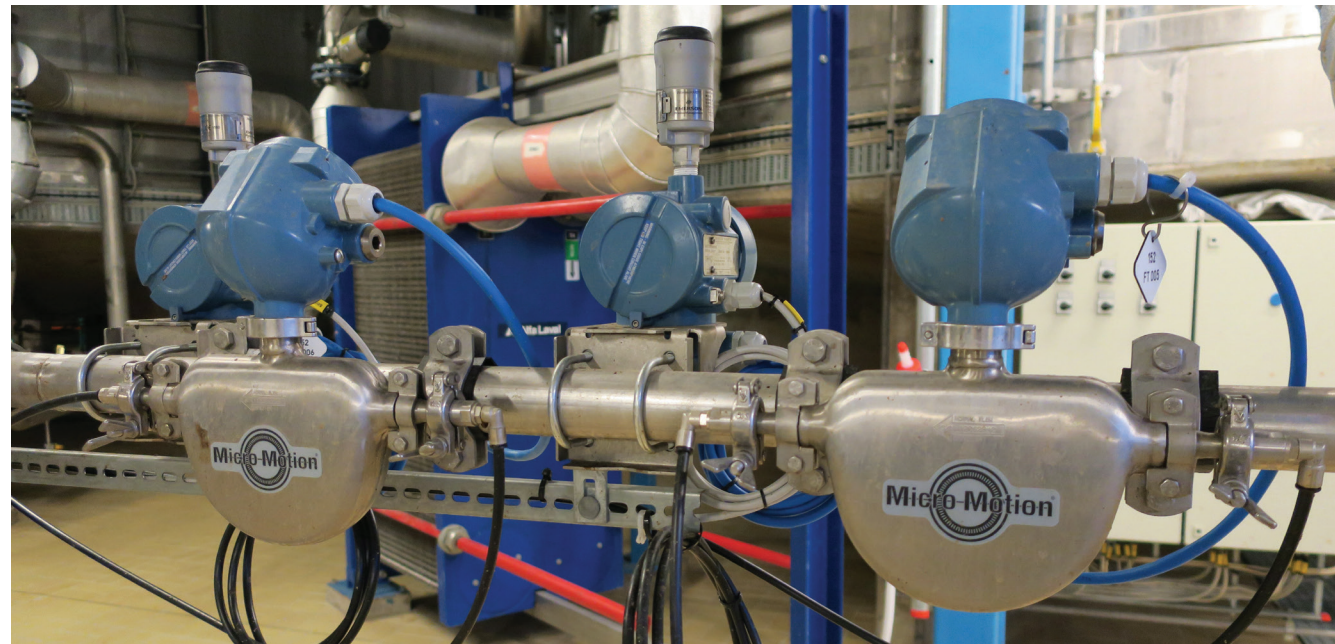


PASSING THE TEST

Absolut Vodka uses a meter diagnostic tool that assesses flowmeter performance and integrity without disrupting the production process.

MAYA NORRIS MANAGING EDITOR



Absolut Vodka uses Emerson's Smart Meter Verification system to measure the accuracy and performance of its flowmeters. Photo courtesy of Absolut Vodka.

ABSOLUT VODKA produces 100 million L of vodka a year for the global market. That's quite a feat given that the company's small distillery in Nöbbelev, Sweden, only has 48 people running it. Production on such a vast scale with a limited labor force means the premium vodka maker depends heavily on the performance of its flowmeters. To ensure the accuracy and reliability of those meters, Absolut Vodka uses a meter diagnostic system that monitors and tests the flowmeters' performance and integrity without interrupting the manufacturing process, helping to reduce downtime and maintenance and enhance employee safety.

Absolut Vodka's plant uses Emerson's Micro Motion Coriolis Mass Flowmeters and Rosemount Magnetic Flowmeters to measure mass and volumetric flow of the plant's liquids. Both types of flowmeters are equipped with Emerson's patented Smart Meter Verification (SMV) system, an in-situ, on-demand diagnostic tool that validates the operation of the flowmeter, verifying meter health and calibration without removing it from the production line. Using on-board diagnostics, SMV tests the flowmeter's components and key performance indicators, such as tube stiffness, transmitters, sensors, cable signals and output parameters, by comparing a baseline signature to the factory baseline.

Goodbye to downtime

By deploying SMV, Absolut Vodka says it has been able to reduce downtime. Prior to implementation of the SMV system, Absolut Vodka had to pull its flowmeters from the production line and ship them to the supplier for external verification and calibration twice a year. That required Absolut Vodka to shut down production for at least two weeks each time it sent the meters to the supplier. In addition, the flowmeters could be damaged in transit. And most of the time, the supplier found that the flowmeters were performing efficiently and accurately.

"Not only was it costly and time consuming, but it often involved removing flowmeters when they were, in fact, working correctly," says Pär Björklund, distillery engineer at The Absolut Company - Pernod Ricard, the parent company of Absolut Vodka. "We needed a solution that eliminated the need to unnecessarily send away instruments that were still accurate and reliable."

"With the Smart Meter Verification, we don't need to remove the flowmeters and send them away," he adds. "We can test the flowmeter is working correctly during full production. That's one of the biggest benefits for having it, because it costs lots of money to stop the plant and lose productivity."

SMV allows Absolut Vodka to test the flowmeters inline twice a month without any downtime. Technicians schedule and automate the tests, which can verify and check the calibration of the meters in 90 seconds within a 0.1 percent accuracy, according to Björklund. If the tests determine a problem with the flowmeter calibration, technicians can recalibrate the meter inline without halting production.

Digital connectivity

SMV also creates a safer work environment for Absolut Vodka employees. In addition to running the SMV process by using the local display of the transmitter of each flowmeter in the plant, technicians can conduct the meter verification process and recalibrate the flowmeter remotely from a computer away from the plant floor. The flowmeters are wirelessly connected to Emerson's AMS Device Manager software and Smart Meter Verification SNAP-ON application via the Emerson THUM Adapter. When the Smart Meter Verification SNAP-ON application is launched from the AMS Device Manager, the SNAP-ON application checks and captures device configuration and zero calibration level, sensor structure, electronics, and signal processing for complete verification of meter performance. It also trends and reports test results for test traceability and easy data management.

"Our technicians can verify and document the performance and overall health of our flowmeters from the comfort of the control room," Björklund says. "We are reducing the personal exposure for manual operations. If a worker drops the flowmeter, he can get some hot liquid on himself. Or he could come in contact with steam in the pipes or something like that. So it is a safety issue."

The AMS Device Manager and Smart Meter Verification SNAP-ON application not only allow for remote monitoring of the flowmeters, but also offer predictive diagnostics. The proactive tool provides

Smart Meter Verification can test and verify flowmeter performance in about 90 seconds without interrupting the production process.

Photo courtesy of Absolut Vodka.



The performance and accuracy of Absolut Vodka's flowmeters are crucial to helping its small distillery in Sweden produce 600,000 L of vodka a day. Photo courtesy of Absolut Vodka.

technicians with early detection of flowmeter problems, such as coating, corrosion, leakage or erosion, before it affects the manufacturing process. Technicians can then troubleshoot and neutralize the issue before it can damage the flowmeters or any other equipment in the plant. "The AMS alerts us to the beginnings of a problem," Björklund says.

With the AMS Device Manager and Smart Meter Verification SNAP-ON application, Absolut Vodka can use SMV to provide a robust audit trail for each flowmeter, complying with the requirements of third-party regulatory agencies, such as FDA, the Environmental Protection Agency and ISO. It can capture and prepare data for analysis and reports, store test results, and generate date-stamped verification reports. Absolut Vodka uses the SMV data and reports to maintain the plant's ISO 50001 certification for energy efficiency and ISO 9001 certification for the quality management systems of its wastewater treatment plant.

More SMV on the way

Because SMV has been able to increase uptime and accurately gauge the performance of the flowmeters at the Absolut Vodka plant, Björklund says that the company will gradually replace its older flowmeters with Emerson's Micro Motion Coriolis Mass Flowmeters and Rosemount Magnetic Flowmeters to take advantage of SMV — a boon to a plant with only 48 employees on staff.

"We are one of the world's most energy-effective and automated distilleries," Björklund says. "And to succeed, we need to use smart technologies like SMV and AMS [Device Manager]."

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