



• OPS Open Path Air Monitoring System

Compact, versatile and rugged air monitoring system, designed to detect and measure a wide range of compounds simultaneously.

Features

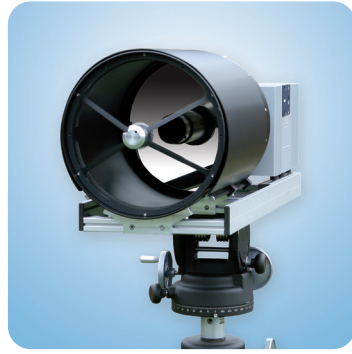
- Rugged and reliable
- Based on industry-proven RockSolid™ interferometer
- Lightweight, portable design
- Easy to set up and dismantle
- Versatile hardware to meet your needs
- Real-time multi component analysis
- Internal source
- No need for liquid nitrogen

The system is based on the method of Fourier-transform infrared spectroscopy (FT-IR). Infrared radiation is modulated by an interferometer and transmitted to an array of retroreflectors positioned at a distance of typically several hundred meters using a telescope. The reflected radiation is received by the same telescope and focused onto a detector.

The large spectral range allows identification and quantification of a wide range of compounds. An important application of the system is air monitoring at industrial, construction or municipal sites. In addition, the OPS allows high-precision quantification of atmospheric gases.



Open Path Monitoring System OPS



Interferometer/Telescope Unit



Retroreflector Array

Performance:

Spectral range: 650 – 5000 cm^{-1} with standard MCT detector (other ranges optional)
 Spectral rate: Up to 4 scans/s at 1 cm^{-1} resolution, two-sided interferograms, 5 scans/s at 0.5 cm^{-1} resolution, single-sided interferograms (option)
 Resolution: Better than 1 cm^{-1} , option: Better than 0.5 cm^{-1}
 Wavenumber accuracy: < 0,05 cm^{-1}

Optical system:

Design: Rugged, compact, sealed and desiccated housing
 IR-source: Air cooled MIR radiation source, long lifetime
 Interferometer: RockSolid™, proprietary highly stable and vibration insensitive interferometer system, permanently aligned, mechanical, frictionless bearing, selectable mirror velocities
 Detector: MCT detector with Stirling cooler (other detectors optional)
 Telescope: 305 mm (12") send/receive telescope
 Retroreflector array: 500 mm diameter (ca.), mounted in a 610 x 610 x 160 mm (ca.) NEMA 4 box with lid
 QA gas cell: Gas cell for quality assurance (instrument line shape, calibration)

Electronics:

Data acquisition: Integrated acquisition processor for PC-independent data acquisition, digital bench control, 24 bit A/D converter
 Automation: Microprocessor controlled optical bench, digital speed control

System/Integration:

PC: Different configurations available (standard, semi-ruggedised, ruggedised)
 Interface: Ethernet
 Software: Gas analysis software: OPUS RS/OPS
 Spectral Database: Reference spectra: Access to > 420 spectra
 Tripods: Tripods (standard, geared) for interferometer system and retroreflector
 Automation: Software controlled and programmable motorized pan and tilt head

Dimensions:

Interferometer/telescope unit: 1150 x 350 x 385 mm
 Mass: 43 kg

Covered by one or more of the following patents: DE102004025448; DE19940981.
 Additional patents pending.

Applications

- Fenceline monitoring (safety)
- Emissions monitoring
- Research
- High-precision quantification
- Leak detection including compound identification
- Engine exhaust analysis



Bruker Optics is ISO 9001 and ISO 13485 certified.

Laser class 1 product.

www.bruker.com/optics

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