



Natural gas analysis and gas quality

- Accredited analysis of natural gas, fuel gas etc.
- Thermodynamic and combustion engineering characteristics

The gas quality has a critical impact on gas utilisation

The composition of natural gas, town gas and biogas is not constant. Different conditions can make the compositions change over time and thus change the physical and combustion engineering characteristics of the gases.

Even though gas quality only varies within the limits set in the Danish Gas Regulations, impact on processes and appliances where the gas is to be used can occur.

A varying gas quality which is not taken into account, can lead to a poor operating economy, an unstable production and – at worst – service stop and poor safety conditions.

DGC offers consultancy and calculation regarding all types of gasses

Natural gas is the primary work area for DGC, but DGC also offers consultancy regarding town gas, biogas and customer specific gasses.

From any type of composite gas we can calculate the composition and combustion engineering characteristics.

The temperature of spontaneous ignition, the autoignition delay and the laminar flame speed for combustible gasses can be determined by reaction kinetic models.

We can also calculate hydrocarbon dew points for any composite gas.

Save time and money by simulating before construction!

DGC has advanced tools to simulate utilisation of a specific gas before it is used in a specific installation. In most cases it will save time and money spent on development costs and commissioning.

Examples

- The influence of gas quality on engine operation
- Conversion tasks between e.g. town gas and natural gas
- Calculations of emission

Besides a theoretical simulation of the characteristics of a gas DGC has laboratory facilities in order to measure explosion limit (ignition limits) for all combustible gasses.

Gas analysis at a certain time and place

If it is needed to know the actual gas compositions at a certain time and place, DGC offers to take samples in a pressure vessel and from this analyse and calculate the most important combustion engineering data such as calorific values, Wobbe index, density, compressibility factor and methane number. For continuous analysis for a longer period of time, DGC offers as an alternative a mobile gas chromatograph.

For price information, please contact:
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DGC is accredited under DANAK (The Danish Accreditation and Metrology Fund) for sampling and analysis of natural gas to determine composition, physical characteristics and CO₂ emission.

Field of accreditation (mol-%)

- Methane 20-98.7
- Ethane 3-20
- Propane 0.5-30
- n-butane 0.5-15
- i-butane 0.05-4
- neo-pentane 0.001-0.02
- n-pentane 0.01-4
- i-pentane 0.01-4
- C6+ 0.001-2.5
(single components max. 0.22 mol-%)
- Oxygen 0.02-0.09
- Nitrogen 0.1-3.6
- Carbon dioxide 0.05-5.5

Contact us

If you have any questions regarding the subjects described on the product sheet or other DGC services, you are welcome to contact us:

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Danish Gas Technology Centre

DGC is a consultancy and development company in the fields of energy and the environment. DGC's main focus area is gas and gas utilisation.

DGC offers analyses, measurement assignments, laboratory tests, verifications, training and certification for the gas industry, energy companies, suppliers, public authorities and consultants. Read more at www.dgc.eu.