**GASMET CEMS II FEATURES**

**FOURIER TRANSFORM INFRARED SPECTROSCOPY (FTIR) ANALYSIS**
- NELCerts and EN 13267-3 certified
- Typical gases H2O, CO2, CO, NO, NO2, N2O, NH3, SO2, HCl, HF, CH4, CH3O
- Standard 10 gas calibration may be extended up to 50 gases
- Cross-interferences automatically compensated for in the analysis

**LOW OPERATION COSTS AND RUGGED CONSTRUCTION**
- Corrosion & contamination resistant materials
- Minimal calibration requirements; only zero calibration with nitrogen or air
- Automatic calibration and zero/span drift check (QA/L3)

Gasmet CEMS II is controlled by Calmet software. Calmet provides visualizations of results, IR spectra and time trends. It controls the gas analyzer and sampling unit, and has support for analog and digital I/O. All measured data is stored on an industrial computer. Remote control via network allows troubleshooting and remote assistance.
The Gasmet CEMS II Continuous Emissions Monitoring System is one of the most powerful instruments available for monitoring CO₂, CO, NOₓ, SO₂, HCl, HF, NH₃, TOC, Methane and Formaldehyde in power generation, waste incineration and other industrial processes.

STATE OF THE ART EMISSIONS MONITORING

The Gasmet CEMS II system can measure a wide variety of pollutants with high accuracy in hot, wet and corrosive sample streams containing high amounts of particulate matter. Thanks to the advanced FTIR (Fourier Transform Infrared) measurement principle, several gases (20 to 40 depending on application) can be measured simultaneously without significant cross-interference between the gases and without sample conditioning. New compounds can easily be added to the measured gases, without the need for further hardware, which means that the analyzer is 'future proof'.

With Gasmet’s own patented GiCCOR™ interferometer, over 20 years of expertise in building FTIR gas analyzers, and recent advances in IR detector technology detection limits and measurement uncertainty have been reduced to below the requirements in Europe (EN 15267-3) and North America.

Hot/wet sample extraction guarantees accurate measurements for reactive and water soluble gases such as Hydrogen Chloride, Hydrogen Fluoride and Ammonia. The rugged spectrometer design has been optimized for industrial applications and provides reliable results with long maintenance intervals in field operation. A wide operating temperature range 0...40°C (short term) and optical materials that are resistant to ambient moisture set the Gasmet CEMS II apart from other FTIR CEM systems.

MEASURING PRINCIPLE

A Fourier transform infrared spectrometer records a complete mid-IR spectrum ten times per second with an internally calibrated wavelength scale (Helium-Neon laser is used as a reference). A heated sample cell with diamond coated, specially coated solid metal mirrors is used to give a 5.0 meter path length in contact with the sample gas.

SAMPLE HANDLING

The measurement takes place in hot/wet gases with the entire sample train heated to 180 °C to prevent condensation. The heated probe includes a main particle filter and a check gas valve for calibration drift control. Heated sample lines transport the gas through a hot sampling unit to the FTIR gas analyzer and an optional O₂ analyzer.

APPLICATIONS

Power Generation
- CO₂ and NOₓ monitoring
- N₂O from fluidized bed boilers
- Ammonia slip monitoring
- Raw gas measurements
- Biomass

Waste Incineration
- Municipal waste incinerators (HCl, HF, TOC)
- Hazardous waste incinerators

Cement Kilns
- Especially for kilns burning recycled fuel and co-incinerating waste

Carbon Capture
- Amine and ammonia monitoring in plants with post-combustion amine scrubbers
The Gasmet CEMS II Continuous Emissions Monitoring System is one of the most powerful instruments available for monitoring CO₂, CO, NOₓ, SO₂, HCl, HF, NH₃, TOC, Methane and Formaldehyde in power generation, waste incineration and other industrial processes.

STATE OF THE ART EMISSIONS MONITORING

The Gasmet CEMS II system can measure a wide variety of pollutants with high accuracy in hot, wet and corrosive sample streams containing high amounts of particulate matter. Thanks to the advanced FTIR (Fourier Transform Infrared) measurement principle, several gases (20 to 40 depending on application) can be measured simultaneously without significant cross-interference between the gases and without sample conditioning. New compounds can easily be added to the measured gases, without the need for further hardware, which means that the analyzer is ‘future proof’.

With Gasmet’s own patented CICCOR™ interferometer, over 20 years of expertise in building FTIR gas analyzers, and recent advances in IR detector technology, detection limits and measurement uncertainty have been reduced to below the requirements in Europe (EN 15267-3) and North America.

Hot/wet sample extraction guarantees accurate measurements for reactive and water soluble gases such as Hydrogen Chloride, Hydrogen Fluoride and Ammonia. The rugged spectrometer design has been optimized for industrial applications and provides reliable results with long maintenance intervals in field operation. A wide operating temperature range 0...40 °C (short term) and optical materials that are resistant to ambient moisture set the Gasmet CEMS II apart from other FTIR CEM systems.

MEASURING PRINCIPLE

A Fourier transform infrared spectrometer records a complete mid-IR spectrum ten times per second with an internally calibrated wavelength scale (Helium-Neon laser is used as a reference). A heated sample cell with diamond coated, specially coated solid metal mirrors is used to give a 5.0 meter path length in contact with the sample gas.

SAMPLE HANDLING

The measurement takes place in hot/wet gases with the entire sample train heated to 180 °C to prevent condensation. The heated probe includes a main particle filter and a check gas valve for drift correction. Heated sample lines transport the gas through a hot sampling unit to the FTIR gas analyzer and an optional O₂ analyzer.

APPLICATIONS

Power Generation
- SO₂ and NOₓ monitoring
- N₂O from fluidized bed boilers
- Ammonia slip monitoring
- Raw gas measurements
- Biomass

Waste Incineration
- Municipal waste incinerators (HCl, HF, TOC)
- Hazardous waste incinerators

Cement Kilns
- Especially for kilns burning recycled fuel and co-incinerating waste

Carbon Capture
- Amine and ammonia monitoring in plants with post-combustion amine scrubbers
GASMET CEMS II FEATURES

FOURIER TRANSFORM INFRARED SPECTROSCOPY (FTIR) ANALYSIS

- MCERTS and EN 15267-3 certified
- Typical gases H₂O, CO₂, CO, NO, NO₂, N₂O, NH₃, SO₂, HCl, HF, CH₃, CH₄, CH₂O
- Standard 16 gas calibration may be extended up to 50 gases
- Cross-interferences automatically compensated for in the analysis

LOW OPERATION COSTS AND RUGGED CONSTRUCTION

- Corrosion & contamination resistant materials
- Minimal calibration requirements; only zero calibration with nitrogen or air
- Automatic calibration and zero/span drift check (QA/L3)

Gasmet CEMS II is controlled by Calomot software. Calomot provides visualizations of results, IR spectra and time trends. It controls the gas analyzer and sampling unit, and has support for analog and fieldbus I/O. All measured data is stored on an industrial computer. Remote-control via network allows troubleshooting and remote assistance.

GASMET CEMS II CONTINUOUS EMISSIONS MONITORING SYSTEM

- CERTIFIED FTIR CEM SYSTEM
- SIMULTANEOUS MULTIGAS ANALYSIS
- PROVEN RELIABILITY WORLDWIDE
- SIMPLE TO INSTALL AND OPERATE
- LOW OPERATING COSTS
- PRECISE MEASUREMENTS USING STORED REFERENCE SPECTRA
- SIMPLE AUTOMATIC CALIBRATION
- FUTURE PROOF
- COMPLETE SYSTEM FROM ONE MANUFACTURER