

Total sulfur, total nitrogen, and halides analysis in a single solution

MultiTek®



The global market leader for total sulfur, total nitrogen, and halides analysis

- Application Specific Configuration Provides Excellent Precision and High Quality Data
- Increased Lab Productivity through Reduced User Intervention
- High Performance for Versatility and Quick Analysis
- Proven Compliancy for Multiple Industries

INNOVATIVE PROCESS SOLUTION FOR GAS, LPG, AND LIQUID SAMPLES UTILIZING PROVEN LAB TECHNOLOGY

Antek's MultiTek® is the leading instrument on the market that combines testing for sulfur, nitrogen, and halides all in one. Compact, powerful, automated, and multi-configurable, it's the perfect solution to today's increasing demand worldwide for fast, accurate detection and analysis of unwanted chemicals, pollutants, contaminants, and corrosive elements. MultiTek® detects these substances through a uniquely efficient process that includes combustion Ion Chromatography (IC), Ultraviolet Fluorescence (UVF), and Chemiluminescence technologies.

MultiTek® is superior to wet chemistry and XRF; works with solid, liquid, gas, and LPG samples; and provides lower detection levels than competitive systems. MultiTek® is the enabling technology for continual product and process improvement and 'green' manufacturing goals.

✓ **PRECISE ANALYZER
FOR HIGH QUALITY
DATA**

✓ **INCREASED LAB
PRODUCTIVITY THROUGH
REDUCED USER
INTERVENTION**



✓ **HIGH PERFORMANCE
FOR VERSATILITY AND
QUICK ANALYSIS**

✓ **PROVEN COMPLIANCY
FOR MULTIPLE
INDUSTRIES**



HIGH PERFORMANCE FOR VERSATILITY AND QUICK ANALYSIS

MultiTek Analyzes a Wide Application Range all in One Instrument

- Quick Analysis of Various Sample Types
- MultiTek is able to analyze solids, liquids, and gases quickly and accurately
- Long term stability for continuous use

HPI Applications

Sulfur Analysis

- LPG
- Condensates
- Naphtha
- Diesel
- Aromatics
- Natural gas
- Mineral oil
- Gasoline
- Gaseous hydrocarbons
- Jet fuel

Halides Analysis

- Naphtha

Nitrogen Analysis

- Naphtha
- Condensates
- Distillates
- Oils
- Liquid Hydrocarbons
- LPG
- Light Aromatics
- Lubricating oils

Non-HPI Applications

Sulfur Analysis

- Water
- Wastewater
- Food
- Polymer
- Ethyl Alcohol

Nitrogen Analysis

- Water
- Wastewater
- Food
- Polymer
- Ethyl Alcohol

Halides Analysis

- Coal
- Aluminum Oxide

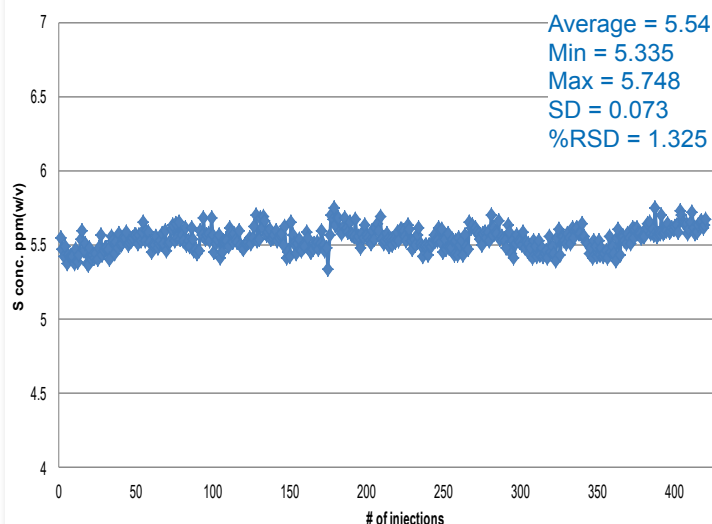


PRECISE ANALYZER FOR HIGH QUALITY DATA

Application Specific Configuration Provides Excellent Precision

- Dedicated sample analyzer means that your analyzer can truly be optimized for its intended application; can be configured for multiple applications
- PAC application specialists can develop customized methods (no on-site method development needed)
- Factory-tuned analyzer prior to shipment

Long Term Stability Test



MultiTek long term stability for continuous use

APPLICATIONS	#INJECTIONS	RESULTS PPM	RSD%
SULFUR ANALYSIS			
Diesel	10	6.4	2.0
Gasoline	10	10.2	1.25
Biodiesel	10	7.2	1.42
Aromatic Hydrocarbons	4	0.85	4.94
LPG	4	50.6	0.24
Mineral Oil	6	10.3	2.6
NITROGEN ANALYSIS			
Lubricating Oils	7	830	2.00
Food	4	79.5	2.84
Polymer	3	2057	2.49
Liquid Aromatics	40	0.441	3.8
Fuel Oil	10	617	1.06
HALIDES ANALYSIS			
Fluorides in Aluminum Oxide	7	54 ppm	3.27
Chlorine in Naphtha	20	1.09 mg/L	0.03

Typical results. Results will vary based on your specific instrument conditions



INCREASED LAB PRODUCTIVITY THROUGH REDUCED USER INTERVENTION

Automation and Stable Operation Reduce Operator Intervention

- Factory tuned analyzer; the instrument is ready for method development once installed
- With optional customized applications development, operators do not need to spend time to develop methods
- High capacity liquid autosampler (216 samples) reduces need for operators to be present when running samples
- Long term stability reduces calibrations by operators for any measurement range
- Wide dynamic range means user can run samples with a broad concentration range (10^4) utilizing a single calibration and method, which minimizes running samples under multiple methods/instruments



PROVEN COMPLIANCY FOR MULTIPLE INDUSTRIES

- Low detection limits ensures regulatory and quality requirements
- Wide application range helps multiple industries meet standards requirements
 - ASTM D7359
 - ASTM D5453
 - ASTM D6667
 - ASTM D6069
 - ASTM D4629
 - ASTM D7183
 - ASTM D7184
 - ASTM D7551
 - ASTM D5176
 - ASTM D5762
 - EN 20846
 - UOP 971, 936
 - ENV 12260
 - DIN 38409



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ABOUT ANTEK

Leading Elemental Analysis and Chromatography

Since 1967, Antek has been a global leader in lab and on-line elemental analysis instrumentation and custom chromatography instruments that detect sulfur and nitrogen/sulfur compounds. The Antek line also includes process analyzers for monitoring total nitrogen and sulfur in liquids, gases and LPGs and determination of nitrogen, sulfur, total hydrocarbon, and aromatics for the quality assurance for CO₂.

SPECIFICATIONS

Detection Method		
MultiTek® N Nitrogen Analyzer	Pyro-chemiluminescence	
MultiTek® S Sulfur Analyzer	Pyro-fluorescence	
MultiTek® IC Halides Analyzer	Combustion IC	
Analytical Range	Range	LOD ¹
MultiTek® N Nitrogen Analyzer	low ppb to wt%	15 ppb
MultiTek® NS Nitrogen Analyzer	low ppb to wt%	N: 30ppb/ S: 100 ppb
MultiTek® S Sulfur Analyzer	low ppb to wt%	100 ppb
MultiTek® LLS Sulfur Analyzer	low ppb to sub wt%	30 ppb
MultiTek® IC Halides Analyzer	low ppb to sub wt%	200 ppb
Typical Sample Size ²		
Gas	5 to 15 ml	
LPG	5 to 15 µl	
Liquid	1 to 40 µl	
Solid	up to 500 mg	
Typical Analysis Time		
Gases / Liquids	2-5 minutes (dependent upon sample type / method)	
Solids	2 – 15 minutes (dependent upon sample type / weight)	
Halides	15 – 30 minutes	
Temperatures		
Combustion zone	ambient to 1100°C in 1°C increments – 1050°C default	
Gases		
Dry oxygen	400 – 650 ml/min, 99.75%, 3 bar (40 psig), < 5 ppm moisture	
Dry carrier (argon or helium)	50 – 200 ml/min, 99.99%, 3 bar (40 psig), < 5 ppm moisture	
Water	18 mega ohm, Type 1 H ₂ O	
Miscellaneous Specifications		
Power	115 vac 50/60 Hz 1500 W 230 vac 50/60 Hz 1500 W	
Dimensions	52x54x61cm, 21x21x24inch (hwxwd)	
Weight	37 kg (80 lb)	

¹Note: LOD and range are determined with water and/or solvents at optimal conditions. These will vary based on the matrix and instrumental conditions. Refer to the appropriate MultiTek Application Note for LOD and range for a specific material of interest.

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

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