

Winery Minimizes Risk of Unplanned Shutdown and Reduces Operations Costs with Unique Guided Wave Radar

RESULTS

- Minimized risk of unplanned shutdown
- Decreased operations and delivery costs
- Increased safety



APPLICATION

Diatomaceous Earth Silo; 80-ft. (24.4 m)

CUSTOMER

Winery in Western United States

CHALLENGE

A winery had difficulties monitoring inventory of diatomaceous earth, which is used to filter wine. Diatomaceous earth is stored in a tall silo, and it is a critical component in continuous production. During peak season about four loads were received daily from the supplier. If the silo got too low, the winery risked running out of filter.

This winery had tried several different methods of measuring the silo level including tuning forks and paddles. These devices did not accurately measure the amount in the silo and were often unreliable. Diatomaceous earth is challenging to measure because it is light weight, creates a dusty environment, and has low reflective properties. As a result, the plant personnel resorted to manual estimation by climbing a vertical ladder and pounding on the silo to determine the level.

Without an accurate inventory measurement, the winery risked running out of filter aid, which would result in a process shutdown. They risked spoiling the wine if it waited too long for filter aid. As a result, they spent extra money cooling it for preservation. Additionally, wine risks poor flavor quality if it sits on the lees too long. If supply is ordered too early, a complete load does not fit in the silo, resulting in a double transportation charge. Lastly, personnel were exposed to increased safety risks while climbing a ladder to take manual measurements.



Figure 1: Diatomaceous earth is used as a wine filter and stored in this 80-ft silo.

SOLUTION

To address this challenging situation, this winery installed a Rosemount 5303 Guided Wave Radar level transmitter with a flexible single lead probe. The Direct Switch Technology provided a stronger signal allowing for measurement throughout the entire 80-ft (24.4 m) measurement. With Probe End Projection activated on the Guided Wave Radar, this customer was able to accurately measure level of this very low dielectric product. This winery experienced many positive business outcomes from the success of the Guided Wave Radar level measurement. The continuous measurement minimized the risk of process shut down from running out of filter. This also reduced the need for partial load and emergency deliveries from the filter aid supplier lowering delivery costs. Lastly, safety risks were minimized by eliminating the need for personnel to climb the tank to take manual measurements.

RESOURCES

Emerson Process Management Food & Beverage Industry

<http://www.emersonprocess.com/foodandbeverage/>

Rosemount 5300 Series Guided Wave Radar

<http://www.emersonprocess.com/rosemount/products/level/m5300b.html>

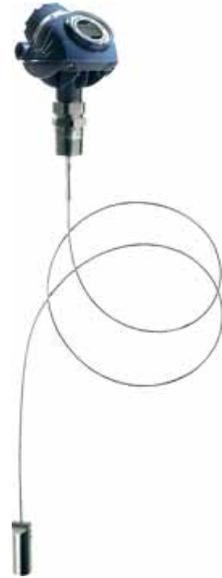


Figure 2. Rosemount 5300 with flexible lead probe.

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