

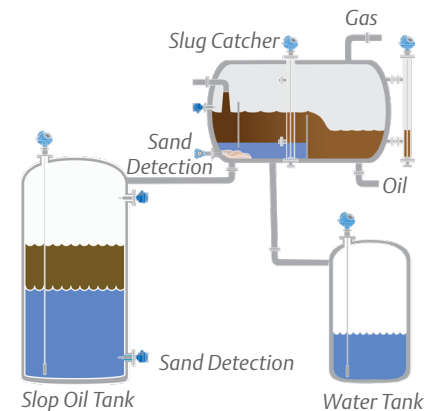
Accurate and Reliable Measurements for Natural Gas Processing – Inlet Facility

Utilize **innovative**,
and **robust** solutions for
measurements in
natural gas
processing inlet
facility vessels



Inlet facility process

The first step in processing involves cleaning the gas that comes from the oil field via pipelines. Hydrocarbons, and water are separated from the natural gas. In this part of the process, it is important to be able to measure the interface between water and oil. Along with liquids from natural gas exploration, sand is often included and this can plug pipes and also damage equipment such as pumps. Sand detection and removal is critical.



Innovative solutions for interface measurements and sand detection

Interface level between two products can be tricky to measure. Rosemount™ 5300 Radar Level Transmitters provide accurate measurements on very thin layers e.g. separation of oil and water. It can also easily be placed in any existing chamber since it enables measurements all the way to the top of the nozzle without any dead zone. The Rosemount 2140 Level Detector is well suited to detect sand build-up, facilitating automated clean-out cycles, and avoiding unnecessary stop in operation and field trips.

Less maintenance and optimized performance

With no moving parts in contact with the media, and all electronics placed within the transmitter head, outside the process vessel atmosphere, radar technology provides a robust solution involving minimal maintenance. Radar instrumentation is also less affected by vessel conditions compared to many other technologies. Accurate measurements can be achieved independent of density, product build-up, pressure, and temperature variations.

Key Benefits

- + Detect and remove sand sediments at vessel bottom to prevent equipment damage
- + Measure thin interface layers accurately
- + Avoid problems with corrosive liquids, impact from turbulence, pressure shocks etc
- + Measure within full range in chambers
- + Reduce maintenance and cleaning



Rosemount 2140

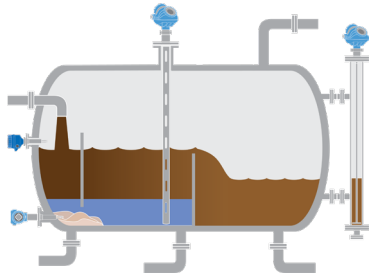
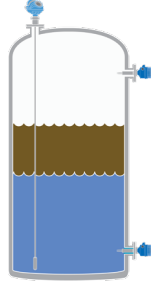
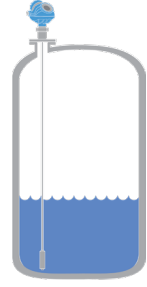
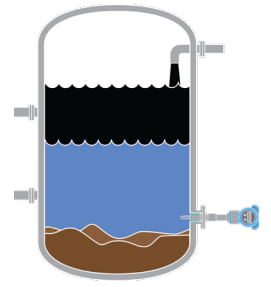


Rosemount 5300

“
The Rosemount 2140 provided the solution to the problems of **pipeline corrosion** and **pump abrasion** caused by **sediment build-up**.”

Oil & Gas Company, China.

Emerson application solutions

	Slug Catcher	Slop Oil Storage Tanks	Water Storage Tanks	Sand Detection
				
Challenges & Solutions	<p>Sand sediment can damage downstream equipment such as pumps. A level detector can be used for measuring sand sediments at the vessel bottom, so predictive cleaning measures can be taken. With guided wave radar technology both level and the interface level between oil and water can be measured accurately in order to separate liquids.</p> <p>Vessel Conditions</p> <p>Hydrocarbons, water and sand Pressure: 725 to 1450 psi (50 to 100 bar) Temperature: 302 °F (150 °C)</p>	<p>The challenge is the low dielectric media and measurements of oil on top of water. With guided wave radar technology both level and the interface level between oil and water can be measured accurately in order to separate liquids.</p> <p>Vessel Conditions</p> <p>Hydrocarbon, water, and condensate Pressure: 0 to 145 psi (0 to 10 bar) Temperature: 68 to 392 °F (20 to 200 °C)</p>	<p>Water tanks are used as buffers to decrease the risk of shortage or to keep a steady flow to the process. In some regions this is a regulatory requirement. Radar technology is suitable for measurement of level in water.</p> <p>Vessel Conditions</p> <p>Water Pressure: 14 to 174 psi (1 to 12 bar) Temperature: 50 to 140 °F (10 to 60 °C)</p>	<p>Sand piling up at the bottom of separators, vessels and pipes can damage equipment downstream and reduce vessel capacity. A level detector can be used for measuring sediments at the vessel bottom. By knowing when cleaning is required unwanted shut-downs can be avoided.</p> <p>Vessel Conditions</p> <p>Sand in water Pressure: 0 to 145 psi (0 to 10 bar) Temperature: 68 to 392 °F (20 to 200 °C)</p>
Recommended Products	<p>Rosemount 5300 Guided Wave Radar Level Transmitter Measures interface layers down to 1 in. (25 mm) Unique large coaxial probe without dead zones</p> <p>Rosemount 2140 Level Detector Detects sand sediment</p> <p>Rosemount CMB / Magtech Chamber When measurement needs to be isolated</p> <p>Rosemount 2120 Level Switch or 2160 Level Detector Overfill prevention/low level control</p> <p>Other solutions*</p> <p>Rosemount 5408 Non-Contacting Radar Level Transmitter Rosemount 3308 Wireless Guided Wave Radar Level Transmitter Rosemount 3051S Differential Pressure Transmitter</p>	<p>Rosemount 5300 Guided Wave Radar Level Transmitter Measures interface layers down to 1 in. (25 mm)</p> <p>Rosemount 2120 Level Switch or 2160 Level Detector Overfill prevention and pump protection</p> <p>Other solutions*</p> <p>Rosemount 5408 Non-Contacting Radar Rosemount 3308 Wireless Guided Wave Radar Level Transmitter Rosemount 3051S Differential Pressure Transmitter with Electronic Remote Sensor System (ERS)</p>	<p>Rosemount 5300 Guided Wave Radar Level Transmitter</p> <p>Other solutions</p> <p>Rosemount 5408 Non-Contacting Radar Level Transmitter Rosemount 3308 Wireless Guided Wave Radar Level Transmitter Rosemount 3051S Pressure Transmitter</p>	<p>Rosemount 2140 Level Detector Detects sand sediment in liquids</p>

* No support for combined level and interface measurement or sand detection.

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