



Measuring Alkyd resins level with radar technology



chemical

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SIEMENS

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Challenge

SI Group, located in Scarborough, Ontario, Canada, is a leading manufacturer of Alkyd resins. A critical part of their production process is reliable and accurate level measurement of both raw materials and finished product. Operators must provide a sufficient supply of materials according to strict production planning and they must ensure that the storage tanks are not overfilled.

Internal dividers and structural support members in the tanks present challenging conditions for traditional non-contacting level measurement technologies. For accurate measurements, a narrow contained signal is required to ignore these obstructions. The tank has only one small nozzle available for installing a level measurement device and it is located close to the vessel wall. In addition, an extremely high concentration of vapor makes ultrasonic technology unsuitable. Differential pressure technology is also undesirable because it requires recalibration when the material density changes. With all these challenges, finding a reliable sensor to measure level in this vessel turned out to be easier than anticipated.

Solution

SI Group plant engineer, Mr. Sam Nguyen, contacted Siemens' area sales representative, Measuremax, and described the level measurement requirement. Given the physical challenges the compact 2-wire SITRANS LR250 radar transmitter was installed.

The high frequency SITRANS LR250 features a small horn antenna and a threaded connection allowing installation directly into the existing opening on the tank. There is no need to remove the lid for programming; the transmitter is configured using the non-intrusive infrared handheld programmer, allowing programming even during unfavorable weather conditions such as during the heavy rainstorm on the day of commissioning. The SITRANS LR250 provides level readings accurately in a matter of minutes.

A unique feature of the Process Intelligence echo processing software (built-into the device) is "Auto-False-Echo-Suppression". This enables the SITRANS LR250 to ignore the internal structural members inside the tank. The SITRANS LR250 is not influenced by vapor or material density changes, requiring no recalibration when the material inside the tank changes.

Benefits

The SITRANS LR250 continues to provide continuous reliable and accurate level measurement. Unlike other radar transmitters used by SI Group, this transmitter has never required any readjustments or fine-tuning, which translates into zero maintenance costs. Production planners are highly confident with the level readings from the vessel and customer deliveries can be reliably promised. "It's nice to finally have a truly plug-n-play level transmitter like the SITRANS LR250," proclaims Sam Nguyen.



The compact SITRANS LR250 can be installed in small vessel openings and close to the vessel walls.