



# NovaSulf™ TG500 Series Total Sulphur Analysers

- **Measurement specific to total sulphur**  
No interference from other components
- **Wide range capability**  
Measures between 0-250ppb to 0-2000ppm
- **ATEX approved for hazardous areas**  
Suitable for onshore and offshore applications
- **Hydrogen/process sample shut-down system**  
Increased safety
- **Fibre optic link between housings**  
Virtually eliminates drift
- **Self-regeneration of catalyst (optional)**  
Increases instrument availability
- **Dual Stream capability**  
Reduces capital costs



## APPLICATIONS:

With its wide-ranging ability to measure Total Sulphur from % levels down to ppb levels, the TG500 range of Total Sulphur process analysers can be utilised in many process industries, including:

Ethylene/Propylene plants	Reformer recycle gas
Offshore gas production	Fuel gas monitoring
Catalyst protection	Sour gas treatment plants

## PRINCIPLE OF OPERATION

The metered process gas is mixed with a continuous flowing stream of hydrogen. The mixed gases are heated together in a conversion furnace at a temperature between 650°C to 1050°C, where all the sulphur compounds are converted to H<sub>2</sub>S. A catalyst is used to air conversion in some application (optional). The resulting H<sub>2</sub>S is measured using interference free ASTM approved colorimetric techniques.


Since the patented catalytic element is self-regenerating, there is no need for manual or automatic regeneration of the furnace.

The local LCD display provides the current H<sub>2</sub>S / total S readings, alarms if any and failure indicators.

## SPECIFICATIONS ANALYSER:

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Measurement principle	Conversion of sulphur compounds to H <sub>2</sub> S and subsequent measurement of the H <sub>2</sub> S using colorimetric techniques. Complies with ASTM D4468
Software	C++ Windows XPe based, SIL 2 certified
Electronics	PC104, AMD Geode LX800 processor 500MHz performance, 256Mb SDRAM. 512Mb industrial bootable compact flash card for the operating system, application, customised parameters and calibration curves storage
Keypad	Accessible through flameproof box using <i>Touchsense</i> <sup>™</sup> technology
Measurement range	Between 0-250ppb H <sub>2</sub> S to 0-2000ppm total sulphur
Repeatability	± 2% full scale
Output	1 x 4-20mA per module (Modbus optional) per stream
Alarms	1 x measurement alarm, 1 x instrument failure alarm.
Area classification	ATEX approved,  II 2 (1) GD, Exd ia m [ia is op Ga] [Exia] IIC T4, Ex tD iaD [iaD] A21 IP66 T 135°C
Enclosure	IP55
Ambient temperature limits	-20°C to +40°C
Tape life	Up to 60 days depending on application.
Response time	Depends on application but typically 60secs for 0-10ppm range
Auto Cal/Val	Optional

#### UTILITIES

Power	115 / 230 VAC 50 / 60 Hz, 250VA (1000VA during start up)
Process sample	Pressure 4.0-6.0 bar, flow rate 0.1 to 0.5 l/min, 40°C max temp
Hydrogen	100-250 cc/min
Nitrogen/Inst. Air	100-20 cc/min (for furnace regeneration)

#### INSTALLATION

Process connections	NPTF: 1/8" reference, 1/4 for process sample, air & N <sub>2</sub> , 1/2" vent (atmospheric)
Analyser Vent	Atmospheric, no back pressure or vacuum allowed
Weight	150 Kg approx. (standard model)
Dimensions	1100(w), 1700(h), 300(d) mm (standard model)

#### ORDERING INFORMATION:

Application  
 Range  
 Process conditions  
 Wall mounting or free standing frame  
 Power supply

#### REPRESENTED BY: