

Gasmeter™ DX4000 FTIR gas analyzer



Multicomponent FTIR Gas Analyzer

Gasmeter On-site Series includes portable multicomponent gas analyzers for demanding applications. The Gasmeter DX4000 incorporates a Fourier transform infrared, FTIR spectrometer, a temperature controlled sample cell, and signal processing electronics. The analyzer offers versatility and high performance for all users.

The Gasmeter DX4000 is designed for short term on site measurements with wide dynamic ranges. It is an ideal tool to measure trace concentrations of pollutants in wet, corrosive gas streams. The sample cell can be heated up to 180 °C. Sample cell absorption path length is selected according to the application.

The Gasmeter DX4000 allows simple calibration using only single component calibration gases. The user can easily configure the analyzer for a new set of compounds.

General parameters

Measuring principle:	Fourier transform infrared, FTIR
Performance:	Simultaneous analysis of up to 50 gas compounds
Response time, T₉₀:	Typically < 120 s, depending on the gas flow and measurement time
Operating temperature:	Short term 0 - 40°C long term 5 - 30°C

Gasmeter Technologies Oy

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Storage temperature:	non-condensing -20 - 60°C, non-condensing
Power supply:	100-115 or 230 V / 50 -60 Hz
Power consumption:	Average 150 W, maximum 300 W

Spectrometer

Resolution:	8 cm ⁻¹ or 4 cm ⁻¹
Scan frequency:	10 scans / s
Detector:	Peltier cooled MCT
Source:	SiC, 1550 K
Beamsplitter:	ZnSe
Window material:	ZnSe
Wave number range:	900 - 4 200 cm ⁻¹

Sample cell

Structure:	Multi-pass, fixed path length 5.0 m
Material:	100 % rhodium coated aluminium
Mirrors:	Fixed, protected gold coating
Volume:	0.4 liters
Connectors:	Inlet Swagelok 6 mm Outlet Swagelok 8 mm
Gaskets:	Viton® O-rings
Temperature:	180 °C, maximum
TEL: +358 9 759 00 400	WEB: www.gasmet.fi
FAX: +358 9 759 00 450	VAT NO: FI19526395
EMAIL: contact@gasmet.fi	

Window material: BaF₂

Measuring parameters

Zero point calibration: 24 hours, calibration with nitrogen (4.0 or higher N₂ recommended)

Zero point drift: < 2 % of measuring range per zero point calibration interval

Sensitivity drift: None

Linearity deviation: < 2 % of measuring range

Temperature drifts: < 2 % of measuring range per 10 K temperature change

Pressure influence: 1 % change of measuring value for 1 % sample pressure change. Ambient pressure changes measured and compensated

Electrical connectors:

Digital interface: 9-pole D-connector for RS-232
Analyzer is connected to an external computer via RS-232C cable. The external computer controls Gasmeter.
Remote control connection for Portable sampling unit

Power connection: Standard plug CEE-22

PSS connection: Remote connection of PSS (Portable Sampling System)

Gas inlet and outlet conditions

Gas temperature: Non-condensing, the sample gas temperature should be the same as the sample cell temperature

Flow rate: 120 - 600 liters per hour

Gas filtration: Filtration of particulates (2 µm) required

Sample gas pressure: Ambient

Sample pump: External, not included

Electronics

A/D converter: Dynamic range 95 dB

Signal processor: 32-bit floating point DSP
120 MFLOPS speed

Computer: External, not included

Analysis software (for external PC)

Operating system: Windows XP

Analysis software: Calcmet for Windows

Options

Sample cell: Multi-pass, fixed path length 2.5 m or 9.8 m

Pressure measurement: Inside sample cell

Analog signals (ext PC): ADAM 5000/TCP module (for analog inputs, outputs, relays)

Sample cell gaskets: Teflon® coated Viton® or Kalrez®

Trolley: Wheeled cart for the analyzer and laptop computer

Enclosure

Material: Aluminium

Dimensions (mm): 390 * 445 * 164

Weight: 13.9 kg

CE label: According to EMI guideline 89/336/EC

