

Gasmet™ FCX-Series



FTIR Process Gas Analyzer

The Gasmet FCX-Series features a comprehensive range of high performance FTIR Process Gas Analyzers. The wall mounted Gasmet FCX Process Gas Analyzers offer reliable results even when analyzing complex gas mixtures.

The Gasmet FCX Process Gas Analyzers incorporates a Fourier Transform Infrared spectrometer, gas cell, and signal processing electronics, a built-in Industrial Computer and a TFT-display into a compact enclosure.

The analysis results of Gasmet FCX Process Gas Analyzer are transmitted via 4-20mA Analog Output signals or digital outputs (ModBus)

The enclosure has IP 65 protection and the analyser is equipped with Vortex cooling system.

The sample cell can be equipped with an optional heating and temperature control up to 180 °C. Sample cell absorption path length is selected according to the application.

General parameters

Measuring principle:	Fourier Transform Infrared, FTIR
Number of components:	max. 8 components
Response time, T₉₀:	< 120 s, depending on the gas flow and measurement time
Operating temperature:	20 ± 20 °C
Climate Control:	Vortex
Storage temperature:	-20 - 60°C, non condensing
Power supply:	100-115 or 230 V / 50-60 Hz
Power consumption:	500 W

Spectrometer

Resolution:	8 cm ⁻¹ or 4 cm ⁻¹
Scan frequency:	10 or 4 scans / s
IR-Source:	SiC, 1550 K
Detector:	Peltier cooled MCT
Beamsplitter:	ZnSe
Window material:	BaF ₂ or ZnSe
Wavenumber range:	900 - 4200 cm ⁻¹

Sample Cell

Structure:	Multi-pass or single pass cells. Available from 1 cm up to 9.8 m
Standard materials:	Stainless Steel or 100 % gold or Rhodium coated aluminium
Connectors:	Swagelok 6 mm or 1/4"
Sample cell gaskets:	Teflon [®] coated Viton [®] . Kalrez [®] available upon special request
Temperature:	180 °C, maximum
Window material:	BaF ₂ or ZnSe or AR coated ZnSe

Measuring parameters

Zero point calibration:	24 hours, calibration with nitrogen (4.0 or higher N ₂ 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

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

Electronics

A/D Converter:	dynamic range 95 dB
Signal Processor:	32-bit floating point DSP 120 MEL OPS

Computer

Processor:	2 GHz Intel Celeron
Memory:	256 MB SDRAM
Hard disk:	> 40 GB
Operating system:	Windows XP system
Application software:	CALCMET for Windows
Outputs:	isolated 4-20 mA for each component or digital RS-232 Modbus
Relays:	Sample gas Function alarm Service request Concentration alarm
Display:	Door mounted 12" TFT display

Air Conditioning

GASMET Fcx is equipped with Vortex cooling system. Other cooling systems on request.

Cooling capacity:	270 W (air 7 bar, 21 °C, dewpoint -40 °C)
Air consumption:	425 Nl/min, max.
Air quality:	pressure 7-10 bar temperature + 43 °C, max. dewpoint -40 °C

Options

Sample pump:	for ambient air up to 50 °C only
Automatic zero valve:	up to 50 °C sample temperatures
Remote Control:	Modem and software for remote diagnostics
Sample cell temp.:	50 - 180 °C

Enclosure

Material:	Stainless steel
Dimensions (mm):	800 * 600 * 300
Weight:	50 kg
Protection:	IP 65
CE - Label:	according to EMI guideline 89/336/EC

