

# Create Change in the Lab

## NanoPhotometer® N50

### NanoVolume Spectroscopy



#### Microvolume Capability

Starting with only 0.3 µl of sample



#### Scan

2.5 - 4 seconds per reading  
200 to 650 nm  
Resolution better than 3 nm



#### Certainty in Real Time

Impurity and air bubble recognition with  
Sample Control™ and Blank Control™



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  
64 GB of onboard memory

# Technical Specifications

NanoVolume Performance		Optical Specifications	
Detection Range dsDNA	N60, NP80: 1 - 16,500 ng/μl N50: 5 - 7,500 ng/μl N120: 2 - 8,000 ng/μl	Wavelength Scan Range	C40, N60, NP80, N120: 200 - 900 nm N50: 200 - 650 nm
Detection Range BSA	N60, NP80: 0.03 - 478 mg/ml N50: 0.15 - 217 mg/ml N120: 0.06 - 230 mg/ml	Measure Time For Full Scan Range	C40, N50, N60, NP80: 2.5 - 4.0 sec N120: 1.7 - 2.5 sec per sample
Sample Volume	N50, N60, NP80: 0.3 - 2 μl N120: 2 - 3.5 μl	Wavelength Reproducibility	C40, N60, NP80, N120: ± 0.2 nm N50: ± 1 nm
Photometric Range (10 mm equivalent)	N60, NP80: 0.02 - 330 A N50: 0.1 - 150 A N120: 0.04 - 160 A	Wavelength Accuracy	C40, N60, NP80, N120: ± 0.75 nm N50: ± 1.5 nm
Path Length	N50, N60, NP80: 0.67 & 0.07 mm N120: 1 and 0.125 mm	Bandwidth	C40, N60, NP80: < 1.5 nm N50: < 3 nm N120: < 2.5 nm
Dilution Factor	N50, N60, NP80: 15 and 140 N120: 10 and 80	Absorbance Reproducibility	C40, NP80 (Cuvette): < 0.002 A @ 0 - 0.3 A @ 280 nm CV < 1% @ 0.3 - 2.0 A @ 280 nm N50 (Lid 15): < 0.004 A @ 0 - 0.3 A @ 280 nm CV < 1% @ 0.3 - 1.5 A @ 280 nm N60, NP80 (Lid 15): < 0.002 A @ 0 - 0.3 A @ 280 nm CV < 1% @ 0.3 - 1.7 A @ 280 nm N120 (Lid 10): < 0.004 A @ 0 - 0.3 A @ 280 nm CV < 0.4% @ 0.8 A @ 280 nm
Vortex	N60, NP80: 2,800 rpm Tube size up to 2.0 ml	Absorbance Accuracy	< 1.75% @ 0.7 A @ 280 nm of the reading
Cuvette Performance – NP80 & C40		Stray Light	N60, NP80, C40: < 0.5% @ 240 nm using NaI N50: < 2% @ 240 nm using NaI N120: < 1% @ 240 nm using NaI
Detection Range dsDNA	0.1 - 130 ng/μl	Optical Arrangement	C40, N50, N60, NP80, N120: 1x 4096 CMOS Array
Detection Range BSA	0.003 - 3.7 mg/ml	Lamp   Lifetime	Xenon flash lamp   10 <sup>9</sup> flashes, up to 10 years
Photometric Range	0 - 2.6 A	General Specifications	
Center Height (Z-Height)	8.5 mm	Main Body Size	200 x 200 x 120 mm
Cell Types	Outside dimension 12.5 x 12.5 mm	Weight	3.8 - 5.2 kg depending on configuration
Heating	37 °C ± 0.5 °C	Operating Voltage	90 - 250 V ± 10%, 50/60 Hz, 90 W, 18/19 VDC
Processing Power & Compatibility		Display	1024 x 600 pixels; glove compatible touchscreen
Operating System	Linux based NPOS	Built-in Battery Pack: Optional rechargeable lithium ion battery	C40, N60, NP80: 95 Wh, 6.6 Ah, 8 h N120: 47.5 Wh, 3.3 Ah, 3 h Min. charging cycles: 800
Onboard Processor	Intel Celeron dual core 2.4 GHz	Certification	CE, IEC 61010-1:2012 and EN 61326-1:2013
Internal Data Storage	C40, N50, N60, NP80: 64 GB N120: 128 GB	Battery Certification	IEC 62133 and UN38.3 transport test
In & Output Ports	2x USB A, USB B, HDMI, Ethernet, WiFi	Security	Slot for Kensington lock
Software Compatibility	Windows 8, 10 (32 & 64 bit) OS X (Intel x86 and Apple M1) iOS and Android OS		

## 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.