

NanoBio300 Nanodrop Spectrophotometer



7 inch



190-1000nm



Accuracy
1 nm



0.5-2.0 μ L

DNA, RNA, Protein

| APPLICATION AREA



Scientific



Hospital



Biology



Chemistry



Environment



Microvolume UV-VIS Spectrophotometer

NanoBio 300

Features:

- Auto-ranging
- Pre-configured methods for common applications such as Nucleic acids, Proteins, Cell Solution
- Sample volume per time: 0.5-2 μ l
- Fast Measure : <3s
- Broad Spectral Range: 190- 1100nm;
- Full Touch Screen Operate, Easy-to-Use
- 7"HD capacitive touch screen;
- Long life span source up to 10 years
- No preheating, Turn on and use
- Embedded high performance micro spectrometer
- High stability pulsed xenon light source
- Advanced algorithm
- Self-built modeling function by user
- Data interface: USB, Bluetooth, WIFI
- Uses patented technology
- User-friendly software that includes Custom Methods and data export capabilities
- Low-cost operation – no plates or other consumables

Application

- Environment Measure
- Scientific Research Lab
- Hospital
- Bio Lab
- Chemical Lab

Description:

NanoBio 300 is a full wavelength (190- 1100nm) UV-Vis spectrophotometer, which is self-designed by Optosky. It bases on 20-year experience in developing spectrometer plus Hamamatscu pulsed xenon lamp, full spectral output and is capable of measuring Nucleic acids, Protein, Cell Solution concentration and sample purity. Meanwhile, its easy-to-use, Sample sizes of as little as 0.5 μ L, it's not required preheating and it can fast clear out residue sample, rapid, accurate and reproducible microvolume measurements without the need for dilutions.

NanoBio 300 spectrophotometer features direct easy measurement-Just pipette and wipe. Onedrop is much faster and more accurate at measuring using a conventional spectrophotometer. Readout accurate result in less than 3 seconds through direct measurements. NanoBio 300 has been common instrument of many labs.

NanoBio 300 spectrophotometer is mainly used to measure nucleic acids, protein. Nanodrop uses high energy pulsed xenon light source give spectral measure of 230nm, 260nm, 280nm..

NanoBio 300 operate on Android software with 7 inch capacitive touch screen, it's not require to connect to PC but operate individually, and it can output by USB, and it's convenient to make analysis and storage by users.

Model	Features
NanoBio 300	General type, Pulsed xenon lamp, Full spectral
NanoBio 300L	High-accuracy, Long-life LED light source, OD600 Cuvette



1 Working Principle

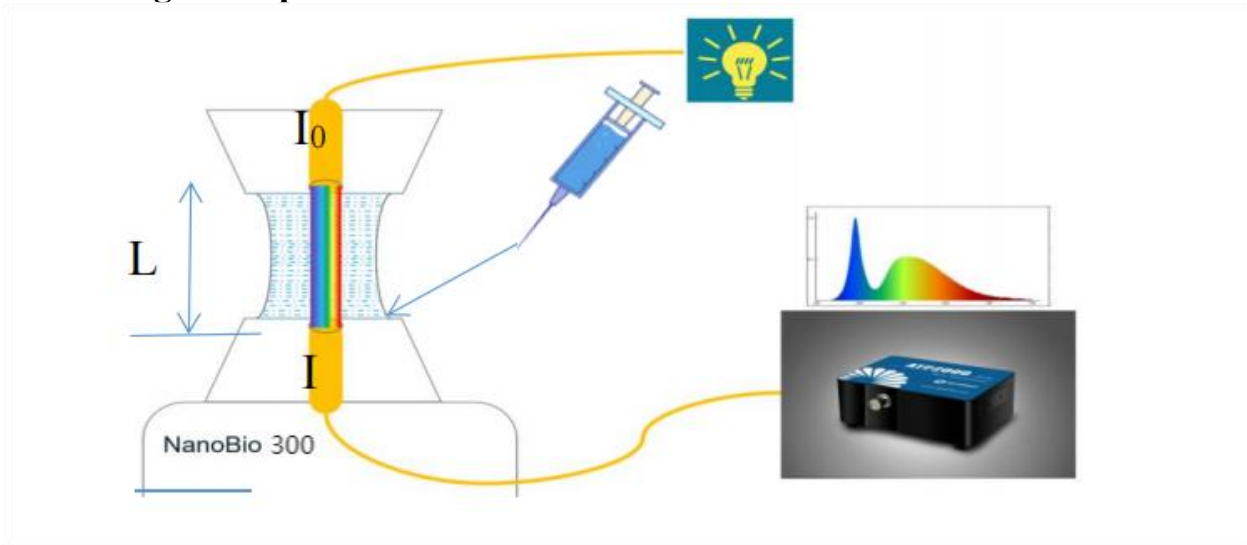


Fig 1 NanoBio 300 Working Principle

The working principle of spectrophotometer is mainly based on Lambert-Beer law. First, use our pipetting gun to draw 0.5-2 μ L of our sample and place it on our lower base to form a small liquid bead. Then, press our upper base downward to form a liquid column and click to test. At this point, the broad wavelength light I_0 from our light source passes through the liquid column, and the light intensity I passing through the sample will be recorded. Each substance has its own specific wavelength of absorption, and the amount of the absorption of a specific wavelength is proportional to the concentration of the substance, i.e.

Lambert-beer (Lambert-Beer) law.

$$A = \epsilon L c$$

In the formula:

A —Absorbance, $A = -\log I/I_0$;

ϵ —Absorptivity ;

L —Optical path Length (optical path);

c —Concentration;

The wavelength of selective absorption of light by a substance and the corresponding absorption coefficient are the physical constants of the substance. When the absorption coefficient of a pure substance is known under certain conditions, the same conditions can be used to match the tested substance into a solution and determine its absorbance, and the content of the substance in the tested substance can be calculated from the above formula.

2 Performance Parameters

Parameters	NanoBio 300	NanoBio 300L
Sample Size	0.5 ~ 2.0 μ L	
Measurement Cycle	< 5s	
Path Length	0.05 ~ 2mm, (Auto-ranging)	
Wavelength Range	190 ~1100 nm	260nm、280nm
Light Source	Xenon flash lamp	Long-life narrow line width LED light source
Detector Type	2048 pixel linear CCD array	Ultraviolet silicon light battery
Wavelength Accuracy	1 nm	
Wavelength Resolution	\leq 2 nm (FWHM at Hg 546 nm)	NA
Absorbance Precision	0.003 Abs(1mm)	
Absorbance Accuracy	1% (0.76 at 257 nm)	
Detection Limit	2 ng/ μ L (dsDNA) , 2mm path	
Max Concentration	15,000 ng/ μ L (dsDNA), 0.5 mm path	
Absorbance Range	0.04 ~ 300 (10mm)	0.2 - 50A
DNA range	2 ~ 4500ng/ μ l (dsDNA) 2 ~ 15000ng/ μ L (Optional)	10-2500ng/ μ L
Surface Construction	304 stainless steel and quartz fiber	
Operation System	Android OS	
Panel Type	Capacity Touch Panel	
Panel Size	7 inch	
Panel Resolution	800 \times 1080	
Endurance Time	5 hrs	
Li-ion Battery	60 Wh	
Operating Voltage	12V DC	
Power Consumption	9 W	7.5 W
Standby Power	1.5 W	1.5 W
Data interface	USB, Bluetooth, WIFI	
Dimensions	286 \times 196 \times 227 mm (L \times W \times H)	
Weight	3.8 Kg	3Kg

3 Application Fields

NanoBio 300 UV-VIS spectrophotometer, effective wavelength range is 190-1100nm, can be in the ultraviolet, visible, near infrared spectral region for qualitative and quantitative analysis of samples; NanoBio 300 instrument has the advantages of simple structure, fast detection, suitable for the analysis of nucleic acid, protein and other trace Surface Construction 304 stainless steel and quartz fiber Operation System Android OS Panel Type Capacity Touch Panel Panel Size 7inch Panel Resolution 800 X 1080 Endurance Time 5 hrs Li-ion Battery 60 Wh Operating Voltage 12V DC Power Consumption 9W Standby Power 1.5W Dimensions 286 X 196 X 227 mm Weight 3.8kg

NanoBio 300 User Manual V2.1 6 samples, and has special advantages in scientific research laboratories, hospitals, biological laboratories, chemical laboratories, environmental testing and other fields.