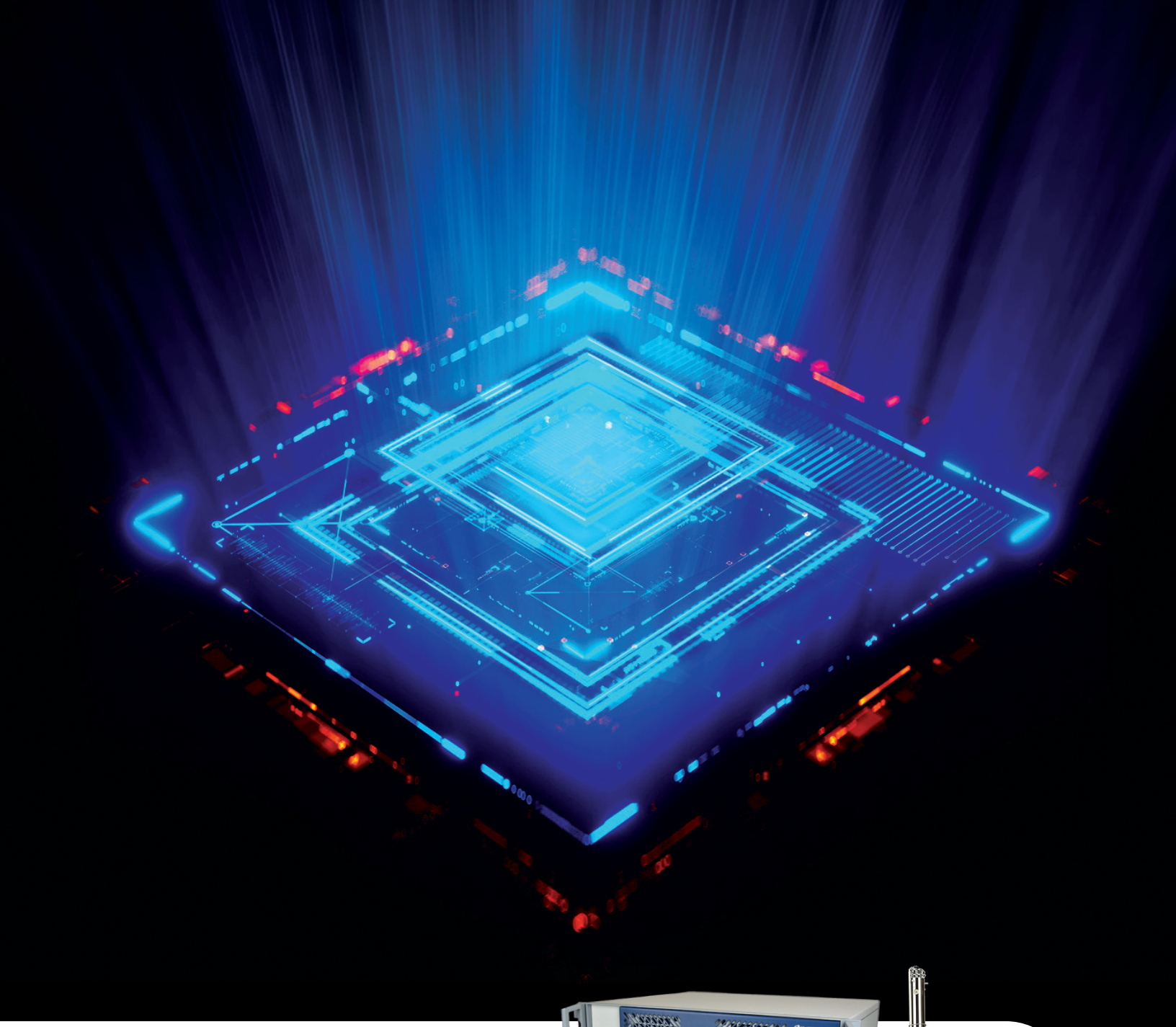


QMG 800 Analytical Mass Spectrometer

Unmatched Sensitivity, Precision, and Analytical Capabilities

INFICON

Elevate Your Process to New Heights of Innovation

The INFICON QMG 800 is the next-generation analytical mass spectrometer, succeeding QMG 700. QMG 800 remains the market-leading Residual Gas Analyzer (RGA) for analytical process monitoring.

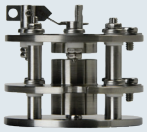
Recognizing customers' unique needs, INFICON built QMG 800 to allow for more flexibility to meet specific application requirements while maintaining industry-leading measurement speed and sensitivity. QMG 800 is designed to offer enhanced performance and reliability for a wide range of analytical mass spectrometry applications. It is the ideal choice for precise and accurate analysis in contamination monitoring processes, ensuring the highest levels of purity and quality control in various industries. Users will appreciate the digital advances of QMG 800, which incorporates cutting-edge technologies to enhance performance and experience.

With more than 50 years of pioneering excellence in analytical mass spectrometry, INFICON sets a new standard for your gas analysis investments with QMG 800. Experience unparalleled accuracy and precision, backed by our global expertise and commitment to innovation.

ADVANTAGES AT A GLANCE

- ✓ Advanced Digital Platform
- ✓ Seamless OEM Integration
- ✓ Unparalleled Diagnostics — fully compatible with INFICON FabGuard® software
- ✓ 90° Off-Axis SEM — to minimize noise from radicals and non-ionized particles
- ✓ Single Ion Detection
- ✓ Industry-Leading Measurement

Five ion source options



AXIAL

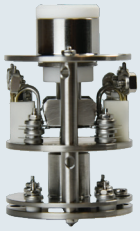
Open design with a single filament; higher sensitivity and good linearity

Dimensions: 26 mm H

CROSS BEAM

Open design with dual filament; reacts quickly to change in gas composition and has a longer lifetime

Dimensions: 35.5 mm H



CROSS BEAM GAS TIGHT

Closed design with dual filament; in addition to standard benefits, has a sealed ionization area

Dimensions: 48 mm H

CROSS BEAM WITH MAGNETS

Allow improved focus of ions to improve sensitivity

Dimensions: 35.5 mm H

CROSS BEAM GAS TIGHT WITH MAGNETS

Allow improved focus of ions to improve sensitivity

Dimensions: 48 mm H

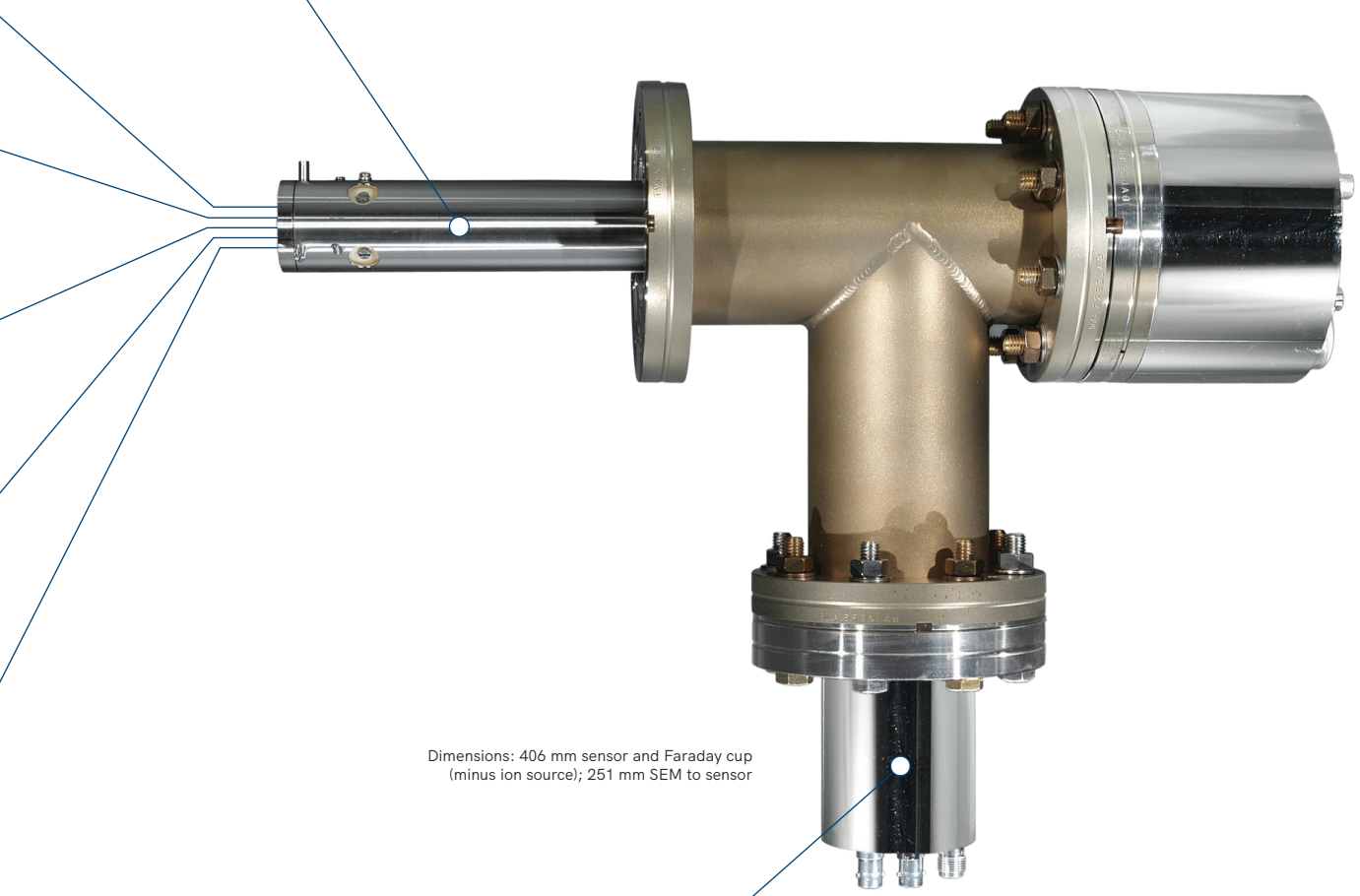
Sensor | QMA 4x0

QUADRUPOLE

- Allows scanning across the system's mass range
- 300 AMU or 512 AMU mass range option, utilizing Stainless Steel and Molybdenum, respectively

TYPICAL APPLICATIONS

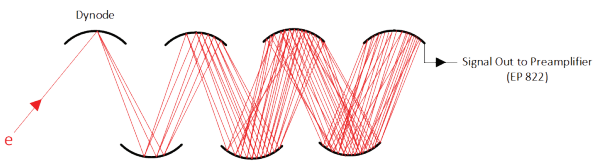
- Contamination Detection
- Gas Purity Monitor
- Endpoint Detection
- Molecular Beam Epitaxy Monitor



Dimensions: 406 mm sensor and Faraday cup (minus ion source); 251 mm SEM to sensor

SEM 217

- 90-degree off-axis electron multiplier
- 17 dynodes to minimize noise



EP 822

- Electrometer preamplifier
- Takes signals from the sensor and amplifies them for readout by the system controller

RF Generator | QMH 800

CUSTOM TRANSFORMER

Designed and built for this product, the customer transformer is the heart of the RF generator, allowing all mechanical and electrical functionality.

PERFORMANCE SPEC

The latest generation boasts improved temperature stability with a less than 0.01 AMU drift per degree Celsius.

Dimensions: 302 mm L x 193 mm W x 229 mm H

INTERNAL OVEN

The latest generation design improves stability across the mass spectrum.

DIGITAL PLATFORM

The new digital platform designed into the RF generator allows for a digital tune functionality.

FABGUARD — DATA COLLECTION AND ANALYSIS

When integrated with the INFICON FabGuard software suite, QMG 800 becomes a powerful process monitoring and diagnostics tool which can be used for:

- Advanced process control (endpoint detection)
- Run-by-run and real-time fault detection and classification
- Statistical process control (SPC)
- Maintenance and decision support with FabRecover

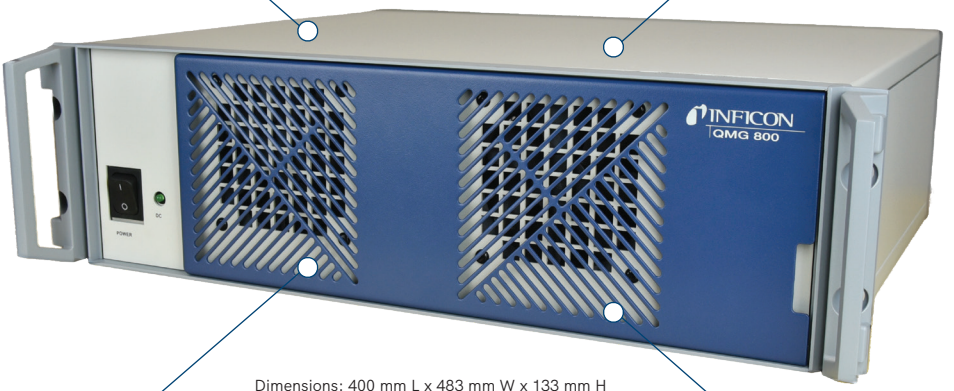
Controller | QMS 800

QC 800 – QUADRUPOLE CONTROLLER

New OPC/UA communication protocol for improved system integration.

IS 816 – ION SUPPLY

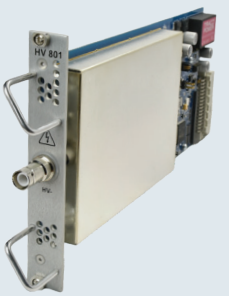
The ion source is controlled by the IS 816, with all parameters defined and saved in the module.



Dimensions: 400 mm L x 483 mm W x 133 mm H

IO 821 – I/O SYSTEM

Allows connection of analog and digital inputs and outputs, such as an external total pressure gauge.



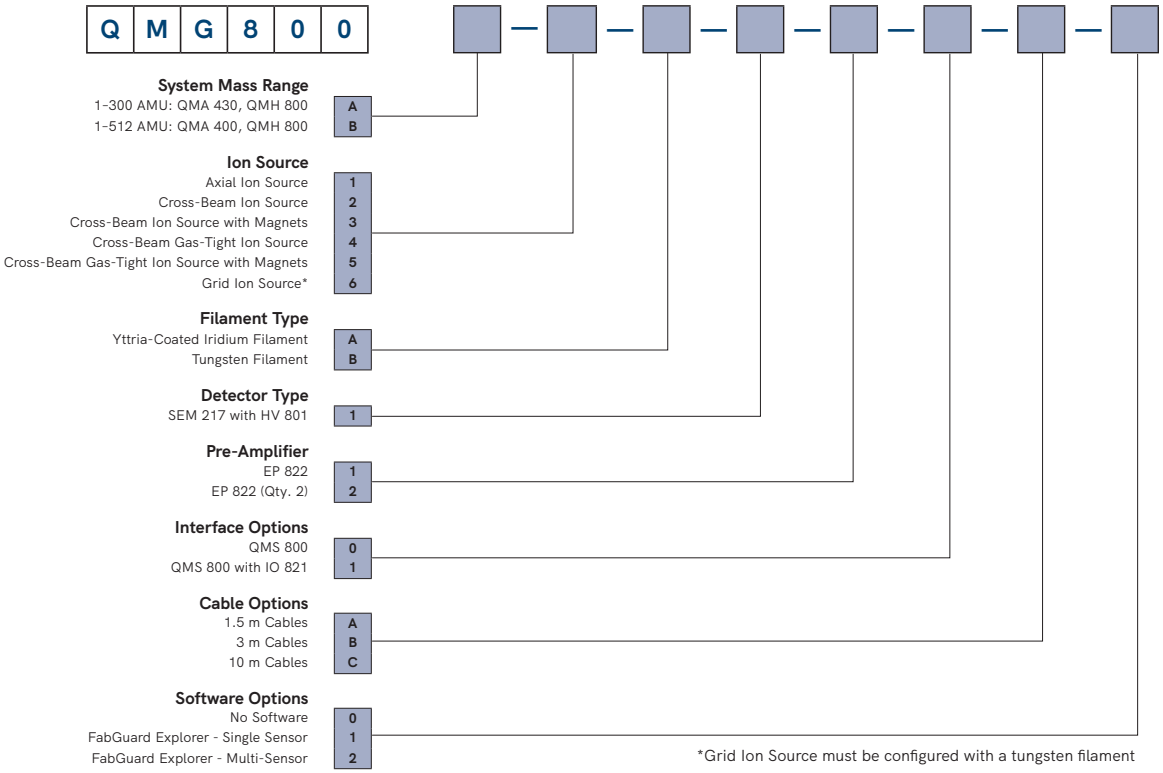
HV 801 – HIGH-VOLTAGE SUPPLY

Supplies the voltage required to operate and control the secondary electron multiplier (SEM).

QMG 800

SPECIFICATIONS	QMA 430	QMA 400
Mass Range	1–300 AMU	1–512 AMU
Rod Material	Stainless Steel	Molybdenum
Maximum Operating Pressure	1E-5 mbar (1E-3 Pa)	
Faraday Sensitivity		
Axial Ion Source	2E-4 A/mbar (2E-6 A/Pa)	3E-4 A/mbar (3E-6 A/Pa)
Cross-Beam Ion Source	8E-5 A/mbar (8E-7 A/Pa)	7E-5 A/mbar (7E-7 A/Pa)
Cross-Beam Gas-Tight Ion Source	8E-5 A/mbar (8E-7 A/Pa)	7E-5 A/mbar (7E-7 A/Pa)
Cross-Beam Ion Source with Magnets	7E-4 A/mbar (7E-6 A/Pa)	7E-4 A/mbar (7E-6 A/Pa)
Cross-Beam Gas-Tight Ion Source with Magnets	7E-4 A/mbar (7E-6 A/Pa)	7E-4 A/mbar (7E-6 A/Pa)
Grid Ion Source	2E-4 A/mbar (2E-6 A/Pa)	2E-4 A/mbar (2E-6 A/Pa)
Resolution	0.3–7.0 AMU	
Minimum Detectable Partial Pressure	2E-15 mbar (2E-13 Pa)	1E-15 mbar (1E-13 Pa)
Partial Pressure Ratio with Electron Multiplier	<1 ppb	<0.5 ppb
Maximum Operating Temperature	150°C	
Maximum Bakeout Temperature (Electronics Removed)	400°C	
Measurement Speed	125 µs	

CONFIGURATION OPTIONS



*Grid Ion Source must be configured with a tungsten filament

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