

# Maintenance and Safety Problems Solved with Rosemount® Guided Wave Radar

## RESULTS

- Increased safety due to reduction of exposure to volatile compounds
- Decreased downtime and maintenance
- Improved throughput due to better level measurement accuracy and reliability



## APPLICATION

Ethanol scrubber

## APPLICATION CHARACTERISTICS

Ethanol with dirty, sticky and volatile contaminants that coat equipment

## CUSTOMER

A gas storage company based in Germany

## CHALLENGE

The customer uses an ethanol based filter system to clean the gas before delivering the gas to the grid. The inlet filters catch slugs of water mixed with small amounts of oil and glycol and remove them from the gas. These filters need to be maintained at an accurate level to optimize throughput in their gas filter systems and to avoid a shutdown of the line.

The presence of the volatile components results in a safety critical environment with a high demand for reliability.

The filtration system can become very dirty and the customer was experiencing problems with build-up on their installed level measurement devices. The gas filters used a combination of magnetic level indicators together with competitor guided wave radar transmitters with coaxial probes installed altogether in a single chamber. These instruments were very sensitive to product contamination; the devices were getting coated and giving out an incorrect output signal. The customer was finding it necessary to clean the systems at least twice a year.

*With an accurate and robust level measurement, the ethanol scrubbers can be safely operated at optimum capacity for the best throughput with no unexpected downtime.*



*The Rosemount 5300 was installed in a chamber inside an insulated box.*

**ROSEMOUNT**®

For detailed product information go to:  
[www.rosemount.com/level](http://www.rosemount.com/level)

  
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### SOLUTION

The Emerson team suggested a different level measurement approach using a Rosemount 5300 Guided Wave Radar with a single rigid probe in a new chamber without the magnetic level float. Since the 5300 Series features a local display and the whole assembly was enclosed in an insulation box, there was no need for an additional visual indicator.

The 5300 Guided Wave Radar technology is very robust. With the use of direct switch technology, the signal is very strong and allows a single lead probe to be used where competitive GWRs' require coaxial probes.

Single lead probes can tolerate much higher amounts of coating without producing false readings. This greatly increases the uptime and availability to the process. The option to use a single lead probe instead of a coaxial probe provided much better reliability.

To further ensure the unit tolerates any build-up, the Rosemount 5300 includes built-in diagnostics which monitor product build-up on the probe. Built-in diagnostics detect the amount of build-up on the probe and enable maintenance work to be scheduled only when necessary, resulting in increased throughput and reduced downtime. Since the probes are only cleaned when necessary, exposure to the volatile compounds has been reduced and thus safety has been improved.

To enable use of the diagnostics, a SmartWireless THUM™ Adapter was added to the Rosemount 5300. This allowed the diagnostic information variables to be transmitted to the DCS. All the Rosemount GWRs' are installed with the THUM Adapter to capture the diagnostic data and to allow preventative maintenance tactics to be employed.

Now, with the accurate and robust measurement provided by the Rosemount 5300, the ethanol scrubbers can be safely operated at optimum capacity for the best throughput with no unexpected downtime.



*To enable use of the diagnostics, a SmartWireless THUM Adapter was added to each Rosemount 5300.*

### RESOURCES

Product data sheets may be found on [Rosemount.com](http://Rosemount.com)

**Rosemount 5300 Series Guided Wave Radar**

**Emerson Smart Wireless THUM Adapter**

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