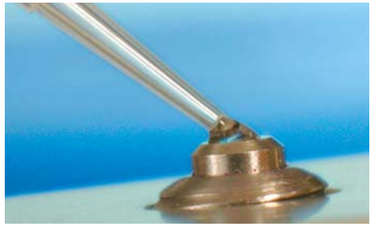
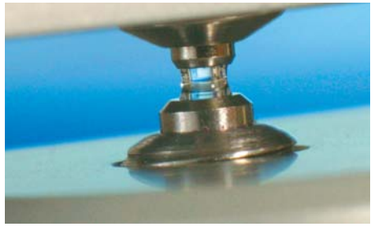
Technology



Pipetting 1 µl onto optical surface



Measuring 1 µl sample column

No Cuvettes — Fast and Easy

A sample as small as 1 µl is pipetted directly onto the optical measurement surface, eliminating the need for cuvettes or capillaries. Using the inherent surface tension of the sample, a patented retention system draws the sample into an hourglass-shaped column to establish the measurement path. The measurement cycle takes only 10 seconds — and with a simple wipe of the measurement surface, the instrument is ready for the next sample.

1 µl — Microanalysis

As methods move toward progressively smaller volumes, efficient means of microanalysis are essential in today's lab environment. Our novel technology meets this demand by enabling scientists to perform microspectrophotometry and microfluorometry on minute sample volumes, conserving most of the precious sample for downstream applications.

Small Footprint

With a footprint of only 20 cm by 15 cm, NanoDrop brings powerful molecular analysis tools to even the smallest of laboratory spaces.

Prove it to yourself

Our **FREE** demonstration program lets you **try the NanoDrop technology** in your own lab with your own samples. Contact us for details.

Specifications

NanoDrop® ND-1000 Spectrophotometer

- Sample Size: 1 microliter
- Path Length: 1 mm (with auto-ranging to 0.2 mm)
- Light Source: Xenon flash lamp
- Detector Type: 2048 - element linear silicon CCD array
- Wavelength Range: 220 - 750 nm
- Wavelength Accuracy: 1 nm
- Wavelength Resolution: 3 nm (FWHM at Hg 546 nm)
- Absorbance Precision: 0.003 absorbance (1mm path)
- Absorbance Accuracy: 2% (at .76 absorbance at 257 nm)
- Absorbance Range: 0.02 - 75 (10mm equivalent absorbance)
- Detection Limit: 2 ng/microliter (dsDNA)
- Maximum Concentration: 3700 ng/microliter (dsDNA)
- Measurement Cycle Time: 10 seconds
- Dimensions: 20 cm X 15 cm X 12 cm
- Weight: 3 kg
- Sample Pedestal Material of Construction: 303 stainless steel and quartz fiber
- Operating Voltage: 12 vdc
- Operating Power Consumption: 6 W
- Standby Power Consumption: 1.5 W
- CE Approval: Units sold in Europe, Australia and New Zealand
- UL/CSA Approval: Units sold in N. America, S. America, Asia and Africa
- Included in system: software, compatible with Windows 2000 or XP

NanoDrop® ND-3300 Fluorospectrometer

- Sample Size: 1 - 2 microliters
- Light Sources: 3 light emitting diodes (LEDs)
- Excitation Maxima of LEDs: UV: 365 nm, Blue: 470 nm, White: 500 - 650 nm
- Detector Type: 2048 - element linear silicon CCD array
- Wavelength Range: 400 - 750 nm
- Wavelength Accuracy: 1 nm
- Wavelength Resolution: 8 nm (FWHM at Hg 546 nm)
- Fluorescence Precision: < 5% CV (10 nM fluorescein)
- Fluorescence Range: > 4 decades fluorescein
- Detection Limit: < 1 fmol fluorescein
- Measurement Cycle Time: 10 - 15 seconds
- Dimensions: 20 cm X 15 cm X 12 cm
- Weight: 3 kg
- Sample Pedestal Material of Construction: 303 stainless steel and quartz fiber
- Operating Voltage: 5 vdc (all power supplied by USB port)
- Operating Power Consumption: 2 W
- Standby Power Consumption: 1 W
- CE and UL/CSA Approval
- Included in system: software, compatible with Windows 2000 or XP

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NanoDrop
when every drop counts.

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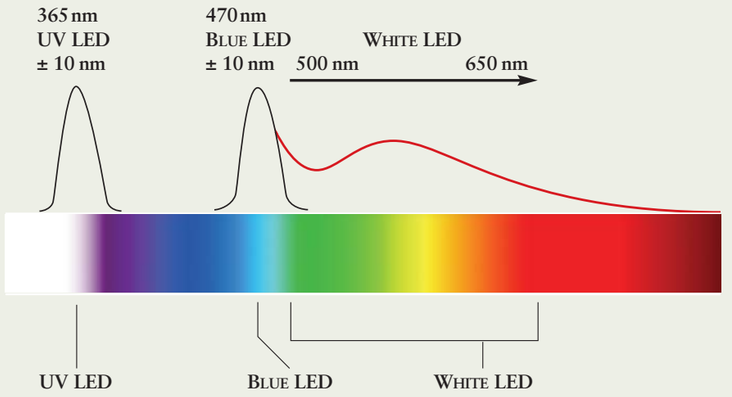
1 µl samples ▪ Absorbance ▪ Fluorescence

The power of small²

ND-1000
Spectrophotometer

ND-3300
Fluorospectrometer

NanoDrop
when every drop counts.



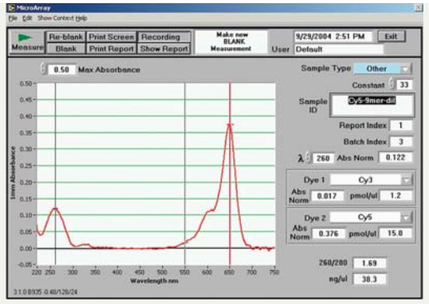
Emission collected
between 400-750 nm

NanoDrop®

Spectrophotometer *ND-1000*

Full spectrum UV-Vis absorbance measurement of 1 µl samples

The NanoDrop® ND-1000 Spectrophotometer takes full-spectrum (220-750 nm) UV-Vis absorbance measurements of 1 µl samples, conserving most of your precious sample for downstream applications. The system uses two different path lengths of 1 mm and 0.2 mm for each measurement cycle, providing an extensive dynamic range (2 ng/µl to 3700 ng/µl for dsDNA). This enables readings of sample up to 50-fold higher in concentration than can be measured on classical 1 cm cuvette-based systems, virtually eliminating the need to perform dilutions.



Absorbance Spectrum

Applications include measuring concentration of DNA, RNA, dyes, proteins and microbial cell culture OD.

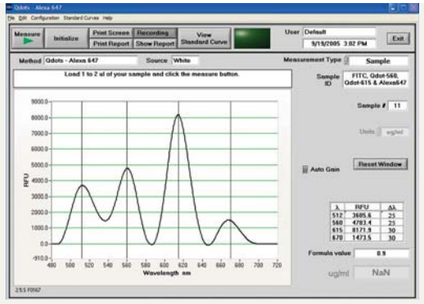
The included NanoDrop software provides a variety of analysis options.

NanoDrop®

Fluorospectrometer *ND-3300*

Full spectrum fluorescent analysis of 1 µl samples with no filter changes

The NanoDrop® ND-3300 Fluorospectrometer takes fluorescence measurements of samples as small as 1 µl. Excitation occurs from one of three LED sources: UV, Blue or White. Emitted light at a 90° angle is measured using a CCD array detector. Direct coupling of the sample to the optics of the system, combined with proprietary signal processing for the white LED applications, enable fluorescence measurements across a wide range of wavelengths without cumbersome and costly filter changes.



Fluorescence Spectrum

The included NanoDrop software provides a variety of analysis options.

ND-3300 Fluorospectrometer Applications

The NanoDrop ND-3300 can be used to measure the fluorescence of a wide array of fluorophores using its UV, Blue, or White LED. Common fluorophores and their appropriate LED excitation sources are listed below:

UV LED
- GFP wt
- Quinine Sulfate
- Hoechst 33258
- 4-MU

Blue LED
- GFP wt
- eGFP
- FITC-FAM
- Alexa 488
- PicoGreen
- RiboGreen
- Alexa 555
- B-Phycoerythrin

White LED
- Cy3, Alexa 555
- Alexa 568
- Cy5, Alexa 647
- Sulforhodamine 101
- 5-CTMR
- TET
- HEX