



# Close-coupled in situ multi-gas IR-GFC Analyzer

## MIR IS



**One single analyzer for the measurement of:**  
HCl, NO, NO<sub>2</sub> (NO<sub>x</sub>), SO<sub>2</sub>, CO, CO<sub>2</sub>, HC, CH<sub>4</sub>  
(TOC), HF, N<sub>2</sub>O, O<sub>2</sub> ...

Designed to operate under legislation such as 2000/76/EC (WID) and 2001/80/EC (LCPD), the MIR IS offers maximum availability and full compliance with QAL1 and QAL3 of EN14181 & EN15267-3.

### SPECIFIC FEATURES:

- Fast and simultaneous measurement of up to 10 gases among HCl, NO, NO<sub>2</sub> (NO<sub>x</sub>), SO<sub>2</sub>, CO, CO<sub>2</sub>, HC, CH<sub>4</sub>, HF, N<sub>2</sub>O, O<sub>2</sub>... at, or near the sampling location
- Robust and reliable short extractive analyzer with built-in permeation sample drying system for the measurement of wet and corrosive sample
- Complete CEMS in one cabinet - combines infrared analyzer, sample conditioning system and probe into one device
- Fast response time, with automatic cross interference correction
- Highly accurate; excellent calibration stability with automatic optical check
- Ease of installation: single stack entry, on-stack or close-coupled therefore reducing costs
- Heated probe in different materials and lengths to suit the application
- External signal input for up to 5 additional measurements (flow rate, pressure, gas temperature...) or any other analog input
- Built in a stainless steel tight box enclosure for safe outdoor installations
- Intrinsic security with on-board residual H<sub>2</sub>O measurement
- On-board paramagnetic cell for long term O<sub>2</sub> measurement
- Robust remote control and display functions
- Graphic LCD screen with real time synoptic

### MAIN APPLICATIONS:

- Industrial Boilers and Furnaces, Chemical and Petrochemical Plants
- Incineration, Co-generation, Gas Turbines, Power Plants
- Process Control, Pre/post Scrubber Measurements
- Coal / Oil / Gas Fired Combustion Monitoring
- CHP Combustion Monitoring...



*On-stack or close-coupled installation*

**Compliance with LCPD and WID applications**  
**MCERTs** certified to EN15267-3  
**QAL1** as defined by EN14181  
**QAL3** compliance to EN14181  
U.S. EPA 40 CFR 60 and 75 Compliant



**QAL 1**  
EN 14181

**QAL 3**  
EN 14181





# In situ multi-gas IR GFC analyzer **MIR IS**

## SPECIFICATIONS:

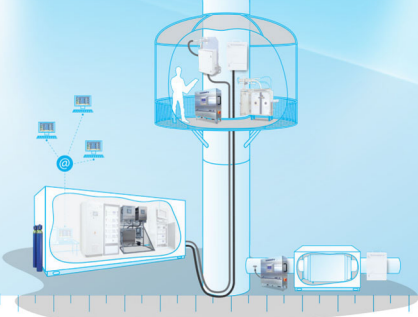
	Lowest / Highest available ranges
<b>NOx</b>	0-200 / 5,000 mg/m <sup>3</sup>
<b>CO</b>	0-75 / 10,000 mg/m <sup>3</sup>
<b>CO<sub>2</sub></b>	0-10 / 100%
<b>SO<sub>2</sub></b>	0-75 / 5,000 mg/m <sup>3</sup>
<b>N<sub>2</sub>O</b>	0-20 / 1,000 mg/m <sup>3</sup>
<b>HCl</b>	0-15 / 5,000 mg/m <sup>3</sup>
<b>HF</b>	0-20 / 300 mg/m <sup>3</sup>
<b>CH<sub>4</sub></b>	0-10 / 1,000 mg/m <sup>3</sup>
<b>TOC</b>	0-50 / 5,000 mg/m <sup>3</sup>
<b>O<sub>2</sub></b>	0-10 / 25%

Other ranges available on request

- Material in contact with effluent: Stainless Steel, Hastelloy or PTFE
- External analog inputs: 7
- Display: LCD graphic display
- Repeatability: ± 2% of full scale (F.S.)
- Zero drift: ± 2% of full scale/30 days
- Span drift: ± 2% of full scale/30 days
- Linearity: ± 1% of full scale
- Lowest detectable limit: ± 2% of full scale
- Average value: programmable
- Data storage: last 3000 averages
- Span injection control
- Digital output: RS232/422/Ethernet
- Dimensions: 200x600x600 (DxWxH)
- Probe length: 700x1000x1500mm
- Weight: 60 kg approximately
- Power: 115/230VAC, 50/60Hz, 700VA
- Operating temperature: -15°C to +50°C
- Housing: stainless steel IP 65 tight box
- Instrument air: 7Nm<sup>3</sup>/h, 5 bars

## MAIN OPTIONS:

- Gas flow rate, velocity, temperature and pressure measurements
- O<sub>2</sub> measurement (paramagnetic cell)
- Analog Outputs: 0/10V - 0/4-20mA selectable
- TIG: automatic span gas injection module
- Installation accessories (Sample probe and line, Frame, Hanging devices...)
- WEX® advanced CEMS data management and supervision software**



## MEASUREMENT TECHNIQUE:

Developed specifically for CEMS and process online monitoring, the MIR IS in-situ multi-gas CEM analyzer is a compact short-extractive system based on our well-known MIR 9000 analyzer. Providing high performance, sensitivity and accurate measurements on a large number of gas parameters, the MIR IS offers very fast response time (less than 40ms). It uses the Infra-Red Gas Filter Correlation principle, a well-established method to reduce cross interferences between compounds and therefore providing measures with high accuracy and repeatability.

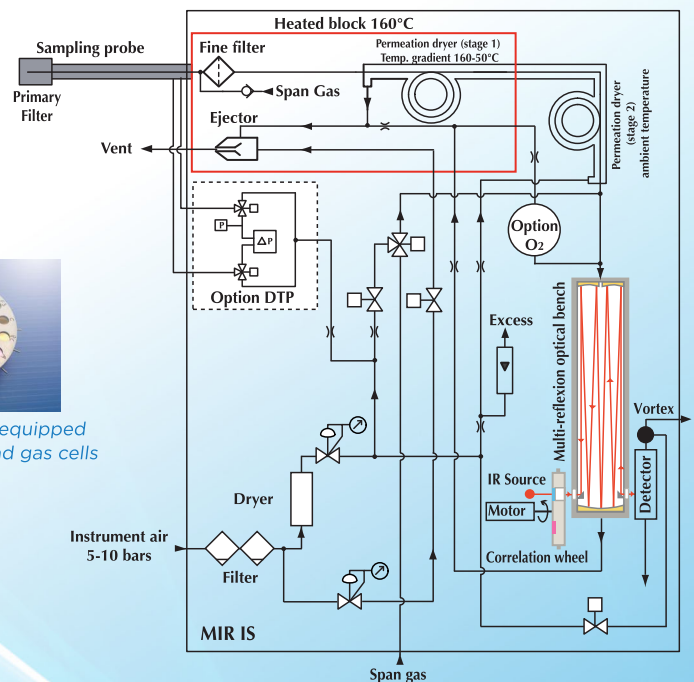
The MIR IS uses a 16-position rotating correlation wheel with on-board interferential gas filters, allowing simultaneous multi-gas measurement. The optical bench includes a low volume gas cell with a 12 m optical path length and incorporates aspheric and aberration correcting mirrors. A built-in paramagnetic sensor can be optionally added for oxygen measurement, and the analyzer accepts and displays additional external inputs (flow, temperature, pressure, etc.).

The powerful embedded software integrates and compiles infrared detector signals and calculates concentration of all compounds simultaneously. All measurements are available in graphical and tabular formats, but also on digital (RS232/485 & TCP-IP) and analogue outputs (mA or V configurable). A large LCD screen with keypad powered by user-friendly and easy to configure software with diagnostic functions allows easy user access. USB interface allows easy and fast software upgrades and data extraction possibilities.

MIR IS is the unique AMS on CEMS market offering a multi-gas an accurate multi-gas analysis solution (up to 10 gases including HCl and HF + O<sub>2</sub> as an option) integrating optionally flue gas temperature, flow and pressure measurements on a single sampling probe, means a single sampling point.



Correlation wheel equipped with optical filter and gas cells



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