

GENERAL MICROTECHNOLOGY **& PHOTONICS**

Raman Probes Fiber Optic Probes for Raman Spectroscopy

We offer a number of fiber optic probes that are built specifically for Raman spectroscopy. The RIP-Series probes from InPhotonics provide optical filtering of the Rayleigh line and highsignal collection in a compact, rugged design. Compatible with Ocean Optics Raman systems, these probes are suitable for laboratory, industrial and environmental applications and are available for several excitation wavelengths.



General Purpose

Item Code	Description	Dimensions
RIP-785-0.26	Raman Probe for 785 nm laser, steel jacketed fibers	107 x 38 x 12.7 mm, 0.26 m steel-jacketed fiber
RIP-RPB-532	Laboratory probe for use with lasers up to 3 nm from specified operating wavelength	107 x 38 x 12.7 mm, 9.5 OD x 38 mm extension, 1.5-meter fiber
RIP-RPB-532-FC	Raman coupled fiber probe for 532 nm with FC connector	107 x 380 x 9.57 mm, 1.5-meter fiber
RIP-RPB-785-FC	Raman coupled fiber probe for 785 nm with FC connector 7.5 mm working distance	107 x 380 x 9.57 mm, 1.5-meter fiber
RIP-RPB-785-SS	Raman coupled fiber probe for 785 nm with SMA connector 7.5 mm working distance	107 x 380 x 9.57 mm, 1.5-meter fiber
RIP-RPS-532	Stainless-steel focused probe 12.7 mm diameter	12.7 OD x 108 mm, 5-meter fiber
RIP-RPS-532-IP	Stainless-steel focused probe for 532 nm excitation wavelength setups	12.7 OD x 108 mm, 5-meter fiber
RIP-RPS-785	Stainless-steel focused probe for 785 nm excitation wavelength setups	12.7 OD x 108 mm, 5-meter fiber
RPB-785-0.6	Raman coupled probe for 785 nm, steel jacketed fibers	107 x 38 x 12.7 mm, 0.6 m steel-jacketed fiber

Immersion Probes

Item Code	Description	Dimensions
RIP-RP2-532	Stainless-steel immersion probe is immersible up to 200 $^\circ C$ and has adjustable working distance for 532 nm excitation wavelength setups	15.87 OD x 230 mm; 5-meter fiber
RIP-RP2-785	Stainless-steel immersion probe is immersible up to 200 °C and has adjustable work- ing distance for 785 nm excitation wavelength setups	15.87 OD x 230 mm; 5-meter fiber
RIP-RPR-H-532	Hastelloy C immersion probe for use in process control applications up to 200 °C and 1500 psi; comes with sapphire window and has adjustable working distance for 532 nm excitation wavelength setups	15.87 OD x 230 mm; 5-meter fiber
RIP-RPR-H-785	Hastelloy C immersion probe for use in process control applications up to 200 °C and 1500 psi; comes with sapphire window and has adjustable working distance for 785 nm excitation wavelength setups	15.87 OD x 230 mm; 5-meter fiber
RIP-RPR-SS-532	Stainless-steel immersion probe for use in process control applications up to 200 °C and 1500 psi; sapphire window with adjustable working distance for 532 nm excitation wavelength setups	15.87 OD x 230 mm; 5-meter fiber
RIP-RPR-SS-785	Stainless-steel immersion probe for use in process control applications up to 200 °C and 1500 psi; sapphire window with adjustable working distance for 785 nm excitation wavelength setups	15.87 OD x 230 mm; 5-meter fiber

Process Probes

Item Code	Description	Dimensions
RIP-RPP-532	Stainless-steel probe with external optics for process control applications up to 500 °C and 3000 psi; comes with sapphire lens and has short working distance for 532 nm excitation wavelength setups	9.52 OD x 300 mm; 5-meter fiber
RIP-RPP-785	Stainless-steel probe with external optics for process control applications up to 500 °C and 3000 psi; comes with sapphire lens and has short working distance for 785 nm excitation wavelength setups	9.52 OD x 300 mm; 5-meter fiber

Raman Probe Accessories

Item Code	Description
OOA-RAMAN-SH	Raman Sample Holder
RAM-PR-I	Raman Immersion Measurement Tube
RIP-PA-SH	Compact Raman Sample Holder

For more on sample holders, see page 201.





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Raman Accessories RSM Video Raman Microscope



RSM Video Raman Microscope for PeakSeeker 532 Systems Item Code: RAM-RSM-MIC-532

RSM Video Raman Microscope for PeakSeeker 785 Systems Item Code: RAM-RSM-MIC-785

Raman Accessories MSK Raman Microscope Kit

The Raman Systems RSM Video Raman Microscope is an upright laboratory microscope that couples to PeakSeeker Raman systems (sold separately). The RSM comes with a reflected light, Brightfield illuminator and a USB color video camera.

The USB color video camera facilitates precise sample positioning of the laser spot from the Raman spectrometer onto a solid sample surface.

Specifications	
Eyepiece:	Wide field 10X (22 mm) binocular
Objectives:	Infinity corrected
Magnification working distance:	4X 25 mm 10X 11 mm 20X 8 mm 50X 1.9 mm
Sample stage:	Dimensions: 190 mm × 150 mm
X-Y Range:	75 mm × 50 mm (manual)
Focusing:	Coaxial coarse and fine adjustment Fine focusing scale 0.002 mm
Illumination:	Brightfield Kohler 12V 30W brightness variable
Camera:	1.3 MP Color CMOS USB 2.0 C-mount 1.8 meter long USB cable 0.5X image reduction lens 0.01 mm line width stage micrometer Software CD



MSK Raman Microscope Kit for PeakSeeker 532 Systems Item Code: RAM-MSK-MIC-KIT-532 MSK Raman Microscope Kit for PeakSeeker 785 Systems Item Code: RAM-MSK-MIC-KIT-785 Turn your lab microscope into a Video Raman Spectroscope with the MSK Kit. The MSK has a Raman beamsplitter module that mounts below the eyepiece assembly and a USB color video camera that mounts onto a port above the eyepiece.

The Raman Beamsplitter Module works with Peak Seeker systems and mates to the external fiber optic probe. The Color Video Camera facilitates precise sample positioning of the laser spot from the Raman spectrometer.

The MSK Raman Microscopy Kit can be used with most modular upright microscopes fitted with reflected light illumination and infinite plan achromat objectives. The kit works with reflected light Kohler illuminators, fiber optic illuminators or a compact white LED Brightfield illuminator specially designed for the MSK (RAM-MSK-LED, sold separately).

Components

Color Video Camera (included with kit): 1.3 MP Color CMOS Camera USB 2.0 C-mount 1.8-meter USB Cable 0.5X Image Reduction Lens 0.01 mm line width stage Micrometer

Raman Accessories Sample Holders

The OOA-HOLDER-RFA is a multipurpose sampling fixture that acts as a holder for Raman, fluorescence, absorbance and reflection measurements. Unlike other Raman sample holders, the OOA-HOLDER-RFA can be adjusted for a variety of lab techniques. Here are other notable features:

- Mobile XY-axis stage makes it easier to adjust the focus of your Raman probe
- Holder adjusts to accommodate 6.35 mm (1/4"), 9.5 mm (3/8") and 12.7 mm (1/2") OD probes
- Includes mirror and cuvette plugs to increase signal in absorbance and reflection measurements
- Has 90-degree cross-angle design for fluorescence measurements

The OOA-HOLDER-RFA is compact, lightweight and easy to load and unload. The holder offers other advantages as well: making it easier to block the ambient light with cuvette measurements; protecting against the damage caused by contact between the probe and cuvettes; fixing the probe in place using a simple setscrew; and allowing more freedom in adjusting the focus of the excitation light. Idem Code: OOA-HOLDER-RFA

OOA-HOLDER-RFA Specifications		
Dimensions:	110 mm x 70 mm x 130 mm LWH (standard); 155 mm x 70 mm x 162 mm (optional)	
Material:	Aluminum	
Mobile optical stage:	X axis = 10 mm	
	Z axis = 12.5 mm	
Probe sizes accommodated:	Raman probes = adjustable for 9.5 mm (3/8") or 12.7 mm (1/2") OD	
	Reflection probes = 6.35 mm (1/4") OD	
Cuvette pathlengths accommo- dated:	1 cm and 0.1 cm	
Cuvette plug dimensions:	15 mm x 5.7 mm x 45 mm for 0.1 cm path- length cuvette	
Mirror plug dimensions:	15 mm x 5.7 mm x 45 mm	
Mirror plug wavelength range:	200-2500 nm; options available with better resistance to oxidization and fraying and with higher reflectivity at UV wavelengths	



Raman Sample Holders

Our Raman-only sample holder is a handy tool for analyzing liquids (and other specimens) using Raman probes and cuvettes. Its modular design makes it capable of accommodating a variety of cuvettes and vials. Item Code: OOA-RAMAN-SH

Raman Caps

The RAM-MC-L Cap can be used for measurements through the walls of vials, bottles and other containers. Item Code: RAM-MC-L

Our RAM-MC-S Cap is for direct contact with solids, tablets, powders, liquids and other samples. Item Code: RAM-MC-S

The RAM-MC-VC is a verification calibration that is loaded with spectroscopic-grade Teflon. Item Code: RAM-MC-VC

Raman Accessories The Finishing Touch to Your Setup

Substrates and Standards

Klarite substrates provide a unique solution for trace-level molecular analysis using Surface Enhanced Raman Spectroscopy (SERS). SERS can help increase the sensitivity of Raman by many orders of magnitude, extending the range of Raman measurements to as low as parts-perbillion levels.

Surface Enhanced Raman Substrates mounted on glass slides (set of 5) Item Code: RAM-SERS-KLARITE-5

Surface Enhanced Raman Substrates unmounted (set of 5) Item Code: RAM-SERS-KLARITE-OEM-5

Safety First

We offer laser safety goggles for use with 532 nm and 785 nm lasers. Item Codes: RAM-GG-532, RAM-GG-785

Analyze IQ Software Accurate Analysis of Spectroscopic Data

Analyze IQ Lab is an analytical chemistry software package designed for use in commercial R&D, forensics labs and academic research labs. Analyze IQ is designed to supersede existing software packages for spectral analysis and chemometrics.

In addition to standard chemometric techniques Analyze IQ provides users with access to innovative machine learning techniques that have been designed for spectral analysis. Testing has shown that these proprietary methods are more accurate than standard techniques, particularly when analyzing complex mixtures.

Analyze IQ Lab is the perfect complement to Ocean Optics' Raman spectroscopy systems.

Analyze IQ Lab

The analytical chemistry software package designed for chemometric techniques such as PCR.

- Advanced spectral analysis
- Intuitive user interface
- Broad range of pre-processing options

Item Code: RAM-ANIQ-LAB

Spectra Manager

This spectral database and data management software allows you to easily manage your own library of spectra.

- Store CAS registry numbers and QA details
- Retrieve and list spectra by IUPAC and common names
- Track mixtures that use the same materials by lot numbers Item Code: RAM-ANIQ-SPEC-MGR



Raman Spectra Library

Available as an option to Spectra Manager, the Raman Spectra Library is a curated library of 1,870 Raman spectra, including the exact composition of each material and all associated data. You can incorporate a wide range of additional data, including manufacturer, lot, appearance, purity, IUPAC name, common name and more. Item Code: RAM-ANIQ-RAMAN-LIB

Predictor

Predictor is the embedded software module that deploys analytical models built using Analyze IQ Lab into third-party software packages. Its lower CPU and storage requirements make it perfect for integration into portable systems.

The power of laser-induced breakdown spectroscopy is in your grasp with modular and turnkey LIBS options from Ocean Optics.

Select our newest offering, the fully-integrated Insight[™] LIBS platform^{*} or customize your setup with our modular LIBS components, including laser and high-resolution spectrometers.



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* The Insight LIBS system combines Ocean Optics high-resolution spectrometers with laser, sampling chamber and other components from Photon Machines – a world-class manufacturer of laser-based instrumentation