

## GIGAS 10M FT-IR Multi-Component Gas Analyser



GIGAS FT-IR is the first and unique gas analyser designed and **Made in Italy**, developed to guarantee high quality, accuracy, reliability and strength.

### The System

GIGAS analyser is designed with an **exclusive modular technology**: the base unit containing interferometer, laser, source and electronic can be coupled with different accessories, made up of variable path length multi-pass gas cell 10 meters or 80 meters and frame for insertion in stack in-situ system.

The rack system, including different types of analysers and sensors, sampling system, sample gas condition units, control and display items, purging system, is **completely configurable** to be best suitable to the customer application.

The software and the measuring compounds can be totally set up for the best solution as well.

All the analyser performances are **TÜV Rheinland** tested and **approved** in compliance with European directives EN 14181 and EN 14956.

### Applications

- Municipal waste incinerators
- Hazardous waste incinerators
- Chemical plants
- Biomedical plants and processes
- Solvent and recovery destruction
- Power plant DeNOx and DeSOx
- Catalyst monitoring
- Scrubber efficiency in process controls
- Surgical smokes
- Aluminum and steel smelters
- Cement kilns
- Gasification and pyrolysis processes
- Crematoria
- Combustion research plants

### Technical Data

Performances based on 60s data acquisition time, standard deviation 3σ and optical path length 5 m.

The acquisition time can be easily set, as well as the cell optical path length which is configurable between 2 and 10 meters in steps of 1 meter.

Loccioni spectral library allows to identify and quantify more than **300 chemical compounds**; other gases and different measuring ranges available on customer request.

Components	Minimum Full Scale		Detection limit	
H <sub>2</sub> O	30 Vol%	300000 ppm	0,01 Vol%	100 ppm
CO <sub>2</sub>	20 Vol%	200000 ppm	0,01 Vol%	100 ppm
CO	75 mg/m <sup>3</sup>	60 ppm	0,19 mg/m <sup>3</sup>	0,15 ppm
NO	200 mg/m <sup>3</sup>	150 ppm	0,90 mg/m <sup>3</sup>	0,70 ppm
NO <sub>2</sub>	100 mg/m <sup>3</sup>	50 ppm	0,40 mg/m <sup>3</sup>	0,20 ppm
SO <sub>2</sub>	75 mg/m <sup>3</sup>	25 ppm	0,60 mg/m <sup>3</sup>	0,20 ppm
HCl	15 mg/m <sup>3</sup>	10 ppm	0,20 mg/m <sup>3</sup>	0,12 ppm
HF	10 mg/m <sup>3</sup>	10 ppm	0,20 mg/m <sup>3</sup>	0,22 ppm
NH <sub>3</sub>	15 mg/m <sup>3</sup>	20 ppm	0,08 mg/m <sup>3</sup>	0,10 ppm
N <sub>2</sub> O	50 mg/m <sup>3</sup>	25 ppm	0,20 mg/m <sup>3</sup>	0,10 ppm
CH <sub>4</sub>	50 mg/m <sup>3</sup>	70 ppm	0,20 mg/m <sup>3</sup>	0,30 ppm

### Performances

Linearity	<2% of the smallest measuring range
Accuracy	<2% of the smallest measuring range
Repeatability	<1% of the smallest measuring range
Response time	$T_{90} < 150$ s
Zero drift	Automatically corrected
Span drift	<4% in 6 months
Temperature drift	<1% of the smallest measuring range per 10K change
Cross sensitivity	<1% of the smallest measuring range
Availability	>98%
Air pressure influence	None
Voltage effect	None

### Input, Output and Status Signals

Measured signals	4-20 mA per measured component Optional: Ethernet, 3964r communication
Status signals	Not ready, Calibration
Input signals	Digital and analog possible

### Power Supply

Input Voltage	400/230 VAC or 200/115 VAC, 48-62 Hz
Power consumption	Approx. 150 VA for Electronic (PC not included) Approx. 600 VA for heating system

### Sample Gas Conditions

Temperature	<200 °C depending on gas conditioning
Pressure	From 500 to 1500 hPa depending on gas conditioning
Flow rate	Max 600 l/h (10 l/min)

### Analyser Design

Analyser Dimension	91x30x50 cm (WxHxD)
Necessary min. distance	115x80x63 cm (WxHxD)
Analyser weight	Approx. 70 Kg
Analyser protection class	IP54 / NEMA 3 and 13
Colour	Light Grey (RAL 7032)

### Environmental Conditions

Ambient temperature in operation	+15 to +30 °C in air conditioned room Max 50 °C for short periods
Ambient temperature in storage and transport	-25 to 65 °C
Relative Humidity	Max 95% during operation with purging system Max 30% without purging system

