



GAM 500 UT

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Gas Mass Spectrometer for
Ultra Trace Gas Analysis and
the quality management
of gas mixtures

The **GAM 500 UT** system is developed for industrial applications which require reproducibility and long term stability. It is the instrument of choice for ultra trace analysis. The instrument excels in routine detection of main and minor components of gas mixtures and is unmatched in the simultaneous analysis of trace components in ultrapure gases.

The special gastight crossbeam ion source allows impressive measurements. The dynamic range spans from high percentage levels to a few ppb. Trace gases are detected within seconds and even the smallest changes of a compound's concentration are accurately and precisely determined.



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System

- Online gas monitor for the automatic gas analysis of ultra pure bulk gases or multi component gas mixtures
- Digital controlled mass spectrometer with digital or analogue data output
- High performance quadrupole analyser head with Faraday- and SEM detector for accurate and fast measurements
- Special ion sources with internal pressure reduction stage for the trace gas analysis (Electron Impact Ionization with adjustable ionization energy)
- 2-stage gas inlet system for fast sample gas conditioning
- Two independent oil free high vacuum pumping systems for the analyzer unit and for the sample gas inlet
- Computer controlled multiplexer for fast sample gas stream selection
- Integrated calibration gas unit for automatic operation
- Design according the rules of ultra pure gas handling

Technical Data

Mass range 1-512 amu

64 channels (mass numbers) in one analysis cycle

8 decades dynamic range 10 ppb – 100 %

Measuring speed / cycle times 500 ms – 60 s

Response time of the gas inlet system 500 ms

Reproducibility (main components) $< 1 \cdot 10^{-3}$ (0,1 %)

Data interfaces / data output
digital: PROFIBUS

16 free program able set points for alarm settings

analogue: 12 channels (0-10V or 4-20 mA)
(other interfaces on request)

Benefits

- **Special designed online gas analysis system for the quality control during the manufacturing and on point of use of ultra pure bulk gases and gas mixtures**
- **Full automatic measurement and calibration procedures with self diagnostic functions**
- **Outstanding analytical performance**
- **Measurement of main components and trace components in gas mixtures in one step**
- **Measurements of uni-polar gases and chemical reactive gas components possible**
- **Low abundance sensitivity**
- **Fast sample gas stream switching**
- **Excellent long term stability and reproducibility of the analytical results**
- **High availability**
- **Low cost of ownership**

IPI InProcess
Instruments

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