

Radar with Process Seal Antenna Isolates Device from the Vessel

RESULTS

- Minimized risk of contamination
- Provided a reliable, stable measurement
- Reduced maintenance time and costs



APPLICATION

Intermediate heating tank for antioxidants

Application Characteristics: Moderate dielectric liquid with heavy vapors, calm surface

CUSTOMER

Song Won Industries® in South Korea

CHALLENGE

Song Won Industries has an intermediate heating tank for their organic liquid. The horizontal vessel is heated up to 250 °F (120 °C).

The customer needs a non-contacting device to meet their specific needs because they do not want to risk contaminating their products. Due to the heating process, heavy vapors are generated which coat all exposed surfaces. Therefore, any equipment used must be easy to clean.

SOLUTION

The Rosemount 5600 Non-contact Radar Level transmitter with a PTFE Process Seal provides great flexibility and addresses all the challenges. The PTFE process seal prevents vapors from coating the antenna and prevents contact with the process liquid. In addition, because radar measurement is independent of fluid changes, no recalibration is required between fluids or fills.

The PTFE process seal provides isolation from the fluid on the walls and an easy to clean surface. The process seal is much easier to clean than the horn shaped antenna.

The Process Seal antenna is mounted on a 12 in (300 mm) tall nozzle, which is the maximum allowed nozzle length. Care was taken to ensure that there was no tilting or inclination and that the inside surface of the



The horizontal vessel is heated to 212-250° F (100-120° C)

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nozzle was smooth and straight. These steps minimized any unwanted signals from the nozzle.

The results of the careful installation can be seen in the tank graph where the signal peak is strong and clear of other disturbances. With the combination of the smooth and straight nozzles, calm surface conditions, and the moderate dielectric constant of the fluid, the radar transmitter received a high signal reflection from this process seal installation.

The Rosemount 5601 provides a clean, reliable and stable measurement with minimal maintenance.

RESOURCES

Rosemount 5600

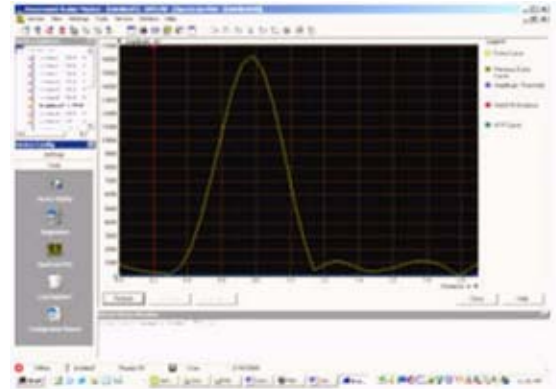
<http://www.emersonprocess.com/rosemount/products/level/m5600.html>

Emerson Process Management's Chemical Industry Page

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The 12 in (300 mm) nozzle on which the Process Seal antenna is mounted.



The tank graph shows the strong reflection from the liquid surface.

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