



FlavourSpec®

Gas Chromatograph-Ion Mobility Spectrometer (GC-IMS)

Detection of Volatile Compounds in Food and Beverages

The FlavourSpec® represents the synergies of a fast gas chromatograph and the outstanding sensitivity of an IMS. This enables analysis of a sample as-is without any pre-treatment and a selective detection of volatile compounds (VCs) in the headspace of solid and liquid samples. As result a three dimensional dataset as characteristic fingerprint of the sample is obtained and further analyzed using various data analysing tools.

FlavourSpec – KEY FEATURES

- No sample pre-treatment
- Static headspace of liquids and solids
- Positive and negative mode
- Typical sensitivity for (off-) flavour inducing same as chlorinated halogenated or sulphur compounds one digit ppb-range
- Isothermal operation ($\leq 80\text{ °C}$)
- Flow ramping for improved separation
- No vacuum pump needed
- Editable library

Applications*

- Test of raw materials
- Food freshness
- Product authentication
- Process control (e.g. beer brewing)
- Control of storage conditions
- Flavour profiling and documentation
- Claim management
- Support of sensory panels

* Application Notes on request

TECHNICAL SPECIFICATION

Separation I: Retention time
 Gas chromatograph (GC): Isothermal ($\leq 80\text{ °C}$)
 All capillary columns: $\leq 60\text{m}$

Separation II: Drift time
 Ion mobility spectrometer (DT-IMS)
 Ionisation: β -radiation - ^3H
 Activity: below the exemption limit of 1 GBq
 acc. to EURATOM Directive 96/29

Detection: Electrometer on DT-IMS

Flow Control: 2 electronic pressure controller (EPC) for flow stability and GC ramping

Sampling: Static headspace (ambient) (optional: in tube extraction for sample enrichment)

Operating gas:
 Nitrogen or synthetic air: Quality 5.0

Operation: Touch-screen 6.4" TFT

Data storage (internal): Flash memory 16GB
 Data output: via Ethernet to PC (TFTP-server)

Temperature: Operation 0 – 40°C
 Moisture: up to 95% non condensating

Power range: 100 - 240 V AC, 50-60 Hz

Power consumption: < 200 Watt

Autosampler: PAL3 (CTC Analytics)

Features: Incubator, agitator, gastight syringe

Sample capacity: 60 vials (10 or 20 mL)

Operation: Control panel with 4 function keys, graphic display, scroll knob for steering or software or via computer

Dimensions: 1010 x 800 x 790 mm (WxDxH)*

Weight: 25 kg*

* Entire system