

OUTSTANDING
TECHNICAL
SUPPORT

Got questions ? Does your facility have special analytical needs? Our engineering team is ready to provide you with the answers. For more information on our products and services we invite you to visit us on the Web at www.cianalytics.com or call us today at 001-450-658-4965 .



The Total & Multi-Element Lab Analyzer

When it comes to laboratory analysis, our Model 2010L Analyzer has everything you want. This highly versatile instrument is capable of total analysis for one or more applications (refer to table below). Furthermore, it can also detect elemental impurities in your gas, liquid, solid or crude oil samples.

Using C.I. Analytics' *Dynamic Combustion System*, the sample undergoes a reaction to form gaseous products that are detected by our special dry colorimetric methods. This method involves the use of Sensi-Tapes® which when exposed to the target impurity will change color in direct proportion to its concentration. A photo-optical system then compares the tape color to a standard response curve.

Automated features such as a sample loop, direct sample injection, pyrolyzer bypass and automatic filter switching make the Model 2010L a truly versatile instrument. By loading a different analytical method and switching the detection tape you can analyze your samples for Total Sulfur, Nitrogen, Arsenic, Chlorides and even NOx.

Every 2010L analyzer comes pre-calibrated, equipped with CiSmart software and a laptop computer.

Highlights

- With the option to measure more than 15 different impurities, the Model 2010L equips your laboratory for tomorrow's stringent environmental and quality controls.
- Our extensive line of options and accessories allows you to customize the analyzer to your analytical needs (see reverse).
- The use of safe, non-toxic Sensi-Tapes® in our dry colorimetric methods means that no special precautions are required in their handling and no special regulations govern their transportation or disposal.

Application (Gas, LPG & Solids)	Typical Range*
NOx	25 ppb - 1000 ppm
Total Arsenic	1 ppb - 100 ppm
Total Sulfur	1 ppb - 1000 ppm
Total Nitrogen	25 ppb - 1000 ppm
Total Chlorides	10 ppb - 1000 ppm
Application (Liquids)	Typical Range*
Total Arsenic	1 ppb - 100 ppm
Total Sulfur	100 ppb - 1000 ppm
Total Nitrogen	250 ppb - 100 ppm
Total Chlorides	100 ppb - 1000 ppm

Elemental Impurity	Typical Range*
Ammonia (NH ₃)	5 ppb - 1000 ppm
Arsine (AsH ₃)	1 ppb - 100 ppm
Chlorine (Cl ₂)	5 ppb - 1000 ppm
Hydrogen Chloride (HCl)	5 ppb - 1000 ppm
Hydrogen Cyanide (HCN)	5 ppb - 100 ppm
Hydrogen Fluoride (HF)	500 ppb - 10 ppm
Hydrogen Sulfide (H ₂ S)	1 ppb - 1000 ppm
Nitrogen Dioxide (NO ₂)	25 ppb - 1000 ppm
Phosgene (COCl ₂)	1 ppb - 10 ppm
Phosphine (PH ₃)	1 ppb - 100 ppm
Sulfur Dioxide (SO ₂)	10 ppb - 1000 ppm

*Detection ranges can be optimized to meet your application upon request.



We make one commitment...excellence

MODEL 2010L TECHNICAL SPECIFICATIONS

Repeatability	Better than $\pm 5\%$ ($\pm 2\%$ with mass flow controls)
Sample Phase	Gas, liquids (LPGs, solids and crude oil are possible with additional accessories, see below)
Analysis Time	30 seconds to 20 minutes (based on required accuracy and sample phase)
Detection Technique	Advanced Dry Colorimetric Sensi-Tape® with Tri-Color adaptive optics block (other detection techniques available, see below)
Stability	Automatic zero offset compensation before every analysis
Calibration	Multiple calibration curves Manual or software-assisted calibration with 960 AMF Calibration Blend Generator
Preheater Temperature Range	77°F to 1292°F (25°C to 700°C)
Reactor Temperature Range	77°F to 2012°F (25°C to 1100°C)
External Outputs	USB and C.I. Net Expansion Port Compressed air source for external Auto-Injectors
User Interface	Microsoft Windows® - based CiSmart software on external laptop
Power Requirements	110, 120, 220 or 240 VAC, 50/60 Hz, 1000 VA IEC C20-type power entry connector
Dimensions (H x W x D)	23" x 35" x 23" (59cm x 89cm x 59cm)
Weight	100 lbs (46 kg)

Included

- Total Sulfur analysis using Dry Colorimetric Detector
- Direct sample injection
- Automated sampling valve
- C.I. Net expansion port
- Calibration inlet
- Software for remote control of Model 960AMF Calibration Blend Generator
- Software for remote control of all C.I. Analytics accessories
- Start-Up Kit (see below)

Start-Up Kit Contents

- Laptop computer with CiSmart Software
- USB cable
- IEC-type C20 power cord
- CiSmart setup disk
- Technical manual
- Quartz reaction tube
- Humidifier fill bottle
- Leak check fittings
- Optics leak test strip
- Optics verification card

Options

- Replacement of Tape Detector for *Chemiluminescence* Detector (CLD)
- Replacement of Tape Detector for *Ultra-Violet Fluorescence* (UVF) Detector
- Addition of Total Chlorides analysis
- Addition of Total Nitrogen analysis
- Addition of Total Arsenic analysis
- Addition of NOx analysis
- Elemental analysis (see reverse)
- Digital mass flow control
- Sample pump (gas bag samples)
- Dual-range injection valve
- Alarm relays
- 4-20mA output
- Replacement of laptop computer for desktop computer

Available Accessories

- LPG Sampling Station
- Model 210 Gas & Liquids Syringe Auto-Injector
- Model 220 Solids & Crude Oil Auto-Injector
- Model 230 Robotic Auto Sampler
- Model 9610 Liquid Auto-Injector
- Model 960AMF Calibration Blend Generator