

Excellims MC3100 Compact High Performance Ion Mobility Mass Spectrometer

Compact desktop chemical analysis system based on integrated ion mobility and m/z measurements, providing rapid 2D detection and confirmation capabilities

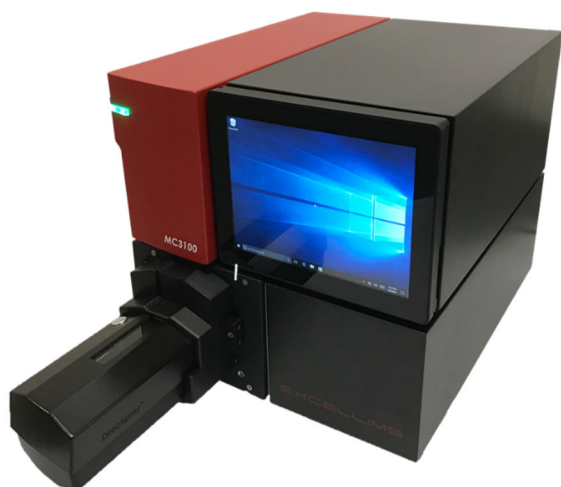
- Two-dimensional identification of target molecules based on ion mobility and m/z
- Library-based chemical ID within seconds
- Total flexibility for user defined ion pre-filtration prior to mass analysis
- Flexible modes of operation for freedom in experimental design
- Compatibility with a variety of sample introduction / ionization methods, including Directspray™ ESI and Thermal Desorption

The MC3100 combines Excellims' proven high performance ion mobility technology (HPIMS™) with a miniaturized ion trap mass spectrometer. The resulting spectrometer is the first small-footprint analytical system that identifies chemicals based on both ion mobility and m/z; it offers superior isomer separation and chemical identification capability while providing chemical structure information via direct collision cross-section measurements.

Several modes of operation are available, including IMS-only, MS-only, and combined IMS-MS measurement modes for 2D analysis.

Alternatively, the IMS can be used as a prefilter for the mass spectrometer: particular mobility ranges can be selected for mass analysis, eliminating reactant ions and reducing spectral complexity.

Combining two complementary dimensions of analysis, the MC3100 delivers added confidence in compound identification – in a small, easy-to-use and fieldable package.

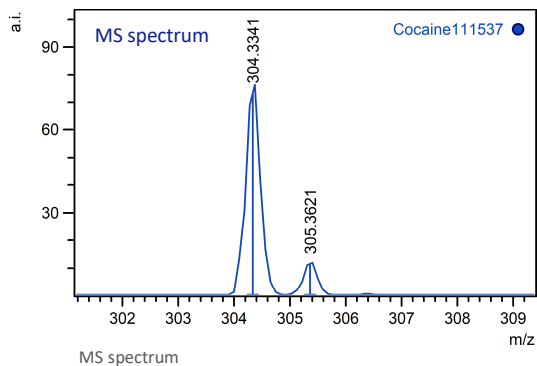
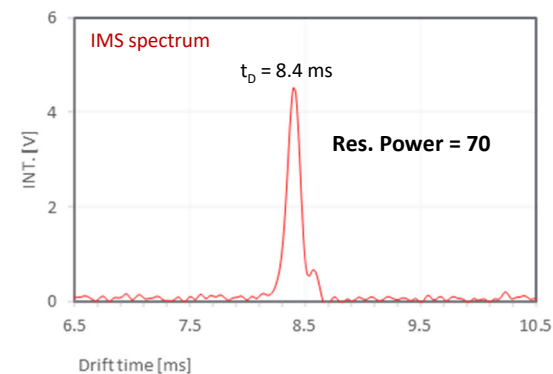


Hardware

Dimensions	16" x 21" x 17"
W x D x H	(41 cm x 54 cm x 43 cm)
Drift tube length	~10 cm
Drift tube voltage	Up to 8 kV
Ion gate pulse width	40 μ s up to the maximum drift time range
Mass analyzer	Linear ion trap
Vacuum system	10 ⁻⁵ torr

Software

Excellims control software	MC3100 Software package includes control, data acquisition and offline analysis software for fully integrated HPIMS and ion trap mass spectrometer for 2D confirmation
----------------------------	--



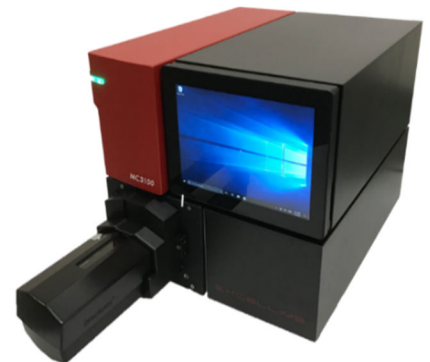
Performance Characteristics

IMS resolving power	> 70
Drift time accuracy	\pm 30 μ s
Drift gas	N ₂ , Air, He, CO ₂ , etc.
Drift gas temperature	Up to 250°C
Operating pressure	Atmospheric pressure
Mass resolution	Unit mass or better
Standard mass range	20–2,800 m/z (customizable)

Sample Introduction Options

Directspray™ ESI source	Rapid screening of liquid samples; no additional pump needed
Continuous flow adaptor	Continuous liquid sample introduction for use of an autosampler
Thermal Desorber with Corona Discharge Ionization	Solid phase sample introduction on swabs
Other options	Custom inlets e.g. for gas sampling are possible – contact Sales for details

Rapid 2D confirmation by IMS and MS in a compact, fieldable package - MC3100



Excellims Corporation
20 Main Street
Acton, MA 01720
www.excellims.com
T.978.264.1980

Copyright © 2019 All rights reserved

EXCELLIMS

Innovation for Excellence in Detection Technology