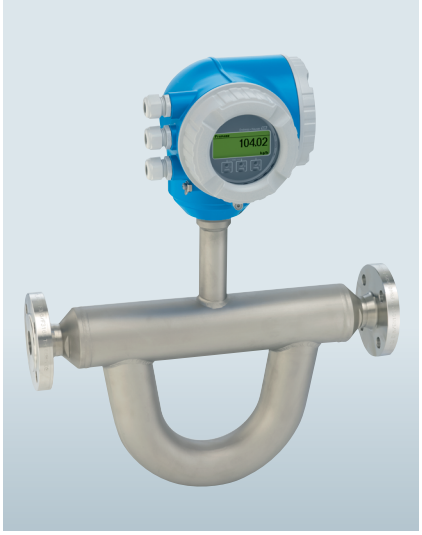
Oil And Gas Company Reaches Target Accuracy With Online Densitometer Tools

Endress+Hauser's Promass Q provides accurate measurement of crude and refined hydrocarbon products

Benefits at a Glance

- High accuracy, repeatability and reproducibility against a wide range of crude and refined products
- Easy access to transmitter for continued maintenance and testing
- Reduced complexity and variety — freely configurable I/O functionality
- Fewer process measuring points — multivariable measurement including flow, density and temperature
- Patented Multi-Frequency Technology (MFT) for reliable measurement of fluids with gas entrainment or microbubbles



Summary: Oil and gas companies face the challenge of maintaining highly accurate reports as they measure products with a wide range of density, pressure and viscosity in hazardous conditions. Flawed measuring technology could cause great harm to the product, people and environment, so they have a responsibility to keep things up to high standards.

Recently, a large oil and gas company came to Endress+Hauser with a need for updated density measuring technology. The company was using online or near line density measurement to judge product quantity and quality for refined and crude oil products; however, the legacy densitometers in use had become obsolete. In order to maintain their API and ASTM standards, they needed to replace the existing models.

After running live tests to gather data, Endress+Hauser found the Promass Q 300/500 Coriolis meters were the right fit. Even against a wide range of crude and refined products, these meters met the manufacturer's targeted accuracy numbers.

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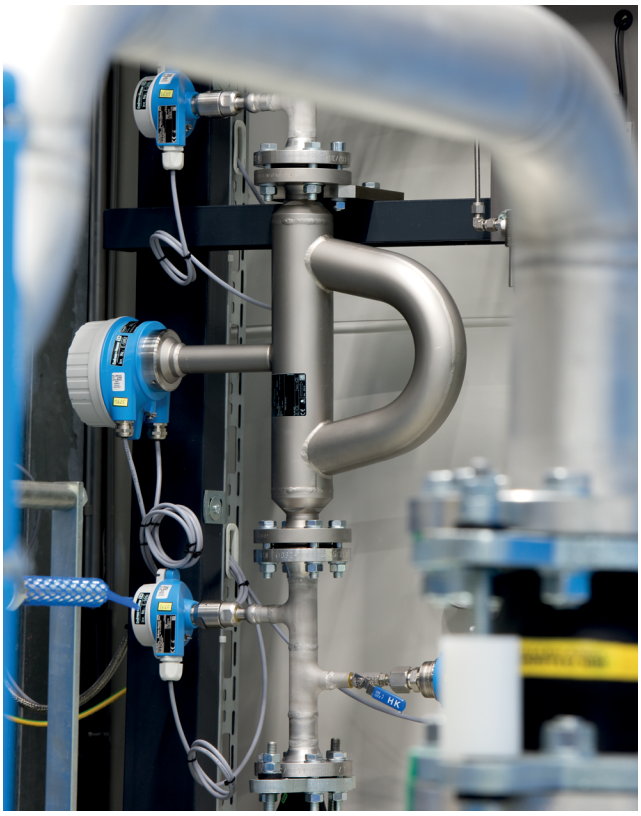

Challenge: The oil and gas company prioritizes reliability and pipeline integrity which begins with ensuring its storage tanks and products are sound. They do this by monitoring the pipelines and tanks 24/7, but in order to prevent problems, they need reliable technology. This is why they partnered with Endress+Hauser to find a replacement for their aging densitometers before they became a problem.

Our Solution: The customer communicated with Endress+Hauser's team to express challenges, formulate a game plan and set a target for both uncertainty and reproducibility for the new technology.

To begin, two methods of data collection were implemented. First, a Promass Q 300 Coriolis flowmeter was set up and interfaced with an OMNI 6000 at the Endress+Hauser facility in Greenwood, IN. The device was easily mapped and successfully simulated for all the required functions. The Promass 300 was also integrated into an RSG40 data logger to obtain advanced diagnostic parameters. The Promass 300 is a powerful flowmeter ideal for very demanding and hazardous environments so the team was confident it would meet requirements and specifications.

From there, a testing criteria was created to compare the densitometer results using two sampling methods. The first involved a manual sampling procedure and the second utilized a pressurized sample test at two third-party laboratories. The results confirmed the Promass Q flowmeter was the correct solution.

Components:
- OMNI 6000 flow computer
- Promass Q 300
- RSG40

Results: With the Promass Q 300/500, Endress+Hauser was able to offer an effective solution for its density measurement needs. With high accuracy, repeatability and reproducibility against a wide range of their products, the Promass Q flowmeters met the requirements. And with more than 40 crude oil products and 20 refined oil products fueling the country – high-performing, dynamic flowmeters are essential.

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