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The World Market for Pressure Transmitters, 3rd Edition

Proposal

Publication Date: March 2011

www.worldpressure.com

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The World Market for Pressure Transmitters, 3rd Edition

Flow Research is conducting a new study on the worldwide pressure transmitter market called **The World Market for Pressure Transmitters, 3rd Edition.** The primary goal is to determine the size of the pressure transmitter market in 2010. Forecasts through 2015 will be included. The study has multiple purposes:

- To determine worldwide market size and market shares for pressure transmitters in 2010
- To forecast market growth for all types of pressure transmitters through 2015
- To identify industries and applications where pressure transmitters are used, and to identify growth areas
- To provide a product analysis for the main companies selling into the pressure transmitter market
- To provide strategies to manufacturers for selling into the pressure transmitter market
- To provide company profiles of the main suppliers of pressure transmitters
- To identify factors causing the market to grow

Rationale for Study

Flow Research published the 2nd edition of our worldwide pressure transmitter study in September 2007. With significant growth in the oil and gas and other energy markets, we believe that this is an optimal time to see what happened to the pressure transmitter market in 2010 after the downturn that many companies experienced in 2009.

This study will not include pressure transducers. Pressure transducers are generally lower in cost and smaller than pressure transmitters, and are typically not used in the process industries. They typically have loose wires at one end, and do not perform at the same level as pressure transmitters. Pressure transducers often have a millivolt output, while pressure transmitters have a 4-20 mA output or a digital output.

Background of Study

The history of pressure measurement goes back to the 17th century, when both Evangelista Torricelli and Blaise Pascal experimented with early versions of the barometer. For many years, pressure was measured with a manometer. A manometer is a U-shaped tube partially filled with mercury, oil, or some other liquid. When gas pressure is introduced into one end of the tube, the liquid is displaced. The amount of displacement is relative to the amount of gas pressure.

Early methods of pressure measurement have been replaced in today's environment with pressure transducers and transmitters. Pressure transmitters are typically made up of a pressure sensor, an amplifier or conditioning element, and an output signal. The output signal is used to transmit the pressure reading to a flow computer, controller, or distributed control system (DCS). One advantage of today's electronic pressure transmitters is that certain actions may need to be taken, depending on the pressure reading of a gas, liquid, or steam. The electronic signal from a pressure transmitter allows it to be integrated into a control system, unlike earlier mechanical methods, including pressure gages that had to be manually read.

While pressure transmitters are used to measure pressure, they also have an important relation to three other widely measured variables: flow, level, and temperature. Differential pressure (DP) transmitters are used to measure both flow and level, and some pressure transmitters have temperature sensors on board to measure temperature. In some cases, this temperature measurement is used along with a pressure and volumetric flow measurement to compute mass flow.

In conducting this study, we are contacting all known manufacturers of pressure transmitters worldwide to assemble a picture of the total pressure transmitter market. We will ask suppliers to provide detailed information about geographic segmentation, industries sold into, types of pressure transmitters sold, and many other product segments. As a result, the study will identify where growth is occurring in the market, as well as the underlying factors for that growth.

Key issues addressed in this study

This study addresses the following key issues in the pressure transmitter market:

- The factors causing the market to grow
- Growth in the use of multivariable transmitters
- The impact of new-technology flowmeters on differential pressure transmitter sales
- The impact of higher-accuracy pressure transmitters on user practices and purchases
- The role of installed base in maintaining pressure transmitter growth
- The trend toward pressure transmitters with increased diagnostic capabilities
- The acceptance rate of communication protocols such as Foundation Fieldbus in the market
- The extent to which primary element sales are driving sales of DP transmitters
- The trend towards integrating primary elements with DP transmitters into a single flowmeter
- New product and technology developments
- Growth strategies for pressure transmitter suppliers
- The importance of gage & absolute pressure transmitters in relation to plant safety and efficiency

Proposed Segmentation

The proposed segmentation for this study is as follows:

Geographic Segmentation

- North America
- Europe
- Middle East and Africa
- Japan
- China
- Asia without China and Japan
- Latin America

Pressure transmitters by Type

Pressure transmitters are divided by the following four types and further subdivided according to whether they are used to measure flow or level.

- Multivariable (MV) pressure transmitters that measure two or more process variables – usually pressure and temperature – in a single device.
- Differential pressure (DP) transmitters measure the difference in pressure upstream and downstream of a constriction in a pipe called a primary element.
- Gage pressure transmitters measure an amount of pressure that includes atmospheric pressure.
- Absolute pressure transmitters measure an amount of pressure that does not include atmospheric pressure.

Pressure Transmitters by Fluid Type

Pressure transmitters are segmented in this study according to fluid type:

- Liquid
- Steam
- Gas

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The target date for publication of this study is March 2011.

Pressure Transmitters by Mounting Type

Pressure transmitters are segmented according to the mounting type. They are distinguished by whether they are shipped with any of the following mounting accessories, or with none:

- Remote seals
- Manifolds only
- Primary element assemblies
- None

Pressure Transmitters by Smart vs. Conventional
Pressure transmitters are also segmented as follows:

- Smart
- Conventional
- Low cost

Pressure Transmitters by Communication Protocol
Pressure transmitters are segmented by the following protocols:

- HART
- Foundation Fieldbus®
- Profibus
- Modbus
- Proprietary Protocols
- Other

Your Input, Please
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!

Pressure Transmitters by Sensing Technology
Pressure transmitters are segmented in this study by the following sensing technologies:

- Capacitive
- Piezoresistive
- Strain gage
- Other

Pressure Transmitters by Industry
Pressure transmitters are used mainly in the process industries. We propose to include the following industries in this study:

- Oil & gas production, transportation, and distribution
- Refining
- Chemical
- Food & Beverage
- Pharmaceutical
- Pulp & paper
- Metals & mining
- Power
- Water & wastewater
- Other

Company Profiles
The study will profile leading pressure transmitter suppliers, including:

- ABB
- Anderson Instrument Company
- Ashdown Process Control
- Emerson Rosemount/Bristol
- Endress+Hauser
- Fuji Electric
- Hitachi
- Honeywell
- Invensys/Foxboro
- Siemens
- Smar
- Yamatake
- Yokogawa

Pressure Transmitters by Application
Pressure transmitters are segmented in this study by the following applications:

- Flow
- Level
- Process pressure
- Other

Pressure Transmitters by Sales Channels
The pressure transmitter market will be segmented according to the following sales channels:

- Direct Sales
- Independent representatives
- Distributors
- E-business

Pressure Transmitters by Customer Type
The pressure transmitter market will be segmented according to the following customer types:

- End-users
- OEMs
- Systems integrators
- Engineers/consultants

Strategies for Success

- Discussion of market forces at work
- Strategic action perspectives
- Forming alliances to enhance product offerings

Company Background

Dr. Jesse Yoder is President of Flow Research Inc., a company he founded in 1998. Dr. Yoder has 22 years of experience as a writer and an analyst in process control and instrumentation. Since 1990, he has written more than 110 market research studies, most of them regarding flow and instrumentation. Dr. Yoder has also written more than 120 articles on flow and instrumentation for trade journals. Links to many of these can be found at http://www.flowresearch.com/articles.htm.

Norm 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.

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

Belinda Burum, Vice President and Editor, has worked in high tech for 16 years as a marketing communications writer and 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. Dr. Yoder is also available for group presentations and consultations.

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

Listed below is a summary of Flow Research studies completed during the last few years in the area of process control instrumentation. These studies are further described at www.flowresearch.com/flow.htm.

I: The World Market for Coriolis Flowmeters, 4th Edition (Q4 2011)**
II: The World Market for Magnetic Flowmeters, 4th Edition (May 2009)
III: The World Market for Ultrasonic Flowmeters, 4th Edition (Q3 2011)**
IV: The World Market for Vortex Flowmeters, 3rd Edition (July 2010) *Newly released*
V: The World Market for DP Flowmeters and Primary Elements (January 2007)
V-A: The World Market for DP Flow Transmitters (September 2007)
V-B: The World Market for Primary Elements (September 2007)
VI: Worldwide Survey of Flowmeter Users, 2nd Edition (January 2006)
VII: The World Market for Positive Displacement Flowmeters, 2nd Edit. (Q1, 2011)**
VIII: The World Market for Turbine Flowmeters, 2nd Edition (Q1 2011)**
IX: The World Market for Pressure Transmitters, 3rd Edition (March 2011)**
Volume X: The World Market for Flowmeters, 3rd Edition (October 2010) *Newly released*
XI: The World Market for Gas Flow Measurement, 2nd Edition (Q1 2010)**
XII: The World Market for Steam Flow Measurement (March 2008)
XIII: The World Market for Mass Flow Controllers (July 2008)
XIV: The World Market for Thermal Flowmeters (October 2009)
XV: The World Market for Liquid Analytical Instruments (Q4, 2010)

***Studies in progress*

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

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Daniel Bernoulli

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.

Please visit our pressure website for more information!

www.WorldPressure.com

A Worldflow™ Knowledge Website

The World Market for Pressure Transmitters, 3rd Edition - *Current edition* (March 2011)

The World Market for Pressure Transmitters, 2nd Edition *(October 2007)*

The World Market for Pressure Transmitters, 1st Edition (2004 - Provides historical perspective)

The World Market for Differential Pressure (DP) Flowmeters and Primary Elements (January 2007)

Differential Pressure Articles Links to DP Transmitter Suppliers

Pressure Transmitter Articles

The following pressure-related articles have all been written by Dr. Jesse Yoder and published in the indicated industry journals since 2004:

The Paradigm Case Method of Flowmeter Selection

Pressure Transmitter Trends - Flow Control – August 2004

The Difference with Differential Pressure - Flow Control – November/December 2004

The Key to Unlocking the DP Flowmeter Market - Processing, September 2006

2006 Flowmeter User Study Results - DP Remains Dominant, but New Technologies are Catching On - Flow Control, September 2006

DP Flowmeters Ride the Wave of Growth in the Oil & Gas Industry - Processing, May 2007

A Primer on Primary Elements - Understanding a Key Aspect of DP Flow Measurement - Flow Control, May 2007

What the Future Holds; Trends in Pressure Transmitter Technology - Flow Control - March 2008

Not so Element-ary - New Primary Elements Expand the Reach of DP Flow Measurement - Flow Control - September 2009

DP Flowmeters - An Old Technology Gets Some New Looks - Flow Control - December 2009

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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

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