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Nano-1000 / 8000

Micro-Spectrophotometer



Nano-1000 / 8000

Micro-Spectrophotometer

Nano-1000 / Nano-8000 micro-spectrophotometer provides UV / Vis absorbance detection of 190~1100 nm, with OD600 and single-tube fluorescence detection functions. The instrument is standard equipped with a 10-inch high-resolution touch screen, enabling quick viewing of test results without the need to connect a computer. An optional face recognition module is available to protect experimental data.

Nano-1000

1 Fast and Efficient

Ready to use after startup without warm-up required. Detection of single sample can be completed within **8s**.

2 High Accuracy

Adopting a patented sample extension technology, it can accurately detect samples in a **broad range of 2~30000 ng/μL (dsDNA)**, effectively eliminating unstable sample readings and ensuring accurate readings.

3 Micro-Detection

Only **0.5~2 μL** of samples are required for each detection, and the samples can be recycled after detection, saving precious samples and ensuring reliable research.



Nano-8000

1 High-Throughput Detection

Support sample detection of **1~8 throughput**.

2 Fast and Efficient

Ready to use after startup without warm-up required. Detection of **8 samples** can be completed within **20s**.

3 Precise Reading

Can accurately detect samples in the range of **2~11000 ng/μL (dsDNA)**.

4 Micro-Detection

Only **1~2 μL** of samples are required for each detection, and the samples can be recycled after detection, saving precious samples and ensuring reliable research.



Feature

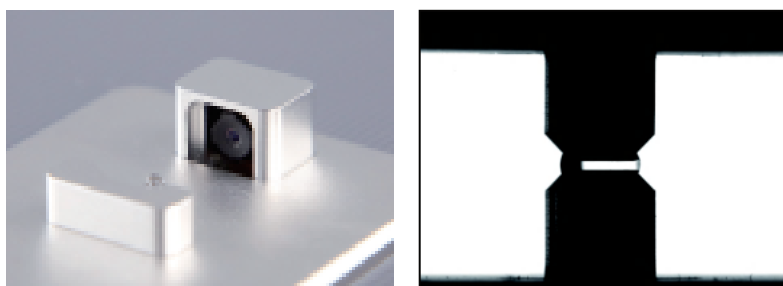
01 Easy to Operate

Equipped with a 10-inch adjustable-angle touch screen, the screen angle can be adjusted according to experimental operating habits. Graphical software operation with an intuitive interface. The integrated design does not require an external computer, saving valuable laboratory space.



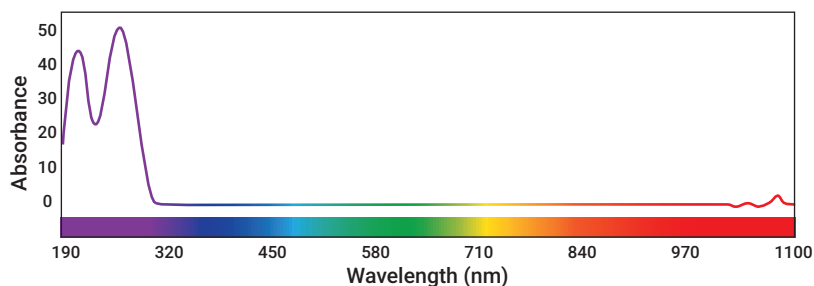
02 Sample Monitoring

The instrument is equipped with a built-in camera that rapidly determines liquid column formation, ensuring reliable detection. When the purity ratio falls below requirements, the instrument automatically triggers an alarm and provides a prompt.



03 Broad-Range Spectral Detection

Provide UV / Vis absorbance detection of 190~1100 nm, enabling automated optical path switching or detection at specified wavelengths.



04 Face Recognition

Optional face recognition module enables strict control of operational permissions at the user access source, ensuring the security of experimental data collection, storage, and retrieval.



05 Fluorometer Mode

The fluorometer mode can detect samples with concentrations below 2 ng/ μ L, with a minimum detection limit as low as 0.5 pg/ μ L. It enables precise quantification of nucleic acid and protein concentrations, and supports real-time kinetic monitoring of fluorescence intensity changes.



06 Cuvette Function

The OD600 mode is compatible with slit cuvettes for measuring microbial concentration, saving valuable samples.



07 Flexible Export

Experimental data can be exported to a computer via USB flash drive or printed directly using the built-in printer. Equipped with the FTP file transfer function, it supports real-time transmission of instrument data to local computers within the same local area network.



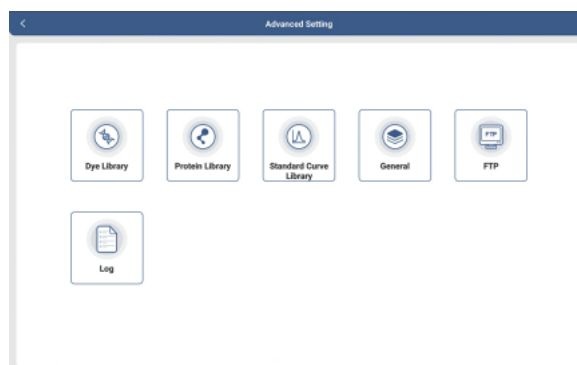
08 Precise Verification

The software is equipped with built-in verification and calibration functions, allowing users to verify or calibrate the instrument using performance verification solution according to specific requirements. Optional PVF-1 performance verification solution can be used for instrument verification, ensuring measurement accuracy and reliability.



09 Application Storage

The instrument is equipped with built-in protein, dye, and standard curve libraries, enabling users to pre-store required information into the system. During operation, users can directly retrieve these presets without repeated setup, simplifying the workflow.



Application

Nucleic Acid Testing

Supports quantitative analysis of dsDNA, ssDNA, Oligo DNA, RNA, Oligo RNA and primers, including probe concentration determination using fluorescent primer dyes. Results support spectral scanning and detailed absorbance, including A260, A280, and A230 absorbance values, as well as A260 / 280 and 260 / 230 ratio results.

Colorimetry Detection

Preset modes can be used for quantitative protein detection, including the BCA method, Bradford method, Lowry method, and Pierce 660 method. Results support spectral scanning, protein concentration, and absorbance at corresponding wavelengths.

OD600 Bacterial Concentration Detection

Measure the absorbance at 600 nm for bacterial cultures; suitable for slit cuvettes.

Protein Detection

A280 UV absorption method quantitatively detects proteins, antibodies, and peptides. Moreover, it enables user-defined extinction coefficient measurements for specific protein content. Results support spectral scanning and detailed absorbance values, including A260, A280 absorbance values, and A260 / 280 ratio results.

Fluorometer

It can detect fluorescence values, dsDNA, RNA, protein, kinetics, and Oligo. With built-in standard curves, users can easily calibrate the standard curves using the corresponding kits to measure samples. Results include sample fluorescence values and corresponding concentrations.

UV-Vis Spectral Scanning

It can detect micro-volume samples with characteristic absorption peaks between 190~1100 nm. Full-wavelength data can be exported to determine peak positions and absorbance values.

Optional Accessories



PVF-1 Performance Verification Solution



FRM-1 Face Recognition Module

Specification

	Nano-1000	Nano-8000
Wavelength range	190~1100 nm	190~1100 nm
Sample consumption	0.5 μ L~2 μ L	1 μ L~2 μ L
Optical path	0.02 mm, 0.03 mm, 0.05 mm, 0.1 mm, 0.2 mm, 1 mm	0.1 mm, 0.2 mm, 1 mm
Detector	2048-pixel linear silicon CMOS array	2048-pixel linear silicon CMOS array
Wavelength accuracy	1 nm	1 nm
Wavelength resolution	≤ 1.6 nm (FWHM@Hg 253.652nm)	≤ 1.6 nm (FWHM@Hg 253.652 nm)
Absorbance precision	0.003Abs (1 mm optical path)	0.003Abs (1 mm optical path)
Absorbance accuracy	$\pm 1\%$ (7.332 Abs @260 nm)	$\pm 1\%$ (7.332 Abs @260 nm)
Absorbance range	0.04~600Abs (@260 nm, equivalent to 10 mm)	0.04~220Abs (@260 nm, equivalent to 10 mm)
Nucleic acid detection range	2 ng/ μ L~30000 ng/ μ L (dsDNA)	2 ng/ μ L~11000 ng/ μ L (dsDNA)
Testing time	≤ 8 s	≤ 20 s (8 samples)
Data export	USB	USB
Material for sample pedestal	Aluminum alloy and quartz fiber	Aluminum alloy and quartz fiber
Input voltage	DC 24V 2A	DC 24V 2A
Power	25 W	25 W
Dimension (W×D×H)	260×333×346 mm	260×333×346 mm
Weight	5.8 kg	6.6 kg
Software operation	Android system	Android system

OD600 Detection

	Nano-1000	Nano-8000
Absorbance range	0~4.0Abs	0~4.0Abs
Absorbance stability	[0,3Abs) $\leq 0.5\%$, [3,4Abs) $\leq 2\%$	[0,3Abs) $\leq 0.5\%$, [3,4Abs) $\leq 2\%$
Absorbance repeatability	[0,3Abs) $\leq 0.5\%$, [3,4Abs) $\leq 2\%$	[0,3Abs) $\leq 0.5\%$, [3,4Abs) $\leq 2\%$
Absorbance accuracy	[0,2Abs) ≤ 0.005 Abs, [2,3Abs) $\leq 1\%$, [3,4Abs) $\leq 2\%$	[0,2Abs) ≤ 0.005 Abs, [2,3Abs) $\leq 1\%$, [3,4) $\leq 2\%$

Fluorometer Mode

Nano-1000

Nano-8000

Linearity	$R^2 > 0.995$	$R^2 > 0.995$
Repeatability	<1.5%	<1.5%
Stability	<1.5%	<1.5%
Sensitivity	dsDNA: 0.5 pg/ μ L	dsDNA: 0.5 pg/ μ L

Ordering Information

Code	Product description
AS-11090-00	Nano-1000 micro-spectrophotometer
AS-11100-00	Nano-8000 micro-spectrophotometer
AS-11091-01	PVF-1 performance verification solution
AS-11091-02	FRM-1 face recognition module

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