

market barometer

Q1 2018



Elis Plzeň flow calibration rig

Focus this issue:



- MCAA 2018
- Ultrasonic flowmeters market
- Company Korner:
Endress+Hauser's 65th anniversary
- Flow Calibration Facility Highlight:
Elis Plzeň
- AW-Lake's TW Series turbine
flowmeter

A *Worldflow* publication



Flow Research, Inc.



How oil prices affect the ultrasonic flowmeter market

By Jesse Yoder

The ultrasonic flowmeter market is one of the fastest growing flowmeter markets. In fact, many endusers are replacing traditional flowmeters – especially turbine and differential pressure (DP) types – with ultrasonic flowmeters.

There is, in particular, a great deal of attention being paid to the ultrasonic market for custody transfer, both of liquids and natural gas. In fact, the market for ultrasonic meters for custody transfer of natural gas is one of the fastest growing niches within the entire flowmeter market. In this niche, the ultrasonic market is growing at nearly the same rate as the multiphase flowmeter market is in fiscal monitoring, although overall multiphase growth is still outpacing ultrasonic growth.

Flowmeter manufacturers are focusing a great deal of attention on ultrasonic flowmeters. Much of the industry's research and development effort is currently going into these meters, perhaps at the expense of other meters such as vortex and turbine. Suppliers have made significant progress in enhancing the accuracy and reliability of ultrasonic flowmeters. This has mainly been done by increasing the number of paths or chords, thereby increasing the number of measurement points. Another recent development has been the introduction of dual transmitters.

This measurement technology also benefits from enhancements to its greater diagnostic capabilities. Enhanced diagnostic capabilities, it is claimed, can reduce the need for upstream piping and also increase the ability of the ultrasonic meter to determine sources of error. Remote user access to real-time flow phenomena such as cross-flow and swirl angle enables the user to more quickly identify and to address flow disturbances with corrective actions. This and other forms of self-verification by the instrument provide advanced detection and validation to the operator, further ensuring process reliability.

And, one of the newest meter configurations on the market is the “dual transmitter” type which offers the user a level of redundancy and reliability not previously available on a standard basis. These meters have been developed for custody transfer of petroleum liquids as well as for custody transfer of natural gas, two important revenue generators for suppliers and users alike.

Oil Prices from 2012 to 2018

The inline ultrasonic flowmeter market is heavily dependent on the oil and gas industry. In fact, over 60 percent of inline ultrasonic flowmeters are sold into the upstream, midstream, and downstream oil and gas business, as well as refining. This means that business is good for ultrasonic flowmeters when oil prices are high, and there is a great deal of oil and gas exploration and production going on. When oil prices drop, and exploration and production becomes less profitable, the demand for ultrasonic meters is likely to decline. This is what happened between 2012 and early 2017.

On January 3, 2012, West Texas Intermediate (WTI) was priced at \$102.96. Prices remained relatively stable until mid-August 2014. That month oil prices began a steady decline from the \$100 level down to the range of \$30 per barrel in early 2016. While some of the fluctuations in

prices were due to the Arab Spring uprising, to hurricanes in Louisiana, and to other events that temporarily affected oil prices, the most fundamental reason for this drop in prices has to do with supply and demand. When oil demand exceeds oil supply, this drives prices higher. On the other hand, when supply exceeds demand, this has a depressing effect on prices.

After oil prices began declining in August 2014. OPEC met a few months later in November 2014 and declined to cut production to prevent oil prices from coming down further. Many analysts believe that this was a way to respond to the potential market threat posed by US shale production. As a result, oil prices continued to decline in 2015 and 2016.

Despite OPEC's stance on US shale production, it reversed course at a meeting on November 30, 2016. At this meeting, OPEC members agreed, together with Russia, to cut oil production by almost 1.8 million barrels per day, beginning on January 1, 2017. OPEC has had very good cooperation from its members in abiding by the production cuts specified in the agreement. Venezuela's production has also declined significantly. OPEC has extended its production cuts through the end of 2018.

Worldwide oil demand in 2017 was about 96 million barrels per day. On average, oil demand increases each year by about 1.3 million barrels per day. This is due to expanding population, increased industrialization, increased use of petroleum products, including goods made from petroleum based products, and other factors. This steady increase in demand coupled with declining supply explains why oil prices have been on the rise in 2017 and so far in 2018. Oil prices have increased to exceed \$70 per barrel. We are still projecting \$75 per barrel oil by September 2018, though some analysts are now projecting even higher prices.

How Oil Prices Affect the Ultrasonic Flowmeter Market

Ultrasonic flowmeters are used in upstream applications for allocation metering, for measuring gas and oil from test and production separators, for check metering, and for other applications. A major use of ultrasonic flowmeters is in the midstream segment for custody transfer of natural gas. Here ultrasonic meters compete with turbine and differential pressure flowmeters. With reduced oil prices, many exploration and production projects were put on hold or cancelled. This was especially true of subsea projects, which are typically the most expensive types of production projects. The reduction in projects had a ripple effect throughout the flowmeter industry, especially including ultrasonic, Coriolis, turbine, and differential pressure (DP) flowmeters. As a result, the ultrasonic flowmeter market experienced a modest decline in 2015 and 2016.

The refining and downstream sectors are less affected by lower oil prices than the upstream and midstream sectors. Refineries continue to process crude oil into refined fuel, whether it comes from a new oil well or from a storage tank. And demand for refined petroleum products doesn't seem to decline when oil prices are low. If anything, it may increase because prices are lower. So it is mainly the upstream and midstream markets that suffer from lower oil prices.

In 2017, confidence appeared to return to the flowmeter markets, although there is a typically six to nine month lag time from when projects resume until companies begin ordering instrumentation again. This confidence continued into 2018, which should be a strong year for flowmeters involved in the oil and gas business, including ultrasonic, Coriolis, turbine, and DP flowmeters.



EZ Faxback Response Form

Please use this form to request more information about any of the studies below. Return by mail, email or fax.

√ Put a checkmark next to the studies you would like more information about.

New-Technology Flowmeter Studies

- The World Market for Coriolis Flowmeters, 5th Edition
- The World Market for Magnetic Flowmeters, 6th Edition
- The World Market for Ultrasonic Flowmeters, 5th Edition
- The World Market for Vortex Flowmeters, 6th Edition
- The World Market for Thermal Flowmeters, 2nd Edition
- The World Market for Mass Flow Controllers, 3rd Edition
- The World Market for Multiphase Flowmeters, 2nd Edition
- Multiphase: Module A: The World Market for Watercut Meters

Website

- www.flowcoriolis.com
- www.flowmags.com
- www.flowultrasonic.com
- www.flowvortex.com
- www.flowthermal.com
- www.flowmfc.com
- www.flowmultiphase.com
- www.watercutmeters.com

Traditional Technology Flowmeter Studies

- The World Market for Pressure Transmitters, 5th Edition
- The World Market for Pressure Transducers
- The World Market for Positive Displacement Flowmeters, 2nd Edition
- The World Market for Turbine Flowmeters, 2nd Edition

- www.pressureresearch.com
- www.pressureresearch.com
- www.flowpd.com
- www.flowturbine.com

Cross-Technology Flowmeter Studies

- Volume X: The World Market for Flowmeters, 7th Edition
- Volume X: Module A: Strategies, Industries, and Applications
- The World Market for Natural Gas and Gas Flow Measurement, 3rd Ed.
- The World Market for Oil and Oil Flow Measurement

- www.flowvolumex.com
- www.flowvolumex.com
- www.gasflows.com
- www.oilflows.com

Flow Calibration

- Core Study: The World Market for Gas Flow Calibration Facilities
- Module A: The World Market for Liquid Flow Calibration Facilities

www.flowcalibration.org

Temperature

- The Market for Temperature Sensors in the Americas, 3rd Edition

www.tempresearch.com

Worldflow Monitoring Service

www.worldflow.com

Name _____ Street _____

Title _____ City _____ State _____

Company _____ Country _____ Zip _____

Email _____ Phone _____ Fax _____



Return this form by mail, email, or fax to:

Flow Research

27 Water Street
 Wakefield, MA 01880
www.flowresearch.com

+1 781-245-3200
 +1 781-224-7552 (fax)
info@flowresearch.com

Market Barometer Q1 2018

Publisher and Executive Editor: Jesse Yoder, PhD

(jesse@flowresearch.com)

Associate Editor: Leslie Buchanan

Research Assistant: Vicki Tuck

Table of Contents

State of the Industry	7
Record attendance, quality presentations, and networking characterize MCAA 2018	7
Market Research	10
How oil prices affect the ultrasonic flowmeter market.....	10
In the News	12
New president for Hays Fluid Controls, a division of Romac Industries	12
Flow Measurement Institute merges with Institute of Measurement and Control.....	12
Steve Westfall appointed president of Tuthill Transfer Systems.....	13
Doug Pferdehirt talks about the first year of TechnipFMC	14
Intertek announces the launch of a new emission testing service for its global automotive customers	15
Azbil to establish Strategic Planning & Development Office for Southeast Asia in Singapore ...	16
Badger Meter signs agreement to acquire Innovative Metering Solutions.....	17
Aichi Tokei Denki: Connecting technology – LPWA built-in meter	18
Upcoming Trade Shows	19
Company Korner: Endress+Hauser	20
Endress+Hauser celebrates its anniversary; Group looks back on 65 years of success.....	21
Products & Technologies — New-Technology Flowmeters	22
<u>Coriolis</u>	
Siemens makes big changes to its small Coriolis meter	22
KROHNE OPTIMASS now available with PROFINET I/O	23
<u>Magnetic</u>	
Emerson’s new magnetic flowmeter transmitter simplifies installation, maintenance and operation	24

Ultrasonic

Versatile high performance: New version of Atrato ultrasonic flowmeter
from Titan Enterprises25

Vortex

Emerson introduces SIL certified vortex flowmeters to enhance plant safety and reliability26

Thermal/MFC

Fox releases new product: The Model FT4X – designed for oil & gas applications.....27

Brooks Instrument presents new mass flow controller with self-diagnostics
at CSTIC & SEMICON China 2018.....28

Products & Technologies — Traditional-Technology Flowmeters 29

Pressure/DP Flow/Primary Elements

TCS 3000 adds Water Sensor and Differential Pressure Gauge integration to its growing
list of fueling automation interfaces29

Air Monitor’s OAM II Outdoor Airflow Measurement System.....30

Positive Displacement

Aichi Tokei Denki: Optical detection of water meter pointer rotation31

Turbine

AW-Lake: Introducing the TW Series turbine flowmeter that integrates with
SignalFire Flow Totalizer as part of a wireless flow control system.....32

Open Channel/VA

Brooks Instrument adds FOUNDATION™ Fieldbus transmitter to its MT3809 Series VA
flowmeters.....33

Flow Calibration Facility Highlight: ELIS PLZEN 34

Products & Technologies — Flow Calibration..... 36

New precision digital pressure gauge works as calibration device, troubleshooting tool36

Flow Program report maps out scope of research for next three years.....36

Trigas FI becomes first factory-authorized Alicat Calibration Center37

Products & Technologies — Level 38

HAWK introduces the OptioLaser S300 Liquid Laser Level.....38

New Baumer ultrasonic miniature sensors with patented coating for level measurement
with aggressive media.....38

Products & Technologies — Temperature 39
 JUMO: First plastoSENS T temperature probes.....39

Oil & Gas Flow Measurement..... 40
 \$10 sensor reduces natural gas use in water heaters and other gas-powered devices.....40
 Mobile ‘Dual-Comb’ device significantly improves methane leak detection41

Copyright © 2018 — All data and information in this report is proprietary and copyrighted by Flow Research, Inc. However, clients may reproduce this material internally for members of their own organization.

Disclaimer — While every effort has been made to ensure that this report is accurate and complete, Flow Research accepts no liability for consequences of any actions that are based on the findings in this publication.



Flow Research, Inc.
 27 Water Street, Wakefield, MA 01880
 +1 781-245-3200 or 800-245-1799
 +1 781-224-7552 (fax)
info@flowresearch.com
www.flowresearch.com



Bergen, Norway Photo by Flow Research

Market Barometer is part of the Worldflow Monitoring Service. Other publications in this service include the **Energy Monitor** and **Flash Reports**. The **Living Database** provides more in-depth information and analysis about the instrumentation business.

Here is the **Worldflow** publication schedule for upcoming quarters:

Q1 2018

Energy Monitor — June 2018

Q2 2018

Market Barometer — July 2018

Energy Monitor — August 2018

Q3 2018

Energy Monitor — September 2018

Market Barometer — October 2018