



# 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 ( $\leq 80\text{ }^{\circ}\text{C}$ )
- 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 ( $\leq 80\text{ }^{\circ}\text{C}$ )**  
**All capillary columns:  $\leq 60\text{m}$**

**Separation II: Drift time**  
**Ion mobility spectrometer (DT-IMS)**  
**Ionisation:  $\beta$ -radiation -  $^3\text{H}$**   
**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  $0 - 40\text{ }^{\circ}\text{C}$**   
**Moisture: up to 95% non condensating**

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

**Power consumption:  $< 200\text{ Watt}$**

**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\***