

# ETG 9500 FTIR GAS ANALYZER



## Application Field

- Continuous emissions monitoring (CEM)
- Ambient air pollution
- Engine emissions
- Combustion monitoring
- Food processing
- Security and defense
- Agriculture
- Aerospace
- Medical devices;
- Fire fighting
- Cement kilns
- Toxic gas detection
- Petro-chemistry
- Process monitoring and control in chemical industry
- Work safety
- Mining
- Laboratory practice
- Biogas & Syngas analysis

## A NEW ERA IN GAS ANALYSIS

### MULTICOMPONENT GAS ANALYZER

ETG 9500 is the latest generation of FTIR gas analyser technology from ETG in a stationary or mobile form. The ETG 9500 system represents one of the most cost-effective and flexible analytical products on the market today. At the heart of ETG 9500 is a high-resolution, robust and proven FTIR spectrometer offering high signal throughput, low-noise and long lifetime of components.

ETG 9500 FTIR gas spectrometer, comprising an approved high stability vacuum tight "Rocket" FTIR, seamlessly matched to a 5 meters gas cell, with rhodium coated chemically resistant optics.

Compact, rugged and high-performance FTIR module with 4TE-MCT detector; Long path (5m), low volume (0.2L) heated gas cell seamlessly matched to the FTIR for high sensitivity and very short response time; rhodium coated chemically resistant optics;

- Touchscreen interface
- Detailed health and alarm status
- No limit to number of gas measurements
- No need for large spectral library to be kept on analyser PC
- Multi-range measurement with automatic range switching
- Separate Test Log for ease of data saving
- Separate Span Log for ease of data saving
- Sequence programming for multipoint measurement and automate span gas checks, purges etc.
- Alarm response to heated sampling system
- Multiple gases analyzed in one sample

Most analytical sensors are sensitive to only 1 or 2 gases of interest, such as a chemiluminescence (CIA) detector for NO<sub>x</sub> gases (NO/NO<sub>2</sub>). In contrast, all IR-active gases are sampled simultaneously with an FTIR spectrometer with some methods analyzing over 50 separate gases!

Main				
Spectra				
History				
User Settings				
Compounds 1				
Compounds 2				
Device				
Name	Concentration	Unit Measure	Range Max	Quality
Water	12837.3	ppm	20000 ppm	100 %
Carbon dioxide	375.6	ppm	20000 ppm	100 %
Carbon monoxide	0.9	ppm	397 ppm	Near L...
Methane	2.2	ppm	249 ppm	Near L...
Ammonia	-0.4	ppm	102.5 ppm	Near L...
Nitric oxide	-0.6	ppm	509 ppm	Near L...

Status Processing Process Saturation Ratio 48% ETG

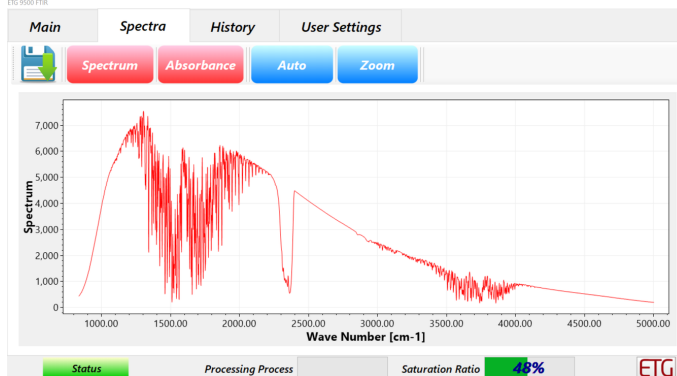
All the gases in the sample can be measured simultaneously because the entire infrared spectrum is scanned at once. This allows for very quick multicomponent measurements and for compensation for any cross-interference.

As all gases are measured by scanning the same infrared spectrum, adding new compounds can be done easily in the software without requiring any changes to the hardware. The recorded spectra are also unaltered by the analysis performed on them and can therefore always be re-analyzed. This allows for traceable data and facilitates for instance retrospectively checking the measurements for new gases.

The ETG based on Fourier Transform Infrared (FTIR) Gas Analysers allows for the measurement of nearly any gas with one instrument. A FTIR gas analyser collects a full infrared spectrum continuously, allowing for hundreds of gases to be detected and measured at once. Changes are only needed to software calibration files to measure new gases.

Our FTIR gas analysers represent the highest levels of performance and accuracy in industrial and research gas measurements. ETG offers a number of standard FTIR configurations that are designed for specific applications including:

Continuous Emissions Monitoring (CEM) FTIR  
 Online process FTIR gas analysis  
 High concentration FTIR systems  
 Very low concentration FTIR analysers  
 Portable FTIR gas analysers



*ETG 9500 ftir gas analyzer can be delivered as :*

- **TRANSPORTABLE SYSTEM CUSTOMIZED TO THE CUSTOMER NEEDS**
- **19" RACK MOUNTING**
- **DESK VERSION FOR LAB AND R&D**

## Specifications

Design	Permanently aligned, maintenance free,
Resolution [ cm -1]	4,2, 0,5
Beamsplitter / window material	ZnSe
Spectral range [ cm -1]	5000 - 830
Detector	MCT (4-TE cooled)
Detectivity D* [cm Hz 1/2 W -1]	> 2.5x10 9
Light source	Broadband SiC, 1550 K
Reference laser	Stabilized solid-state laser
Scan frequency [ s -1]	1
Signal-to noise ratio	> 5'000:1
Operation	Position independent
Absotrans (TM)	Active suppression of H2O and CO2
<b>GAS CELL</b>	
Path length	5 m
Internal volume	0.2L
Transmission	>50%
Temperature range [ °C ]	-20 to 200 (not condensing)
Construction	Aluminum with inert coating
Mirrors parabolic,	Rhodium protected, gold coated
Windows	BBAR ZnSe
<b>SYSTEM</b>	
Protocol	Bi-directional Profinet , Profibus
Monitor	10 inch Touch Screen
PC based	Inside Windows 10 OS
Power consumption	50 W 50/60 Hz
Mechanical Dimension	It depend by the version
Storage temperature	-10 + 60 °C ( non condensing)
Ports	n. 2 USB - Ethernet