

ionchip®

mass spec on a chip is here

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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

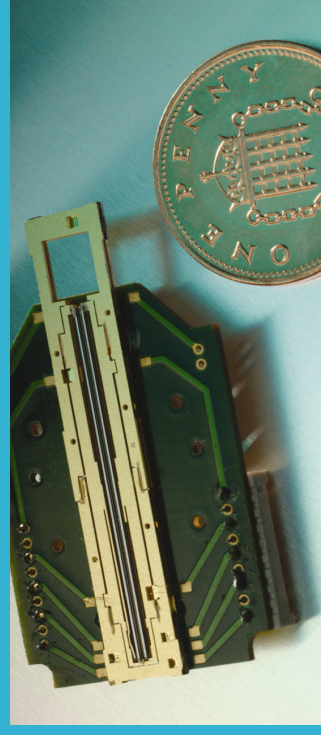
Microsaic develops and markets **compact mass spectrometer systems** based on a revolutionary mass spectrometer chip – Ionchip.

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

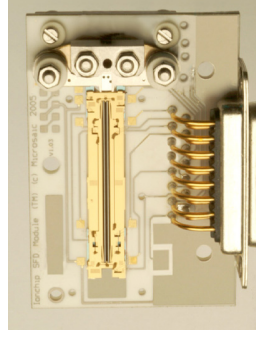
The performance of a mass spectrometer depends on its mechanical precision. The more precisely made the components are, the better the system's sensitivity and selectivity. Manufacturing tolerances of a few microns are possible using semiconductor processes and Microsaic has used them to achieve 'mainframe'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



Microsaic Systems

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

ChemPack™: Compact, ruggedised, portable

The system weighs 14 kg and has 10 hours of battery life. Sample introduction can be by SPME syringe, GC heated capillary or membrane inlet.



INTERNAL DIMEN. (mm)				
A	B	C	D	E
380	270	180	45	135



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