AMETEK®
PROCESS INSTRUMENTS

MEASURES: **SO_2, NO, NO_2, O_2, mass flow**

PRODUCT DATA SHEET

910 Hot/Wet Multi-Gas CEM

Specifically configured for monitoring stack emissions of multiple pollutants on a mass rate basis

The 910 is a multi-component analyzer capable of measuring up to five different gases simultaneously. It is a complete system with a sample extraction and transport system designed for maintaining sample integrity.

The 910 performs analyses that typically require two or more separate analyzers, making it an economical alternative when several gases must be monitored. It performs all necessary sample gas and calibration gas flow management, and probe and sample line temperature control.

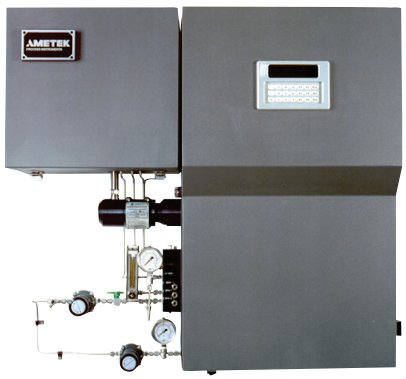
The 910 is a full-function continuous emissions monitoring (CEM) system, which requires the addition of only a sample probe and sample line to be fully operational.

Ultraviolet (UV) technology

Using high-resolution UV technology in a dual-beam, multiple-wavelength configuration, the 910 has a resolution of better than 0.02 nm. A six-position filter wheel enables one reference and five measure wavelengths. The dual-beam configuration, combined with the reference measurement, ensures low noise performance with minimal baseline and span drift. UV measurements do not suffer from water (H_2O) and carbon dioxide (CO_2) interference as these species are transparent in the UV. This greatly simplifies sample handling.

Fully extractive, heated wet-basis analyzer

The sample cell and all components in contact with the sample are heated above the dew points of all gases in the sample stream. This results in a simpler and more accurate calculation of gas concentrations, requiring no corrections for condensed and dissolved components. It also results in a simpler analytical system, as there is no need for sample drying or conditioning.



KEY BENEFITS

- Multi-component gas analysis (up to five species)
- Multi-range sulfur dioxide (SO_2) measurement
- Independent nitric oxide (NO) and nitrogen dioxide (NO_2) measurement
- No H_2O or CO_2 interference
- Automated zero and span gas calibration
- Four-zone temperature control-sample line, probe, sample conditioning unit and oven
- Provides serial interface with plant distributed control system (DCS)
- Incorporates flow measurement for emission rate calculations

APPLICATIONS

- Sulfur plants
- Smelters
- Coal, oil, and gas-fired power plants
- Industrial boilers

KEY MARKETS

- Sulfur recovery
- Nitric acid plants
- NOx scrubbers

PERFORMANCE SPECIFICATIONS

Methodology	Multiple-wavelength, high-resolution, non-dispersive UV		
Measurement and scale chart	**Species measured**	**Minimum full scale** (parts per million (ppm))	**Maximum full scale**
	SO_2	250 ppm	100%
	NO	300 ppm	100%
	NO_2	300 ppm	100%
	NOx	300 ppm	100%
	Hydrogen sulfide (H_2S)	500 ppm	100%
	Ammonia (NH_2)	500 ppm	100%
Optional oxygen (O_2)	Integral zirconium oxide (ZrO_2)		
Accuracy	Better than ±1% full scale		
Repeatability	Better than ±0.5% full scale		
Linearity	Better than ±1% full scale		
Response time	Typically less than 30s to T90 (excl. sample system)		
Number of gases	Up to five simultaneously (refer to AMETEK for possible combinations)		
Sample transport	Air aspiration		
Sample gas temperature	Ambient to 150°C (302°F)		
Typical sample flow	3 to 5 L/min. (0.1 to 0.2 CFM)		
Temperature control	Independent control of three zones (oven, sample line, probe)		
Pressure and temperature compensation	Standard		
Ambient temperature	5 to 50°C (41 to 122°F)		
Instrument air	Minimum 413.6 KPa (60 psig), 120 L/min (4.24 CFM), instrument quality air		
Power	120 VAC ±10%, 47 to 63 Hz or 240 VAC ±10%, 47 to 63 Hz, 600 W for analyzer only		
Communications	Analog: (4) x 4-20 mA self-powered Digital: One RS232 port for service diagnostics, one RS422 with Modbus protocol Relays: Three independent sets of SPDT relays alarm conditions		
Physical dimensions (W x H x D)	1117.6 x 1553.6 x 306 mm (44 x 61.17 x 12 in.)		
Weight	Estimated minimum 160 kg (350 lbs.)		
Approvals and certifications	NEC/CEC Class I, Division 2, Groups C & D ATEX II 2 G Ex d e px IIB T3 Gb IECEx Ex d e px IIB T3 Gb Russian Ex Proof Certification; 1ExpydIIBT3 Russian Gosstandard Pattern Approval Complies with all relevant European Directives		

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One of a family of innovative process analyzer solutions from AMETEK Process Instruments. Specifications subject to change without notice.