ISO 17025 calibration of direct measurement LNG analysers

EffecTech® can now validate your instrument used for direct measurement of LNG.

This new service means you can have confidence in your instruments and reduce risk of mismeasurement.

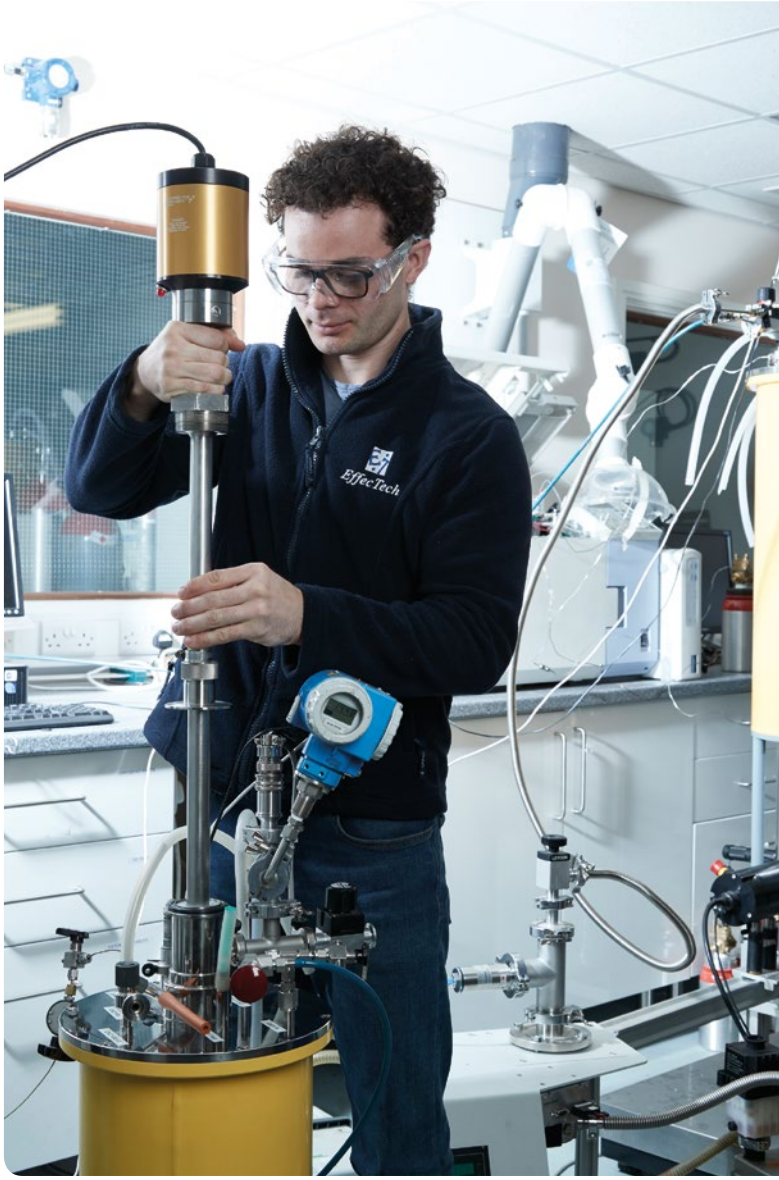
EffecTech has been awarded ISO 17025 accreditation from UKAS for the calibration of Liquefied Natural Gas (LNG) analysers. The calibration method uses reference liquid mixtures which are prepared cryogenically in a bespoke cryostat. This accredited method provides, for the first time, chemical traceability for instruments measuring LNG composition directly, e.g. Raman and infrared instruments, ensuring your instrument is accurate and fit for purpose.

Validating your instrument

These direct measuring devices are often purchased for bunkering ships, floating production storage and offloading units (FPSOs), and small-scale terminals. However, as daily calibrations cannot be carried out, initial and regular validations of direct measuring devices are vital to ensure no mismeasurements are made.

component	amount fraction (% mol/mol)	uncertainty *(k=2)*
nitrogen	0.1 to 1.8	1.10% relative + 0.0065
methane	79 to 100	0.035
ethane	0.1 to 4	0.30% relative + 0.001
	4 to 14	0.05% relative + 0.01
propane	0.1 to 4	0.15% relative + 0.0015
iso-butane	0.02 to 1.3	0.25% relative + 0.001
n-butane	0.02 to 1.3	0.25% relative + 0.001
iso-pentane	0.01 to 0.16	0.50% relative + 0.0002
n-pentane	0.01 to 0.16	0.50% relative + 0.0002

World's first traceable cryogenic LNG reference liquids developed at EffecTech



As Liquefied Natural Gas (LNG) continues to grow as an energy source globally, it is vital that both suppliers and users ensure that rigorous standards and measurement methods are applied to avoid the risks of mismeasurement.

LNG has its own unique measurement issues related to vapourisation and enrichment. In response to this, EffecTech has developed a bespoke cryostat facility for the production of cryogenic LNG reference liquids.

How the cryostat works

The cryostat can be used as a calibration device into which instrument probes are inserted for direct measurements of traceable LNG. These measurements can then be used to calibrate or validate the instrument by comparison with the known reference liquid composition.

The reference liquid composition is verified using our UKAS agreed method, which incorporates the requirements of the vapourisation testing standard EN12838:2000.

Bespoke LNG Consultancy

EffecTech's laboratory scale LNG production facility allows research and development to be carried out in a controlled environment.

EffecTech offers a range of accredited products and services for LNG, including:

- LNG sampling system inspections
- Optimisation of existing sampling systems
- Calibration gas mixtures for LNG measurement
- Global Gas and LNG proficiency testing scheme (GGLNG)

If you have an LNG project you would like to discuss, please get in touch info@effectech.co.uk

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EffecTech also operates laboratories in key locations in India and Qatar.

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UKAS REFERENCE MATERIALS 5710
UKAS CALIBRATION 0590
UKAS INSPECTION 5710
UKAS PROFICIENCY TESTING 4719
UKAS TESTING 1927