



> Know what's in the air.



# Trace Gas Analyzer

# GT5000 Terra for trace gases

Gasmet manufactures portable and powerful gas analyzers for flux measurements of greenhouse gases. All key gas compounds can be measured in seconds:  $\text{N}_2\text{O}$ ,  $\text{CH}_4$ ,  $\text{CO}_2$ ,  $\text{H}_2\text{O}$ ,  $\text{CO}$  and  $\text{NH}_3$ .



## How are flux measurements carried out?

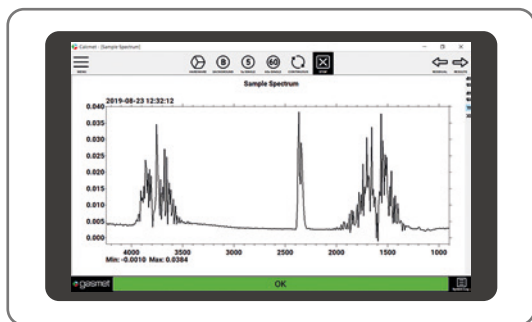
Soil flux can be measured with an open-bottom soil chamber which is placed on the ground. The soil chamber is integrated with a Gasmet analyzer, thus forming a closed-loop system. The gas sample is circulated through the analyzer and back to the chamber. The concentration changes per the chamber's footprint area are measured over time.

## How does it work?

Gasmet's solution for GHG flux measurements is based on FTIR technology. FTIR works by scanning and analyzing the entire infrared spectrum in order to measure all infrared-absorbing gases in the sample simultaneously. Most molecules have a characteristic absorption spectrum that can be used to identify gases and accurately measure their concentration. With GT5000 Terra, you get accurate and specific measurements of an unparalleled number of various gases in a fully portable and splashproof package.



Your research.  
Our instruments  
and support.



## Data Processing

Our analyzers are operated with a versatile Calcmet software which offers online views of the results as well as powerful tools for a subsequent analysis of past measurements. Results are exported in a convenient spreadsheet format to allow users to easily access the data for further data processing. For example, calculating fluxes from the measured concentrations in Excel is incredibly simple. The software comes in two versions, Calcmet Easy for accessible onsite work and Calcmet Expert for further analysis with advanced tools.

## Can new gases be added to the analysis?

Yes! The Fourier Transform Infrared (FTIR) spectroscopy is a very versatile technology. The number of measurable gases is unrivalled, and the system is easy to configure to measure new compounds without the need for hardware changes. As all compounds are measured from the same spectral data, it is even possible to look back at previous measurements to investigate the presence of new compounds of interest.



## What can be measured?

Typically, the following gases are measured:

Compound	Formula	Unit	MDCD*
Water	H <sub>2</sub> O	Vol -%	0.010 Vol -%
Carbon Dioxide	CO <sub>2</sub>	ppm	5 ppm
Methane	CH <sub>4</sub>	ppm	40 ppb
Nitrous Oxide	N <sub>2</sub> O	ppm	7 ppb
Ammonia	NH <sub>3</sub>	ppm	70 ppb
Carbon Monoxide	CO	ppm	70 ppb

\*Minimum Detectable Concentration Difference.

## Where to use?

- > Forest soils
- > Wetlands
- > Agricultural fields
- > Energy plants
- > Aquatic ecosystems
- > Hydropower reservoirs
- > GHG emissions from ruminants
- > Geothermal sources

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Portable & field friendly > Splashproof  
> Wireless connectivity > Multi-gas measurements



# Why Choose Gasmet

Gasmet is the number one FTIR analyzer and system manufacturer. We have supplied over 4,000 FTIR analyzers worldwide and have the highest installed base of onsite and industrial applications.

## Front Seat

We are at the forefront of development. We have 30 years of FTIR experience and have introduced several groundbreaking innovations, such as launching the world's first in-situ FTIR gas analyzer and the world's first portable ambient FTIR analyzer. Our teams of specialists are continuously improving our products to ensure that your FTIR analyzer investment is always future-proofed.

## Future First

The future belongs to everyone, and we think that everyone has the right to clean air. Therefore, we are persistently developing our future-proof solutions and support global actions in mitigating climate change. Our vision is to live on a green planet with less emissions.

## Global Presence

We know the importance of local support, globally. As our service and support network covers more than 70 countries, we can ensure local, high-quality technical support for our customers and guarantee the continuous availability of spare parts for our systems throughout the duration of their lifetime.



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