

PRODUCT DATA SHEET

930 H₂S in Sulfur Pit (Tank) Analyzer

Insuring safety through hydrogen sulfide (H₂S) and sulfur dioxide (SO₂) measurement

Produced liquid sulfur contains approximately 350 parts per million (ppm) of dissolved H₂S and hydrogen polysulfides. Spontaneous degassing results in accumulation of these gases in the head space. If the sweep gas is interrupted, H₂S can reach the lower explosive limit (LEL) (approximately 3.25%) creating a hazardous condition. In addition, a smoldering pyrophoric fire can be a source of ignition and monitoring SO₂ in the head space warns of this condition.

The 930 analyzer samples the vapor space gas using proven ultraviolet (UV) technology. The sampling system has a sulfur knock out at the probe to eliminate entry of excess sulfur vapor or liquid into the system. The sample is transported through an electrically traced sample line to the analyzer.

Minimal baseline and span drift

The dual beam configuration, combined with the reference measurement, ensures low noise performance with minimal baseline and span drift. Measurements from ppm to percent level are possible.

Simultaneous measurement

The 930 is a multi-component analyzer that is configured for simultaneous measurement of both H₂S and SO₂.



KEY BENEFITS

- Measurements from ppm to percent level
- Output alarms for H₂S LEL and SO₂ (smoldering fire)
- Common design with the 900 (air demand) and 910/920 (stack gas) analyzers
- Exceptional baseline stability and sensitivity
- Advanced Sulfur Removal (ASR) probe prevents sulfur plugging

APPLICATIONS

- Sulfur recovery units
- Liquid sulfur storage
- De-gassing

KEY MARKETS

- Refinery and gas processing based sulfur recovery units
- Sulfur de-gassing

PERFORMANCE SPECIFICATIONS

Methodology	Multiple wavelength, high resolution, nondispersive UV
Typical range	0 to 4% H ₂ S, 0 to 2% SO ₂ (other ranges available on request)
Accuracy	±1% of full scale of standard ranges
Repeatability	Better than 0.5% full scale of standard ranges
Linearity	Better than 1% of reading
Response time	Typically less than 30s to T90 (excl. sample system)
Sample transport	Air aspiration
Typical sample flow	3 to 5 L/min (0.1 to 0.2 CFM)
Temperature control	Independent control of four zones (oven, sample line, probe, vent line)
Ambient temperature	5 to 50°C (41 to 122°F)
Instrument air	Minimum 413.6KPa (60 psig), 120 L/min (4.24 CFM), instrument quality air
Power	120 VAC ±10%, 47-63 Hz or 240 ±10%, 47-63 Hz; 600 W for analyzer only excluding sample and vent line and ASR probe
Analog outputs	4-20 mA self-powered (optional loop-powered), maximum of four
Communications	RS422 with Modbus protocol, RS485 optional and Ethernet optional Relays: (3) independent sets of SPDT relays for alarm conditions
Physical dimensions (W x H x D)	1553.6 x 1117.6 x 306 mm (61.17 x 44 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 db eb pxb IIB T3 Gb GOST: ExpydIIBT3 Complies with all relevant European Directives GOST Pattern Approval

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