



Antek Gas Chromatography Products: *A Guided Tour Through Industry*

ANTEK GC Application Solutions Feature the Following Detectors: Antek Sulfur and Nitrogen Chemiluminescence, Flame Ionization, Thermal Conductivity, Nitrogen-Phosphorus, Atomic Emission, Halogen Specific, Pulsed Discharge, Photoionization, Electron Capture, Mass Spectrometry, and Helium Discharge.

Refining Industry Solutions

For Gas Range Samples

Fast Refinery Gas Analyzer/Extended Fast Refinery Gas Analyzer: utilizing state-of-the-art hardware consisting of capillary columns, Valco valves, and the Valco Pulsed Discharge Detector. Typical total analysis time for H₂ through toluene is less than 12 minutes, with extended C₇⁺ hydrocarbon analysis and liquid sample valve options also available.

Flue Gas/Stack Gas Analyzer: utilizing Antek sulfur and nitrogen chemiluminescence detectors, with optional PDD or TCD.

Custom Configurations for Refinery Gas Analysis: with unique column sets, stream selector valves for on-line process sampling, and additional gas and/or liquid sample valve options are available. Please ask for an ANTEK custom analyzer quotation.

Liquefied Petroleum Gas Analyzers: compliant with ASTM D2163, D2504, and D2712 methods are available.

Transformer Oil Gas Analysis (TOGA) Analyzer: with and without headspace autosampling, is now available from Antek.

Fixed Gases Analyzers: in compliance with ASTM D2504 and D2505 are available.

ANTEK Analyzers for Sulfur Traces in Ethylene and Propylene: utilize chemiluminescence detection techniques, compliant with ASTM D2420 and D5623 methods, are available upon request.

Custom Gas Calculation Software: Antek's Custom Refinery Gas Calculation software is provided as an option, to generate customized refinery gas reports based on ASTM, ISO, and GPA methods, as well as user-defined calculations.

For Gasoline Range Samples

DHA: ASTM D5134 and D6223 compliant analyzers for detailed hydrocarbon analysis of gasoline range samples. Data processing and calculations performed by ANTEK DHA software. **FAST DHA** using Agilent microbore columns provide a full range gasoline analysis in about 20 minutes. Single as well as the dual tower option for increased sample throughput is available.

DHAX: For oxygenated gasoline range stream analysis. Data processing and calculations performed by DHA software. Single and dual tower options available.

O-FID Analyzer: compliant with ASTM D5599 for finished gasoline is available.

D4815 Analyzer: ASTM method analyzer for oxygenate determination in finished gasoline is available.

Trace Ether and Alcohol in Gasoline Analyzer: designed for ppm oxygenates detection.

D3606 and D5580 Analyzers: for ASTM methods are available in single and dual tower options. Both methods can be combined on a single instrument, if requested.

ANTEK Simdist and Sulfur/Nitrogen/Simdist for ASTM D3710: Simulated distillation analyzer for hydrocarbons with optional sulfur/nitrogen analysis of gasoline range samples of C₃ through C₁₅, with a boiling point range of -42°C through 260°C. Custom SIMDIST software performs the ASTM method, and also provides additional capabilities for calculation of RVP (Reid Vapor Pressure), ASTM D86 method correlation, and customized sulfur and/or nitrogen boiling point distribution reports.

GC/AED Elemental Analyzer: Elemental analysis by GC-AED. Arsine and phosphine in propylene, lead in naphtha, fluorine in butanes, chlorides in hydrocarbons, sulfur and nitrogen in hydrocarbons, oxygenates in hydrocarbons, etc. Detectable elements include: sulfur, nitrogen, oxygen, lead, nickel, vanadium, iron, mercury, palladium, and boron.

For Mid-Range Distillate Samples

ANTEK Simdist and Sulfur/Nitrogen/Simdist for D2887: Simulated distillation analyzer for hydrocarbons with optional sulfur/nitrogen analysis for C₃ through C₄₄, with a boiling range of -42 °C through 545 °C. ANTEK Custom SIMDIST software performs the ASTM method, and also provides additional capabilities for calculation of Noack (DIN 51-581), MOV (motor oil volatility), ASTM D86 and D 1160 method correlations, and customized sulfur and/or nitrogen boiling point distribution reports.

GC/AED Elemental Analyzer: Elemental analysis by GC-AED for diesel range samples. Includes sulfur and nitrogen in hydrocarbons, oxygenates in hydrocarbons, etc. Detectable elements include: sulfur, nitrogen, oxygen, lead, nickel, vanadium, iron, mercury, palladium, and boron.

For Gas Oil/Lube Oil Samples

ANTEK Simdist and Sulfur/Nitrogen/Simdist for D6352: Higher range version of D2887 simulated distillation analyzer for C₅ through C₈₀, with a boiling range of 174 °C through 700 °C.

ANTEK Simdist and Sulfur/Nitrogen/Simdist for D6417: Standard Test Method for Estimation of Engine Oil Volatility by Capillary Gas Chromatography for samples with a boiling range of 126 °C through 615 °C. This test method can also be used to estimate the amount of oil volatilized at any temperature between 126 °C and 371 °C, if so desired.

For Crude Oil and Residual Samples

ANTEK High Temperature Simdist and Sulfur/Nitrogen/Simdist: Simulated distillation analyzer for hydrocarbons with optional sulfur/nitrogen analysis for C₅ through C₁₂₀, with a boiling range of 36°C through 750°C. ANTEK Custom SIMDIST software provides capabilities for calculation of Noack (DIN 51-581), MOV (motor oil volatility), ASTM D 1160 method correlations, and customized sulfur and/or nitrogen boiling point distribution reports.

Detailed Front End Analyzer: for whole crude samples provides detailed capillary analysis on C₁ through C₁₅ front end. System incorporates a split/backflush inlet, with ANTEK DHA software that provides custom crude profile reports.

Pipeline/Natural Gas Industry Solutions

Natural Gas Analyzers: are available for ISO 6974, GPA 2177, 2186, 2261, and 2286 methods.

Custom Gas Calculation Software: Antek's Custom Natural Gas Calculation software is provided as an option, to generate customized natural gas reports based on ASTM, ISO, and GPA methods, as well as user-defined calculations.

Custom Configurations for Natural Gas Analysis: with unique column sets, stream selector valves for on-line process sampling and additional gas and/or liquid sample valve options are available. Please ask for an ANTEK custom analyzer quotation.

Petrochemical Industry Solutions

Ammonia in Ethylene and Benzene: by gas chromatograph utilizing the Antek CLND.

Impurities in Propylene Analyzer: detects H₂, O₂, N₂, CH₄, CO, CO₂, acetylene, ethane, ethylene, arsine, sulfur species including COS and H₂S.

Sulfur in Benzene (THIOPHENE) Analyzer: by gas chromatograph utilizing FID and the Antek SCD.

Paraffins, Aromatics, and Napthenes in Hydrocarbons: by Batch Inlet mass spectrometry and GC/MS.

Trace Oxygenates in Hydrocarbons Analyzer: is designed for ppm oxygenate detection, utilizing GC and GC/MS.

Specialty Chemical/Gas Industry Solutions

Speciated Sulfur and/or Nitrogen Analysis: standard or fast GC method utilizing the Antek 7090 SCD/NCLD with automated gas and/or liquid sampling valves.

Total Sulfur and/or Nitrogen Analysis: by gas chromatograph utilizing the Antek SCD/NCLD with automated gas and/or liquid sampling valves.

Impurities in Carbon Dioxide: by gas chromatograph utilizing PDD and Antek SCD.

Phenol and Benzene Process Analysis: by gas chromatograph.

Environmental Industry Solutions

Trace Level Impurities in Wastewater Analysis: by gas chromatograph utilizing FID, AED, PDD, headspace, etc.

Trace Benzene in Water Analysis: by gas chromatograph.

Trace Oxygenates in Water Analyzer: is designed for ppm oxygenate detection.

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