If you are looking to maximize profits at a gas turbine installation by minimizing NH₃ injection, monitor NH₃ emissions at a fertilizer plant or are interested in process optimization to enhance revenue our analyzer is the answer to your needs.

The Cemgas 5000 NH₃ Laser Analyzer is a low pressure, high resolution instrument. It utilizes Optical Feedback Cavity Enhanced Absorption Spectroscopy (OFCEAS) IR technology to give superior performance for the measurement of NH₃.

The robust design contains no moving optical parts and allows for standalone operation with minimum maintenance, offering accurate low level measurement with no cross interference.

Pre-calibrated for your application the NH₃ Laser Analyzer includes a touch screen interface and on-board PC for local/remote control and real time display/recording of results.

**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 cfm) 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; RS485, RS232 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 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) < 65% vol.—Standard
               H₂O (g) > 65% vol.—Study Required
Pressure: 1atm. ± 100 mBar @ sampling point
Sampling Line: Ambient Temp. > 10°C and H₂O < 65% vol.
              → simple polytube (no heating)
              Ambient Temp. < 10°C or H₂O > 65% col.
              → 80°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: 5.7” diagonal color touch screen
PC OS: Windows® XP®
Software: WinProceas ©

INSTALLATION REQUIREMENTS
Operating Temp: 15-35°C (59-95°F) - Standard
               10-40°C (50-104°F) - Optional
Power Requirements: 200W - 110 - 220VAC - 50-60Hz
Compressed Air: 1-6 bar (oil free). Not provided.
Air Cleanup Panels are available.

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

ANALYTICAL SPECIFICATIONS
Response Time: < 2 seconds
               (with sample transfer time)
Zero Drift: none

Gas          Rangea         LODb
NH₃           min      max     min       max
50ppm  100%     1ppb    1000ppm
CH₄           50ppm  100%     1ppb    1000ppm
N₂O           50ppm  100%     2ppb    1000ppm

a adjustable range on request
b limit of detection 3 Sigma

PRINCIPLE OF OPERATIONS
Optical Feedback Cavity Enhanced Absorption Spectroscopy

SAMPLING PROCESS
The Sonic Probe allows for extremely low intake flow rate which enables extremely low fouling of the sampling probe filter and reduced maintenance requirements. No moisture or particulate cleanup required.