

# Heated multi-gas infra-red GFC analyzer

PROCESS & EMISSIONS MONITORING SYSTEMS

The **MIR 9000H** is the perfect tool for the analysis of wet sample gases in corrosive applications, including DeNOx (SCR / SNCR) and for the optimization of flue gas treatment processes.



## SPECIFIC FEATURES:

- 180°C heated measurement cell
- Automatic spectral interference correction
- Perfectly suitable for the ammonia slip detection
- Designed for the measurement of wet and corrosive samples
- Certified analyzer for the guarantee of accurate measurements
- Robust design with a stainless steel tight box enclosure to withstand the harshest industrial environment
- Acquisition / management of peripherals measurements (particulates, temperature, flow...)
- Embedded HMI with Graphic LCD display and interactive menu driven firmware, no computer required
- Remote access for all analyzer functions (visualization/ maintenance / configuration / backup.....)
- Optimized operation cost (low maintenance and low consumables requirement)
- Multigas monitor quality: CO, CO<sub>2</sub>, NO, NO<sub>2</sub>, SO<sub>2</sub>, HCl, HF, N<sub>2</sub>O, O<sub>2</sub>, NH<sub>3</sub> and H<sub>2</sub>O
- Full compatibility with WEX DAHS

## MAIN APPLICATIONS:

- > Power & Combustion
- > Ammonia slip detection
- > Biomass
- > Cement Kilns
- > Pulp and Paper
- > Industrial Boilers and Furnaces in Chemical & Petrochemical Plants
- > Process Control as DeNOx (SNCR, SCR) or other flue gas treatments
- > Energy From Waste incineration (EFW) : Municipal, Hazardous, Industrial, Special, Hospital

## COMPLIANCE WITH:

EU Regulation IED (WID / LCPD / MCPD directives)  
and US EPA (40 CFR 60 & 75)



Turnkey system "on frame"  
including MIR 9000H

# Heated Multi-gas Analyzer **MIR 9000H**

**Certified Ranges  
(except \*)**

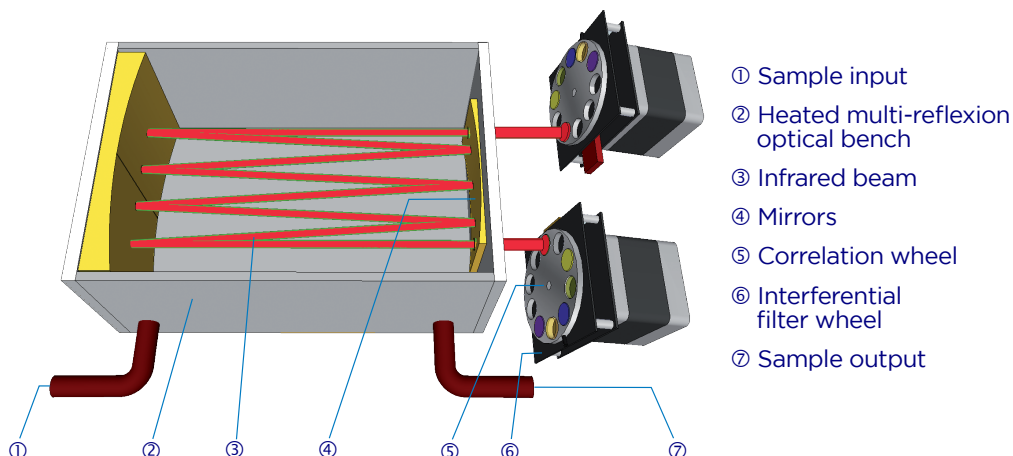
NH <sub>3</sub>	0-15 / 100
CO <sub>2</sub>	0-30 / 25 %
CO	0-75 / 1 000
H <sub>2</sub> O	0-30 / 40 %
NO	0-200 / 2 000
NO <sub>2</sub>	0-200 / 2 000
SO <sub>2</sub>	0-500 / 2 000
HCl*	0-100 / 1 000
HF*	0-40 / 200
N <sub>2</sub> O*	0-20 / 100
O <sub>2</sub>	0-10 / 25 %

Expressed in mg/m<sup>3</sup> or en % when indicated.  
Other available ranges on request,  
mainly for process applications

## PRINCIPLE OF OPERATION:

The MIR 9000H analyzer measures from 1 to 8 gas parameters, using combination of infrared spectroscopy with gas filter correlation technologies. This technology, based on a physical principle, allows a specific measurement of each gas parameter in ppm (conversion in mg/m<sup>3</sup> configurable) or %.

The sample, hot and humid and therefore not denatured, flows through the heated measuring chamber at a rate of about 1.5 L/min (adjustable). This flow is controlled by Venturi effect, which ensure the stability of sample flow and pressure, avoiding the use of a heated pump and thereby reducing the maintenance operations and the maintenance costs.



The light emitted by the infrared source (infrared beam), is passing through a series of interference filters and gas filters (gas cell) mounted on correlations wheels and modulated by chopper, before crossing the measuring chamber. The infrared beam is thus reflected by the use of mirror sets (multi-reflection) with as a result an optical path of several meters achieved in a measuring chamber of only few centimeters. The concentration of oxygen is measured by a zirconia oxygen probe embedded in the analyzer.

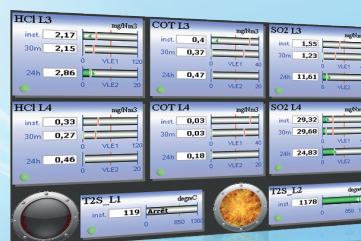
The measures are displayed in real time on the analyzers' screen and are also available on the analyzer' communication outputs (8 analogue outputs, serial port and Ethernet port).

## TECHNICAL SPECIFICATIONS

Repeatability	< 2% of the Full Scale (F.S.)
Zero/Span drift	< 2% of the F.S. / 30 jours
Cross sensitivity	< ±4% of the F.S.
Linearity	< ±2% of the F.S.
Power supply	115 or 230V ±15%, 50/60 Hz
Nominal power consumption	150 VA (max 450 VA)
Communication port	RS232/RS422, Ethernet
USB port and function	firmware update and upgrade, configuration, backup of data, flash memory
Dimensions	710x560x300 mm (HxWxD)
Weight	40 kg
4 analog inputs (0-2.5V)	
8 analog outputs (4-20 mA)	
4 logical outputs (relay)	
8 logical inputs (remote control)	

## MAIN OPTIONS:

- Sampling system (probes + sampling boxes HOFI or LCPD)
- Heated line (for standard applications maximum length = 60m)
- Pressure, temperature and velocity measurements of the sampled gas (Embedded DTP option)
- Manual or automatic calibration module (TIG option)
- Integration options (Shelter, cabinet or frame, including project management)
- Data Acquisition and Handling System (DAHS) with WEX software



Optional: WEX® advanced CEMS data management and supervision software



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