



i-Raman Plus 532H Portable Raman Spectrometer


BWT-840000360

The i-Raman[®] Plus 532H is part of our award-winning series of i-Raman portable Raman spectrometers powered by our innovative intelligent spectrometer technology. Using a high-quantum-efficiency CCD array detector with TE cooling and high dynamic range, this portable Raman spectrometer delivers excellent performance with low noise, even at integration times of up to 30 minutes, making it possible to measure weak Raman signals.

The i-Raman Plus 532H features the unique combination of wide spectral range and high resolution with configurations which allow measurements from 65 cm^{-1} to $3,400\text{ cm}^{-1}$. The system's small footprint, lightweight design, and low power consumption ensure research-grade Raman analysis capabilities at any location. The i-Raman Plus is equipped with a fiber probe for easy sampling, and can be used with a cuvette holder, a video microscope, an XYZ positioning stage with a probe holder, as well as our proprietary BWIQ[®] multivariate analysis software and BWID[®] identification software. With the i-Raman Plus, you always have a high precision Raman solution for qualitative and quantitative analysis.

Below, the accessories are grouped into Scope of delivery and Optional accessories.
Please keep this printout at hand for ordering replacement material.
These lists may be subject to change.

Scope of delivery BWT-840000360

Qt.	Order no.	Description
1 PCS	BWT-810000044	BWSpec Software
		<p>BWSpec[®] is B&W Tek's general spectroscopy software for instrument control and data acquisition, including real-time peak analysis and trending. BWSpec is the operating software included with the purchase of all B&W Tek portable Raman systems and spectrometer products. It is designed with features for broad range applications, performing complex measurements and calculations at the click of a button. It supports multiple data formats and provides the option to optimize measurement parameters, such as integration time and laser output power control. In addition to data acquisition and data processing, it also offers automatic dark removal, spectral smoothing, baseline correction, as well as peak monitoring and trending.</p> 
1 PCS	BWT-840000009	Laser safety goggles (532 nm)
		<p>Laser safety goggles for 532 nm lasers – suitable only for Class IIIB laser systems from B&W Tek.</p> 
1 PCS	BWT-840000289	Portable Raman Instrument Validation Cap
		<p>Validation Cap with integrated ASTM-standard polystyrene for use with the BAC100/BAC102 lab-grade Raman Probe with shaft diameter of 9.5 mm.</p> 

Lab grade fiber optic Raman probe module for cut-on start from 65 cm^{-1} with hand trigger, $105\text{ }\mu\text{m}$ diameter, 0.22 NA fiber for 532 nm excitation, $200\text{ }\mu\text{m}$ diameter, 0.22 NA for Raman pickup. Optical density >6 ; 1.5 m fiber length terminated in SMA905 on the spectrometer end and FC/PC on the laser end. Adhesive sealed quartz window for non-contact sampling. 5.4 mm working distance. Not for immersive use.



Optional accessories

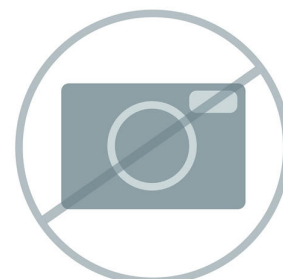
Order no.	Description
BWT-810000389	<p>Raman Cuvette Holder for 9.5 mm measurement probe</p> <p>The BCR100A Raman cuvette holder allows you to easily measure Raman spectrum of liquids and powders by attaching a Raman probe to the holder. This accessory part uses an internal mirror with a three-point precision locking mechanism for unmatched reproducibility, thereby increasing the Raman signal up to 3x higher than conventional cuvette holders. It is designed so that the probe shaft does not directly contact the cuvette and includes a light trap to reduce background fluorescence. The BCR100A is available in model versions for probes with a diameter of 9.5 mm or 12 mm and can be used with any standard cuvette of 12.5 mm x 12.5 mm outer diameter (1 cm path length) for sampling liquids or powders.</p> 
BWT-810000468	<p>Connection cleaner</p> <p>Cleaner for SMA905 and FC/PC connections.</p> 
BWT-810000623	<p>Microscope head tripod adaptor</p> <p>BAC151x-TRI tripod adapter for the BAC151x sampling system with Raman video microscope.</p> 
BWT-810000682	<p>External rechargeable battery pack for portable Raman instruments</p> <p>External Lithium-Ion battery that provides constant 12 VDC. (Compatible with the i-Raman-Plus, i-Raman Pro and i-Raman EX models).</p> <p>EBP106</p>



BWT-810000719 Power cord for EU power for use with portable Raman systems

Power cord for EU power for use with portable Raman systems.

BWPC-EU



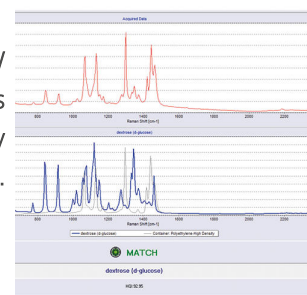
BWT-840000117 Raman Flow Cell (BAC160-SS)

Raman flow-through cell made of stainless steel, for inline Raman measurements of liquid samples by interfacing with standard laboratory probe (9.5 mm diameter; probe is not included in scope of delivery).



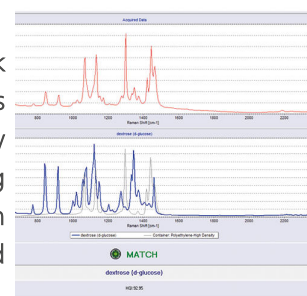
BWT-840000126 BWID Standard Raman ID Software

Data acquisition, material identification and reporting software for B&W Tek portable Raman spectrometers to rapidly identify or verify materials based on user-built libraries, proprietary B&W Tek and third-party libraries. Includes system performance tests. One user license provided. Free upgrades included within one year of purchase date.



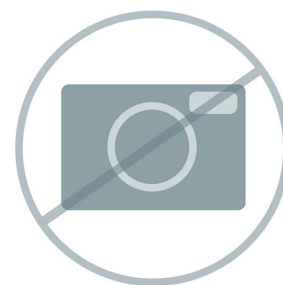
BWT-840000127 BWID Pharma Raman ID Software

Data acquisition and material identification software for B&W Tek portable Raman spectrometers to rapidly identify or verify materials based on user-built libraries, proprietary B&W Tek and third-party libraries. Meets all the requirements of FDA 21 CFR Part 11, including system access security, audit trail of data activities, and system performance tests. One user license provided. Free upgrades included within one year of purchase date.



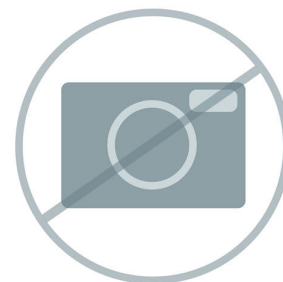
BWT-840000130 Immersion shaft for portable Raman instruments

Optional immersion shaft for BAC100/BAC102 Raman probes with an excitation wavelength of 532 nm or 785 nm. Equipped with a 76.2 mm long body made of 316L stainless steel with an outer diameter of 12.0 mm and a silica window that is sealed with an O-ring made of perfluoro rubber. Operating distance 5.0 mm in air. Can be used at -55 °C to 200 °C. The seal is liquid-tight at low pressure (< 1 bar).



BWT-840000131 Immersion shaft for portable Raman instruments

Optional immersion shaft for BAC100/BAC102 Raman probes with an excitation wavelength of 532 nm or 785 nm. Equipped with a 76.2 mm long body made of 316L stainless steel with an outer diameter of 12.0 mm and a sapphire-glass window that is sealed with an O-ring made of perfluoro rubber. Operating distance 5.0 mm in air. Can be used at -55 °C to 200 °C. The seal is liquid-tight at low pressure (< 1 bar).



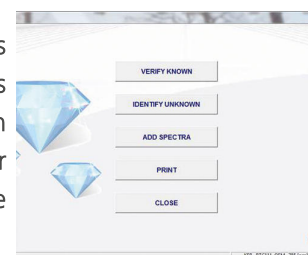
BWT-840000140 Raman Flow Cell (BAC160-Ti)

Raman flow-through cell made of titanium, for inline Raman measurements of liquid samples by interfacing with standard laboratory probe (9.5 mm diameter; probe is not included in scope of delivery).



BWT-840000280 GemID Software

Data acquisition and identification software for the analysis of gemstones and minerals with B&W Tek portable Raman spectrometers. Includes Raman Spectral Library and images of more than 450 gemstones from Gem Expert and Japan Germany Gemmological Laboratory. One user license provided. Free upgrades included within one year of purchase date.



BWT-840000287 Vial Holder Adapter

Vial holder adapter for use with the BAC100/BAC102 lab-grade Raman Probe with 9.5 mm shaft diameter. Compatible with vials with a diameter of 15 mm. Shipped with 6 vials made from borosilicate glass (15 mm).



BWT-840000295 Vials for liquids, 15 mm in diameter

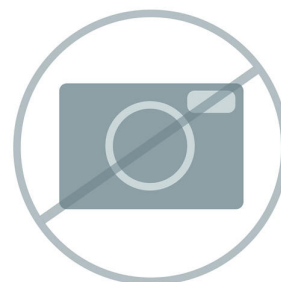
Borosilicate glass vials (diameter 15 mm), package of 6, with pouch.



BWT-840000322 Video Microscope Objective, 10x

Microscope objective, infinity-corrected, 10x, working distance (mm) = 16, focal length (mm) = 20, numerical aperture (NA) = 0.3.

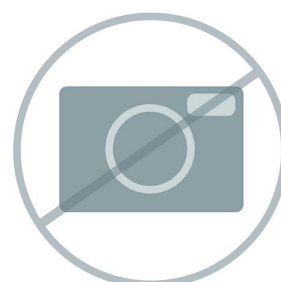
RML110A



BWT-840000323 Video Microscope Objective, 20x (RML120A)

Microscope objective, infinity-corrected, 20x, working distance (mm) = 12, focal length (mm) = 10, numerical aperture (NA) = 0.4.

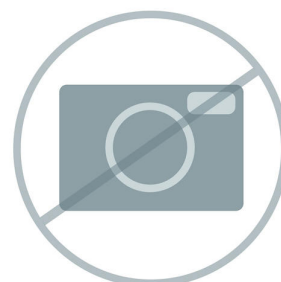
RML120A



BWT-840000325 Video Microscope Objective, 50x (RML150A)

Microscope objective, infinity-corrected, 50x, working distance (mm) = 9.15, focal length (mm) = 4, numerical aperture (NA) = 0.55.

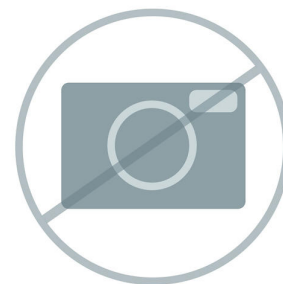
RML150A



BWT-840000328 Video Microscope Objective, 100x

Microscope objective, infinity-corrected, 100x, working distance (mm) = 3.2, numerical aperture (NA) = 0.8, Focal length (mm) = 2.

RML1100A



BWT-840000332 Tablet Holder

Tablet holder compatible with all models of BAC100/BAC102 lab-grade fiber-optic Raman probe with 9.5 mm shaft diameter.



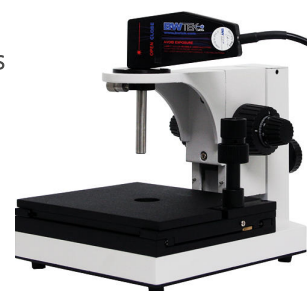
BWT-840000361 Handheld Laser Power Meter

Laser Power Meter, Pen Type, Calibrated. Range: 5 micro-Watts to 1 Watt. Used in OQ/PQ and annual certification laser power measurement.



BWT-840000395 Raman Probe Holder

Probe holder for use with B&W Tek's lab-grade Raman probes. Provides manual coarse and fine XYZ adjustments.



BWT-840000463 BAC151x probe adapter

BAC151x Probe Adaptor to connect B&W Tek Lab grade Raman probes to BAC151x Video microscope sampling system. Remove the standard shaft and distance regulator, to use the adaptor and connect the probe head to the video microscope. 3 adaptors per pack.



BWT-840000529 Raman Replacement Shaft (532 nm)

Replacement shaft for BAC100/102-532 Raman probe module made of standard stainless steel. Replacement shaft with adhesive-sealed fused-silica window. Working distance 5.4 mm. Shaft diameter 9.5 mm, shaft length 76.2 mm.



BWT-840000609 Enclosure for Raman sampling system

Enclosure for Raman sampling system (i.e. microscope, probe holder) used to eliminate direct ocular and/or skin exposure from the laser emission. The enclosure is ergonomically designed to facilitate sample loading and system operation. For use with 532, 785 and 1064 nm wavelengths.



BWT-840000648 Raman Trigger probe (532 nm, 5 m)

Lab grade fiber optic Raman probe module incl. manual trigger for cut-on start from 65 cm^{-1} ; 105 μm diameter, 0.22 NA fiber for 532 nm excitation, 200 μm diameter 0.22 NA for Raman pickup, optical density >6 ; 5.0 m fiber length terminated in SMA905 on the spectrometer end and FC/PC on the laser end. Adhesive sealed quartz window for non-contact sampling. 5.4 mm working distance. Not for immersive use.



BWT-840000679 Raman Zoom Lens (20-60 mm)

Zoom lens for our BAC100/BAC102 fiber-optic Raman probes. Working distance is adjustable from 20 mm to 60 mm. Suitable for a Raman excitation range from 500 nm to 850 nm.



BWT-840000680 Raman Zoom Lens (60-600 mm)

Long-working-distance zoom lens for BAC100/BAC102 fiber-optic Raman probes. Working distance is adjustable from 60 mm to 600 mm. Suitable for a Raman excitation range from 500 nm to 850 nm.



BWT-840000681 Raman Stand-off Lens (0.6-6 m)

A telescope Stand-off lens for BAC100/BAC102 fiber-optic Raman probes. Wide zoom range for sample measurement ranges from 0.6 meters to 6 meters. Suitable for a Raman excitation range from 500 nm to 850 nm.

RTS202-VIS-NIR



BWT-840000843 Raman Gemstone Spectral Library

Raman Gemstone Spectral Library for BWID and portable Raman instruments with > 450 spectra from Gem Expert and from Japan Germany Gemmological Laboratory. Library supported in BWID Version 2.02 or higher.



BWT-840000847 Raman Explosives Spectral Library

Raman Explosives Spectral Library for portable Raman instruments including more than 180 spectra. Supported in BWID Version 2.02 and higher.

Note: This item may be subject to Export control to some territories.



BWT-840000962 Raman Video Micro-Sampling System (532 nm)

Video microscope sampling system for use with B&W Tek's lab and industrial Raman probes. Includes a 20x objective with a working distance of 16 mm. Offers manual rough and fine adjustment on the X, Y,

and Z-axes, coaxial LED illuminator for target alignment, video camera for sample observation, and is compatible with standard microscope objectives. Probe not included, available separately. 532 nm configuration.

BAC151C-532



BWT-840000963 Raman Video Micro-Sampling System (532/785 nm dual)

Video microscope sampling system for use with B&W Tek's lab and industrial Raman probes. Includes a 20x objective at a working distance of 16 mm. Offers manual rough and fine adjustment on the X, Y and Z-axes, coaxial LED illuminator for target alignment, video camera for sample observation, and is compatible with standard microscope objectives. Probe not included, available separately. Dual 532/785 nm configuration.

BAC151C-532/785



BWT-840000965 Raman Video Micro-Sampling Head (532 nm)

Video microscope sampling system head for use with B&W Tek's lab and industrial Raman probes. With coaxial LED illuminator for target alignment and video camera for sample observation. Compatible with standard microscope objectives. Probe not included, available separately. Objective lens not included, available separately. 532 nm configuration.



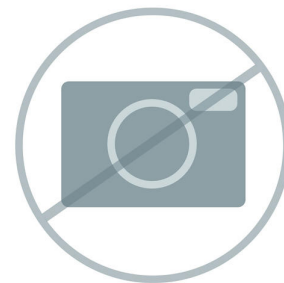
BWT-840000966 Raman Video Micro-Sampling Head (532/785 nm dual)

Video microscope sampling system head for use with B&W Tek's lab and industrial Raman probes. With coaxial LED illuminator for target alignment and video camera for sample observation. Compatible with standard microscope objectives. Probe not included, available separately. Objective lens not included, available separately. Dual 532/785 nm configuration.



BWT-840001123 Bluetooth 1D barcode scanner

Bluetooth 1D barcode scanner for use with BWID software operating a portable Raman instrument



BWT-840001136 Vision Pharma 4.1

Vision Pharma is data acquisition and method development software solution for spectroscopic analysis and control of B&W Tek portable Raman instruments, Metrohm XDS laboratory and process NIRS instruments. A user-friendly graphical analysis interface enables a simple application of chemometric algorithms for creating identification, qualification, and quantification methods and running them in real-time. With Vision you can store, manage, reprocess and exchange data. Vision Pharma is compliant with the US FDA's 21 CFR Pt 11 regulations for electronic signatures and records.



BWT-840001137 Vision 4.1

Vision is data acquisition and method development software solution for spectroscopic analysis and control of B&W Tek portable Raman instruments, Metrohm XDS laboratory and process NIRS instruments. A user-friendly graphical analysis interface enables a simple application of chemometric algorithms for creating identification, qualification, and quantification methods and running them in real-time. With Vision you can store, manage, reprocess and exchange data.



BWT-840001178 Carrying Case for i-Raman Plus, i-Raman EX and GemRam systems.

Carrying Case for i-Raman, i-Raman Plus, i-Raman EX and GemRam systems. This is black soft carrying case with extendable handle, wheels and custom cut foam (27 to 28" case length) for safe, convenient instrument transport. (Model CCRM-GEMRAM)

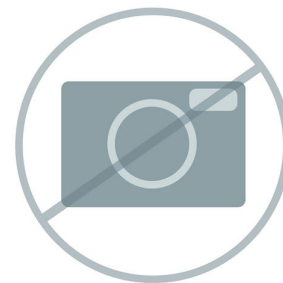


BWT-840001204 Hastelloy immersion shaft for 532nm Raman probe

RIS100-HS-532-08: Hastelloy immersion shaft for BAC102/BAC100B Raman probes with excitation wavelength 532 nm. Features a 0.5" (12.7 mm) O.D. x 8" (203.2 mm) L Hastelloy C-276 shaft and a gold-sealed

sapphire ball lens. Working distance 0.4 mm in air, 0.6 mm in water. Shaft operating temperature is up to 250 degrees C, pressure up to 4000 psi. Shaft must be purchased with B&W Tek Raman probe.

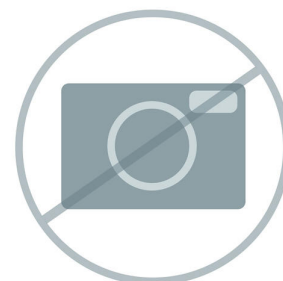
RIS100-HS-532-08



BWT-840001205 Stainless steel immersion shaft for 532 nm Raman probe

RIS100-SS-532-08: Stainless steel immersion shaft for BAC102/BAC100B Raman probes with excitation wavelength 532 nm. Features a 0.5" (12.7 mm) O.D. x 8" (203.2 mm) L stainless steel shaft and an epoxied sapphire ball lens. Working distance 0.5 mm in air, 0.8 mm in water. Shaft operating temperature is up to 200 degrees C, pressure up to 4000 psi. Shaft must be purchased with B&W Tek Raman probe.

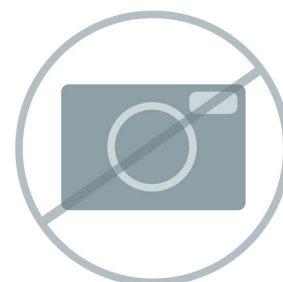
RIS-SS-532-08



BWT-840001240 Polystyrene validation cap for ball lens probe shaftsIMPS-PCC

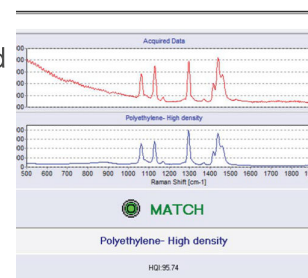
Polystyrene validation cap for system performance testing for ball lens probe shafts. Compatible with Raman fiber optic probes with a 0.5" O.D. shaft and a ball lens.

IMPS-PCC



BWT-840001254 BWID Illicit and General Chemicals Library

BWID library of illicit materials includes drugs, TICs, TIMs, precursors, and general chemicals.



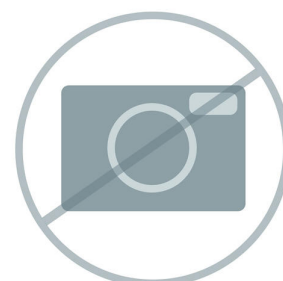
BWT-840001255 BWID CWA Library

Raman Chemical Warfare Agent (CWA) Library for BWID.



BWT-840001264 BWID Comprehensive USP Raman Library

Metrohm Comprehensive USP Raman Library for BWID containing ~ 900 traceable certified items.



BWT-840001265 BWID Comprehensive Raman Library

BWID Metrohm Comprehensive RamanLibrary - More than 27,700 spectral entries of chemicals, minerals, organic chemicals, solvents, polymers, dyes and pigments, TICs, TIMs, inorganics and organometallics, personal care products, and illicit materials.

PTL-MCRL



BWT-840001305 BWID MCRL - Polymers and Polymer Additives

Metrohm Comprehensive Raman Library (MCRL) Polymers and Polymer Additives for BWID.



BWT-840001309 BWID MCRL - Dyes, Pigments, and Stains

Metrohm Comprehensive Raman Library (MCRL) Dyes, Pigments, and Stains for BWID.



