

Gasmet™ CR-100



Multicomponent FTIR Gas Analyzer

GASMET IN-LAB SERIES includes quantitative multicomponent gas analyzers for laboratory research applications. The GASMET Cr-100 incorporates a Fourier Transform Infrared, FT-IR spectrometer, ambient temperature sample cell, and signal processing electronics. Liquid nitrogen cooled MCT detector has the highest performance available.

The GASMET Cr-100 is designed for highest sensitivity and speed. The long path length of the sample cell provides low detection limits. The mirrors are gold coated and the sample cell is not heated.

General parameters

Measuring principle:	Fourier Transform Infrared, FTIR
Performance:	Simultaneous analysis of up to 50 gas compounds
Response time, T₉₀:	Depends on the gas flow and measurement time
Operating temperature:	15 - 25°C non condensing
Storage temperature:	-20 - 60°C, non condensing
Power supply:	100-115 or 230 V / 50 -60 Hz
Power consumption:	Max 100 W

Spectrometer

Resolution:	8 cm ⁻¹ or 4 cm ⁻¹
Scan frequency:	10 scans / s
Detector:	Liquid N ₂ cooled MCT
Source:	SiC, 1550 K
Optics material:	ZnSe
Wavenumber range:	600 - 4200 cm ⁻¹

Sample Cell

Structure: Multi-pass, fixed path length 100 m
Material: Aluminium
Mirrors: Fixed, reflective gold coating
Volume: 30 l
Connectors: Swagelok 16 mm
Gaskets: Viton® O-rings
Temperature: Ambient
Window material: ZnSe

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
 Cr-100 is connected to an external computer via RS-232C cable. The external computer controls the GASMET.
Power connection: Standard plug CEE-22

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 l per hour
Gas filtration: Filtration of particulates (2µ) 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
Computer: External, not included

Analysis Software (for external PC)

Operating system: Windows XP
Analysis software: CALCMET for Windows

Enclosure

Material: Aluminium
Dimensions (mm): 1225 * 450 * 311
Weight: 45 kg
CE - Label: according to EMI guideline 89/336/EC

