Product specifications

Raman spectroscopy

Increase manufacturing productivity with handheld Raman analyzers

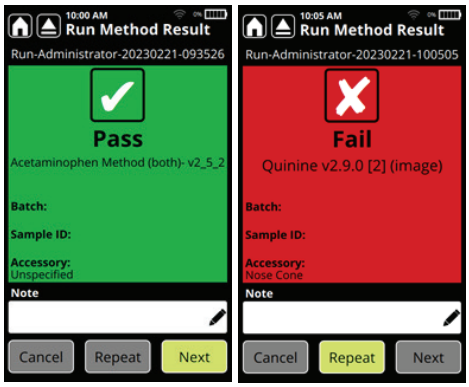
Key features

- Non-destructive, point and shoot sampling through plastic bags, glass containers, blister packs and clear gel caps
- Optional immersion probe for in-situ analysis and ergonomic comfort
- Backwards compatibility with TruScan RM Handheld Raman Analyzer validated methods, makes TruScan G3 Handheld Raman Analyzer deployment a quick method transfer for a near seamless experience
- A secured method for transferring of data via WIFI or wired connection for peace of mind
- No frequent hardware maintenance nor consumables to operate are required
- Digital data sign-off enhances 21 CFR Part 11 compliance

Applications

- Incoming raw, in-process, or finished material identity verification
- Identity check prior to dispensing of materials during manufacturing
- Field or laboratory counterfeit drug identification

Raw material ID testing for pharmaceutical and biotechnology manufacturing quality control processes requires speed, ease and efficiency to maintain continuous manufacturing. Samples are often brought to a quality control lab for testing, increasing costs and decreasing productivity. The Thermo Scientific™ TruScan™ G3 Handheld Raman Analyzer enables non-technical operators to rapidly perform raw material ID testing without the need of a lab, bringing lab-quality performance and results to any setting, whether that be a warehouse or loading dock.



Once a measurement is complete, the analyzer provides a clear PASS/FAIL result within seconds.

The TruScan G3 Handheld Raman Analyzer uses lab-proven Raman spectroscopy to perform rapid material identification at the point of need to decrease sampling costs and increase inventory turns. Designed for intuitive operation, its non-destructive point-and-shoot sampling principle facilitates rapid verification of a broad range of chemical compounds through sealed packaging to minimize the risk of contamination and exposure.

The TruScan G3 Handheld Raman Analyzer is built with a state-of-the-art optical platform paired with a field-proven embedded chemometrics engine. Our patented, multivariate residual analysis offers the most effective chemometric solution for material identification – with two spectral pre-processing options, that are easy to operate in challenging environments and sampling conditions.

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The analyzer's adaptive decision engine readily discriminates materials without the need for manual threshold setting or method maintenance. The embedded decision engine collects not just the sample spectrum but also the measurement uncertainty at the moment of analysis, which allows the analyzer to adaptively adjust collection parameters to a wide variety of potential interferences (such as lighting, temperature and operator usage).

The TruScan G3 Handheld Raman Analyzer also offers enhanced compliance features, as well as software and data management functions, designed to facilitate workflow and optimize efficiency in tightly regulated environments. Key benefits include:

Fast
Obtain PASS/FAIL results within seconds. Method development is fast and simple, requiring minimal samples for creation of a robust model.

Compliant
Enhanced 21 CFR Part 11 compliance security features, such as digital data sign-off and optional password aging and complexity, allow users to customize the analyzer's security settings to exceed regulatory requirements.

Broad material coverage
State-of-the-art optics and advanced chemometric decision algorithms allow automatic measurement of materials for which Raman analysis was either impractical or discrimination could not be achieved with legacy HQI (hit quality index) decision algorithms.

Smart
Built-in smart features, such as assisted signature acquisition, power savings and device qualification warnings, ensure successful material identification and prevent user error.

Easy to use
Capacitive touch screen and an all new, yet familiar, user interface is vibrant and both easy to use and read. Improved functionality, including PDF batch reports and the option to sync the analyzer time clock to an NTP server.

Lightweight
Weighing 2.1 pounds (0.95kg), the analyzer is ergonomically designed to increase comfort and productivity during inspections.

Service and support
Trust our team of service professionals who are ready to provide worldwide support. Our service offerings are designed to support instrument setup, meet regulatory compliance, and maintain optimum performance.

Key areas of support available:

- Analytical consultations
- Chemometric model building
- Depot services
- IQ/OQ/PQ qualifications
- Remote diagnostics
- Unlimited technical support
- User training

Specifications	
Raman spectrum range	250 to 2875 cm^{-1}
Spectral resolution	8 to 10.5 cm^{-1} (FWHM) across range
Laser (excitation wavelength)	785 nm +/-0.5 nm, 2 cm^{-1} line width, stability <0.1 cm-1
Laser output power	250 mW +/-25 mW
Collection optics	NA=0.33, 18 mm working distance; 0.2 mm spot size
Exposure	Exposure time set automatically
Battery	Rechargeable internal lithium ion battery > 3 hours operation
External power supply	DC Wall Adapter, 100-240 V AC 50/60 Hz
Weight	2.1 lb (0.95 kg)
Size	7.8 in x 4.6 in x 1.8 in (19.9cm x 11.8cm x 4.6cm
Operating temperature	-20°C to +50°C
Connectivity	Ethernet, WiFi (optional)
Ports	USBc and Power
Operating systems and browsers	OS: Windows 10 and 11; Browsers: Edge and Chrome
Barcode supported symbologies	Most linear and 2D standards
Measurement accessories	Vial holder and nose cone
Compliance	FDA 1040, 21 CFR Part 11, CE certification, Ph. Eur. 8.7

Learn more at **thermofisher.com/truscanG3**

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