



**GC-IMS by G.A.S. is the state-of-the-art solution for measuring ultra-low concentrations of sulfur compounds in natural gas. Engineered with cutting-edge technology, the GC-IMS ensures unparalleled accuracy, enabling to secure the purity of natural gas with confidence.**

## INTRODUCTION

Even trace amounts of sulfur compounds in natural gas can lead to corrosion in pipelines and equipment. Measuring low concentrations helps prevent corrosion, extending the lifespan of infrastructure and reducing maintenance costs. Furthermore, maintaining low sulfur concentrations ensures the quality of the gas, optimizing industrial processes and preventing adverse effects on downstream equipment and operations. Quality control through precise measurement helps to ensure that the delivered natural gas meets customer specifications. Many industrial processes rely on catalysts, which can be sensitive to sulfur compounds. Measuring low concentrations prevents catalyst poisoning, preserving their effectiveness and efficiency. As well, monitoring and limiting sulfur concentrations in natural gas are essential for complying with environmental regulations.



G.A.S. GC-IMS device

The GC-IMS is engineered to redefine the standards of measurement, offering unparalleled sensitivity to trace sulfur compounds that can impact the quality of natural gas. With its advanced capabilities, this cutting-edge technology is your vigilant guardian against the challenges posed by  $H_2S$ ,  $COS$ ,  $CS_2$ , methyl, and ethyl mercaptans (MeSH, EtSH).

## APPLICATIONS

**Natural Gas Processing Plants:** Sulfur compounds need to be removed to meet pipeline and end-user specifications.

**Pipeline Monitoring:** Sulfur compounds in natural gas can lead to corrosion of pipelines and infrastructure.

**Energy Generation:** High sulfur content in natural gas used for power generation can lead to emissions of sulfur dioxide, contributing to air pollution.

**Industrial Processes:** The sulfur content of natural gas, which is used as a feedstock for various industrial processes, can impact product quality.

**Refineries and Petrochemical Plants:** Natural gas is often used as a feedstock for petrochemical processes, and sulfur must be monitored to avoid catalyst poisoning.

**Quality Control in Gas Distribution:** Ensuring that natural gas distributed to end-users meets specified quality standards.

## KEY FEATURES

**Ultra-Low Detection Limit:** The GC-IMS achieves unparalleled sensitivity, measuring sulfur compounds in natural gas streams down to the one-digit parts per billion (ppb) level.

**Multi-Compound Detection:** Ensuring a thorough analysis for a complete understanding of your natural gas quality.

**Continuous Monitoring:** Enjoy 24/7 monitoring capabilities, allowing you to stay ahead of any fluctuations in sulfur compound concentrations.

**Customizable Alerts:** Set personalized thresholds and receive instant alerts when concentrations deviate from the desired levels, enabling swift corrective action.

**Automated Result export** via Modbus TCP protocol and/or current loop.

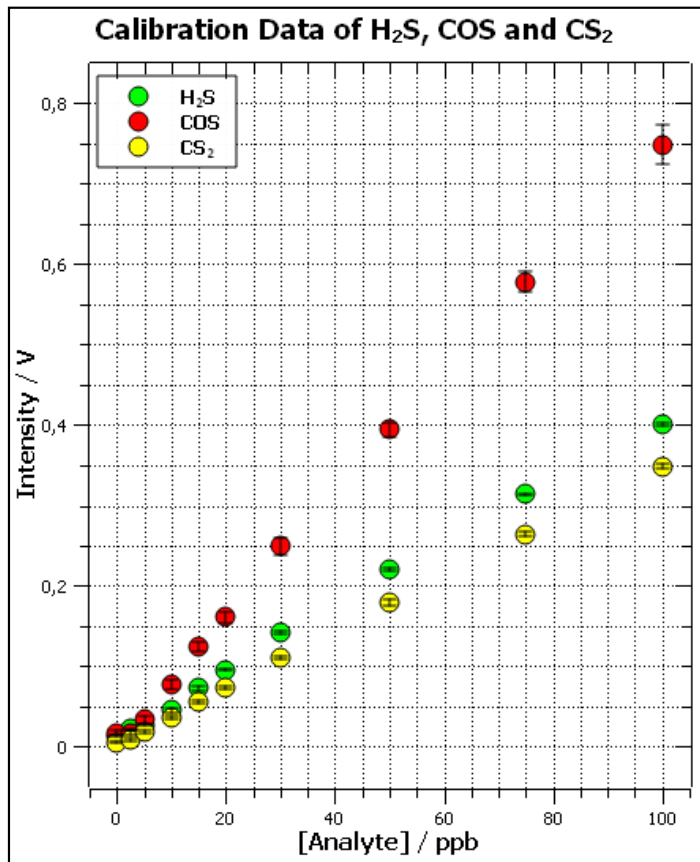
## REPEATABILITY & LIMIT OF DETECTION

Analyte	Standard deviation*1/ LOD*2
H <sub>2</sub> S	3.5 % / 5 ppb   7 µg/m <sup>3</sup>
COS	2.1 % / 4 ppb   10 µg/m <sup>3</sup>
CS <sub>2</sub>	2.1 % / 5 ppb   16 µg/m <sup>3</sup>
MeSH	2.5 % / 10 ppb   20 µg/m <sup>3</sup>
EtSH	2.8 % / 8 ppb   20 µg/m <sup>3</sup>

\*1 Standard deviation of signal intensity at a concentration of 50 ppb (n = 50).

\*2 Depending on measurement set-up and matrix.

Calculation based on  $I_{LOD} = I_{Blank} + 3\sigma_{Blank}$



Calibration data of H<sub>2</sub>S, COS and CS<sub>2</sub> (n>=10) in the range of 0 to 100 ppb. Standard deviation of each concentration is depicted by black bars.

## SPECIFICATIONS

Dimensions (l x w x h) / mm	435 x 449 x 84
Gas Inlet Connectors	3 mm Swagelok® Sulfinert®
Material Gas-bearing Parts	Sulfinert®
Result Output	Modbus TCP, current loop, USB, Ethernet
Sampling	6-port valve enables direct or bypass* sampling *integrated sample pump
Measuring Technology	GC-IMS
Reliability Features	Hardware watchdog, self-check of system parameters

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