

Rosemount 2110 in Soft Drinks

RESULTS

- Minimum intrusion ensures complete tank emptying
- Unaffected by cleaning processes
- Immune to entrained gases



APPLICATION

- Low-level detection in batch processing tanks of sugar and water solutions.
- Stainless steel vessels containing up to 30,000 liters / 7,925 gallons of liquids used to manufacture soft drinks.

CUSTOMER

Manufacturer of soft drinks

CHALLENGE

Different ingredients are blended together in the manufacture of soft drinks. Once the product is ready, it is drained off and transported away for bottling. As the vessels are drained, it is important to maximize the amount of product removed from the vessel, and also to ensure that no air is pumped through.

Within the vessel are stirrers/agitators to mix and blend the products. The resulting turbulence can affect some instrumentation and cause false tripping of alarms and interruption in the batch mixing process.

CIP cleaning at 300 °F (150° C) in the form of hot water is carried out between the batches.

A common requirement is that all instrumentation can be interfaced directly with the PLC system.

The Rosemount 2110 Vibrating Fork Point Level Switch can be used for low-level detection in batch processing tanks.

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SOLUTION

The Rosemount 2110 Vibrating Fork Level Switch is a perfect solution for low-level alarm detection in these batch processing tanks. As the liquid drains past the low-level of the 2110, an alarm occurs and the batching process is stopped. This also ensures that the pump is protected.

The minimum intrusion of the short fork ensures complete tank emptying. Via its PNP output, the 2110 signal is fed directly into the PLC which automates the entire process. The 2110 is unaffected by the stirrers and ensures that switching only occurs when the liquid level falls below the forks.

The 2110 is designed to withstand the thermal shocking caused by the CIP cleaning process often found within the food and beverage and the pharmaceutical industries.

NOTE: The Rosemount 2110 is also available with a direct load switching output up to 0.5A.



Figure 2: The compact vibrating fork level switch is easily mounted in bottom of the tank. The short fork ensures minimum intrusion.



Figure 3: Signal is fed directly to the PLC via its PNP output.

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