VALENVERAS
TECHNICAL SPECIFICATIONS

VALENVERAS
Powered by BUCHI

2025

Unlock the Power of NIR Analysis Anywhere, Anytime

In a world where data-driven decisions are crucial, Valenveras Portable Lab and it's accessories emerge as the ultimate tool for professionals seeking rapid material analysis solutions outside the confines of a laboratory to make informed decisions swiftly and accurately. Here's why Valenveras Portable Lab is a game-changer in material analysis:

Key Features That Set Valenveras Apart

Precision & Accuracy Widest spectral coverage in NIR (from 1,350 to 2,500 nm) providing accurate performance for various materials and parameters.

Ergonomic Handheld Design Designed for one-handed operation, our scanner is comfortable to use and requires minimum training.

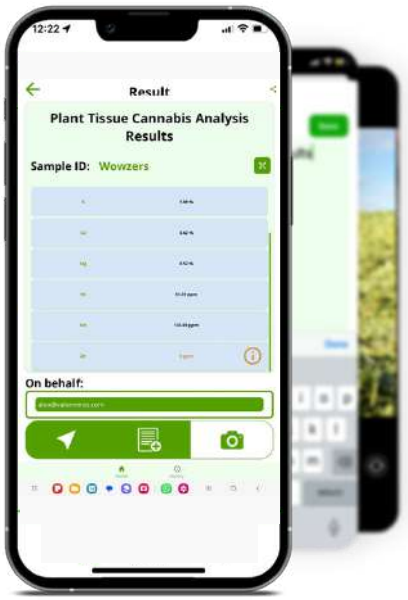
Rugged Build Valenveras Portable Lab is engineered to thrive in uncontrolled conditions, whether in a lab, on the factory floor, or out in the field.

Battery Operated With rechargeable and replaceable batteries, you can count on long-lasting performance wherever you go.

Get Instant Results On Your Mobile App

Intuitive mobile app provides step-by-step guidance through the process.

1. Select material
2. Take measurement
3. Get results instantly, even when offline



GET IT ON Google Play | Download on the App Store | Available on Windows

It's All in the Cloud: Hassle-Free Data Lifecycle Management

Amplify insights by aggregating all your data in one Cloud Portal.

- AUTO-SYNCED RESULTS FROM MOBILE APP
- ADVANCED ANALYTICS & REPORTS
- CENTRALIZED DATA & DEVICES MANAGEMENT

General Specifications

Dimensions	7x 3.6x 2.5 inch (178x 91x 62 mm)
Weight	2.2 lbs. (1 kg)
Operation Temperature	23 : 104 °F (-5 : 40 °C)
Ingress Protection Rating	IP65
Battery Type	Two rechargeable 18650 batteries, user replaceable
Operating Battery Life (2 Second Scans)	800 Scans
Battery Charge Time (IA Charging Current)	6 hours on fast charging to reach 100%
Bulb Lifetime	> 10.000 hrs.
Wireless Connectivity	Bluetooth V4.2 BLE
Charging Port	USB-C
Software	Operation via NeoSpectra mobile applications for spectral data collection, and material analysis

Technical Specifications

Wavelength Range SNR>170:1	1,350 - 2,500 nm , 7,400 — 4,000 cm^{-1})
Resolution at λ=1,550 nm, FWHM criterion	16nm (66.6 cm^{-1})
Typical SNR' (rms) Scan time = 2s, λ = 2,350 nm	2,000:1
Sample coverage (Diameter of Collected Light Beam)	~ 0.4 inch (~10 mm)

Cannabinoid Specifications

(Flower)

Cannabinoid models have been divided into regions to acquire the best results on the lower concentrations. A hierarchical model is used for THC and CBD.

		Low Concentration 0-3%				High Concentration 3-29%			
	# samples	RMSECV	R2cv	RMSEP	R2p	RMSECV	R2cv	RMSEP	R2p
CBD Total (v5)	898	0.19	0.80	0.16	0.91	1.6	0.89	1.7	0.91
THC Total (v6)	1099	0.15	0.85	0.10	0.93	1.8	0.91	1.2	0.98
CBG Total (v5)	898	0.15	0.71	0.11	0.72				
Total Terpenes	659	0.20	0.70	0.30	0.65				
THC acid (v6)	1099	0.16	0.84	0.11	0.91	2.2	0.9	2.2	0.89
CBD acid (v5)	898	0.20	0.79	0.18	0.90	1.65	0.88	1.3	0.97

(Solid Extract)

	Low range				High Range			
	Min	Max	R2CV	RMECV	Min	Max	R2CV	RMECV
THC	0	1	0.75	0.15	17	70.1	0.98	2
CBD	0	1.3	0.71	0.2	4	99.9	0.99	2.8
TAC_Total Cannabinoids	1	99.9	0.99	2.7				

Water Activity

(Flower)

	# samples	Min	Max	RMSECV	R2cv
aW	355	0.42	0.65	0.02	0.82
Moisture	355	4.3	11.8	0.91	0.75

How It Works?

Valenveras Portable Lab operates on the same principles as a laboratory FT-NIR spectrometer but in a compact, portable form thanks to our patented.

It uses Near Infrared (NIR) light, which is invisible to the human eye, to analyze materials based on their unique spectral response. This provides invaluable insights into a material's chemical and nutritional composition, allowing for quick and informed decision-making.

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