



Gasmet™ DX-4030

The Gasmet Dx-4030 is the World's first truly portable FTIR multi-gas analyser.

Real-time measurement of up to 25 organic & inorganic gases and vapours at low concentrations in ambient air

Easy to use

Fast start-up time

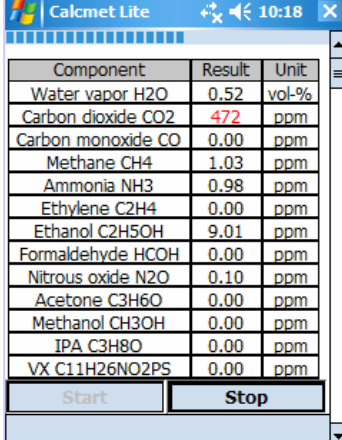
No span calibration required. Only periodic zeroes using nitrogen or zero air need to be performed



Battery operated system with up to 3 hours of continuous use possible

Continuous use with 240/110 VAC mains power also possible

Probe with built in particulate filter, no other sample preparation required



Component	Result	Unit
Water vapor H2O	0.52	vol-%
Carbon dioxide CO2	472	ppm
Carbon monoxide CO	0.00	ppm
Methane CH4	1.03	ppm
Ammonia NH3	0.98	ppm
Ethylene C2H4	0.00	ppm
Ethanol C2H5OH	9.01	ppm
Formaldehyde HCOH	0.00	ppm
Nitrous oxide N2O	0.10	ppm
Acetone C3H6O	0.00	ppm
Methanol CH3OH	0.00	ppm
IPA C3H8O	0.00	ppm
VX C11H26NO2PS	0.00	ppm

Analysis results displayed in real-time on PDA. Connection to PDA via wireless Bluetooth or RS232 cable

The Gasmet DX-4030 can be configured to measure virtually any gas that absorbs infrared. Therefore diatomic gases (O₂, N₂, Cl₂ etc) and inert gases such as Argon that do not absorb infrared cannot be measured.

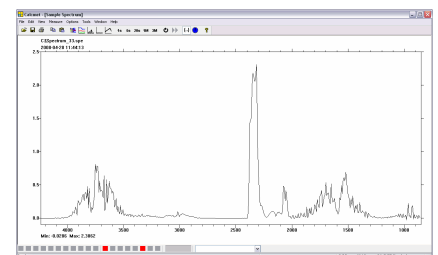
Also, the detection limit for H₂S is too high for practical use

Therefore the DX-4030 can measure all but 2 of the gases listed in the EH40/2005 list of workplace exposure limits



Automatic compensation for cross-interferences

The Infrared spectrum of each sample is stored.



Validation of results and identification of unknowns is possible using the optional Calcmet™ FTIR spectrum analysis software

Library of hundreds of additional gases and vapours available for generation of new analysis libraries and spectrum match functions

Complete training on use of analyser and software provided free of charge with instrument purchase

Application examples

Occupational hygiene

The DX4030 can be configured for use for a wide field of applications. Real-time measurements are displayed which offers significant advantages over delayed manual sampling batch process results.



Hospital applications

Anesthetic gas monitoring for leak detection and in operating theatres and recovery rooms. Sterilants such as ethylene oxide. Methyl methacrylate used in artificial joint replacement operations.

First response (HAZMAT)

For rapid identification of toxic gases present in chemical accidents

The DX-4030 can be pre-configured to target the chemicals involved in the incident and can collect infrared sample spectra for post sampling identification of unknowns

Leak detection

DX-4030 portability enables straightforward leak detection from processes, valves, fittings etc.

Process vent exhaust

For emissions from dry ambient temperature process vents



Large scale painting operations

Measurement of VOC components from painting processes, especially car manufacture where solvent evaporation has significant industrial hygiene effect.

Soil gas measurements

Chlorinated VOC's can evaporating from contaminated soil can be speciated and quantified

Perchloroethylene measurement

For measurement of the central nervous system depressant Perchloroethylene emitted during commercial dry cleaning processes, degreasing systems and the manufacture of refrigerants

Chemical Warfare Agents

The DX-4030 provide fast measurements with high accuracy minimal training. Potential false positives are identified during measurement

Cargo container fumigation

For routine measurement of fumigation chemicals in cargo containers. For measurement of fumigants from OEL to treatment levels. Typical fumigation chemicals include Sulfuryl Fluoride (SO₂F₂), Phosphine (PH₃) and Methyl bromide

Research and development

Versatile and ideally suited to R&D projects

Instrument specifications

General parameters

Measuring principle: Fourier Transform Infrared, FTIR
Response time, T₉₀: Typically < 120 s, dependent on gas flow and measurement time
Operating temperature: Ambient temperature (non condensing)
Short term 0 - 40°C
long term 5 - 30°C
Storage temperature: -20 - 60°C, non condensing

Spectrometer

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

Sample Cell

Structure: Multi-pass, fixed path length 9.8 m
Material: 100 % Rhodium coated aluminum
Mirrors: Fixed, protected gold coating
Volume: 0.4 l
Temperature: ambient

Measuring parameters

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: Bluetooth protocol & RS-232
The analyzer is connected to a PDA with Bluetooth connection (RS-232 optional).
Option: sample spectra transfer to laptop (PC) for additional analytical capabilities

Gas Inlet and Outlet Conditions

Gas temperature: Ambient temperature (0 - 50°C), non-condensing
Flow rate: 120 - 360 l per hour
Gas filtration: Filtration of particulates included in the sample probe
Sample gas pressure: Ambient
Sample pump: Flow 2 l/min, for ambient air only

Electronics

A/D Converter: Dynamic range 95 dB
Signal Processor: Two 32-bit floating point DSP's 120 MFLOPS speed

Analysis Software (PDA)

Operating system: Windows Mobile 6.0
Analysis software: Calcmeter Lite

Options

Software: Calcmeter 4030 Standard or Professional for additional analysis functions (identification of unknowns etc.), Laptop PC + Windows XP required. For more information read Calcmeter 4030 Std and Pro Technical data.

Enclosure

Material: Aluminium
Weight: 11.5 kg
CE - Label: According to EMI guideline 89/336/EC

All technical information may change without notice.