



• **Raman Spectrometers** for QA/QC and R&D Applications

Bruker offers dedicated analytical research and quality control solutions based on Raman spectroscopy.

- Fast, precise and non-destructive micro and macro analysis
- Powerful and easy to use software for data acquisition and processing
- High throughput screening
- Confocal Raman microscopy

The wavelength shift caused by inelastic scattering of monochromatic light on matter is called the Raman effect. It is specific to the molecules that cause it and can therefore be used in spectroscopic analysis. Its non-destructive and in-situ characteristic make Raman spectroscopy a powerful analytic tool. Raman is suitable for extracting important molecular information from solid and liquid samples, which provides information about the identity, quantity, structure or conformation of substances.

Bruker introduced its Fourier transform (FT) Raman product line shortly after the technique was first reported in late 1980s. Since then, continual hardware and software improvements maintain Bruker's tradition of innovation and excellence for Raman spectroscopy. More recently, Bruker started utilizing dispersive Raman technology by combining years of experience to bring innovative solutions to the market.

Today, Bruker offers multiple dispersive and Fourier transform (FT) Raman spectrometers for analytical, research and QC applications.



SENTERRA II

- Dispersive Raman microscope
- Highest degree of automation
- SureCAL™ Automated Calibration

SENTERRA II

The SENTERRA II defines a new level of spectroscopic performance and user friendliness in the class of compact Raman microscopes. SENTERRA II is designed to deliver excellent sensitivity combined with high resolution and state-of-the-art imaging performance.

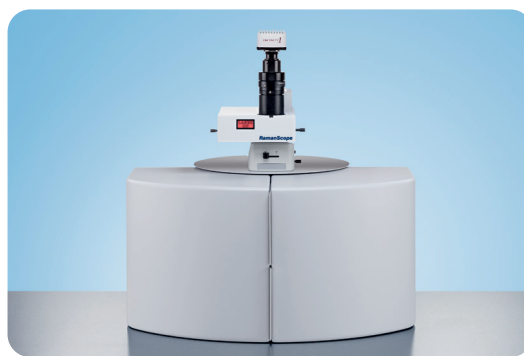
Automation, workflow and operation have been optimized to perfectly prepare the SENTERRA II for daily routine analysis in research and quality control laboratories. Unmatched permanent stability of the wavenumber axis guarantees precise and accurate results every time. Therefore, the SENTERRA II is the platform of choice for conducting the most challenging research.

RamanScopeIII

The RamanScopeIII has been developed taking advantages of the recent improvements in optical microscopy and Bruker's over 25 years of experience in FT-Raman microscopy. It is a powerful, compact, benchtop FT-Raman microscope for non-destructive microanalysis. The RamanScopeIII can be combined with SENTERRA II on a 'hybrid' platform.

The 'hybrid' platform enables the use of both FT-Raman microscopy at 1064nm and dispersive Raman microscopy in the visible.

Technologies used are protected by one or more of the following patents:
US 6141095; US 7102746



RamanScopeIII

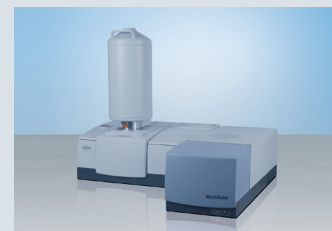
- FT-Raman microscope
- 'Hybrid' technology
- Minimized fluorescence

MultiRAM

Bruker's MultiRAM is a stand-alone high performance Fourier transform Raman spectrometer. When sample fluorescence is a problem, FT-Raman analysis with near infrared excitation at 1064 nm is the solution. As sample fluorescence can be orders of magnitude more intense than Raman scattering, the presence of fluorescence often precludes the observation of Raman scattering. The MultiRAM has a large sample compartment to utilize an extensive range of pre-aligned sampling accessories featuring Bruker's automatic accessory recognition. The new Raman video stage makes Raman analysis a breeze. The MultiRAM can accommodate a second laser and detection system for use with 785nm.

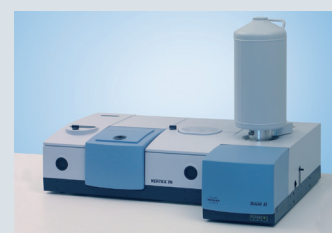
RAM II

The FT-Raman module RAM II is the first dual channel FT-Raman accessory for combined FTIR/FT-Raman spectrometers. The module is designed for researchers who are used to the flexibility of switching between different Raman laser wavelengths and do not like to miss the complementary information from the FTIR. The RAM II module is equipped with standard 1064nm excitation for utmost suppression of fluorescence and optionally with a second excitation line at 785nm.



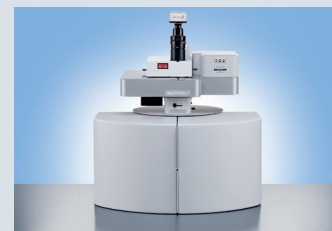
MultiRAM

- Stand-alone FT-Raman Spectrometer
- Can be coupled to FT-Raman Scope III
- Stokes shift to 50 cm



RAM II

- FT-Raman module that can be coupled to FTIR spectrometers
- 24-bit dynamic range ADC



"Hybrid" Raman Microscopy

- Combined platform of FT and dispersive microscopy
- Up to 4 excitation lasers including 1064nm

Bruker Optics is ISO 9001 and ISO 13485 certified.

Class 1 with safety enclosure, exceeds class 1 without safety enclosure.

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