

## Excellims MA3100 for Thermo Scientific™ Orbitrap® and Ion Trap Mass Spectrometers

**Adding a new dimension of separation, separating isobaric compounds, and providing molecular collision cross section information**

- Orthogonal separation mechanism to complement subsequent mass analysis
- High resolving power ( $R > 70$ ) ion mobility pre-filtering capability
- Total flexibility for user defined selective mobility transmission with dual gate
- Four modes of operation allow freedom in experiment design
- Simple interface that can be mounted or removed in seconds, requiring no hardware modifications or break in system vacuum
- Integrated software control for select Orbitrap® models
- Able to use a variety of ionization sources, including Excellims Directspray™ ESI source and Thermal Desorber



HPIMS™

The Excellims MA3100 brings the unique advantages of high performance ion mobility spectrometry (HPIMS) to multiple Thermo Scientific™ mass spectrometer product lines. Users of this industry-leading MS technology can now further extend the capabilities of their instrument by including shape-and-size-based separation in a compact IMS module.

Providing highly resolved, easy-to-analyze drift time spectra, the MA3100 enables separation of isomers, grouping of complex mixtures into trendlines of structurally similar compounds and direct collisional cross-section (CSS) measurement. Operating at atmospheric pressure, the MA3100 allows for rapid switching between drift gases to maximize separation power which can be even further enhanced through liquid drift gas modifiers (DGMU option). Its dual gates allow for complete flexibility in selecting which molecules to pass on for MS analysis.

Mounted within seconds on your Orbitrap or linear ion trap mass spectrometer, the MA3100 adds a powerful extra dimension to your analytical arsenal – in a compact and affordable package.

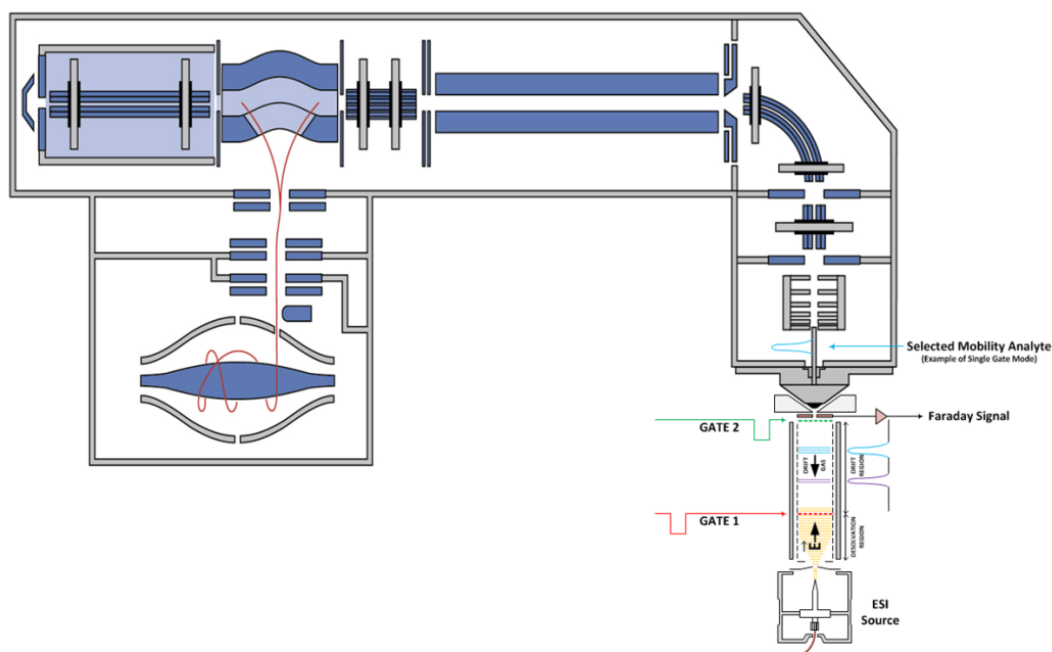
**EXCELLIMS**

Innovation for Excellence in Detection Technology

Hardware	
<b>Excellims MA3100</b>	
Drift tube length	~10 cm
Drift tube voltage	Up to 10 kV
Ion gate pulse width (Bradbury-Nielson entrance & exit gates)	From 30 $\mu$ s up to the maximum drift range setting
<b>Thermo Scientific™ MS</b>	Orbitrap/Ion trap platforms; see specific Hardware Manual

Software	
Thermo Scientific™ Tune Plus	Driver controls of the MA3100 are embedded within MS software package (Exactive Plus, Exactive Plus EMR, Q Exactive, and Q Exactive Plus)
Excellims Vislon™ Control and Vislon™ Analysis	MA3100 control and data acquisition software for compatible mass spectrometers outside of the Exactive product line

Performance Characteristics	
Resolving power	R > 70
Drift time range	0-50 ms
Drift time accuracy	$\pm$ 30 $\mu$ s
Drift gas	N <sub>2</sub> , Air, CO <sub>2</sub> , He, etc.
Drift gas temperature	30-250°C
Operating pressure	Ambient conditions
<b>Options:</b>	
Excellims Directspray™ ESI source	Rapid liquid sample screening; no additional syringe pump needed
Continuous flow adaptor	Continuous liquid sample introduction; compatible with the use of an autosampler or HPLC
Excellims Thermal Desorber with Corona Discharge Ionization source	Solid phase sample introduction
Direct gas phase sample inlet	Gas phase sample introduction
DGMU	Drift gas modification unit allows introducing volatile / semi-volatile modifiers into drift gas for advanced separation capabilities



MA3100 interfaced with a Thermo Scientific™ Orbitrap™ Mass Spectrometer indicating ionization interface region, desolvation region, ion gate #1, drift region, ion gate #2, and focusing lens of the IMS-MS interface.

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 T.978.264.1980  
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