

PRODUCT DATA SHEET

920 Multi-Gas Analyzer

Multicomponent analyzer capable of measuring up to five different gases simultaneously

The 920 is specifically configured for monitoring the stack emissions of multiple pollutants on a concentration basis. It measures as many as five pollutants at stack conditions.

Robust and reliable

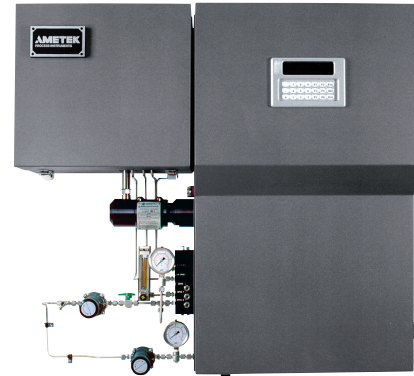
The 920's ultraviolet (UV)-based measurements do not suffer from water (H₂O) and carbon dioxide (CO₂) interference. They can also have a wide dynamic range for some measurements. This greatly simplifies sample handling and integrity as there is no need for sample drying.

Fully extractive, heated wet basis

The 920's sample system components are simply heated above the dew point of the sample gas. This results in a simpler and more accurate calculation of gas concentrations, requiring no corrections for condensed and dissolved components.

The analyzer performs all necessary sample gas and calibration gas flow management, and probe and sample line temperature control.

The 920 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. Housing options for the analyzer include a cabinet or walk-in shelter built to your specifications.



KEY BENEFITS

- Hot/wet analysis
 - No water compensation or correction factors required
- Multi-range sulfur dioxide (SO₂)
- Simultaneous, independent nitric oxide (NO) and nitric dioxide (NO₂) measurement
- Automated zero and span calibration
- Serial communication with plant distributed control system (DCS)
- Capable of measuring oxygen (O₂) with the addition of an optional zirconium oxide (ZrO₂) sensor

APPLICATIONS

- Power boiler emissions monitoring
- Sulfur plant stack and feed gas monitoring
- Multiple range SO₂ monitoring in sulfuric acid plants
- Process monitoring in nitric acid plants
- Smelter stack monitoring
- Sulfuric acid plant control
- Sulfur recovery unit (SRU) tail gas clean-up
- SRU feed gas
- Titanium dioxide (TiO₂) production and stack gas

KEY MARKETS

- Sulfur recovery/sulfuric acid
- Wet scrubbers
- Fine chemicals

PERFORMANCE SPECIFICATIONS

| | | | |
|--|--|--|---------------------------|
| Methodology | Multiple wavelength, high resolution, non-dispersive UV | | |
| Measurement and scale chart | Species measurable | 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 ₂ S) | 500 ppm | 100% |
| | Ammonia (NH ₃) | 125 ppm | 100% |
| | Chlorine (Cl ₂) | 500 ppm | 100% |
| | Carbonyl sulfide (COS) | 1000 ppm | 100% |
| | Carbon disulfide (CS ₂) | 2500 ppm | 100% |
| Optional O₂ | Integral ZrO ₂ | | |
| Accuracy | ±1.0% full-scale of standard ranges ±2.0% full-scale of standard ranges for the H ₂ S+NH ₃ application | | |
| Repeatability | Better than 0.5% full scale | | |
| Linearity | Better than 1% full scale | | |
| Response time | Typically, less than 30 sec. to T90 (excludes sample system) | | |
| Number of gases | Up to five simultaneously (refer to AMETEK for possible combinations) | | |
| Sample transport | Air aspiration | | |
| Typical sample flow | 3 to 5 L/min (0.1 to 0.2 CFM) | | |
| Sample gas temperature | Ambient to 150°C (302°F) | | |
| 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 | | |
| 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 | | |
| Power | 120 VAC ±10%, 47-63 Hz or 220 VAC ±10%, 47-63 Hz, 600 W for analyzer only | | |
| 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 Gosstandart Pattern Approval Complies with all relevant European Directives | | |

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