



Mass spectrometry detection **MiQ[®]-1400**

MiQ®-1400

One box solution for MS detection

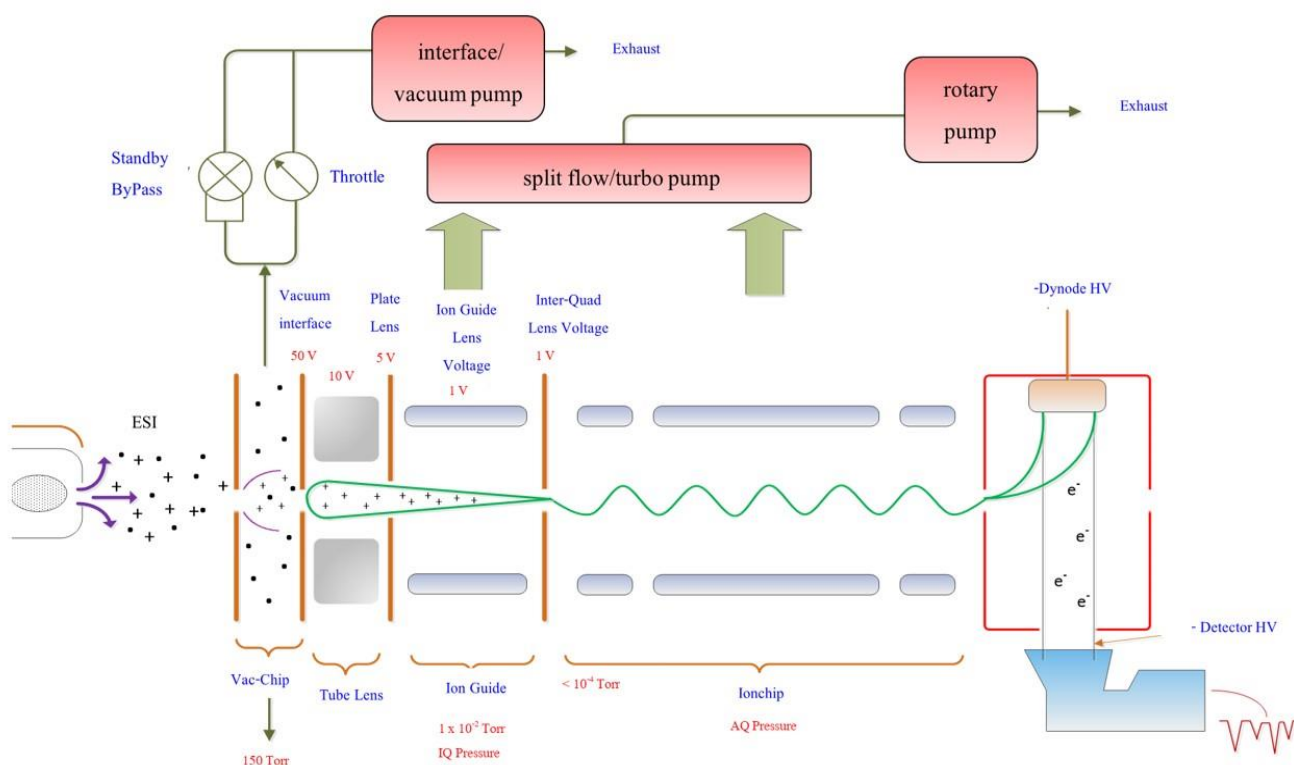
Combining the vacuum system electronics and computer inside one box, our patented MiQ®-1400 products and integrated software provide immediate insights into biological or chemical samples and reactions. This enable users to make quick decisions in real-time to optimise conditions and control process more easily.

Reliable, robust and user-friendly, the MiQ®-1400 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 MiQ®-1400



Flexible and easy to use



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 users' workspace, the MiQ[®]-1400 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 MiQ[®]-1400 allows point - of - need MS on bench, in fume hood, or in-process.

Technical specifications

Model	MiQ [®] -1400
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* \pm 0.1
Sensitivity	10 pg of reserpine yields a peak in SIM mode with a S/N ratio of 10:1 (RSM)
Interface	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)

*in a temperature controlled environment, 20 \pm 3 $^{\circ}$ C

Application

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

Versatile integration:

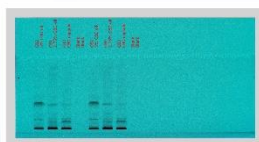
Expand point - of - need data for fast, detailed sample analysis

> 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



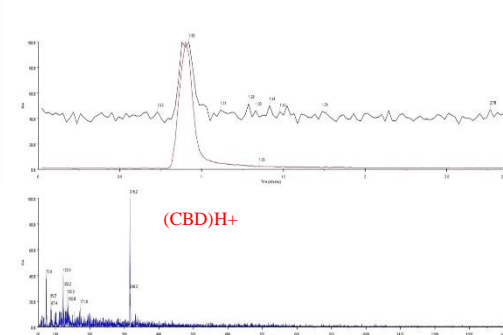
Commercial CBD supplements



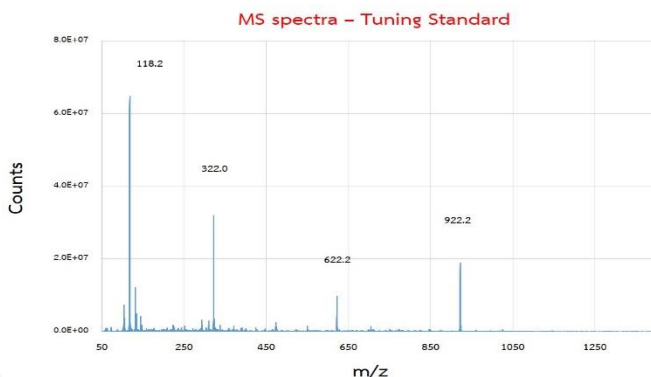
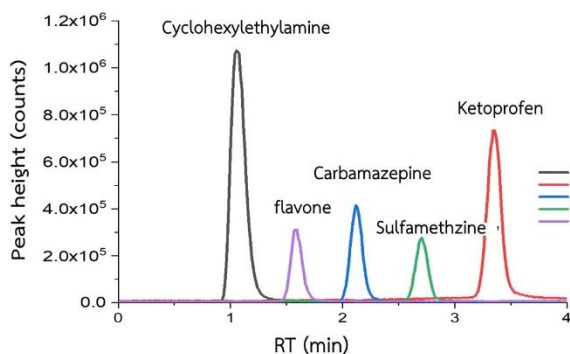
UV 366 nm



UV 254 nm



> Microfluidics LC-MS



Gradient Separation:

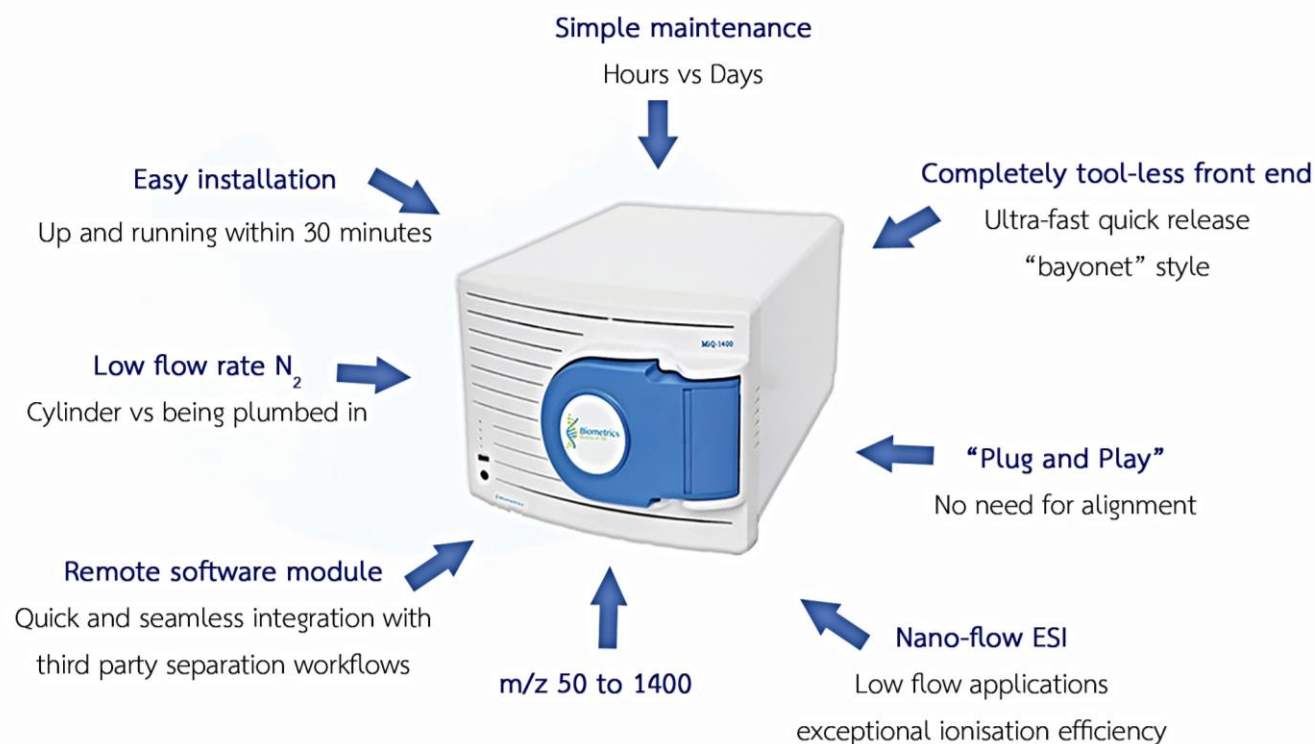
A: 0.1% FA B: Acetonitrile

Gradient: 5 µL/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 of MiQ[®]-1400



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 MiQ[®]-1400, 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 MiQ[®]-1400 mass spectrometer detector. Additionally, its automated sample sequences include flushing to ensure no carry-over.



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 enable 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.



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