

OPTIZEN Series

UV-Vis, Microvolume
Spectrophotometer



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KEEN INNOVATIVE SOLUTIONS

We study the future of analytical instruments.

The goal of K LAB CO., LTD. is to create innovative products and produce value for our customers that has never existed in the world, leading to a better future.

We have developed spectrophotometers based on our best technology and have been providing opportunities to use them easily in laboratories and various fields.

We pursue innovation not only in product technology but also in customer satisfaction. We aim to improve the quality of our research by supplying products that meet customer needs.



OPTIZEN Series

UV-Vis & Microvolume Spectrophotometer

The K LAB's spectrophotometer product line, OPTIZEN™ Series has been produced based on high technology and strict quality control. It offers superior performance and design as well as convenience to customers, which cannot be compared to other products. OPTIZEN Series can measure the transmittance or absorbance at each wavelength of a sample in ultraviolet and visible light bands to determine the quantitative characteristics such as concentration and purity. OPTIZEN Series, which can be used widely from general analytical experiments to professional research fields, guarantees accurate measurement and excellent reproducibility and provides reliable results in various fields such as the environment, biotechnology, and chemistry.



OPTIZEN Alpha

- OPTIZEN Alpha (190 - 1100 nm)
- Double-beam Type
- Spectral Bandwidth : 1 nm
- Measurable Range : -4 A - 4 A
- 8" Display



OPTIZEN Alphalook

- OPTIZEN Alphalook (190 - 1100 nm)
- PDA Type (1024 pixels)
- Spectral Bandwidth : 1 nm
- Measurable Range : -3 A - 3 A
- Full Spectrum Measurement Time: < 2 s



OPTIZEN POP Series

- OPTIZEN POP (190 - 1100 nm)
- Single-beam Type
- Spectral Bandwidth : 1.8 nm
- Measurable Range : -3 A - 3 A
- 7" Display

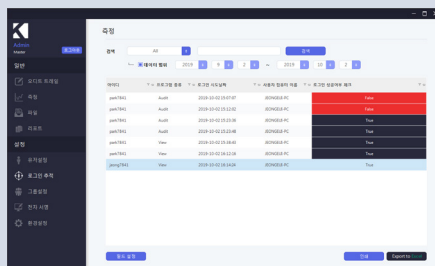
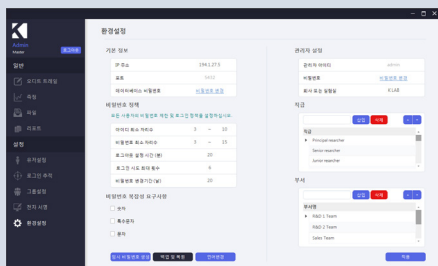


OPTIZEN NanoQ

- OPTIZEN NanoQ (190 - 850 nm)
- Xenon flash lamp
- Absorbance Accuracy 3% (at 0.97A at 302 nm)
- Maximum Concentration 16,500 ng/μL (dsDNA), 400 mg/mL (BSA)



- To be launched in 2020
- Microplate Reader
- Variable bandwidth spectrophotometer
- UV-Vis-NIR spectrophotometer
- Fluorespectrophotometer



OPTIZEN Secure

OPTIZEN Secure is Windows® PC software can manage, check and trace user activities(Login, measurement, print) at OPTIZEN View. You need OPTIZEN View(CFR mode included) to use OPTIZEN Secure.

OPTIZEN Alpha

The luxuriously designed OPTIZEN Alpha is spectrophotometer to use double-beam method.

OPTIZEN Alpha can grasp the quantitative characteristics such as density or purity by measuring transmittance or optical density according to wavelength of sample in the range of ultraviolet rays and visible ray. OPTIZEN Series can be utilized from not only a general analysis experiment to but also a specialized research field and guarantee accurate measurement and excellent reproducibility, accordingly offer reliable results in the various fields such as environment, biotechnology, chemistry, etc.



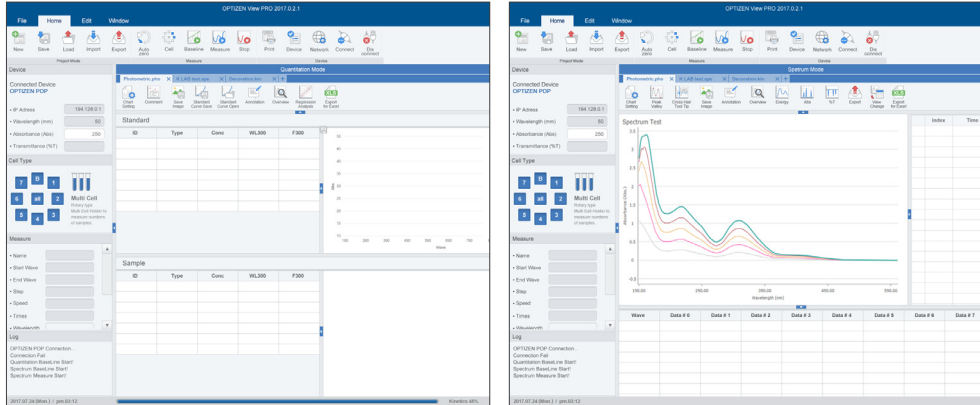
The previous single beam type spectrophotometer has a weak point of error occurrence in measuring a sample, because of the movement of a light source by time lag in measuring the strength of between a reference light and a light from sample. To solve the problem, OPTIZEN Alpha was designed as a double-beam type spectrophotometer. The system utilizes an additional reference beam to improve the measurement performance by compensating the intensity fluctuation of its light source.

- Offering self-diagnosis function
- Easily and quickly call up the information that is being measured or analyzed by registering it in you favorites.
- Changing to the remote mode and then can link it with PC by using OPTIZEN View.
- The measurement is possible in the optimal condition by checking the equipment's operation time, lamp warm up condition and accumulated using time in real time.
- OPTIZEN Alpha's login function can prevent the measured data from leaking to many and undesiganted persons.

OPTIZEN Alpha main characteristics

- A world-class measurement performance
- Wide-size color screen (ALPHA: 8")
- Various cell compatibility and fast cell type choice
- Automatic measurement of lots of samples by equipping multi-cell.
- Convenient voice service and volume control
- Emotional design

OPTIZEN View



OPTIZEN View, PC-Interface software of OPTIZEN Series, enables the user to check and control the result of sample measurement in real time in Windows® environment and facilitate the general management related to the device and the measurement.

Specifications			
Photometrics System	Double-beam type		± 0.0002 at 0.5 A
Light Source(s)	Tungsten Halogen Lamp & Deuterium Lamp	Photometric Repeatability	± 0.0006 at 1.0 A
	(Built-in light source auto interchanging motor)		± 0.001 at 2.0 A
Detector	Silicon Photodiode	Baseline Stability	< 0.0003 A/h
Spectral Bandwidth	1 nm (190 - 1100 nm)	Baseline Flatness	< ± 0.0005 A
Wavelength Range	190 - 1100 nm	Stray Light	< 0.02% NaI at 220 nm, NaNO ₂ at 340 nm
Wavelength Display (setting)	0.05 nm	Monochromator	Czerny-Turner type with 1200 lines/nm blazed grating
Wavelength Accuracy	± 0.3 nm (For entire range)	Standard Cell Holder	Automatic Rotary type 8-position Multi-Cell Holder
	± 0.1 nm (656.1 nm)	Operating System (OS)	Windows® 10 (Embedded PC)
Wavelength Repeatability	< ± 0.1 nm	Display	8 inch color LCD with touch screen
Slew Rate	About 45,000 nm/min	Control Options	Onboard with built-in touchscreen, Computer
Scanning Speed	max 6,000 nm/min	Dimensions(W*D*H)	520 mm*500 mm*200 mm
Photometric Range	Absorbance: -4 A - 4 A	Power Requirement	100 - 240 V; 50 - 60 Hz
	Transmittance: 0% - 400%	Weight	14 kg
Photometric Accuracy	Less than ± 0.005 A at 1.0 A	PC Software	(included) OPTIZEN View for Windows®

OPTIZEN Alphalook

By using Photodiode array detector to collect and handle simultaneously all wavelength of a light in the range of UV-Vis, the device can reduce the analysis time and lower the error from the experiment.

PDA UV-Vis spectrophotometer can obtain an Ultraviolet-to-NIR broad spectrum at one time by using a simple and precise optical device and check the result value of the wavelength data that the user wants to see. In addition, the product can handle very conveniently a complicate sample or a lot of samples with a simple touch by using compatible accessories.



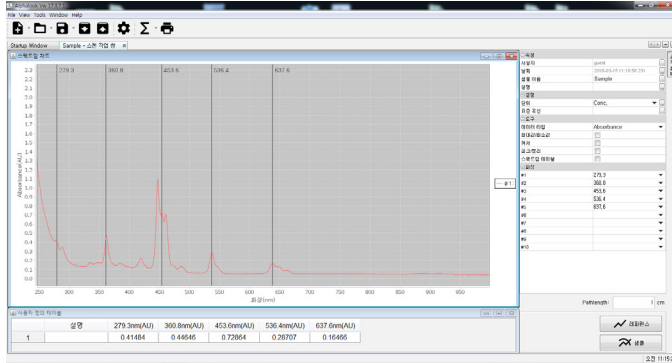
OPTIZEN Alphalook is a spectrophotometer to measure the wavelength of the light from ultraviolet rays, visible rays to near-infrared rays(190 - 1100 nm) all together in real time by using Photodiode array. The device takes at most 2 seconds to measure all range of the wavelength and is suitable for checking repetitive wavelength analysis and dynamic characteristic of spectrum and performing quantitative analysis in the various range of wavelength. In addition, its exterior touch button enables to measure easily the sample and it can be compatible with Android™-based tablet and Windows®-based PC.

- The exterior button is available for the simple and fast measurement.
- Quartz coating treatment to prevent the high-precision parts from a polluted material.
- Easy replacement of a cell holder owing to using screws
- It can check a lamp using time in real time.
- Offering a table stand to consider the user's eye position.
- It can operate without additional transformer and power stabilizer even in unstable power supply.
- Swift and precise measurement through electrical shutter control.
- Compatibility of analyzed data with PDF and EXCEL.

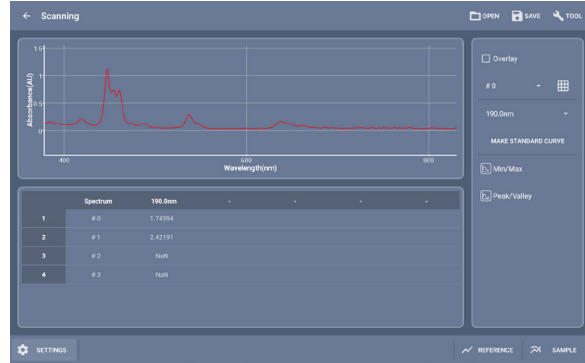
OPTIZEN Alphalook's main characteristics

- Very simple interface.
- Data compatibility with desktop PC and tablet.
- Supporting tablet clouds printing and bluetooth link
- Supporting Windows®-based desktop PC software

OPTIZEN Alphalook UI (Windows®)



OPTIZEN Alphalook UI (Android™)



Specifications

Photometrics System	Photodiode array, PDA
Light Source(s)	Tungsten Halogen Lamp & Deuterium Lamp
Detector	Photodiode array
Spectral Bandwidth	1.0 nm (190 - 1100 nm)
Wavelength Range	190 - 1100 nm
Wavelength Display (setting)	0.1 nm
Wavelength Accuracy	< ± 0.5 nm
Wavelength Repeatability	< ± 0.1 nm
Measurement Time	< 2 seconds
Photometric Accuracy	< ± 0.005 A
Photometric Noise	0.001 A
Baseline Stability	< 0.001 A/h
Standard Cell Holder	Single cell
Operating System (OS)	Windows® / Android™
Control Options	Compute, Android tablet
Dimensions(W*D*H)	587 mm*315 mm*203 mm
Other Interface	USB & Bluetooth
Power Requirement	90 - 264 VAC, 47 - 63 Hz
Weight	14.52 kg

OPTIZEN POP Series

OPTIZEN POP chooses our unique high resolving power wavelength measurement mechanism.

OPTIZEN POP Series are single-beam type spectrophotometers and offer stable performance and compact-size and reasonable price to the users. The series are categorized into POP, POP-S, POP-V according to the specification of the products.



OPTIZEN POP offers four measurement modes (Photometric Mode, Quantitative Mode, Spectrum Mode, Kinetics Mode). The user can choose a suitable mode depending on the purpose to measure. The embedded S/W, touch screen interface and application facilitate the use of the device.

OPTIZEN POP Series main characteristics



- Checking and recording the temperature at the analysis moment by applying the temperature measurement system.
- Offering ARM® Cortex™ – A8 processor and supporting basic 16GB storage
- It can measure automatically lots of samples by using Multi Cell.
- Supporting convenient voice service and volume control function
- Supporting network printer.

- Offering a help service with a graphic type.
- Easily and quickly call up the information that is being measured or analyzed by registering it in your favorites.
- Link it with PC by using OPTIZEN View.
- The measurement is possible in the optimal condition by checking the equipment's operation time, lamp warm up condition and accumulated using time in real time.



- The measurement monitoring is possible through choosing cell type without entering a mode and easily checking the current cell condition is possible through a change cell type icon according to the cell type condition or position.

Specifications

Product Image				
Product Name	OPTIZEN POP	OPTIZEN POP-S	OPTIZEN POP-V	
Photometrics System	Single-beam type			
Light Source(s)	Tungsten Halogen Lamp & Deuterium Lamp (Built-in light source auto interchanging motor)		Tungsten Halogen Lamp	
Detector	Silicon Photodiode			
Spectral Bandwidth	< 1.8 nm	< 3.0 nm		
Wavelength Range	190 - 1100 nm		340 - 1100 nm	
Wavelength Display (setting)	≥ 0.1 nm			
Wavelength Accuracy	< ± 0.5 nm (at D2 peak 656.1, 486.0 nm)			
Wavelength Repeatability	< ± 0.1 nm	< ± 0.2 nm		
Slew Rate	About 7,800 nm/min			
Scanning Speed	max 4,000 nm/min			
Photometric Range	Absorbance : -3 A - 3 A / Transmittance : 0% - 300%			
Photometric Accuracy	< ± 0.005 A (at 1.0 A), < ± 0.003 A (at 0.5 A)			
Photometric Repeatability	< ± 0.001 A			
Baseline Stability	< ± 0.001 A/h (at 700 nm)	< ± 0.002 A/h		
Baseline Flatness	< ± 0.001 A (200 - 1100 nm)	< ± 0.003 A (220 - 1050 nm)	< ± 0.003 A (340 - 1050 nm)	
Stray Light	< 0.1%T (220, 340 nm)			
Monochromator	Czerny-Turner type with 1200 lines/nm blazed grating			
Standard Cell Holder	Automatic Rotary type 8-position Multi-Cell Holder			
Lamp Interchange Wavelength	340 - 410 nm (Default 370 nm)		-	
Operating System (OS)	Windows® CE			
Display	7 inch color LCD with touch screen			
Control Options	Onboard with built-in touchscreen, Computer			
Dimensions(W*D*H)	433 mm*381 mm*180 mm			
Power Requirement	100 - 240 V; 50 - 60 Hz			
Weight	8 kg			
PC Software	OPTIZEN View for Windows®	(optional) OPTIZEN View for Windows®		

OPTIZEN QX Series

We recommend OPTIZEN QX Series possessing an excellent water quality analysis function.

OPTIZEN QX is invented to help scientists, facility managers, engineers, environment health experts and water treatment specialists to carry out the water quality analysis quickly and accurately. As the device provides the voice service and more than 150 pre-programmed methods, the users can use it easier than other devices. The device is available for a continuous management, an improved and simplified analysis procedure and a simple, precise analysis for measuring water quality items such as COD, TN, TP, etc.



OPTIZEN QX Series are the water quality analysis system to reduce the correction time and improve the general precision degree. The devices use Hach's and Merck's pre-programmed methods (more than 150) and their convenient interface and automation function help you to perform an easy, quick and precise experiment.

OPTIZEN QX Series' main characteristics

- Water quality analysis.
- Standard curve drawing is possible by themselves.
- High speed wavelength scanning.
- Supporting a network printer connection function.
- Supporting all-in-one cell holder
(original size : 16, 25mm, quadrangle 10 mm compatibility).
- Convenient voice service
- A touch screen display using an intuitive user interface.

- Using all-in-one cell holder enables the user to use all the cell conveniently and simply.
- Easily and quickly call up the information that is being measured or analyzed by registering it in your favorites.
- Using Hach and Merck kit's pre-programmed methods (more than 150), one of the best water quality test kits
*(*Refer to the table shown in right side.)*
- Supporting software online update.

Pre-programmed Methods

Parameter	Range	Unit	Parameter	Range	Unit	Parameter	Range	Unit
Aluminum Alumin.	0-0.8	mg/L	Manganese, HR	0-0	mg/L	P. React. PV	0-2.5	mg/L
Boron, HR	2-0	mg/L	Manganese, LR	0.005-0.7	mg/L	P. React. PV AV	0-2.5	mg/L
Chlor Diox DPD AV	0-5	mg/L	Manganese, LR PAN	0-0.7	mg/L	P. React. PV TNT	0-5	mg/L
Chloride	0-5	mg/L	Manganese, LR PAN 50	0.005-0.5	mg/L	P. Total HR TNT	0-0	mg/L
Chlorine F&T AV	0-2	mg/L	Molybdenum HR AV	0-0	mg/L	P. Total/AH PV TNT	0-3.5	mg/L
Chlorine F&T HR	0-0	mg/L	Monochloramine LR	0-4.5	mg/L	PAA	0.1-0	mg/L
Chlorine F&T MR	0-4.4	mg/L	N., Ammonia Free	0-0.5	mg/L	Perman. Index HR	4.5-5	mg/L
Chlorine F&T PP	0-2	mg/L	N., Ammonia HR TNT	0-0	mg/L	Perman. Index LR	0.5-5	mg/L
Chlorine F&T RL	0-2	mg/L	N., Ammonia LR TNT	0-2.5	mg/L	Silica, HR	0-0	mg/L
Chlorine F&T TNT	0-5	mg/L	N., Ammonia Ness.	0-2.5	mg/L	Silica, LR	0-1.6	mg/L
Chromium, Hex.	0-0.7	mg/L	N., Ammonia Salic.	0-0.5	mg/L	Silica, ULR	0-0	µg/L
Chromium, Hex. AV	0-0.7	mg/L	N., Nitrate HR AV	0-0	mg/L	ULR Phosphate	30-0	µg/L
COD HR	0-0	mg/L	N., Nitrate HR PP	0-0	mg/L	Zinc	0-3	mg/L
COD LR	0-0	mg/L	N., Nitrate HR TNT	0-0	mg/L			
COD Mn III	0-0	mg/L	N., Nitrate LR	0-0.5	mg/L			
COD RD 20 HR	0-0	mg/L	N., Nitrate MR AV	0-0	mg/L			
COD RD 20 LR	0-0	mg/L	N., Nitrate MR PP	0-0	mg/L			
COD ULR	0-0	mg/L	N., Nitrite HR PP	0-0	mg/L			
Copper, Bicin.	0-5	mg/L	N., Nitrite LR AV	0-0	mg/L			
Copper, Bicin. AV	0-5	mg/L	N., Nitrite LR PP	0-0	mg/L			
Cyanide	0-0.24	mg/L	N., Nitrite LR TNT	0-0	mg/L			
H2O2	0.05-5	mg/L	N., Total HR TNT	0-0	mg/L			
Hardness, Ca	0-4	mg/L	N., Total LR TNT	0-5	mg/L			
Hardness, Mg	0-4	mg/L	N. Inorganic TNT	0-5	mg/L			
Hydrazine	0-0	µg/L	Oxygen, Dis. HR AV	0-5	mg/L			
Hydrazine AV	0-0	µg/L	Oxygen, Dis. LR AV	0-0	µg/L			
Iodine	0-7	mg/L	Oxygen, Dis. UHR AV	0-0	mg/L			
Iodine. AV	0-7	mg/L	Ozone HR AV	0-1.5	mg/L			
Iron, FerroMo	0-1.8	mg/L	Ozone LR AV	0-0.25	mg/L			
Iron, FerroVer	0-3	mg/L	Ozone MR AV	0-0.75	mg/L			
Iron, FerroVer AV	0-3	mg/L	P. React. Amino.	0-0	mg/L			
Iron, FerroZine	0-1.4	mg/L	P. React. HR TNT	0-0	mg/L			
Iron, TPTZ	0-1.8	mg/L	P. React. Mo	0-5	mg/L			
Iron, TPTZ AV	0-1.8	mg/L	P. React. Mo AV	0-5	mg/L			

Specifications

Photometrics System	Single-beam type	Photometric Repeatability	± 0.003 at 1.0 A
Light Source(s)	Tungsten Halogen Lamp & Deuterium Lamp	Baseline Stability	< 0.001 A/h
	(Built-in light source auto interchanging motor)	Baseline Flatness	< 0.003 A/h (220 - 1050 nm)
Detector	Silicon Photodiode	Stray Light	< 0.05%T (220 nm, 340nm)
Spectral Bandwidth	1.8 nm (190 - 1100 nm)	Monochromator	Czerny-Turner type with 1200 lines/nm blazed grating
Wavelength Range	190 - 1100 nm, 340 - 1100 nm (QX-V)	Standard Cell Holder	All-in-One Cell Holder
Wavelength Display (setting)	0.1 nm	Lamp Interchange Wavelength	340 - 410 nm (Default 370 nm)
Wavelength Accuracy	< ± 1.0 nm at 486, 656.1 nm	Operating System (OS)	Windows® CE
Wavelength Repeatability	< ± 0.1 nm	Display	7 inch color LCD with touch screen
Slew Rate	About 7,800 nm/min	Control Options	Onboard with built-in touchscreen, Computer
Scanning Speed	max 4,000 nm/min	Dimensions(W*D*H)	433 mm*381 mm*180 mm
Photometric Range	Absorbance : -3 A - 3 A	Power Requirement	100 - 240 V; 50 - 60 Hz
	Transmittance : 0% - 300%	Weight	8 kg
Photometric Accuracy	5 mAbs at 0.0 - 0.5 A	Preprogrammed Method	> 80 (Hach), > 130 (Merck)
	< 1% at 0.50 - 2.0 A at 546 nm	PC Software	(optional) OPTIZEN View for Windows®

OPTIZEN NanoQ

The Smart Microvolume Spectrophotometer

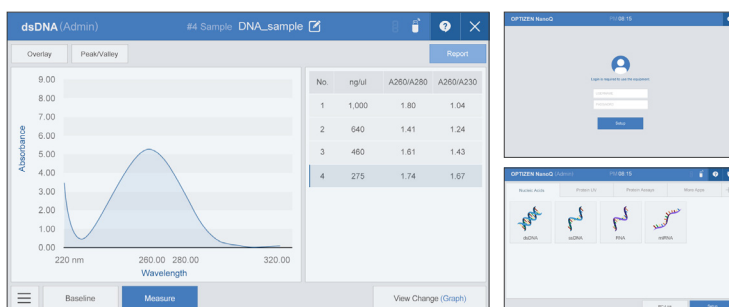
NanoQ is wide wavelength microvolume spectrophotometer with modern design and user convenience UI. It supplies extremely fast and easy quantitative analysis of nucleic acid and protein by UV-Vis absorption spectrophotometry. It provides microvolume sample measuring mode and cuvette measuring mode so can measure wide range of concentration. You can easily set over 20 measuring modes.

Note The OPTIZEN NanoQ Plus model provides pedestal and cuvette measuring mode, but the OPTIZEN NanoQ does not.



Full Spectrum Analysis

OPTIZEN NanoQ can measure the absorption spectrum UV-Vis (190 - 850 nm) in seconds using by array type spectrophotometer technology with Xenon lamp and CMOS-sensor(2048 pixels). It also provides various algorithms like Peak/Valley detection.



Measuring Mode : Nucleic Acid(dsDNA, ssDNA, RNA), Protein(Lysozyme, BSA, IgG), OD600, etc.

Measurement menu configuration

	Menu	Factor
Nucleic Acid (ng-cm/ μ l)	dsDNA	50
	ssDNA	33
	RNA	40
	miRNA	33
	Custom	Input
Protein (g-cm/ ℓ)	BSA	1.5
	SA	1.49, 1.72
	IgG	0.71, 0.74
	IgE Human	0.65
	Lysozyme	0.38
	OD1	1
OD600	OD600	1

Specifications		
Product Name	OPTIZEN NanoQ Plus	OPTIZEN NanoQ
Photometrics System	Microvolume Spectrophotometer	
Light Source(s)	Xenon flash lamp	
Lifetime	Up to 10 years	
Detector	CMOS linear image sensor (2048 pixels)	
Spectral Bandwidth	1.0 nm (FWHM at Hg 253.7 nm)	
Wavelength Range	190 - 850 nm	
Wavelength Display (setting)	1 nm	
Wavelength Accuracy	± 1 nm	
Microvolume	Minimum Sample Volume	1 µL
	Photometric Range	0.02 - 330 A (10mm equivalent)
	Detection Limit (Microvolume)	2 ng/µL (dsDNA) 0.06 mg/mL (BSA) 0.003 mg/mL (IgG)
	Maximum Concentration	16,500 ng/µL (dsDNA), 400 mg/mL (BSA)
Cuvette	Photometric Range	0 - 2 A
	Detection Limit	0.2 ng/µL (dsDNA) 0.006 mg/mL (BSA) 0.0003 mg/mL (IgG)
	Center Height (Z-height)	15 mm
	Heating (Optional)	37 °C
Absorbance Precision	0.002 A (0.5 mm path) or 1%	
Absorbance Accuracy	3% (at 0.97A at 302 nm)	
Measurement Time	< 8 seconds	
Software Compatibility	Windows® 7 and 10	
Touchscreen	Multipoint capacitive touch	
CPU	Octa Core ARM® Cortex™-A53 Processor	
Storage	32 GB Internal Storage	
Glove Compatibility	Compatible with lab gloves	
Connectivity	4 x USB ports, Ethernet, and RS-232	
Display	7-inch, 1280 x 800 HD color display	
Operating System (OS)	Android™	
Footprint (W*D)	216*290 mm	
Weight	3.0 kg	
PC Software	(optional) OPTIZEN View for Windows®	

OPTIZEN NanoQ Lite

The Smart Microvolume Spectrophotometer

OPTIZEN NanoQ Lite is a small microvolume sample analyzer with a simple yet sophisticated design and easy and convenient user interface(UI). It applies the Slope Algorithm, which is a light path optimization technique, to enable measurement of a wide range of absorbance. Using three LEDs (260 nm, 280 nm, and 600 nm) and a single silicon photodiode, it lowered the product cost drastically while maintaining the needed functions and performance level. It offers the baseline correction function using an additional LED (360 nm).

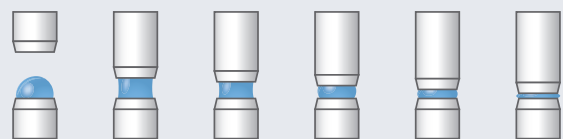


Slope Algorithm

OPTIZEN NanoQ Lite uses the Slope Algorithm to automatically determine the sample concentration to be "High", "Middle", or "Low" and set the optical path optimized for the measurement.

"Slope Algorithm" applies Beer's Law to improve the performance of measuring the concentration of the sample using the absorption change according to the change of the optical path and the linearity. NanoQ Lite uses this algorithm to offer the high measurement performance in a wide concentration range.

- It can measure protein and conduct cell counting.
- The measurement result can be saved or downloaded to a USB flash drive or smartphone.
- It helps even novice users to drop the sample easily and accurately on the loading spot.



Slope Algorithm

It is the technology to improve the measurement performance of the sample concentration using the absorption change according to the change of the optical path and the linearity.

Specifications		
Photometrics System	Microvolume Spectrophotometer	
Light Source(s)	LEDs	
Lifetime	Up to 10 years	
Detector	Silicon photodiode	
Microvolume	Wavelength Range	260, 280 nm
	Wavelength Accuracy	± 1 nm
	Spectral Bandwidth	≤ 8.0 nm
	Minimum Sample Volume	1 µL
	Absorbance Range	0 - 40 A
	Absorbance Precision	0.002 Abs (0.5 mm pathlength)
	Photometric Accuracy	3% (at 1A/mm at 280 nm)
	Detection Limit	2 ng/µL (dsDNA) 0.06 mg/mL (BSA) 0.003 mg/mL (IgG)
	Maximum Concentration	2,000 ng/µL (dsDNA), 60 mg/mL (BSA), 28.8 mg/mL (IgG)
Cuvette	Wavelength Range	600 nm (OD600)
	Photometric Range	0 - 2 A
	Center Height (Z-height)	15 mm
	Measurement Time	< 10 seconds
Touchscreen	Resistive touch	
Storage	4 GB Internal Storage	
Connectivity	USB-A, USB-B, RS232C	
Baseline Correction Wavelength	360 nm	
Pathlength	0.03 - 0.5 mm (Auto ranging)	
Power Consumption	Operating: 4.7- 5.2 W, Stand-by: 3.3 W	
Display resolution	480 x 272 pixels (Color display)	
Operating Voltage	12 V (DC)	
Display	4.3-inch, Touch-screen glove compatible	
Footprint (W*D)	145 x 190 mm	
Weight	1.4 kg	

OPTIZEN MINI

It is a portable spectrophotometer with excellent reproducible, fast and accurate measurement.

OPTIZEN MINI, a portable analysis device, is designed to facilitate to conduct a quick and precise experiment in a field or a laboratory. Technology for miniaturization and weight-reduction is applied to the device. The device is portable conveniently and is used for various fields simultaneously.



OPTIZEN MINI offers a choice of up to two wavelengths between 355 and 1100 nm, but the wavelength can also be selected according to the user's need. Thus the device can be used in the diverse fields of chemistry, environment, biology-chemistry and so on.

OPTIZEN MINI's main characteristics

- Allowed cell size – 10 mm standard quadrangle cell
– 16 mm and 25 mm circle cell (Optional)
- Selection of wavelength ranged from 335 - 1100 nm is possible.
(* Contact us for other wavelengths)
- Saving 6 standard curves and 100 measurement values is possible.
- Applying to the various fields.

Specifications

Selectable wavelength	Maxium 2 wavelengths
Light Source	Light Emitting Diode(LED)
Detector	Photodiode
Photometric Range	0 - 3 A
Standard Capability	ABS/%T Mode, CONC.1, CONC.2
Sample Compartment	10 mm Square cell holder or 16 mm, 25 mm Round cell holder(Optional)
Power Requirement	1.2V NiMH / DC 9V/1A
Dimensions(W*D*H)	110 mm*48 mm*245 mm
Weight	500 g
Display	128 x 64 Graphic LCD

ACCESSORIES

OPTIZEN Series offer the perfect solution suitable for each laboratory and experimental environment owing to their compatibility with the various accessories.



Film Cell Holder – Wide & Small Type

The single cell holder available for measuring the solid sample for a light to pass through such as an optical film or a slide glass.

Sample Size: Wide – max. 100 mm(H) x 70 mm(W), Small – max. 100 mm(H) x 30 mm(W)
Sample Thickness: Wide – max. 5 mm, Small – max. 2 mm

(*) Compatible Products

- OPTIZEN POP
- OPTIZEN POP-S
- OPTIZEN POP-V
- OPTIZEN Alphalook
- OPTIZEN Alpha



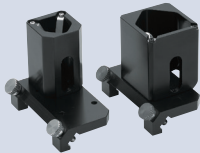
Micro Volume Cell Holder

The single cell holder available, in case that sample's volume is below 500 μ l.

Optical Path Length: 10 mm
Center Height: 15 mm

(*) Compatible Products

- OPTIZEN POP
- OPTIZEN POP-S
- OPTIZEN POP-V
- OPTIZEN BIO
- OPTIZEN Alphalook



Round Cell Holder

The single cell holder available, when using circle cell to analyze a sample.

Test Tube Diameter: 16 mm / 25 mm
Test Tube Height: max. 100 mm

(*) Compatible Products

- OPTIZEN POP
- OPTIZEN POP-S
- OPTIZEN POP-V
- OPTIZEN Alphalook



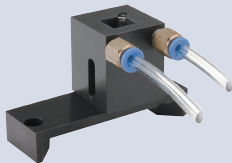
Long Path Cell Holder

The single cell holder is used, when measuring after lengthening a light path in order to analyze a low density sample.

Optical Path Length: 50 – 100 mm

(*)호환 제품

- OPTIZEN POP
- OPTIZEN POP-S
- OPTIZEN POP-V
- OPTIZEN Alphalook
- OPTIZEN Alpha



Temperature Cell Holder (Water/Oil Circulator Type)

This is used to control the temperature of the cell holder by using a temperature circulatory device.

Tubing Size: 6 mm

(*) Compatible Products

- OPTIZEN POP
- OPTIZEN POP-S
- OPTIZEN POP-V



Multi Cell Holder

The multi cell holder to be able to measure automatically a great volume of sample.

(*) Compatible Products

- 8 Cell holder
 - OPTIZEN Alpha (*Initially installed)
 - OPTIZEN POP (*Initially installed)
 - OPTIZEN POP-S (*Initially installed)
 - OPTIZEN POP-V (*Initially installed)
- 9 Cell holder
 - OPTIZEN Alphalook



Sipper

It is possible to perform automatic suction and measurement of liquid samples, and it has a built-in function to automatically correct the amount of suction, enabling accurate and stable sample processing.

Flow rate range: 0.035~570
Speed range: 0.5~150 rpm
Speed resolution: 0.1 rpm (0~100 rpm), 1 rpm (100~600 rpm)

(*) Compatible Products

- OPTIZEN POP
- OPTIZEN POP-S
- OPTIZEN POP-V
- OPTIZEN Alpha

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