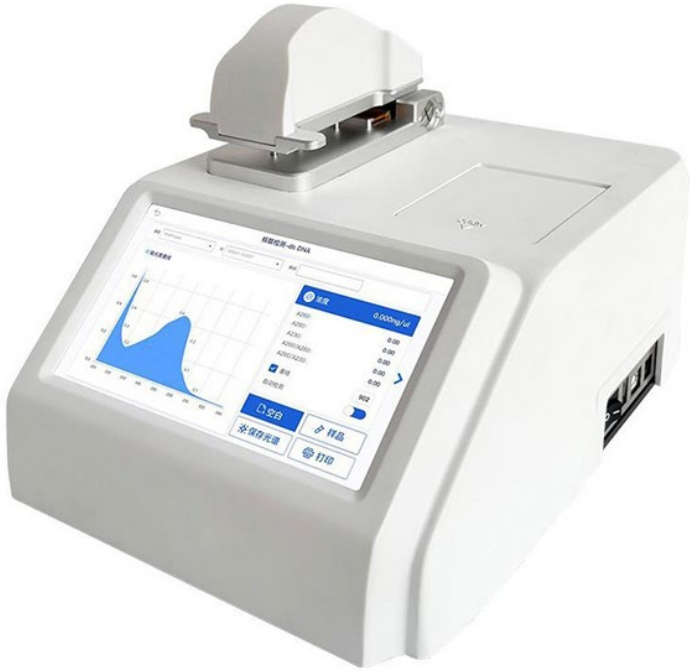
microvolume spectrophotometer with built-in printer

Microspectrophotometer is an optical analytical instrument that combines high sensitivity, high accuracy and convenient operation, designed for rapid quantification of biomolecules such as nucleic acids, proteins and microbial cultures.

The micro spectrophotometer is equipped with intelligent Android system and multifunctional detection module, which can meet the demand for precision measurement of trace samples in scientific research, clinical and industrial fields.



Features of the Microspectrophotometer

1. with Android intelligent operating system, equipped with a 7-inch capacitive touch screen, support multi-touch, intuitive and friendly operation interface.
2. only 0.5uL to 2uL samples can be detected, the sample can be recovered after measurement, suitable for the protection of precious samples.
3. the product does not need to be pre-diluted, directly add samples to the detection platform, short detection time, only 2 seconds to 6 seconds to complete.

4. equipped with automatic detection function, automatic start after the detection arm falls, improve the efficiency of the experiment.
5. machine ready to use, no need to warm up, convenient for testing at any time.
6. with imported high-quality scintillation xenon lamp, support for nucleic acids, proteins and full-wavelength detection, to ensure the stability of the light source and life.
7. high-performance linear motors precisely control the length of the optical path, to ensure measurement repeatability and accuracy.
8. with cuvette slot, can determine the concentration of bacteria and microbial culture solution, with stirring and heating function, the temperature can be controlled at 37 °C, stirring speed of 100 to 900 rpm.
9. ready for sensitive fluorescence detection function, specificity, can detect low concentration of double-stranded DNA (dsDNA), oligonucleotides (Oligo), RNA and proteins, the detection of the lower limit reaches 0.5 pg/uL.
10. Printer, convenient for instant printing and consulting of experimental data.
11. Excel and JPG format data export, convenient for subsequent data analysis and sharing.
12. Wide concentration range from 2ng/uL to 37,500ng/uL, covering common experimental needs, with the function of cuvette detection OD600.
13. dual-channel fluorometer, to enhance the ability of diversified detection.

Advantages

1. less sample dosage, greatly saving the experimental cost and precious samples.
2. fast and accurate detection, shorten the experimental time, improve the efficiency of the laboratory.
3. multi-functional integration, both colorimetric and fluorescence detection, to meet the needs of complex sample analysis.
4. humanized design, intelligent touch operation and automatic detection, reducing the difficulty of operation and human error.
5. easy data management, multi-format support and built-in printing function to ensure data integrity and ease of use.

Working Principle

Microvolume spectrophotometer through the imported scintillation xenon lamp to produce a stable light source, light through the sample, the sample of different substances in the specific wavelength of light absorption or emission of fluorescence by the high-sensitivity detector capture. High-precision linear motors control the length of the optical path to realize the precise measurement of absorbance or fluorescence intensity. After real-time data processing, the results can be visualized and saved to meet a variety of testing needs.

microvolume spectrophotometer with built-in printer

Model	**NP30A**
Sample Volume	0.5uL to 2uL, recommended 2uL
Wavelength Range	180nm to 910nm
Wavelength Accuracy	±1nm
Wavelength Resolution	≤1.5nm, FWHM at Hg 253.7nm
Absorbance Range	0.04 to 750, at 260nm, equivalent to 10mm optical path
Absorbance Precision	0.002Abs, 1mm pathlength
Absorbance Accuracy	±1%, 7.332 at 260nm
Detection Time	less than 6 seconds
Pathlengths	0.02mm, 0.03mm, 0.1mm, 0.2mm, 1mm
Light Source	Pulsed xenon lamp

microvolume spectrophotometer with built-in printer

Model	**NP30A**
Light Lifetime	more than 1 billion flashes
Detection Concentration Range	2 to 37,500ng per uL dsDNA 1.32 to 24,750ng per uL ssDNA 1.6 to 30,000ng per uL RNA
Protein Detection Range	BSA: 0.06 to 1119mg per mL IgG: 0.03 to 547mg per mL A280: 0.04 to 750mg per mL Lysozyme: 0.015 to 284mg per mL
Detector Type	2048-element linear CCD array
Sample Stage Material	Quartz fiber and 304 stainless steel
Input Voltage	12Vdc, 4A
Power Consumption	48W

microvolume spectrophotometer with built-in printer

Model	**NP30A**
Dimensions	270x210x196mm
Weight	3.8kg
OD600 Measurements	
Absorbance Range	0 to 4.000Abs
Absorbance Stability	(0, 3): ⩽ 0.5%, [3, 4): ⩽ 1.5%
Absorbance Repeatability	(0, 3): ⩽ 0.5%, [3, 4): ⩽ 1.5%
Absorbance Accuracy	(0, 2): ⩽ 0.005A, [2, 3): ⩽ 1%, [3, 4): ⩽ 2%
Heating Temperature	37°C
Stirring Speed	9 levels, 100 to 900rpm
Fluorescence Detection	

microvolume spectrophotometer with built-in printer

Model	**NP30A**
Sample Volume	1 to 20uL
Detection Time	3 seconds
Detection Range	0.01 to 120ng per uL dsDNA HS, 0.2 to 2000ng per uL dsDNA BR, 0.05 to 240ng per uL Oligo, 0.1 to 20mg per mL Protein BR
Repeatability	less than 1.5%
Dynamic Range	5 orders of magnitude
Linearity	Coefficient of Determination ⩾ 0.995
Light Source	Monochromatic LED
Excitation Wavelengths	470nm, 625nm, standard 365nm, 525nm, optional
Emission Wavelengths	525nm, 690nm, standard

microvolume spectrophotometer with built-in printer

Model	**NP30A**
	460nm, 620nm, optional