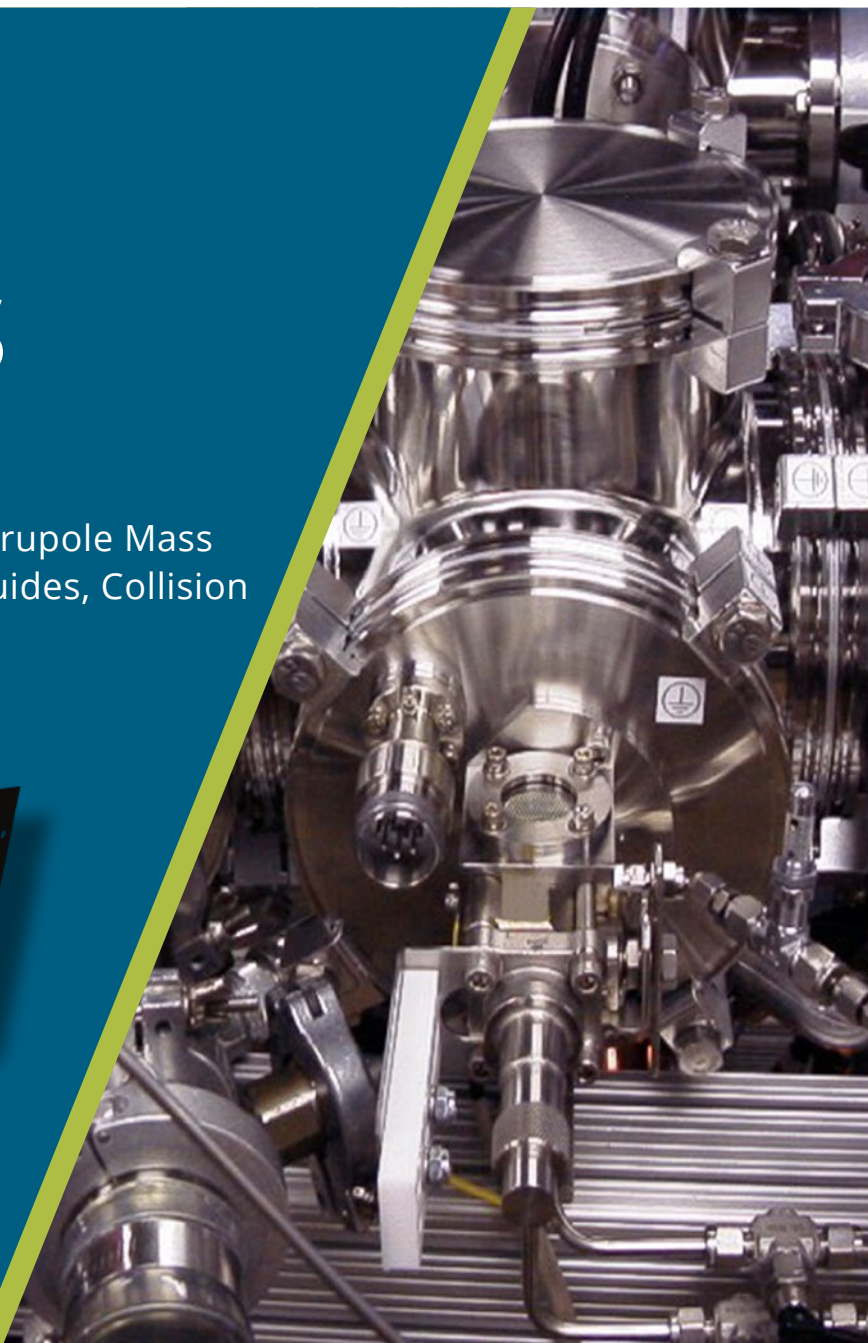


PRODUCT BROCHURE

440 kHz QPS

QUADRUPOLE POWER SUPPLY

A stand-alone power supply for Quadrupole Mass Filters, Octupole and Hexapole Ion Guides, Collision Cells and other RF Devices.



Precision performance

Stable control

**Your faster path
to accurate data**

Applications

- 4-16,000+ Da mass range
- Large ion quadrupole analysis
- Clusters
- Biomolecules

Bring your system the power of Extrel

The new 440 kHz QPS is a stand-alone quadrupole power supply that brings stability, flexibility, and increased mass range to Quadrupole Mass Filters, Octupole and Hexapole Ion Guides, Collision Cells and other RF devices.

Building on Extrel's reputation for precision and control, the 440 kHz QPS delivers the benefits of the QPS product range to anyone using a multipole ion device in their research.

Easy to use with your existing mass spectrometer, the 440 kHz QPS allows the user to optimize their quadrupole for the type of data their research requires.

Increasing the RF operating frequency increases sensitivity, resolution, and high-energy ion transmission, while increasing the quadrupole rod diameter increases ion transmission.

Smaller quads and lower RF frequencies maximize the mass range.

A highly cost-effective solution featuring exceptional accuracy, stability and performance, the 440 kHz QPS delivers results with the confidence the user needs.



Give your project the reassurance of an Extrel power supply

Cost-effective without compromise – Built on decades of expertise in the design and manufacture of quadrupole power supplies, the 440 kHz QPS combines market-leading performance with a highly affordable design that delivers exceptional ROI, year after year.

Expanded user audience – For stand-alone use, or in combination with other powerful components from Extrel. This enables faster project completion and avoids the pitfalls and delay of untested “homebrew” solutions.

Reliability – Zero peak-drift for stable, repeatable analysis and longer calibration intervals.

High Performance – Ultra-high throughput for maximum ion transmission

Get the benefits

Stability

The drift of a mass spectrometer system depends on its power supply. The 440 kHz QPS delivers rock-steady reliability, with retuning requirements reduced to the absolute minimum. Your system is ready to run when you are, for accurate, repeatable results every time.

Flexibility

The compatible capacitance range of the 440 kHz QPS has been increased fivefold over its predecessor, so it easily adapts to a broader range of RF or vacuum devices. The mass range has been expanded to 4-16,000+ Da, for high-performance analysis of larger molecules.

Cost-effectiveness

The 440 kHz QPS works straight out of the box, saving you time on system development, troubleshooting, and maintenance. The expanded mass range and modular approach provides a genuine alternative to high-cost magnetic sector or time-of-flight mass spectrometer systems.

Versatility

For stand-alone use, or combined with other powerful components from Extrel

- Quadrupoles (9.5 mm and 19 mm rod diameter)
- Hexapoles, octupoles and other ion guides
- Ionizers, benders, energy analyzers, and detectors
- Mounting flanges, pumps and cabling
- The MAX CS; Ionizer, Optics, and Scan Control System and software
- Fully-configured mass spectrometers, MS/MS systems, and residual gas analyzers

Key specifications

Example performance for a 9.5 mm quadrupole powered by the 440 kHz QPS

Mass range:

20-16,000 Da

Resolution:

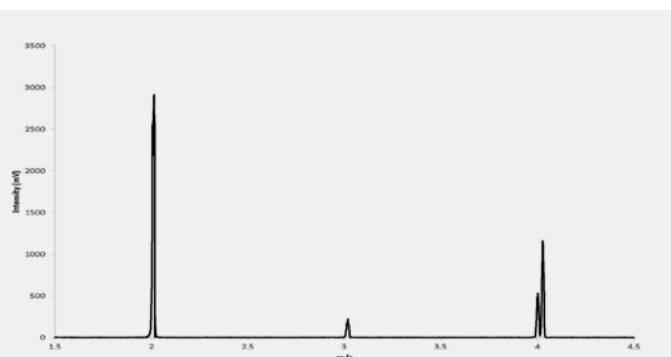
1000 M/ Δ M (FWHM)

Sensitivity:

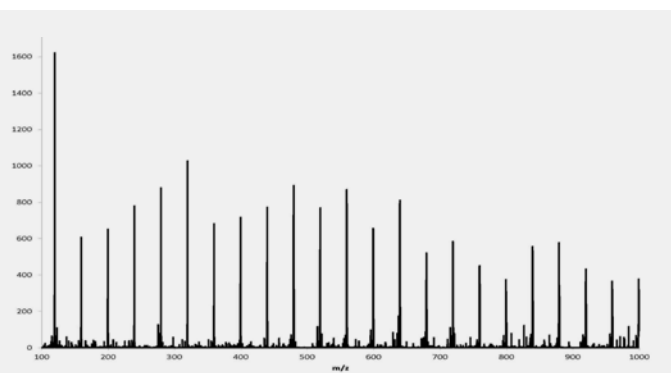
0.075 mAmp/Torr

Relative transmission:

20%



The Extrel QPS provides more stable high resolution data across a wider sweeping range.



Extrel QPS improves on the 150-QC's high mass transmission and sensitivity.

Specifications

Temperature Range:	15 to 40°C (59 to 104°F)
Humidity Range:	0% to 95% (non-condensing)
Particulates:	Normal Lab Environment
Power Input:	100 - 240 VAC with ground, 50/60 Hz, 290 W
Mounting:	Standard 19.00 inches Electronics Rack
RF Output Voltage:	Up to 3800 V Peak RF (Option Dependent)

Other frequencies available for the QPS from Extrel: 880 kHz, 1.2 MHz, 2.1 MHz, and 2.9 MHz

QPS chassis dimensions

Height:	222.3 mm (8.75 inches)
Width:	444.5 mm (17.50 inches)
Depth:	304.8 mm (12.00 inches)

Options

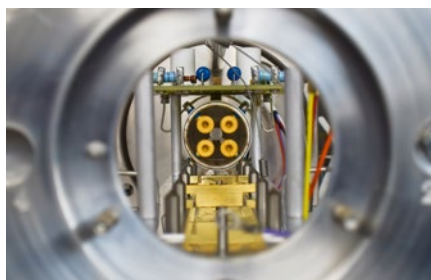
Single quadrupole

QPS RF Power Supply
1.5 m (5 feet) RF Cables
(1) Fixed Frequency QC
200 VDC Internal Pole Bias Power Supply
RF/DC and RF-only Operation

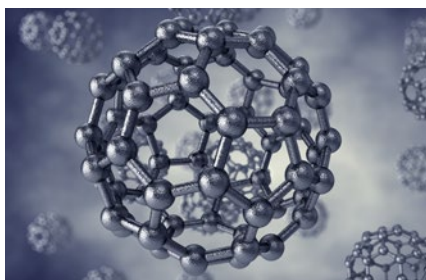
Triple quadrupole

Multiple Extrel QPS for MS/MS operation
Quad Specific Cable Lengths (ie. Q1, Q2, Q3)
Three (3) Fixed Frequency QPS(s)
200 VDC Internal Pole Bias Power Supply
RF-Only Q2 QPS for collision cell operation

Key applications



Large ion quadrupole analysis



Clusters



Biomolecules

PREMIUM INSIGHTS – GAIN REAL-TIME INSIGHT INTO YOUR PROCESS

Process Insights' products and solutions deliver innovative and differentiated analysis and measurement solutions and technologies that add high value to our customers and protect the environment.

Our commitment is to deliver smart and affordable innovation that optimizes process, improves safety, and transforms our world.

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