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™

Wi-Fi® 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	
Detection Range dsDNA	N60, NP80: 1 – 16,500 ng/µl N50: 5 – 7,500 ng/µl N120: 2 – 8,000 ng/µl
Detection Range BSA	N60, NP80: 0.03 – 478 mg/ml N50: 0.15 – 217 mg/ml N120: 0.06 – 230 mg/ml
Sample Volume	N50, N60, NP80: 0.3 – 2 µl N120: 2 – 3.5 µl
Photometric Range (10 mm equivalent)	N60, NP80: 0.02 – 330 A N50: 0.1 – 150 A N120: 0.04 – 160 A
Path Length	N50, N60, NP80: 0.67 & 0.07 mm N120: 1 and 0.125 mm
Dilution Factor	N50, N60, NP80: 15 and 140 N120: 10 and 80
Vortex	N60, NP80: 2,800 rpm Tube size up to 2.0 ml

Cuvette Performance – NP80 & C40	
Detection Range dsDNA	0.1 – 130 ng/µl
Detection Range BSA	0.003 – 3.7 mg/ml
Photometric Range	0 – 2.6 A
Center Height (Z-Height)	8.5 mm
Cell Types	Outside dimension 12.5 x 12.5 mm
Heating	37 °C ± 0.5 °C

Processing Power & Compatibility	
Operating System	Linux based NPOS
Onboard Processor	Intel Celeron dual core 2.4 GHz
Internal Data Storage	C40, N50, N60, NP80: 64 GB N120: 128 GB
In & Output Ports	2x USB A, USB B, HDMI, Ethernet, Wi-Fi®
Software Compatibility	Windows 8, 10, 11 (32 & 64 bit) OS X (Intel x86 and Apple M1) iOS and Android OS

Optical Specifications	
Wavelength Scan Range	C40, N60, NP80, N120: 200 – 900 nm N50: 200 – 650 nm
Measure Time For Full Scan Range	C40, N50, N60, NP80: 2.5 – 4.0 sec N120: 1.7 – 2.5 sec per sample
Wavelength Reproducibility	C40, N60, NP80, N120: ± 0.2 nm N50: ± 1 nm
Wavelength Accuracy	C40, N60, NP80, N120: ± 0.75 nm N50: ± 1.5 nm
Bandwidth	C40, N60, NP80: < 1.5 nm N50: < 3 nm N120: < 2.5 nm
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
Absorbance Accuracy	< 1.75% @ 0.7 A @ 280 nm of the reading
Stray Light	C40, N60, NP80: < 0.5% @ 240 nm using NaI N50: < 2% @ 240 nm using NaI N120: < 1% @ 240 nm using NaI
Optical Arrangement	C40, N50, N60, NP80, N120: 1x 4096 CMOS Array
Lamp | Lifetime	Xenon flash lamp | 10^9 flashes, up to 10 years

General Specifications	
Main Body Size	200 x 200 x 120 mm
Weight	3.8 – 5.2 kg depending on configuration
Power Requirements	90 – 250 V ± 10%, 50/60 Hz, supplied external power supply: 90 W, 18/19 V DC; C40, N50, N60, NP80: typ. power consumption: 20 W N120: typ. power consumption: 30 W
Display	1024 x 600 pixels; glove compatible touchscreen
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
Certification	CE, IEC 61010-1:2012 and EN 61326-1:2013
Battery Certification	IEC 62133 and UN38.3 transport test
Security	Slot for Kensington lock

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: Inflammatix, 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.

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