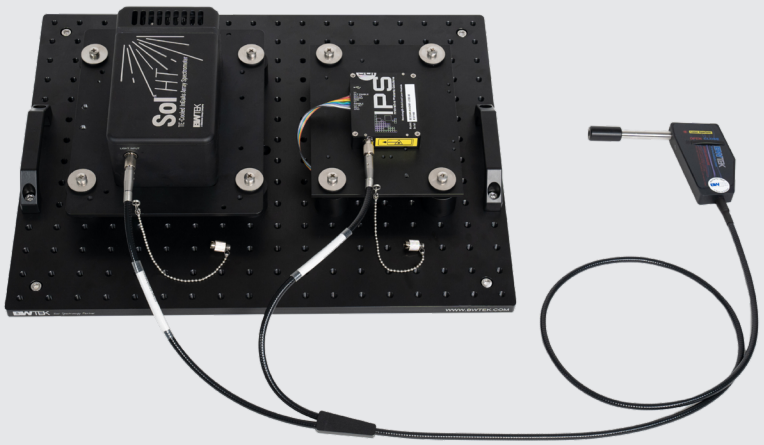
Discover It Yourself 1064 nm Raman System

The Discover-It-Yourself series from Metrohm Spectro is designed to help develop a new Raman application. These flexible systems can be customized for your requirements. Start from a pre-configured DIY system or build your own from our selection of lasers, sampling probes, and detectors.



Spectrometers Made for Raman

With options to maximize performance, B&W Tek component spectrometers deliver exceptional sensitivity and accuracy. High-performance electronics and cooled detectors help give unmatched repeatability, even over long integration times. For all measurements, from visible measurements to the NIR, our systems help you discover more.

Wavelength Stabilized Lasers

IPS lasers drive the DIY systems. The lasers utilize wavelength stabilization using a unique technology that "locks" the laser to the desired spectral line and narrow linewidth. This provides narrow wavelength sources that remian locked at the desired wavelength regarless of ambient temperature changes, vibrations, back reflections, and time.

Fiber Optic Probes for Repeatable Sampling

Repeatable sampling is required for accurate Raman data. Fiber optic probes are a convenient and reliable way to measure Raman signals. Our off-axis Raman probes feature a built-in shutter and integrated fiber bundle protected by a flexible stainless-steel jacket. The removeable shaft makes the probes compatible with other sampling accessories. The embedded optical filter allows data to be collected within 150 cm^{-1} of the laser excitation.

Software

Metrohm offers both BWSpec® software and Software Development Kit (SDK) packages enabling solutions suited for various Raman applications.

BWSpec®

BWSpec® is a spectral data acquisition software. This software includes a wide range of tools, designed to perform measurements and calculations at the click of a button. It offers multiple data formats and allows users to optimize acquisition parameters, such as integration time and laser power. This also includes automatic dark removal, and manual/auto baseline correction.

Software Development Kit (SDK)

SDKs allow users to control the DIY systems through customized interfaces. Fundamental laser and spectrometer control for data acquisition, calibration, and transfer is possible. The SDK package is designed for 32 and 64-bit windows operating system and available for all our USB-based systems.

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Sample Applications

Clinical Diagnostics
Blood Gases, Pathogen Identification, Skin Diagnostics, Bone Density

Food and Agriculture
Food Safety, Seed Characterization and Diagnostics, Crop Quality

Pharmaceutical
API and Excipient Identification, In-Line Tablet Characterization

Semiconductor
Wet and Dry Supply Chain, Electrical Properties, Materials Matrix, Thin Film Characterization

Biomedical
Biopharmaceutical Growth Monitoring

Research & Development
Method Development, Product Development, Process Raman Integration

Research-Grade

Spectrometer Options	Sol HT
Raman Shift Coverage	150 to 2500 cm^{-1}
Coverage Range	1047 to 1450 nm
Resolution Range	10 cm^{-1} @ 1296 nm
Detector Type	Linear InGaAs Array
Thermoelectric Cooling	-20°C @ relative humidity ≤ 90%
Laser Options	**450 mW or 800 mW**

Probe Options	Industrial-Grade	Laboratory-Grade
Laser Blocking	OD6 Default	OD6 Default
Shaft Material	316 Stainless Steel	304 Stainless Steel
Shaft Length	203.2 mm (8 in.)	76.2 mm (3 in.)
Shaft Diameter	12.7 mm (0.5 in.)	9.4 mm (0.21 in.)
Working Distance	5.5 mm (0.21 in.)	5.9 mm (0.23 in.)
Maximum Operating Temperature	200 °C (392 °F)	80 °C (176 °F); Non-immersive use

Spectrometer Note: The start range of Raman shift is dependent on the selected probe.

Laser Note: The 1064 nm laser product is built as per the specifications of the customer and sold solely as a component (or a module) to incorporate into other equipment. The purchaser assumes responsibility to comply with US FDA21 CFR 1040 with regard to the use of this laser and its introduction into commerce.