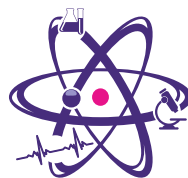


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MSQ-9140

Mass Spectrometry Detection





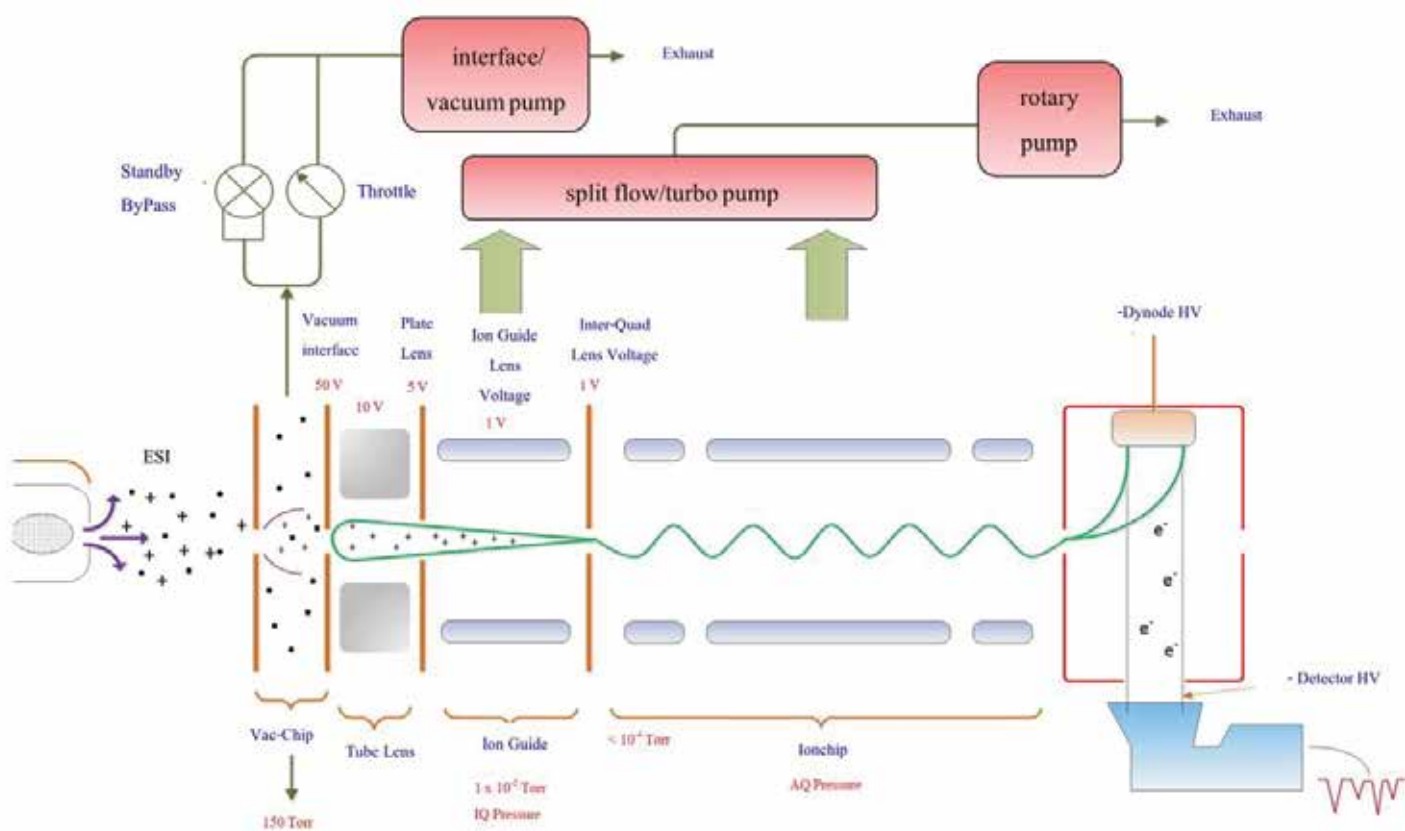
►► MSQ-9140 One box solution for MS detection

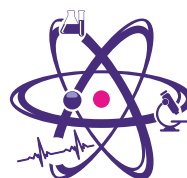
Combining the vacuum system electronics and computer inside one box, our patented MSQ-3140 products and integrated software provide immediate insights into biological or chemical samples and reactions. This enable users to make quick decisions in real-time to optimise conditions and control process more easily.

Reliable, robust and user-friendly, the MSQ-9140 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

►► Schematic diagram of MSQ-9140





Multiplelabs

Turnkey Laboratories Solutions



Ionchip



Vac-chip



Spraychip

►► Accelerate discovery: Compress timelines for the identification of new drug candidates for a faster route to market

- Bringing analytical capability to the workspace, the MSQ-9140 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 MSQ-3140 allows point - of - need MS on bench, in fume hood, or in-process.

►► Technical specifications

Model	MSQ-9140
Ion source	Spraychip-electrospray ionization source
Ionization modes	Positive and Negative ESI
Flow rate range	0.3-2000 μ L/min
Mass analyzer	Ionchip-quadrupole mass filter
Mass range	50-1400 m/z
Mass accuracy	\pm 0.3 m/z in full scan*
Mass resolution	0.7 m/z FWHM*0.1
Sensitivity	vac-chip-off 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 three 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)

►► **Application**

With a mass range to 1400 m/z, the MSQ-9140 can be used for broad range of pharmaceutical and biopharmaceutical applications. When combined with the ATL MSQAS compact interface sampling module, it can also be easily deployed in a variety of online, at-line and off-line applications.

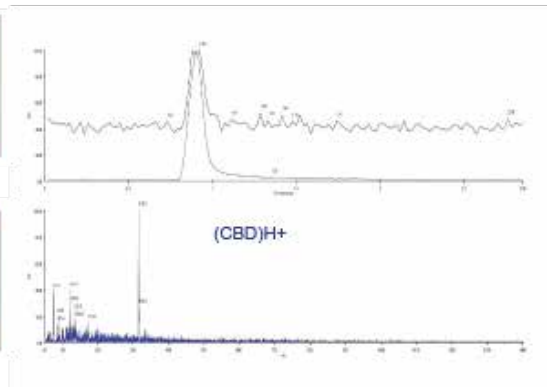
►► **Versatile integration:**
Expand point - of - need data for fast, detailed sample analysis

Interfacing with a whole range of equipment from HPLC, LC, and Prep-LC, to more direct introduction methods from your workflow. Our system also couple to other front-end separation devices, such as TLC, CE and Nano-LC.

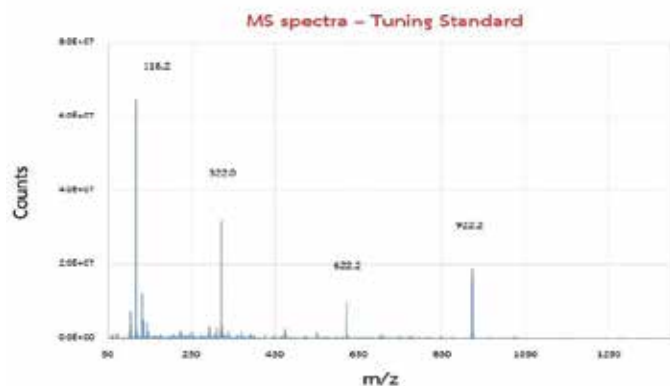
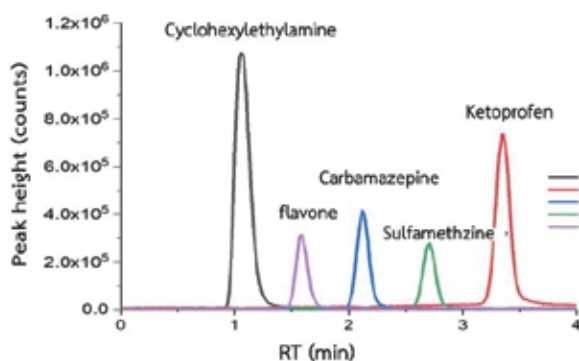
►► **TLC-MS**



Commercial CBD supplements



►► **Microfluidics LC-MS**



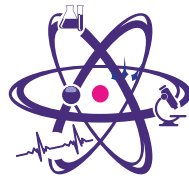
Gradient Separation:

A: 0.1% FA B: Acetonitrile

Gradient: 5 L/min, 0-1.5 min: 50%-70%B,
1.5-5 min, 70%B

Column: PEEKsil C18 100 x 0.3 mm, 5 µm

	Measured Mass	Accurate Mass	Accuracy(ppm)
1	118.2	118.09	931
2	322.0	322.05	155
3	622.2	622.03	273
4	922.2	922.01	206



►► **Benefit**

- **Simple maintenance**
Hours VS Days
- **Completely tool-less front end**
Ultra-fast quick release “bayonet” style
- **“Plug and Play”**
No need for alignment
- **Nano-flow ESI**
Low flow applications exceptional ionisation efficiency
- **Remote software module**
Quick and seamless integration with third party separation workflows
- **Low flow rate N2**
Cylinder vs being plumbed in
- **Easy installation**
Up and running within 30 minutes
- **m/z 50 to 1400**



►► **MSQAS automated sampling**

A compact liquid sampling interface, our optional MSQAS module allows automated sampling, dilution and injection for direct mass spectrometer analysis at the point of reaction or during processing.

Integrating seamlessly with the MSQ-9140, MSQAS 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, MSQAS dilutes samples from the reaction flow for direct analysis in the MSQ-9140 mass spectrometer detector. Additionally, its automated sample sequences include flushing to ensure no carry-over.

