

mobilGC

Conform
to Standards
ASTM
D 2163 and
D 2598

Sampling Box - Extension module for MobilGC

Standard-compliant analysis of liquefied and compressed gases

Description

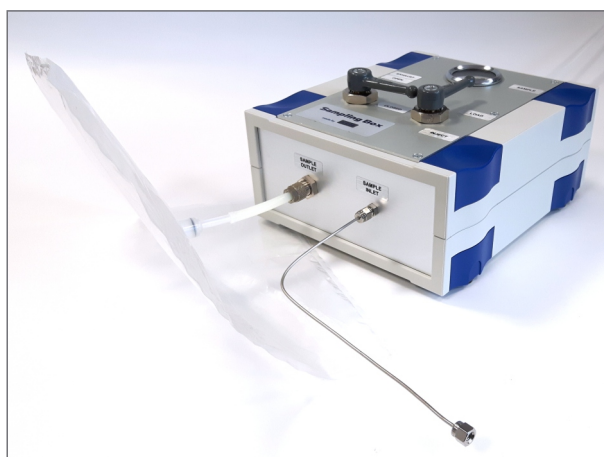
The MobilGC is a gas-phase chromatograph and easy to use. Measurement of gas composition according to ASTM standards D 2163 (LPG analysis) and D 2598 (evaluation method) is possible with combination of the Sampling Box.

The rugged case and the internal gas supply allow the LPG analysis on-site at the measurement points. The measurement sensitivity fulfills the requirements of the ASTM standards: 0.1 to 100 % of clean gas components.

For sample preparation the Sampling Box has to be connected with the gas bottle or sampling line of the liquefied gas and with a sampling bag. 5 ml liquefied gas is taken and transferred to the sampling bag for expansion. In this way you can also make gas mixtures by addition of further components, e. g. for calibration.

For analysis the sampling bag has to be connected with the MobilGC. A heated column separates the gas sample. With the comfortable software of MobilGC an easy chromatogram evaluation according to standards is possible.

The integrated expert evaluation system shows the result as concentration and additionally as total MON number or as MON value separately for each component.



Sampling Box for transformation of liquefied gas into gaseous samples



MobilGC with connected gas sampling bag

Applications

The analytical system is suitable for (depending on type of chromatography column)

- Determination of LPG composition
- Measurement of Motor octane number (MON)
- Check purity of LPG (content of pentane)
- Analysis of refrigerants
- Production and measurement of calibration mixtures

Advantages

- Simple sample preparation with Sampling Box
- Sample loop with 5 ml volume (also other sizes applicable)
- MobilGC with internal carrier gas supply for on-site analysis
- With up to 80 operating hours
- Easy refilling of gas supply
- Measurement sensitivity 0.1 to 100 %
- Result as concentration, as total MON number or as MON value for each component

MobilGC with thermal conductivity detector (TCD):

- Robust device with simple handling
- Only one gas type required
- Helium as carrier gas (according to standard ASTM D 2163)
- Simple sample handling

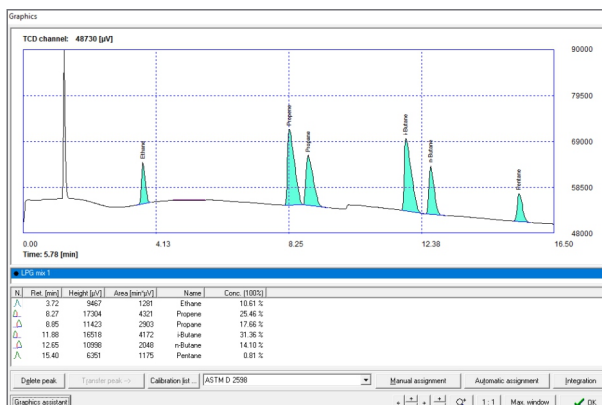
Technical specifications

MobilGC

| | |
|-----------------------------|---|
| Measurement range: | 0.1 ... 100 % |
| Resolution: | 0.01 % |
| Typical duration: | 2 ... 30 min (depending on sample) |
| Temperature of column oven: | Max. 250 °C, controllable with individual temperature program |
| Internal gas supply: | Approx. 80 h operating period |
| Power supply: | 230 V/50 Hz |
| Power input: | Max. 240 W |
| Dimensions, weight: | 56 x 46 x 32 cm (W x H x D), 23 kg |

Sampling-Box

| | |
|---------------------|--|
| Sample volume: | Sample loop with 5 ml volume (also other sizes applicable) |
| Sample pressure: | Max. 10 bar |
| Dimensions, weight: | 17 x 9 x 20 cm (W x H x D), 1 kg |



Chromatogram of a LPG sample

| Component | % Conc. | Partial gage vapor pressure [kPa] | Relative mass | Partial MON |
|-----------|---------|-----------------------------------|---------------|-------------|
| Ethane | 10.61 | 512 | 0.03779 | 10.7 |
| Propane | 17.66 | 212 | 0.08956 | 17.2 |
| Propene | 25.46 | 374 | 0.13264 | 21.6 |
| n-Butane | 14.10 | 36 | 0.08234 | 12.6 |
| i-Butane | 31.36 | 125 | 0.17649 | 30.6 |

| Parameter | Result |
|-------------------------|----------|
| LP-Gas vapor pressure | 1260 kPa |
| LP-Gas relative density | 0.519 |
| Motor octane number | 92.5 |

Evaluation by expert system

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