Shipments of Inline Ultrasonic Flowmeters
Worldwide and by Region in Revenues and Units**

MODULE A
Inline

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

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

Plus individual segments for Shipments of each of the Technology Types above

- Worldwide by Region

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

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

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

Shipments of Inline Ultrasonic Flowmeters Worldwide by Mounting Type

- Wafer
- Flanged
- Other

Shipments of Inline Ultrasonic Flowmeters Worldwide by Configuration

- Single transmitter
- Dual transmitter

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

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

**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
Petroleum Liquid Applications**

- Custody Transfer of petroleum liquids
- Check Metering
- Leak Detection (upstream / midstream / downstream)
- Liquefied Natural Gas (LNG) including custody transfer and other applications
- In-plant process measurement
- District Heating
- Other

**MODULE A
Inline**

**Shipments of Inline Ultrasonic Flowmeters
Worldwide and by Region for
Non-petroleum Liquid Applications**

- Custody Transfer of non-petroleum liquids
- Check Metering
- Water Treatment/Disposal/Reinjection of oil/gas wells
- In-plant Process Measurement
- Batch / Filling
- District Heating
- Other



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

- Custody Transfer of natural gas
- Check Metering
- Leak Detection
- Process Measurement
- Compressed Natural Gas (CNG)
- Flare / Stack Gas Flow Measurement
- Other



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

- ≤ 2 inches
- $> 2-4$ inches
- $> 4-8$ inches
- $> 8-12$ inches
- $> 12-24$ inches
- > 24 inches

Shipments of Inline Ultrasonic Flowmeters Worldwide and by Region by Industry

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

MODULE A Inline



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

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

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

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

Market Shares of Inline Ultrasonic Flowmeter Manufacturers

- Worldwide and by geographic region

Strategies for Success

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

Company Profiles of the main suppliers of inline ultrasonic flowmeters

- Histories, current organization, overall product line summaries
- Inline ultrasonic flowmeter product line descriptions
- Company strategies

Suppliers profiled in Module A: *(partial list)*

- Baker Hughes
- Emerson Automation Solutions – Daniel
- Endress+Hauser
- Faure Herman
- Fuji Electric
- Honeywell Elster
- KROHNE
- OVAL Corporation
- RMG
- Schlumberger – Cameron
- SICK
- Siemens
- TechnipFMC
- Tokyo Keiso
- Ultraflux

Publication Date

**Module A: The World Market for Inline
Ultrasonic Flowmeters Q4 2020**

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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*, contains its own set of segmentation designed to provide a comprehensive view of these two members of ultrasonic flowmeter technology and its markets. There is segmentation to address the unique qualities of these two ultrasonic flowmeter designs. The study segmentations specific to clamp-on and to insertion design types are 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 is provided on a worldwide basis as well as by the eight geographic regions below, with forecast data provided through 2024.

Geographic Segmentation

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



This study provides a **separate section** of segmentation for **clamp-on** ultrasonic flowmeters and a **separate section** of segmentation for **insertion** ultrasonic flowmeters as follows:

Clamp-On Ultrasonic Flowmeters

Shipments of Clamp-On Ultrasonic Flowmeters Worldwide and by Region

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

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

Plus individual segments for Shipments of each of the Technology Types above

- Worldwide by Region

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

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

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

- Portable
- Fixed

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

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

Shipments of Clamp-on Ultrasonic Flowmeters Worldwide and by Region for Liquid Applications

- Check Metering
- Leak Detection (upstream / midstream / downstream)
- Liquefied Natural Gas (LNG) – including all applications
- In-plant Process Measurement
- District Heating
- Other

Shipments of Clamp-on Ultrasonic Flowmeters Worldwide and by Region for Gas Applications

- Check Metering
- Leak Detection (upstream / midstream / downstream)
- Flare/Stack Gas Flow Measurement
- Compressed Natural Gas (CNG) – all applications
- Liquefied Natural Gas (LNG) – all applications
- In-plant Process Measurement
- Other

MODULE B
Clamp-on
and Insertion

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

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

- Upstream Oil & Gas (exploration & production)
- Midstream Oil & Gas (from upstream to refining/processing facility)
- Refining
- Downstream Oil & Gas (refined product transportation and distribution)
- Chemical
- Food & Beverage
- Pharmaceutical
- Pulp & Paper
- Metals & Mining
- Power
- Water & Wastewater
- Other



MODULE B
**Clamp-on
and Insertion**

Market Shares for Leading Suppliers of Clamp-on Ultrasonic Flowmeters

- Worldwide
- For each geographic region

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
- Asia/Pacific
- Latin America (Mexico, Central and South America)

Shipments of Insertion Ultrasonic Flowmeters Worldwide and by Region by Technology

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

Plus individual segments for Shipments of each of the Technology Types above

- Worldwide by Region

Average Selling Prices of Insertion Ultrasonic Flowmeters Worldwide and by Region

- Average selling prices for all eight regions are provided

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

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

MODULE B
**Clamp-on
and Insertion**

**Shipments of Insertion Ultrasonic Flowmeters Worldwide and by Region
by Application**

- Check Metering
- Flare/Stack Gas Flow Measurement
- In-plant Process Measurement
- District Heating
- Other

**Shipments of Insertion Ultrasonic Flowmeters Worldwide and by Region
by Industry**

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



*Note: **Distribution Channels and Customer Types** for clamp-on and insertion ultrasonic flowmeters combined are included in the segmentation of the Core Study of the Series: **Core Study: The Worldwide Market for Ultrasonic Flowmeters, 6th Edition.***

Market Shares for Leading Suppliers of Insertion Ultrasonic Flowmeters

- Worldwide
- For each geographic region

Strategies for Success

Topics including:

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

Company Profiles

- Business profiles of the main suppliers of clamp-on and insertion ultrasonic flowmeters
- Histories, current organization, overall product line summaries
- Clamp-on and insertion ultrasonic flowmeter product line descriptions
- Company strategies

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

- Baker Hughes
- Endress+Hauser
- FLEXIM GmbH
- Fluenta
- Fuji Electric
- KROHNE
- OVAL
- SICK
- Siemens
- Tokyo Keiki
- Tokyo Keiso
- Ultraflux

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Module B: The World Market for Clamp-on and Insertion Ultrasonic Flowmeters Q4 2020

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Christian Doppler

The Flow Research Gold Partner Program

To produce studies that most closely match our clients' needs, Flow Research instituted the *Gold Partner 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, Gold Partners 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, Gold Partners receive a proposal that includes the proposed segmentation. Gold Partners 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.

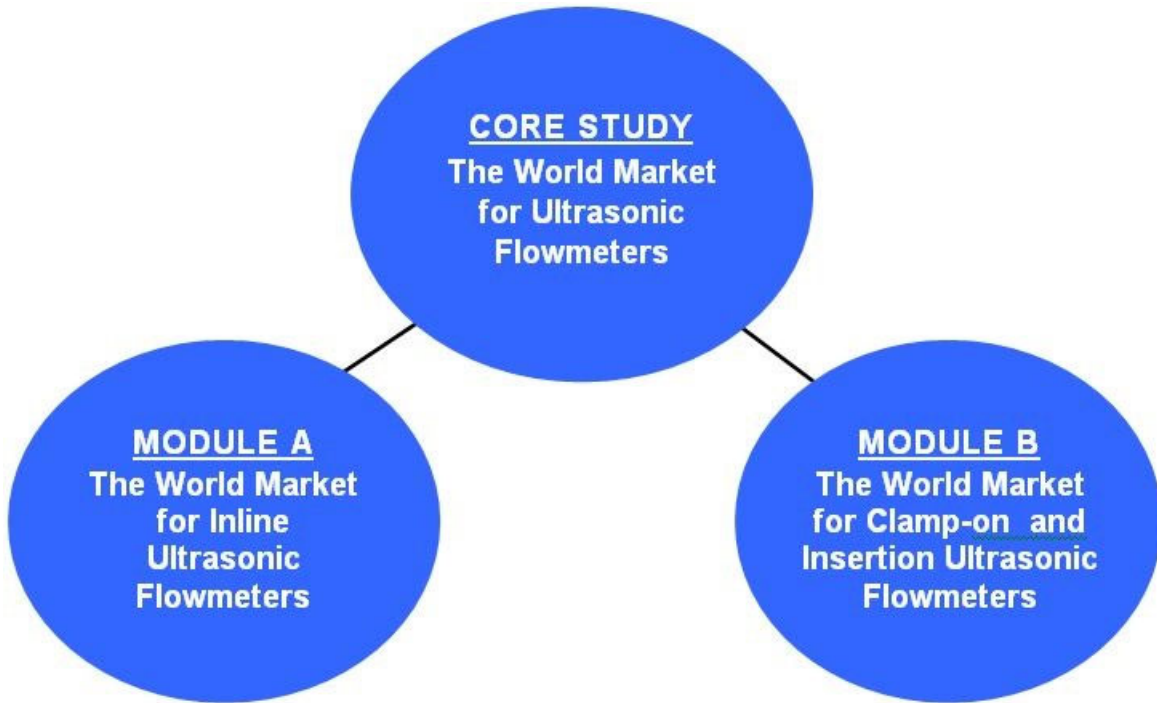
During the research phase of a study, Flow Research will issue regular reports that provide updates on the progress of the research. These reports will be sent to Gold Partners, who are then invited to provide any additional input or comments into the study.

Being a Gold Partner requires making an early commitment to purchase the study. However, in return, Gold Partners 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 on the ultrasonic studies, please contact Flow Research. We look forward to working with you!

If you have any questions about the Gold Partner Program, please contact Norm Weeks at +1 781 245-3200, or norm@flowresearch.com.

The World Market for Ultrasonic Flowmeters, 6th Edition



Five reasons to place your study order today!

- The three studies together contain over 1,300 pages with a complete analysis of the inline, clamp-on, and insertion ultrasonic flowmeter markets.
- It is 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 20 years of research into the ultrasonic and competing flowmeter markets.
- It completely analyzes the ultrasonic flowmeter market, including market size, market forecasts, market shares, strategies for success, and supplier profiles.
- It is brought to you by Flow Research, the world's leading market research company on flowmeters and instrumentation.

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. 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 the related markets of pressure, temperature, level, and flow calibration. Studies on the world market for gas flow measurement and oil flow measurement are also available.

Ultrasonic Flowmeter Research Team Background



Dr. Jesse Yoder is President of Flow Research Inc., a company he founded in 1998. Dr. Yoder has 32 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 over 250 market research studies, most of them regarding flow and instrumentation. Dr. Yoder has also written over 300 articles on flow and instrumentation for trade journals. Many can be found at www.flowarticles.com. Dr. Yoder has received two US patents for the flowtube meter, a new dual tube/dual sensor method of measuring flow, in 2015 and 2017. This meter has two prototypes built and is under test at CEESI in Nunn, Colorado. His latest book, *The Tao of Measurement*, with Richard E. Morley as co-contributor, was published in 2015 by the ISA. He is currently working on another book, *Advances in Flowmeter Technology*, to be published in 2020 by CRC Press.

Belinda Burum, Vice President, worked in journalism and advertising before entering high tech 18 years ago as a writer, marketing communications manager, and customer references consultant. She joined Flow Research in 2002, and has been involved with many Flow Research projects and publications since.

Norm Weeks, Senior Market Analyst, joined Flow Research in 2004 after a 24-year stint with Verizon. At Verizon, Norm specialized in creating innovative solutions for national and international enterprises, introducing new products and lifecycle management. At Flow Research, his contributions in development, research, and writing are appreciably significant to studies, White Papers, and other publications. Custom projects are a specialty.

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

Vicki Tuck, Administrative Assistant, joined Flow Research in 2012 with experience in both the fast-paced law firms of Boston and in various nonprofit organizations. She assists with administrative tasks, including database and collecting news for the Worldflow publications.

Gabriella DeCologero, Director of Marketing, joined Flow Research in June 2019. She is in charge of our social media outreach, and has brought her graphic design talents to our marketing efforts. Gabriella is also assisting in our customer contacts and outreach.

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. These studies contribute to a more thorough understanding of the flowmeter technologies and markets, including those in *The World Market for Ultrasonic Flowmeters, 6th Edition*. The studies below and others 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, 6 th Edition	www.flowcoriolis.com
The World Market for Magnetic Flowmeters, 6 th Edition	www.flowmags.com
The World Market for Ultrasonic Flowmeters, 6 th Edition	www.flowultrasonic.com
The World Market for Vortex Flowmeters, 6 th Edition	www.flowvortex.com
The World Market for Thermal Flowmeters, 2 nd Edition	www.flowthermal.com

Traditional Technology Flowmeter Studies

The World Market for Pressure Transmitters, 5 th Edition	www.pressureresearch.com
The World Market for Positive Displacement Flowmeters, 3 rd Edition	www.flowpd.com
The World Market for Turbine Flowmeters, 3 rd Edition	www.flowturbine.com

Emerging Technology

The World Market for Multiphase Flowmeters, 2 nd Edition	www.flowmultiphase.com
Multiphase: Module A: The World Market for Watercut Meters	www.watercutmeters.com

Mass Flow Controllers

The World Market for Mass Flow Controllers, 3 rd 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, 7 th Edition	www.flowvolumex.com
Volume X Module A: Strategies, Industries, and Applications, 7 th Edition	www.flowvolumex.com
The World Market for Gas Flow Measurement, 4 th Edition	www.gasflows.com
Gas Module A: Oil & Gas Industry Flowmeters, Gas Applications, and Strategies	
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

Besides writing and publishing studies of this type, Flow Research specializes in custom projects and also conducts 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**. Both publications are part of the Worldflow Monitoring Service. **Market Barometer** analyzes the current state of the flowmeter markets, and covers related topics such as other instrumentation and flow calibration. **Energy Monitor** analyzes the current state of the oil & gas, refining, power, and renewables industries, and the implications for instrumentation suppliers. 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, 6th Edition

— Overview —



Oman Gas Company Photo by Flow Research



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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