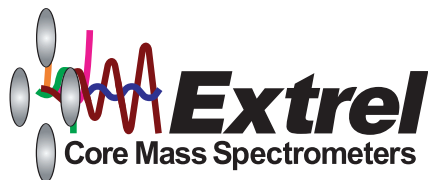


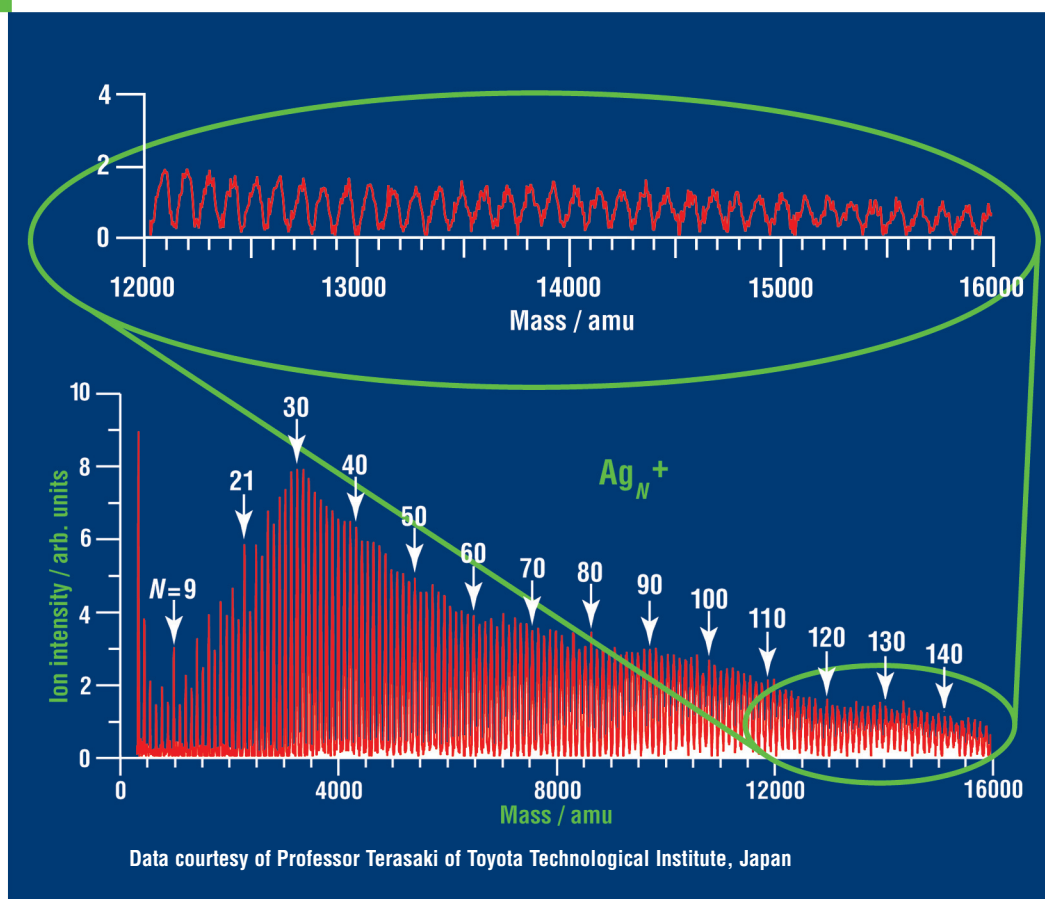
NEW PRODUCT!



Extrel extends its distinguished 150-QC product to offer mass ranges as high as 16,000 amu!

440 kHz 150-QC

Extrel has long been known as the premier supplier of quadrupole mass spectrometer components and systems for Research. Research in the clusters and nano-structure research community is exploring higher masses and larger structures, requiring more mass range. Along with higher mass ranges, researchers are depositing these clusters onto surfaces. Deposition requires higher ion current throughput. To achieve higher throughput, quadrupole mass filters require a larger inscribed diameter, which by definition requires larger rod diameters. Quadrupole theory dictates that this limits mass range unless the larger rods are operated at lower frequencies. As our customers' interests and technology has expanded, we have worked to meet their growing needs. The introduction of the 440 kHz 150-QC creates new capabilities in response to our customers' requests. The 440 kHz 150-QC creates two new QC and mass filter combinations with exceptional performance.

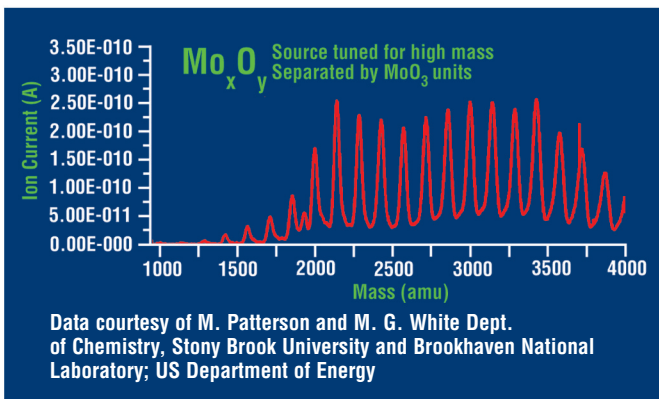


440 kHz 150-QC with 9.5 mm Tri-Filter

- 20 to 16,000 amu mass range
- Resolution 1000 (M Δ M) (FWHM)
- Sensitivity 0.075 mAmp per torr
- Relative Transmission 20%

The new 440 kHz oscillator is built on the standard Extrel 150-QC platform. If an existing Extrel user has an 880 kHz 150-QC running a 19 or 9.5mm quad, they can easily increase their mass range with an upgrade option that includes the oscillator and a

mass command board. This is an easy “drop-in” upgrade option. For additional specifications and benefits of the Extrel 440 kHz 150-QC, please view our web site or contact your Sales Representative.

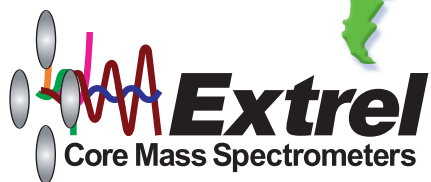


440 kHz 150-QC with 19 mm Tri-Filter

- 4 to 4000 amu mass range
- Resolution 1500 (MΔM) (FWHM)
- Sensitivity 0.75 mAmp per torr
- Relative Transmission 50%

150-QC Quadrupole Power Supplies Selection

RF Frequency	DC Power	Maximum Mass Range for Extrel Quadrupoles		
		6mm	9.5mm	19mm
440 kHz	300 Watts	N/A	16,000	4,000
880 kHz	300 Watts	9,000	4,000	1,000
1.2 MHz	100 Watts	N/A	800	200
1.2 MHz	300 Watts	N/A	2,000	500
2.1 MHz	300 Watts	N/A	500	120
2.9 MHz	300 Watts	N/A	260	60



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International Locations

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Independent Sales Representative