GC-IMS-SILOX

Monitoring Device for the Precise Quantification of Siloxanes in Biogas from Landfills, Digestors and Sewage

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The GC-IMS-SILOX is an independent and fully automatic working measurement device, which has been developed to precisely quantify the concentration of the single linear siloxanes L2, L3, L4 and L5 as well as the cyclic siloxanes D3, D4, D5 and D6 in biogas (Fig. 1). The concentration of the single siloxanes as well as the total amount of siloxanes and silica is displayed on the screen. The acquired concentration for the total silica is transmitted via a current loop of 4-20 mA, a modem or network connection to a control station.

The system uses N_2 or synthetic air as drift and carrier gas. Desired measurement and calibration intervals can be set individually. Before each measurement the system automatically carries out a self-test. The instrument can be operated through a remote control and work as a fully automatic online monitoring system. Measurement results are stored on the integrated compact flash card and can be transferred to an USB device or a remote server. The 6,4“ TFT touch screen display allows to visualize all data on-site and to carry out measurements manually on demand.

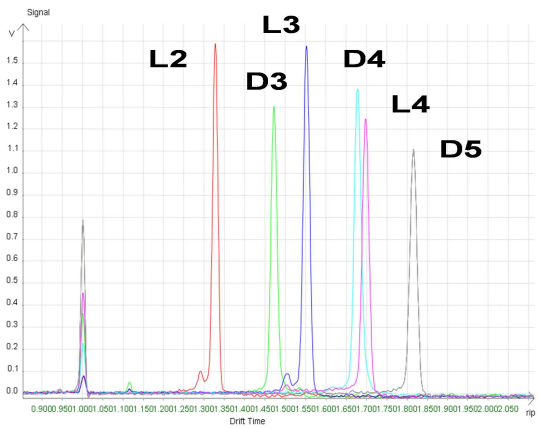
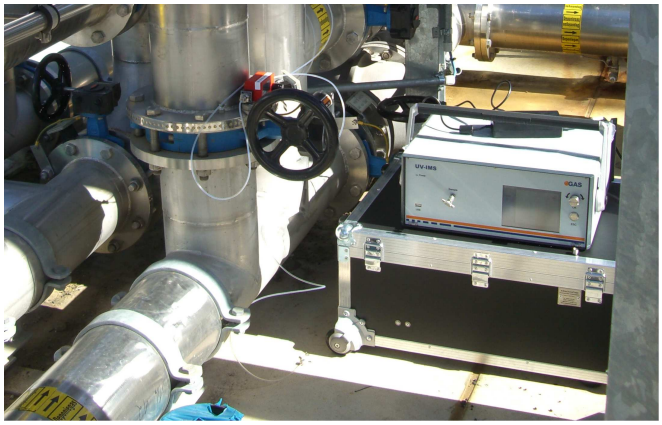


Fig. 1

Technical Specifications

Working Principle: Gas chromatography - Ion mobility spectrometry
GC-Column: 30m capillary column
Detector Source: 300 MBq H3, below the exemption limit of 1 GBq acc.to EURATOM guideline, no licence necessary
Sampling: Heated electrical 6-port-valve
Sample Introduction: Internal pump (250 mL/min.)
Measurement Range: 0.1 - 5 mg/m^3 for single siloxanes
Display: 6.4” TFT touch screen display
Data Acquisition: Ultra fast ADIO-board
Data Processing: 1.6 GHz Intel atom
Data Storage: Min. 4GB compact-flash memory or USB-Stick
Interfaces: RS232, USB, Ethernet, 4-20mA Current Loop
Pressure: Ambient
Power Supply: 100 – 240 V AC, 50-60 Hz (external) 24 V DC / 5A, XLR-connector (internal)
Temperature Operation: 0 – 45℃
Dimensions: 449 x 435 x 177 mm (WxDxH**)**
Weight: 15,5 kg
Housing: 19” compatible, IP 20 enclosure, CE-marking
Cooling: Axial ventilator, speed control temperature related
Gas Connectors: 3 mm stainless steel Swagelok connectors for drift gas inlet, sample gas in- and outlet, carrier gas inlet and IMS gas outlet



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