

Underground Gas Storage - Retrieval Optimization

Improve maintenance planning and increase safety in gas retrieval operations by monitoring solids, fluid erosivity and infrastructure metal loss.



Solids Production Rate, Fluid Erosivity, and Erosion Monitoring

During the winter season energy demand peaks, requiring sustained high velocity gas retrieval. Unwanted solids production erode the operator's pipework, rotating equipment, and valves, hindering delivery commitments and safety conditions.

Quantify the Risk of Gas Retrieval

Gas retrieval forces high speed solids carry over from the reservoir to topside facilities. Measuring the rate of solids particles and fluid erosivity are key indicators of risk that help operators maximize retrieval operations.

Quantify the Impact of Gas Retrieval

Solids can erode asset infrastructure invisibly from the inside. The rate of metal loss increases rapidly with flow rate, forcing operators to produce below required retrieval rates for fear of loss of containment. Operators can monitor this challenge using online wall thickness sensors to maximize gas retrieval rate.

Avoid Choke and Rotating Equipment Failure

Engines, pumps, and chokes are heavily affected by solids production. Based on solids production data, enhance your reliability programs and avoid unwanted erosion events.

Enhance Storage and Retrieval Reservoir Performance

Historic solids production and erosion rates reveal insights about aquifer, salt, or depleted gas reservoir's health. Seamlessly gather, store, and share solids production risk and erosion impact across key decision makers to enhance future storage and retrieval operations.

For more information, visit [Emerson.com/CorrosionSandMonitoring](https://www.emerson.com/CorrosionSandMonitoring) or contact your local Emerson Sales Representative



Confidently increase your gas retrieval rates through continuous monitoring of solids, fluid erosivity, and metal loss.



Underground Gas Storage Optimization

Real-time Sand and Erosion Measurements

Wall Thickness Measurement

The Rosemount™ Wireless Permasense ET210 Corrosion and Erosion Monitoring System is a non-intrusive device designed to continuously measure wall thickness in pipes and vessels using ultrasonic technology (UT). The ET210 Sensor system is non-intrusive and battery-powered, allowing for quick and straightforward magnetic installation over erosion hotspots in both single or multiple unit arrangements. The ET210 delivers data via *WirelessHART*®, enabling secure and cost-effective data retrieval to desk.



Rosemount Wireless Permasense ET210

Solids Intensity and Rate Measurement

The Roxar™ SAM Acoustic Sand Monitor is a non-intrusive device designed to measure intensity of solids as well as the rate in oil and gas flow lines using acoustic technology. The Roxar SAM is installed at a bend and data is retrieved via a Modbus Remote Terminal Unit (RTU), providing actionable information directly to your Distributed Control System (DCS).



Roxar SAM Acoustic Sand Monitor

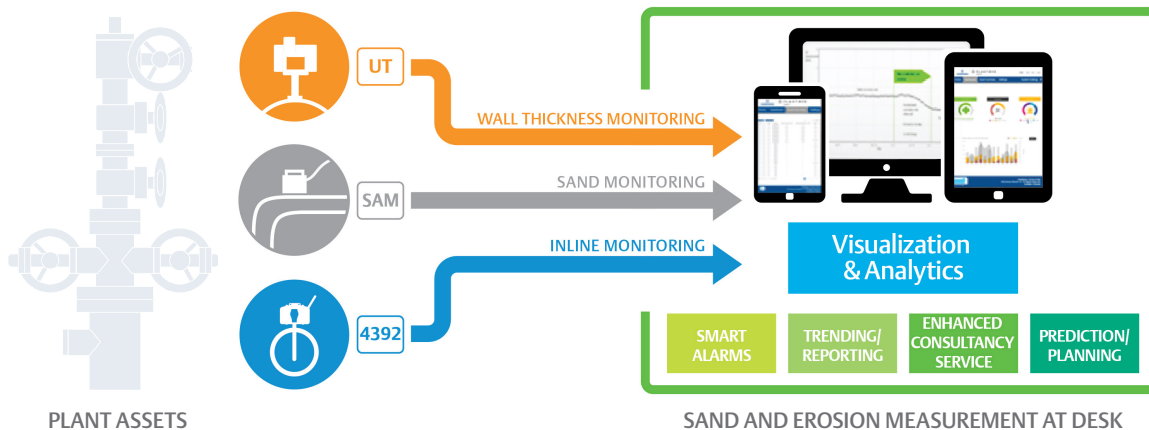
Fluid Erosivity Measurement

The Rosemount 4392 Erosion Wireless Transmitter is an inline device designed to measure fluid erosivity in oil and gas flowlines using Roxar's multi-element sand probe. The Rosemount 4392 delivers data via *WirelessHART*®, enabling secure and cost-effective data retrieval to desk, sharing wireless infrastructure with other devices.



Rosemount 4392 Erosion Wireless Transmitter

Complete Underground Gas Storage Optimization Solution



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Consider It Solved.

Emerson Automation Solutions supports you with innovative technologies and expertise to address your toughest challenges.

For more information, visit

[Emerson.com/CorrosionSandMonitoring](https://emerson.com/CorrosionSandMonitoring)

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