

ionchip[®]

mass spec on a chip is here

Microsaic Systems
GMS House, Boundary Road
Woking, Surrey
GU21 5BX
United Kingdom

Tel: +44 1483 751 577
Fax: +44 1483 757 901

If you wish to acquire an Ionchip system contact us at enquiries@microsaic.com

What is a Mass Spectrometer?

Mass spectrometers are powerful scientific instruments used to analyse the structure and chemical make-up of compounds.

Only very minute quantities are required to successfully identify chemicals. This means that substances can be detected at very low concentrations in complex mixtures.

Mass spectrometers are used in everything from explosives detection to drug discovery.

Legacy Mainframes

Legacy mass spectrometers are large, heavy and expensive laboratory "mainframes". Frequent maintenance leads to costly periods of downtime.

Today's customers are looking for cheap, compact and reliable solutions.

Laptop Mass Spectrometer

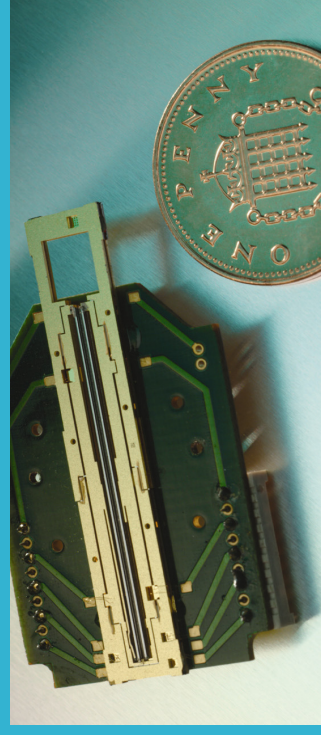
Microsaic develops and markets **compact mass spectrometer systems** based on a revolutionary mass spectrometer chip – Ionchip.

Ionchip™ technology miniaturizes the main mass spectrometer components onto a single silicon chip leading to massive reductions in size, cost and weight.

MEMS Technology

Microsaic's solutions are based on Micro Electro Mechanical Systems (MEMS) technology.

MEMS technology involves the use of specialist semiconductor processes to build tiny structures on silicon wafers. Precision features are fabricated by selectively etching away silicon, or by adding new layers. Entire batches of devices can be produced on each wafer, drastically reducing manufacturing costs.



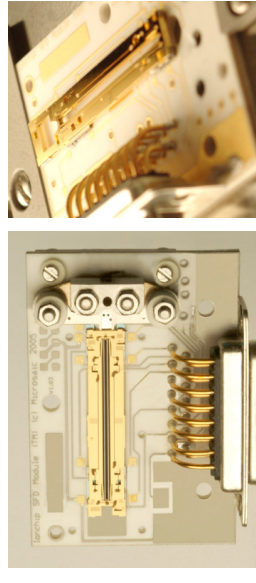
Microsaic Ionchip – the world's first mass spectrometer on a chip

Precision

The performance of a mass spectrometer depends on its mechanical precision. The more precisely made the components are, the better the system's sensitivity and selectivity. Manufacturing tolerances of a few microns are possible using semiconductor processes and Microsaic has used them to achieve 'mainframe' mass spectrometer performance with the Ionchip.

Zero Downtime, Zero Contamination

The Ionchip mass spectrometer is a "plug and play" module, completely eliminating downtime and cross contamination.



"Plug and play" module - ion source, mass analyser and detector

ChemCube™: The Ultra-compact Mass Detector

ChemCube weighs only 10 kg. Unlike legacy mainframes, everything you need is inside an A4 sized box - there are no floor pumps! ChemCube is a laptop peripheral which connects to a USB port or via Bluetooth wireless. Sample introduction is by SPME syringe, heated capillary or membrane.



- Mass range 1 - 400 m/z
- Resolution 1 amu
- Sensitivity < 1 ng
- GC-MS mode
- Selected ion monitoring and full scan modes