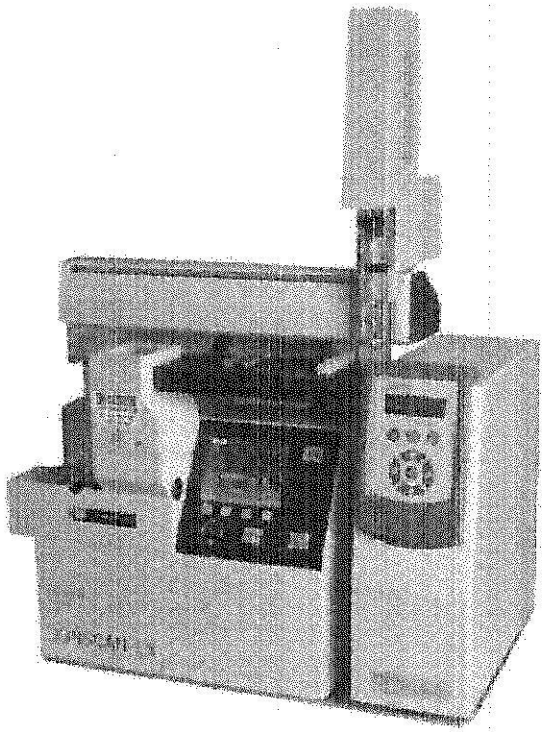
Technical Information

smiths detection
bringing technology to life

IONSCAN-LS™

ION MOBILITY SPECTROMETER



Feature Highlights

- **Ultra-fast quantitative analysis**
- **30-60 second sample cycle time**
- **Rapid method development**
- **Sub-nanogram sensitivity**
- **Selectivity**
- **Broad range of analytes, no chromophore needed**
- **No mobile phases, columns, or vacuum**
- **Low cost per sample**
- **Current applications including: Cleaning validation/verfication, ID testing, personal air monitoring and containment studies**

The IONSCAN-LS detects and quantitates trace analytes using ion mobility spectrometry (IMS). Ultra-fast analysis with the IONSCAN-LS offers the advantages of simplicity, selectivity sensitivity, atmospheric pressure operation and ease-of-use. These features, together with 21 CFR Part 11 compliance, make it ideal for use in pharmaceutical applications.

The IONSCAN-LS offers two different sample introduction methods: Thermal, desorption from a filter and high performance injection (HPI). The HPI and flow programming with split /splitless injection capabilities. The availability of these two techniques maximizes the breadth of compounds that can be analyzed successfully. More than 80 percent of active pharmaceutical ingredients investigated to date are amenable to IMS analysis.

The IONSCAN-LS can analyze sample over a concentration range of about three orders of magnitude. A typical limit of quantitation (LOQ) is on the order of 0.1ug/mL. LOQs as low as 0.002ug/mL have been observed for some compounds.

The IONSCAN-LS is equipped with an autosampler allowing the user to run automatic methods that have been preprogrammed into the IONSCAN-LS's IM-Station software. With the autosampler, sequential analyses are typically run in 30-60 seconds each, a critical time-saver in applications such as cleaning validation.

Technical Data **IONSCAN-LS**

General Specifications

Weight	92 lbs. (42 kg)
Size	24.5" x 16" x 34.5" (62 cm x 41 cm x 88 cm)
Sample Type	Solid and liquid
Sensitivity	picogram to nanogram
MW Range	15 – 1500 AMU
HPI Split Ratio	0 – 100
HPI Injection Volume	up to 25 µl
HPI Requires	10 – 15 mL/min N2
Autosampler Tray Capacity	120 sample vials (2 mL) and 4 waste/rinse vials (10 mL)
Autosampler Cycle Time	30 – 60 seconds
Input Voltage	95 – 265 VAC 50 – 400 Hz (autoswitching)
Software	IM – Station with 21 CFR Part 11 compliance
Validation	IQ/OQ/PQ available

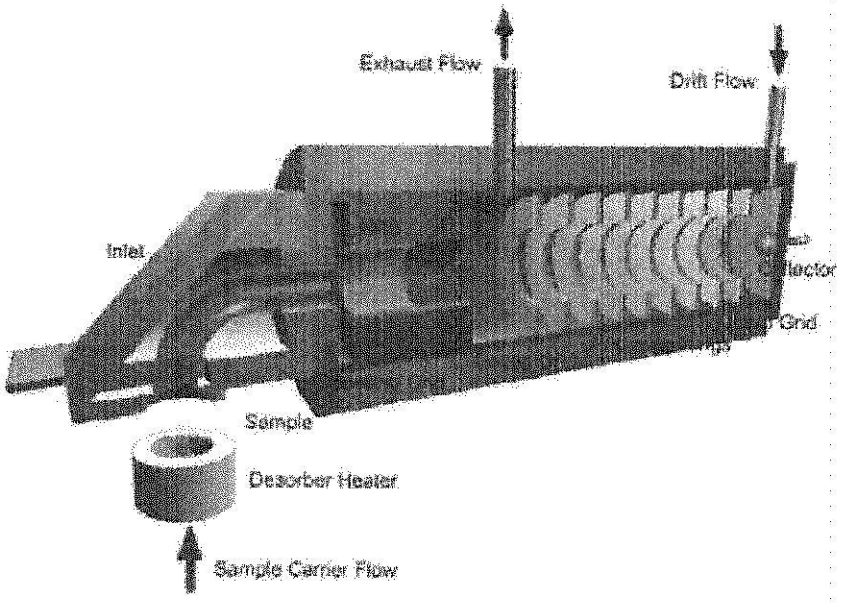
Technology

Ion Mobility Spectrometry (IMS)

A solid or liquid sample is introduced to the analyzer by thermal desorption or direct injection. The resultant vapors are swept in through the inlet by the carrier gas and ionized.

The product ions are gated into the drift tube and accelerated by an electric field toward the detector. Air flows through the drift tube in a direction counter to the electric field. Drift times depend on the size, shape, and mass of the analyte and range from about 3 to 50 milliseconds.

The characteristic speed at which an ion moves under the influence of an electric field, i.e., its ion mobility, is a distinct thumbprint that identifies the original substance.



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smiths detection

- Note: Buyer is required to have general license and certification from U.S. Nuclear Regulatory Agency
- Note: Please refer to attached OEM brochure for more specifications

Recommended Packaging Form	CUSTOM

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