Spectrometer detects gas leaks in pipelines

Leaking gas pipelines are a serious safety risk for oil, petrochemical and gas industries.

Ensuring the integrity of gas pipelines is of paramount importance for economic, environmental, and public safety reasons. Real-time leak detection systems are essential in detecting and addressing ...

Pipelines play a vital role in material transportation within industrial settings. This review synthesizes detection technologies for early-stage small gas leaks from pipelines in the industrial ...

In summary, helium mass spectrometer leak detector plays an important role in the detection of high-purity gas pipelines. Its high precision and sensitivity make it impossible for small leaks to escape, ...

The first part briefly reviews various leak detection methods used in the natural gas pipelines. The second part reviews the optical methods used for natural gas leak detection, and the final part ...

Here, we added neon gas to natural gas pipelines as a tracer gas, and used a miniature time-of-flight mass spectrometry (mini-TOFMS) to on-site detect neon gas to quickly locate the leak ...

If a leak exists, the pressure difference immediately draws the helium into the evacuated interior and directly into the mass spectrometer. Since the detector constantly samples the gas flowing through ...

Pipeline integrity monitoring systems SLB"s pipeline integrity monitoring systems--part of the Optiq(TM) fiber-optic solutions family--enable pipeline operators to perform accurate leak detection and pig ...

Identifying pipeline natural gas leaks, which are invisible and often odourless, is a significant challenge. Legacy methods, which have existed for decades, include walking along pipelines with handheld ...

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