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# FlavourSpec<sup>®</sup>

## Gaschromatograph-Ion Mobility Spectrometer



### GC-IMS for the Detection of Volatile Organic compounds in Food and Beverages

## FlavourSpec® – Your fast and easy-to-use tool for Food Control

The FlavourSpec® represents the synergies of a fast gas chromatograph and the outstanding sensitivity of an IMS. It enables the selective detection of Volatile Organic Compounds (VOCs) in the headspace of solid and liquid samples. As result a 3 dimensional spectra as characteristic fingerprint of the sample is achieved and further analyzed using multivariate data analysing tools. To make the operation of sampling and processing simple and easy the system is set up with an automatic GC headspace injector.

### Features

- Automatic GC headspace injector
- Stand-alone system with integrated computer
- Heated IMS, column, lines (< 80°C)
- Purification mode
- Access to all relevant parameters for method development: Temperature control of IMS, column, injector, drift and carrier gas flow rate
- Software controlled switching between positive and negative ionization mode
- Manual or fully-automatic operation incl. data acquisition, -analysis and visualization
- Storage of data on internal memory or external network shares and transfer to external devices
- PC-Software package

### Applications

- Control of storage conditions
- Food freshness
- Control of production process
- Process optimisation
- Flavour evaluation and flavour stability
- Test of raw materials
- Product authentication

### Technical Specification

**Working principle:** Ion Mobility Spectrometry (IMS)

**Ionisation:**  $\beta$ -radiation source (Tritium ( $^3\text{H}$ ))

**Activity:** 300 MBq, below the exemption limit of 1 GBq, EURATOM guideline

**Drift voltage polarity:** Positive and negative, switchable

**Sampling:** Automatic GC headspace injector

**Detection limit:** Low ppb<sub>v</sub>

**Dynamic range:** 1-3 orders of magnitude

**Display:** 6.4" TFT, VGA-Display

**Input unit:** Rotary pulse encoder

**Processor:** 400 MHz X-scale

**Data acquisition:** Ultra-fast ADIO-board

**Data processing:** X-board / Baseboard

**Data storage:** 2 GB Compact-Flash

**Communication:** RS232, USB, Ethernet

**Electrical connectors:** 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

**Power supply:** 100-240 V AC, 50-60 Hz (external supply), 24 V DC / 5A, XLR-connector (internal)

**Power consumption:** < 180 Watt

**Dimensions:** 449 x 375 x 177 mm (WxDxH)

**Weight:** 15.5 kg

**Housing:** 19" compatible, IP 20 enclosure, EMC certificated

**Gas connectors:** 3 mm stainless steel Swagelok connectors for gas in- and outlet

### Automatic headspace sample injector headspace

**Features:** Incubator oven, agitator and heated gastight syringe

**Sample capacity:** 32 or alternatively 96 vials (10 or 20 mL)

**Operation:** Control panel with 4 function keys, graphic display, scroll knob for steering

**Dimensions:** 828 x 385 x 648 mm (WxDxH)

**Weight:** 10 kg