



Fourier transform infrared spectroscopy multi-gas analyzer

**Continuous
Emission
Monitoring**



Full extractive continuous measurement of combustion gases : HCl, SO₂, NO, NO₂, N₂O, CO, CO₂, CH₄, HC, TOC, NH₃, HF, H₂O,...

The most powerful spectroscopic measurement method available on the market.

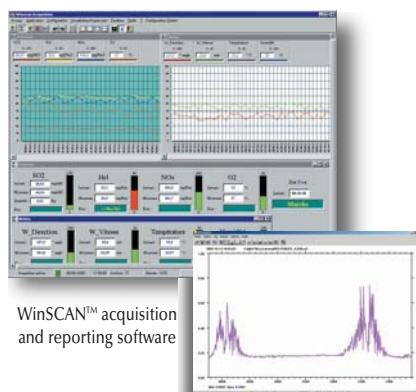
The Fourier transform analysis combines a large number of measured gases with high accuracy and selectivity.

Major fields of application :

- Municipal waste incinerators
- Industrial waste incinerators
- Hospital waste incinerators
- Cement kilns
- Pulp & Paper
- DeNO_x (SNCR, SCR)
- Glass plants
- Unburned gases
- Motor gases
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Main features :

- Designed for measurements in wet and corrosive gas streams
- Rugged and insensitive to vibrations
- Excellent calibration stability
- Automatic spectral interference corrections
- Fast and simultaneous measurements
- Reproducible and accurate
- Windows based analysis and reporting software
- Heated sampling line or SEC[®] drying sampling system



WinSCAN™ acquisition and reporting software

WinSPEC™ spectral analysis software



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Gases & Ranges :

Standard ranges

- HCl : from 0-20 to 0-100 mg/Nm³
- SO₂ : from 0-75 to 0-500 mg/Nm³
- NO : from 0-200 to 0-500 mg/Nm³
- NO₂ : from 0-100 to 0-200 mg/Nm³
- N₂O : from 0-100 to 0-200 mg/Nm³
- CO : from 0-50 to 0-200 mg/Nm³
- CO₂ : from 0-10 to 0-25 %
- CH₄ : from 0-20 to 0-50 mg/Nm³
- HC : from 0-20 to 0-50 mg/Nm³ equiv. CH₄
- COT : from 0-20 to 0-50 mg/Nm³ equiv. CH₄
- NH₃ : from 0-20 to 0-50 mg/Nm³
- HF : from 0-15 to 0-25 mg/Nm³
- H₂O : from 0-20 % to 0-30 %

For other gases or ranges please contact us

System description :

- Sampling probe
- Heated sampling box
- Heated transfer line
- Analysis unit EN4000
- Air drying system (MDS)
- Industrial computer loaded with :
 - WinSPEC® - spectral analysis software
 - WinSCAN™ - acquisition & reporting software and system controller
- Rack or shelter integration

Specifications :

- Daily zero check
- Zero drift : 1% of F.S./30 days
- Span drift : 1% of F.S./30 days
- Lower detectable limit : 2% F.S.
- Response time : inf.120s

Technical information :

- Power supply : 100-240 VAC, 50-60 Hz
- Operating temperature : 15 to 25°C (AC required)

Interferometer

- Scan frequency : 10 spectra/s
- Resolution : 8 cm-1

Sample cell

- Multi-pass : 5m
- 180 °C temperature controlled
- Entirely gold coated

Options :

- SAM32 interface box
- Valves for dynamic calibration
- DTP : Flow, Temp. and Pressure measurement
- Tight box, wall mouting
- O₂ measurement by paramagnetic or zirconia cell

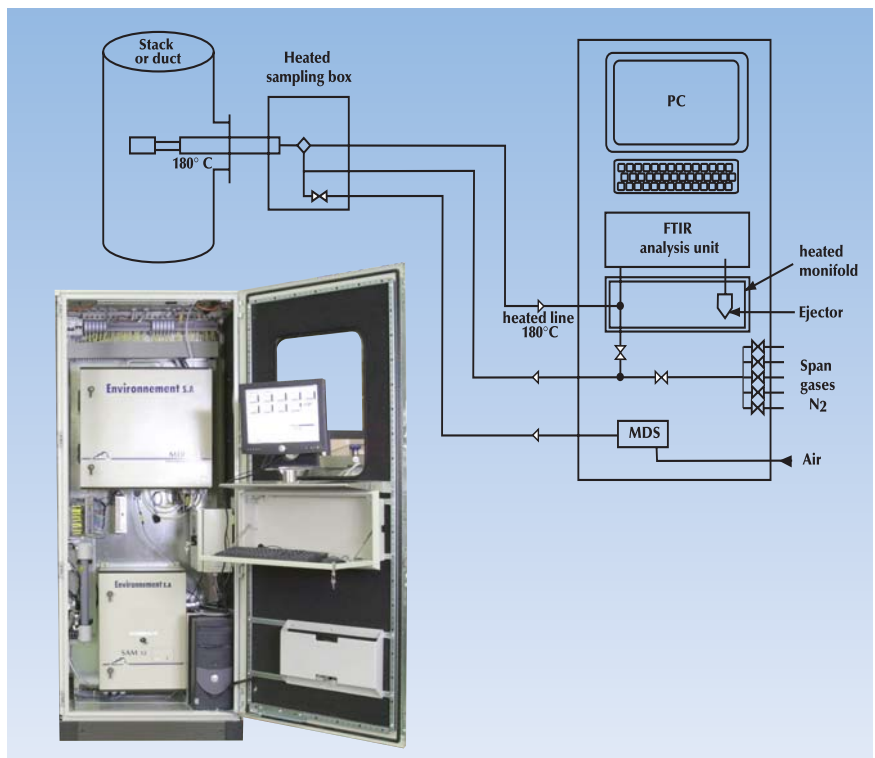
Principle of operation :

The IR Fourier transform spectroscopy (FTIR) is based on the specific IR absorption characteristics of the analysed gas molecules which under specific vibration frequencies move to a vibration state characteristic of each gas molecule.

An IR source emits a broad spectral band focused on a Michelson type interferometer. The interferogram signal obtained is deconvoluted by a fast Fourier Transform analysis.

Multi component gas analysis is made possible by performing linear combinations of reference spectra of the sample gases. Gas concentrations are obtained by Beer Lambert law calculation.

The MIR FT is monitored by WinSCAN™ software which performs data acquisition and data management & reporting.



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