

# Gasmet DX4000 FTIR gas analyzer



# **Multicomponent FTIR Gas Analyzer**

Gasmet On-site Series includes portable multicomponent gas analyzers for demanding applications. The Gasmet 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 Gasmet 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  $^{\circ}\text{C}.$  Sample cell absorption path length is selected according to the application.

The Gasmet 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, FTIRPerformance:Simultaneous analysis of up to 50

gas compounds

**Response time, T\_{90}:** Typically < 120 s, depending on

the gas flow and measurement

time

Operating temperature: Short term 0 - 40°C

long term 5 - 30°C

Gasmet Technologies Oy | Pulttitie 8 A

FI-00880 Helsinki Finland non-condensing

Storage temperature: -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-1Scan frequency:10 scans / sDetector:Peltier cooled MCTSource:SiC, 1550 KBeamsplitter:ZnSe

Wave number range: 900 - 4 200 cm<sup>-1</sup>

## Sample cell

Window material:

Structure: Multi-pass, fixed path length 5.0 m

Material: 100 % rhodium coated aluminium

Mirrors: Fixed, protected gold coating

ZnSe

Volume: 0.4 liters

Connectors: Inlet Swagelok 6 mm

Outlet Swagelok 8 mm

Gaskets: Viton® O-rings

**Temperature:** 180 °C, maximum

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Window material: BaF<sub>2</sub>

#### Measuring parameters

**Zero point calibration:** 24 hours, calibration with nitrogen

(4.0 or higher N<sub>2</sub> 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 Gasmet.

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 liers 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**

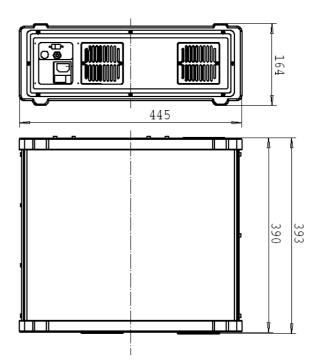
Material: Aluminium

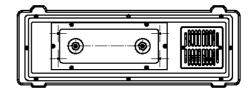
Dimensions (mm): 390 \* 445 \* 164

Weight: 13.9 kg

CE label: According to EMI guideline

89/336/EC





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