Performance Accelerated

Accurate

Patented Sample Compression Technology™ with guaranteed fixed path lengths allows for unmatched accuracy and precision. Independent from surface tension and free from evaporation. Lifetime accuracy guaranteed.

Consistent Results

Reliably analyze up to 12 samples per run over a wide concentration range (2 to 8,000 ng/µl for dsDNA). In comparison to other technologies, the NanoPhotometer® N120 provides trustworthy data for the accurate determination of 260/280 and 260/230 ratios. Blank Control™ and Sample Control™ monitor the entire measurement process and will highlight readings that are not within the expected purity range.

Easy

NPOS Operating System: intuitive graphical user interfaces providing one-step method access, pre-programmed and customizable applications based on the ultimate level of data security. Import and export of sample IDs from Excel files is available for fast and automated sample mapping.

Flexible

Control your NanoPhotometer® via touchscreen/ tablet/computer. Equipped with WiFi, USB A/B, HDMI, and LAN interface connections. Define and store your own data and methods and retrieve them through the NanoPhotometer® Network Drive. Connection and control via LIMS is available as an option.

Detection Range	Min	Max	Mean %CV*
dsDNA	2 ng/µl	8,000 ng/µl	0.77%; 312.9 ng/µl
BSA	0.06 mg/ml	230 mg/ml	1.01%; 5.19 mg/ml

*Based on 12 samples measured 16 times

Technical Specifications

NanoVolume Performance	
Detection Range dsDNA	2 - 8,000 ng/µl
Detection Range BSA	0.06 - 230 mg/ml
Sample Volume	2 - 3.5 µl
Photometric Range (10 mm equivalent)	0.04 - 160 A
Path Length	1 and 0.125 mm
Dilution Factor	10 and 80
General Specifications	
Main Body Size	200 x 200 x 120 mm
Weight	5.0 - 5.2 kg depending on configuration
Operating Voltage	90 - 250 V, 50/60 Hz, 90 W, 18/19 VDC
Display	1024 x 600 pixels Touchscreen glove compatible
Built-in Battery Pack	Optional rechargeable lithium ion battery: 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
In & Output Ports	2x USB A, USB B, HDMI, Ethernet, WiFi
Security	Slot for Kensington lock

Optical Specifications	
Wavelength Scan Range	200 - 900 nm
Measure Time For Full Scan Range	1.7 - 2.5 sec per sample
Wavelength Reproducibility	± 0.2 nm
Wavelength Accuracy	± 0.75 nm
Bandwidth	< 2.5 nm
Absorbance Reproducibility	< 0.004 A (1 mm path) @ 280 nm
Absorbance Accuracy	< 1.75% @ 0.7 A @ 280 nm of the reading
Stray Light	< 1% @ 240 nm using NaI
Optical Arrangement	1 x 3648 CCD Array
Lamp	Xenon flash lamp
Lifetime	10^9 flashes, up to 10 years
Processing Power & Compatibility	
Operating System	Linux based NPOS
Onboard Processor	Intel Celeron dual core 2.4 GHz
Internal Data Storage	128 GB
Software Compatibility	Windows 7, 8, 10 (32 & 64 bit) OS X, iOS Android OS

Features and specifications are subject to change without notice.

Implen GmbH
ISO 9001:2015

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NanoPhotometer® N120

Microvolume High Throughput Meets Regulatory Compliance

NanoPhotometer® N120

12 Channel NanoVolume

Fast High Throughput

With full scan capability range from 200 - 900 nm for rapid and complete sample analysis in as little as 1.7 seconds per sample, the NanoPhotometer® N120 record breaking design will exceed expectations. Measure 96 samples up to 100 times faster with 33% less operational steps required when compared to other scanning measurement methods such as most microplate readers. In addition to saving hands-on time with the one step Auto Sample feature, you attain detailed information for each sample – including full high resolution scan results along with sample purity ratios.

Stand-Alone Operation

Save valuable bench space. An integrated computer with an Intel Celeron Processor and 128 GB of data storage eliminates the need for a dedicated external computer. The compact, all-in-one design including a 7" glove compatible touch display and a built-in battery pack significantly reduces the bench top footprint of the device. Multi sample spectroscopy can now be taken under a laminar flow hood/clean bench, shared between labs or out into the field.

Trusted Technology

For over a decade prestigious biological, chemical and pharmaceutical companies as well as research organizations around the globe have relied on Implen spectrophotometers. The NanoPhotometer® is the most innovative line of microvolume UV/Vis spectrophotometers – cited by thousands of scientific publications worldwide.

Easy Sample Application

The NanoPhotometer® N120 features our unique and proprietary 12 Point Technology™ which consists of several positioning guides for single and multi-channel pipettes. Patented illuminated sample windows and animated sample processing grid ensures convenient and error free sample application. The design is compatible with various multi-channel pipettes and supports the user while positioning the tips on the sample windows.

Regulatory Compliance

CFR21 Software

The CFR21 software package provides compliance with FDA 21 CFR Part 11 requirements and is an optional software tool ideal for GxP laboratories, which require proper electronic record keeping. The software includes user account management with individual password protected Role Based Access Control (RBAC), electronic signatures, data integrity, security, and audit trail functionality.

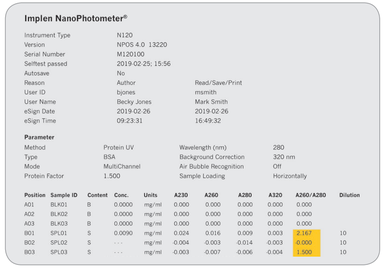
Maintenance

Guaranteed lifetime accuracy for peace of mind with no preventive maintenance or recalibration required due to precisely defined path lengths in a sealed optics block. The measurement environment consists of scratch-resistant and inert quartz.

Installation Qualification and Operation Qualification (IQ/OQ)

Our IQ/OQ package is offered for compliance with international standards in regulated environments and provides conforming data to document and verify that your instrument is installed and functioning according to its intended use and within specifications. The system suitability test is performed with a non-toxic liquid NIST traceable secondary standard that absorbs at a wavelength of 280 nm.

Electronic Signature



Implen NanoPhotometer®

Instrument Type	N120		
Version	NPOS 4.0 .13220		
Serial Number	M1201.00		
Selftest passed	2019-02-25; 15:56		
Autosave	No		
Reason	Author	Read/Save/Print	
User ID	bjones	msmith	
User Name	Becky Jones	Mark Smith	
eSign Date	2019-02-26	2019-02-26	
eSign Time	09:23:31	16:49:32	

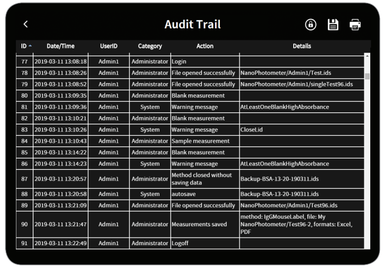
Parameter

Method	Protein UV	Wavelength (nm)	280
Type	BSA	Background Correction	320 nm
Mode	MultiChannel	Air Bubble Recognition	Off
Protein Factor	1.500	Sample Loading	Horizontally

Position	Sample ID	Content	Conc.	Units	A230	A260	A280	A320	A260/A280	Dilution
A01	BLK01	B	0.0000	mg/ml	0.000	0.000	0.000	0.000	0.000	
A02	BLK02	B	0.0000	mg/ml	0.000	0.000	0.000	0.000	0.000	
A03	BLK03	B	0.0000	mg/ml	0.000	0.000	0.000	0.000	0.000	
B01	SPL01	S	0.0090	mg/ml	0.024	0.016	0.009	0.003	2.167	10
B02	SPL02	S	- - -	mg/ml	-0.004	-0.003	0.014	0.003	-0.000	10
B03	SPL03	S	- - -	mg/ml	-0.003	-0.007	-0.006	-0.004	1.500	10

Measurement data are saved by confirming User ID and password. Saved files provide the user name/author, User ID, date and time for proper electronic record keeping. IDS and PDF files cannot be altered and ensure data integrity.

Audit Trail

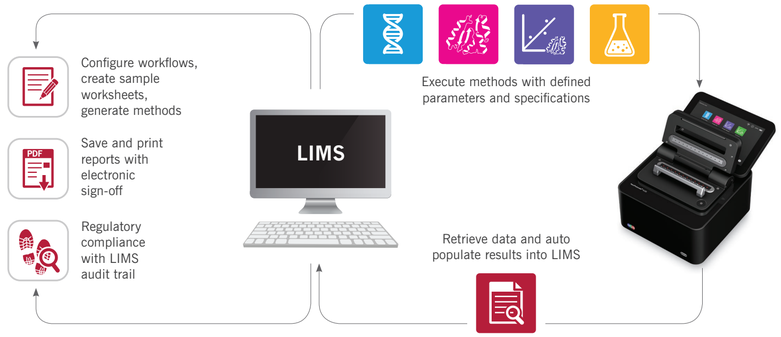


Audit Trail

ID	Date/Time	UserID	Category	Action	Details
77	2019-03-11 13:08:18	Admin1	Administrator	Login	
78	2019-03-11 13:08:26	Admin1	Administrator	File opened successfully	NanoPhotometer/Admin1/Test.ids
79	2019-03-11 13:08:52	Admin1	Administrator	File opened successfully	NanoPhotometer/Admin1/SingleTest96.ids
80	2019-03-11 13:09:35	Admin1	Administrator	Blank measurement	
81	2019-03-11 13:09:36	Admin1	System	Warning message	AtLeastOneBlankHighAbsorbance
82	2019-03-11 13:10:21	Admin1	Administrator	Blank measurement	
83	2019-03-11 13:10:26	Admin1	System	Warning message	CloseLid
84	2019-03-11 13:10:43	Admin1	Administrator	Sample measurement	
85	2019-03-11 13:14:22	Admin1	Administrator	Blank measurement	
86	2019-03-11 13:14:23	Admin1	System	Warning message	AtLeastOneBlankHighAbsorbance
87	2019-03-11 13:20:57	Admin1	Administrator	Method closed without saving data	Backup-BSA-13-20-190311.ids
88	2019-03-11 13:20:58	Admin1	System	Autosave	Backup-BSA-13-20-190311.ids
89	2019-03-11 13:21:09	Admin1	Administrator	File opened successfully	NanoPhotometer/Admin1/Test96.ids
90	2019-03-11 13:21:47	Admin1	Administrator	Measurements saved	method: IgGMouseLabel_file: My NanoPhotometer/Test96-2_formats: Excel, PDF
91	2019-03-11 13:22:49	Admin1	Administrator	Logoff	

The audit trail automatically records all actions and preference changes in an audit log. The audit log contains a sequence ID, time stamp, user ID and category for each action. Audit trails can be saved as a PDF and printed by an Administrator for documentation purposes.

LIMS Integration



Add more efficiency to your workflow by integrating the NanoPhotometer® with your LIMS to control processes, eliminate errors and save time. The NanoPhotometer® can be integrated with any LIMS software provider.