BRAVO Handheld Raman Spectrometer

Outstanding performance and design, intuitive graphical user interface (GUI) supported by a large touch screen - BRAVO is the dedicated handheld Raman solution that speeds up your raw materials identification at a maximum.

- SSE™ - Patented fluorescence mitigation
- Duo LASER™ excitation
- IntelliTip™ - Automated measuring tip recognition
- Intuitive and guided touch screen operation
- Automated batch scan reporting
- Inbuilt wavenumber calibration
- Robust and precise optics
- Wireless data exchange
- Complies with 21 CFR Part 11 requirements

BRAVO gives the ability for raw material verification by Raman spectroscopy into everybody's hands. Be guided straightforward through a reasoned workflow while simply touching icons on a large touch screen. Additionally, the user interface will support you in 17 different languages in parallel.

SSE™ - Patented Fluorescence Mitigation:

In many cases raw material verification by Raman spectroscopy is prevented due to fluorescence. BRAVO uses SSE™ (Sequentially Shifted Excitation) a patented fluorescence mitigation that enables to measure a much wider range of raw materials with handheld Raman systems than ever before.

Duo LASER™ Excitation:

The Duo LASER™ excitation provides highest sensitivity across the entire spectral range and hence guarantees for maximum unambiguous verification.

IntelliTip™ - Automated Measuring Tip Recognition:

Whether you choose a tip for measuring samples in vials or through bags IntelliTip™ for BRAVO ensures this information to be stored in the records. There is no room for mistakes, Intellitip™ guarantees that if defined for a raw material BRAVO will advise which tip has to be used.

Highest quality standards and personal customer service guarantee a reliable and efficient solution.

Results are clearly visible and presented self-explaining on the graphical user interface.

The optional docking station features battery charging, storage options, data transfer and measurements within.

Intuitive and Guided Touch screen Operation:

Right from the login the operator is guided through an utmost intuitive workflow by simply touching icons. At each step available options are shown and results are clearly visible and presented self-explaining on the graphical user interface. On demand further information can be derived by various analysis tools.

Automated Batch Scan Reporting:

The automated batch scan mode of BRAVO enables to analyze the same raw material provided in a larger number of lots while requiring a minimum of user adjustments. In particular it enables to easily switch between batch scans of different raw materials.

Inbuilt Wavenumber Calibration:

The automated wavenumber calibration for BRAVO ensures highly reproducible measurements in combination with unmatched wavenumber accuracy for dispersive instrumentation which is crucial for raw material identification in validated environments.

Material, Method and Library Setup:

Spectra of a single raw material present in e.g. various packaging can be stored in one comprehensive method separately. All methods are stored within a library that can be checked for consistency and signed.

Note, that building a library is no time-consuming process. The acquisition time of spectra for a material to be stored in a library is identical to the one of verification in standard measurement mode.

Wireless Data Exchange:

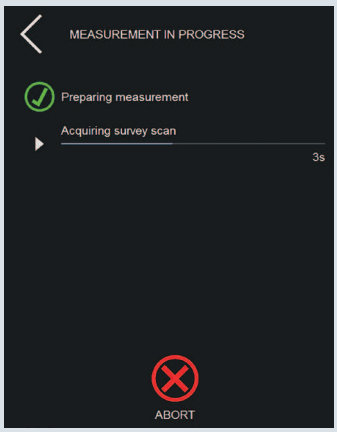
Data such as libraries and results can be transferred fast and reliable between the BRAVO and a PC using the integrated WLAN device. The WLAN configuration is easy to set up within the BRAVO graphical user interface network menu and can also be switched off if demanded.

Docking Station:

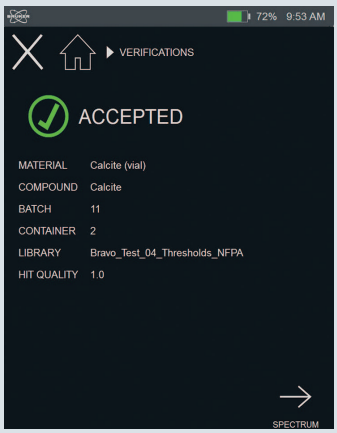
The optional docking station allows charging the BRAVO and provides storage capabilities for the daily check sample (polystyrene) and one measuring tip. Also data transfer is possible between the BRAVO and a PC in case of wireless connectivity is switched off.

Graphical User Interface

The large touch screen provides an easy activation throughout all steps of operation as well as a clear and bright presentation of information on current status and results.



Measurement in progress: Remaining measurement time of 7 seconds.



Measurement accomplished: Verification of sample was successful and is accepted.

Technologies used are protected by one or more of the following patents:
US 8,570,507 B1. Additional patents are pending.

Bruker Optics is ISO 9001 and ISO 13485 certified.

Laser class 1