

Raman Microscope

Description/Parameters

The ThermoFisher DXR3xi Raman Microscope is a high-performance dispersive Raman spectrometer designed for advanced material characterization. The instrument operates with laser excitation in various wavelengths and offers high spatial resolution for both point and imaging-based Raman spectroscopy. It is equipped with an automated microscope stage for precise sample positioning and is optimized for non-destructive chemical and structural analysis.

- **Spectral Range:** 50 - 4000 cm^{-1}
- **Excitation Lasers:** 532 nm, 633 nm, 785 nm
- **Spectral Resolution:** Down to 1 cm^{-1}
- **Objective Lenses:** 10x, 50x, 100x magnifications available
- **Raman Imaging:** High spatial resolution Raman mapping with automated stage
- **Operating Software:** Thermo Scientific OMNICxi
- **Detector:** CCD (Charge-Coupled Device) for high sensitivity and low noise

Utilization/Services

The DXR3xi Raman Microscope offers versatile measurement modes for advanced material characterization, including point spectroscopy, chemical mapping and imaging, depth profiling of multilayer structures, and in situ analysis for real-time monitoring of reactions. It is widely utilized in research and industry for the characterization of nanomaterials (e.g., carbon nanotubes and graphene), polymers and organic compounds, semiconductors and thin films, as well as pharmaceuticals and biomaterials, enabling non-destructive identification of composition, structure, and material properties.



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