

# Gasmeter™ DX-4015



## Multicomponent FTIR Gas Analyzer

GASMET ON-SITE SERIES includes portable multicomponent gas analyzers for demanding applications. The GASMET DX - 4015 features a Fourier Transform Infrared (FTIR) spectrometer, a temperature controlled sample cell with a built-in pump, and signal processing electronics. The sample cell can be heated to 50 °C. Sample cell absorption path length is selected according to the application. This analyzer offers versatility and high performance for different applications.

The GASMET DX-4015 is designed for on site measurements at low concentrations in ambient air. Typical usage areas include industrial hygiene and emergency response situations.

The GASMET DX-4015 is factory calibrated using certified single component calibration gases. There is no need for the user to do any span calibrations after that. The user can also easily configure the analyzer for a new set of compounds.

### General parameters

<b>Measuring principle:</b>	Fourier Transform Infrared, FTIR
<b>Performance:</b>	Simultaneous analysis of up to 50 gas compounds
<b>Response time, T<sub>90</sub>:</b>	Typically < 120 s, depending on the gas flow and measurement time
<b>Operating temperature:</b>	Short term 0 - 40°C long term 5 - 30°C non condensing
<b>Storage temperature:</b>	-20 - 60°C, non condensing
<b>Power supply:</b>	100-115 or 230 V / 50 -60 Hz 12 VDC
<b>Power consumption:</b>	300 W

### Spectrometer

<b>Resolution:</b>	8 cm <sup>-1</sup> or 4 cm <sup>-1</sup>
<b>Scan frequency:</b>	10 scans / s
<b>Detector:</b>	Peltier cooled MCT
<b>Source:</b>	SiC, 1550 K
<b>Beamsplitter:</b>	ZnSe
<b>Window material:</b>	ZnSe
<b>Wavenumber range:</b>	900 - 4 200 cm <sup>-1</sup>

### Sample Cell

<b>Structure:</b>	Multi-pass, fixed path length 9.8 m
<b>Material:</b>	100 % Rhodium coated aluminium
<b>Mirrors:</b>	Fixed, protected gold coating
<b>Volume:</b>	0.4 l
<b>Connectors:</b>	Inlets Swagelok 6 mm Outlet Swagelok 6 mm
<b>Gaskets:</b>	Viton® O-rings
<b>Temperature:</b>	50 °C, maximum
<b>Valve:</b>	Manual Swagelok
<b>Window material:</b>	Ar coated ZnSe

### Measuring parameters

<b>Zero point calibration:</b>	24 hours, calibration with nitrogen (4.0 or higher N <sub>2</sub> recommended)
<b>Zero point drift:</b>	< 2 % of measuring range per zero point calibration interval
<b>Sensitivity drift:</b>	none
<b>Linearity deviation:</b>	< 2 % of measuring range
<b>Temperature drifts:</b>	< 2 % of measuring range per 10 K temperature change
<b>Pressure influence:</b>	1 % change of measuring value for 1 % sample pressure change. Ambient pressure changes measured and compensated

### Electrical Connectors:

<b>Digital Interface:</b>	9-pole D-Connector for RS-232 Analyzer is connected to an external computer via RS-232C cable. The external computer controls the GASMET.
<b>Power connection:</b>	Standard plug CEE-22

### Gas Inlet and Outlet Conditions

<b>Gas temperature:</b>	Non-condensing, the sample gas temperature should be the same as the sample cell temperature
<b>Flow rate:</b>	120 - 360 l per hour
<b>Gas filtration:</b>	Filtration of particulates (2µ) required
<b>Sample gas pressure:</b>	Ambient
<b>Sample pump:</b>	Internal, for ambient air only

### Electronics

<b>A/D Converter:</b>	Dynamic range 95 dB
<b>Signal Processor:</b>	32-bit floating point DSP 120 MFLOPS speed
<b>Computer:</b>	External, not included

### Analysis Software (for external PC)

<b>Operating system:</b>	Windows XP
<b>Analysis software:</b>	CALCMET 2005 for Windows

### Options

<b>Sample Cell:</b>	Multi-pass, fixed path 2.5m or 5.0 m
<b>Pressure measurement:</b>	Inside sample cell
<b>Analog Signals (ext PC):</b>	ADAM 5000/TCP module (for analog inputs, outputs, relays)
<b>Sample cell gaskets:</b>	Teflon® coated Viton® or Kalrez®
<b>Power connection:</b>	12VDC
<b>Power supply cables:</b>	12V cables with battery clips or cigarette lighter connector
<b>Trolley:</b>	Wheeled cart for the analyzer and laptop computer

### Enclosure

<b>Material:</b>	Aluminium
<b>Dimensions (mm):</b>	438 * 164 * 445
<b>Weight:</b>	14.9 kg
<b>CE - Label:</b>	According to EMI guideline 89/336/EC

