KORE TECHNOLOGY

Compact EI-TOF-MS

Providing rapid and sensitive gas analysis.

Mass resolution > 1000 m/δm

Detection limit < 50 ppb

Response Time < 1 second (capillary)

Transportable, benchtop design

Process monitoring applications

Capillary and membrane inlet

The Kore Compact EI-TOF-MS is a modular, computer-controlled, time-of-flight mass analyser. This instrument is available as a bench-top version and is easily transported from one location to another. It provides rapid and sensitive gas analysis for production and research applications.

The Compact EI-TOF-MS's ease of operation and ability to produce stable long-term measurements of the constituents of gases at pressures from millibars to 10 bar makes the equipment well suited to process monitoring as well as catalysis studies and reaction kinetics research.

Current inlets included as standard with the Compact EI-TOF-MS include: (1) a Capillary inlet for rapid (<1 second) analysis of inorganic gases and high concentration VOCs, (2) a membrane inlet for increased VOC sensitivity (down to ~50ppb) and inorganic gas detection. The instrument can be coupled to a Gas Chromatograph (e.g. PREFICS) as a fast MS GC detector, and for a customised instrument we have also integrated a 16 port multi-position valve for process gas analysis.

EI-TOF-MS APPLICATION AREAS

- Catalysis studies
- Process monitoring
- Reaction kinetics research
- VOC monitoring (ambient air, product quality control and testing)
- Clean room air quality monitoring
- Breath analysis

FULL SPECIFICATION

Concentration range	From ppb levels to 100% (four sensitivity settings in software)
Maximum sensitivity	Krypton in air (1.1ppm) in 10 seconds (capillary inlet) Xenon in air (90 ppb) in 1 minute (capillary inlet) Benzene detection limit <50ppb in 10 seconds (with membrane inlet)
Mass resolution	>1000 m/δm (FWHM)
Mass range	Unlimited, in practice 1-1000 m/z (limited by gas phase thermochemistry)
Electron impact ion source	70eV; compatible with NIST database
Dimensions	870 x 540 x 380mm
Pumping	85l/s turbo molecular pump, backed by a diaphragm pump
Ion source baking	Up to 100ºC
Supplied with two sample inlet systems:	Capillary inlet Membrane inlet (enhanced sensitivity for VOC detection)
Response time	<1 sec (capillary inlet) ~10 seconds for benzene (membrane inlet)
Interfacing capability with GC	
Time to operation after transportation	~ 30 minutes

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