High Throughput Meets Regulatory Compliance

NanoPhotometer® N120

12 Channel NanoVolume

Microvolume Capability

Measure up to 12 samples per run
with only 2 µl per sample

Full Scan

1.7 – 2.5 seconds per sample
20 seconds for 12-sample full scan
200 to 900 nm
Resolution better than 2.5 nm

Regulatory Compliance, Certainty in Real Time and IQ/OQ Package

Optional CFR21 software provides password protected role based access control (RBAC), data integrity, electronic signatures and audit trail functionality
Impurity and air bubble recognition with Sample Control™ and Blank Control™
Compliant with international standards in regulated environments

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

Battery Powered

Up to 3 hours battery operation

Flexible Unit Control and Ultimate Data Security

Computer (Windows & Mac)
Built-in touchscreen
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
Air bubble recognition, Blank Control™ and Sample Control™ to ensure quality readings
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
128 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

"Really impressed with the accuracy..."

Rating: 5.0 ★★★★★

Application Area: DNA Analysis

"I've really been impressed with the accuracy, ease of use, and increased sample throughput with this instrument. The touch screen interface is a nice feature and very straightforward. You can easily navigate through the applications, load templates, access and analyze your data. I like that you're given the option to run up to 12 samples but you can also choose to run 1 or 2 samples. Having options is always a plus and you get that with the N120. The pipette guide makes it really easy to apply your samples. I can see that a lot of time, expertise, and careful considerations went into developing the NanoPhotometer."

Nam Che
Organization: UCLA Department of Medicine

"Great results and very accurate!"

Rating: 5.0 ★★★★★

Application Area: Protein assays and concentrations

"I love love love this machine. It's portable, idiot proof, and accurate. For its DNA analysis, it is much more accurate than the old familiar... . I love the fact that it is so modifiable and easy to use. We use it for a variety of functions in the lab, including Bradford assays. I really love that there is a built-in graph for these and that you can email it to yourself or save on a USB stick. This machine is the thing we have all been needing but never knew we missed. Also the customer care is outstanding and I look forward to our rep every time she comes."

Andrea Kuipers
Organization: California Institute of Technology

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