

application bulletin

APPLICATION:

- Hydrocarbon Processing Application: Platformer Recycle Gas

TAI SOLUTION:

Model 8800UOP Loop powered dewpoint transmitter

Application Overview

Moisture measurement in platformer recycle gas is critical for the protection of the catalyst. Excessive moisture can destroy the catalyst resulting in significant expense.

The on-line measurement of moisture in platformer recycle gas has proven difficult in the past because the chloride content of the gas attacks conventional moisture sensors, causing measurement drift and shortened sensor life.

HTF™ Sensor Evaluation

A Teledyne Model 8800UOP loop-powered dewpoint transmitter using an HTF moisture sensor was installed in a platformer recycle gas stream at a UOP pilot plant. The sensor was installed in parallel and at the same time with a conventional aluminum oxide sensor. Both sensors were purged with dry nitrogen before exposure to the process gas.

The conventional sensor failed after a few days into the test. The Teledyne HTF sensor provided solid performance six months after installation, as the graphs on page two indicate. Nine months after installation, the sensor continued working as expected.

Conclusion

Teledyne HTF sensors provide stable performance in difficult hydrocarbon processing applications where conventional sensors fail or require frequent calibration or replacement.

Water	25 ppm
Chlorine	20 ppm
Hydrogen	79.77 mol%
CH ₄	4.89 mol%
C ₂ H ₆	4.23 mol%
C ₃ H ₈	3.85 mol%
C ₄ H ₁₀	3.10 mol%
C ₅ H ₁₂	1.21 mol%
C ₆ +	2.94%
	100 mol%

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