

PRODUCT DATA SHEET

888 Sulfur Recovery Tail Gas Analyzer

Field proven and highly reliable

As the next generation of our field-proven 880-NSL, the 888 utilizes highly reliable ultraviolet (UV) spectroscopy to accurately monitor hydrogen sulfide (H₂S) and sulfur dioxide (SO₂) concentrations in sulfur recovery tail gas. This compact, rugged analyzer mounts directly on the process pipe, eliminating the complexity and safety issues of fiber-optic coupled photometers.

Reliability

The 888 takes reliability to the next level by providing solutions to the three most common external failure modes:

- Automatic flow control for proactive response to adverse process conditions
- Flange temperature alarm for early warning of poor-quality steam
- Extended ambient temperature range to 60°C (140°F)

Safety

With the analyzer technician in mind, this unit includes many features to operate safely in hazardous locations.

- Close-coupled, easily accessible but process isolated demister
- Complete isolation from the process with double block valves
- Remote PC web-enabled interface

Maintenance/service

We listened to customer feedback from operations, analyzer technicians and process engineers:

- Smart diagnostic models identify, communicate, and react to potential problems
- 2X over range measurement allows an informed response to process upsets



KEY BENEFITS

- Auto-flow control, an industry first
- Flange temperature alarm to warn of non-functioning steam trap
- Rated to 60°C (140°F) ambient temperature
- No sample line, no fiber optics
- No shelter, IP65/NEMA 4X rated
- Safe process isolation during service
- Five-year lamp life
- Smart maintenance predicting diagnostics
- Web-enabled interface

APPLICATIONS

- Conventional Claus sulfur recovery
- Super Claus selective oxidation
- Sub dew point Claus process

KEY MARKETS

- Refining sulfur recovery
- Gas processing sulfur recovery
- Coke oven gas sulfur recovery

PERFORMANCE SPECIFICATIONS

Methodology	Non-dispersive UV
Measurement range	SO ₂ : 0-1%; H ₂ S: 0-2% (standard output range) air demand, excess H ₂ S or excess SO ₂ (as control outputs)
Accuracy	H ₂ S and SO ₂ : ±1% of full scale
Reproducibility	±1% of full scale
Speed of response	90% in less than 15 seconds, typical
Calibration	Automatic multi-point photo span validation
Sample flow	2 L/min typical
Outputs (analog & digital)	Four 4-20 mA, self-powered (24 VDC), linear, 1000 ohms load proportional to H ₂ S, SO ₂ , and either excess H ₂ S or ratio Four programmable relay contacts (30 VAC, 60 VDC, 10 VA, resistive load) RS485 Serial Communication Port, two-wire
Inputs	One isolated digital input, contact closure, 5 VDC @ 2.5 mA
Communication	RS485 serial port, Ethernet, Modbus. Remote dial-in capabilities available with AMETEK web-enabled software
Ambient shaded temperature	-20 to 60°C (-5 to 140°F)
Process sample pressure	Typically 2-7 psig
Customer-supplied items	2" 150# or DIN equivalent RF stainless steel flange connection
Ingress protection	IP65 (NEMA 4X)
Enclosure material	316 stainless steel
Physical dimensions (W x H x D)	Zone 1: 113.8 x 99.3 x 32.1 cm (44.8 x 39.1 x 12.6 in.) Class I Division 2: 91.4 x 99.3 x 32.1 cm (36 x 39.1 x 12.6 in.)
Approximate weight	Zone 1: 110 kg (242.5 lbs.) Class I Division 2: 99 kg (218 lbs.)
Electrical	120 or 240 VAC 50/60 Hz 500W, single phase
Instrument air/nitrogen	380 to 520 kPa (55-75psig)
Steam pressure	620 to 792 kPa (90-115 psig) for optional jacketed ball valve and 210 to 345 kPa (30-50 psig) for optional blow back
Approvals and certification	UL/CSA: Class I, Division 2, Groups A, B, C, D ATEX: II 2G Ex d pxb IIC T3 Gb IECEX: Ex d pxb IIC T3 Gb Russia (CU 1Ex db pxb IIC T3 Gb X) Complies with all relevant European directives

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