

# Analytical – Ion Mobility Spectrometer



**Sensitive Detection of gaseous  
Volatile Organic Compounds (VOCs)**

## Analytical-Ion Mobility Spectrometer (A-IMS) – Your easy-in-use analytical Tool

The A-IMS offers excellent features for fast and sensitive detection of gaseous traces of VOCs. Results are typically available within seconds within the ppb<sub>v</sub>- or even ppt<sub>v</sub>-range. Its modular concept and accessibility of parameters allows to configure and fine-tune the device according to the specific analytical measurement assignments.

### Features

- Stand-alone unit with integrated computer
- Operation mode: open system using external gas supply or closed gas circuit
- Sampling: direct inlet, membrane inlet system, or electrical six-port-valve with sample loop
- Temperature control for IMS, membrane inlet system and six-port-valve (up to 80°C)
- Access to all relevant parameters for method development
- Software controlled switching between positive and negative ionization mode
- Manual or fully-automatic operation mode including data acquisition, -analysis, visualization and transfer to external devices
- Storage of data on internal memory or external network shares
- Adaptable to external devices (gas chromatograph, autosampler, etc.) with automated start via trigger

### Applications

- Quality control
- Residual solvents
- Authentication
- Alternative GC detector

Technical Specification
<b>Working principle:</b> Ion Mobility Spectrometry
<b>Ionisation:</b> Radioactive β-radiation source
<b>Source:</b> Tritium ( <sup>3</sup> H)
<b>Activity:</b> 300 MBq, below the exemption limit of 1 GBq, EURATOM guideline
<b>Drift voltage polarity:</b> Positive and negative, switchable
<b>Sampling:</b> Direct, membrane or electrical 6-port-valve
<b>Range:</b> Semi-quantitative, typically low ppb <sub>v</sub>
<b>Dynamic range:</b> 1-3 orders of magnitude
<b>Display:</b> 6.4" TFT, VGA-Display
<b>Input unit:</b> Rotary pulse encoder
<b>Processor:</b> 400 MHz X-scale
<b>Data acquisition:</b> Ultra-fast ADIO-board
<b>Data processing:</b> X-board / Baseboard
<b>Data storage:</b> 2 GB Compact-Flash
<b>Communications:</b> RS232, USB, Ethernet
<b>Electrical connectors:</b> 2 x D-Sub 9-pole (for modem, console), D-Sub 15-pole (for external devices), RJ45 (for digital modem or SSH), 2 x USB-A
<b>Power supply:</b> 100-240 V AC, 50-60 Hz (external supply), 24 V DC / 5A, XLR-connector (internal)
<b>Power consumption:</b> < 180 Watt
<b>Dimensions:</b> 449 x 375 x 177 mm (WxDxH)
<b>Weight:</b> 13 kg
<b>Housing:</b> 19" compatible, IP 20 enclosure, EMC certificated
<b>Gas connectors:</b> 3 mm stainless steel Swagelok connectors for gas in- and outlet

## IMS as an intelligent Tool for Product Quality Control

