Microsaic Systems

Real-time point-of-need Mass Spectrometry Detection

Optimise productivity with the 4500 MiD®

4500 MiD®

One box solution for MS detection

Combining the vacuum system electronics and computer inside one box, our patented MiD products and integrated software provide immediate insights into biological or chemical samples and reactions. This enables users to make quick decisions in real-time to optimise conditions and control process more easily.

Reliable, robust and user-friendly, the 4500 MiD® can be installed where no other mass spectrometer can be easily deployed, all while retaining the performance of a conventional mass spectrometer system.

- Small footprint enables deployment anywhere within laboratory or processing facilities
- Fully integrated system, with no external vacuum pumps, and no external PC
- Easy to use, simply ‘plug and play’ consumables
- Single quadrupole with a mass range of 1400 m/z

Applications

With a mass range to 1400 m/z, the 4500 MiD® can be used for a broad range of pharmaceutical and biopharmaceutical applications. When combined with the Microsaic MiDas™ compact interface sampling module, it can also be easily deployed in a variety of on-line, at-line and off-line applications.

Accelerate discovery:

Compress timelines for the identification of new drug candidates for a faster route to market

Bringing analytical capability to users' workspace, the 4500 MiD® identifies and characterises compounds as reactions progress, removing the need to wait for information from centralised QC/QA inspection steps. Providing more specific and more sensitive data than traditional UV detection methods, the 4500 MiD® allows point-of-need MS 'on bench', in fume hoods, or in-process.

Versatile integration:

Expand point-of-need data for fast, detailed sample analysis

Interfacing with a whole range of equipment – from HPLC, LC, and preparative chromatography (Prep-LC), to more direct introduction methods from your workflow – our systems also couple to other front-end separation devices, such as TLC, CE, and Nano-LC.

Technical specifications

Ion source	spraychip® - electrospray ionization source
Ionization modes	Positive and negative ESI
Flow rate range	0.3-2000 µL/min
Mass analyzer	ionchip® - quadrupole mass filter
Mass range	50-1400 m/z
Mass accuracy	± 0.3 m/z in full scan*
Mass resolution	0.7 m/z ± 0.1 @ FWHM*
Sensitivity	10pg of reserpine yields a peak in SIM mode with a S/N ratio of 10:1
Interface	(RMS) vac-chip™ - o axis microengineered atmospheric pressure interface
Dynamic range	3-4 orders of magnitude
Scan modes	Full scan, SIM, simultaneous scan/SIM, and timed SIM
Pumping system	Integrated oil-free pumps (no floor pump needed)
Computer	Built-in PC
Software control	Masscape®, Clarity, PrepCon, Remote Operations Protocol
Nitrogen gas requirements	2.5L/min, 99.5% purity, 2-6 bar (29-87 psi) pressure
Dimensions	55 x 35 x 25 cm (22 x 14 x 10 in.) (including PC, pump and exhaust)
Weight	32 kg (including PC, pump and exhaust)

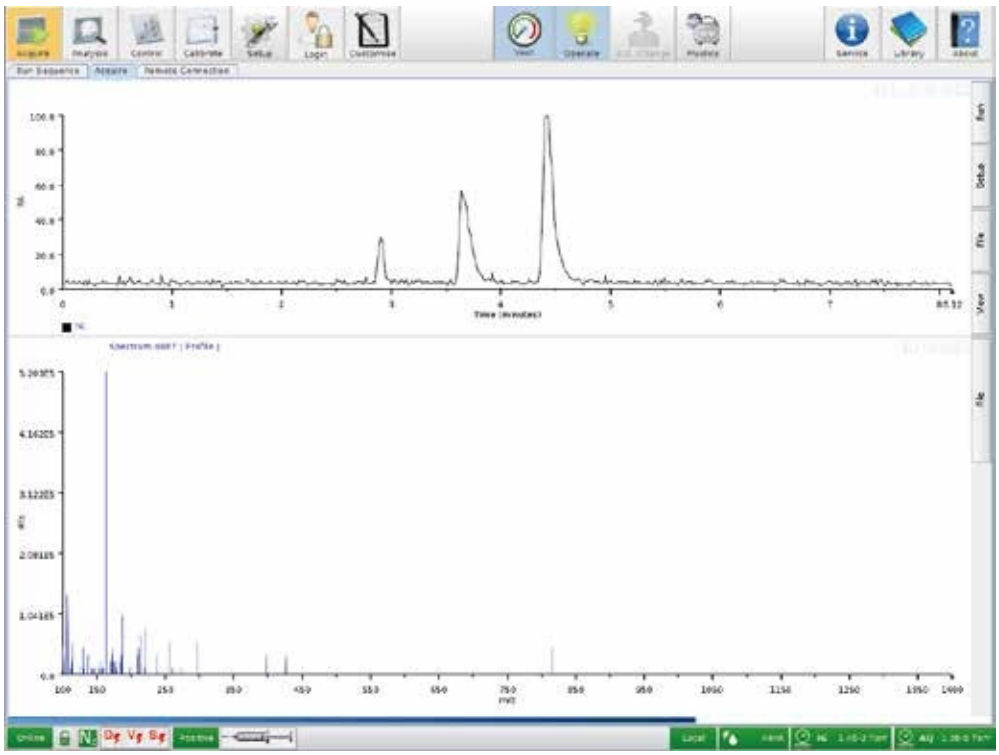
*in a temperature controlled environment, 20±3°C

MiDas™ automated sampling

A compact liquid sampling interface, our optional MiDas™ module allows automated sampling, dilution and injection for direct mass spectrometer analysis at the point of reaction or during processing.
Integrating seamlessly with the 4500 MiD®, MiDas™ enables the system to be deployed in a large variety of on-line, at-line and off-line pharmaceutical and biopharmaceutical applications.
Featuring a make-up pump and active splitter, MiDas™ dilutes samples from the reaction flow for direct analysis in the 4500 MiD® mass spectrometer detector. Additionally, its automated sample sequences include flushing to ensure no carry-over.

Easy to use software

Providing full control of sample method, data acquisition and the analysis of samples, the 4500 MiD® features our integrated, intuitive open-access software, Masscape®.
Designed for rapid set up and ease of analysis, Masscape® also removes the need for a monitor or keyboard. Its remote control LAN connection enables deployment anywhere in the laboratory or within processing facilities, including in fume hoods.
Masscape® also controls the dilution and port in the optional MiDas™ liquid sampling interface unit for flow and direct injection monitoring, automated sample and flushing set up in the 4500 MiD®. In addition, it can be used off-line as a data analysis tool.



Additional benefits

- Integrated software designed for rapid set up and data analysis
- “Remote operating” software module for fast and effective third-party equipment integration
- Low maintenance costs with completely tool-less front-end
- Low operating cost, due to reduced power and N2 gas consumption

About Microsaic

Pioneers in miniaturised mass spectrometry (MS), our patented chip-based technology enables analytical detection and characterisation at the point-of-need.
Easy to use and maintain, with no prior knowledge of MS required, our technology gives users and process operators access to continuous MS detection data at any step in their workflow.

Our technology

Designed for the pharmaceutical and biopharmaceutical industries, our chip-based technology and intuitive software generates powerful mass spectrometer detection at the point-of-need. This enables users to make decisions to adjust, optimise and control their processes in real-time.
Instead of losing valuable time and money sending samples to a centralised MS facility, our technology provides processing and manufacturing agility, as well as overall laboratory and commercial manufacturing productivity.

To find out more about the 4500 MiD®, contact us:

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Version No. 2