






Raman spectroscopy

Thermo Scientific Raman Microscope and Spectrometer Selection Guide

Choose the right Thermo Scientific™ Raman Microscope, Spectrometer or Analyzer for your specialized work. Because the needs of a process engineer, a manufacturing QA/QC director, or a lab researcher all differ in specific ways, we have multiple instrumentation options to meet different requirements. Use this selection guide to find the Raman analytical instrument that best fits your chemical identification and process measurement needs.

	Microscopes		Macro/benchtop spectrometers		Process
					
	Thermo Scientific™ DXR3xi Imaging Microscope	Thermo Scientific™ DXR3 Microscope	Thermo Scientific™ DXR3 SmartRaman Spectrometer	Thermo Scientific™ DXR3 Flex Raman Spectrometer	Thermo Scientific™ MarqMetrix™ All-in-One Process Raman Analyzer
High-level capabilities and use-case scenarios	<ul style="list-style-type: none"> High-speed Raman imaging for large areas (mm² – cm²) 3D confocal imaging and terrain imaging (flat and non-flat surfaces) 	<ul style="list-style-type: none"> Point-and-shoot measurements of micron-sized samples Small-area imaging (µm² – mm²) 	<ul style="list-style-type: none"> Bulk sample analysis Analysis of powders, tablets, liquids, etc. Auto-sampling for high-throughput analysis 	<ul style="list-style-type: none"> Compact system designed for common samples with easy switching of accessories and for hyphenation Laboratory process development 	<ul style="list-style-type: none"> In-line, on-line, or at-line process monitoring Macro measurements Direct integration to process control systems
Industries	Batteries, graphene, pharma, semiconductor, environmental, materials, polymer/chemical, academic research, forensics				Pharma/biopharma, oil/gasoline, batteries, polymer/chemical, food/beverage
Key users	Researchers, manufacturing QA/QC, engineers				Process engineers, quality engineers, MSAT scientists, process development engineers
Lasers supported	455 nm, 532 nm, 633 nm, 785 nm				785 nm
Key features and benefits	<ul style="list-style-type: none"> Rapid area imaging provides rich chemical spatial information Confocal measurement provides information of the layers within a sample without having to slice the sample Terrain imaging obtains chemical information from both flat and uneven samples 	<ul style="list-style-type: none"> Confocal measurement provides information of the layers within a sample without having to slice the sample Micron-level spatial resolution for point-and-shoot and for small-area imaging generates research-grade Raman information 	<ul style="list-style-type: none"> Performs auto-sampling (tablets, vials, or cuvettes) and has the ability to measure through various containers Validation option makes this instrument a good choice for pharma and other validated environments 	<ul style="list-style-type: none"> Compact size allows the instrument to be moved easily between labs Walk-up instrument design enables macro-measurements, micro-measurements, fiber probe-based measurements, and hyphenation 	<ul style="list-style-type: none"> Compact size saves valuable space One-button hardware and simple-to-use software allow for users of all experience levels to work with Raman Factory calibrated with no moving parts, requiring minimal maintenance Stackable units facilitate multi-system implementation Versatile family of probes enables multiple forms of measurement

Learn more at thermofisher.com/Raman

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