



Microsaic  
Systems



## Microsaic SPE-LC-MS SYSTEM

Optimise productivity with Microsaic's point-of-need analyser

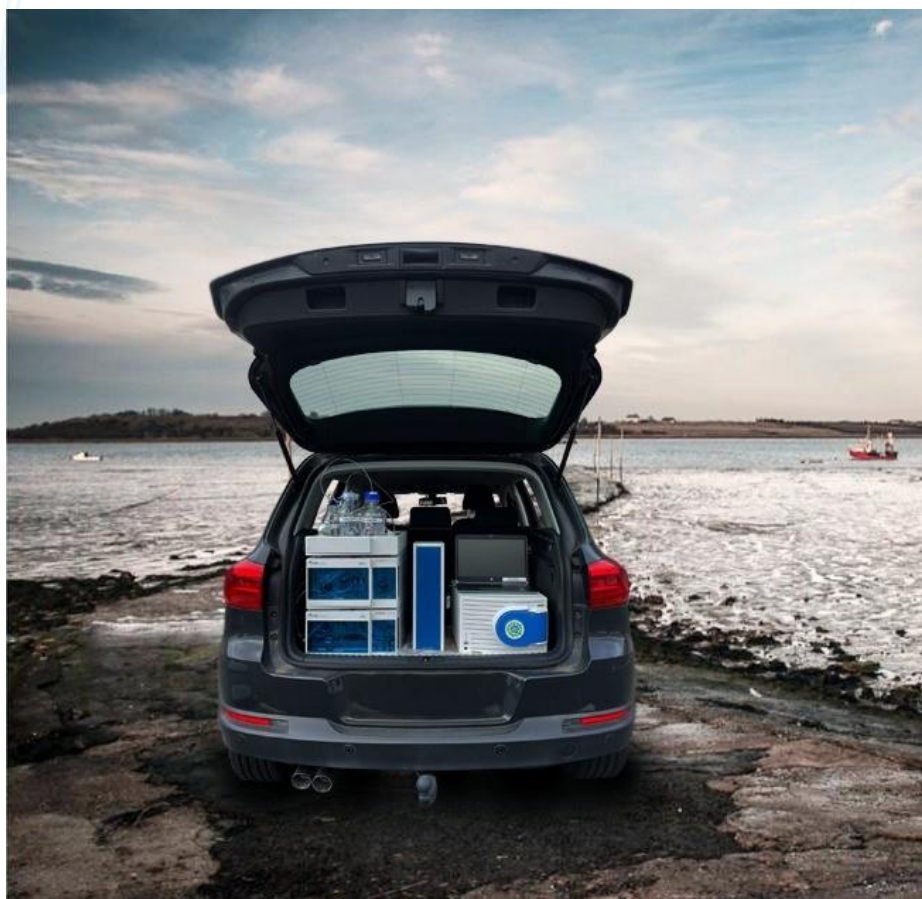
# Online SPE-LC-MS System

Increase throughput analytical HPLC and point-of-need mass detector

---

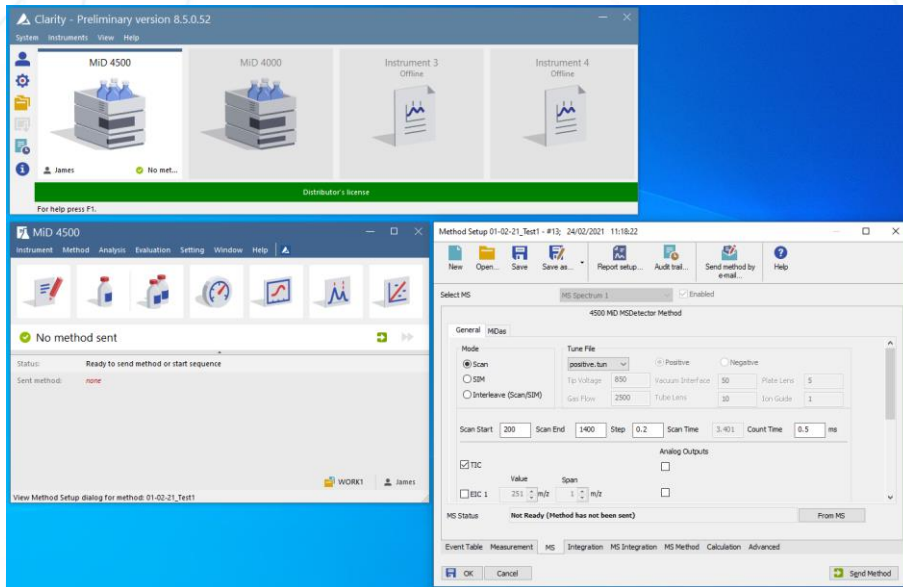
## SYSTEM OVERVIEW

Performing sensitive analyses, for example the detection of contaminants in drinking water, often involves an analyte pre-concentration step. This can be cumbersome and increase risk of contaminating your sample. Our versatile online SPE module with two switching valves and an Isocratic Pump enables an efficient online SPE to pre-concentrate analytes prior to LC-MS analysis. This significantly reduces the time-consuming steps of sample preparation through automation. Following this cleaning and concentration step separation and analysis can be achieved with an analytical LC-MS system equipped with a gradient HPLC pump, a column thermostat and a point-of-need mass detector.

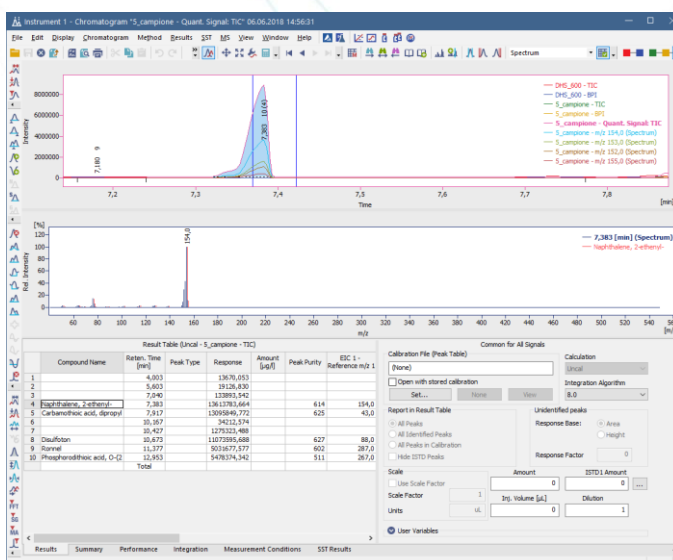


# Clarity Chromatography Station

Compliant with GLP, GMP and FDA certification



- > Clarity is a powerful, yet easy-to-use chromatography software (or chromatography data system, CDS) for instrument control, data acquisition and data processing. Clarity is designed for smaller laboratories. It is an economical solution compared to other more complex chromatography software while still offering FDA 21 CFR Part 11 compliance.
- > Clarity comes as a complete package with SPE-LC-MS and autosampler control. It is scalable from 1 up to 4 systems, depending on the desired setup.
- > The PDA extension allows to acquire and process 3D data from an optional photo diode array detector. The PDA extension provides peak purity analysis and peak identification by spectral library search in self-made or commercial spectra libraries.



- > Measuring
- > Integration
- > Overlay
- > Calibration
- > Extensions
- > LIMS
- > Import/export
- > Audit trail
- > Electronic signature
- > Multiple language
- > User accounts

# Specifications

## Online SPE, Gradient HPLC and DAD Detector



### Eluent Tray

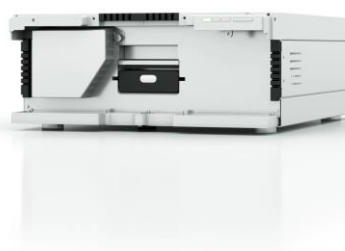
The eluent tray has a capacity of 6 x 1000 ml bottles and it is stackable onto all Microsaic LC modules. The inlay is removeable for cleaning. The eluent tray is equipped with a drainage system and a removable front that facilitates access to a capillary guide.



### Online SPE

The Gradient HPLC Pump is designed to overcome the challenges of pumping LC solvents at high pressure and high flow rates. The binary pump contains two identical high pressure pumps, a 2x2-channel inlet solvent selection valve and a low-volume mixing device.

- > Up to 862 bar
- > Flow rate range: 0.001 - 10 ml/min
- > Pump filter and piston seal wash
- > 2- or 4-channel online degasser
- > Integrated solvent selection valve



### DAD + UV Detector

It is a highly competitive diode array detector which combines high performance and easy handling at an affordable price. A wide range of easily exchangeable cartridge flow cells make this device the right choice for standard analytical, semi-preparative and preparative separations

- > Deuterium (D<sup>2</sup>) lamp with integrated GLP chip
- > Wavelength: 190 - 700 nm
- > Analytical UV flow cell



### Gradient HPLC

The Gradient HPLC Pump is designed to overcome the challenges of pumping LC solvents at high pressure and high flow rates. The binary pump contains two identical high pressure pumps, a 2x2-channel inlet solvent selection valve and a low-volume mixing device.

- > Up to 862 bar
- > Flow rate range: 0.001 - 10 ml/min
- > Pump filter and piston seal wash
- > 2- or 4-channel online degasser
- > Integrated solvent selection valve

# Specifications

## Column Thermostat, Autosampler and Mass Detector

### Column Thermostat

HPLC separation parameters are mostly temperature-sensitive. Hence, the control of the column temperature is the key for reproducible results in HPLC.

- > Temperature range: 5 – 85 °C
- > Temperature accuracy:  $\pm 0.2$  °C
- > Temperature stability:  $\pm 0.1$  °C
- > Wide space, easy handling
- > Up to 6 columns with 300 mm length
- > Adjustable leak sensor



### Autosampler

The Autosampler is a high precision device equipped with an ILD™ valve which reduces sample dilution and increases measurement reproducibility.

- > Up to 862 bar
- > sample injection volume 0.1 – 10,000  $\mu\text{l}$
- > Up to 768 samples or 108 standard vials
- > Intermediate Loop Decompression – ILD™



### Miniaturised Mass Detector

Increase your workflow efficiency with point-of-need mass detection. Unique patented chip-based technology, providing a completely toolless, one box solution for mass detection. Its compact size and reduced pump down time makes the system easy to move from one place to the next.

- > Patented microflow electrospray ionization (ESI) source
- > 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



# About Microsaic


---

Microsaic Systems plc is a high technology company developing chip-based, bench-top and point-of-analysis mass detectors that are designed to improve the efficiency of pharmaceutical R&D and manufacturing, and have applications in environmental testing, chemical reaction monitoring, and academic teaching. The Company is working with a range of established global life science OEM partners, distributors and research organisations to co-develop and commercialise new solutions to improve productivity in the development of small molecule and novel biologic (peptides, antibodies) medicines. MS is a powerful method of analysis to enable earlier decision making relating to product identification, purity and bioactivity, and is the analytical technique of choice for biochemists across many industry sectors.

Microsaic's core products, the 4500 MiD<sup>®</sup>, and MiD<sup>®</sup> ProteinID are robust and compact MS systems, retaining the functionality of larger conventional MS systems, easier to use by non-specialists, consuming less energy and having lower running costs. For more information, please go to [www.microsaic.com](http://www.microsaic.com).


To find out more about the products

## Contact us

 +44 (0) 1483 751 577

 [info@microsaic.com](mailto:info@microsaic.com)

## Head office

 Microsaic Systems plc, GMS House,  
Boundary Road, Woking Surrey GU21 5BX, UK



Microsaic  
Systems