

# OPTIZEN SERIES

UV-VIS SMART SPECTROPHOTOMETER



## UV-VIS SPECTROPHOTOMETER OPTIZEN SERIES

K LAB CO., LTD has invented and distributed a broadband spectrophotometer by using the high precision method and the high resolution array sensor method based on the accumulated technologies. In addition, we have fully tried to meet the convenience of products and customers' satisfaction on their performance with regard to these as the prime value.



OPTIZEN Alpha

- OPTIZEN Alpha (190~1100 nm)
- Double-beam Type
  - Spectral Bandwidth : 1 nm
  - Measurable Range : -4~4 Abs
  - High-performance
  - Embedded PC (Windows)
  - 8" Display



OPTIZEN POP series

- OPTIZEN POP (190~1100 nm)
- Single-beam Type
  - Spectral Bandwidth : 1.8 nm
  - Measurable Range : -3~3 Abs
  - High-performance
  - Embedded PC (Windows)
  - 7" Display



OPTIZEN Alphalook

- OPTIZEN Alphalook (190~1100 nm)
- PDA Type (1024 pixels)
  - Spectral Bandwidth : 1 nm
  - Measurable Range : -3~3 Abs
  - Full Spectrum Measurement Time: < 2 s
  - Compatible with Android Tablet & Windows PC
  - High-performance

**OPTIZEN SERIES** are produced based on high technologies and strict quality control and provide superior performance, design and convenience to other to our customers.

The products can grasp the quantitative characteristics such as density or purity by measuring transmittance or absorbance according to wavelength of sample in the range of ultraviolet light spectra and visible light spectra. OPTIZEN SERIES can be utilized from not only a general analysis experiment to but also a specialized research field.

The spectrophotometers guarantee accurate measurement and excellent reproducibility, accordingly offer reliable results in the various fields such as environment, biotechnology, chemistry, etc.

The users can choose various modes according to their purpose to use. Windows/Android-based application helps the users to use easily to the equipment.

OPTIZEN spectrophotometers can measure easily a plenty of samples by using automatic Multi Cell Holder. The Multi Cell Holder made based on the precise light path design and micro stepping control technology, enable the users to measure the sample accurately, swiftly and conveniently.

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## 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.



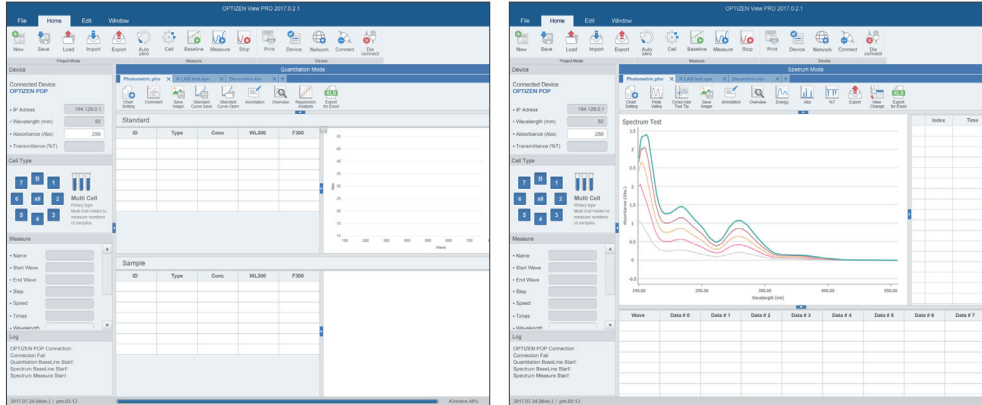
The previous single beam type spectrophotometer has a weak point of error occurrence in measuring a sample, because of the movement of a light source by time lag in measuring the strength of between a reference light and a light from sample. To solve the problem, OPTIZEN Alpha was designed as a double-beam 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's main charateristics

- 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	Photometric Repeatability	± 0.0002 at 0.5 Abs
Spectral Bandwidth	1 nm (190 to 1100 nm)		± 0.0006 at 1.0 Abs
Wavelength Range	190 to 1100 nm		± 0.001 at 2.0 Abs
Wavelength Display(setting)	0.1 nm	Baseline Stability	< 0.0003 Abs/h
Wavelength Accuracy	<± 0.05 nm at 486, 656.1 nm <± 0.3 nm (190 to 1100 nm)	Baseline Flatness	<± 0.0005 Abs
Wavelength Repeatability	<± 0.1 nm	Lamp Interchange Wavelength	340~410 nm (Default 370 nm)
Slew Rate	About 8,800 nm/min	Display	8 inch color LCD with touch screen;
Scan Speed	max 4,000 nm/min	Operating System(OS)	Windows 10 (Embedded PC);
Photometric Range	Absorbance: -4 to 4 Abs Transmittance: 0 % to 400 %	Power Requirement	100~240 V; 50~60 Hz
Light Source	Tungsten Halogen Lamp & Deuterium Lamp (Built-in light source auto interchanging motor)	Weight(kg)	14 kg
Stray Light	< 0.02 % NaI at 220 nm, NaNO <sub>2</sub> at 340 nm	Dimensions(W x D x H)	520 mm x 500 mm x 200 mm
Monochromator	Czerny-Turner type with 1200 lines/nm blazed grating		
Standard Cell Holder	Automatic Rotary type 8-position Multi-Cell Holder		

## 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.



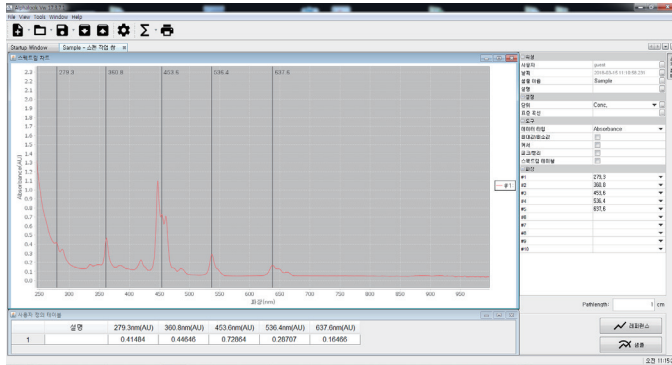
OPTIZEN Alphalook is a spectrophotometer to measure the wavelength of the light from ultraviolet rays, visible rays to near-infrared rays(190nm~1100nm) all together in real time by using Photodiode array. The device takes at most 2 seconds to measure all range of the wavelength and is suitable for checking 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	Typical Scan Time	2 S [Full range]
Spectral Bandwidth	1.0 nm (190 to 1100 nm)	Standard Cell Holder	Single cell
Wavelength Range	190 to 1100 nm	Other Interface	USB & Bluetooth
Wavelength Display(setting)	0.1 nm	Detector	Photodiode array
Wavelength Accuracy	<± 0.5 nm	Line Voltage	90~264 VAC
Wavelength Repeatability	<± 0.1 nm	Line Frequency	47~63 Hz
Photometric Accuracy	<± 0.005 Abs	Dimensions(W x D x H)	586.9 mm x 315 mm x 203 mm
Photometric Stability	< 0.001 Abs/h	Operating System	Windows / Android
Photometric Noise	0.001 Abs	Weight	14.52 kg
Light Source	Tungsten Halogen Lamp & Deuterium Lamp		

## 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's 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 you 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.



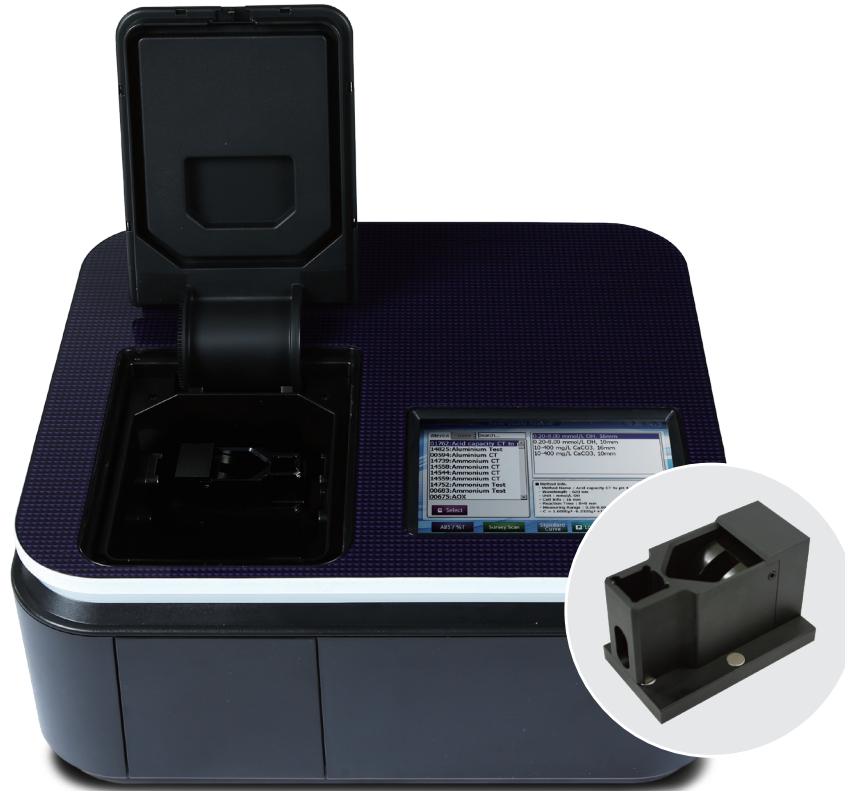
## Specifications

Product Image			
Product Name	OPTIZEN POP	OPTIZEN POP-S	OPTIZEN POP-V
Photometrics System	Single-beam type		
Light Source	Tungsten Halogen Lamp & Deuterium Lamp (Built-in light source auto interchanging motor)		Tungsten Halogen Lamp
Spectral Bandwidth	1.8 nm (190 to 1100 nm)	3.0 nm (190 to 1100 nm)	3.0 nm (340 to 1100 nm)
Wavelength Range	190 to 1100 nm		340 to 1100 nm
Wavelength Display(setting)	0.1 nm		
Wavelength Accuracy	<± 0.5 nm	<± 1.5 nm	<± 1.5 nm
Wavelength Repeatability	<± 0.1 nm	<± 0.2 nm	<± 0.2 nm
Slew Rate	About 8,800 nm/min		
Scan Speed	max 4,000 nm/min		
Photometric Range	Absorbance : -3 to 3 Abs Transmittance : 0 % to 300 %		
Photometric Accuracy	± 0.005 at 1.0 Abs		
Photometric Repeatability	± 0.003 at 1.0 Abs		
Stray Light	< 0.05 % NaI at 220 nm, NaNO <sub>2</sub> at 340 nm		
Baseline Stability	<± 0.001 Abs/h	<± 0.002 Abs/h	<± 0.002 Abs/h
Baseline Flatness	± 0.002 Abs	± 0.003 Abs (220 to 1050 nm)	± 0.003 Abs (340 to 1050 nm)
Monochromator	Czerny-Turner type with 1200 lines/nm blazed grating		
Lamp Interchange Wavelength	340~410 nm (Default 370 nm)		
Standard Cell Holder	Automatic Rotary type 8-position Multi-Cell Holder		
Display	7 inch color LCD with touch screen;		
Operating System(OS)	Windows CE;		
Power Requirement	100~240 V; 50~60 Hz		
Weight(kg)	8 kg		
Dimensions(W x D x H)	433 mm x 381 mm x 180 mm		

## 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 MERCK CO.'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 you favorites.
- Using 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.

Parameter	Range	Unit	Parameter	Range	Unit
Acid capacity CT to pH 4.3 (Total Alkalinity)	0.02-8.00 10-400	mmol/l OH mg/l CaCO <sub>3</sub>	Mercury	0.025-1.000	mg/l Hg
Aluminium	0.020-1.20	mg/l Al	Magnesium	5.0-75.0	mg/l Mg
Ammonium	0.010-193	mg/l NH <sub>4</sub>	Manganese	0.005-10	mg/l Mn
Ammonium, Nitrogen	0.01-80	mg/l NH <sub>4</sub> -N	Molybdenum	0.02-1.00	mg/l Mo
AOX	0.05-2.50	mg/l AOX	Monochloramine	0.050-10.00 0.036-7.25 0.010-1.96	mg/l Cl <sub>2</sub> mg/l NH <sub>2</sub> Cl mg/l NH <sub>2</sub> Cl-N
Antimony	0.10-8.00	mg/l Sb	Nickel	0.02-6.00	mg/l Ni
Arsenic	0.001-0.100	mg/l As	Nickel bath	2.0-120	g/l Ni
BOD	0.5-3000	mg/l BOD	Nitrate	0.4-996	mg/l NO <sub>3</sub>
Boron	0.050-2.00	mg/l B	Nitrogen, total	0.5-150	mg/l N
Bromine	0.020-10.00	mg/l Br <sub>2</sub>	Ozone	0.010-4.0	mg/l O <sub>3</sub>
Cadmium	0.002-1.000	mg/l Cd	Palladium	0.05-1.25	mg/l Pd
Calcium	1.0-250	mg/l Ca	Phenol	0.002-5.00	mg/l Phenol
Calcium Carbonate	2.5-624	mg/l CaCO <sub>3</sub>	Phosphate phosphorous	0.01-100	mg/l PO <sub>4</sub> -P
Calcium Oxide	1.4-350	mg/l CaO	Phosphorus pentoxide	0.02-229	mg/l P <sub>2</sub> O <sub>5</sub>
Chloride	2.5-250	mg/l Cl	Phosphate	0.03-307	mg/l PO <sub>4</sub>
Chlorine dioxide	0.020-10.00	mg/l ClO <sub>2</sub>	Platinum	0.10-1.25	mg/l Pt
Chromium	0.01-3.00	mg/l Cr	Platinum-Cobalt standard	see Hazen Colour number	Pt/Co or HZ
Chromate	0.02-6.69	mg/l CrO <sub>4</sub>	Potassium	5.0-300	mg/l K
Chromium bath	4.0-400	g/l CrO <sub>3</sub>	Silicon	0.005-500	mg/l Si
COD	4.0-10000	mg/l COD	Silicate	0.01-1070	mg/l SiO <sub>2</sub>
COD (Hg free)	10-1500	mg/l COD	Silver	0.25-3.00	mg/l Ag
Copper	0.02-8.00	mg/l Cu	Sodium in nutrient solutions	10-300	mg/l Na
Copper bath	2.0-80.0	g/l Cu	for fertilization		
Cyanide	0.002-0.500	mg/l CN	Sulfate	5-1000	mg/l SO <sub>4</sub>
Fluoride	0.025-20	mg/l F	Sulfide	0.020-1.50	mg/l S <sup>2-</sup>
Formaldehyde	0.02-8.00	mg/l HCHO	Sulfite	0.05-60	mg/l SO <sub>3</sub>
Gold	0.5-12.0	mg/l Au	Suspended solids	25-750	mg/l Sus
Hazen colour number	0-1000	HZ or Pt/Co	Tin	0.10-2.50	mg/l Sn
Hydrazine	0.005-2.00	mg/l N <sub>2</sub> H <sub>4</sub>	TOC	5.0-800	mg/l TOC
Hydrogen peroxide	0.015-20.0	mg/l H <sub>2</sub> O <sub>2</sub>	Volatile Organic Acids	50-3000	mg/l HOAC
Iodine	0.050-10.0	mg/l I <sub>2</sub>	Zinc	0.025-5.00	mg/l Zn
Iron	0.015-50	mg/l Fe			
Lead	0.010-5.00	mg/l Pb			

Specifications			
Photometrics System	Single-beam type	Photometric Repeatability	± 0.003 at 1.0 Abs
Spectral Bandwidth	3.0 nm (190 to 1100 nm)	Baseline Stability	< 0.001 Abs/h
Wavelength Range	190 to 1100 nm, 340 to 1100 nm (QX-V)	Baseline Flatness	< 0.003 Abs/h (220 to 1050 nm)
Wavelength Display(setting)	0.1 nm	Stray Light	< 0.05 %T (220 nm, 340nm)
Wavelength Accuracy	<± 1.5 nm at 486, 656.1 nm	Lamp Interchange Wavelength	340~410 nm (Default 370 nm)
Wavelength Repeatability	<± 0.2 nm	Display	7 inch color LCD with touch screen;
Slew Rate	About 7,800 nm/min	Operating System(OS)	Windows CE;
Scan Speed	max 4,000 nm/min	Power Requirement	100~240 V; 50~60 Hz
Photometric Range	Absorbance : -3 to 3 Abs	Weight(kg)	8 kg
	Transmittance : 0 % to 300 %	Dimensions(W x D x H)	433 mm x 381 mm x 180 mm
Light Source	Tungsten Halogen Lamp & Deuterium Lamp (Built-in light source auto interchanging motor)		
Monochromator	Czerny-Turner type with 1200 lines/nm blazed grating		
Standard Cell Holder	Automatic Rotary type 8-position Multi-Cell Holder		

## OPTIZEN BIO Series

OPTIZEN BIO series are a spectrophotometer that can measure bio samples such as DNA, RNA, protein, nucleic acid, etc. It can measure micro-volume samples by attaching the micro-volume cell holder or Nanohandler. In addition, the user-centered convenient interface and automation function assist you to conduct a quick and precise experiment in a quick.



OPTIZEN BIO is an application product to combine the micro-volume measuring unit. As the device for the infinitesimal sample quantitative analysis such as DNA, RNA, protein, etc., the device has a variety of analysis methods, accordingly the user can check the result value automatically without any complex calculation process.

### OPTIZEN BIO's main characteristics

- Bio sample quantitative analysis is available.
- High speed wavelength scanning.
- Supporting a network printer connection function.
- Micro Volume cell holder(BIO), Nano handler(BIO-M/BIO-A) installation.
- Convenient voice service
- A touch screen display using an intuitive user interface.

- Nucleic Acid Analysis (dsDNA, ssDNA, OligoDNA, RNA quantity/purity check, Oligo DNA, Ratio)
- Warburg (Christian – Warburg-Christian)
- DNA and Protein Analysis (Warburg-Christian, Kalb-Bernlohr)
- Protein Analysis (Bradford, Lowry, BCA, Biuret, Direct UV)
- Cell Density
- Spectrum Measurement (Survey Scan, Kinetics, ABS/%T/CONC, Standard Curve)
- Kinetic Tests for Enzyme Activity

	OPTIZEN BIO	OPTIZEN BIO-M	OPTIZEN BIO-A
Cell Holder Type	Micro Volume cell holder	Manual Nanohandler	Automatic Nanohandler
Path Length	10 mm	0.02 mm and 0.05 mm	
Sample Size	50 and 100 $\mu\text{l}$	0.5~2 $\mu\text{l}$	
Limit of Detection	0.2 ng/ $\mu\text{l}$	1 ng/ $\mu\text{l}$	
Maximum Concentration	150 ng/ $\mu\text{l}$	7500 ng/ $\mu\text{l}$ (0.02 mm pathlength)	
Measurement Reproducibility	< 0.5 %	< 1 %	

Specifications			
Photometrics System	Single-beam type	Photometric Repeatability	$\pm 0.003$ at 1.0 Abs
Spectral Bandwidth	3.0 nm (190 to 1100 nm)	Baseline Stability	< 0.001 Abs/h
Wavelength Range	190 to 1100 nm	Baseline Flatness	< 0.003 Abs/h (220 to 1050 nm)
Wavelength Display(setting)	0.1 nm	Stray Light	< 0.05 %T (220 nm, 340nm)
Wavelength Accuracy	$< \pm 1.5$ nm at 486, 656.1 nm	Lamp Interchange Wavelength	340~410 nm (Default 370 nm)
Wavelength Repeatability	$< \pm 0.2$ nm	Display	7 inch color LCD with touch screen;
Slew Rate	About 7,800 nm/min	Operating System(OS)	Windows CE;
Scan Speed	max 4,000 nm/min	Power Requirement	100~240 V; 50~60 Hz
Photometric Range	Absorbance : -3 to 3 Abs	Weight(kg)	8 kg
	Transmittance : 0 % to 300 %	Dimensions(W x D x H)	433 mm x 381 mm x 180 mm
Light Source	Tungsten Halogen Lamp & Deuterium Lamp (Built-in light source auto interchanging motor)		
Monochromator	Czerny-Turner type with 1200 lines/nm blazed grating		
Standard Cell Holder	Micro Volume Cell Holder		

## 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 basically provides wavelength option of 525 nm, 680 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, bio-chemistry and so on.

### OPTIZEN MINI's main characteristics

- Allowed cell size – 10 mm standard quadrangle cell / 16 mm and 25 mm circle cell.
- Selection of wavelength ranged from 340 nm to 1100 nm is possible
- Saving 6 standard curves and 100 measurement values is possible.
- Applying to the various fields

### Specifications

Wavelength	525 nm, 680 nm
Photometric Range	0~3 Abs
Light Source	Light Emitting Diode(LED)
Detector	Photodiode
Sample Compartment	10 mm Square cell holder or 16 mm, 25 mm Round cell holder
Standard Capability	ABS/%T Mode, CONC.1, CONC.2
Power Requirement	1.2V NiMH / DC 9V/1A
Dimensions(W x D x H)	110 mm x 48 mm x 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 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: max. 100 mm(H) x 70 mm(W)  
Sample Thickness: max. 5 mm

#### (\*) Compatible Products

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



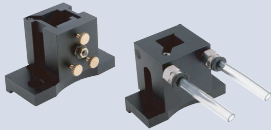
### Film Cell Holder – Small Type

The cell holder available for measuring a smaller solid sample than the sample for WIDE TYPE and it can be installed in the multi cell holder to analyze many samples simultaneously.

Sample Size: max. 100 mm(H) x 30 mm(W)  
Sample Thickness: max. 2 mm

#### (\*) Compatible Products

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



### Micro Volume Cell Holder

The single cell holder available, in case that sample's volume is below 500 $\mu$ 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

#### (\*) Compatible Products

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



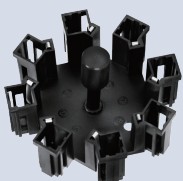
### Temperature Cell Holder (Water/Oil Circulator Type)

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

## **K LAB (KOREA) CO.,LTD.**

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