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\*Analyzers by AP2E

## CEMGAS 5000 H2S ANALYZER APPLICATIONS:

- Well Head Gas
- Gas Pipelines
- Custody Transfer Station
- Amine Scrubber Outlet

# CEMGAS 5000 H<sub>2</sub>S Analyzer\*

## Real Time Gas Measurement With Enhanced Laser Spectrometer Performance

Hydrogen Sulfide occurs naturally in raw Natural Gas, it is highly corrosive gas that requires monitoring and controlling from the well head to the customer distribution center. It's destructive effects on equipment and pipelines along with product degradation, require continuous monitoring of the levels of H<sub>2</sub>S to avoid corrosion problems and quality of the end product with its measurement at various points along the process.

The CEMGAS 5000 H<sub>2</sub>S Analyzer provides the solution for the detection of the wide range of levels that can be encountered along the process, ensuring the quality of the NG and decreasing the destructive effects on equipment.

The patented technology employed in this Laser Spectrometer allows for a low maintenance measurement without worry of cross interference experienced by other methods.



hydrogen sulfide molecule

### Its' Patented low pressure sampling technology enables:

#### LOW FOULING / LOW MAINTENANCE

Reducing pressure proportionally reduces the amount of the sample that may absorb to / desorb from the walls of the sampling lines. Operating at low pressure reduces the risks of false response caused by sample line memory effects.

#### NO SPECTRAL OVERLAPPING / CROSS RESPONSE

When lowering the pressure of the gas sample, the spectral absorption bands narrow to the point where there is no spectral overlap ensuring no cross interference from other gases or moisture.

#### IMPROVED ACCURACY

Reducing pressure (which automatically reduces sample temperature as well) proportionally reduces chemical reaction rates in the sample transfer line. This improves measurement accuracy by improving representatively of the gas sample.

#### NO SAMPLE CONDITIONING REQUIRED

Operating at low pressure in the entire sampling system considerably lowers the dew point of the moisture present eliminating the need for pretreatment or sample conditioning.

## SAMPLING SYSTEM

Flow Rate: 3-9 L/h (0.11-0.33 cfm)  
Max. Temp: 600°C (1,110 F)  
Max. Humidity: H<sub>2</sub>O (g) < 25% vol.—Standard  
H<sub>2</sub>O (g) > 25% vol.—Study Required  
Pressure: 1atm. ± 100 mBar @ sampling point  
Sampling Line: Ambient Temp. > 10°C and H<sub>2</sub>O < 20% vol.  
→simple polytube (no heating)  
Ambient Temp. < 10°C or H<sub>2</sub>O > 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: 5.7" diagonal color touch screen  
PC OS: Windows® XP®  
Software: WinProceas ©

## DATA I/O

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

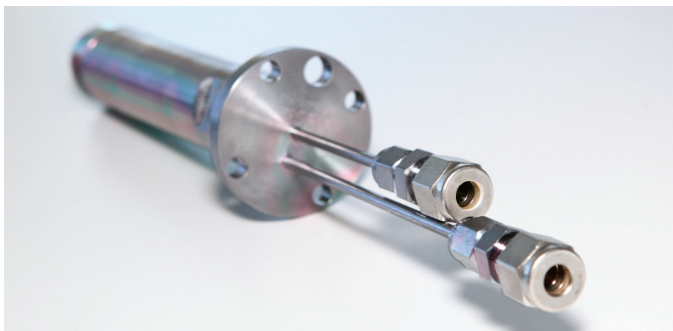
## INSTALLATION REQUIREMENTS

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.

## 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.



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## ANALYTICAL SPECIFICATIONS

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

## GAS MEASUREMENT

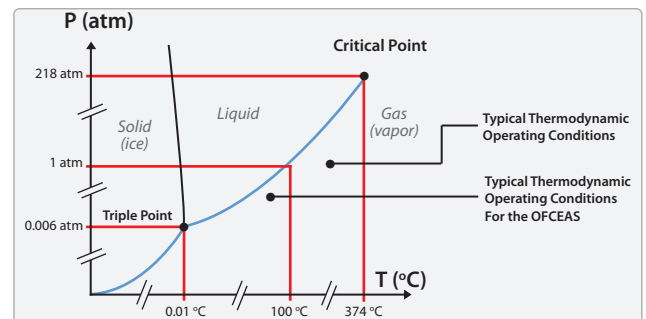
H <sub>2</sub> S	0-10 ppm, 0-1,000 ppm
H <sub>2</sub> O	0-20% vol.
CO	0-60 ppm, 0-800 ppm
CO <sub>2</sub>	0-20% vol.
COS	0-10 ppm, 0-1,000 ppm

For specific applications combination analyzers are available, including CO, CO<sub>2</sub>, H<sub>2</sub>O

Other gases available:

Please visit [www.cemtekinstruments.com](http://www.cemtekinstruments.com) for application data sheets.

## LOW PRESSURE/ LOW DEW POINT



Operating at low pressure in the entire sampling system (from sonic nozzle to sensor gas cell) allows the system to work at much lower dew point values for the condensables. E.G., working at 50 mbar pressure in presence of 5% vol. of H<sub>2</sub>O (g), allows operation without moisture removal step to temperatures as low as -11.7°C (11°F), the dew point of 5% vol. H<sub>2</sub>O at 50 mbar.

If the sample line temperature drops below the dew point temperature or if the water vapor concentration increases, the sample line only needs to be heat traced at a temperature above the dew point.