

Raman Microprobe

The Raman microprobe is a popular accessory for the *RAMANRXN1™* analyzer as it adds an additional sampling option to an already versatile analyzer. The ability to expand the **RAMANR**XN1[™] analyzer for microscopic measurement allows the user to obtain such popular Raman scope features as Raman images, sample visualization, and image capture without the purchase of an additional dedicated system.

The Raman microprobe provides complementary microspectroscopy information on fundamental molecular vibrations to mid-infrared FT-IR microscopes. Using excitation wavelengths in the visible spectral region, a Raman microprobe is capable of analyzing diffraction-limited areas (typically 1 micron). The ability to identify areas 10 times smaller in size than can be determined by FT-IR microscopy and the non-contact / no sample preparation nature of the technique are some of the many advantages of Raman microscopy.

The microprobe is offered with an optional Class 1 laser radiation light shield for operation in a standard laboratory environment. The Raman microprobe can be configured with optional high-precision mapping stages.

The combination of the fiber-coupled spectrometer and microscope, in conjunction with a thermally stabilized microscope and high-precision motorized XYZ stage, allows for routine collection of Raman images.

Kaiser offers software for video capture, stage control, and realtime chemical image generation. Captured video and Raman images are available in standard formats for incorporation into reports and presentations. Spectra may be user-exported into other applications including library searching and databasing.

Standard Features

- Patented Thermally Stabilized **Optical Microscope**
- Reflected-light Illumination
- Real-time Color CCD Camera with PC-compatible Image Grabbing System
- Real-time Continuous Viewing of Laser Spot in White Light and Raman Mode
- Class 1 Light Shield

Optional Features

- Motorized Stage / Mapping
- Imaging Software
- Polarization Raman
- Long Working Distance Objectives
- Transmission Light Illumination
- Polarization Light Upgrade

Diffraction Limited Raman Microscopy & Imaging





x-axis (microns)

Microprobe

- Complementary Spectroscopic Information to FT-IR Microscopy
- High Spatial Resolution (1 micron)
- Simultaneous Full Spectral Coverage Provides Survey Information at all Sample Positions
- Integrated Real-time Color Video Display and Capture with Direct Viewing of the Laser Location
- Autofocus Mode for Rough Samples Allows for Maximum Signal Collection During Long Acquisitions and Identification of Surface Profile Effects
- Raman Imaging
- Quantitative Chemical Distribution Information Available

Applications

- Semiconductors
- Pharmaceuticals (API & Formulations)
- Carbon Films, Nanotubes
- Geology, Geochemistry, Inclusions
- Catalysts
- Inks, Pigments, Forgeries
- Polymers and Blends
- Forensics
- Art & Archeology
- Failure Analysis
- Gemstones, Semiprecious Stones
- Minerals



Raman Microprobe

Specifications:

Laser Wavelength: 532nm, 785nm Spectral Coverage: 100-4325 cm⁻¹ (532nm), 100-3425 cm⁻¹ (785nm)



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Microprobe:

Enclosure Type: Painted Aluminum and Plastic Enclosure Features: Electrically Interlocked, Class 1 Microscope Type: Upright, Metallurgically Type Warm-up Time: 20 minutes Operating Voltage: 100–240 V, 50–60 Hz (maximum) Dimensions: 26" × 25" × 25" (width \times length \times height) (66 \times 63.5 \times 55.9 cm) Weight: 80 lbs. (36.36 kg)



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