



## Short-extractive in situ multi-gas Infra-Red Gas Filter Correlation Analyzer **MIR IS**



**QAL 1**  
EN 14181

**QAL 3**  
EN 14181



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>, H<sub>2</sub>O...



Direct stack installation

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

### EXCLUSIVE FEATURES:

- Fast and simultaneous measurement of up to 8 gases from a choice 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>, HF, N<sub>2</sub>O, O<sub>2</sub>, H<sub>2</sub>O... at the sampling location
- In situ robust and reliable short extractive analyzer with built-in exclusive sample dryer system (same as in SEC Box) for the measurement of wet and corrosive sample
- Short response time, with automatic cross interference correction
- Reproducible and highly accurate; excellent calibration stability with automatic optical check
- Ease of installation: single stack entry, sample line not required therefore reducing costs
- Heated probe in different materials and length to suit the application
- Acquisition and processing of 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
- Powerful remote control and display functions
- Graphic LCD screen with real time synoptic
- **MCERTS** certified to EN15267-3
- **QAL1** as defined by EN14181
- **QAL3** compliance to EN14181

### MAIN APPLICATIONS:

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



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> and H<sub>2</sub>O

# Short extractive in situ multi-gas IR GFC analyzer **MIR IS**

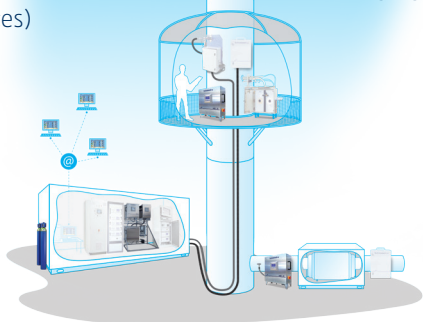
## SPECIFICATIONS:

	Lowest / Highest available ranges
NO <sub>x</sub>	0-200 / 5000 mg/m <sup>3</sup>
CO	0-75 / 10 000 mg/m <sup>3</sup>
CO <sub>2</sub>	0-10 / 100 %
SO <sub>2</sub>	0-75 / 5000 mg/m <sup>3</sup>
N <sub>2</sub> O	0-20 / 1000 mg/m <sup>3</sup>
HCl	0-15 / 5000 mg/m <sup>3</sup>
HF	0-20 / 300 mg/m <sup>3</sup>
CH <sub>4</sub>	0-10 / 1000 mg/m <sup>3</sup>
TOC	0-50 / 5000 mg/m <sup>3</sup>
O <sub>2</sub>	0-10 / 25 %

- Material in contact with effluent: Stainless Steel, Hastelloy or PTFE
- Number of gases monitored: up to 10
- 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
- Dimensions: 200x600x600 (DxWxH)
- Probe length: 700x1000x1500mm
- Weight: 35 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, temperature and pressure
- O<sub>2</sub> measurement (paramagnetic cell)
- Outputs: 0/10V - 0/4-20mA selectable
- TIG: automatic span gas injection module
- Installation accessories (frame or hanging devices)

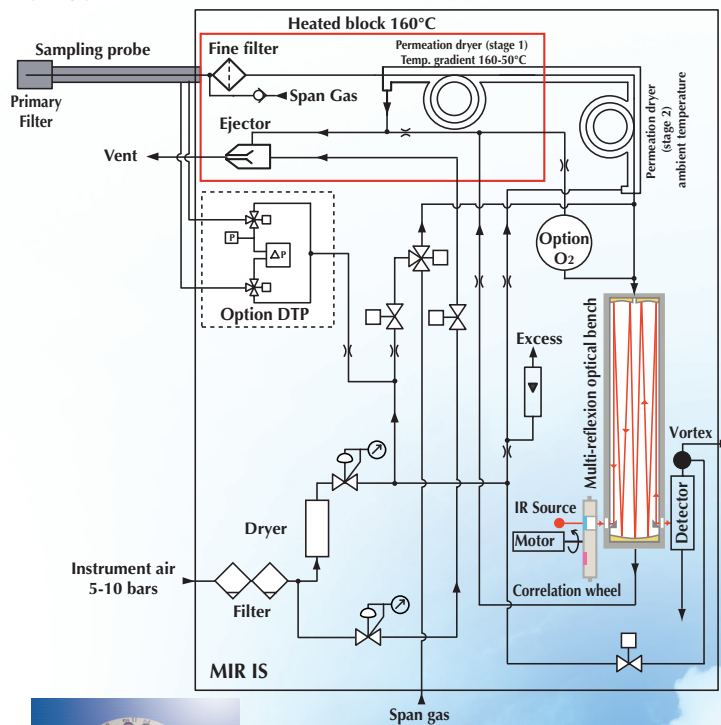


## MEASUREMENT TECHNIQUE:

Developed specifically for CEMS and process online monitoring and, 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 (as HCl & HF), the MIR IS offers very fast response time (less than 40 milliseconds). It uses the Infra-Red Gas Filter Correlation principle, a well-established method to reduce cross interferences between compounds, and therefore providing measures with a high accuracy.

The MIR IS uses a 16-position rotating correlation wheel with on-board interferential gas filters, allowing multiple simultaneous parameters measurement. 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 as well as the flue gas temperature, flow and pressure measurements.

The embedded powerful software integrates and compiles infrared detector signals and calculates concentration of all compounds simultaneously. All measures are available in graphical and tabular formats, but also on digital (RS232/485 & TCP IP) and analogue outputs (mA or V configurable). HMI is made via large LCD screen with 6 keypads keyboard and powered by user-friendly and easy to configure software with diagnostic functions. USB interface allows easy and fast software upgrade and data extraction possibilities. MIR-IS is the unique AMS on CEMS market offering a multi gas accurate analysis solution (Up to 10 gases including HCl & 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

Distributed by:



Typical specifications subject to changes without prior notice.

MIR IS - EN/ISO - INDS - 02/12



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