Portable Nano NIR

With integrated battery, button, and Bluetooth, the Portable Nano NIR is the ideal solution for mobile material analysis in the factory or in the field. The powerful software suite presents an intuitive user interface that requires minimum training to operate from a tablet or PC. The Portable Nano NIR is the smallest fully-integrated NIR spectrometer on the market and is enabled by proven analytical technologies linear variable filter (LVF) technology. With no moving parts and IP65/IP67 dust/water ingress rating, it is designed for a wide range of material characterization applications in food, agriculture,pharmaceutical, and security markets.

Portable Nano NIR Instrument

Portable Nano NIR in application

▸▸ Benefits

- Rapid, real-time, non-destructive near-infrared material analysis
- Wireless, compact, rugged, and ergonomic design for one-hand operation
- Multifunction button for one-click data acquisition
- Internal, rechargeable battery with run time greater than 10 hours
- IP65 and IP67 rated for use in wet and dusty environments
- Bluetooth or USB connectivity to tablet or PC
- Powerful Nano NIR model-building and prediction software
- Intuitive, easy-to-use software interface

▸▸ Applications

- Pharmaceutical raw materials
- Polymers and chemicals
- Narcotics and explosives
- Grain and forage
- Tobacco and agricultural products
- Meat and dairy products

▸▸ Highlights

- 15 Cattle feed products
- Chemical parameters
- Based on real product spectra

▸▸ Some examples

1. Soy flour   2. Alfa-alfa hay   3. Grass silage   4. Feeding

5. Alfa-alfa silage   6. Mash   7. Sorghum silage   8. Unifeed

▸▸ Standard Accessories

The Portable Nano NIR includes the following standard accessories:

- Two measurement collars with sapphire windows, ARcoated on one side for maximum light throughput
- Protected white reference target with sapphire window
- Rugged carrying case including space for PC and tablet
- USB cable for charging and data connection to tablet or PC

Portable Nano NIR Kit running Nano NIR application (tablet not included)

Nano NIR Tablet Application

▸▸ Software

The Portable Nano NIR system includes the ATL Nano NIR software suite with features for data acquisition, calibration and method development, user management, and real-time prediction. Using Nano NIR software, a developer can process data and build complete chemometric models using regression and classification algorithms including PLS, MBSD, SMV, and PCA analyses. Batch mode predictions on stored data are also supported.

Nano NIRsoftware also includes instrument performance qualification per EP 2.2.40 and USP 1119 test criteria and tools enabling Title 21 CFR Part 11 compliance.An enhanced OPC interface is optionally available for integration with process control systems.The Portable Nano NIR system also includes a standalone tablet application with simplified user interface for data acquisition and real-time prediction in the field.

Please see recommended hardware/software listed in specifications.

Specifications

Parameter	Specification
Illumination source	Two integrated vacuum tungsten lamps
Lamp life	>40,000 hr
Sample working distance	3 mm from window optimal, 0-15 mm
Dispersing element	linear variable filter (LVF)
Detector	128 pixel InGaAs photodiode array
Wavelength range	950 – 1650 nm (10,526 – 6060 cm-1)
Pixel-to-pixel interval	6.2 nm for 950 – 1650 nm
Spectral bandwidth (FWHM)	<1.25% of center wavelength, 1% typical (e.g., @1000 nm, resolution is <12.5 nm)
Analog-to-digital convertor	16 bit
Dynamic range (Max)	1000:1
Measurement time (typical)	0.25 – 0.5 sec
Signal-to-noise ratio (typ.)	25,000
Integration time	10 ms typical, minimum 10 Nanosec
Connectivity	Bluetooth 4.1 (BLE) and USB 2.0
Weight	<250 g (<9 oz)
Size (Length x Diameter)	194 mm (6.64") x 47 mm (1.85")
Battery	Rechargeable Li-ion, not removable
Battery run time/charge	>10 hours with lamps on continuously
Battery cycle life	>75% capacity after 300 charge cycles
Battery charge time	3.5 hours at 1 A
Export data formats	CAMO .unsb, Grams .spc, ASCII .csv
Operating system	Microsoft Windows 10 Pro
Minimum screen resolution tablet/PC application	1920 x 1080/1366 x 768
Software compatibility	MicroNIR Pro 3.0 and above
Qualified PC	Microsoft Surface Pro 6 (tablet or PC)
Qualified Tablet PC	Dell Latitude 7212 Rugged Extreme
Operating temperature	−20 ~ 40°C (noncondensing)
Storage temperature	−20 ~ 50°C (noncondensing)
Dust and water resistance	IP65 and IP67
Shock and vibration	MIL-PRF-28800F Class 2

▶▶ Available Products

Feed product	Ground/Unground	Dry/Wet
Soy flour	Ground	Dry
Lucerne FERM	Unground	Dry
Alfa-alfa silage	Unground	Dry
Grass Silage	Unground	Dry
Feeding	Ground	Dry
Hays mixed	Unground	Dry
Mash	Ground	Dry
Silomais dry	Unground	Dry
Silomais wet	Unground	Wet
Sorghum Silage	Unground	Dry
Unifeed	Ground	Dry
Lucerne	Unground	Dry
Ground soyabean	Unground	Dry
Sunflower seeds	Unground	Dry
Wet Forage	Unground	Wet

▶▶ Available Parameters

Products	Humidity	Protein	Fat	Fiber	Ash	Starch	NDF	ADF	ADL	FERM0	FERM1	FERM2	FERM3	FERM4	Lignin
SOY FLOUR	X	X	X	X	X										
LUCERNE FERM	X	X	X	X	X	X	X	X	X	X	X	X			
GRASS SILAGE	X	X	X	X	X		X	X	X						
FEEDING	X	X	X	X	X	X	X	X	X						
ALFA-ALFA SILAGE	X	X	X	X	X		X	X	X	X	X	X			
MASH	X	X	X	X	X	X	X	X	X						
SORGHUM SILAGE		X	X	X	X	X		X							
UNIFEED	X	X	X	X	X	X	X	X	X						
LUCERNE	X	X			X		X	X							X
HAYS MIXED	X	X	X	X	X		X	X	X						
SOYABEAN	X	X	X	X	X										
SILOMAIS_DRY		X	X	X	X	X	X	X	X	X	X	X	X	X	
SILOMAIS WET	X	X	X	X	X	X	X	X	X						
SUNFLOWER_SEEDS	X	X	X	X	X										
WET FORAGE		X			X		X	X	Specific chemical parameters						

Products	Parameters	
Soft Wheat, Durum Wheat, Soft flour, Durum flour	Moisture	
Soft Wheat, Durum Wheat, Soft flour, Durum flour	Protein	Global models
Soft Wheat, Durum Wheat, Soft flour, Durum flour	Gluten	
Soft flour	Ash	
Durum Wheat	Ash	Single model
Soft Wheat	Ash	

▸▸ Wheat and Flour

- Global models available
- Chemical parameters
- Based on real product spectra

▸▸ Data Processing

Each workspace includes:

1. Raw data —> Original spectra
2. Pre-processed data —> Transformed spectra
3. PCA —> Exploratory analysis and outliers detection
4. PLS model —> Calibration model calculated in cross validation

HPLC Servicing, Validation, Trainings and Preventive Maintenance :

HPLC Servicing :HPLC Servicing : We have team of service engineers who can attend to any make of HPLC promptly @the most affordable cost.

Trainings :We also take up preventive Maintenace to reduce downtime of HPLC's Trainings.

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Validations :Validations :We have protocols for carrying out periodic Validations as per GLP/GMP/USFDA norms.

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Optical Emission Spectrophotometer	DSC/TGA	Semi Auto Bio Chemistry Analyzer	HEMA 2062 Hematology Analyzer	Micro Plate Reader/Washer	URINOVA 2800 Urine Analyzer	Total Organic Carbon 3800
Fully Automated CLIA	NOVA-2100 Chemistry Analyzer	PCR/Gradient PCR/ RTPCR	TOC Analyzer	Laser Particle Size Analyzer	Ion Chromatograph	Water purification system

Regulatory compliances

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Corporate & Regd. Office: Analytical House, # E67 & E68, Ravi Park, Vasna Road, Baroda, Gujarat 390 015. INDIA	T: +91 265 2253620 +91 265 2252839 +91 265 2252370 F: +91 265 2254395	E: info@hplctechnologies.com info@multiplelabs.com info@analyticalgroup.net info@analyticalbiomed.com	W. www.analycalgroup.net www.hplctechnologies.com www.multiplelabs.com www.ais-india.com	Sales & Support Offices: across the country : Distributors & Channel partners World Wide