

FlowTimes – September 2021

*Your strategic update on flow, temperature, and pressure measurement
from Flow Research*

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1. Letter from the president: Oil prices

As we all now know, 2020 proved a disastrous year for the world economy, and for the economies of many countries. Despite the economic downturn in the United States in Q4 2020, oil prices did reach the \$40 per barrel range in that quarter, as predicted by Flow Research in a previous Flash Report.

Oil Prices on an Upward Climb. On December 3, 2020, the organization for Petroleum Exporting Countries (OPEC) met and agreed to collectively reduce oil production by 0.5 million barrels/day from the current levels. Oil prices have been on an upward climb since then. By August 31, 2021, they stood near \$70/barrel. One main factor causing volatility is still uncertainty about the COVID-19 pandemic.



Much of the credit for the increase in oil prices in 2021 goes to OPEC. While cynics suggested that OPEC's countries would not stick by their quotas, in fact most members have been quite good at staying within the agreed-on production quotas. Oil prices have continued to increase to a point where oil production is becoming more profitable. At the same time, oil prices are not so high that they reduce demand. Many OPEC countries depend heavily on oil revenues for their national income. For this reason, there is now pressure within OPEC to begin relaxing the restrictions on oil production, given the improvement in the world economy and the more favorable conditions regarding the pandemic.

Moving Onward and Upward. In a July 18, 2021, meeting, OPEC agreed to begin relaxing production quotas in a measured way over time. As stated in these two excerpts from the OPEC press release for the 19th OPEC and non-OPEC Ministerial Meeting (ONOMM): “The Meeting noted the ongoing strengthening of market fundamentals, with oil demand showing clear signs of improvement and OECD stocks falling, as the economic recovery continued in most parts of the world with the help of accelerating vaccination programmes. [...]

“In view of current oil market fundamentals and the consensus on its outlook, the Meeting resolved to: [...]

“Adjust upward their overall production by 0.4 mb/d on a monthly basis starting August 2021 until phasing out the 5.8 mb/d production adjustment, and in December 2021 assess market developments and Participating Countries' performance.”

The above schedule of increasing production by 400,000 barrels per day beginning in August 2021 will add two million barrels of oil per day to the market by December 2021. At that point, OPEC will meet again to reassess the situation. It can be expected to continue increasing production,

perhaps at this same level, as long as oil prices remain stable and world economies are continuing to stabilize. Of course, the unpredictable course of the pandemic will figure into this decision as well, as is noted in the press release.

One situation not mentioned in the release is that a rift has emerged between Saudi Arabia and the United Arab Emirates (UAE), which resulted in a disagreement over production quotas. In the past, disagreements between Saudi Arabia and Iran have held up consensus. While Saudi Arabia and the UAE were able to come to an agreement for the purposes of this meeting, this is an ongoing dynamic that bears watching.

For more on what this means, and projections for oil prices in Q4 2021, see the Energy Monitor for Q3 2021 (www.worldflow.com). Better yet, subscribe to our Worldflow Monitoring Service for regular updates including Flash Reports on the oil and energy markets.

2. Curious about COVID-19's impact on the flowmeter market? Order your copy now of *Volume X: The World Market for Flowmeters*

Our comprehensive *Volume X* is always a blockbuster, covering the entire worldwide flowmeter market in one fell swoop so that you can easily compare market size, market shares, and growth rates for all types of flowmeters. It's a one-of-a-kind, all-in-one view of the flowmeter market that you can't find anywhere else.



But our newest edition, *Volume X: The World Market for Flowmeters, 8th Edition*, due out in the October, promises to be even more exciting than usual. Given the unexpected economic impact of the coronavirus pandemic, we figured our flowmeter supplier friends would like to know how other companies fared during 2020, and what's happening now that we're (hopefully) on our way out of the woods. (*Spoiler alert*: Most of the companies we talked to actually did surprisingly well, and some managed to make business improvements that should improve future profitability.)

To give you the most accurate picture possible, we are providing detailed flowmeter data for not one, but *two years* — both 2019 and 2020 — so you can see where the market was heading before the dip as well as what happened during the height of the pandemic as companies struggled with supply chains, remote workforces, uncertain customer demand, and more. We will also share what we've learned about the rebound flowmeter suppliers saw during the first half of 2021 as they responded to pent-up demand. Then we'll draw on all of this data to give you up-to-the minute forecasts through 2024.

This Volume X adheres to our own gold standard by providing market shares, market size, and forecasts for all 11 flowmeter types, worldwide and by region. We will also include product analyses and company profiles of the main suppliers, and strategies for manufacturers selling into the market. A standalone volume, *Module A*, will provide data about industry trends and how they are impacting the flowmeter market.

- **Volume X: The World Market for Flowmeters, 8th Edition** (due in October 2021) covers three broad categories of flowmeters:
 - *New-technology*: Coriolis, magnetic, ultrasonic, vortex, thermal

- *Conventional*: differential pressure transmitters, primary elements, positive displacement, turbine, open channel, variable area
- *Emerging technology*: sonar, optical
- Market size and market shares worldwide and by region for all these flowmeter types, in 2019 and 2020, with forecasts through 2024
- **Module A: Strategies, Industries, & Applications** (due in Q4 2021)

If you've seen our studies before, you know you can count on our data. This 8th edition builds on the knowledge we've gained since we published our first *Volume X* in 2003. We last published *Volume X, 7th Edition* in May 2019 and the accompanying *Module A* in October 2019.) We are confident our new study will write the definitive story of the effect of the pandemic on the flowmeter markets and give you a solid basis for your own planning and forecasting.

Order soon to lock in early-bird pricing and to receive early data as it becomes available. To get your copy, click the Order link at www.flowvolumex.com or contact Flow Research. **Call or email us soon to place your order** at 781-245-3200 or jesse@flowresearch.com.

3. Desalination — an idea whose time has come for water and flow

Caitlyn Jenner, former Olympian (as Bruce Jenner) and transgender activist, may be a long shot for California governor, but she recently voiced one idea that got our attention: desalination. In a press conference and interviews, the Republican candidate proposed building desalination plants along the coast for drinking water and piping water over mountains for farmers in the San Joaquin Valley.



California is already home to 12 municipal seawater desalination plants, including the largest desalination plant in the Western Hemisphere in coastal Carlsbad, with 10 more desalination plants proposed. But we see this discussion as a hopeful sign for managing water, a precious resource that is becoming as important as oil, if not more so. And like oil, water needs to be measured and analyzed.

Flow Research believes desalination is a long-term solution whose time has come — and a strong growth area for flowmeter manufacturers targeting the water market. Demand for water is increasing, as is the need to make desalination more affordable, energy efficient, and environmentally friendly.

In June 2020, the U.S. Bureau of Reclamation awarded \$5.8 million (matched by \$9.3 million in non-federal cost-share for certain projects) to 22 laboratory and pilot-scale desalination research projects to enable broader deployment of desalination and recycled water technologies.

According to a [2018 Bureau of Reclamation study](#), Florida, California, and Texas account for 68 percent of the municipal desalination plants, with Florida alone accounting for 40 percent of the plants. The remainder are scattered over 32 other states. The survey found that only 3 percent of the facilities are seawater reverse osmosis (SWRO) facilities. Some 97 percent are inland facilities providing brackish water reverse osmosis (BWRO), nanofiltration (NF), or electrodialysis reversal (EDR). More than 96 percent of the plants are drinking water facilities; 4 percent are reuse or aquifer storage facilities.

Florida has more than 130 smaller desalination plants, but even they may not keep up with the area's demand. Water management district regional [water supply plans](#) indicate water use will continue to increase from 2010 to 2030: Public supply is expected to increase by about 29 percent and agricultural irrigation by about 7.4 percent. Total water withdrawals for all uses are expected to increase by almost 21 percent to about 1.3 billion gallons per day.

Texas has 49 municipal desalination plants that process surface and subsurface brackish water. San Antonio Water System (SAWS) is delivering a project for brackish groundwater desalination (BGD) that started delivering 12 million gallons of drinking water per day in 2016 and is expected to be the largest inland desalination facility in the U.S. (30 million gallons of fresh water per day) when it is completed in 2026.

Already flowmeter manufacturers are marketing products specifically for desalination. Yokogawa and ABB, for instance, offer products for the entire water cycle, including desalination. Seametrics offers turbine and magnetic flowmeters for desalination. Endress+Hauser offers a portfolio of smart measuring instruments and services for water applications that include saltwater desalination and water reuse. Badger Meter offers control valves for desalination.

Here at Flow Research, we're also excited about water in general as a growth industry for flowmeters. In fact, we're developing another first-ever Flow Research study on the municipal water & wastewater market for publication later this year. We are also now working on *The World Market for Magnetic Flowmeters, 7th Edition* for release in Q4 2021. Magnetic flowmeters are among the most widely used types of meters for measuring the flow of water and other liquids, and we believe that this is a perfect time to accurately quantify the size and growth of magnetometer technology and to provide a comprehensive view of its expanding market. The study will determine the regional and worldwide market size and market shares of the leading suppliers and forecast market growth for five years. For complete details, go to www.flowmags.com. **Call or email us soon for special pricing** at 781-245-3200 or jesse@flowresearch.com.

4. Focus on Faure Herman and Ultraflux

Faure Herman

<https://faureherman.com>



Faure Herman designs and manufactures helical turbine and ultrasonic flowmeters for custody transfer in the oil & gas industry, as well as turbine and mass meters for the civilian and military aerospace industry. Since 2017, Faure Herman has been part of Le Garrec & Compagnie, a private French group with holdings in the European flow measurement industry. In January 2020, Faure Herman acquired Ultraflux, a fellow French ultrasonic flowmeter company.

Ultrasonic Flowmeter Products: *Inline ultrasonic flowmeters*

Faure Herman's ultrasonic flowmeters for liquid measurement in oil & gas custody-transfer applications are based on transit time technology.

The bi-directional, three-path FH8400 is designed to offer superior linearity (+/- 0.15%) for custody transfer of light and medium viscosity liquids (up to ~180 cSt). It claims to be reliable and stable in severe conditions, including wax and sand, and is suitable for a range of

applications: oil production, pipeline leak detection, oil refineries, chemical and petrochemical plants, energy and power plants, water & wastewater, and other process industries. The meter's diameters range from 3" to 24". Its transducers can be removed even under pressure and flow.

Ultraflux

Ultraflux's sole focus is to design, develop, manufacture, and market ultrasonic flowmeters and ultrasonic measurement systems based on transit time technology. Its product line includes portable and fixed flowmeters for non-custody measurement applications, including drinking water, sanitation, chemical, and pharmaceutical.



Ultrasonic Flowmeter Products: *Clamp-on and insertion ultrasonic flowmeters*

Ultraflux's flowmeter product line offers fixed and portable designs based upon transit time ultrasonic technology. Ultraflux has flowmeters for both gas and liquid applications that provide bi-directional flow measurement with no pressure drop. Ultraflux offers insertion, clamp-on, and wetted probes, and some of its fixed meters can be used with clamp-on probes with no load loss or process rupture.

Faure Herman and the Ultraflux merger

Faure Herman prides itself on both its measurement expertise and calibration capabilities. Its state-of-the-art Independent Calibration Laboratory in La Ferté-Bernard, France, is certified by COFRAC/ILAC (ISO 17025). It has emerged as one of the preeminent flow laboratories in the world, with some of the largest flowrates and highest viscosity ranges available anywhere – flowrates from 10 l/h to 2,850 m³/h and viscosities from 0.5 to 500 cSt and even up to 2,000 m³/h. The lab has 11 stations for testing liquid and gas flowmeters in compliance with international standards and customer requirements.

Since its inception in 1974, Ultraflux has focused its product manufacturing solely on ultrasonic technology and claims to be the largest manufacturer of ultrasonic flowmeters in France. Its flowmeter products are designed to measure both gases and liquids – unlike Faure Herman, which manufactures only liquid flowmeters. Like Faure Herman, Ultraflux serves the oil & gas industry, but it also serves water/wastewater sectors. (Faure Herman also serves the aerospace industry with its turbine meters.) Ultraflux facilitates product distribution through subsidiaries in Brazil and Thailand.

Our prognosis for this merger is positive – both of these premier companies are relatively small, they have successfully collaborated in the past, and their industry focus and product lines are different enough to strengthen their market position.

5. Flow Research varies the lineup with our first-ever study on variable area flowmeters

Variable area (VA) flowmeters have been around since 1908 and Flow Research has been studying them along with other conventional meters for what seems like almost as long (but really only since 2003). Until now, however, we've never produced a complete market research report on this simple, low-cost meter that is easy to install and maintain. We've decided the time

is right to change that, so we invite you to be first in line for our first *The World Market for Variable Area Flowmeters*, due out in Q4 2021.

Although VA meters are popular in applications needing low-cost gas and liquid measurement, especially where there is no electricity, they still hold a relatively small share of the flowmeter market. However, interest in the meter is perking up for several reasons, including the availability of new material types for more difficult applications, the ability of some VA meters to transmit data over two-wire circuits to a controller or recorder, the trend to optimize efficiency and recapture user costs by measuring everything possible as cheaply as possible, and the growing need to measure from oil platforms and other remote locations that have no power. In addition, some flowmeter suppliers are showing interest in VA meters because they want to try to replace them with other technology.



As with Volume X, we are using both 2019 and 2020 as base years for this study so that analysis of the data will be able to fully account for the effects of the pandemic on the VA market. The study has multiple objectives:

- Determine worldwide market size and market shares for VA flowmeters in 2019 and 2020
- Forecast market growth for all types of VA flowmeters through 2024
- Identify industries and applications where VA flowmeters are used today
- Identify and describe factors contributing to growth in VA flowmeter revenues
- Analyze products for the main companies selling into the VA flowmeter market
- Provide strategies to manufacturers for selling into this worldwide flowmeter market
- Profile main VA flowmeter suppliers

For complete details, go to www.flowva.com. To get your copy, click the Order It! link or contact Flow Research at 781-245-3200, or email jesse@flowresearch.com.

6. Emerson to sell Daniel Measurement and Control Business



Emerson has a definitive agreement to sell its Daniel Measurement and Control Business to Turnspire Capital Partners by September 30, the end of its fiscal year. Daniel, part of Emerson's Automation Solutions business, has been a global leader in fiscal flow and energy measurement to the oil and gas industry for more than 85 years. The sale includes all of Daniel's brand rights, facilities, intellectual property, and personnel, but does not include Daniel's ultrasonic flowmeter and fiscal transfer system businesses. According to information exclusive to Flow Research, the new Turnspire business will include Daniel's turbine flowmeters, control valves, and differential pressure (DP) flowmeters, including the signature Daniel™ Senior™ Orifice Fittings.

Emerson acquired Daniel Industries in 1999 to bolster its presence in the oil and gas industry. The company was founded in 1946 by Paul Daniel, inventor of the Daniel Senior Orifice

Fittings. Today, there are more than 1 million of these fittings in service worldwide. Emerson said in a July 12 press release that the agreement demonstrates its strategic focus on “data-rich, software-enabled technologies in diversified and high growth end markets.” Emerson Automation Solutions also includes Micro Motion, Rosemount, and Roxar flowmetering solutions.

Turnspire, a private investment firm based in New York, plans to establish Daniel as an independent flow measurement and control company built on its iconic brand and reputation for reliability. The firm plans to partner with Daniel to support organic growth through R&D, technology, and new products as well as inorganic growth.

*For more analyses of issues involved in company restructuring, see our upcoming issue of **Market Barometer** (www.worldflow.com).*

7. Studies from Flow Research

Upcoming studies:

- *The World Market for Magnetic Flowmeters, 7th Edition* (Q4 2021) www.FlowMags.com
- *The World Market for Variable Area Flowmeters* (Q4 2021) www.flowva.com
- Covering all the main flowmeter types: www.FlowVolumeX.com (October 2021)
Volume X: The World Market for Flowmeters, 8th Edition
Volume X: Module A: Strategies, Industries, and Applications
- *The World Market for Pressure Transmitters, 5th Edition* (Q3 2021) www.PressureResearch.com
- *The World Market for Turbine Flowmeters, 3rd Edition* (Q3 2021) www.FlowTurbine.com
- *The World Market for Positive Displacement Flowmeters, 3rd Edition* (Q4 2021) www.FlowPD.com

Recently published studies:

- Ultrasonic flowmeters series, www.FlowUltrasonic.com, published May 2021
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
- *Flowmeters in the Oil & Gas Industry*, www.oilflows.com, published April 2021
- *The World Market for Coriolis Flowmeters, 6th Edition*, www.FlowCoriolis.com, published September 2020
- World Market for Gas Flow Measurement 4th Edition, www.GasFlows.com, published August 2020
Core Study: The World Market for Gas Flow Measurement, 4th Edition
Module A: Applications and Strategies for Gas Flow Measurement
Module B: Natural Gas Production, Consumption, and Flow Measurement in the Oil & Gas Industry

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Don't see exactly what you need in the off-the-shelf studies? Flow Research also does **custom projects**. Contact us to discuss how we can help you.

7. The Worldflow Handbook: A Guide to Flowmeter Selection & Suppliers — now fully updated to 2021!

- Which flowmeter do I need for my application?
- Where can I find a supplier?
- What other companies are in the flowmeter market?

The Worldflow Handbook is the only complete and independent worldwide guide to flowmeter selection and flowmeter suppliers. Its pages are chock full of valuable information for flowmeter suppliers and end-users alike! The Worldflow Handbook gives you the information you need to decide what type of flowmeter to use for your application, find a supplier to order it from, and locate contact information for the supplier. New-technology flowmeters include Coriolis, magnetic, ultrasonic, vortex, and multivariable DP. Conventional technology flowmeters include differential pressure, positive displacement, turbine, open channel, thermal, and variable area. The Handbook also gives flowmeter manufacturers an overall look at who is in the flowmeter market and who you are competing against in every flow technology. The Handbook includes:

- An explanation of the paradigm case method of flowmeter selection
- A listing of the suppliers for all the new-technology and conventional technology flowmeters and what types of meters they manufacture
- A directory of over 250 flowmeter suppliers – updated to 2020.

To get your copy, click the Order link at www.flowhandbook.com or contact Flow Research at 781-245-3200 or jesse@flowresearch.com.

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