



Multi-Gas Infra-Red GFC Analyzer

MIR 9000



Designed to sample gases from a wide range of processes, the MIR 9000 measures up to 10 gases simultaneously: **HCl, HF, NO, NO₂ (NOx), SO₂, CO, CO₂, N₂O, CH₄, THC, H₂O and O₂**

Infra-Red Gas Filter Correlation allows the MIR 9000 to offer up to ten gas measurements simultaneously, including Nitric Oxide (NO), Nitrogen Dioxide (NO₂), Sulphur Dioxide (SO₂), Carbon Monoxide (CO), even Hydrogen Chloride (HCl) and Hydrogen Fluoride (HF).

Designed to comply with U.S. EPA 40 CFR 60 & 75 requirements, the MIR 9000 offers maximum availability and complete compliance with applicable regulations.



MIR 9000 19" rack version



MIR 9000 wall mount version



MIR 9000 customized installation

EXCLUSIVE FEATURES :

- Over 2,000 installations worldwide, in a wide range of applications and industries
- External signal input for up to 7 additional parameters (flow, pressure, temperature or other analog input)
- Optional Chemiluminescence module (CLD) for low NO, NOx and NO₂ measurement
- Built-in paramagnetic cell for O₂ monitoring
- Real time graphic display
- Interactive menu-driven software allowing ease of operation
- Compatible with permeation sample drying; heated lines may not be required*
- Readings measured and expressed on a dry basis
- Automatic interference correction
- Highly accurate, excellent stability with automatic optical stability check
- Sample system security and spectral correction with on-board H₂O measurement
- Available in 19" Rack or wall mount version

*for certain applications

MAIN APPLICATIONS:

- Municipal and Hazardous Waste Incinerators
- Utility Boilers, Cogeneration, Gas Turbines
- Industrial Boilers and Furnaces
- Combustion Optimization
- Cement Kilns, Glass, Steel, Chemical & Petrochemical Plants



Multi-Gas IR GFC Analyzer **MIR 9000**

TECHNICAL SPECIFICATIONS:

	Lowest / Highest available ranges
HCl	0-20 / 5000 ppm
HF	0-25 / 500 ppm
NO	0-35 / 5000 ppm
NO ₂	0-100 / 1000 ppm
N ₂ O	0-10 / 500 ppm
SO ₂	0-30 / 5000 ppm
CO	0-30 / 10000 ppm
CH ₄	0-15 / 1500 ppm
THC	0-30 / 3000 ppm
CO ₂	0-10 / 100%
O ₂	0-10 / 25%

Please contact us for other ranges.

- Repeatability: < 2% of Full Scale (F.S.)
- Zero drift: < 2% F.S. / 30 days
- Span drift: < 1% F.S. / 7 days
- Linearity: < 1% F.S.
- Power supply: 80 - 230V, 50-60 Hz
- Consumption: 300 VA
- Serial link: RS 232, RS 422
- Protocols: MOD4 (ASCII), MODBUS
- Ethernet Port
- Operating temperature: +5 °C to +40 °C
- Dimensions:
 - Version with CLD (wall mount):
 - Dim.: 7.9x24x24 in (DxWxH)
 - Weight: 70 lbs
 - Version without CLD (wall mount):
 - Dim.: 7.9x15.8x24 in (DxWxH)
 - Weight: 53 lbs
 - Version without CLD (19" Rack):
 - Dim.: 19.3x19x7 in (DxWxH)
 - Weight: 31 lbs

MAIN OPTIONS:

- CLD module for low concentrations of NO, NO_x and NO₂
- Pressure, temperature & gas velocity measurements (for certain applications)
- SEC[®] sampling system (permeation based)
- Analog outputs: 0/10V-4-20mA programmable
- Rack cabinet, transportable or shelter integration
- CONTACT[™] software for remote maintenance
- O₂ measurement via built-in paramagnetic cell
- Auto calibration / back flush module
- MDS dryer
- Multi-point sample system
- Data acquisition and management system

With over 2,000 installations world wide, the MIR 9000 is a proven Continuous Emissions Monitoring system across a wide range of industries. All measurements are performed on a dry basis. The sample may be conditioned at the extraction point via the SEC drying system before being transported via an unheated umbilical or with a conventional heated umbilical and thermo-electric chiller, as required by the specific application.

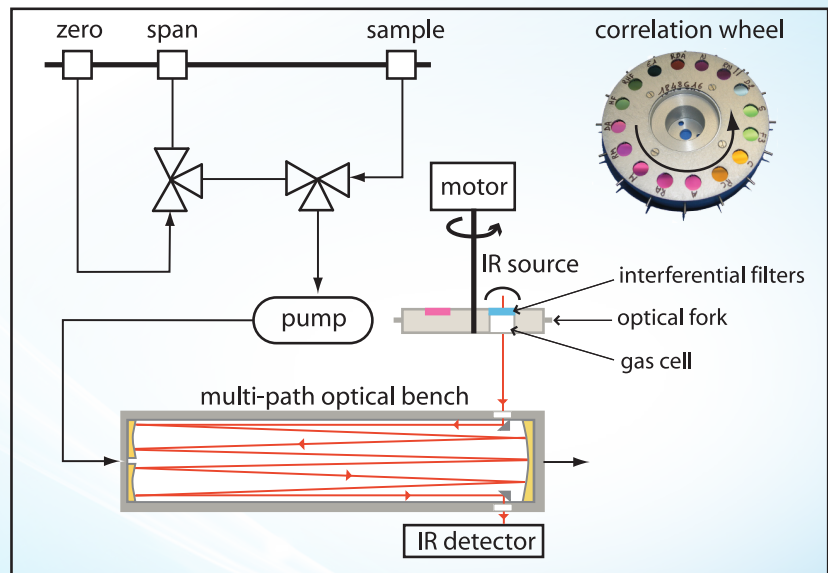
OPERATING PRINCIPLE:

The MIR 9000 is a multi-component Non-Dispersive Infra-Red (NDIR) analyzer using the Gas Filter Correlation technique (GFC). GFC is a well-established method to reduce cross sensitivities to gases that cause interferences in infrared measurements.

An optical band pass filter is used to select an infra-red band and then a cell filled with the gas of interest is placed in the beam, effectively blocking the spectral lines where the gas absorbs. Variations in optical clarity such as dirt on cell windows, source strength, and other causes are not related to the spectral lines selected and have no effect on the ratio of two pulses, making GFC an extremely sensitive and selective analytical technique.

The MIR 9000 uses a 16-position rotating correlation wheel, on which both interferential filters and gas cells are mounted, thus allowing multiple gases to be simultaneously measured.

The MIR 9000 is equipped with RS 232 / RS 422 connection for remote control and display functions, embedded Communication Protocol for CONTACT remote access software and interactive, menu-driven display allowing user-friendly and intuitive interface for the operator.



Complete CEMS systems normally consist of: Sample extraction and filtering probe
 • Sample conditioning system • Sample lines • Automatic calibration system
 • Instrument air drying system • Data acquisition & management system

Typical specifications subject to changes without prior notice. MIR9000.06-1405-03/16