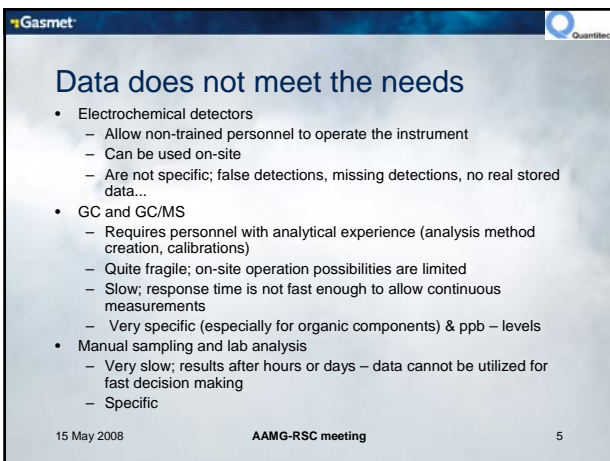
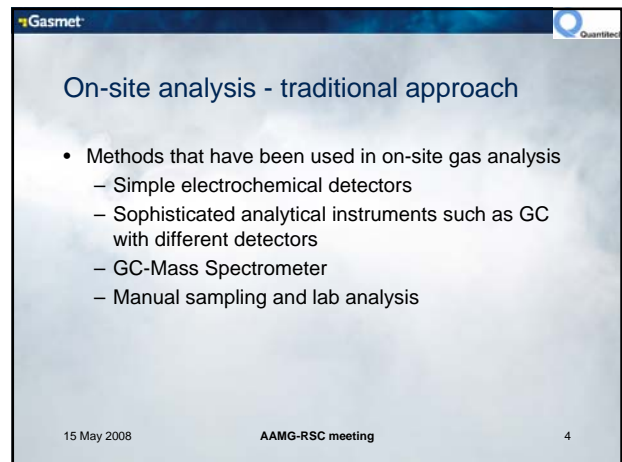
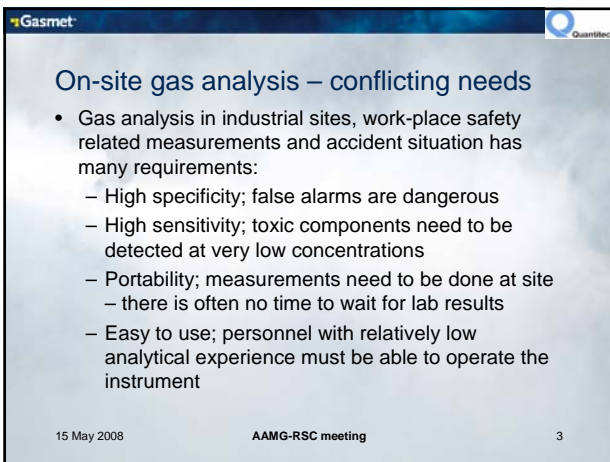
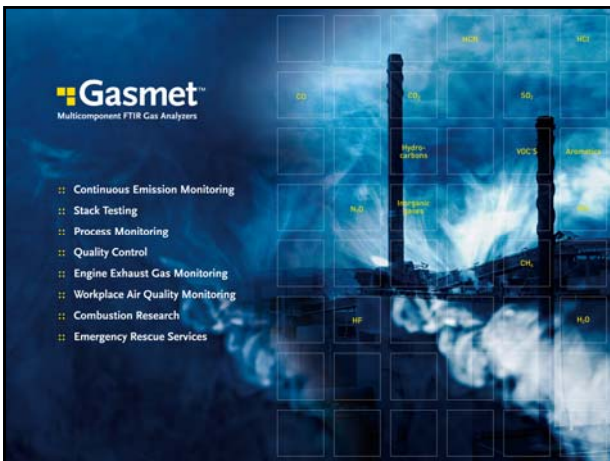


Portable FTIR Systems



Portable FTIR Systems

Gasmet DX4030

- Gasmet DX4030 is unique solution combining the specificity of sophisticated analytical methods with robust and easy-to-operate on-site measurements
- Based on FTIR (Fourier Transform InfraRed) technology
 - High specificity
 - Multicomponent
 - Fast, continuous measurements
- Based on proven Gasmet FTIR technology
 - Extremely robust design – with 10 years experience from portable FTIR
- Novel analysis approach
 - Analysis done on the DSP processor in the analyzer, measurement data transferred with wireless Bluetooth connection
 - Requires no analytical experience at all
 - But all spectral data is available for further processing if needed

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Gasmet Dx-4030: Introduction

- Battery operated → approx 2.5 hours of continuous use
- No sample cell heating → sample gas must be non-condensing
- "Wand" – type probe with a built in pump
- All the key components (interferometer, sample cell, electronics) are just the same as with any other Gasmet, with minor modifications → proven, rugged construction
- Twin DSP boards → results displayed on a rugged PDA
- Bluetooth connection between the analyzer & PDA (or laptop)
- Zero calibration with Nitrogen or clean air

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Standard configuration


- Includes the analyzer, backpack, battery and charger, power source, inlet filter, TDA Recon PDA + Calcmet Lite – software and basic application
- This is already a working instrument
- Optional equipment: Extra battery, transport case, Calcmet Pro – software extension



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Calcmet Lite Software

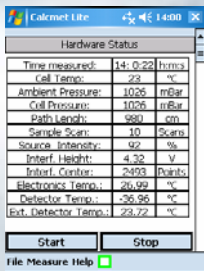
- Runs on PDA (Windows Mobile)
- Connects to the analyzer automatically during start-up
- Can be used in "offline" mode to transfer data to PC
- Indicator lights to display the status
- Analyzer power control on / off
- Very easy to use, no previous experience with analytical instruments required
- In concept similar to Calcmet, with .INI file for parameters .SPE file for spectra



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Calcmet Lite – Analyser Status

- Hardware status can be checked, these parameters are stored with every analysis
- Zero calibration procedure is simplified – warning displayed if zero is faulty (helps less advanced users)
- Calcmet running on a PC is used to load the application to the DSP
- PDA is used to display and store the analysis results

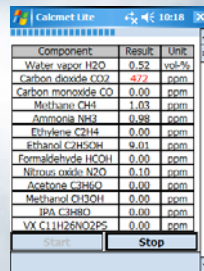


Hardware Status	
Time measured:	14: 0:22 (hrs:mn)
Cell Temp:	22 °C
Ambient Pressure:	1026 mBar
Cell Pressure:	1026 mBar
Path Length:	980 cm
Sample Scan:	10 Scans
Source Intensity:	92 %
Interf. Height:	4.32 V
Interf. Control:	2493 (Panda)
Electronics Temp.:	26.99 °C
Detector Temp.:	-36.96 °C
Ext. Detector Temp.:	23.72 °C

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Calcmet Lite - Results

- Sample flow rate ensures latest data displayed
- Full analysis available every 5 seconds
- Fields change colour to indicate alarm status
- Warning displayed if unknown compound detected



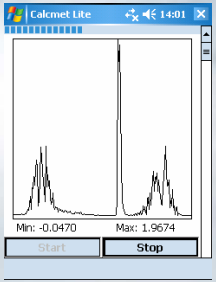
Component	Result	Unit
Water vapor H2O	0.52	vol-%
Carbon dioxide CO2	477	ppm
Carbon monoxide CO	0.00	ppm
Methane CH4	1.03	ppm
Ammonia NH3	0.98	ppm
Ethylene C2H4	0.00	ppm
Ethanol C2H5OH	9.01	ppm
Formaldehyde HCHO	0.00	ppm
Nitrous oxide N2O	0.10	ppm
Acetone C3H6O	0.00	ppm
Methanol CH3OH	0.00	ppm
IPA C3H8O	0.00	ppm
VX C11H26NO2PS	0.00	ppm

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Portable FTIR Systems

Calcmeter Lite Spectra

- The Calcmeter Lite saves the sample spectra and displays the results
- Spectra are stored in .spe and .bkg formats
- Results are saved in .txt format
- Files can be easily transferred to a PC
- Calcmeter Pro is required for situations where unknown gases are expected
- The Dx-4030 can be used for just taking samples, analysis can be done later on



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Applications - overview

- Standard application LIB-001: H₂O, CO₂, CO, SO₂, CH₄, N₂O + selection of 10 compounds of interest
 - Pre-programmed on DSP
 - H₂O and CO₂ are calibrated
- Other compounds are non-instrument specific references
- LIB-002 as an option: add ten additional compounds of interest
- LIB-003 Gasmeter Reference Library (250 compounds)
- LIB-004 TIC (Toxic Industrial Compounds)
- LIB-005 CWA (Chemical Warfare Agents)

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Gasmeter DX-4030 applications -1

- First responders:
 - Fire brigades, Emergency Response teams etc. (HAZMAT)
 - Application: Identifying and quantifying of Toxic Chemicals after accidents
 - If unknown is present, stored sample spectra can be transferred to laptop for further analysis with Calcmeter Pro (Library Search & Spectrum Match) with LIB-003
- Industrial hygienists / Indoor air-quality measurements:
 - Detection of potentially harmful / toxic compounds in the workplace air
 - Perchloroethylene in commercial dry cleaning
 - Cargo container fumigation (PH3 etc.)
 - Car painting / other factories with large scale painting operations (Volatile Organic Compounds)

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Gasmeter DX-4030 applications -2

- Consultants / Plant operators:
 - Leak detection in different processes
- Scientific Researchers:
 - Applications vary: leachate studies, biogas measurements
- Soil gas measurement – Chlorinated VOC's in contaminated soil
- Process vent exhaust (ambient temperature)
- Hospital applications
 - various anesthetic gases in operation rooms or in gas storage areas
 - Ethylene oxide for sterilization
 - Methyl methacrylate in artificial joint replacement operations

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Gasmeter DX-4030 Advantages

- Multicomponent capability (up to 25 with PDA)
- Selective; much lower cross-interferences than with NDIR or with other spectrometers. Interfering components automatically accounted for in the software
- Possibility to identify unknown components
- Real-time measurement
- Fast response time
- No Span calibrations
- Easy to use with the new PDA interface & factory-made analysis settings
- Easy to upgrade applications
- Just user training; no need for expert operator
- Reasonable price for truly portable gas analyzer
- More specific and reliable than detectors, faster and more flexible than GC

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