

Explosive-gas detector tested to support safe gas processing

NPL's multi-gas, multi-pressure humidity generator has been used to test the performance claims of GasSecure's explosive-gas detector, for potential use within gas processing plants.



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Challenge

Explosive gases are hazardous above a certain concentration in air (e.g. at a volume fraction of around 4 %, for methane). In gas processing industries, it is therefore crucial to continuously monitor for these gases.

The novel wireless hydrocarbon gas detector from GasSecure is designed to send a rapid alert when the explosive gas is detected (e.g. at 10 % of the lower explosion limit (LEL) for methane).

Before purchasing the device, Evaluation International (EI) Members required that the manufacturer's claims be independently tested over a range of relative humidities and temperatures.

Solution

NPL's recently-launched multi-gas, multi-pressure humidity facility was used to provide humidified gas mixtures to specifications requested by a panel of technical specialists at EI.

This facility enabled tests using humid air with known proportions of explosive gases (methane, propane and butane). NPL worked closely with GasSecure to run a representative test on one device, to ensure it was operated correctly.

The response time of the detector to the introduction of the gas mixtures was measured over a variety of humidity and temperature conditions.

Outcome

NPL was able to show that the device reported detecting the gas at the required levels within the manufacturer's stated time for all the gases and environmental conditions requested. The results of the NPL evaluation provided evidence of performance, in order for EI Members to consider whether to purchase the detector.



Image Credit: GasSecure AS

Customer Testimonies

"Rigorous independent testing under controlled conditions by the professionals at a world class organisation such as NPL provide GasSecure clients the certainty they need to make informed product decisions."

Dr Christian Heinlein, Product Manager
GasSecure AS

www.gassecur.com/

"The independent verification of the device performance by NPL provided us with the essential data to assess the readiness of the technology for its use on our facilities."

Anonymous member of EI

www.evaluation-international.com/

This work was carried out through the Evaluation International (EI), the International Instrument Users' Association.

Further information about NPL's unique multi-gas, multi-pressure humidity generator

NPL's multi-gas, multi-pressure humidity generator is available for the generation of humidity in a range of gas species and gas mixtures at pressures up to 3 MPa, including methane, CO₂ and synthetic natural gas blends.

www.npl.co.uk/humidity/non-air-gases

Contact Details	Further Information
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