

Optical Gas Analyzers

AIRGARD® Ambient Air Analyzer — The AIRGARD® CWA/HPM/TIC Ambient Air Analyzer for Continuous Chemical Warfare Agent (CWA), Hazardous Protection Materials (HPM), and Toxic Industrial Chemical (TIC) monitoring is a self-contained, ultra-sensitive, Fourier Transform Infrared Spectroscopy (FTIR) based gas analyzer that rapidly detects toxic gases. The AIRGARD analyzer has been tested against all Autonomous Rapid Facility Chemical Agent Monitor (ARFCAM) threat listed gases, mixtures of threat agents and common interfering materials with no false positive alarms and greater than 97% detection. The AIRGARD analyzer has been thoroughly tested by the United States Department of Defense for sensitivity, specificity, response time, and immunity to false positive readings and prevents unnecessary alarms, evacuations or interruptions of business. The AIRGARD Plus is also available with ancillary electrochemical sensors that detect halogens (chlorine & fluorine) and hydrogen sulfide—materials that have a weak or no infrared signal.



MultiGas™ Series FTIR Spectrometry Gas Analyzers —

MultiGas™ FTIR Spectrometry Gas Analyzer instruments are capable of ppb sensitivity for multiple gas species in a variety of gas analysis applications, such as stack gas emissions, vehicle and engine certification testing, continuous emissions monitoring (CEM), formaldehyde emissions, selective catalytic reduction (SCR) and other catalyst performance testing, bulk gas purity analysis and vehicle, diesel, marine, locomotive, non-road and other engine exhaust monitoring. The MultiGas Analyzer is available in the following models:

- MultiGas 2030 1 Hz FTIR Analyzer
- MultiGas 2030 HS Analyzer for high speed 5 Hz combustion
- MultiGas Purity Analyzer for real-time trace impurity detection
- MultiGas CEM Analyzer for continuous emissions monitoring
- MultiGas 1065 Analyzer for engine emissions

Continuous Emissions Monitoring System (CEMS) —

The MGS300 System is a fully integrated and certified Continuous Emissions Monitoring System (CEMS) based on high resolution FTIR technology. It is designed to monitor emissions from stationary sources such as waste incinerators, power plants and cement kilns and is able to directly measure the composition of hot, wet and corrosive sample streams without the need for sample conditioning. Key to the system design is the MultiGas™ 2030 CEM-Cert FTIR analyzer, which is able to monitor multiple gas constituents over a wide range of gas mixtures. Its high resolution (0.5 cm^{-1}) enables the monitoring of these components with minimal cross interference effects from water (up to 40%) or other potentially interfering elements. Also, the MultiGas' permanently stored, internal calibration spectra eliminates the need for costly calibration gas mixtures. Along with the MultiGas 2030 Analyzer, this system is equipped with a number of performance-critical sampling components, including a sample probe (with integral filters), a heated line and an eductor pump.





NDIR Analyzer For Chamber Clean Endpoint Detection —

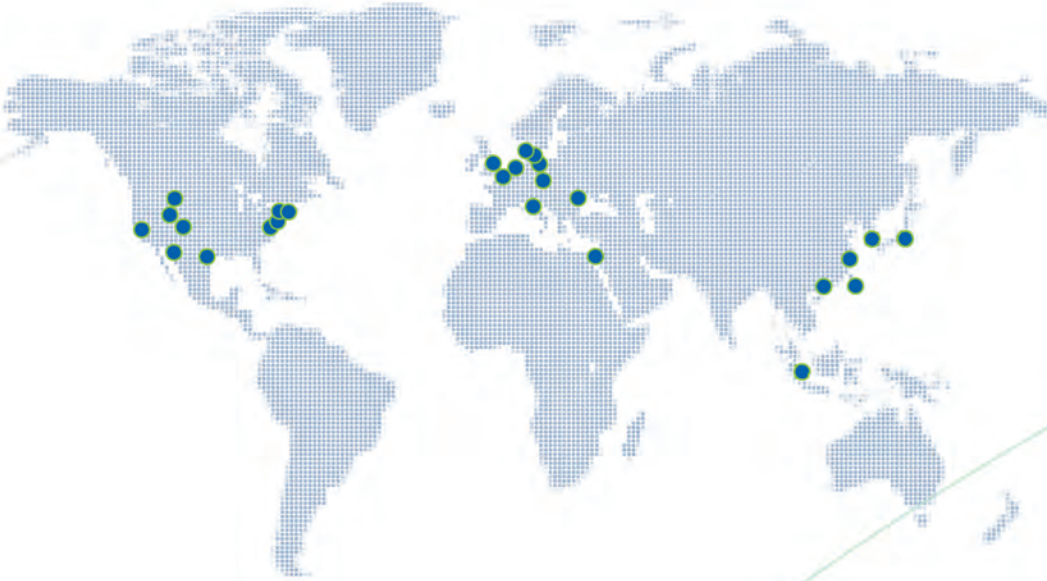
The Process Sense™ endpoint sensor is a small, low cost partial-pressure analyzer specifically designed to determine the completion of plasma chamber cleaning for both semiconductor and flat panel deposition chambers. Process Sense is based on infrared absorption, the only technique applicable to all (in-situ and remote) plasma cleaning processes. The Process Sense installs into the rough line, ensuring no effect on deposition hardware. The signal levels reported by the Process Sense can be used to determine the completion level of any clean with respect to time, and communicate back to the process tool to signal endpoint.

Precise® Tunable Filter Spectroscopy (TFS™) —

The MKS Precise® product platform of innovative optical analyzers based on Tunable Filter Spectroscopy (TFS™) provides real-time gas analysis in the natural gas and hydrocarbon processing industries, including refineries, hydrocarbon processing plants, gas-to-power machines, biogas processes and fuel gas transportation and metering, while delivering customers a substantially lower total cost of ownership. Precise TFS can be utilized from UV (Ultra-Violet) through IR (Infra-Red) spectral regions. These optical sensors are the first widely deployed hydrocarbon composition monitors to feature real-time unattended analytics with hydrocarbon speciation capability—equivalent to traditional Gas Chromatography (GC) instruments with much lower cost of ownership. The Precise TFS sensor platform will be further developed for trace/ppm through bulk/% applications where a multi-component, low-maintenance, stable analytical sensor-transmitter is required that is well positioned between traditional NDIR (Non-Dispersive Infrared) and laboratory-grade FTIR (Fourier Transform Infrared).



Global Locations



MKS Instruments, Inc. Process & Environmental Analysis Solutions

651 Lowell Street
Methuen, MA 01844
Tel: 978.645.5500

MKS Instruments, Inc. Global Headquarters

2 Tech Drive, Suite 201
Andover, MA 01810
Tel: 978.645.5500
800.227.8766 (in USA)
Web: www.mksinst.com