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The BrightSpec *Broadband* MRR Spectrometer is used for analysis of molecules in the size range 100-350 amu, enabling fundamental and applied research in a variety of analytical chemistry areas. It includes the full suite of measurement modes available in MRR spectroscopy, including the capability to determine diastereomer and regioisomer ratios, measure enantiomeric excess of chiral molecules, and perform quantitative mixture analysis. As a broadband instrument, this spectrometer is capable of measuring samples that have never been previously characterized by MRR.

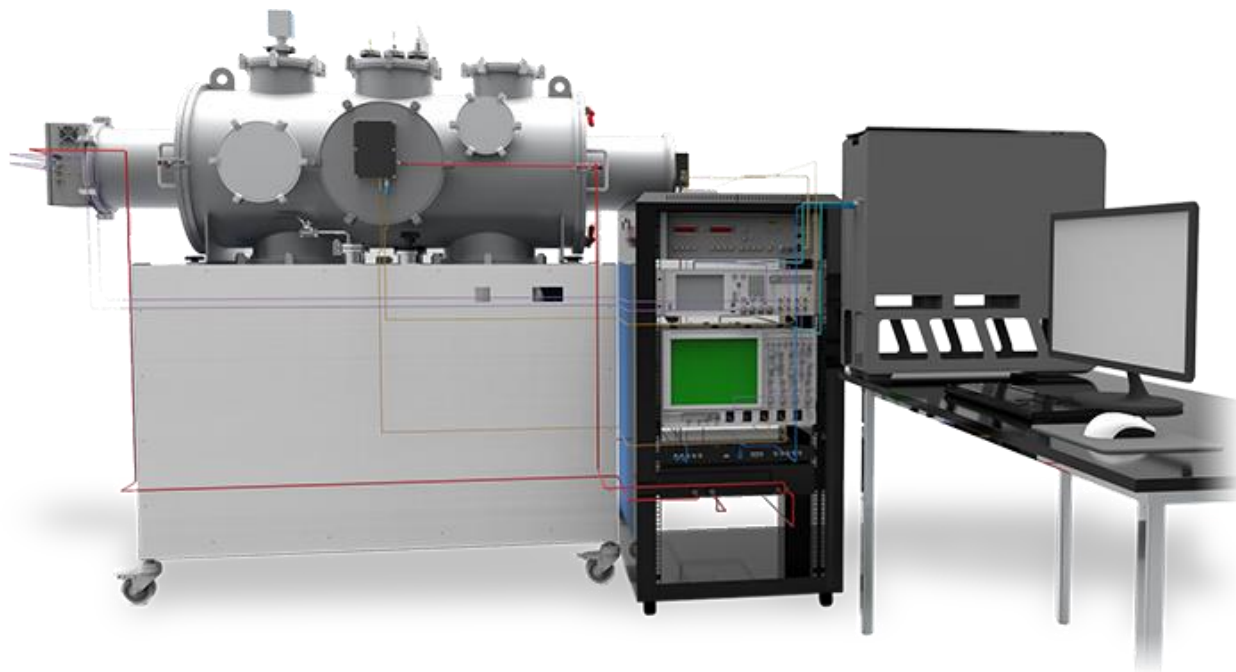
On the next page, a summary table of the key specifications of this spectrometer are presented. Following this, a brief functional and operational overview of the system is provided. Additional materials are available, including recent scientific publications and presentations, are available on the BrightSpec website at <http://www.brightspec.com/publications/>.

Key specifications of the *Broadband* MRR spectrometer.

Component/Specification	Description
Frequency Range	2-8 GHz
Radiation Source	65 GS/s Arbitrary Waveform Generator
Solid-State Broadband Amplifier	200 W traveling wave tube amplifier
Pulsed Nozzle Sources	3
Vacuum Pump	2 Diffusion Pumps (VHS-10) with suitable backing pump system
Base Pressure	$<10^{-5}$ Torr
Horn Antennas	2-18 GHz, Gain 10-22 dB
Detector	25 GS/s Digital Oscilloscope 4 channels, Bandwidth 8 GHz
Sample Acquisition Rate	Max 10 Hz

Modes of Operation

Broadband Survey
Enantiomeric Excess (Chiral Tagging)
Nutation Curve Measurement
Microwave-microwave double resonance



The Broadband MRR Spectrometer
