Solutions for small volumes

Small. Fast. Accurate.

NanoPhotometer®P-Class

NanoPhotometer®P-Class

Small

0.3µl sample volume
Sample Compression Technology™ allows for accurate determination of nucleic acids, proteins, and peptides in ultra low sample volumes

Fast

3.5 seconds per reading
Turn on and instantly measure without lamp warm up time; Full scan capability from 200-950nm in 3.5 sec

Accurate

Lifetime accuracy without recalibration
Sealed optics without moving parts or pathlength drift eliminates the need for costly and time consuming recalibrations; Avoid evaporation and sample limitations utilizing the patented Sample Compression Technology™

Flexibility and Mobility

All-in-One
Small volume and cuvette capability always standard; Standalone mobile design with large LCD display and available thermal printer for convenient direct printing; Electronic data can be automatically generated in a variety of file formats when connected to a PC; USB flash drive, Bluetooth or SD-Memory capability is available on selected models

Detection Range

Widest concentration coverage
Apply NanoVolume samples directly without dilution; Optical alignment, high linearity, and automatic dilution provide the widest concentration range of dsDNA 2-18,750 ng/ul and protein (BSA) 0.08-543 mg/ml

Standardization

Optimized Sample Condition
Ensure homogeneous samples with built-in low vibration vortexer option for consistent readings and accurate results over the entire life-time

NanoPhotometer®P-Class

All-in-One Solution

Small

0.3µl sample volume
Sample Compression Technology™ allows for accurate determination of nucleic acids, proteins, and peptides in ultra low sample volumes

Fast

3.5 seconds per reading
Turn on and instantly measure without lamp warm up time; Full scan capability from 200-950nm in 3.5 sec

Accurate

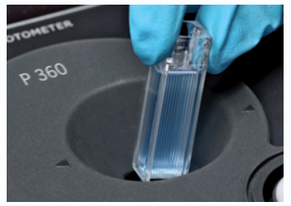
Lifetime accuracy without recalibration
Sealed optics without moving parts or pathlength drift eliminates the need for costly and time consuming recalibrations; Avoid evaporation and sample limitations utilizing the patented Sample Compression Technology™

NanoVolume Capability

0.3 µl analysis with patented* Sample Compression Technology™

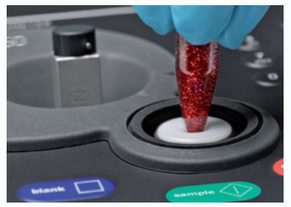
*US Patents 20080204755 and 20080106742

Cuvette Capability



Wide concentration range for cuvettes (up to 2.5 Abs); Removable cell holder for easy cleanup after accidental spills; Methods optimized for OD600, Bradford, Lowry, Biuret, BCA and Kinetics

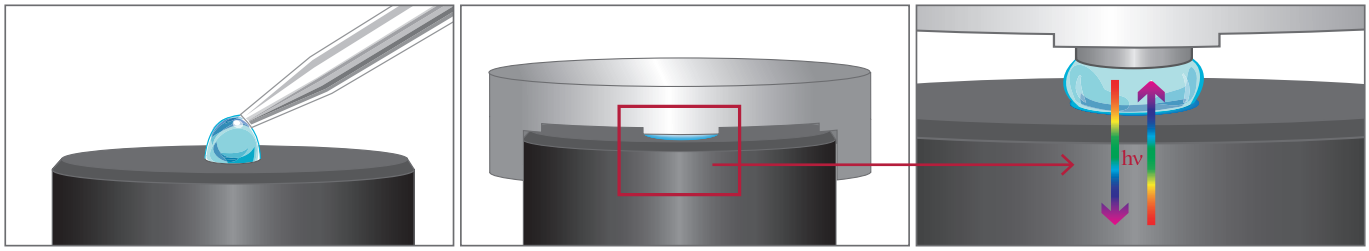
Built-in Vortexer



Achieve sample uniformity by vortexing prior to each measurement; Obtain readings that represent the accurate concentration of the entire sample

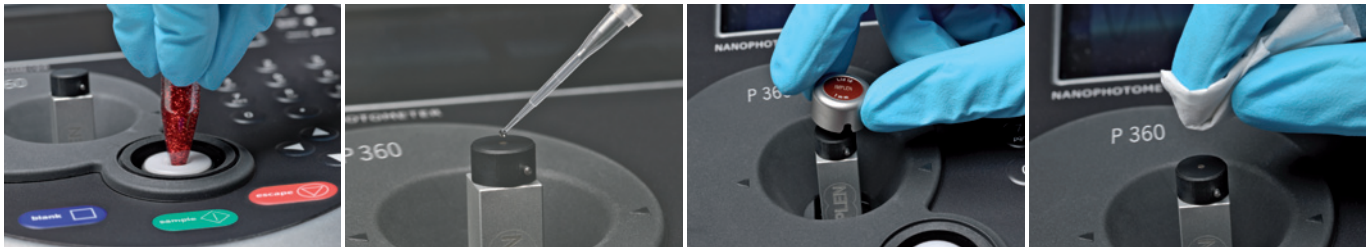
Performance and Applications

Sample Compression Technology™



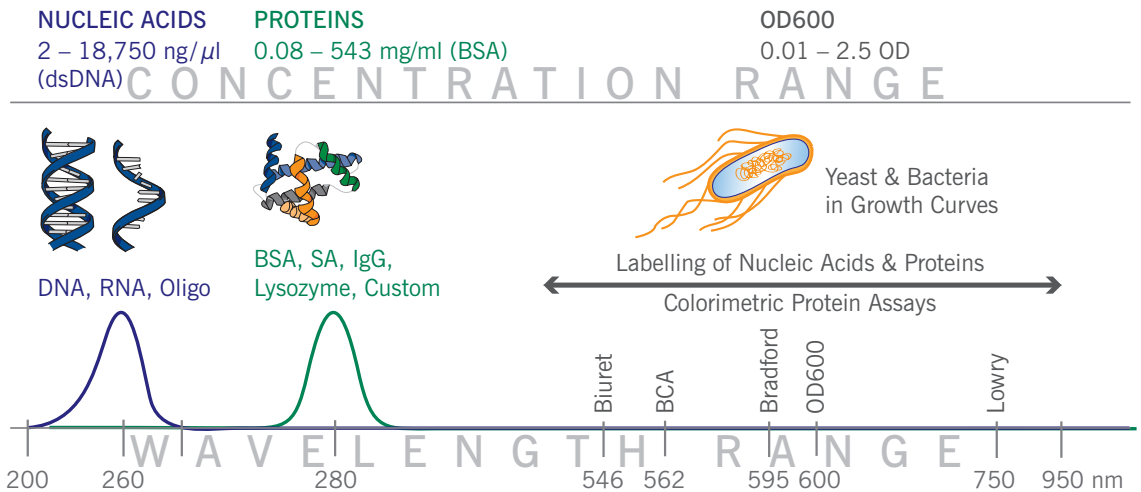
- Dual Absorption™ of light for ultra sensitivity at low concentrations with minimal sample volumes of 0.3 µl
- Reliable solution for small volume protein measurements due to independence of sample surface tension; No issues of column formation with low surface tension samples
- Reproducible results due to contained micro sample environment; Applications expanded to analytes in volatile solvents, such as drugs or other challenging sample types
- No recalibration or maintenance as optical components and pathlenghts are fixed without drift; Quartz sample surface is scratch resistant, inert, and does not require regular surface reconditioning

Easy Handling



Mix sample | Apply sample | Automatic sample dilution | Quick and easy cleaning

Professional Quantification



Technical specifications

SMALL VOLUME OPTION

Detection range	dsDNA: 2 ng/µl to 18,750 ng/µl, BSA: 0.08 mg/ml to 543 mg/ml
Photometric range	0.01 – 1.5 A (10 mm equivalent: 0.05 – 375)
Minimum sample size	0.3 µl
Path lengths	0.04 mm, 0.1 mm, 0.2 mm, 1 mm and 2 mm
Virtual dilution factors	5, 10, 50, 100 and 250

SPECTROMODULE

Wavelength range	190 – 1,100 nm
Wavelength scan range	200 – 950 nm
System start up time	Less than 5 seconds, no warm up necessary
Measure time for full scan range	3.5 seconds
Wavelength reproducibility	< ± 0.2 nm
Wavelength accuracy	± 2 nm
Bandwidth	Better than 5 nm
Stray light	< 0.5% at 220 nm using NaI and 340 nm using $NaNO_2$
Photometric range	-0.3 – 2.499 A 0 – 199% T
Detection Range	dsDNA: 0.5 ng/µl to 125 ng/µl, BSA: 0.02 mg/ml to 3.6 mg/ml
Absorbance reproducibility	±0.003 A (0 to 0.5 A), ±0.007 A (0.5-1.0 A) @ 260 nm
Absorbance accuracy	±0.005 A or ±1% of the reading, whichever is the greater
Zero stability	±0.003 A/hour after 20 min warm up @ 340 nm
Noise	0.002 A rms at 0 A @ 260 nm 0.005 A (pk to pk) at 0 A @ 260 nm
Optical arrangement	Dual channel Czerny Turner with flat grating,1024 pixel CCD array, concave mirrors
Lamp	Xenon flash lamp
Lifetime	10^9 flashes, up to 10 years
Cell types	15 mm centre height (z-height), outside dimension 12.5 mm x 12.5 mm

OTHER TECHNICAL DATA

Vortexer	2,800 rpm; tube size up to 2.0 ml
Cuvette storage	capacity for eight 10 mm cells
Photometric mode	Abs, %T, concentration, scan, ratio, multi wavelength, kinetics in ΔAbs x factor / min
Method storage	Up to 81 methods in user methods
Built-in methods	Nucleid acid, microarray (labeling efficiency), protein and cell density
Display formats	320 x 240 pixels
Size (W x D x H)	275 mm x 400 mm x 100 mm
Weight	< 4.5 kg
Operating voltage	90 – 250 V, 50/60 Hz, Max 30 VA
Output port options	USB cable for easy PC connection and data export; built-in printer; USB flash drive port, SD Memory Card or Bluetooth on selected models
Input ports	USB cable for firmware updates
Performance verification	Auto diagnostics when switched on

Implen GmbH
ISO 9001:2008

Europe, Asia, South Pacific, Middle East and Africa
Implen GmbH
Schatzbogen 52 | 81829 München | Germany
Tel. +49 89 72637180 | Fax +49 89 726371854 | info@implen.de | **www.implen.de**

North and South America
Implen, Inc.
31194 La Baya Drive | Unit 104 | Westlake Village | CA 91362 | USA
Tel. +1 818 748-6400 | Fax +1 818 449-0416 | info@implen.com | **www.implen.com**