

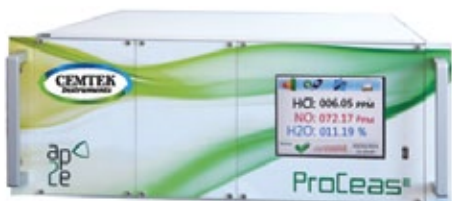


1750 Brielle Avenue
Ocean, NJ 07712

www.cemteksinstruments.com

Phil McMaster
(919) 796-8715
pmcmaster@cemteks.com

Ty Smith
(732) 493-6370
ty@cemteks.com



*Analyzers by AP2E

CEMGAS 5000 HCl ANALYZER ADVANTAGES AND BENEFITS:

- Interference Free Gas Measurement
- Direct Measurement
 - Sample Conditioning
 - No Moisture Removal
 - Low Temperature Sampling
- Low Maintenance
- Pre-Calibrated
 - Prime Measurement
 - No Re-Zero
- Clean Sample Technology
 - Low- Pressure
 - Low-Flow



hydrogen chloride molecule

CEMGAS 5000 HCl Analyzer*

Direct HCl Laser Measurement

Low Pressure Sampling - Extremely High Resolution Laser

HCl analysis *without* interference, spectral overlap, sample pretreatment or moisture removal.

The CEMGAS Laser 5000 Analyzer System is a complete pre-calibrated laser infrared spectrometer for HCl analysis without interference from other gases or moisture. It utilizes the patented OFCEAS IR Laser technology for enhanced specificity, selectivity, accuracy and stability (no instrumental response drift)

The CEMGAS Laser 5000 System's patented low-pressure/ low-flow sampling technology negates the need for costly sample conditioning and moisture removal (up to 50%), and provides low cost installation with minimal maintenance.

DIRECT MEASUREMENT.

No sample pre-treatment.

Enables direct measurement. The low pressure in the sampling system minimizes any risk for chemicals absorption/ desorption and/ or condensation in the line.

CLEAN SAMPLE TECHNOLOGY

The low pressure sampling system enables low flow rates (3-9L/h -0.11-0.33 cfh) without degrading response time. Accumulation of contaminants in lines and filters are greatly reduced.

EASE-OF-USE AND INTEGRATION

The CEMGAS is pre-calibrated for the CEM's application. Initially packaged in a standard 19" rack. It includes a touch screen interface and on-board PC for local control and real-time display of results. Digital outputs are Ethernet protocol; RS 485, RS 232 and ModBus. Analog outputs are optional.

PRIME MEASUREMENT.

No Re-zero; No Drift

CEMGAS Laser 5000 technology is a prime measurement. The zero information is contained in the signal, enabling automated and intrinsic re-zero of the analyzer.

ROBUST LOW MAINTENANCE

In addition to containing no moving optical components, the IR sources (telecom laser) are characterized by MTBF's of 5-10 years. Designed and built for and built strictly for industrial and on-board mobile applications.

NO INTERFERENCE

Provides exceptional selectivity, enabling simultaneous multi-component measurement without interference, regardless of the matrix.

SAFE

ATEX compliant configuration available.

SAMPLING SYSTEM

Flow Rate: 3-9 L/h (0.11-0.33 cfm)
 Max. Temp: 600°C (1,110 F)
 Max. Humidity: H₂O (g) < 25% vol.—Standard
 H₂O (g) > 25% vol.—Study Required
 Pressure: 1atm. ± 100 mBar @ sampling point
 Sampling Line: Ambient Temp. > 10°C and H₂O < 20% vol.
 →simple polytube (no heating)
 Ambient Temp. < 10°C or H₂O > 20% col.
 →40°C heated line.

ANALYZER

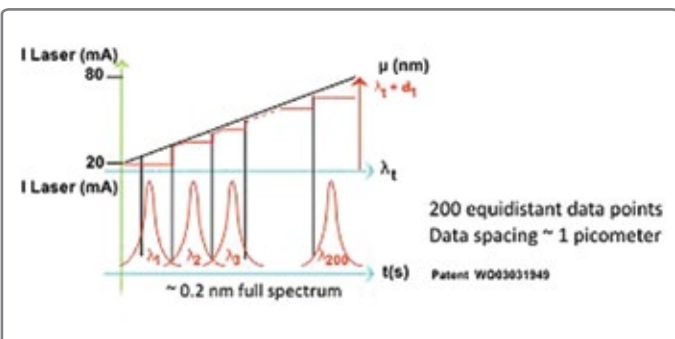
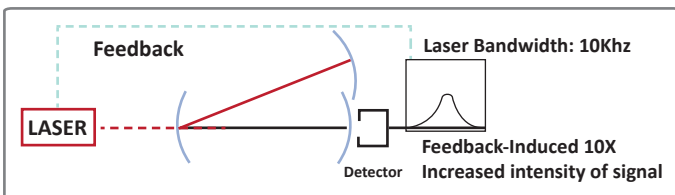
Size: Standard 19" 4U rack.
 550 mm (21.9 in.) depth
 Weight: 20 kg (44lbs)
 Options: Wall mounted.
 ATEX compliant integration.
 Display/Control: PC OS: 5.7" diagonal color touch screen
 Software: Windows® XP®
 WinProceas ©

INSTALLATION REQUIREMENTS

Operating Temp: 15-25°C (59-77F) - Standard
 10-40°C (50-104F) - Optional
 Power Requirements: 200W—100-220VAC—50-60Hz
 Compressed Air: 1-6 bar (oil free). Not provided.
 Air Cleanup Panels are available.

PRINCIPLE OF OPERATIONS

Optical Feedback Cavity Enhanced Absorption Spectroscopy



ANALYTICAL SPECIFICATIONS

LoD: < 1% of max. in range
 Response Time: < 200 seconds
 (with sample transfer time)
 Zero Drift: none

DATA I/O

Standard: Ethernet protocol; RS 485,
 RS 232; ModBus
 Optional: Analog I/O; TDR I/O.
 Other I/O's on request

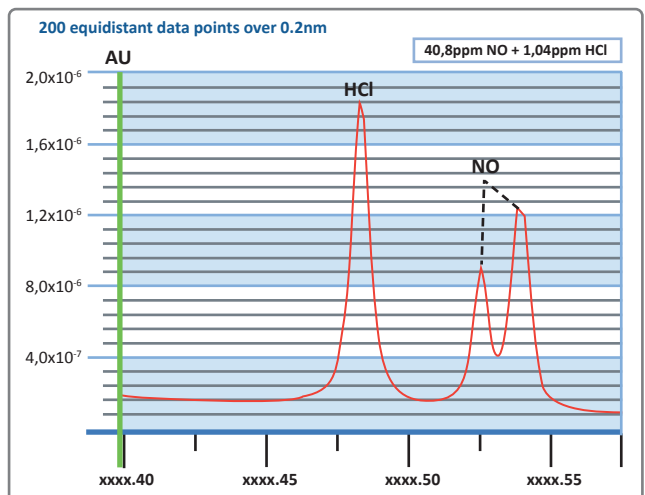
GAS MEASUREMENT

STANDARD	CALIBRATION RANGES	
HCl	0-10 ppm,	0-200 ppm
NO	0-60 ppm,	0-5000 ppm

OPTIONAL

SO ₂	0-25 ppm,	0-5,000 ppm
CO	0-60 ppm,	0-800 ppm
SO ₃	0-10 ppm,	0-1,000 ppm
CO ₂	0-20% vol.	
H ₂ O	0-20% vol.	
H ₂ S	0-10 ppm,	0-1,000 ppm
NH ₃	0-10 ppm,	0-1,000 ppm
N ₂ O	0-10 ppm,	0-1,000 ppm
COS	0-10 ppm,	0-1,000 ppm

SPECTRA (EXAMPLE)



Added benefit of using 200-data points IR Lasers:
 All Cemtek Laser CM HCl also can measure NO.



1750 Brielle Avenue, Unit B-2
 Ocean, NJ 07712
 P: 732-493-6370
 F: 732-493-6180

www.cemtekinstruments.com