

9000 SERIES

Nitrogen & Sulfur *analyzers*



 ANTEK[®] INSTRUMENTS, INC.

Real World Solutions

9000 SERIES

The leadership continues...

Building upon years of innovation, analytical leadership, and customer satisfaction, Antek once again sets the standard against which other nitrogen/sulfur analysis instruments are measured.

The Antek Advantage

■ **Experienced**

we are the experts at nitrogen and sulfur analysis technology with over 25 years experience

■ **Recognized**

methods of choice by regulatory agencies and method writing institutions

■ **Responsive**

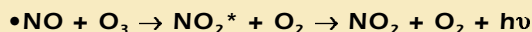
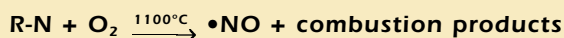
our experienced staff of highly trained chemists will help you solve your analytical problems or fit the 9000 Series to your application

■ **Cost-effective**

Antek's instrumental methods eliminate expenses for specialized environments and permits; no expensive chemicals or reagents are needed

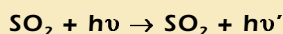
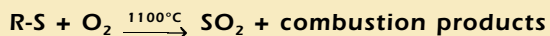
Total Nitrogen Analysis

Utilizing accuracy and precision of our Pyro-chemiluminescent™ technology, the 9000 Series delivers total nitrogen determinations from low ppb levels to 17%. These results are obtained within one minute for gas and liquid samples and one to fifteen minutes for solid samples. Chemiluminescence is the clean, fast, interference-free method for determining total bound nitrogen in a variety of matrices.



Total Sulfur Analysis

Our Pyro-fluorescent™ sulfur analysis technology is a fast, accurate quantitation method. It provides determinations for an analytical range of low ppb to 40% within minutes. This clean, interference-free instrumental method is more stable than coulometric methods and more sensitive than x-ray, without their matrix sensitivity problems.



Product *features*

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

- one injection — two results
- fast, precise measurement of solid, liquid and gas samples
- sensitivity from low ppb to percent levels
- superior to wet chemistry and other instrumental methods
- no environmentally hazardous catalysts or reagents
- no need for protective clothing, fume hoods, or other cumbersome safety devices
- no radioactive license required

Versatile

- nitrogen, sulfur or simultaneous nitrogen/sulfur—buy one detector, add a second later
- modular designed detectors and electronics
- multi-level password protection
- single- or multi-point calibration curves
- user-defined reports
- post-analysis reprocessing
- ability to plot 1st, 2nd and 3rd order regression curves
- data export — LIMS/spreadsheet



Easy to operate

- instrument operation and data management handled by 32-bit Windows™-based software
- automatically configures to detector(s) and accessories installed
- automated sample introduction using optional accessories
- easy review and adjustment of system settings
- real time display of sample progress
- automatic start-up and shut-down procedures
- fast sample introduction with little or no preparation
- remote instrument control and diagnostics via modem
- electronic mass flow control

Satisfaction guaranteed

- application solutions by experienced, knowledgeable technical staff
- one year limited warranty on parts and labor
- in-depth training courses offered at U.S. and European offices



Optional *accessories*



- 734 Gas/Liquefied Gas Sampling Inlet System**
ensures reproducible injection of gases and liquefied petroleum gases (LPG).



- 735 Controlled Rate Sample Drive**
provides reproducible, controlled rate of sample introduction into analyzers by syringe or sample boat.



- 737 Temperature Programmable Inlet**
enables analysis of solid materials and viscous liquids up to 500 mg; ideal for additives in polyolefins (slip, antioxidants, etc.), thermoplastics, resins and coal.



- 738 Robotic Liquid Autosampler**
robotically operated, syringe-based, vertical injection sampler for use with 9000 and Multi-Matrix or Boat Inlet; handles 105 (optional 200) samples.



- 740 Multi-Matrix Sampler**
boat inlet system allows introduction of solids, liquids and gases; thermoelectrically cooled chamber speeds time between sample runs.

9000 SERIES

Product specifications

Detection Method

9000N Nitrogen Analyzer: Pyro-chemiluminescence™
9000S Sulfur Analyzer: Pyro-fluorescence™

Analytical Range*

9000N Nitrogen Analyzer: Low ppb to 17 %
9000S Sulfur Analyzer: Low ppb to 40 %

Precision

± 40 ppb or ± 2 % RSD, whichever is greater

Typical Sample Size*

Gas: 5 to 15 cc
LPG: 5 to 15 µl
Liquid: 1 to 20 µl
Solid: up to 500 mg

*Analytical range and sample size may be a function of sample matrix and method of introduction.

Typical Analysis Time

Gases / Liquids: less than one minute
Solids: 2 - 15 minutes (dependant upon sample type/weight)

Temperatures

Combustion zone: ambient to 1100°C in 1°C increments

Power

115 vac 50/60 Hz 12 Amp
230 vac 50/60 Hz 6 Amp

Gases

Dry oxygen: 300-600 cc/min 99.75 %, 3 bar (40 psig), < 5 ppm moisture
Dry carrier (argon or helium): 50-200 cc/min 99.99 %, 3 bar (40 psig), < 5 ppm moisture

System Dimensions

51.5 cm high (20.276") x 47.0 cm wide (18.504") x 60.0 cm deep (23.622")

Weight

39.5 kg (87 lb)

Patents and Approvals

U.S. Patents: #4018562, #4066409, #4351801, #4352779, #4678756, #4778764, #4843016; U.K. Patent: #1578281; F.R.G. Patent: #P3116049.2; ASTM: D4629, D5176, D5453, D5762, D6069; DIN: #38 409 Teil 27; IP: 379; other methods and patents are pending

Continuing research and development may result in specification or appearance changes at any time.

Ordering information

Model 9000N Nitrogen Analyzer designed for rapid analysis of solid, liquid and gas samples for total chemically bound nitrogen. Accessories include a pyrolysis tube, 10µl syringe, operation/service manual, fittings and gas line tubing required for system operation. Desktop or laptop computer included. Complies with ASTM D4629, D5176, D5762 and D6069.

Model 9000S Sulfur Analyzer designed for rapid analysis of solid, liquid and gas samples for total chemically bound sulfur. Accessories include a pyrolysis tube, 10µl syringe, operation/service manual, fittings and gas line tubing required for system operation. Desktop or laptop computer included. Complies with ASTM D5453.

Model 9000NS Nitrogen/Sulfur Analyzer designed for rapid analysis of solid, liquid and gas samples for simultaneous detection of total chemically bound nitrogen and sulfur. Accessories include a pyrolysis tube, 10µl syringe, operation/service manual, fittings and gas line tubing required for system operation. Desktop or laptop computer included. Complies with ASTM D4629, D5176, D5453, D5762 and D6069.

Nitrogen Detector Kit for addition to Model 9000S Sulfur Analyzer.

Sulfur Detector Kit for addition to Model 9000N Nitrogen Analyzer.

The technology used in ANTEK's laboratory instrumentation is also available for process/on-line applications.

Please contact your ANTEK representative for more information:



ANTEK® INSTRUMENTS, INC.

Real World Solutions

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