

# Gasetm™ CX4000 FTIR Gas Analyzer



## Multicomponent FTIR Gas Analyzer

Gasetm On-line Series includes industrial multicomponent gas analyzers for continuous monitoring applications. The Gasetm CX4000 incorporates a Fourier transform infrared spectrometer, a temperature controlled sample cell, and signal processing electronics. The analyzer is fully equipped for fixed installations and it offers versatility and high performance for all industrial users.

The Gasetm CX4000 is designed for continuous emission monitoring (CEM). It is an ideal tool to analyze trace concentrations of pollutants in wet, corrosive gas mixtures. The sample cell can be heated up to 180 °C. Sample cell absorption path length is selected according to the application.

The Gasetm CX4000 allows simple calibration using only single component calibration gases. The user can 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>	5 - 30°C, non-condensing air conditioning recommended
<b>Storage temperature:</b>	-20 - 60°C, non-condensing
<b>Power supply:</b>	100-115 or 230 V / 50 -60 Hz
<b>Power consumption:</b>	300 W max, continuous 150 W

### Spectrometer

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

### Sample cell

<b>Structure:</b>	Multi-pass, fixed path length 5.0 m
<b>Standard material:</b>	100 % rhodium coated aluminium
<b>Mirrors:</b>	Fixed, protected gold coating
<b>Volume:</b>	0.4 liters
<b>Connectors:</b>	Inlet Swagelok 6 mm Outlet Swagelok 8 mm
<b>Gaskets:</b>	Viton® O-rings
<b>Temperature:</b>	180 °C, maximum
<b>Window material:</b>	BaF <sub>2</sub>

### Measuring parameters

<b>Zero point calibration:</b>	24 hours, calibration with nitrogen (5.0 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 Gasmeter.
<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 - 600 liters per hour
<b>Gas filtration:</b>	Filtration of particulates (2 µm) required
<b>Sample gas pressure:</b>	Ambient
<b>Sample pump:</b>	External, not included

### Electronics

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

### Analysis software (for external PC)

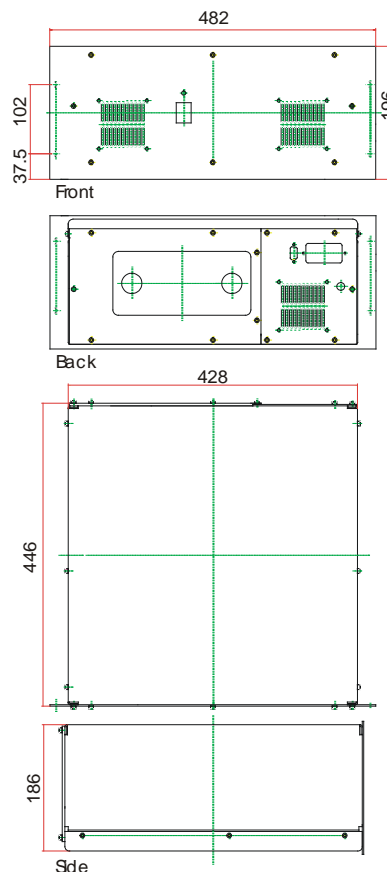
<b>Operating system:</b>	Windows 7 (32-bit)
<b>Analysis software:</b>	Calcmeter for Windows

### Options

<b>Sample cell:</b>	Multi-pass, fixed path length 2.5 m or 9.8 m
<b>Pressure measurement:</b>	Inside sample cell
<b>External PC:</b>	Gasmeter PC for control and analysis with optional alarm relay boards and analog inputs or outputs
<b>Sample cell gaskets:</b>	Kalrez®

### Enclosure

<b>Sample cell material:</b>	Aluminium
<b>Dimensions (mm):</b>	482 * 196 * 450
<b>Weight:</b>	17 kg
<b>CE label:</b>	According to EMI guideline 89/336/EC



Gasmeter Technologies Oy shall not be liable for technical or editorial errors or omissions contained herein. The information in this document is provided "as is" without warranty of any kind and is subject to change without notice. Should you find any errors, we would appreciate if you notified us.