

Rosemount Wireless Permasense Corrosion Erosion Monitoring System for Refineries



CHALLENGE

Aging facilities, greater fluid corrosiveness, tightening health and safety requirements, and the environmental costs of a leakage are all challenges with which we are familiar. Direct, accurate and sufficiently frequent measurement of pipework thickness to effectively identify trends is rarely feasible with manual inspection methods. Coupled with this are the challenges involved with manual inspection, such as accessibility and avoidance of safety risks to personnel.

OUR SOLUTION

The Rosemount™ Wireless Permasense™ system provides non-intrusive, continuous corrosion and erosion monitoring that can operate at extreme pipe temperatures and in the most remote of locations. This provides you with an up-to-date picture of how your infrastructure is coping with the ever-changing demands placed upon it. The reliable, accurate wall thickness data informs decision making about the timing of maintenance and replacement. It also informs optimization of corrosion prevention and mitigation strategies and further understanding of the impact of feedstock and process decisions.

HOW IT WORKS

Rosemount Wireless Permasense WT210 transmitters employ unique stainless steel waveguides that hold the ultrasonic transducers and electronics away from what could be a very hot piece of metal. The waveguides are designed to transmit the ultrasound from the transducers without distortion yet reliably isolate the transducer and electronics housed in the sensor head from extremes of pipework temperatures – up to + 600 °C (1112 °F) in refinery pipework and down to -180 °C (-292 °F) in LNG facility pipework. ET410 sensors use unique electromagnetic acoustic transducers (EMAT) to measure locations up to 300 °C through external coating such as paint. The sensors are powered by compact power modules and use *WirelessHART*®, meaning no cabling is required - minimizing the cost of installation and enabling use in remote areas and on a large scale. The sensors and power modules are certified intrinsically safe for use in all hazardous areas.

WHAT IF...

...you could operate your plant to its maximum capability?

...you could implement more accurate and more frequent corrosion and erosion monitoring in critical plant areas?

...you could improve safety of your personnel while also making more informed corrosion and erosion maintenance decisions?



These non-intrusive systems use unique sensor technology and wireless data delivery to continuously monitor for metal loss from corrosion or erosion



For more information visit
www.Emerson.com/Permasense
or contact your local Emerson Sales Representative



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BENEFITS

Feedstock diversification, especially processing of higher acidity crudes

Informing metallurgical upgrade decisions

Tighter and more frequent corrosion monitoring in critical areas of the plant

Best-available thickness measurement accuracy and frequency with data directly to desk

Informing shutdown timing decisions

Improving personnel safety and effectiveness

Monitoring of corrosion inhibitor efficiency

Early detection of corrosion events enabling online remediation



Software Suite

- Accompanying software stores thickness data and associated waveforms and provides a visualization and reporting suite
- Easy data export to historians, such as PI

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