



On-Stack Multigas IR Analyzer

Applications

- Process Monitoring
- Scrubber Efficiency for SO₂ & HCl
- SCR Control - NO_x Inlet/Outlet
- Coal Fired Utilities
- Petrochemical
- Incinerators
- Turbines
- Cement Kilns
- Regulatory emissions monitoring

Features

- Multigas monitoring
- Installs directly on process duct or stack
- No heated sample line required
- Serial link communication
- Compact, robust, industrial enclosure
- Data logging
- Optional O₂ measurement

SO₂ NO_x CO HCl
CO₂ THC N₂O O₂



Direct stack installation at refinery

The **MIR-IS** analyzer continuously measures up to 5 gases, using infra-red absorption spectroscopy and the gas filter correlation (GFC) principle. This method allows a specific measurement for each gas component and eliminates interferences. Simple installation requires only 1 port opening. Reduced costs: no shelter or heated sample line. Serial link allows inspection of system from remote location. Controlled by 2 microprocessors: one dedicated to data transfer and one for remote control. User friendly operator interface via the LCD display and keyboard allows easy access to all parameters. Data logging capability and analog inputs complete the stand-alone package.

MIR-IS

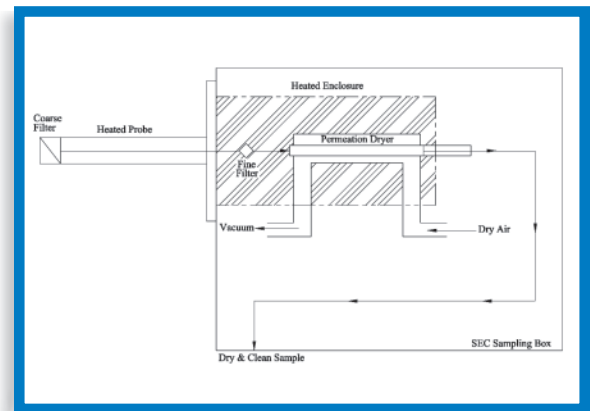
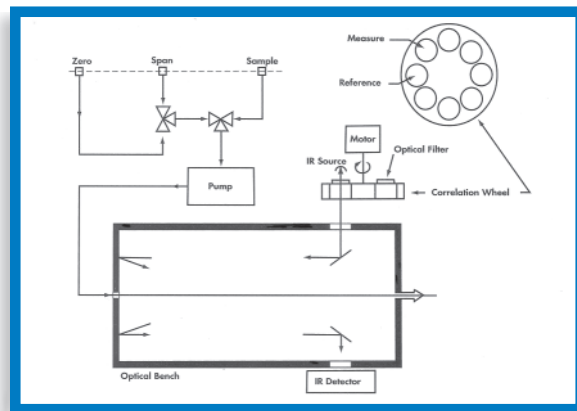
Principle of Operation: The sample is extracted through a heated probe tube, with a coarse filter, to a heated fine filter (0.3 μm) and onto the SEC Drier to dry the sample.

The SEC Drier consists of two concentric, large diameter tubes. The inner sample tube is a semi-permeable material which selectively allows water molecules to migrate into the outer Dry Air Tube, while keeping the gases of interest totally unaffected. The dry air carries the moisture to a vent while the dry and clean sample gas is delivered to the multi-path IR bench for analysis.

The temperature controlled multi-path IR bench has a long optical path for increased sensitivity. The cooled solid state detector receives the infrared beam,

analyzed by a correlation wheel with gas and reference optical filters, allowing precise, selective measurements of each gas, in less than 40 msec. The GFC principle eliminates cross sensitivity from other gases present. The absence of water (the major interference) in the sample improves the accuracy of the measurement. The reference and measure signals from the detector are sent to a microprocessor for calculation of gas concentrations.

Data and system status is available by serial link or hardwired outputs. The built-in data logging allows trending to be displayed in real time remotely or on the LCD screen. A synoptic screen allows easy access to the system performance and status, especially useful for troubleshooting.



Specifications

- No. of gas measurements: 5 max.
- Linearity: $\pm 1\%$ full scale
- Accuracy: $\pm 2\%$ full scale
- Zero/span drift: $\pm 1\%$ full scale/30 days
- Response time: 5 sec (T90)
- Maximum sample dew point: 80°C
- Sample flow rate: 40 LPH
- Analog outputs: 0/4-20 mA (per gas)
- Analog inputs: 5 (0-1 volt)
- Operating temperature: -15°C to 50°C
- Probe material: 316 S.S. or Hastelloy
- Probe lengths: 0.7, 1.0, 1.5 meters
- Enclosure: NEMA 4X
- Size: 600x600x200 mm (HxWxD)
- Power: 110/220 VAC, 50/60 Hz, 700 VA
- Dry air requirements: 4SCFM @ 80 psi
- Minimum full scale gas measurement:
 - SO₂: 0-100 ppm
 - THC: 0-25 ppm (C3)
 - NO_x: 0-50 ppm
 - N₂O: 0-15 ppm
 - CO: 0-30 ppm
 - CO₂: 0-5%
 - HCl: 0-50 ppm

Options

- TIG Interface/Calibration Module
- CONTACT Remote access software
- O₂ measurement (paramagnetic)
- Enclosure purge for classified areas

