

Application News

Magnetic Flowmeter Used In Winery For TTB Audit Compliance

Industry: Food & Beverage

Service: Flow Rate/Total

Fluid: Wine

Overview

The U.S. Alcohol and Tobacco Tax and Trade Bureau (or TTB for short) oversees industry compliance with U.S. government laws and regulations governing the tobacco and alcoholic beverage industries. Both large and small wineries are scrutinized for their compliance with regulations addressing alcohol content, fill levels in bottles, etc. For example, TTB guidelines require a traceable check and balance system verifying the amount of gallons used for wine blending equals the amount of gallons produced by the blending process.

A TTB auditor may, at any time, require winemakers to provide equipment for ascertaining the capacity and contents of tanks and other storage containers, and scales and measuring devices for weighing and measuring their products.

Situation

A small Montana vineyard and winery contacted Flow Technology seeking help in measuring the volume of liquid transferred between various vessels during the wine production process. The customer had recently undergone a TTB audit of its winemaking operation, and did not have an accurate way of measuring and recording the amount of wine manufactured and sold.

This application required a sanitary flowmeter to measure wine sent from the wine press to holding tanks, as well as transfers from tank to tank and from tanks to barrels. This customer wanted to mount the flowmeter on a heavy-duty cart with wheels so that measurements could be performed in various locations throughout the winery.

Solution

Flow Technology worked with the winery to identify the optimal flow measurement solution for a check and balance system in compliance with TTB regulations. The EL 2400 Electromagnetic Flowmeter was chosen due to its sanitary design and measurement accuracy. It was paired with the MC 308 Display/Transmitter.

The EL 2400 provided the winery with a sanitary flowmeter that has no moving parts. This rugged mag meter is able to handle the solids content (e.g., grape skins, seeds, etc.) that may be in the wine in the early stages of production, and delivers the accuracy required for the TTB audit. The EL2400-025 is a one-inch meter, which was specified based on flow rate data provided by the customer. The MC 308C transmitter was selected for its display capability and 4-20 mA analog output.

System Description

The EL 2400 Series flowmeter is specifically designed for sanitary applications. The housing is PTFE lined stainless steel. The standard electrode material is 316L SS with options for Hastelloy C and Titanium. Available in line sizes from 1–4 inches, the meter is capable of operating over a temperature range of -40 to 284 degrees F.

The MC 308C transmitter is designed to display rate and total flows as well as provide multiple digital and analog outputs. It can be flowmeter mounted or remotely mounted with the supplied interconnection cable. The transmitter is also capable of reverse flow indication, alarms, extensive filtering, and diagnostics for empty pipe detection and electrode malfunction.

Technical Information

Flow Meter: EL2400-025ATCXPLCA
Transmitter: MC308CCVM2D3C21N
Flow Rate: 1.6–80 GPM
Fluid: Wine
Temperature: Ambient



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