AMETEK®
PROCESS INSTRUMENTS

PRODUCT DATA SHEET

919 Hot/Wet Gas Analyzer

Hot-wet ultraviolet (UV) based photometric analyzer

The 919 was designed to meet the requirements of the most challenging process and emissions monitoring applications in a cost-effective fashion. It is a complete system with a sample extraction and transport designed to maintain sample integrity.

High resolution UV technology

Resolution better than 0.02 nm is provided by high intensity line source lamps. These sources emit at a fixed wavelength providing great measurement stability, and emit low total power removing the potential for sample photolysis. 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.

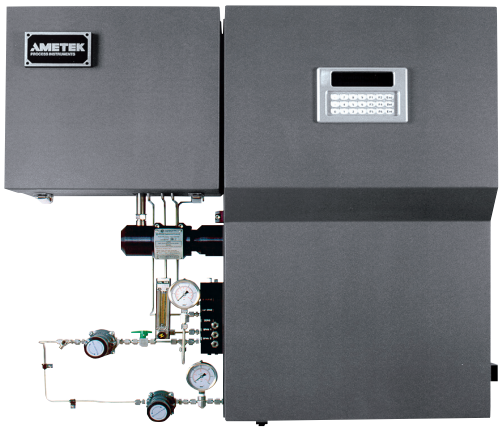
Unparalleled linearity

The high resolution enables unparalleled linearity over a wide dynamic range which, in turn, leads to simple, robust data analysis.

Simple, accurate calculation of gas concentrations

The 919 is a 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.

Housing options for the analyzer unit include a cabinet or walk-in shelter built to client specifications. An optional oxygen (O_2) sensor can be included.



KEY BENEFITS

- High reliability and reduced maintenance - no moving parts
- No water correction factors
- Automated zero and span gas calibration
- Provides serial interface with plant DCS
- Four temperature control zones for sample lines, probe, sample conditioning and oven
- Fully compatible with 900 ADA and series 9xx analyzers

APPLICATIONS

- Continuous emissions monitoring (CEM) applications in sulfur plants, smelters, coal, oil, gas-fired power plants, industrial boilers and process heaters

KEY MARKETS

- Sulfur recovery
- Wet scrubbers
- Sulfuric acid

PERFORMANCE SPECIFICATIONS

Methodology	Dual wavelength, high resolution, nondispersive UV
Measurement and scale chart	**Species measurable** / **Minimum full Scale** / **Maximum full scale** Sulfur dioxide (SO_2) / 250 ppm / 100% Nitric oxide (NO) / 300 ppm / 100% Nitrogen dioxide (NO_2) / 300 ppm / 100% Hydrogen sulfide (H_2S) / 125 ppm / 100% Ammonia (NH_3) / 500 ppm / 100%
Optional O_2	Integral zirconium oxide (ZrO_2)
Accuracy	±1% full scale of standard ranges
Repeatability	Better than 0.5% full scale of standard ranges
Response time	Typically, less than 30s to T90 (excludes sample system)
Linearity	Better than 1% of full scale
Sample transport	Air aspiration
Typical sample flow	3 to 5 L/min (0.1 to 0.2 CFM)
Temperature control	Independent control of up to four zones
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%, 47-63 Hz or 240 VAC ±10%, 47-63 Hz 600 W for analyzer only
Communications	Analog: (4) 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 db eb pxb IIB T3 Gb IECEx Ex d e px IIB T3 Gb Russian Ex Proof Certification; 1ExpydIIBT3 GOST: 1ExdIIBT3 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.