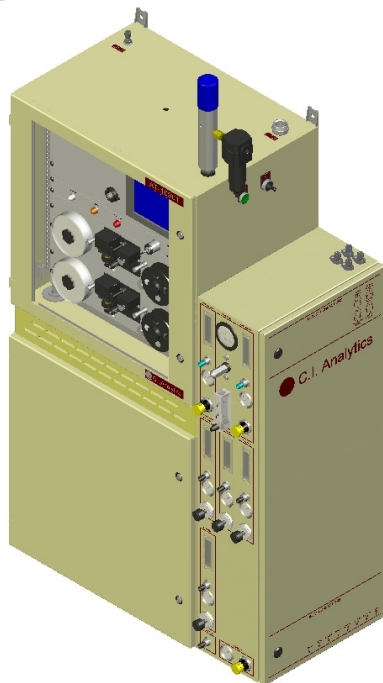


**OUTSTANDING  
TECHNICAL  
SUPPORT**

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](http://www.cianalytics.com) or call us today at **001-450-658-4965** .



9770 Process Analyzer  
(shown with 4 streams, two detectors and calibrator)

## Highlights

- With the capability of simultaneously detecting up to four (4) impurities in up to six (6) samples, the 9770 makes the analysis of multiple streams straightforward and easy.
- Options, such as a built-in calibrator, multiple detector or external sample conditioning cabinet, mean you can customize your analyzer to meet your specific needs.
- Use of safe, non-toxic Sensi-Tapes® in our dry colorimetric methods means that no special precautions are required in handling. No special regulations govern transportation or disposal.

Application (Gas )	Typical Range*
NOx	25 ppb -1000 ppm
Total Sulfur	1 ppb -1000 ppm
Total Nitrogen	25 ppb -1000 ppm
Total Chlorides	10 ppb -1000 ppm
Application (Liquid)	Typical Range*
NOx	250 ppb - 100 ppm
Total Sulfur	100 ppb -1000 ppm
Total Nitrogen	250 ppb -100 ppm
Total Chlorides	100 ppb -1000 ppm

## The Total & Elemental Multi-Detector Process analyzer

Combining up to four (4) detectors in one analyzer, our proprietary *Dynamic Combustion System*, dry colorimetric methods and user-friendly CiSmart Software, C.I. Analytics' First Class 9770 Process Analyzer provides a complete solution to complex analytical needs.

Our 9770 model analyzer is intended for online use in industrial settings and is designed specifically for the detection of either NO<sub>x</sub>, Total Sulfur, Total Chlorides or Total Nitrogen **and** your choice of up to **three additional impurities** in multiple process streams.

Using C.I. Analytics' *Dynamic Combustion System*, the target impurity undergoes a reaction to form a gaseous compound that is detectable by our dry colorimetric methods. These methods involve the use of Sensi-Tapes®, which when exposed to the gaseous compound change color in direct proportion to its concentration. A photo-optical system then compares the tape color to a standard response curve.

All 9770 analyzers come pre-calibrated with one curve per detector (additional curves available as options). Equipped with the CiSmart Software and a built-in touch screen interface, the 9770 offers the ultimate in process control.

Application	Typical Range*
Ammonia (NH <sub>3</sub> )	10 ppb - 1000 ppm
Arsine (AsH <sub>3</sub> )	1 ppb - 1000 ppb
Chlorine (Cl <sub>2</sub> )	5 ppb - 100 ppm
Hydrogen Chloride (HCl)	10 ppb - 100 ppm
Hydrogen Cyanide (HCN)	10 ppb - 1000 ppb
Hydrogen Fluoride (HF)	100 ppb - 100 ppm
Hydrogen Sulfide (H <sub>2</sub> S)	2 ppb - 2000 ppm
Nitrogen Dioxide (NO <sub>2</sub> )	25 ppb - 1000 ppm
Phosgene (COCl <sub>2</sub> )	1 ppb - 10 ppm
Phosphine (PH <sub>3</sub> )	1 ppb - 1000 ppm
Sulfur Dioxide (SO <sub>2</sub> )	10 ppb - 100 ppm

\*Other ranges and applications available upon request



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## MODEL 9770 SPECIFICATIONS

<b>No. of Simultaneous Detectable Impurities</b>	2 to 4
<b>Repeatability</b>	Better than $\pm 2\%$ of reading at $>10\%$ of full scale value
<b>Sample Phase</b>	Gas or liquid
<b>Analysis Time</b>	2 to 20 minutes; dependent upon concentration and sample phase
<b>Measurement Technique</b>	Dry colorimetric Sensi-Tape® detectors with solid state optics source
<b>Humidification Technique</b>	Precise humidity control at the detectors for superior reproducibility (application-specific)
<b>Stability</b>	Automatic re-zero compensation
<b>Calibration</b>	Dynamic calibration is user-generated upon installation and at user-defined intervals (with optional calibration inlet or built-in calibrator)
<b>Preheater Temperature</b>	77°F to 1292°F (25°C to 700°C)
<b>Reactor Temperature</b>	77°F to 2012°F (25°C to 1100°C)
<b>Signal Outputs</b>	One (1) Isolated 4-20 mA analog output per detector (Isolation exceeds 1500 VAC, maximum load impedance: 800 $\Omega$ )
<b>Alarm / Status Relays</b>	Eight (8) Alarm / Status Relays: <ul style="list-style-type: none"> <li>• Low Level Concentration</li> <li>• High Level Concentration</li> <li>• Instrument Fault (indicates off-line)</li> <li>• Maintenance Fault (Low Sensi-Tape® Supply)</li> <li>• Monitor Mode (Analysis in Progress or Idle Mode)</li> <li>• Dynamic Calibration in Progress</li> <li>• Regeneration in Progress</li> <li>• 4-20mA Data Ready</li> </ul>
<b>Data System</b>	Complete touch-screen computer with Windows® Results displayed graphically and in engineering units.
<b>Software</b>	User-friendly Microsoft Windows® -based software environment (CiSmart)
<b>Power Requirements</b>	110/120 VAC or 220/240 VAC, 50/60 Hz, 600VA
<b>Operating Temperature Range</b>	32°F to 104°F (0°C to 40°C) Other ranges may be accommodated with optional enclosure temperature control
<b>Hazardous Location Classification</b>	Class I Div 2 Group B (Group C, D optional) , ATEX Classification (optional)
<b>Hazardous Location Protection Methods</b>	Purged and pressurized enclosure
<b>Dimensions</b>	53" (H) x 33" (W) x 17" (D) (135cm x 84cm x 43cm) ( 2-detectors w/o calibrator )
<b>Weight</b>	400 lbs (182 kg)

### Options

- ATEX Certification
- Built-In Calibration Generator
- Calibration Inlet
- Enclosure Cooler with Thermostat
- External Heater with Thermostat
- Liquid-phase Sampling System
- External Sample Conditioning Cabinet
- Fast Loop Particulate Filter
- High-Pressure Sample Regulator
- MODBUS-RTU Interface (RS-485)
- Ethernet Communication Interface
- Multiple-Stream Capability (up to 6)
- Class I Div 2 Group C & D