

# Create Change in the Lab

## NanoPhotometer® N50

### Microvolume Spectroscopy



#### Microvolume Capability

Starting with only 0.3  $\mu$ l of sample



#### Certainty in Real Time

Blank Control™, air bubble and impurity recognition



WiFi

HotSpot

LAN



#### Endless Connectivity

Built-in File Server for data access from Windows and Mac computers  
Print to Airprint™ and HP Universal Driver compatible printers as well as DYMO Label printers  
Rest API for LIMS integration



#### Flexible Unit Control and Ultimate Data Security

Computer (Windows & Mac)  
Built-in touchscreen  
Smartphone / Tablet (Android OS & iOS)  
Proprietary NPOS immune to known threats

World's smallest footprint in its class: only 20 x 20 x 12 cm  
Ideal for nucleic acids, protein and samples in most organic solvents  
Allows kinetic studies in a drop  
No reconditioning, no recalibration and no regular maintenance ever  
Stand-alone operation with built-in 7 inch glove compatible touch screen  
Universal data output: Excel and PDF  
Multi Language User Interface  
Barcode ready  
32 GB of onboard memory

# Technical Specifications

<b>NanoVolume Performance</b>		Zero Stability	±0.003 A/hour after 20 min warm up @ 280 nm
Detection Range dsDNA	1 ng/μl to 16,500 ng/μl (N50: 5 ng/μl to 7,500 ng/μl)	Noise	0.002 A rms at 0 A @ 280 nm 0.002 A (pk to pk) at 0 A @ 280 nm
Detection Range BSA	0.03 mg/ml to 478 mg/ml (N50: 0.15 mg/ml to 217 mg/ml)	Optical Arrangement	1 x 3648 CCD Array (N50: 1 x 1024 CCD Array)
Minimum Sample Size	0.3 μl	Lamp	Xenon flash lamp
Photometric Range (10 mm equivalent)	0.02 - 330 A (N50: 0.1 - 150 A)	Lifetime	10 <sup>9</sup> flashes, up to 10 years
Path Length	0.67 and 0.07 mm	<b>Processing Power &amp; Compatibility</b>	
Dilution Factor	15 and 140	Operating System	Linux based NPOS
Vortexer	2,800 rpm; tube size up to 2.0 ml	Onboard Processor	Quad Core 1 GHz
<b>Cuvette Performance</b>		Internal Storage	32 GB
Detection Range dsDNA	0.1 ng/μl to 130 ng/μl	Control Options	Onboard with built-in Touchscreen, Computer, Smartphone and Tablet
Detection Range BSA	0.003 mg/ml to 3.7 mg/ml	Software Compatibility	Windows 7, 8, 10 (32 & 64 bit), OS X, iOS & Android OS
Photometric Range	0 - 2.6 A	Min. Requirement Smartphone/Tablet	4" screen; Apple: iPad 2, iPhone5 & iOS 6; Android Phone: OS version 4.4; Android Tablet: OS version 5.0, Quadcore 1.2 GHz with 1 GB RAM
Center Height (Z-Height)	8.5 mm	<b>General Specifications</b>	
Cell Types	Outside dimension 12.5 x 12.5 mm	Main Body Size	20 cm x 20 cm x 12 cm
Heating	37 °C ± 0.5 °C	Weight	3.8 - 5.2 kg depending on configuration
<b>Optical Specifications</b>		Operating Voltage	90 - 250 V, 50/60 Hz, 60 W (90 W with battery pack), 18/19 VDC
Wavelength Scan Range	200 - 900 nm (N50: 200 - 650 nm)	Display	1024 x 600 pixels; Touchscreen glove compatible
Measure Time For Full Scan Range	3.5 - 6.0 seconds	Built-in Battery Pack	Optional rechargeable lithium ion battery; 95 Wh, 6.6 Ah; Operation time: up to 10 h; min. charging cycles: 800
Wavelength Reproducibility	± 0.2 nm (N50: ± 1 nm)	Certification	CE, IEC 61010-1:2012 and EN 61326-1:2013
Wavelength Accuracy	± 0.75 nm (N50: 1.5 nm)	Battery Certification	IEC 62133 and UN38.3 transport test
Bandwidth	better than 1.8 nm (N50: 5 nm)	In & Output Ports	2x USB A, USB B, HDMI, Ethernet, WLAN
Stray Light	< 0.5 % at 240 nm using NaI (N50: < 2 %) and < 1 % at 280 nm using Acetone (N50: < 2 %)	Additional Data Input	Mouse & keyboard options
Absorbance Reproducibility	< 0.002 A (0.67 mm path) @ 280 nm (N50: < 0.004 A (0.67 mm path) @ 280 nm)	Security	Slot for Kensington lock
Absorbance Accuracy	< 1.75 % @ 0.7 A (0.67 mm path) @ 280 nm of the reading		

Features and specifications are subject to change without notice.

## Reviews

**“Best small volume spec on the market”**

Rating: 5.0 ★★★★★

Application Area: Protein/nucleic acid quantitation

"The Implen NanoPhotometer N50 is extremely **easy to use** (intuitive menus and settings), **accurate**, and genuinely capable of measuring very small volumes repeatably. The touch screen works well even with gloves. Window configurations are adaptable so you can customize the information you're looking at while working. The instrument is light and mobile, and since it's **all-in-one**, you can literally move it to where you're working as needed... In my opinion, it's the **best nano-scale** measurement device on the market for routine lab sample quantification and spectral reading."

David Rawling

Organization: Inflammatrix, Inc.

**“Great result, very positive experience”**

Rating: 5.0 ★★★★★

Application Area: Nucleic Acid Sample Quality Control

"The instrument was **very easy to use**. I had a great interaction with the Implen team. They were very **supportive** of my startup and offered me a payment plan that helped me get me to my next round of funding. I really appreciate their support and commitment to startups."

Shan Zhao

Organization: Basepaws Inc.