Atmos Pipe - The Statistical Volume Balance Leak Detection System

Detected more pipeline leaks and ruptures around the world than any other system

Most trusted
Pipeline controllers trust the supreme reliability and ease of alarm and event analysis; prompt response to Atmos Pipe leak alarms has helped minimize the consequential costs of dozens of real pipeline leaks and ruptures.

More accurate
Fast scanning option makes leak location more precise, allowing leak location as accurate as ±100m.

More methods

SCADA Wave
- Rarefaction wave leak detection using SCADA data from existing pressure meters to identify the onset of a leak
- Significantly faster detection time and greater sensitivity
- Great compliment for pipelines with faulty or inaccurate flow meters
- Designed for long sections of pipeline with several block valves and pressure meters

Rupture detection option
A trusted rupture alarm to prompt immediate shutdown by the pipeline controller.

As conventional leak detection systems search for small leaks as well as ruptures, inherent uncertainties can cause false alarms forcing the controller to take time to confirm a leak alarm before shutting down the pipeline. In contrast, the rupture alarm will convince the controller to shut down the pipeline immediately.

Most compliant
Statistical tool automatically records and reports Key Performance Indicators (KPIs) critical for your Pipeline Leak Detection Program (API 1175).
- Reliability (false alarm rate)
- Sensitivity
- Detection time
- Leaks detected
- Supporting components;
  - Instrument performance
  - Communications outages

Key features
- High reliability, minimum false leak alarms
- Field proven for over 20 years on more than 800 pipelines
- Detects onset and existing leaks
- Leak location accuracy as low as ±100m (with fast scanning option)
- Leak detection size as low as 0.25% of flow with high quality instrumentation
- Deployed in pipelines from 0.4 to 1,900km long, and 0.5” to 48” in diameter
- Software solution that uses flow and pressure data from SCADA or PLC systems
- First choice of most major pipeline operators worldwide
- Detects leaks under all operating conditions with negligible reduction in minimum detectable leak size during transients
- Draining and filling module to reduce the likelihood of false alarms during pipeline filling
- Stat Tool automatically documents performance of the LDS and supporting components in line with API 1175
- Fully compliant with; API 1130, API 1175, API 1155, API 1149, German Regulations for Pipeline Leak Detection (TRFL), Shell Pipeline Leak Detection Recommendations (DEP 31.40.60.11Gen)
Why Atmos Pipe is reliable
Since its inception as the first statistical volume balance system in 1995, Atmos Pipe has been at the forefront of leak detection technology. It uses the powerful Sequential Probability Ratio Test (SPRT) with pressure and flow analysis to optimize leak detection.

At Atmos we understand that every pipeline has its own personality. The design of Atmos Pipe assures tuning and optimization for every pipeline to minimize the effect of:

- Instrument faults, including telecommunication failures
- Operational changes from shut-in to start-up, and running
- Fluid property changes
- Seasonal changes or supply and demand variations
- Instrument drifts or calibrations

Atmos Pipe identifies operational changes in the pipeline and continues to detect small leaks during transients.

Sensors used
- Pressure meters at each end and, optionally, at intermediate pump and valve stations
- Flow meters at supply and delivery points
- Temperature meters are not crucial, but recommended when there are large differences between product and ambient temperature

Data source
Atmos Pipe: SCADA, DCS, PLC, or RTU
Atmos Pipe with Fast Scan: PLC or Atmos AWAS high-speed data acquisition units

The original, one of the best; now even better!

SCADA Wave
Significantly decreases detection time and detects even smaller leaks.

Fast scanning
Improves leak location to as accurate as ±100 meters with correct conditions. Uses PLC or Atmos AWAS high-speed data acquisition units.

Rupture detection
A highly reliable rupture alarm to prompt immediate shutdown minimizing the consequence of a rupture.

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About Atmos International
Atmos International (Atmos) provides pipeline leak detection and simulation technology to the oil, gas, water and associated industries. The company was founded in 1995 in the UK by the inventor of the statistical pipeline leak detection system – Atmos Pipe, now one of a suite of leak and theft detection solutions from Atmos. These technologies are implemented on hundreds of pipelines in over 50 countries, including major oil and gas companies such as Shell, BP, ExxonMobil, and Total. With associated offices in the USA, China, Russia, Singapore and Costa Rica, and local agents in 28 countries, the multi-cultural and multilingual team can provide effective support all over the world.

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