

# 6200 SERIES

Sulfur *process analyzers*



*Meet future sulfur regulations today...*

- Total sulfur
- Wide detection range: ppb to % levels
- Advanced communications, remote control
- Dual range, dual stream analysis
- Excellent reliability; low maintenance
- Sulfur follows ASTM D 5453 & D 6667
- LPG, gas & liquids analysis

 ANTEK<sup>®</sup> INSTRUMENTS

# 6200 SERIES

## *The leadership continues...*

Building upon years of innovation, analytical leadership, and customer satisfaction, ANTEK sets the standard against which other sulfur analysis instruments are measured.

### The ANTEK Advantage

#### ■ Experienced

We are experts at sulfur analysis technology with over 30 years experience in analytical instrumentation.

#### ■ Recognized

We comply with the most widely accepted methods for sulfur determination—methods of choice by regulatory agencies and method writing institutions worldwide.

- Follows ASTM D 5453, D 6667 total sulfur: gasoline, diesel, oil, gas
- ASTM D 2622, D 4294 equivalency

#### ■ Responsive

Our experienced staff of engineers and chemists will help you solve your analytical challenge and fit the 6200 Series to your unique application.

#### ■ Cost-effective

Our fast, reliable technologies further benefit your process with low cost of ownership. We eliminate need for expensive chemicals, column switching, reagents, and tape.

### Process Sulfur & Nitrogen Analyses

#### Pyro-fluorescent™ sulfur and Pyro-chemiluminescent™ nitrogen technology

- Fast, precise measurement of liquid, LPG, and gas samples
- Total sulfur
- Sensitivity from 250 ppb\* to % levels
- Excellent reproducibility and linearity
- Fast cycle time: 2½ to 15 minutes per stream, programmable
- Dual range and multi-stream capabilities built-in
- No environmentally hazardous catalysts, reagents, tapes or other wastes; no radioactive license required
- No matrix effects; no CO<sub>2</sub> interference
- No columns
- Easy to operate and maintain

\*Lower detection limit is increased to 5ppm when high purity air is used instead of oxygen

### Application Versatility

The 6200 Series measures sulfur and/or nitrogen in virtually any liquid or gas sample. Common petroleum applications include:

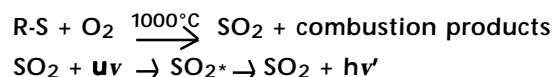
- |            |               |             |
|------------|---------------|-------------|
| ■ Gasoline | ■ Naptha      | ■ Diesel    |
| ■ Gas Oils | ■ Natural Gas | ■ Kerosene  |
| ■ Mo-Gas   | ■ LPG         | ■ Lube Oils |

## RELIABLE, PROVEN *Technology*



### Total Sulfur Analysis: Model 6200 S

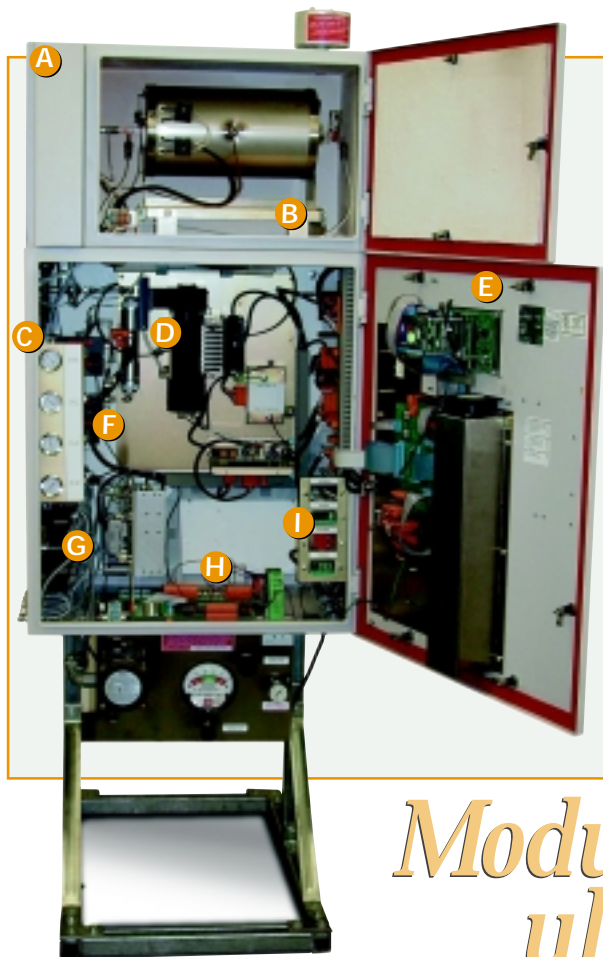
Our Pyro-fluorescent™ sulfur analysis technology is a fast and accurate quantitation method, providing determinations down to 250 ppb and up to percent levels with results in minutes.



A fixed amount of sample is combusted at a high temperature to convert sulfur atoms into Sulfur Dioxide (SO<sub>2</sub>) molecules. The SO<sub>2</sub> molecules are then exposed to ultraviolet light, causing them to fluoresce. The light produced by this reaction is converted by a photomultiplier tube into signal that is proportional to the amount of sulfur present.

It eliminates matrix interference problems of x-ray, providing accurate results to much lower levels of sulfur. It does not require column switching or back flushing; and because our detector eliminates problems of quenching from CO<sub>2</sub> or water, you'll achieve more reliable results with excellent linearity.

# 6200 SERIES



## Designed for Dependability & Ease of Use

- A** Highly reliable 6-port rotary injection valve is isolated from electronic components, yet easily accessible for routine maintenance
- B** Membrane dryer thoroughly removes moisture before sample enters detector
- C** Built-in pressure regulators ensure dependable flow of utility gases
- D** Thermo-electric cooling of detector ensures stable readings
- E** Computer control enables real-time on-screen view of analysis progress; touch-screen access to method, calibration, validation, alarm settings, & troubleshooting ; local storage of historical data; and advanced data export and communication functions; digital output control
- F** Computer-controlled electronic mass flow controllers ensure stable readings
- G** Component modularity allows easy upgrade to dual stream analysis
- H** Customer interface board provides easy connections for communication to plant DCS and/or remote workstation
- I** Digital displays provide quick viewing of furnace and detector temperatures

*Modular design,  
ultimate reliability!*

Small footprint: only 26" wide

## Advanced Plant DCS Communication

6200 Series' digital inputs/outputs enable remote instrument control and status monitoring. Concentration data transmits via scaled 4-20 mA outputs. Includes RS-232, RS-422, or RS-485 for Modbus RTU; Modbus TCP/IP & Ethernet available upon request.

## Technology Link to Your Lab

The 6200 Series utilizes the same proven technology of ANTEK's widely accepted laboratory analyzers. Many customers value using common methodology between their process and lab since it simplifies data correlation between the two locations.

## Custom Sample Conditioning Systems

A sample conditioning system (SCS) is critical for reliable sulfur measurement. The SCS will remove contaminants and H<sub>2</sub>O, regulate sample pressure, and control sample flow to ensure sample introduction under constant conditions. ANTEK supplies these optional systems and can custom design an SCS to optimize your analysis.

## Additional Features & Benefits

- Advanced communications with remote diagnostics and remote operation capabilities
- Fast recovery time when changing between high and low concentrations: 1000 ppm to 50 ppm in 10-15 minutes (2 to 3 injections) compared to several hours
- UVF's inherent linearity eliminates any need to add a sulfur-containing compound to make the system linear
- Touch screen control (man/machine interface)
- Small footprint; ideal as direct XRF & GC system replacement
- Easy to maintain; only 1 moving part
- Each application reviewed by experienced, knowledgeable technical staff
- Worldwide representative/distributive network
- Comprehensive in-house or on-site training available
- Routine maintenance agreements available

### Detection Method

Pyro-Fluorescence™

### Method Compliance

**Follows ASTM D 5453, D 6667**

### Certifications

CSA/NRTL; CENELEC-ATEX & CE available Spring 2004

### Performance

- *Analytical Range:* 250 ppb\* (lower detection limit) to % levels
- *Precision:* within < 1% of full scale, for most applications
- *Linearity:* < 1% of full scale at > 1ppm concentrations
- *Analysis:* 2 minutes; analyses over 1000 ppm may take longer
- *Cycle Time:* 2½ to 15 minutes, programmable

### Communication Outputs

- 4–20 mA isolated at 750 W (standard)
- Discreet digital inputs and outputs for remote control and status indication
- RS-232, RS-422, RS-485 for Modbus RTU (standard)
- Modbus TCP/IP and Ethernet (optional)

### Sampling

- Injection valve, 5 ml sample volume
- Sampling system available as recommended option

### Gas Requirements

- *Carrier (argon or nitrogen):* 99.975%, 50 psig, 5–15 cc/min
- *Combustion gas -oxygen* 99.75%, 50 psig, 400 cc/min  
or *\*high purity air, bottled or purified:* 50 psig, 400 cc/min
- *Plant Air (purge):* clean, dry, particle-free; 80–100 psig
- *Instrument Air:* 80–100 psig, for injection valve operation and for pneumatic output to sample conditioning panel

### Electrical

- 110VAC, 50/60Hz, 1500W, 20A or  
220VAC, 50/60Hz, 1500W, 10A

#### **Classifications:**

- Class 1, Division 1 Groups C–D (B optional) X purge
- Class 1, Division 2 Groups C–D (B optional) Z purge
- ATEX 94/9 EC EEx p [ia] IIC T4 (available Spring 2004)

### Ambient Temperature

0 to 40°C (32 to 104°F); operation at the extremes of this temperature range may affect performance; please contact your Antek representative for details

For more information, please contact us:

ExpotechUSA

10700 Rockley Road  
Houston, Texas 77099  
USA

281-496-0900 [voice]

281-496-0400 [fax]

E-mail: sales@expotechusa.com

Website: www.ExpotechUSA.com