

MAX-iR FTIR Gas Analyzer

Achieve single digit ppb to ppt detection limits while maintaining all of the benefits of real-time FTIR

Engineered to meet the most demanding standards for in-line process, product quality, gas purity/certification, continuous emissions monitoring, and ambient air monitoring

The Thermo Scientific™ MAX-iR™ FTIR Gas Analyzer combines with Thermo Scientific™ StarBoost™ Technology to allow users to achieve single digit ppb to 10's of ppt detection limits while maintaining all of the benefits of real-time FTIR analysis. This technology breakthrough, available only with the MAX-iR analyzer, eliminates the need for costly mass spectrometry (MS), gas chromatography (GC) or cavity ring-down spectroscopy (CRDS) solutions across a wide variety of applications. Let the MAX-iR analyzer reinvent how you solve your most demanding process and environmental gas analysis needs.

Variety of configurations

The MAX-iR gas analyzer is built around a small, rugged, high throughput interferometer with 24-bit analog to digital (ADC) integrated detector modules that allow for exceptional signal-to-noise without liquid nitrogen cooling. Longevity and reliability of the analyzer has been increased using a long-life vertical cavity surface emitting laser (VCSEL) diode and silicon carbide (SiC) IR source. Integrated temperature and pressure sensors provide increased precision for the most demanding certification applications. Finally, dual level vibrational dampening allows the analyzer to operate even in challenging field environments.

A deuterated triglycine sulfate (DTGS) detector comes standard with the MAX-iR analyzer. With the optional StarBoost technology, users can choose between indium arsenide (InAs) or mercury-cadmium-telluride (MCT) detectors. All systems come standard with Thermo Scientific™ MAX-Acquisition™ Automation Software and MAX-Analytics™ Software that provide industry-leading analytics, factory integration tools, high speed identification of compounds, and measurement accuracy/stability without the need for calibration.



MAX-iR FTIR gas analyzer.

Features and benefits

- Real-time gas analysis (1 sec – 1 min response).
- 1 – 32 cm^{-1} resolution FTIR spectrometer.
- 10 m high throughput multipass gas cell.
- VCSEL diode (10-year lifetime).
- SiC IR source (10-year lifetime).
- Non-hygroscopic optics (no purge required).
- Precision temperature and pressure sensors.
- 5U – 19 inch standard rack.

Options

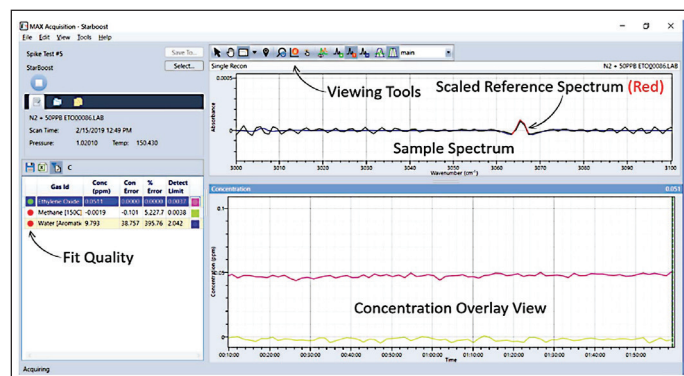
- StarBoost technology upgrade.
- DTGS detector with standard system; InAs or MCT detectors with StarBoost.
- Analysis methods (factory supplied).

Typical applications

- Inline process monitoring.
- Gas purity analysis.
- Gas certification analysis.
- Continuous emissions monitoring (CEM).
- Ambient air testing.
- Stationary source testing (RICE, turbines, cement kiln).
- Leak detection.



The back and inside of the MAX-iR FTIR gas analyzer.



MAX-Acquisition software screen.

MAX-iR analyzer specifications

- 19 x 24 x 8.75-inch rack mount
- 75 lbs
- 120/240 VAC 50/60 Hz
- Integrated temperature & pressure sensors
- Industry-leading FTIR spectrometer
 - ZnSe optics
 - VCSEL diode laser
 - SiC IR source
- Environmental humidity: 10-90% RH, non-condensing
- Environmental temperature: 20-30°C
- Operating temperature: 5-191°C
- Single 1/4" Swagelok™ input/ output
- N2 purge port (usage optional)
- 10 m pathlength - 0.5L volume standard

MAX-Acquisition software

- FTIR configuration and control
- Real-time quantitative analysis
- Thermo Scientific™ ASC-10™ automated sampling console control
- Thermo Scientific™ MAX-OXT Thermal Oxidizer Module control
- Thermo Scientific™ MAX-INT Factory Interface Module
- Modbus™ TCP/IP communications
- Automated sample collection workflow

MAX-Analytics software

- Data validation and analysis
- Compound search

Optional hardware

- Operating pressure: 1 or 5atm
- Windows BaF₂, KBr, CaF₂, ZnSe
- Detector
 - DTGS (standard)
 - TE-cooled MCT (StarBoost)
 - TE-cooled InAs (StarBoost)
- StarBoost optical enhancement technology

Accessories

- ASC-10 automated sampling console
- MAX-OXT thermal oxidizer module
- MAX-INT factory interface module

Learn more at maxanalytical.com/max-ir