Infitek

Infitek Infitek Infitek Infitek Infitek

Infitek

Infitek Co., Ltd.

TEL: +86-531-88982330
FAX: +86-531-88983691
Website: infitek.com
Email: info@infitek.com
Service: support@infitek.com
Address: Room 201, Building A, No.1 Qianwan 1st Road, Qianhai Shenzhen-Hong Kong Cooperation Zone, Shenzhen (Settled in Shenzhen Qianhai Business Secretary Co., Ltd.)

US Office

INFITEK INC.

522W RIVERSIDE AVE STE N,SPOKANE,WA 99201
EMAIL: INFO@INFITEK.COM

Infitek

SPECTROPHOTOMETER

Atomic Absorption Spectrophotometer

SP-IAA320

Common Features

Build-in computer data processing and LCD display:
Stable and reliable with the functions of integral holding, peak height and area, auto zero adjusting, deuterium lamp background correction, multi-linear and nonlinear curves fitting, various parameters and working curves displayed in screen and report printing, etc. It is equipped with interface for externally linking PC.

Quickly:
The cathode lamp needs not be pre-heated for long time and sample can be analyzed immediately. It is the preferable instrument chosen by users to conduct analysis of multiple kinds of elements and fast analysis of samples.

Multi-functional analysis mode:
For methods of flame absorption, flame emission, graphite furnace atomic absorption and hydride generation.

System Features

Double-beam system Stability:
Double-beam system can automatically compensate the light source drift and wave length drift caused by the variation of temperature (with the function of the eliminating the affection of wavelength drift on the base line stability) and electronic circuit drift so as to reach a good basic line stability.

Gas path system High precision of measurement:
Gas path system is equipped with precision pressure stabilizing and current stabilizing devices to reach stable flame and low noise. Specially designed fine light beam passes through the flame to ensure a high precision analytical test and low characteristic concentration.

A total reflection system High energy optical path:
A total reflection system is adopted to eliminate color difference in full range. By means of chemical conversion, a round light spot of the light source becomes a long light spot, which enters into the slit. Therefore the light flux of double beam is enhanced.

Long-life and anti-corrosive atomization system:
The burner is made of new type titanium alloys, anti-corrosive and fast thermal equilibrium. It meets the requirement of measurement sensitivity without water-cooling.

Safe and reliable gas path system:
Special devices of quick gas conversion and safety protection can be used to analyze air-acetylene flame.

Specifications

Model	SP-IAA320
WL range	190-900nm
WL accuracy	≤±0.5nm
WL repeatability	≤0.3nm (single direction)
Spectrum bandwidth	0.2nm, 0.4nm, 0.7nm, 1.4nm, 2.4nm, 5.0nm
Resolution	<40%
Base line stability	±0.004Abs/30min
Characteristic concentration of copper	≤0.04μg/ml/1%
Detection limit of copper	≤0.008μg/ml
Background calibration ability	Greater than 30 times
RS232	Including
Printer	Optional
Power supply	220V 3A, 50Hz
G.W.	138kg(Main instrument)
	56kg(Accessories)
Package Dimension (W*D*H)	1260*800*770mm (Main instrument)
	560*460*1400mm (Accessories)

Accessories

Standard Accessories
Oil-free air compressor
Glass Atomizer
Cu Hollow cathode lamp
Atomizer unit
Burner unit
Dust cover
Water-separating gas filter
Titanium burner—10cm

Optional Accessories
Model GRD-3202 graphite furnace system
Hydride generator
Hollow cathode lamp
Graphite tubes
Software
Recirculating cooling water system

Complete set of accessories:
To be supplied with the instrument and ready for use after they are purchased.

Atomic Absorption Spectrophotometer

SP-IAA4530

Description

- The atomic absorption spectrophotometer is completely controlled and operated by PC, with unique optical and mechanical design, safe and convenient flame system, advanced graphite furnace temperature control technology and various convenient functions provided by the

Selling points

Complete automatic controlling system

Advanced graphite furnace temperature controlling technology

Safe, reliable and convenient flame system

Advantages

Complete Automatic Controlling System

With the help of the software, the following can be easily achieved

- Selection of the element lamp
- Up-down-front-rear adjustment of the lifter
- Adjustment of the optical energy
- Selection of the slit
- Determination of wavelength scanning and peak searching
- Selection of the atomizer
- Setting of the background deduction method
- Controlling of the gas flow
- Automatic flaming and flaming out
- Setting of the graphite furnace testing method

Advanced Graphite Furnace Temperature Controlling Technology

- The bringing in of PID technology can effectively overcome the influence on the temperature rising process caused by the voltage fluctuation and the resistance change to make more accurate controlling process. The combination of the 3ms/time fast sampling technique can make more accurate and reliable testing data
- The fast heating capacity can improve the flexibility of the elements further
- Use the ordinary power source of 220V without need of dynamic power of 380V
- The maximum procedure heating capacity setting of 20 levels can make a more convenient and easier test of different samples
- Three grades adjustable gas flow can accustom to more application needs
- Can timely alarm when the gas and water is stopped and insufficient gas and water, can avoid the equipment damage and measuring error

Safe, Reliable and Convenient Flame System

- EPC can control the flow of Acetylene (C2H2) more accurately and it is a kind of system which also can operate easily
- Efficient atomization system enables a higher sensitivity
- The whole operation system has a high security as the fire safety system can alarm whenever the electricity is cut off, abnormal flame occurs, a lack of pressure happens or the burner does not match well. And it will automatically turn off the gas, prohibit tempering. Thus it keeps the operation people and equipment from harm and damage.

Multi-Functional Software Workstation

- A workstation that is supported WINDOWS7
- The rich menu brings great convenience to the use of customer
- Convenient conversion between different menus makes the operation more easily
- Various analytical correction methods provide the users more choices
- Basic default parameter settings enable even the beginners can do the normal operation
- Flexible storage, editing and printing methods give the user largest support

Features

- Completely controlled by PC.
- Integrated floated optical platform design can obviously improve the optical system shock resistance and keep stable though use the optical signal for a long term.
- Eight light stands can be changed automatically and preheat the eight lights meantime as well as optimize the working condition of the hollow cathode lamp.
- Position adjusting: the best height of the flame burner and can automatically set the front and rear positions.
- Fully automated wavelength scanning and peak searching.
- Complete safety chains protection equipment: the function of warning and automatic safety protection towards the wrong burner, leakage of the gas, under voltage of air and the abnormal flame out.
- Deuterium lamp and self-absorption background regulation.
- Data processing: super strong database, possesses more than 500 data self-storage and cut-off storage function, can store the analyzed result with the form of EXCEL and the testing method and the result can be randomly called.
- Measuring method: flame absorption method and emission method.
- Result printing: parameter printing, data result printing and diagram printing.

Accessories

Standard Accessories
PC workstation
Inkjet printer
Oil free air compressor
Acetylene reducing valve
Cu Hollow cathode lamp
Air filter

Optional Accessories
Hollow cathode lamp
Graphite tubes
Recirculating cooling water system
Hydride generator

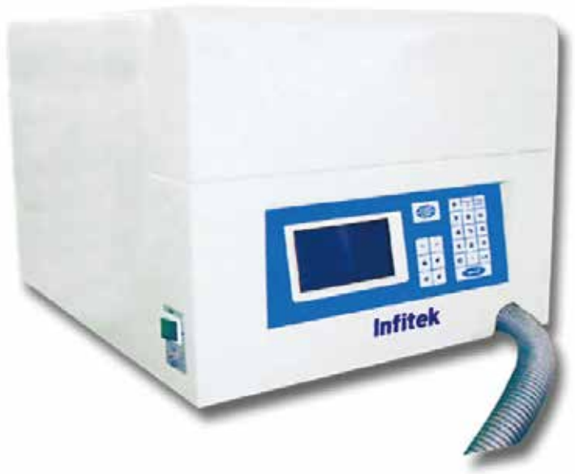
Specifications

Model	SP-IAA4530
Wavelength range	190-900nm
Spectral bandwidth	0.1, 0.2, 0.4, 1.0 and 2.0 nm
Accuracy of the wavelength	±0.15nm
Receptivity of the wavelength	≤0.04nm
Base line stability	≤0.002A/30min (Cu)
Characteristic viscosity	0.02μg/ml/1% (Cu)
Checking limit	0.004μg/ml (Cu)
Preciseness	0.5%
Grating	1800 lines/mm
Inflamer	All-metal titanium burner
Atomizer	Effective glass atomizer
Lamp stand	8
D2 background correction ability	When the background is 1A, the background ability should be deducted not less than 50 times, self absorption background deduction method
Package size	860mm×705mm×755mm (Main instrument) 1170mm×645mm×900mm (Accessories)
Power source	220V±22V AC
	Flame System
Acetylene air burner	100mm
Ignition dynamic baseline drift	≤0.006A/30min
(Cu) Characteristic viscosity	≤0.025μg/ml/1%
Related standard deviation of the accuracy	≤0.5% (Cu, absorbance>0.8A) (detection limit Cu≤0.008μg/ml)
Safety system	Can automatically cut off the gas when the pressure is not enough the power is off flame out and unconformity of the burner
	Graphite Furnace GRD-4510
The highest temperature	3000℃
The largest temperature rising speed	≥2000℃/s
Characteristic quantity	Cd≤0.5×10-12g Cu≤0.5×10-11g
Accuracy	Cu≤3% Cd≤3%
Size and weight	730mm×625mm×700mm 79.3kg
Safety system	Over current protection Low air pressure alarm/protection Low cooling water flow alarm/protection
Power source and power	220V±22V AC 7000W

Graphite Furnace System

GRD-3202

Optional Accessories of SP-IAA320 Atomic Absorption Spectrophotometer



Specification

Model	GRD-3202
Heating Steps	9 steps
Temperature Range (Nominal Temperature)	20℃~3000℃
Slope Heating Time	0~999s
Heating Holding Time	1s~999s (The sum of both time should be less than 999 seconds)
Inert Gas Needed	Argon, pressure of entry larger than 0.3Mpa
Cooling Water	Tap water or cycling water, flow rate no less than 2L/min
Output	LCD
Electricity	220V±22V, 50Hz±1Hz, 3A 220V±22V, 50Hz±1Hz, 30A
Power	5.1kW for 220V on about 2700℃
Ambient Temperature	+10℃~+30℃
Relative Humidity	Less than 85%
Instrument Rating Power	7.2kW
Function	Gas pressure alarm, furnace overheated alarm
	Interface with Atomic absorption spectrophotometer, autosampler and RS232
	High-power temperature heating function (1000℃~2700℃)
	Test sample together with atom absorption equipment. Cd ≤1×10-12g;Cu ≤1×10-10g

Autosampler

AAS4020

Description

The autosampler is an important optional accessory to improve the technical indicators and automation of the atomic absorption spectrophotometer.

Under the control of the graphite furnace system, standard solutions can be prepared automatically. It can be automatic sample preconcentration and dilution,and automatically add matrix improver, automatic cleaning and other functions.

Specification

	AAS4020
Number of Sample Cups	95
Sample Cup Capacity	1.5mL
Number of Reagent Cups	5
Reagent Cup Capacity	5mL
Injection Volume	1 ~ 95μL (1μL increment)
Injection Volume Accuracy	± 2% (20μL)
Injection Volume Precision	≤1% (20μL)

Hydride Generator AAH-1
Cooling Water Circulation Machine AS800

AAH-1 AS800

AAH-1

AAH-1 Hydride Generator is used with atomic absorption spectrophotometer.

AS800

It is an important optional accessory for supporting atomic absorption spectrophotometer and graphite furnace.

Specification

Model	AAH-1
Measurement Method	Continuous flow injection
Continuous Flow Injection	NaBH4
Sample Feed Rate	0 ~ 7mL/ min
Reagent Feed Rate	0 ~ 2.5mL/min
Burning Head	Heating quartz tube(Heating with acetylene combustion)
Carrier Gas	Ar, supply pressure:0.32MPa
Electricity	220V,50Hz, 30W
Dimension	290*220*208mm

Model	AS800
Nominal Cooling Capacity	800W
Temperature Control Range	5 ~ 35 ℃
Temperature Control Accuracy	± 0.1 ℃
Pump Head (Max./Rated)	10/8m
Flow (Max / Rated)	15/6L/min
Water Tank Volume	15L
Electricity	AC220V / 50Hz
Dimension	330*500*500mm

Element Lamp

Specification

No.	Part Name	Type	Remarks
1	Element Lamp	Cu	Standard configuration
2	Element Lamp	Ni	
3	Element Lamp	Li	
4	Element Lamp	AL	
5	Element Lamp	Na	
6	Element Lamp	Sn	
7	Element Lamp	Cr	
8	Element Lamp	Mg	
9	Element Lamp	Zn	
10	Element Lamp	Co	
11	Element Lamp	K	
12	Element Lamp	Ca	
13	Element Lamp	Ba	
14	Element Lamp	Hg	
15	Element Lamp	Fe	
16	Element Lamp	Mn	
17	Element Lamp	Bi	
18	Element Lamp	In	
19	Element Lamp	Pb	
20	Element Lamp	Mo	
21	Element Lamp	Sb	
22	Element Lamp	Sr	
23	Element Lamp	Ag	
24	Element Lamp	Cd	
25	Element Lamp	AS	
26	Element Lamp	B	
27	Element Lamp	Se	
28	Element Lamp	Pd	
29	Element Lamp	Au	
30	Element Lamp	Be	
31	Element Lamp	Pt	
32	Element Lamp	Rh	

Atomic Absorption Spectrophotometer

SP-IAA1800H

Description

- SP-IAA1800H atomic absorption spectrometer is widely used in scientific research, quality inspection, disease control, environmental protection, metallurgy, agriculture, forestry, chemical industry and other industries, innovative software and hardware design to ensure the accuracy of the sample analysis, safety, ease of use, simple and convenient instrument maintenance.

Features

High precision fully automatic optical system

- Large area grate with 1800 lines/mm dispersion rate, novel self-collimating monochromator, all lense are Shi Ying coated, wide detection range and optical stability ensure that accuracy of analysis. Automatic 6 lamp holder equipped with 6 independent lamp power supply, can respectively preheating.

Polymer atomizing chamber

- High-molecular material anti-corrosion atomization chamber, acid and alkali resistant, including hydrofluoric acid, whether organic or inorganic solution can get better sensitivity and stability.

Titanium burner

- Titanium burner, optional 50mm and 100mm burner, air cooling pre mixed type, corrosion resistance, high salt resistance, greatly improve the efficiency of the flame and flame analysis accuracy.

Fully automated analysis

- It can automatically complete safe ignition, extinguishing and switching, with reliable structure and low failure rate, thus ensuring the sensitivity and repeatability of the flame method; The light source system automatically switches the six-lamp-position platform, can directly use the high-performance hollow cathode lamp, improves the sensitivity of flame analysis, automatically adjusts the power supply parameters and the beam position, and fully automatically scans and searches for the wave crest.

Graphite furnace temperature control

- Double temperature control of internal and external air, 20-order linear or nonlinear temperature rise, to ensure that the elements to be tested have good sensitivity; Enrichment and concentration were carried out for 20 times in the furnace. The inner wall temperature of the graphite tube was monitored by longitudinal light control, and the maximum temperature could be increased to 3000 C/s.

High technology index

- The element test sensitivity of SP-IAA1800H atomic absorption spectrometer reaches the advanced level in the industry, with the sensitivity ≤0.015 μ g/mL/1%; Baseline drift less than 0.003Abs/30m with better stability than 0.005Abs/4h.

Background correction system

- The deuterium hollow cathode lamp and the self-absorption button background are adopted for background correction, so that the interference of molecular absorption in the determination of low content is eliminated, the emission noise of the deuterium lamp is reduced, the service life is prolonged, and the deuterium hollow cathode lamp has good stability.
  When the background signal of deuterium lamp is 1A, the background subtraction ability is > 50 times.

Intelligent analysis

- Intelligence is very strong, humanized design, flame and graphite furnace atomization device automatic switching, graphite furnace atomization device automatic optimization, automatic setting to adjust the flame height, automatic ignition, automatic optimization of horizontal position, the system automatically set the gas flow. In case of power outage, misoperation, acetylene leakage, etc., the system will automatically start the safety protection function.

Automatic sampler

- Integrated with graphite furnace, high-precision injector was used, and the minimum volume of sample could be 0.5 μL. The intelligent online dilution and concentration function was realized.

Specifications

Main engine	
Light source	Single-element or multi-element hollow cathode lamp
Lamp holder	Automatic switching of six-lamp platform and full-automatic collimation
Lamp current	Pulse power supply
Optical system	Large area 1800 /mm reticle grating, fully enclosed optical system
Wavelength range	190-900nm, automatic peak finding, one-button optical optimization
Wavelength accuracy	≤0.15nm
Wavelength repeatability	±0.1nm
Spectral Bandwidth	0.1, 0.2, 0.4, 1.0, 2.0nm Auto Set
Baseline drift	Static ≤ 0.002 A/30 min, dynamic ≤ 0.005 A/30 min
Absorbance range	0-4A
Detector	imported photomultiplier tube

Flame system	
Burner head	All titanium burner head, 50mm or 100mm universal burner head
Atomizing chamber	Macromolecule anti-explosion and anti-corrosion atomizing chamber
Nebulizer	High-efficiency glass nebulizer, can also be customized
Ignition mode	Microcomputer control, automatic ignition
Gas control	Manual operation
Characteristic concentration	0.015μg/mL/1%(Cu)
Detection limit	0.002μg/mL(Cu)
Precision	RSD≤0.5%
Safety	Multiple protection measures such as gas leakage alarm, automatic protection against tempering, and automatic power failure in case of abnormality

Graphite furnace system	
Heating mode	Longitudinal heating
Temperature control mode	Longitudinal optical temperature control monitors the inner wall temperature of the graphite tube
Temperature range	RT to 3000 c
Program temperature control	Automatic temperature control up to 20 stages, enrichment and concentration in the furnace up to 20 times
Characteristic quantity	0.5 × 10−12g (CD)
Detection limit	0.4 × 10−12g (CD)
Precision	RSD≤3%
Cooling water	Optional cooling water circulation system
Safety	Graphite tube damage, water flow, air pressure alarm; Water temperature overheat protection

Graphite furnace autosampler (optional)	
Sample tray	130-position sample cup, 6-position reagent cup
Injection volume	0.01-100μl
Minimum increment	0.01μl
Injection volume repeatability	1%
Duplicate injections	up to 99
Wash container volume	500mL

Background correction	
Deuterium lamp background correction	1A background can be corrected
Self-priming background correction	1A background can be corrected

Data processing	
Measurement methods	Flame method, graphite furnace method, hydride generation-atomic absorption method
Calculation methods of concentration	Standard curve method (cubic curve), automatic fitting, and standard addition method
Repeat measurement times	1–99 times, calculate the average value, and give the standard deviation and relative standard deviation
Result printing	Parameter printing, data result printing, graphic printing, and word and excel documents can be exported

Flame Photometer, FP-I Series

FP-I6450 FP-I6440 FP-I6431 FP-I6430 FP-I6410 FP-I640

Description

- Push-button ignition, easy to operate.
- 7- inch color touch screen
- 20 sets of standard curves and 20 sets of test data can be stored.Use LPG as gas.
- Direct concentration display (Don't cover FP-I640)
- Automatic calculation of correlation coefficient (Don't cover FP-I640)
- Pre-selection of flame sizes
- Flameout protection device
- Measuring range changing
- Concentration units selectable
- Multilingual user interface
- Built-in Air compressor

Specifications

Model		FP-I6450	FP-I6440	FP-I6431	FP-I6430	FP-I6410	FP-I640
Operation mode		7- inch color touch- screen					
Display value		Concentration value					Optical power
Data range		0.000～999.9				000.0～999.9	0000～9999
Testable		K, Na, Li, Ca, Ba	K, Na, Li, Ca	K, Na, Ca	K, Na, Li	K, Na	K, Na
Channel Qty.		5	4	3		2	
Range ppm	K	0.15-100					
	Na	0.18-100					
	Li	0.1-30		○	0.1-30	○	○
	Ca	0-1000		0-1000	○	○	○
	Ba	0.1-300	○	○	○	○	○
LOD ppm	K	≤0.156					
	Na	≤0.184					
	Li	≤0.1035		○	≤0.1035	○	○
	Ca	≤2		≤2	○	○	○
	Ba	≤6.028	○	○	○	○	○
Linear error	K	≤0.195					
	Na	≤0.69					
	Li	≤0.1449		○	≤0.1449	○	○
	Ca	≤3		≤3	○	○	○
	Ba	≤9.402	○	○	○	○	○
Response time		<8s					
Sample uptake		<3ml/min					
Stability		< 3% (15s), ≤15%(6min)					
Reproducibility		≤2%					
Curve graph		Display				○	○
Printer		Optional build-in thermal printer					○
COM		USB					○
Fuel		LPG					
Power		AC220V±10% 50Hz±1Hz,30W					
Package Dimension		570*530*400mm 0.12m³					
G.W.		18kg					

Fluorescence Spectrophotometer

SP-LF96P

Specifications

Model	SP-LF96P
Light source	Hamamatsu 150W Xenon lamp
Exciting optical filters	Interference optical filter
Emission monochromator	C-T diffraction grating
Emission wavelength	200~900nm
Emission bandwidth	10nm
Sensitivity	S/N≥150（P-P）
Linear	≥0.995
Stability	better than 1.5%/10min
Power Supply	110-240V AC.50/60Hz
Response time	(0.1-4)s 6 stages adjustable
Fluorescence display value	0.00-600.00
Data transmission	USB2.0

This method has been used in:

- Medical science and clinical analysis Clinical analysis of biological specimen.
- Pharmaceutical science and pharmacology Analysis of natural pharmaceutical products; Quality control of pharmaceuticals and research of pharmaceutical metabolites.
- Biochemistry Analysis of minute quantity of substances in biological body.
- Food industry Analysis of minute quantity of constituents in food.
- Pollution analysis Atmospheric pollution, environmental testing and food contamination analysis.
- Organic and inorganic chemistry, used in the trace analysis in case of those substances cannot be determined by absorption spectrophotometry.

Applications

Fluorescence analysis is a high sensitive and high selective sophisticated analytical method. This method can provide information including excitation and emission spectrum, emission light intensity and measurement of life of emission light and polarization fluorescence etc. This method can provide a wide lineal range of working curve. It has becoming an important analytical method in the region of trace analysis.

Description

Two mode could be chosen: fluorescence intensity and luminous intensity. Fluorescence scanning, kinetideter-mination and quantity analysis could be done under fluorescence intensity mode.

- 365nm exciting wavelength Raman peak of water in 1 cm quartz fluorescence cuvette S/N≥150
  High performance sensitivity simplifies the measurement of low detective sample.

- 10 stages gain adjustment could be chosen for emission spectrum scanning, including high speed low S/N scanning and precise scan-ning.
  Total spectrum scanning could be done in 1 second.
  With the intelligent pre scanning feature, unknown sample's spectrum information could be detected rapidly.
  Auto-omission of the influence of scattering peak and harmonic peaks, it ensure the best measurement parameters and locate the fluorescence emission peak.

Support off-line mode and on-line mode.

- Under off-line mode, instrument's computer system offer the fluores-cence intensity measurement, concentration direct reading, auto 0 adjustment, auto background subtraction and etc.

- Under on-line mode, we could use quality and quantity software to control data acquisition and analysis through USB2.0 interface.

- High stable and long life 150W xenon lamp and power source ensure high stable testing and wide range of spectrum.

- The normalized feature for fluorescence value could make different fluorescence's result comparable.

Optional Accessories

Provide optional with expansible time scanning, wavelength scanning, graphic calculation and storage-access abilities.

Optional accessories for different measurement, including single hole cell holder, fluorescence sample holder for different features, 200μl micro scale centrifuge tube, micro scale capillary sample holder, semi-auto sample introduc-tion accessories, membrane sample accessories, powder sample accessories, jacket sample accessories and etc.

Standard Package

Standard Package	
Main instrument	1 set
365nm filter(Preassembled)	1 pc
Software package	1 set
Power cable	1 pc
USB wire	1 pc
Instruction manual	1 copy
Product quality certificate	1 copy
Fuse（2A）	2 pcs
Fuse（5A）	2 pcs
Quartz fluorescence sample cell10mm	1 pair
Packing list	1 copy

Fluorescence Spectrophotometer

SP-LF96S

- High brightness LED
- Excitation LED: 250nm ~ 600nm(LED)
- Emission wavelength accuracy: ± 1nm
- Emission wavelength reproducibility: ≤ 0.5nm

Specifications

Model	SP-LF96S
Excitation light source	High brightness LED
Excitation LED	250nm ~ 600nm(LED)
	EX wavelength standard set: 365nm,376nm,392nm,405nm
Emission monochromator	C-T configuration diffraction grating monochromator Emission
	wavelength range (EM): 200nm ~ 650nm, Bandwidth: 10nm
	(Extend the monochromator to Em200-900 is optional.)
	Emission wavelength accuracy: ± 1nm
	Emission wavelength reproducibility:≤ 0.5nm
S/N ratio	S/N≥90(Using 1cm quartz sample cell, measure the signal
	noise ratio of Raman spectrum of water)
Detection limit	1×10^{-10} g / ml quinine sulfate solution
Linearity (γ)	≥0.995
Repetitive peak intensity	≤1.5%
Zero drift	≤0.3(within 10min)
Upper limit change of indicating value	≤1.5% (Within 10 minutes) (displaying value≥50)
Power Supply	110-240V AC.50/60Hz
Dimensions	442×392×250(mm)
Weight	Net weight 10kg
	Gross weight 12kg

Fluorescence Spectrophotometer

SP-LF97 SP-LF97XP SP-LF97PRO

Description

SP-LF97 fluorescence spectrophotometer is a new generation of high performance molecular luminescence analysis instrument.

- The product structure is exquisite, has the characteristics of high detection sensitivity, fast scanning speed, wide spectrum measuring range, high dynamic range, fast 3D scanning, and so on.
- Easily meet the requirements in the field of material research, pharmaceutical analysis, biochemical and clinical testing, water quality analysis and control, food safety testing (dairy products, aquatic products, such as vitamin C, selenium, aflatoxin), and other areas.

Main Features

High sensitivity:
Based on high efficiency optical design and weak signal detection technology, the water Raman peak signal to noise ratio can be greater than 200 (P - P) to the leading domestic and international advanced level.

Wide Spectral measurement range:
Using a double monochromator design, excitation and emission wavelength range covering 200nm to 900nm, meet the needs of most fluorescence analysis.

Excitation light path monitoring system:
Instrument is equipped with excitation light dual beam ratio monitoring system to ensure the fluorescence signal high and stable.

High scanning speed:
The high speed digital signal processing unit provides the world's fastest scanning speed at 48000nm/min. Only 1 second to get classic fluorescence spectra, 1 minute to get high quality of three-dimensional fluorescence spectra.

High quality assurance:
Using Hamamatsu's high quality Xenon light source and photoelectric multiplier tube detectors and instruments to provide sufficient light intensity signal and the detection sensitivity.

Built-in optical gate:
Built-in optical gate, designed for unstable sample.

Optional Parts

Accessories	Functions
Single sample rack	Conventional liquid fluorescence sample
Multi purpose fluores-	Base holder for other racks
cent sample rack holder	Remove the interference of frequency
Octave Filters	doubling
Membrane sample rack	For membrane sample
Powder sample rack	For powder samples
Auto Polarization filter	Adjust the polarization light

Specifications

Model	SP-LF97	SP-LF97XP	SP-LF97PRO
Excitation Source	150W xenon lamp（Hamamatsu）		
Excitation Wavelength	200nm~900nm		
Emission Wavelength	200nm~900nm		
Excitation Slit	10nm	2nm、5nm、10nm、20nm	
Emission Slit	10nm	2nm、5nm、10nm、20nm	
Wavelength Accuracy	±1.0nm	±0.4nm	±1.0nm
Wavelength Repeatability	≤0.5nm	≤0.2nm	≤0.5nm
Signal-to-Noise Ratio	S/N≥150（10nm Slit）（P-P）	S/N≥150（10nm Slit）（P-P）	S/N≥150（10nm Slit）（P-P）
	S/N≥1000（10nm Slit）（RMS）	S/N≥1000（10nm Slit）（RMS）	S/N≥1000（10nm Slit）（RMS）
	S/N≥10000（10nm Slit）（RMSBG）	S/N≥10000（10nm Slit）（RMSBG）	S/N≥10000（10nm Slit）（RMSBG）
Limit	≤1×10-10 g/ml	≤5×10-11 g/ml	≤1×10-10 g/ml
	（Quinine Sulfate Solution）	（Quinine Sulfate Solution）	（Quinine Sulfate Solution）
Linearity	γ ≥0.995		
Peak Repeatability	≤1.5%		
Stability(10min)	Zero Drift: ±0.3		
	Value Limit: ±1.5%		
Wavelength Scan Speed	Multi-speed Level, Maximum at 48000nm/min		
Photometric Quantity Range	0.00-10000.00		
Data Transmission	USB2.0		
Power	200W		
Power Supply	110-240V AC.50/60Hz		
Instrument Dimension	380×445×310（mm）		
Weight	Net Weight: 12kg		
	Gross Weight: 14kg		

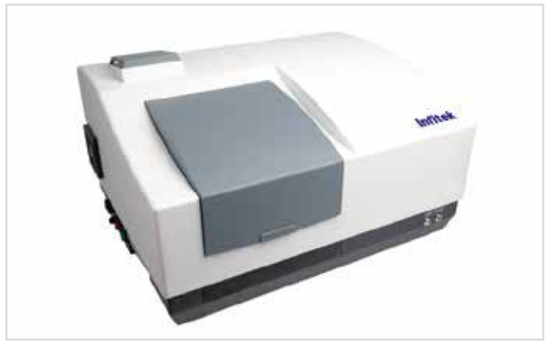
Fluorescence Spectrophotometer

SP-LF98

Description

SP-LF98 fluorescence spectrophotometer is a new generation of high-performance molecular luminescence analysis equipment.

- This product is designed for high performance, with high signal to noise ratio, ultra-high scanning speed, ultra-high resolution, ultra-high wavelength accuracy and a variety of accessories.
- This instrument easily meets the requirements in material research, drug analysis, biochemical and clinical testing, water quality control, food safety testing and other areas of qualitative and quantitative analysis and scientific research.
- Quantum yield accessory is available for SP-LF98 fluorescence spectrophotometer.



Main Features

Horizontal slit optical design, with excellent luminous detection efficiency and high signal to noise ratio. Water Raman peak SNR better than 350: 1 (P-P) or 1000: 1 (RMS). The minimum sample volume is 0.5mL when using a standard 10mm square sample cell.

The software offers fluorescence 3D scanning, equal-wavelength difference synchronous scanning, equal wave number difference (constant energy difference) synchronous scanning functions. (synchronous scanning function require pro version software)

Fluorescence Quantum Yield accessory available.

Wavelength scanning speed up to 60000 nm / min.

Bandwidth 1/2/5/10/20nm adjustable.

Multi accessories available.

Using Hamamatsu's high quality Xenon light source and photoelectric multiplier tube detectors and instruments to provide sufficient light intensity signal and the detection sensitivity.

Built-in frequency filter. Built-in optical gate, designed for unstable sample.

Specifications

Model	SP-LF98
Excitation Source	150W xenon lamp（Hamamatsu）
Excitation Wavelength	200nm~900nm
Emission Wavelength	200nm~900nm
Excitation Slit	1nm/2nm/5nm/10nm/20nm
Emission Slit	1nm/2nm/5nm/10nm/20nm
Wavelength Accuracy	±0.4nm
Wavelength Repeatability	≤0.2nm
Signal-to-Noise Ratio	S/N≥350(P-P) S/N≥1000(RMS)
Limit	≤5×10^{-11}g/ml（Quinine Sulfate Solution）
Linearity	γ ≥0.995
Peak Repeatability	≤1.5%
Wavelength Scan Speed	Multi-speed Level, Maximum at 60000nm/min
Minimum sample size	0.5mL (Using a standard 10mm square sample cell)
Octave filter	Build in Octave filter
Photometric Quantity Range	-9999 ~ 9999
Response Time	0.02/0.1/0.5/1/2/4/8 s，Auto adjust
Data Transportation	USB 2.0
Power	200W
Power Supply	110-240V AC.50/60Hz
Instrument Dimension	610×460×365（mm）
Weight	Net Weight： 21kg
	Gross Weight： 26kg

Optional Accessories

Membrane sample rack

Powder sample rack

Sample cell jacket

Upconversion fluorescent accessory

Fluorescence Quantum Yield accessory

Multi-function fluorescent sample rack holder:
Base of other sample racks

200uL microcentrifuge tube accessory

Fluorescence Spectrophotometer

SP-LF93 SP-LF93A

Specifications

Model	SP-LF93	SP-LF93A
Light source: LED	365nm	365nm、376nm、392nm、405nm
Bandwidth	12nm	
wavelength of LED	within 360-600nm	
Emission monochromator	360~650nm (C-T diffraction grating)	
Wavelength accuracy	±2nm	
Wavelength repeatability	≤1nm	
Sensitivity	1×10-9 g/ml	
Linearity deviation	≤±3.0%	
Power Supply	110-240V AC.50/60Hz	
Interface	RS232 serial port	
printer	serial printer/Jet printer(for PC)	
Display Mode	4 digits LED	
Dimension (L×W×H)	450×420×280(mm)	
Weight(Kg)	7(N) 9(G)	
Selectable Data Processing Software Package		

This method has been used in:

Medical science and clinical analysis:
Clinical analysis of biological specimen.

Pharmaceutical science and pharmacology:
Analysis of natural pharmaceutical products; Quality control of pharmaceuticals and research of pharmaceutical metabolites.

Biochemistry:
Analysis of minute quantity of substances in biological body.

Food industry:
Analysis of minute quantity of constituents in food.

Pollution analysis:
Atmospheric pollution, environmental testing and food contamination analysis.

Organic and inorganic chemistry:
Used in the trace analysis in case of those substances cannot be determined by absorption spectrophotometry.

Applications

Fluorescence analysis is a high sensitive and high selective sophisticated analytical method.
This method can provide information including excitation and emission spectrum, emission light intensity and measurement of life of emission light and polarization fluorescence etc.
This method can provide a wide lineal range of working curve.
It has becoming an important analytical method in the region of trace analysis.

Description

The emission monochromator adopts 1200 line diffraction grating. Its large aperture and non-spherical reflecting mirrors produces extra high sensitivity.

EX light uses LED，match with the central wavelength of 365nm (SP-LF93A set includes 365nm,376nm,392nm,405nm). The system can be replaced by customer，Carry on the maintenance expediently & can satisfy more choices and demand. LED is a cold-light source with longevity、lower background & reliability，prevent from thermo-pollution.

RS-232C serial port interface attached，after option Data Processing Software Package it is convenient to store record & transmit data & draw up a standard operating curve；

Quality fine，less weight & measure，test simply particularly suitable for Education & Lab.

Specifications

Optional accessories and spare parts
Fuses（1A/5A）
360~650nm interference optical filter(ϕ 25mm)
e.g.: SP-LF93A: 365nm、405nm、465nm、515nm
Glass fluorescence cuvette10mm
Data processing software package (pack, for PC)
RS-232C serial port cable

Standard parts	
Main instrument	1 set
Power cord	1 pc
Instruction manual	1 copy
Product quality certificate	1 copy
Fuse(1A)	2 pcs
Fuse(5A)	2 pcs
Glass fluorescence cuvette	10mm 1 pair
Packing list	1 copy

Portable Spectrophotometer Concave Grating

SP-CLR306 SP-CLR301

Description

Perfect combination of beautiful appearance and the human body mechanics structural design;

B.D/8 geometrical optics, conforms with CIE No.15,GB/T 3978,GB2893, GB/T 18833, ISO7724/1, ASTM E1164, DIN5033 Teil

Measure sample spectra, accurate Lab data , can be used in color matching and accurate color transmission;

Two standard observer angles, a variety of illuminant, a variety of color indexes, conforms with a variety of standard colori-metric data, meet a variety of customers' demand for color measurement;

High electronic hardware configuration: 3.5-inch TFT color LCD,Capacitive Touch Screen, concave grating, 256 limage Element Double Arrays CMOS Image Sensor;

Application

Use long life and low power consumption combined LED light source

USB port, widely useful;Camera Locating Function, better position;

Switchable 8mm/4mm aperture, support both SCI and SCE at the same time;

Super stain-resistant and stable standard white calibration plate;

Large capacity storage space, over 20,000 measurement data;

PC software has a powerful func-tion extension.

Specifications

Model	SP-CLR306	SP-CLR301
Optical Geometry	Reflect: di:8°, de:8°(diffused illumination, 8-degree viewing angle)	
Integrating Sphere Size	48mm	
Light Source	Combined LED Light, UV Light	Combined LED Light
Spectrophotometric Mode	Concave Grating	
Sensor	256 Image Element Double Array CMOS Image Sensor	
Wavelength Range	400-700nm	
Wavelength Interval	10nm	
Semiband Width	10nm	
Measured Reflectance Range	0-200%	
Measuring Aperture	Dual Aperture: 10mm/8mm & 5mm/4mm	Single Aperture: 8mm/10mm
Specular Component	SCI&SCE	
Color Space	CIE Lab, XYZ, Yxy, LCh, CIE LUV, Hunter LAB	
Color Difference Formula	ΔE*ab, ΔE*uv, ΔE*94, ΔE*cmc(2:1), ΔE*cmc(1:1), ΔE*00v, ΔE(Hunter)	
Other Colorimetric Index	WI(ASTM E313, CIE/ISO, AATCC, Hunter), YI(ASTM D1925, ASTM 313),TI(ASTM E313, CIE/ISO), Metamerism Index MI, Staining Fastness, Color Fastness, Color Strength, Opacity, 8° Glossiness	
Observer Angle	Observer Angle 2°/10°	
Illuminant	D65, A, C, D50, D55, D75, F1, F2, F3, F4, F5, F6, F7, F8, F9, F10, F11, F12	D65, A, C, D50
Displayed Data	Spectrogram/Values, Samples Chromaticity Values, Color Difference Values/Graph, PASS/FAIL Result, Color Offset	
Measuring Time	2.6s	
Repeatability	MAV/SCI: ΔE*≤0.03	MAV/SCI: ΔE*≤0.06
Inter-instrument Error	MAV/SCI: ΔE*≤0.15	MAV/SCI: ΔE*≤0.4
Measurement Mode	Single Measurement, Average Measurement	
Locating Method	Camera View Finder Locating	
Battery	Li-ion battery. 5000 measurements within 8 hours	
Dimension	L*W*H=184*77*105mm	
Weight	600g	
Illuminant Life Span	5 years, more than 3 million times measurements	
Display	3.5-inch TFT color LCD, Capacitive Touch Screen	
Data Port	USB, Bluetooth 4.0	USB
Data Storage	Standard 2000 Pcs, Sample 20000 Pcs	
Language	English, Chinese	
Operating Environment	0~40℃, 0~85%RH (no condensing), Altitude < 2000m	
Storage Environment	-20~50℃, 0~85%RH (no condensing)	
Standard Accessory	Power Adapter, Built-In Li-ion Battery, User Guide, PC Software, White and Black Calibration Cavity, Dust Cover	
Optional Accessory	Micro Printer, Powder Test Box	
Notes:	The specifications are subject to change without notice.	

Portable Spectrophotometer Concave Grating

SP-CLR456

Features

High accruacy spectrophotometer is used for accurate analysis and transmission of laboratory color.

- Apply in paints, inks, textiles, garments, printing and dyeing, printing etc industries for color transfer and quality control, also for Fluorescence sample color measurement.
- It is used to measure the brightness factor and color coordinates of traffic signs, markings and reflective films.
- It contains GB 2893 and GB/T 18833 standard colors.
- It can customize the rectangular tolerance of polygons manually.

Description

High electronic hardware configuration: 3.5-inch TFT color LCD,Capacitive Touch Screen, concave grating, 256 Iimage Element Double Arrays CMOS Image Sensor;

Beautiful appearance and perfect combination with ergonomic structure design;

Built-in standard polygon tolerance setting and specific traffic sign gamut, one button to realize the measurement of traffic road signs, marking lines, reflective film brightness factor and chromaticity coordinates;

45/0 geometrical optics, conforms with CIE No.15,GB/T 3978,GB 2893,GB/T 18833,I-SO7724/1,ASTM E1164,DIN5033 Teil7,GB 2893,G-B/T 18833;

Measure sample spectra, accurate Lab data , can be used in color matching and accurate color transmission;

Two standard observer angles, a variety of illuminant, a variety of color indexes, conforms with a variety of standard colorimetric data, meet a variety of customers' demand for color measurement;

Adopt high-life and low-power combined LED light source, including UV/excluding UV;

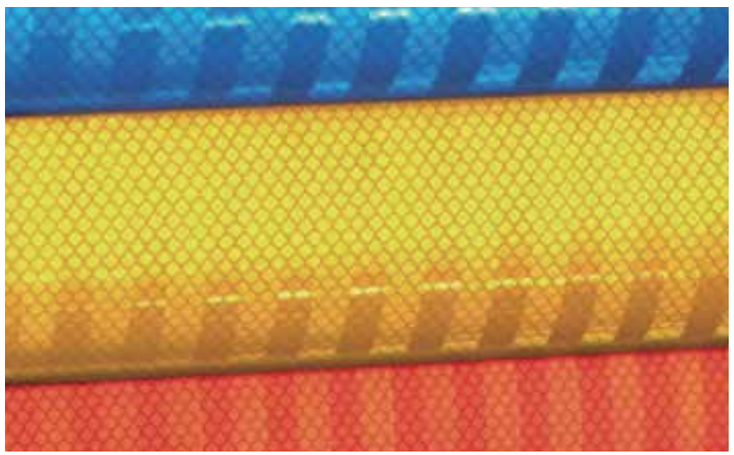
USB port, widely useful

Optional aperture 4mm/8mm,-adapt to more samples to be tested;

Super stain-resistant and stable standard white calibration plate;

Large capacity storage space, over 30,000 measurement data;

PC software has a powerful function extension



Specifications

Model		SP-CLR456
Illumination/Observation system		SP-CLR456(45 ring-shaped illumination, vertical viewing);
		Comply with CIE No.15, GB/T 3978, GB 2893, GB/T 18833, ISO7724-1, ASTM E1164, DIN5033 Teil7, GB 2893, GB/T 18833
Integrating Sphere Size		Φ48mm
Light Source		Combined LED Light, UV Light
Spectral separation device		Concave Grating
Detector		256 Image Element Double Array CMOS Image Sensor
Wavelength Range		400~700nm
Wavelength Pitch		10nm
Half Bandwidth		10nm
Reflectance Range		0~200%
Measuring Aperture		MAV:Φ8mm/Φ10mm; SAV:Φ4mm/Φ5mm
Color Space		CIE LAB,XYZ,Yxy,LCh,CIE LUV,HunterLAB,βxy
Color Difference Formula		ΔE*ab,ΔE*uv,ΔE*94,ΔE*cmc(2:1),ΔE*cmc(1:1),ΔE*00,ΔE(Hunter)
Other Colorimetric Index		WI(ASTM E313, CIE/ISO,AATCC,Hunter) ,
		YI(ASTM D1925, ASTM 313),
		MI (Metamerism Index),
		Staining Fastness, Color Fastness, Color Strength, Opacity, Supporting Colorimetric Polygon Tolerance
Observer Angle		2°/10°
Illuminant		D65, A, C, D50, D55, D75, F1, F2(CWF), F3, F4, F5, F6, F7(DLF), F8, F9, F10(TPL5), F11(TL84), F12(TL83/U30)
Display Data		Spectrogram/Values, Chromaticity Values, Color Difference Values/Graph, Pass/Fail Result, Color Offset
Measurement Time		About 1.5s
Repeatability		Spectral reflectance: MAV,Standard deviation within 0.08% (400 nm to 700 nm: within 0.18%)
		Chromaticity value:within ΔE*ab 0.03 (When a white calibration plate is measured 30 times at 5 second intervals
		after white calibration)
Inter-instrument Error		Within ΔE*ab 0.15(Average for 12 BCRA Series II color tiles)
Measurement mode		Single Measurement, Average Measurement(2-99)
Size(L*W*H)		184*77*105mm
Weight		About 600g
Power source		Li-ion battery. 5000 measurements within 8 hours
Illuminant Life Span		5 years, more than 3 million times measurements
Display		3.5-inch TFT color LCD, Capacitive Touch Screen
Interface		USB, Bluetooth 4.0
Data memory		Standard 1000 Pcs, Sample 30000 Pcs
Language		Chinese,English
Working Environment		Temperature: 0~40℃; Humidity: 0~85% (No Condensation);altitude: less than 2000 m
Storage Environment		Temperature: -20~50℃; Humidity: 0~85% (No Condensation)
Standard Accessory		Power Adapter, USB Cable, Built-in li-ion battery, User Manual, software(download from the website)White and
		Black Calibration Board, Protective Cover.
Optional Accessory		Micro Printer, Powder Test Box, Universal test components, Locating Plate
Notes:		The specifications are subject to change without notice.

Portable Spectrophotometer Concave Grating

SP-CLR458

Features

- 20mm aperture special design for traffic signs , It is used to measure the brightness factor and color coordinates of traffic signs, markings and reflective films.
- It contains GB 2893 and GB/T 18833 standard colors. It can customize the rectangular tolerance of polygons manually.
- It is used for accurate analysis and transmission of laboratory color, also for Fluorescence sample color measurement .
- Apply in paints, inks, textiles, garments, printing and dyeing, printing etc industries for color transfer and quality control.

Description

Beautiful appearance and perfect combination with ergonomic structure design;

45/0 geometric optical structure, in accordance with CIE No.15, GB/T 3978, GB 2893, GB/T 18833, ISO7724/1, ASTM E1164, DIN5033 Teil7, GB 2893, GB/T 18833;

Two standard observers, multiple light source modes, multiple color systems, and a variety of standard colorimetric indicators to meet the needs of various customers for color measurement;

High electronic hardware configuration: 3.5-inch TFT true color screen, capacitive touch screen, concave grating, 256-pixel dual-array CMOS detector, etc.;

Built-in standard polygon tolerance setting and specific traffic sign gamut, especially suitable for traffic signage brightness factor and chromaticity performance judgment;

Measure sample spectra, accurate Lab data , can be used in color matching and accurate color transmission;

Adopt high-life and low-power combined LED light source, including UV/excluding UV

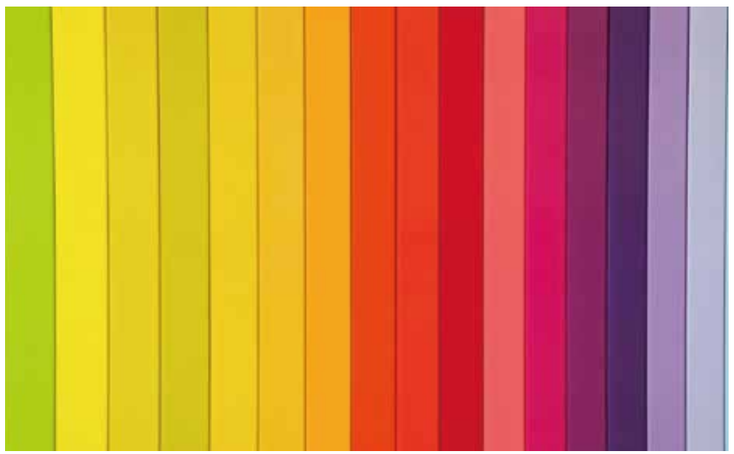
USB/Bluetooth 4.0 (compatible with 2.1) dual communication mode, more adaptable;

Φ20mm aperture adapt to larger samples or uneven samples;

Super stain-resistant and stable standard white calibration plate;

Large-capacity storage space, can store more than 30,000 test data;

PC software has powerful function extensions;



Specifications

Model		SP-CLR458
Illumination/Observation system		45/0(45 ring-shaped illumination, vertical viewing);
		Comply with CIE No.15，GB/T 3978,GB 2893,GB/T 18833,ISO7724-1,ASTM E1164,DIN5033 Teil7,GB 2893、GB/T 18833
Integrating Sphere Size		Φ48mm
Light Source		Combined LED Light, UV Light
Spectral separation device		Concave Grating
Detector		256 Image Element Double Array CMOS Image Sensor
Wavelength Range		400~700nm
Wavelength Pitch		10nm
Half Bandwidth		10nm
Reflectance Range		0~200%
Measuring Aperture		Φ20mm
Color Space		CIE LAB,XYZ,Yxy,LCh,CIE LUV，HunterLAB,βxy
Color Difference Formula		ΔE*ab,ΔE*uv,ΔE*94,ΔE*cmc(2:1),ΔE*cmc(1:1),ΔE*00,ΔE（Hunter）
Other Colorimetric Index		WI(ASTM E313，CIE/ISO,AATCC,Hunter)，
		YI(ASTM D1925，ASTM 313),
		TI(ASTM E313，CIE/ISO),
		MI (Metamerism Index),
		Staining Fastness, Color Fastness, Color Strength, Opacity,Supporting Colorimetric Polygon Tolerance
Observer Angle		2°/10°
Illuminant		D65,A,C,D50,D55,D75,F1,F2(CWF),F3,F4，F5，F6,F7(DLF),F8,F9，F10(TPL5),F11(TL84),F12(TL83/U30)
Display Data		Spectrogram/Values, Chromaticity Values, Color Difference Values/Graph, Pass/Fail Result, Color Offset
Measurement Time		About 1.5s
Repeatability		Spectral reflectance: Standard deviation within 0.1% (400 nm to 700 nm: within 0.2%)
		Chromaticity value:within ΔE*ab 0.04 (When a white calibration plate is measured 30 times at 5 second intervals
		after white calibration)
Inter-instrument Error		Within ΔE*ab 0.2 (Average for 12 BCRA Series II color tiles)
Measurement mode		Single Measurement, Average Measurement(2-99)
Size(L*W*H)		184*77*105mm
Weight		About 600g
Power source		Li-ion battery. 5000 measurements within 8 hours
Illuminant Life Span		5 years, more than 3 million times measurements
Display		3.5-inch TFT color LCD, Capacitive Touch Screen
Interface		USB, Bluetooth 4.0
Data memory		Standard 1000 Pcs, Sample 30000 Pcs
Language		Chinese,English
Working Environment		Temperature: 0~40℃; Humidity: 0~85% (No Condensation);altitude: less than 2000 m
Storage Environment		Temperature: -20~50℃; Humidity: 0~85% (No Condensation))
Standard Accessory		Power Adapter, USB Cable, Built-in li-ion battery, User Manual, software(download from the website)White and
		Black Calibration Board, Protective Cover.
Optional Accessory		Micro Printer, Powder Test Box, Universal test components, Locating Plate
Notes:		The specifications are subject to change without notice.

Grating Spectrophotometer Benchtop Type

SP-CLR601

Description

Built-in camera locating.

Big capacity data storage, for 20000 pieces test result.

More powerful extended functions at the PC software.

Double Array 256 Image Element CMOS Sensor; Long life-span stable LED, UV LED.

Built-in temperature sensor to monitor and compensate the measured temperature to ensure the measurement more precise.

Auto identify measured aperture. Freely switchable between 4 measuring apertures: ϕ 25.4mm/15mm/8mm/4mm. Users also can customize apertures.

Description

Wavelength range 360nm – 780nm. Built-in 400nm cut off.

High configuration of hardware:
7 inches TFT Color Capacitive Touch-screen Display; Concave Grating

Independent light source detector, can continuously monitor the condition of light sources to ensure the light source reliable.

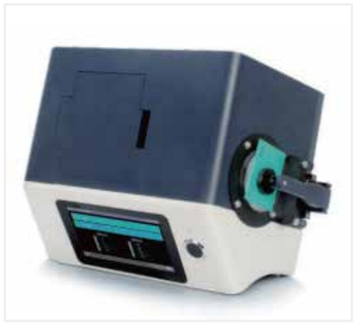
Multiple measurement modes: Quality Management Mode, Sample Mode; Meet more users' requirements.

A variety of optional accessories: Reflection sample holding tool, transmission fixture, micro 4mm aperture transmission test components, and instrument inversion test components, applicable to more working conditions;

With reflective and transmissive spectrum, and accurate Lab value, it is good to calculate color formula and do precise color transmission.

Application Industry

- SP-CLR601 benchtop spectrophotometer is used to do precise color analysis and transmission in laboratories.
- It can be widely applied in different industries, such as plastics, electronics, paint and ink, printing, garments, leather, paper, auto, medical, cosmetics, food, science institutes, laboratories.



Specifications

Optical Geometry

Reflect: di:8°, de:8°(diffused illumination, 8-degree viewing angle) ;

SCI (specular component included)/SCE (specular component excluded) ; Include UV / excluded UV light source

Transmittance: di:0°, de:0° (diffuse illumination: 0° viewing) ;

SCI (specular component included)/SCE (specular component excluded) ; Include UV / excluded UV light source;

Haze(ASTM D1003),

Conforms to CIE No.15 , GB/T 3978,GB 2893,GB/T 18833, ISO7724/1, ASTM E1164, DIN5033 Teil7

Other Colorimetric Index

WI (ASTM E313, CIE/ISO, AATCC, Hunter),

YI (ASTM D1925, ASTM 313),

TI (ASTM E313, CIE/ISO),

MI (Metamerism Index),

Staining Fastness, Color Fastness, Color Strength, Opacity,

8° Glossiness,Gardner Index, Pt-Co Index, 555 Index, Haze(ASTM D1003)

Repeatability

Spectral reflectance: Φ25.4mm/SCI, Standard deviation within 0.05% (400 nm to 700 nm: within 0.04%)

Chromaticity value:Φ25.4mm/SCI, Standard deviation within ΔE*ab 0.02 (When a white calibration plate is measured 30 times at 5 second intervals after white calibration) Spectral Transmittance: Φ25.4mm/SCI, Standard deviation within 0.05% (400 nm to 700 nm: within 0.04%)

Chromaticity value:Φ25.4mm/SCI, Standard deviation within ΔE*ab 0.03 (When a white calibration plate is measured 30 times at 5 second intervals after white calibration)

Specifications

Model	SP-CLR601
Application	It is used for accurate analysis and transmission of laboratory color. Apply in paints, inks, textiles, garments, printing and dyeing, printing etc industries for color transfer and quality control.
Integrating Sphere Size	Φ154mm
Light Source	360 nm to 780 nm, Combined LED Light, 400nm cut-off light source
Spectrophotometric Mode	Concave Grating
Sensor	256 Image Element Double Array CMOS Image Sensor
Wavelength Range	360-780nm
Wavelength Interval	10nm
Semiband Width	10nm
Measured Reflectance Range	0-200%
Measuring Aperture	Reflective : Φ30mm/Φ25.4mm, Φ10mm/Φ8mm, Φ6mm/Φ4mm; Transmissive : Φ30mm/Φ25mm; Remark: 1. Automatic identification of switch caliber 2. Customized Configuration caliber and lens position
Specular Component	Reflectance: SCI&SCE / Transmittance: SCI&SCE
Color Space	CIE LAB,XYZ,Yxy,LCh,CIE LUV,Musell,s-RGB,HunterLab,βxy,DIN Lab99
Color Difference Formula	ΔE * ab ,ΔE * uv ,ΔE * 94 ,ΔE * cmc(2:1) ,ΔE * cmc(1:1) ,ΔE * 00 , DINΔE 99 ,ΔE (Hunter),
Observer Angle	2°/10°
Illuminant	D65,A,C,D50,D55,D75,F1,F2,F3,F4,F5,F6,F7,F8,F9,F10,F11,F12
Displayed Data	Spectrogram/Values, Samples Chromaticity Values, Color Difference Values/Graph, PASS/FAIL Result, Color Offset
Measuring Time	About 2.4s (Measure SCI & SCE about 5s)
Inter-instrument	Φ25.4mm/SCI, Within ΔE*ab 0.15 (Average for 12 BCRA Series II color tiles)
Dimension	L*W*H=370x300x200mm
Weight	Approx. 9.6kg
Power	AC 24V, 3A Power adapter power supply
Illuminant Life Span	5 years, more than 3 million times measurements
Display	7-inch TFT color LCD, Capacitive Touch Screen
Data Port	USB & Print serial port
Data Storage	Standard 2000 Pcs, Sample 20000 Pcs
Language	Simplified Chinese, Traditional Chinese, English,
Operating Environment	0~40℃, 0~85%RH (no condensing), Altitude < 2000m
Storage Environment	-20~50℃, 0~85%RH (no condensing)
Standard Accessory	Power Adapter, User Guide, CD Disk(PC Software), USB cable, Standard Calibration Board, Black Calibration Cavity, Transmission black baffle, Sample holder, 25.4 caliber, 8 caliber, 4 caliber
Optional Accessory	Micro-printer, Transmissive Test Component, Micro Aperture(4mm) transmission test clamp component, Instrument inversion components
Notes	The specifications are subject to change without notice.

Grating Spectrophotometer Benchtop Type

SP-CLR606

Description

Built-in camera locating.

Big capacity data storage, for 40000 pieces test result.

More powerful extended functions at the PC software.

Double Array 256 Image Element CMOS Sensor; Long life-span stable LED, UV LED.

Built-in temperature sensor to monitor and compensate the measured temperature to ensure the measurement more precision.

Auto identify measured aperture. Freely switchable between 4 measured apertures: φ 25.4mm/15mm/8mm/4mm. Users also can customize apertures.

Description

Wavelength range 360nm – 780nm. Built-in 400nm cut off/420nm cut off.

High configuration of hardware: 7 inches TFT Color Capacitive Touch-screen Display; Bluetooth 2.1; Concave Grating.

Independent light source detector, can continuously monitor the condition of light sources to ensure the light source reliable.

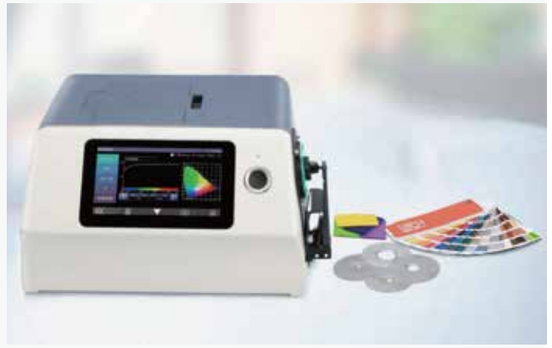
Multiple measurement modes: Quality Management Mode, Sample Mode; Meet more users' requirements.

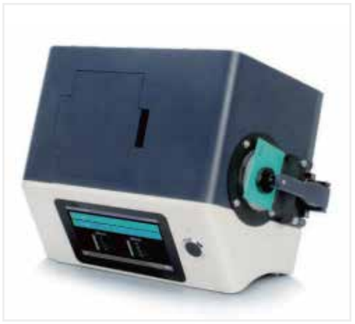
A variety of optional accessories: Reflection sample holding tool, transmission fixture, micro 4mm aperture transmission test components, and instrument inversion test components, applicable to more working conditions;

With reflective and transmissive spectrum, and accurate Lab value, it is good to calculate color formula and do precise color transmission.

Application Industry

- SP-CLR606 benchtop spectrophotometer is used to do precise color analysis and transmission in laboratories.
- It can be widely applied in different industries, such as plastics, electronics, paint and ink, printing, garments, leather, paper, auto, medical, cosmetics, food, science institutes, laboratories.





Specifications

Optical Geometry
Reflect: di:8°, de:8°(diffused illumination, 8-degree viewing angle) ;
SCI (specular component included)/SCE (specular component excluded) ; Include UV / excluded UV light source
Transmittance: di:0°, de:0° (diffuse illumination: 0° viewing) ;
SCI (specular component included)/SCE (specular component excluded) ; Include UV / excluded UV light source;
Haze(ASTM D1003),
Conforms to CIE No.15， GB/T 3978,GB 2893,GB/T 18833, ISO7724/1, ASTM E1164, DIN5033 Teil7

Other Colorimetric Index
ΔE * ab ,ΔE * uv ,ΔE * 94 ,ΔE * cmc(2:1) ,ΔE * cmc(1:1) ,ΔE * 00 , DINΔE 99 ,ΔE (Hunter),
WI (ASTM E313, CIE/ISO, AATCC, Hunter),
YI (ASTM D1925, ASTM 313),
TI (ASTM E313, CIE/ISO),
MI (Metamerism Index),
Staining Fastness, Color Fastness, Color Strength, Opacity,
8° Glossiness,Gardner Index, Pt-Co Index, 555 Index, Haze(ASTM D1003) Saybolt, Color Code (ASTM D1500)

Repeatability
Spectral reflectance: Φ25.4mm/SCI, Standard deviation within 0.04% (400 nm to 700 nm: within 0.04%)
Chromaticity value:Φ25.4mm/SCI, Standard deviation within ΔE*ab 0.01 (When a white calibration plate is measured 30 times at 5 second intervals after white calibration)
Spectral Transmittance: Φ25.4mm/SCI, Standard deviation within 0.05% (400 nm to 700 nm: within 0.04%)
Chromaticity value:Φ25.4mm/SCI, Standard deviation within ΔE*ab 0.02 (When a white calibration plate is measured 30 times at 5 second intervals after white calibration)

Specifications

Model	SP-CLR606
Application	It is used for accurate analysis and transmission of laboratory color. Apply in paints, inks, textiles, garments, printing and dyeing, printing etc industries for color transfer and quality control.
Integrating Sphere Size	Φ154mm
Light Source	360 nm to 780 nm, Combined LED Light, 400nm cut-off light source,420nmCut-off light source
Spectrophotometric Mode	Concave Grating
Sensor	256 Image Element Double Array CMOS Image Sensor
Wavelength Range	360-780nm
Wavelength Interval	10nm
Semiband Width	5nm
Measured Reflectance Range	0-200%
Measuring Aperture	Reflective : Φ30mm/Φ25.4mm, Φ18mm/Φ15mm, Φ10mm/Φ8mm, Φ6mm/Φ4mm; Transmissive : Φ25.4mm; Remark: 1. Automatic identification of switch caliber 2. Customized Configuration caliber and lens position
Specular Component	Reflectance: SCI&SCE / Transmittance: SCI&SCE
Color Space	CIE LAB,XYZ,Yxy,LCh,CIE LUV,Musell,s-RGB,HunterLab,βxy,DIN Lab99
Color Difference Formula	ΔE * ab ,ΔE * uv ,ΔE * 94 ,ΔE * cmc(2:1) ,ΔE * cmc(1:1) ,ΔE * 00 , DINΔE 99 ,ΔE (Hunter),
Observer Angle	2°/10°
Illuminant	D65,A,C,D50,D55,D75,F1,F2,F3,F4,F5,F6,F7,F8,F9,F10,F11,F12,CWF,DLF,TL83,TL84,TPL5,U30
Displayed Data	Spectrogram/Values, Samples Chromaticity Values, Color Difference Values/Graph, PASS/FAIL Result, Color Offset
Measuring Time	About 2.4s (Measure SCI & SCE about 5s)
Inter-instrument Error	Φ25.4mm/SCI, Within ΔE*ab 0.12 (Average for 12 BCRA Series II color tiles)
Dimension	L*W*H=370x300x200mm
Weight	Approx. 9.6kg
Power	AC 24V, 3A Power adapter power supply
Illuminant Life Span	5 years, more than 3 million times measurements
Display	7-inch TFT color LCD, Capacitive Touch Screen
Data Port	USB & Bluetooth & Print serial port
Data Storage	Standard 5000 Pcs, Sample 40000 Pcs
Language	Simplified Chinese, Traditional Chinese, English, (Optional Customized German, French and Spanish)
Operating Environment	0~40℃, 0~85%RH (no condensing), Altitude < 2000m
Storage Environment	-20~50℃, 0~85%RH (no condensing)
Standard Accessory	Power Adapter, User Guide, CD Disk(PC Software), USB cable, Standard Calibration Board, Black Calibration Cavity, Transmission black baffle, Sample holder, 25.4 caliber, 15 caliber, 8 caliber, 4 caliber,Transmissive Test Component,Micro Aperture(4mm) transmission test clamp component
Optional Accessory	Micro-printer, Instrument inversion components， Petri Dish
Notes	The specifications are subject to change without notice.

Portable Spectrophotometer Flat Grating

SP-CLR760

front

side

Description

Camera locating position and Stabilizer cross measurement position

Large capacity storage space, which can store more than 20000 pieces of test data

PC software has powerful function expansion;

Adopt combined LED light source with high life and low power consumption;

USB interface,convenient for expansion of various functions; Super dirt resistant and stable standard white calibration board;

Customized one 8mm or 4mm aperture (the flat/ tip measuring aperture can be switched easily, which is suitable for more tested sample)

Portable Spectrophotometer

2/10 standard observer's angle, multiple light source modes, multiple surface color systems, meet various standards of chromaticity indicators, and the needs of various customers for color measurement;

High hardware configuration: 3.5-inch TFT true color screen, capacitive touch screen, 1000 line blazed grating, silicon photocell array detector with large photosensitive area, etc;

D / 8 geometric optical structure, conforming to CIE No.15, GB / T 3978, GB 2893, GB / T 18833, iso7724 / 1, ASTM e1164, din5033 teil7;

Accurate spectrum and lab data, used for color matching and accurate color transmission;

Dual optical path system, the optical resolution in the visible range is less than 10nm, which can measure the SCI and SCE spectrum of the sample at the same time;

Specifications

Optical Geometry
Reflect: di:8°, de:8°(diffused illumination, 8-degree viewing angle);
SCI (specular component included)/SCE (specular component excluded) ,excluded UV light source;
Conforms to CIE No.15,GB/T 3978,GB 2893,GB/T 18833,ISO7724-1,ASTM E1164,DIN5033 Teil7;

Other Colorimetric Index
WI(ASTM E313, CIE/ISO,AATCC,Hunter),
YI(ASTM D1925, ASTM 313),
Staining Fastness, Color Fastness, Color Strength, Opacity,8° Glossiness,

Repeatability
Spectral reflectance: MAV/SCI, Standard deviation within 0.1% (400 nm to 700 nm: within 0.2%)
Chromaticity value: MAV/SCI, within ΔE*ab 0.04 (When a white calibration plate is measured 30 times at 5 second intervals after white calibration)

Specifications

Model	SP-CLR760
Characteristic	Customized one aperture, It is used for precise color measurement and quality control in plastic electronics, paint and ink, textile and garment printing and dyeing, printing, ceramics and other industries, and for fluorescent sample measurement.
Integrating Sphere Size	Φ40mm
Light Source	Combined full spectrum LED light source
Spectrophotometric Mode	Flat Grating
Sensor	Silicon photodiode array (double row 40 groups)
Wavelength Range	400~700nm
Wavelength Interval	10nm
Semiband Width	10nm
Measured Reflectance Range	0-200%
Measuring Aperture	Customized one aperture: MAV:Φ8mm/Φ10mm ; SAV:Φ4mm/Φ5mm
Specular Component	SCI&SCE
Color Space	CIE LAB,XYZ,Yxy,LCh,CIE LUV,s-RGB,βxy,Munsell(C/2)
Color Difference Formula	ΔE*ab,ΔE*uv,ΔE*94,ΔE*cmc(2:1),ΔE*cmc(1:1),ΔE*00
Observer Angle	2°/10°
Illuminant	D65,A,C,D50,F2(CWF),F7(DLF),F10(TPL5),F11(TL84),F12(TL83/U30)
Displayed Data	Spectrogram/Values, Samples Chromaticity Values, Color Difference Values/Graph, PASS/FAIL Result, Color Offset
Measuring Time	About 1.5s (Measure SCI & SCE about 3.2s)
Inter-instrument Error	MAV/SCI, Within ΔE*ab 0.2 (Average for 12 BCRA Series II color tiles)
Measurement Mode	Single Measurement, Average Measurement(2-99times)
Locating Method	Camera Locating, stabilizer cross position
Dimension	L*W*H=129X76X217mm
Weight	Approx 600g
Battery	3.7V,5000mAh Li-ion battery, 6000 measurements within 8 hours
Illuminant Life Span	5 years, more than 3 million times measurements
Displayed Data	3.5-inch TFT color LCD, Capacitive Touch Screen
Data Port	USB
Data Storage	Standard 1000 Pcs, Sample 20000 Pcs
Language	Simplified Chinese, English, traditional Chinese
Operating	0~40 ℃, 0~85%RH (no condensing), Altitude < 2000m
Storage Environment	-20~50 ℃, 0~85%RH (no condensing)
Standard Accessory	Power Adapter, User Guide, PC Software(Download from office website), USB cable, White and Black Calibration Cavity, Protective Cover, Wrist strap, One aperture (8mm or 4mm)
Optional Accessory	Micro Printer, Powder Test Box
Notes	The specifications are subject to change without notice.

Portable Spectrophotometer Flat Grating

SP-CLR770

front

Description

Camera locating position and Stabilizer cross measurement position;

Large capacity storage space, which can store more than 30000 pieces of test data

PC software has powerful function expansion;

Adopt combined LED light source with high life and low power consumption, including UV / excluding UV;

USB / Bluetooth dual communication mode, wider adaptability; Super dirt resistant and stable standard white calibration board;

Switchable 8mm & 4mm aperture (the flat/ tip measuring aperture can be switched easily, which is suitable for more tested sample)

Portable Spectrophotometer

2/10 standard observer's angle, multiple light source modes, multiple surface color systems, meet various standards of chromaticity indicators, and the needs of various customers for color measurement;

High hardware configuration: 3.5-inch TFT true color screen, capacitive touch screen, 1000 line blazed grating, silicon photocell array detector with large photosensitive area, etc;

D / 8 geometric optical structure, conforming to CIE No.15, GB / T 3978, GB 2893, GB / T 18833, iso7724 / 1, ASTM e1164, din5033 teil7;

Accurate spectrum and lab data, used for color matching and accurate color transmission;

Dual optical path system, the optical resolution in the visible range is less than 10nm, which can measure the SCI and SCE spectrum of the sample at the same time;

Specifications

Optical Geometry

Reflect: di:8°, de:8°(diffused illumination, 8-degree viewing angle)

SCI (specular component included)/SCE (specular component excluded); Include UV / excluded UV light source

Conforms to CIE No.15,GB/T 3978,GB 2893,GB/T 18833,ISO7724-1,ASTM E1164,DIN5033 Teil7

Other Colorimetric Index

WI(ASTM E313， CIE/ISO,AATCC,Hunter),

YI(ASTM D1925， ASTM 313),

Metamerism Index MI,

Staining Fastness, Color Fastness, Color Strength, Opacity,

8° Glossiness,555 tone classification

Repeatability

Spectral reflectance: MAV/SCI, Standard deviation within 0.08% (400 nm to 700 nm: within 0.18%)

Chromaticity value: MAV/SCI, within ΔE*ab 0.02 (When a white calibration plate is measured 30 times at 5 second intervals after white calibration)

Specifications

Model	SP-CLR770
Characteristic	double apertures for accurate color analysis and transmission in the laboratory It is used for precise color measurement and quality control in plastic electronics, paint and ink, textile and garment printing and dyeing, printing, ceramics and other industries, and for fluorescent sample measurement.
Integrating Sphere Size	Φ40mm
Light Source	Combined full spectrum LED light source, UV light source
Spectrophotometric Mode	Flat Grating
Sensor	Silicon photodiode array (double row 40 groups)
Wavelength Range	400~700nm
Wavelength Interval	10nm
Semiband Width	10nm
Measured Reflectance Range	0-200%
Measuring Aperture	MAV:Φ8mm/Φ10mm； SAV:Φ4mm/Φ5mm
Specular Component	SCI&SCE
Color Space	CIE LAB,XYZ,Yxy,LCh,CIE LUV,s-RGB,HunterLab,βxy,DIN Lab99 Munsell(C/2)
Color Difference Formula	ΔE*ab,ΔE*uv,ΔE*94,ΔE*cmc(2:1),ΔE*cmc(1:1),ΔE*00, DINΔE99,ΔE(Hunter)
Observer Angle	2°/10°
Illuminant	D65,A,C,D50,D55,D75,F1,F2(CWF), F3,F4,F5,F6,F7(DLF),F8,F9,F10(TPL5),F11(TL84),F12(TL83/U30)
Displayed Data	Spectrogram/Values, Samples Chromaticity Values, Color Difference Values/Graph, PASS/FAIL Result, Color Offset
Measuring Time	About 1.5s (Measure SCI & SCE about 3.2s)
Inter-instrument Error	MAV/SCI, Within ΔE*ab 0.15 (Average for 12 BCRA Series II color tiles)
Measurement Mode	Single Measurement, Average Measurement(2-99times)
Locating Method	Camera Locating,stabilizer cross position
Dimension	L*W*H=129X76X217mm
Weight	Approx 600g
Battery	3.7V,5000mAh Li-ion battery, 6000 measurements within 8 hours
Illuminant Life Span	5 years, more than 3 million times measurements
Displayed Data	3.5-inch TFT color LCD, Capacitive Touch Screen
Data Port	USB, Bluetooth 4.2
Data Storage	Standard 1000 Pcs, Sample 30000 Pcs
Language	Simplified Chinese, English, traditional Chinese
Operating	0~40℃, 0~85%RH (no condensing), Altitude < 2000m
Storage Environment	-20~50℃, 0~85%RH (no condensing)
Standard Accessory	Power Adapter, User Guide, PC Software(Download from office website), USB cable, White and Black Calibration Cavity, Protective Cover, Wrist strap, 8mm flat aperture, 8mm tip aperture, 4mm flat aperture, 4mm tip aperture
Optional Accessory	Micro Printer, Powder Test Box
Notes	The specifications are subject to change without notice.

Portable Grating Spectrophotometer

SP-CLR520C

Features

20 kinds of color indexes and 26 kinds of illuminants

- Supports 26 kinds of illuminants such as D65/D50,etc.
- It can get the value of reflectance, CIE-Lab, CIE-LCh, whiteness, yellowness, opacity, color strength and other color indexes.

Excellent inter-instrument error

- Inter-instrument error＜0.2 which ensures test results consistency of multiple devices.

Auto calibration

- The revolutionary auto calibration technology allows the instrument to achieve automatic calibration, which greatly improves the user experience.

Switchable Apertures 11mm/6mm/1*3mm

- Durable and stable aperture size to measure samples with different sizes.

UV Included/ UV Excluded

- UV Included/ UV Excluded to measure color and color difference for samples with fluorescence.

Multi-function calibration base

- The multi-function calibration base keeps the white tile being protected, combining calibration and charging functions in one.
- When instrument is placed on the base, it will be automatically charged and calibrated. It saves a lot of time for the user to charge and calibration the device.

The camera can clearly observe the measured area

- With Integrated camera to see the measurement area for accurate test.

Description

- Portable Grating Spectrophotometer has powerful performance configuration which makes color measurement more professional. Excellent inter-instrument error ensures consistency of the measurement data of multiple devices.

Specifications

Model	SP-CLR520C
Optical Geometry	D/8（diffused illumination,8° viewing） SCI（specular component included），SCE（specular component excluded）
Integrating Sphere Size	φ40mm
Light Source	Full waveband balanced LED
Color Space and Index	Reflectance, CIE-Lab, CIE-LCh, HunterLab, CIE Luv, XYZ, Yxy, RGB, Color difference(ΔE*ab, ΔE*cmc, ΔE*94,ΔE*00),WI(ASTM E313-00,ASTM E313-73,CIE/ISO, AATCC, Hunter, Taube Berger Stensby), YI(ASTM D1925,ASTM E313-00,ASTM E313-73), Blackness(My,dM),Color Fastness, Tint,(ASTM E313-00),Color Density CMYK(A,T,E,M), Milm, Munsell, Opacity, Color strength
Illuminant	A,B,C,D50,D55,D65,D75,F1,F2,F3,F4,F5,F6,F7,F8,F9,F10,F11,F12,CWF,U30,U35,DLF,NBF,TL83,T
Observer Angle	L84
Sensor	2°,10°
Calibration	256 pixel CMOS sensor
Wavelength Interval	Auto
Wavelength Range	10nm
Measured Reflectance	400-700nm
Range	0-200%
Reflectance Resolution	0.01%
Repeatability	Chromaticity value: Max. :dE*ab< 0.04 Average :dE*ab< 0.03 Standard deviation within ΔE*ab 0.02 (When a whiteboard measures 30 times every 5 seconds) Reflectance: Standard deviation < 0.1%
Measuring Aperture	MAV:Φ8mm/Φ11mm MAV:Φ4mm/Φ6mm MINI:1*3mm
Inter-instrument Error	ΔE*ab＜0.2（BCRA Series Ⅱ, average measurement of 12 tiles，MAV/SCI）
Test Time	About 1s
Battery	Rechargeable, 8000 times continuous tests, 3.7V/3000mAh
Screen	2.4-inch IPS full color screen
Interface	USB，Bluetooth
Illuminant Life Span	1 million measurements in 10 years
Software Support	Android, IOS, Windows
Camera	With
External Dimension(L*W*H)	77.8*53.2*185.7mm
N.W./G.W.	0.3kg/1.5kg
Shipping Dimension(L*W*H)	320*170*290mm

Portable Grating Spectrophotometer

SP-CLR580A SP-CLR580B SP-CLR600A SP-CLR600B

SP-CLR580A SP-CLR580B

Color QC Software

Our spectrophotometer comes with PC color QC software, which is applicable in various industries for management of color data. It is used for store test result, generate test report and print test report after connect with printer.

SP-CLR600A SP-CLR600B

Matching color analysis software

Our spectrophotometer comes with color management software, which is suitable for quality control and management of color data in various industries.

It converts colors into numerical data, compares color differences, generates measurement reports, provides measurement data in different color spaces, and customizes color management for each customer.

Description

- Portable Grating Spectrophotometer has powerful performance configuration which makes color measurement more professional. Excellent inter-instrument error ensures consistency of the measurement data of multiple devices.

Features

Adopt D/8 optical structure and SCI/SCE mode.

- Adopts D/8(diffused illumination, 8-degree viewing angle) which is widely applicable in the world, and SCI/SCE (specular component included/specular component excluded).

The camera can clearly observe the measured area.

- The built-in camera is used for view taking and positioning. Through real-time view taking, it can accurately determine whether the measured part of the object is the target center, which improves the measurement efficiency and accuracy.

Uses CLEDs light source – spectrally balanced LED light source.

- LED light source that has balanced intensity across visible spectrum avoids the spectral deficiency in certain parts of the spectrum in common white LEDs, and guarantees the speed of the measurement and the accuracy of the results.

Adopts Every Time Calibration Technology (ETC)

- The innovative ETC (Every Time Calibration) and standard whiteboard included in the optical system allow reliable accuracy and repeatability in every measurement.

Automatic gloss compensation technology

- Adopts automatic gloss compensation technology,which guarantees the accuracy of color measurement value for surfaces of different gloss.

Innovative light splitting SCS optical engine

- Adopt innovative single-grating-dual-light-paths light splitting system: SCS optical engine,which creates the best measurement repeatability for portable spectrophotometers and guarantees accurate measurement of surface color of materials.

Complete light sources compares with similar products

- Compared with similar products, our spectrophotometer provides the most complete 28 kinds of standard light sources and 40 kinds of measured color value indicators;
- It can also customize the measurement method according to your requirements to meet all your color measurement needs.

Specifications

Model	SP-CLR580A	SP-CLR580B	SP-CLR600A	SP-CLR600B
Optical Geometry	D/8(Diffused lighting, 8 degrees observe angle)、SCI(specular reflection included)/SCE(specular reflection excluded),simultaneous measurement. (conform to CIE No.15、ISO 7724/1、ASTM E1164、DIN 5033 Teil7、 JIS Z8722 Condition c standards)			
Integrating Sphere Size	φ40mm, diffused reflection surface coating		Φ40mm,Avian diffused reflection surface coating	
Light Source	CLEDs(entire wavelength balanced LED light source)			
Sensor	Dual light path sensor array			
Wavelength Range	400-700nm			
Wavelength Interval	10nm			
Half Spectral Width	5nm			
Measured Reflectance Range	0-200%			
Reflectance Resolution	0.01%			
Observer Angle	2°/10°			
Illuminant	A,C,D50,D55,D65,D75,F1,F2,F3,F4,F5,F6,F7,F8,F9,F10,F11,F12,DLF,TL83,TL84,NBF,U30,CWF			
Display	SPD distribution/data,sample's color values,color difference values/graph, pass/fail results, color error tendency, color simulation,display measurement area,history data color simulation,manual input standard sample,generate measurement report			
Measuring Time Interval	2s		0.5s	
Measuring Time	1s		1s	
Color Space	CIE-L*a*b, L*C*h, L*u*v, XYZ, Yxy, Reflectance		CIE-L*a*b, L*C*h, L*u*v, XYZ, Yxy, Reflectance Hunterlab,Munsell MI,CMYK,RGB,HSB	
Color Difference Formula	ΔE*ab, ΔE*CH, ΔE*uv, ΔE*cmc(2:1), ΔE*cmc(1:1),ΔE*94,ΔE*00		ΔE*ab, ΔE*CH, ΔE*uv, ΔE*cmc(2:1), ΔE*cmc(1:1),ΔE*94,ΔE*00 ΔEab(Hunter),555 shade sort	
Other Colorimetric Index	WI(ASTM E313-10,ASTM E313-73,CIE/ISO, AATCC, Hunter, Taube Berger, Ganz, Stensby)； YI(ASTM D1925， ASTM E313-00,ASTM E313-73)； Tint(ASTM E313,CIE,Ganz) Metamerism index Milm, Stick color fastness, Color fastness,			
	Covering power, force,Opacity, color strength		ISO luminance, 8 gloss, A density, T density, M density, E density, Covering power, force,Opacity, color strength	
Repeatability	Light splitting reflectivity:standard deviation within 0.08%			
	Color values:ΔE*ab<=0.03(After calibration, standard deviation of 30 measurements on test white board, 5 second intervals), Max.:0.05			
Measuring Aperture	φ10mm	φ4mm, 6mm	φ10mm	φ4mm, 6mm

Specifications

Model	SP-CLR580A	SP-CLR580B	SP-CLR600A	SP-CLR600B
Inter-instrument Error	ΔE*ab within 0.2(BCRA color charts II, average of the 12 charts)			
Battery	Rechargeable, 10000 continuous tests, 7.4V/6000mAh			
Interface	USB			
Data Storage	20000 test results			
Illuminant Life Span	1.5 million measurements in 5 years			
Screen	True color screen that includes all colors			
Operating Environment	0~45℃, relative humidity 80% or below(at 35℃),no condensation			
Operating Environment	-25℃~55℃， relative humidity 80% or below(at 35℃),no condensation			
Standard Accessory	DC adapter, Lithium battery, manual, color management software, drive software, electronic manual, color management guide, USB cable, black/white calibration tube, protective cover, spire lamella, portable bag, electronic color charts			
Optional Accessory	Powder molding device, micro printer, measurement and test report			
External Dimension(L*W*H))	181*73*112mm			
Net Weight	About 0.55kg(excluding battery's weight)			

Portable Grating Spectrophotometer

SP-CLR600C

Features

Adopts 45/0 geometry
(45 ring-shaped illumination, 0° viewing)

- The innovative ring-shaped illumination system eliminates the direction dependence, regardless of changing the sample position; The tilt sample or the rotating instrument can achieve the high accuracy and the repeatability, will reduce the influence which the grain brings to the lowest.
- The measurement on the surface of abrasive, textured and structured materials has brought great advantages.

Color QC software

- Our spectrophotometer comes with free PC color QC software, which is applicable in various industries for management of color value.
It is used for store test result, generate test report and print test report after connect with printer.

Small and compact size,
accurate and reliable measurement

- SP-CLR600C spectrophotometer is a portable 45/0 geometry color measuring instrument;45/0 geometry is the most consistent with the visual perceptual color value, which can eliminate the specular light on the surface of the texture.

Application

- It is suitable for the color and gloss measurement of automotive interior parts, textiles, coil coatings, plastic products, road traffic representations, packaging and raw materials.

Specifications

Model	SP-CLR600C
Optical Geometry	45/0(45 ring-shaped illumination,0 observe degree)
Measuring Aperture	φ11mm
Light Source	LED
Sensor	High sensitivity silicon photodiode
Wavelength Range	400-700nm
Wavelength Interval	10nm
Repeatability	Light splitting reflectivity： standard deviation within 0.08% Color values;ΔE*ab<=0.03(After calibration, standard deviation of 30 measurements on test white board, 5 second intervals), Maximum： 0.05
Inter-Instrument Error	ΔE*ab within 0.2(BCRA color charts II, average of the 12 charts)
Observer Angle	2°/ 10°
Illuminant	A,C,D50,D55,D65,D75,F1,F2,F3,F4,F5,F6,F7,F8,F9,F10,F11,F12,CWF,U30.DLF,NBF,TL83,TL84.U35
Color Space	CIE-L*a*b, L*C*h, L*u*v, XYZ, Yxy, Reflectance Hunterlab,Munsell MI,CMYK,RGB,HSB
Other Colorimetric Index	WI(ASTM E313-10,ASTM E313-73,CIE/ISO, AATCC, Hunter, Taube Berger, Ganz, Stensby)； YI(ASTM D1925， ASTM E313-00,ASTM E313-73)； Tint(ASTM E313,CIE,Ganz) Metamerism index Milm, Stick color fastness, Color fastness ISO luminance, 8 gloss, A density, T density, M density, E density
Color Difference	ΔE*ab,ΔE*CH,ΔE*uv,ΔE*cmc(2:1),ΔE*cmc(1:1),ΔE*94,ΔE*00,ΔEab(Hunter),555 shade sort
Illuminant Life Span	3 million measurements in 10 years
Data Storage	20000 test results
Interface	USB
Screen	2.8-inch color screen
Battery	Rechargeable, 10000 continuous tests, 7.4V/6000mAh
Operating Environment	0~45 ℃, relative humidity 80% or below(at 35°C),no condensation
Standard Accessory	AC adapter, lithium battery, manual, color management software, driver software, manual electronic version, color Management tutorial, data cable, black and white correction tube, portable bag
Optional Accessory	Measurement area locator
Dimension(L*W*H))	181*73*112mm
Net Weight	About 0.8kg(excluding battery's weight)

Portable Grating Spectrophotometer

SP-CLR600G

Features

Adopts 45/0 geometry
(45 ring-shaped illumination, 0° viewing)

- The innovative ring-shaped illumination system eliminates the direction dependence, regardless of changing the sample position; The tilt sample or the rotating instrument can achieve the high accuracy and the repeatability, will reduce the influence which the grain brings to the lowest.
- The measurement on the surface of abrasive, textured and structured materials has brought great advantages.

Compatible with 60° gloss measurement

- The instrument is equipped with a high-precision gloss measurement sensor, which can measure gloss and color at the same time.

Color QC software

- Our spectrophotometer comes with free PC color QC software, which is applicable in various industries for management of color value.
- It is used for store test result, generate test report and print test report after connect with printer.

Description

- It is a portable 45/0 geometry color measuring instrument and can also measure 60° gloss. 45/0 geometry is the most consistent with the visual perceptual color value, which can eliminate the specular light on the surface of the texture, and the built-in gloss sensor can accurately measure the gloss of the surface.

Specifications

Model	CS-600CG
Function	Color, 60° Luster
Optical Geometry	45/0(45 ring-shaped illumination,0 observe degree)
Measuring Aperture	φ11mm
Light Source	LED
Wavelength Range	400-700nm
Wavelength Interval	10nm
Sensor	High sensitivity silicon photodiode
Repeatability	Light splitting reflectivity： standard deviation within 0.08% Color values;ΔE*ab≤0.03(After calibration, standard deviation of 30 measurements on test white board, 5 second intervals),Max.： 0.05
Inter-instrument error	ΔE*ab within 0.2(BCRA color charts II, average of the 12 charts)
Observer Angle	2°/ 10°
Illuminant	A,C,D50,D55,D65,D75,F1,F2,F3,F4,F5,F6,F7,F8,F9,F10,F11,F12,CWF,U30.DLF,NBF,TL83,TL84.U35
Color Space	CIE-L*a*b, L*C*h, L*u*v, XYZ, Yxy, Reflectance Hunterlab,Munsell MI,CMYK,RGB,HSB
Other Colorimetric Index	WI(ASTM E313-10,ASTM E313-73,CIE/ISO, AATCC, Hunter, Taube Berger, Ganz, Stensby)； YI(ASTM D1925， ASTM E313-00,ASTM E313-73)； Tint(ASTM E313,CIE,Ganz) Metamerism index Milm, Stick color fastness, Color fastness ISO luminance, 8 gloss, A density, T density, M density, E density
Color Difference	ΔE*ab,ΔE*CH,ΔE*uv,ΔE*cmc(2:1),ΔE*cmc(1:1),ΔE*94,ΔE*00,ΔEab(Hunter),555 shade sort
Measuring Angle	60°
Measuring Area	5*10 mm
Measuring Range	0 – 1000 GU
Reproducibility	1.0 GU(0-100GU) 1.0%(100-1000GU)
Illuminant Life Span	3 million measurements in 10 years
Data Storage	20000 test results
Interface	USB
Screen	2.8-inch color screen
Battery	Rechargeable, 10000 continuous tests, 7.4V/6000mAh
Operating Environment	0~45 ℃, relative humidity 80% or below(at 35℃),no condensation
Standard Accessory	AC adapter, lithium battery, manual, color management software, driver software, manual electronic version, color Management tutorial, data cable, black and white correction tube, portable bag Gloss calibration tile
Optional Accessory	Measurement area locator
External Dimension(L*W*H))	181*73*112mm
Net Weight	About 0.8kg(excluding battery's weight)

Grating Spectrophotometer

SP-CLR700D

Application

It can be used for color matching in various industries, and is widely used in the quality control of painting industry, textile industry, plastic industry, food industry, building materials industry and other industries.

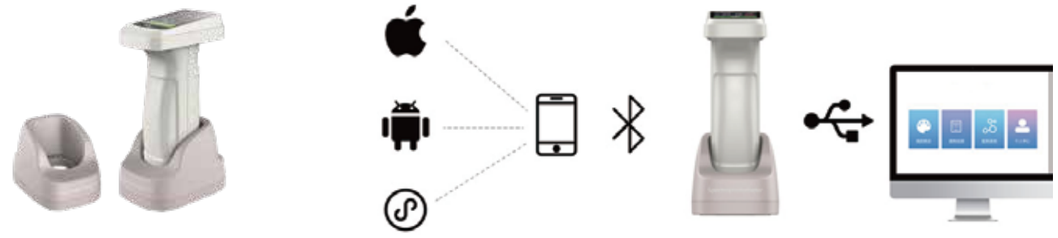
Features

Excellent repeatability and inter-instrument error
Max.repeatability: dE*ab≤0.04, inter-instrument error≤0.25.
The data is accurate and reliable, ensuring the consistency of measurement data from multiple devices, and can be used for color matching and precise color transfer.

Dual optical path array sensor
The dual optical path design monitors the energy fluctuation of the light source while measuring the sample signal, reduces interference during measurement, and obtains higher measurement stability;
The use of large-area dual-array sensors provides higher spectral response sensitivity.

Intelligent automatic calibration
The instrument is placed on the intelligent calibration base, and the instrument can be automatically calibrated without manual intervention through the whiteboard on the base. The white board made of ZrO2 with reflectivity R%>90% is used as the calibration standard, which ensures excellent mechanical strength and weather resistance.

Adopt full waveband balanced LED light source + UV light
The instrument uses a 360-700nm full-wave-band balanced LED light source and UV light source as the lighting source, which ensures sufficient spectral distribution in the visible and ultraviolet ranges, and materials with fluorescent components can also be measured.

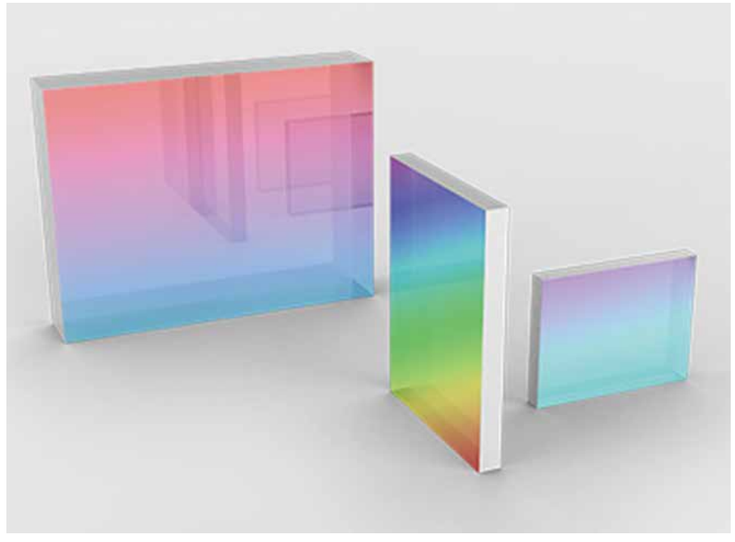


10nm resolution grating spectroscopic technology.
The grating combined with array sensor made by innovative MEMS technology makes color measurement more accurate based on 10nm spectral resolution.

Equipped with three measuring apertures.
Standard 8mm/4mm/1*3mm three measuring apertures,which can be replaced at any time without tools, meeting the measurement needs of various samples.

Provide 30+ measurement parameters and 37 evaluation light sources.
Provide a variety of measurement parameters and evaluation light sources. A variety of light sources and measurement indicators can be flexibly added through the mobile or PC program.

The camera can clearly observe the measured area.
The built-in camera is used for view taking and positioning. Through real-time view taking, it can accurately determine whether the measured part of the object is the target center, which improves the measurement efficiency and accuracy.



Specifications

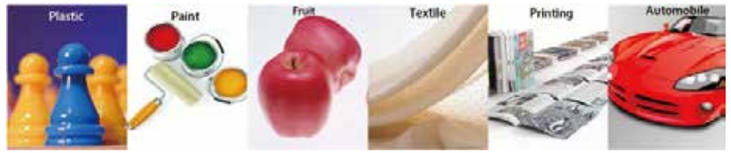
Model	SP-CLR700D
Optical Geometry	D/8(diffused illumination, 8-degree viewing angle)，SCI+SCE
	(specular component included+specular component excluded)
Measuring Aperture	MAV: ϕ8mm/ ϕ11mm； SAV: ϕ4mm/ ϕ6mm； MINI:1*3mm
Light Source	Combined full spectrum LED light source, UV light source
Repeatability	Chromaticity value:
	Standard deviation dE*ab≤ 0.025
	Average: dE*ab≤ 0.025
	Max. value: dE*ab≤ 0.04
	(After whiteboard calibration, measure the whiteboard 30 times at 5-second intervals)
	Spectral reflectance:
	Standard deviation<0.08%
Inter-instrument Error	ΔE*ab≤0.25
	（BCRA Series Ⅱ, average measurement of 12 tiles）
Displayed Accuracy	0.01
Measurement Index	Reflectance,
	CIE-Lab,CIE-LCh,HunterLab,CIE-Luv,XYZ,Yxy,RGB,Color difference(ΔE*ab,ΔE*cmc,ΔE*94,ΔE*00),WI(ASTM
	E313-00,ASTM E313-73,CIE/ISO,AATCC,Hunter,TaubeBergerStensby),YI((ASTM D1925,ASTM E313-00,ASTM
	E313-73),Blackness（My,dM）,Color Fastness, Tint(ASTM E313-00),Color Density CMYK(A,T,E,M),Metamerism index
	Milm,Munsell, Opacity, Color strength(Dye strength, tinting strength)
Illuminant	A,B,C,D50,D55,D65,D75,F1,F2,F3,F4,F5,F6,F7,F8,F9,F10,F11,F12,CWF,U30,U35,DLF,NBF,TL83,TL84,ID50,ID65,LED-B1,LED-B2
	LED-B3,LED-B4,LED-B5,LED-BH1,LED-RGB1,LED-V1,LED-V2
Camera Locating	With
Calibration	Auto
Software supporting	Android,IOS,WeChat applet，Windows
Observer Angle	2°, 10°
Integrating Sphere Size	ϕ40mm
Optical Splitting Method	Grating
Sensor	Dual array sensor
Wavelength Interval	10nm
Wavelength Range	400-700nm
Measured Reflectance Range	0-200%
Reflectance Resolution	0.01%
Test Time	＜2s
Interface	USB，Bluetooth
Screen	3.5-inch IPS full color screen
Battery	Rechargeable, 8000 times continuous tests, 3.7V/3000mAh
Illuminant Life Span	1 million measurements in 10 years
External Dimension (L*W*H)	95*129*231mm
Net Weight	0.75kg

Portable Grating Spectrophotometer

SP-CLR500C

Application

Portable Grating Spectrophotometer has powerful performance configuration which makes color measurement more professional. Excellent inter-instrument error ensures consistency of the measurement data of multiple devices.



Features

20 kinds of color indexes and 26 kinds of illuminants
Supports 26 kinds of illuminants such as D65/D50,etc.
It can get the value of reflectance, CIE-Lab,-CIE-LCh, whiteness, yellowness, opacity, color strength and other color indexes.

Excellent inter-instrument error
Inter-instrument error＜0.3 ,which ensures test results consistency of multiple devices.

Auto calibration
The auto calibration technology allows the instrument to achieve automatic calibration, which greatly improves the user experience.

Multi-function calibration base
The multi-function calibration base keeps the whiteboard being protected, combining calibration and charging functions in one.
When instrument is placed on the base, it will be automatically charged and calibrated. It saves a lot of time for the user to charge and calibration the device.

Specifications

Model	SP-CLR500C
Optical Geometry	D/8 (diffused illumination,8° viewing), SCI（specular component included）
Integrating Sphere Size	ϕ40mm
Light Source	Full waveband balanced LED
Color Space and Index	Reflectance, CIE-Lab, CIE-LCh, HunterLab, CIE Luv, XYZ, Yxy, RGB, Color difference(ΔE*ab, ΔE*cmc, ΔE*94,ΔE*00),WI(ASTM E313-00,ASTM E313-73,CIE/ISO, AATCC, Hunter, Taube Berger Stensby), YI(ASTM D1925,ASTM E313-00,ASTM E313-73), Blackness（My,dM）,Color Fastness, Tint,(ASTM E313-00),Color Density CMYK(A,T,E,M), Milm, Munsell, Opacity, Color strength
Illuminant	A,B,C,D50,D55,D65,D75,F1,F2,F3,F4,F5,F6,F7,F8,F9,F10,F11,F12,CWF,U30,U35,DLF, NBF,TL83,TL84
Observer Angle	2°,10°
Sensor	256 pixel CMOS sensor
Calibration	Auto
Wavelength Interval	10nm
Wavelength Range	400-700nm
Measured Reflectance Range	0-200%
Reflectance Resolution	0.01%
Repeatability	Chromaticity value: Max. :dE*ab< 0.1 Average :dE*ab< 0.05 Standard deviation within ΔE*ab 0.03 (When a whiteboard measures 30 times every 5 seconds) Reflectance: Standard deviation < 0.1%
Measuring Aperture	MAV: ϕ8mm/ ϕ11mm
Inter-instrument Error	ΔE*ab＜0.3
Measuring Time	（BCRA Series Ⅱ, average measurement of 12 tiles，MAV/SCI）
Battery	About 2s
Screen	Rechargeable, 8000 times continuous tests, 3.7V/3000mAh
Interface	2.4-inch IPS full color screen
Illuminant Life Span	USB，Bluetooth
Software Support	1 million measurements in 10 years
Camera	Android, IOS, Windows
External Dimension	Without
(L*W*H)	77.8*53.2*185.7mm
N.W./G.W.	0.3kg/1.5kg
Shipping Dimension (L*W*H)	320*170*290mm

Portable Grating Spectrophotometer

SP-CLR650A SP-CLR650B

Application

It can be used for color matching in various industries, and is widely used in the quality control of painting industry, textile industry, plastic industry, food industry, building materials industry and other industries.

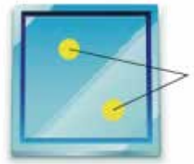
Features

Adopt D/8 optical structure and SCI/SCE mode.
Adopts D/8(diffused illumination, 8-degree viewing angle) which is widely applicable in the world, and SCI/SCE (specular component included/specular component excluded).

Adopts Every Time Calibration Technology (ETC)
The innovative ETC (Every Time Calibration) and standard whiteboard included in the optical system allow reliable accuracy and repeatability in every measurement.

The camera can clearly observe the measured area.
The built-in camera is used for view taking and positioning. Through real-time view taking, it can accurately determine whether the measured part of the object is the target center, which improves the measurement efficiency and accuracy.

Free Color QC software
Our spectrophotometer comes with the color QC software, which is applicable in various industries' quality control and management of color data.
It converts colors into numerical data, compares color differences, and generates measurement reports. Moreover, it provides measurement data in different color spaces and customizes color management for each customer.



The same color in different gloss will lead to different measured data.

Automatic gloss compensation technology
The automatic gloss compensation technology guarantees the accuracy of color measurement data for surfaces of different gloss.

Innovative light splitting SCS optical engine
Adopt innovative single-grating-double-beam light splitting system: SCS optical engine, creates the best measurement repeatability for portable spectrophotometers in the industry, ensuring accurate measurement of material surface color.

Complete light sources
Compared with similar products, our spectrophotometer provides the most complete 28 kinds of standard light sources for lighting conditions and 40 kinds of measured color value indicators;
Measurement methods can also be customized
according to your requirements to meet all your color measurement needs.

Specifications

Model	SP-CLR650A	SP-CLR650B
Optical Geometry	d/8(Diffused lighting, 8 degrees observe angle)、SCI(specular reflection included)/SCE(specular reflection excluded)simultaneous measurement。(conform to CIE No.15、ISO 7724/1、ASTM E1164、DIN 5033 Teil7、 JIS Z8722 Condition c standards)	
Light Source	Pulse xenon lamp,with UV	
Integrating Sphere Size	ϕ40mm, Avian diffused reflection surface coating	
Sensor	Dual optical path sensor array	
Measuring Aperture	10mm	4mm, 6mm
Wavelength Range	360-740nm	
Wavelength Interval	10nm	
Half Spectral Width	5nm	
Measured Reflectance Range	0-200%	
Reflectance Resolution	0.01%	
Observer Angle	2°/10°	
Illuminant	A,C,D50,D55,D65,D75,F1,F2,F3,F4,F5,F6,F7,F8,F9,F10,F11,F12,DLF,TL83,TL84,NBF,U30,CWF	
Display	SPD distribution/data，sample's color values，color difference values/graph，pass/fail results，color error tendency，color simulation，display measurement area，history data color simulation，manual input standard sample，generate measurement report	
Measuring Time Interval	1s	
Measuring Time	2s	
Color Space	CIE-L*a*b, L*C*h, L*u*v, XYZ, Yxy, Reflectance Hunterlab,Munsell MI,CMYK,RGB,HSB	
Color Difference Formula	ΔE*ab, ΔE*CH, ΔE*uv, ΔE*cmc(2:1), ΔE*cmc(1:1),ΔE*94,ΔE*00 ΔEab(Hunter),555 shade sort	
Other Colorimetric Index	WI(ASTM E313-10,ASTM E313-73,CIE/ISO, AATCC, Hunter, Taube Berger, Ganz, Stensby)； YI(ASTM D1925，ASTM E313-00,ASTM E313-73)； Tint(ASTM E313,CIE,Ganz) Metamerism index Milm, Stick color fastness, Color fastness ISO luminance, 8 gloss, A density, T density, M density, E density,Covering power, force,Opacity, color strength	
Repeatability	Light splitting reflectivity：standard deviation within 0.08% Color values:ΔE*ab<=0.02, Max.:0.04	
Battery	Rechargeable, 10000 continuous tests, 7.4V/6000mAh	
Interface	USB	
Data Storage	20000 test results	
Illuminant Life Span	1.5 million measurements in 5 years	
Inter-Instrument Error	ΔE*ab within 0.2(BCRA color charts II, average of the 12 charts)	
Screen	True color screen that includes all colors	
Operating Environment	0~45℃, relative humidity 80% or below(at 35°C),no condensation	
Storage Environment	-25℃ ~55℃， relative humidity 80% or below(at 35°C),no condensation	
Standard Accessory	DC adapter, Lithium battery, manual, color management software, drive software, electronic manual, color management guide, USB cable, black/white calibration tube, protective cover, spire lamella, portable bag, electronic color charts, measurement and test report	
Optional Accessory	Powder molding device, micro printer	
External Dimension(L*W*H)	181*73*112mm	
Net Weight	About 0.55kg (excluding battery's weight)	

Portable Grating Spectrophotometer

SP-CLR660A SP-CLR660B

Application

It can be used for color matching in various industries, and is widely used in the quality control of painting industry, textile industry, plastic industry, food industry, building materials industry and other industries.

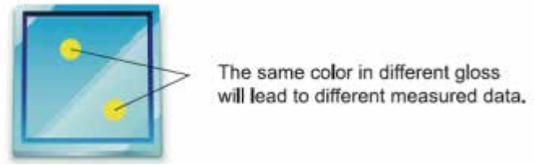
Features

Adopt D/8 optical structure and SCI/SCE mode.
Adopts D/8(diffused illumination, 8-degree viewing angle) which is widely applicable in the world, and SCI/SCE (specular component included/specular component excluded).

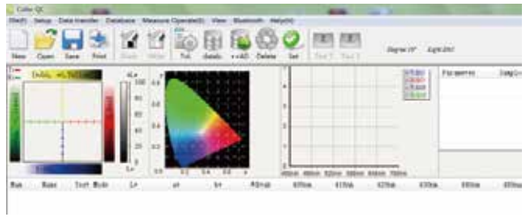
The camera can clearly observe the measured area.
The built-in camera is used for view taking and positioning. Through real-time view taking, it can accurately determine whether the measured part of the object is the target center, which improves the measurement efficiency and accuracy.

Uses CLEDs light source—Entire wavelength balanced LED light source
LED light source that has balanced intensity across visible spectrum avoids the spectral deficiency in certain parts of the spectrum in common white LEDs, and guarantees measurement speed and results' accuracy.

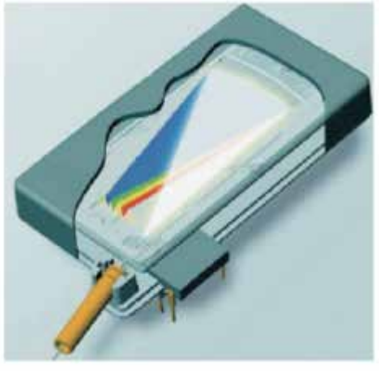
Adopts Every Time Calibration Technology (ETC)
The innovative ETC (Every Time Calibration) and standard whiteboard included in the optical system allow reliable accuracy and repeatability in every measurement.



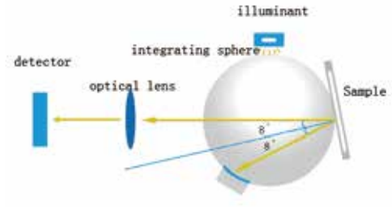
Automatic gloss compensation technology
The automatic gloss compensation technology guarantees the accuracy of color measurement data for surfaces of different gloss.



Free Color QC software
Our spectrophotometer comes with the color QC software, which is applicable in various industries' quality control and management of color data.
It converts colors into numerical data, compares color differences, and generates measurement reports. Moreover, it provides measurement data in different color spaces and customizes color management for each customer.



Innovative light splitting SCS optical engine
Adopt innovative single-grating-double-beam light splitting system: SCS optical engine, creates the best measurement repeatability for portable spectrophotometers in the industry, ensuring accurate measurement of material surface color.



Complete light sources
Compared with similar products, our spectrophotometer provides the most complete 28 kinds of standard light sources for lighting conditions and 40 kinds of measured color value indicators; Measurement methods can also be customized according to your requirements to meet all your color measurement needs.

Specifications

Model	SP-CLR660A	SP-CLR660B
Optical Geometry	D/8(Diffused illumination, 8°viewing);SCI(specular component included)/SCE(specular component excluded)-simultaneous measurement (conform to CIE No.15、ISO 7724/1、ASTM E1164、DIN 5033 Teil7、 JIS Z8722 Condition c standards)	
Light Source	CLEDs(Full waveband balanced LED light source)	
Integrating Sphere Size	ϕ40mm, Avian diffused reflection surface coating	
Sensor	Dual optical path sensor array	
Measuring Aperture	10mm	4mm, 6mm
Wavelength Range	400-700nm	
Wavelength Interval	10nm	
Half Spectral Width	5nm	
Measured Reflectance Range	0-200%	
Reflectance Resolution	0.01%	
Observer Angle	2°/10°	
Illuminant	A,C,D50,D55,D65,D75,F1,F2,F3,F4,F5,F6,F7,F8,F9,F10,F11,F12,DLF,TL83,TL84,NBF,U30,CWF	
Display	Reflectance graph/value, sample chromatic value, color difference values, color assessment results, color tendency, display measurement area, history color value simulation, manual input standard sample, generate measurement reports	
Measuring Time Interval	0.5s	
Measurement Time	1s	
Color Space	CIE-L*a*b, L*C*h, L*u*v, XYZ, Yxy, Reflectance Hunterlab,Munsell MI,CMYK,RGB,HSB	
Color Difference Formula	ΔE*ab, ΔE*CH, ΔE*uv, ΔE*cmc(2:1), ΔE*cmc(1:1),ΔE*94,ΔE*00 ΔEab(Hunter),555,color classification	
Other Colorimetric Index	WI(ASTM E313-10,ASTM E313-73,CIE/ISO, AATCC, Hunter, Taube Berger, Ganz, Stensby)； YI(ASTM D1925，ASTM E313-00,ASTM E313-73)； Tint(ASTM E313,CIE,Ganz) Metamerism index Milm, Stick color fastness, Color fastness ISO luminance, 8 gloss, A density, T density, M density, E density,Covering power, force,Opacity, color strength	
Repeatability	Reflectance: standard deviation within 0.08% Chromaticity values: ΔE*ab<=0.015 Maximum:0.03	
Battery	Rechargeable, 10000 continuous tests, 7.4V/6000mAh	
Interface	USB	
Data Storage	20000 test results	
Illuminant Life Span	1.5 million measurements in 5 years	
Inter-instrument Error	ΔE*ab within 0.2(BCRA color charts II, average of the 12 charts)	
Screen	True color screen that includes all colors	
Operating Environment	0~45℃, relative humidity 80% or below(at 35°C),no condensation	
Storage Environment	-25℃~ 55℃， relative humidity 80% or below(at 35°C),no condensation	
Standard Accessory	Power line, operating manual, color QC software, driving software, electric operating manual, USB cable, white/black calibration tile and cover, canvas bag, verification certification	
Optional Accessory	Powder molding device, micro printer	
External Dimension(L*W*H)	181*73*112mm	
Net Weight	About 0.55kg (excluding battery's weight)	

Grating Spectrodensitometer

SP-CLD501

Features

Perfect combination of the beautiful appearance and the ergonomic structure design;

Combined LED light sources with long life and low power consumption, including UV light;

Optional apertures: Φ2/4/8mm, adapt to more samples;

Accurately measure reflectance spectrum, CMYK density and Lab value of the sample;

High-configuration electronic hardware: 3.5-inch TFT true-color screen, capacitive touch screen, concave grating, 256-pixel dual-array CMOS image sensor, etc.

Two standard observer angles: 2/10, multiple light source modes and color systems;

Especially suitable for process control and quality control of printing plants;

USB mode is widely useful;

Large-capacity storage space can store over 10,000 test data;

PC software has powerful function expansion.

Specifications

Model	SP-CLD501
Measurement Geometry	45/0(45 ring-shaped illumination, 0 degree viewing angle); ISO 5-4,CIE No.15
Features	With common spectrophotometer densitometer, it can be applied in ink printing, Film Processing, Textile Printing and Dyeing, Plastic Electronics and Other Industries for Color Measurement and Quality Control;especially suitable for the measurement and quality control of optical density and dot enlargement in ink printing;it is able to customize single aperture Φ2mm,Φ4mm,Φ8mm.
Light Source	Combined LED Light and UV Light
Spectral separation device	Concave Grating
Detector	256 Image Element Double Array CMOS Image Sensor
Wavelength Range	400~700nm
Wavelength Pitch	10nm
Half Bandwidth	10nm
Measurement Conditions	Compliance with ISO 13655 measurement conditions; M0 (CIE Light Source A) M1 (CIE Light Source D50) M2 (Excluding UV light source) M3 (M2+Polarized light filter)
Density Standards	ISO Status A, E, I, T
Density index	Density value, density difference, dot area, dot enlargement, overprint, printing characteristics, printing contrast, tone error and gray level
Measurement aperture	Customized one aperture： Φ2mm,Φ4mm,Φ8mm optional
Color Spaces	CIE LAB,XYZ,Yxy,LCh
Color Difference Formula	ΔE*ab,ΔE*94,ΔE*00
Other Colorimetric Index	/
Observer Angle	2°/10°
Illuminants	A,C,D50,D55,D65,D75,F2,F7,F11,F12
Measurement Time	About 1.5s
Repeatability	Density: Within 0.01 D
Inter-instrument Error	Chromaticity value:within ΔE*ab 0.04 (When a white calibration plate is measured 30 times at 5 second intervals after white calibration) Except M3
Measurement mode	Within ΔE*ab 0.2 (Average for 12 BCRA Series II color tiles) Except M3 Single Measurement, Average Measurement(2-99)
Size(L*W*H)	184*77*105mm
Weight	About 600g
Package Dimension (W*D*H) (mm)	360*170*320
G.W.(kg)	3
Power source	Li-ion battery. 5000 measurements within 8 hours
Illuminant Life Span	5 years, more than 3 million times measurements
Display	3.5-inch TFT color LCD, Capacitive Touch Screen
Interface	USB,
Data memory	10000 pcs
Language	Simplified Chinese, English, Traditional Chinese
Working Environment	Temperature: 0~40 ℃; Humidity: 0~85% (No Condensation);altitude: less than 2000 m
Storage Environment	Temperature: -20~50 ℃; Humidity: 0~85% (No Condensation)
Standard Accessory	Power Adapter, USB Cable, Built-in li-ion battery, User Manual, software(download from the website),White and Black Calibration Board, Protective Cover,Polarization filter box,Locating Plate
Optional Accessory	Micro Printer

Notes: The specifications are subject to change without notice.

Grating Spectrodensitometer

SP-CLD505

Features

45/0 geometrical optics structure. Complying with CIE, the testing conditions of M O, M 1， M 2 , M 3 stipulated by ISO 13655 standard, it can accurately measure various printing density , overprint rate and other printing parameters.

Accurately measures reflectance spectrum, CMYK density and Lab value of the sample;

High-configuration electronic hardware: 3.5-inch TFT true-color screen, capacitive touch screen, concave grating, 256-pixel dual-array CMOS image sensor, etc.

Perfect combination of the beautiful appearance and the ergonomic structure design;

Optional apertures: Φ2/4/8mm, adapting to more samples;

Large-capacity storage space can store over 20,000 test data

Combined LED light sources with long life and low power consumption, including UV light;

USB/Blue2.1 dual communication mode is widely useful;

Especially suitable for process control and quality control of printing plants;

PC software has powerful function expansion.

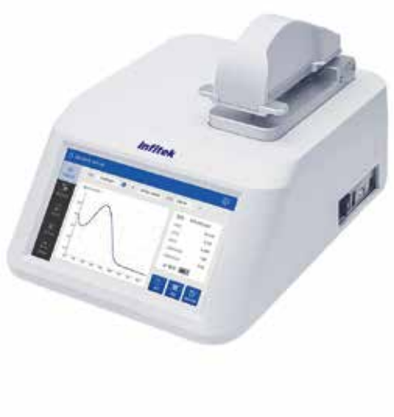
Specifications

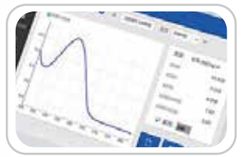
Model	SP-CLD505
Measurement Geometry	45/0(45 ring-shaped illumination, 0 degree viewing angle); ISO 5-4,CIE No.15
Features	Highly accurate spectrophotometer densitometer, can be applied in ink printing, in Film Processing, Textile Printing and Dyeing, Plastic Electronics and Other Industries for Color Measurement and Quality Control;especially suitable for the measurement and quality control of optical density and dot enlargement in ink printing;able to customize single aperture Φ2mm,Φ4mm,Φ8mm.
Light Source	Combined LED Light and UV Light
Spectral separation device	Concave Grating
Detector	256 Image Element Double Array CMOS Image Sensor
Wavelength Range	400~700nm
Wavelength Pitch	10nm
Half Bandwidth	10nm
Measurement Conditions	Compliance with ISO 13655 measurement conditions; M0 (CIE Light Soure A) M1 (CIE Light Soure D50) M2 (Excluding UV light source) M3 (M2+Polarized light filter)
Density Standards	ISO Status A, E, I, T
Density index	Density value, density difference, dot area, dot enlargement, overprint, printing characteristics, printing contrast, tone error and gray scale, density scanning
Measurement aperture	Customized one aperture : Φ2mm,Φ4mm,Φ8mm optional
Color Spaces	CIE LAB,XYZ,Yxy,LCh,CIE LUV,HunterLAB
Color Difference Formula	ΔE*ab,ΔE*94,ΔE*00,ΔE*uv,ΔE*cmc(2:1),ΔE*cmc(1:1),ΔE(Hunter)
Other Colorimetric Index	WI(ASTM E313,CIE/ISO,AATCC,Hunter), YI(ASTM D1925,ASTM 313), MI (Metamerism Index),Opacity,
Observer Angle	2°/10°
Illuminants	A,C,D50,D55,D65,D75,F2(CWF),F7(DLP),F11(TL84),F12(TL83/U30),F1,F3,F4,F5,F6,F8,F9,F10(TPL5)
Measurement Time	About 1.5s
Repeatability	Density: Within 0.01 D Chromaticity value:within ΔE*ab 0.03 (When a white calibration plate is measured 30 times at 5 second intervals after white calibration) Except M3
Inter-instrument Error	Within ΔE*ab 0.18 (Average for 12 BCRA Series II color tiles) Except M3
Measurement mode	Single Measurement, Average Measurement(2-99)
Size(L*W*H)	184*77*105mm
Weight	About 600g
Power source	Li-ion battery. 5000 measurements within 8 hours
Illuminant Life Span	5 years, more than 3 million times measurements
Display	3.5-inch TFT color LCD, Capacitive Touch Screen
Interface	USB, Bluetooth 4.0
Data memory	20000 pcs
Language	Simplified Chinese, English, Traditional Chinese
Working Environment	Temperature: 0~4℃; Humidity: 0~85% (No Condensation);altitude: less than 2000 m
Storage Environment	Temperature: -20~50℃; Humidity: 0~85% (No Condensation)
Standard Accessory	Power Adapter, USB Cable, Built-in li-ion battery, User Manual, software(download from the website),White and Black Calibration Board, Protective Cover,Polarization filter box,Locating Plate
Optional Accessory	Micro Printer

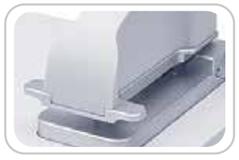
Notes: The specifications are subject to change without notice.

Microvolume UV/VIS (Nano) Spectrophotometer

SP-YUV100







It has a 7-inch capacitive touch screen, multi-touch, and humanized design;No computer is required for measurement and data storage and the sample detection and data storage can be completed by a single machine, which is very convenient to use.

Friendly Android operation system, 7-inch touched screen.

Cuvette slot available for bacteria/microbe concentration test.

Measurement without dilution, test result display and read easily.

Long life's Xenon flash lamp.

Reliable and quick data USB output for analysis.

No computer is required for measurement and data storage.

Image and excel table can be output.

External printer is optional.

Only 0.5～2μL sample volume requested, which can be recycled after test, ideal for precious samples.

Sample pedestal

Drop sample

Specification

Model		SP-YUV100
Sample volume		0.5μL~2μL
Path Length		0.05mm, 0.2mm , 1mm
Light source/Life		Xenon Lamp/flicker times>10^9
Detector type		2048 CMOS array
Wavelength		180~910nm
Wavelength accuracy		±1 nm
Wavelength precision		±0.2nm
Spectral resolution		≤1.5nm（FWHM@Hg 253.7nm）
Absorbance precision		0.002Abs
Absorbance accuracy		±1%（7.332Abs at 260nm）
Absorbance range(equaled 10mm)		0.04~300A; Cuvette (OD600):0~4A
Nucleic acid range		dsDNA:2~15000ng/μL
		ssDNA:1.32~9900ng/μL
		RNA:1.6~12000ng/μL
Protein Detection Range		A280: 0.04~750mg/mL
		BSA: 0.06~1119mg/mL
		IgG: 0.03~547mg/mL
		Lysozyme: 0.015~284mg/mL
Detection time		<6S
OD600	Abs range	0~4.000 Abs
	Abs stability	[0,3）≤0.5%, [3,4）≤1.5%
	Abs repeatability	[0,3）≤0.5%, [3,4）≤1.5%
	Abs accuracy	[0,2）≤0.005A,[2,3）≤1%,[3,4）≤2%
Sample pedestal		304 stainless steel and Quartz fiber
Voltage		DC12V 4A
Power of work/Stand by		48W/ ＜6.5W
Dimension		270×210×196 mm（W×D×H）
Weight		3.4 kg

NIR Spectrophotometer

SP-LIF430

Description

SP-LIF430 NIR spectrophotometer is a spectrophotometer with a grating monochromator.

- This instrument is for rapid non-destructive analysis of oil, alcohol, beverage, and other liquids.
- The wavelength range is 900nm-2500nm.
- The procedure is extremely convenient.
- Fill the cuvette with the sample and place it on the sample platform of the instrument.
- Click in the software to obtain the NIR spectrum data of the sample in about one minute.
- Combining the data with the corresponding NIR data model, various components of the tested sample can be obtained at the same time.

Application

Easy to use. No sample preparation is required, and the sample is not damaged.

Wavelength range is 900nm-2500nm.

The main part of the performance is the international leader.

Built-in high-quality PTFE reference module and polystyrene wave-length standard filter. Automatic reference calibration and monitor-ing wavelengths ensure accurate and stable measurement results.

The instrument monitors the ambient temperature and humidity in real-time and stores it in the spectrum file, which is convenient for users to check and optimize the measurement conditions.

Specifications

Model	SP-LIF430
Measurement Mode	Transmission
Bandwidth	8nm
Wavelength Range	900nm ~ 2500nm
Wavelength Accuracy	≤0.2
Wavelength Reproducibility	≤0.05
Stray Light	≤0.1%
Noise	≤0.0005 Abs
Analysis time	1 minute or above
Port	USB2.0
Power Supply	90~250V, 50/60Hz
Temperature Requirement	5~35 ℃
humidity Requirement	5~85 %RH
Dimension	360mm×460mm×240mm
Weight	12Kg

Standard Package

Item	Content
Main instrument	1 set
Power cord	1 pc
Data processing software package	1 set
USB cable	1 pc
User manual	1 pc
Packing list	1 copy
Product quality certificate	1 copy
Fuse(2A)	2 pcs
1cm quartz square sample cell	1 pair(2 pcs)
1mm quartz micro sample cell	1 pair(2 pcs)

NIR Spectrophotometer

SP-LIF450

Specification

Model	SP-LIF450
Measurement Mode	Diffuse reflection sample cell
Detector	Japan hamamatsu cooled InGaAs
Spectral Bandwidth(nm)	12
Wavelength Range(nm)	900~2500
Wavelength Accuracy(nm)	≤0.2
Wavelength Repeatability(nm)	≤0.05
Stray Light(%)	≤0.1
Absorbance Noise(Abs)	≤0.0005
Analysis Time	1min（adjustable）
Data Transmission Mode	USB2.0
Calibration Technology	MPLS Modified least squares regression calibration technology DPLS Spectrum identification and qualitative analysis technology

Description

900nm-2500nm ultra-wide spectral range, fast analysis speed. Multiple component indicators can be detected simultaneously within 1 minute, such as moisture, fat, protein, and amino acids.

Combined with China Agricultural University's Near Infrared Spectroscopy Analysis Software (CAUNIRS), an authoritative professional NIR quantitative and qualitative analysis model can be established.

Built-in high-quality PTFE reference module and polystyrene wavelength standard film, automatic reference correction and wavelength monitoring, to ensure accurate and stable measurement results.

Simple operation, intuitive user interface, and the authority management function can meet the needs of different occasions.

Compact instrument structure and open working platform, easy for cleaning.

Equipped with integrating sphere diffuse reflection system, large sampling spot and sample rotating table to ensure the reproduction effect of uneven samples.

Simple operation, no sample pre-treatment, no sample destruction.

Good model transfer can be carried out between multiple instruments. Each instrument is calibrated, identified and verified in strict accordance with industry recommendations. All tests use NIST traceable standards.

A variety of sample cups and accessories can be selected to meet the test of particles, powders, liquids and films.

The instrument monitors the environmental temperature and humidity in real time and stores it in the spectrum file, which is convenient for users to consult and optimize the measurement conditions.

Built-in high-quality PTFE reference module and polystyrene wavelength standard filter. Automatic reference calibration and monitoring wavelengths ensure accurate and stable measurement results.

Simple operation, no sample pre-treatment, no sample destruction.

Convenient and easy to use

Simple operation control

No chemical reagents, no pre-treatment, directly put the sample into the sample cup. Simple operation, with a single tap, the experiment can be completed quickly, which avoid test errors caused by operation. Built-in background, no manual operation, the influence of human interference is eliminated.

Friendly interface software

Simple operation, intuitive interface, and the function is powerful. It contains comprehensive and extensive data collection, preprocessing, evaluation and other functions, and the required installation package can be configured to meet actual needs. The functions of “User Settings” and “User Management” have also been expanded to facilitate users to customize the operator’s use authority.

Convenient maintenance

The structure of the instrument is compact and exquisite, and the working platform is easy to clean. The consumables (light source and desiccant) are designed for long-life, but if they need to be replaced, the user can quickly complete the replacement in a short time without opening the instrument.

Installation Requirements

Item	Content
Power Supply	90~250V\50Hz (or 60Hz)
Ambient Temperature (℃)	5~35
Ambient Humidity (%RH)	5~85
Instrument Dimension(W*D*H)(mm)	540*380*220
Package Dimension (W*D*H)(mm)	800*680*580
Weight(N.W./G.W.) (kg)	18/55

NIR Spectrophotometer

SP-LIF460

Specifications

Model	SP-LIF460
Measurement Mode	Integrating sphere
Spectral Bandwidth（nm）	12
Wavelength Range（nm）	700nm~2500nm
Wavelength Accuracy（nm）	≤0.2
Wavelength Repeatability（nm）	≤0.05
Stray Light(%)	≤0.1
Absorbance Noise (Abs)	≤0.0005
Analysis Time	1min (adjustable)
Lifetime of Light Source	More than 5000 hours
Sample Volume	The big cup φ90 is about 120g,
	the middle cup φ70 is about 60g,
	the small cup φ30 is about 12g.
Calibration Technology	Quantitative analysis: LPLS local partial least squares
	Qualitative analysis: DPLS digitized partial least squares
Dimension(L*W*H)(mm)	365*295*157
N.W./G.W.(kg)	18/21
Package Dimension (W*D*H)(mm)	550*520*400

Features

Simple operation, no sample pre-treatment, no sample destruction.

700nm-2500nm ultra-wide spectral range, fast analysis.Multiple component indicators can be detected simultaneously within 1 minute, such as moisture, fat, protein, and amino acids.

The core main parts are all international well-known brands.

Built-in high-quality PTFE reference module and polystyrene wavelength standard film, automatic reference correction and wavelength monitoring, to ensure accurate and stable measurement results.

Equipped with integrating sphere diffuse reflection system, large sampling spot and sample rotating table to ensure the reproduction effect of uneven samples.

Good model transfer can be carried out between multiple instruments. Each instrument is calibrated, identified and verified in strict accordance with industry recommendations. All tests use NIST traceable standards.

A variety of sample cups and accessories can be selected to meet the test of particles, powders, liquids and films.

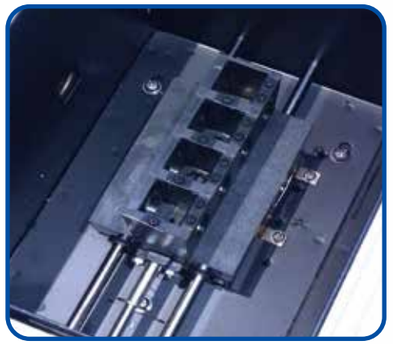
The instrument monitors the environmental temperature and humidity in real time and stores it in the spectrum file, which is convenient for users to consult and optimize the measurement conditions.

Description

- SP-LIF460 NIR Spectrometer provides calibration models for multi-domain and diversified applications. It can be widely used in agricultural feed, grain and oil food, wine and starch, soy sauce fermentation products.

Spectrophotometer

SP-IUV4S



Features

7-inch multi color touch-screen and patented technology to achieve simple and effective human-computer

interaction with a clear display of test data.

SP-IUV4S comes standard with a built-in thermal printer, which can print out test results and facilitate the formation and retention of data reports.

A USB communication port and UVWIN8 professional data processing software (optional) to achieve data processing and mapping functions and storage of massive amounts of data files, and to facilitate the secondary development by customers.

Automatic wavelength setting, fast and accurate.Functions such as wavelength scanning (S model only), kinetic time scanning, automatic wavelength, linear regression, direct read-out of concentration, peak detection, regular printing and etc.

Advanced power shut-down protection measures to memorize detected data, regression equation and instrument correction parameters to achieve fast initialization.

Tungsten lamp and deuterium lamp with lifetime protection.

Applications

- Novel series spectrophotometer, being combined with an ARM processed core, has test speeds and functions possessed by high-end instruments. The instrument can meet the requirement of quantitative analysis for most samples conducted within the visible and ultraviolet-visible spectral range in conventional laboratories and is suitable for use in medicine and health, clinical examination, biochemical, petrochemical, environmental protection, quality control departments, colleges and universities and others.

Specification

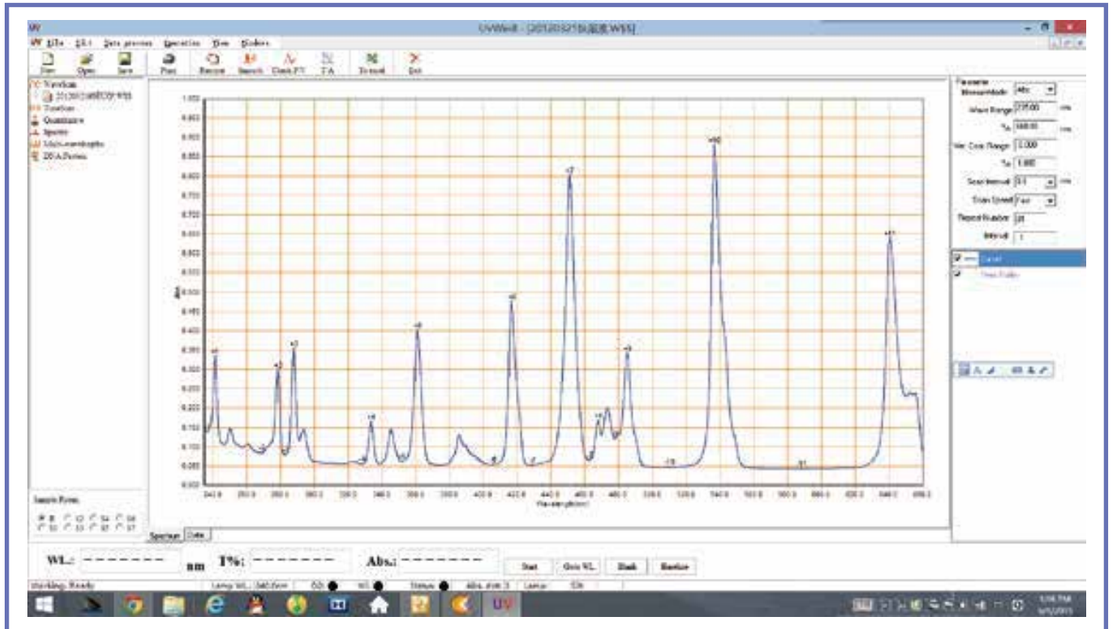
Model	SP-IUV4S
Photometry	Single beam
Monochromator Type	Czerny-turner
Focal Length	160mm
Grating	1200 lines/mm
Detector	Silicon photocell
Spectrum Bandwidth	2nm
Wavelength Setting	7-inch color touch-screen
Wavelength Range	190-1100nm
Wavelength Accuracy	±1nm
Wavelength Repeatability	≤0.5nm
Photometric Range	0.0-200.0%T
	-0.301-4.000A
	0.000-9999C
Photometric Accuracy	±0.3%T
	±0.002Abs (0-0.5A)
	±0.004 Abs (0.5-1A)
Photometric Repeatability	≤0.15%T
	0.001 Abs (0-0.5A)
	0.002 Abs (0.5-1A)
Scanning Speed	Fast-Medium-Slow
Baseline	≤±0.003A (200-1090nm)
Stray Light	≤0.1%T (at 220nm NaI, 360nm NaNO2)
Noise	100%（T）Noise≤0.5%(T)， 0%（T）Noise≤0.2%(T)
Drifting	±0.002 Abs/30min (at 250nm and 500nm after 2h warm up)
Electricity	AC220V±22V 50Hz±1Hz,180W
Dimension(L*W*H)	475*365*200mm
N.W./G.W.(kg)	18kg/17.2kg
Package Dimension (W*D*H)(mm)	640*550*420mm

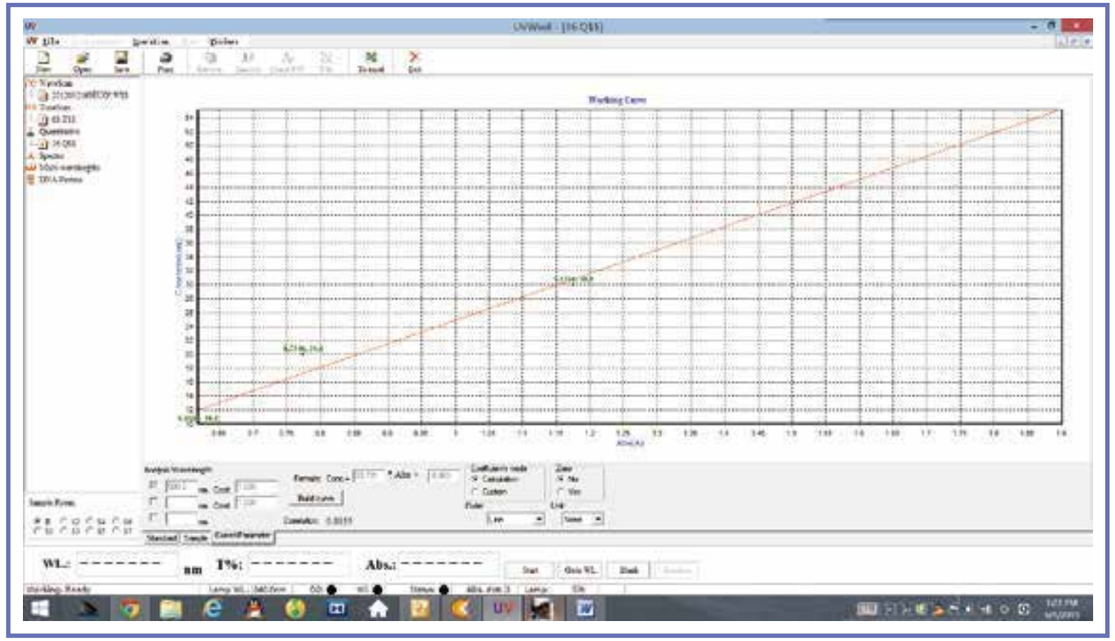
Standard Accessories

Model	SP-IUV4S
User Manual	1pc.
Glass Cuvette 1cm	4pcs.
Quartz Cuvette 1cm	2pcs.
Power Cable	1pc.
Fuse	2pcs.

Optional Accessories

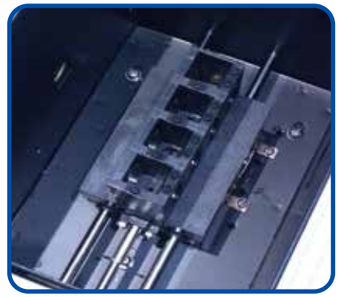
UV WIN8 Spectrum data processing software
Cuvette holder 50mm
Cuvette holder 100mm





Spectrophotometer

SP-IV2 **SP-IV2S**



Features

7-inch multi color touch-screen and patented technology to achieve simple and effective human-computer

interaction with a clear display of test data.

SP-IV2S comes standard with a built-in thermal printer, which can print out test results and facilitate the formation and retention of data reports.

A USB communication port and UVWIN8 professional data processing software (optional) to achieve data processing and mapping functions and storage of massive amounts of data files, and to facilitate the secondary development by customers.

Automatic wavelength setting, fast and accurate.Functions such as wavelength scanning (S model only), kinetic time scanning, automatic wavelength, linear regression, direct read-out of concentration, peak detection, regular printing and etc.

Advanced power shut-down protection measures to memorize detected data, regression equation and instrument correction parameters to achieve fast initialization.

Applications

- Novel series spectrophotometer, being combined with an ARM processed core, has test speeds and functions possessed by high-end instruments. The instrument can meet the requirement of quantitative analysis for most samples conducted within the visible and ultraviolet-visible spectral range in conventional laboratories and is suitable for use in medicine and health, clinical examination, biochemical, petrochemical, environmental protection, quality control departments, colleges and universities and others.

Specification

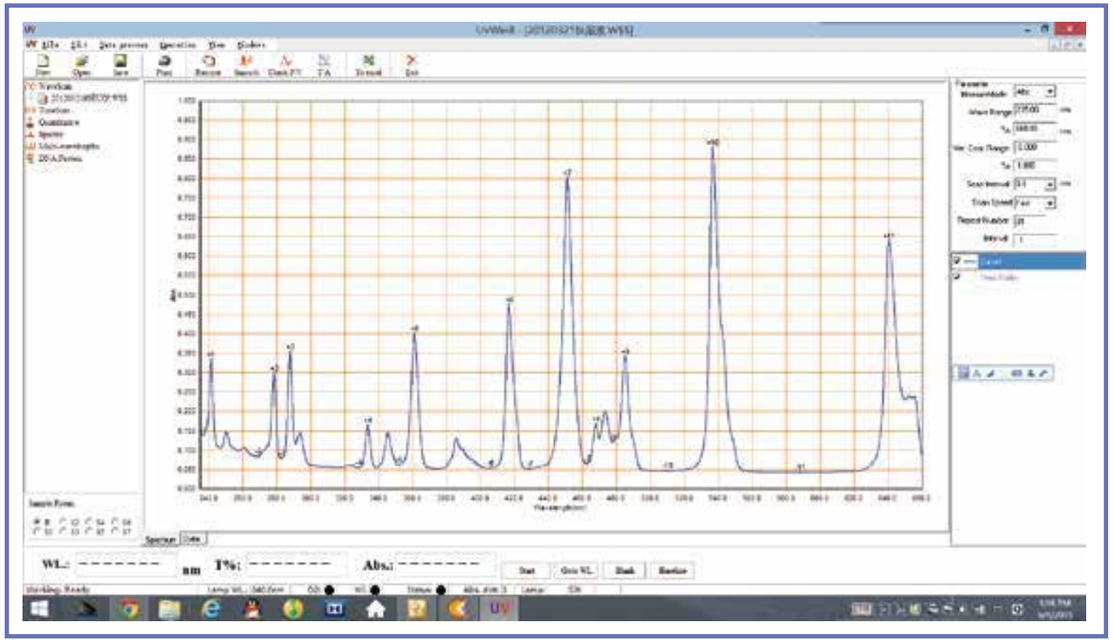
Model	SP-IV2S	SP-IV2
Photometry	Single beam	
Monochromator Type	Czerny-turner	
Focal Length	160mm	
Grating	1200 lines/mm	
Detector	Silicon photocell	
Spectrum Bandwidth	2nm	
Wavelength Setting	7-inch color touch-screen	
Wavelength Range	325-1100nm	
Wavelength Accuracy	±1nm	
Wavelength Repeatability	≤0.5nm	
Photometric Range	0.0-200.0%T	
	-0.301-4.000A	
	0.000-9999C	
Photometric Accuracy	±0.5% T	
	±0.004 Abs (0-0.5A)	
	±0.008 Abs (0.5-1A)	
Photometric Repeatability	≤0.2% T	
	0.002 Abs (0-0.5A)	
	0.004 Abs (0.5-1A)	
Scanning Speed	Fast-Medium-Slow	○
Baseline	≤±0.003A (335-1090nm)	○
Stray Light	≤0.1%T （at 360nm NaNO2）	
Noise	100%（T）noise≤0.2%(T)	
	0%（T）noise≤0.1%(T)	
Drifting	≤0.003 Abs/h (at 500nm after 2h warm up)	
Electricity	AC220V±22V 50Hz±1Hz,	
	100W	
Dimension(L*W*H)	475*365*200mm	
N.W./G.W.	18kg/21.6kg	
Shipping Dimension(L*W*H)	630*535*405mm	

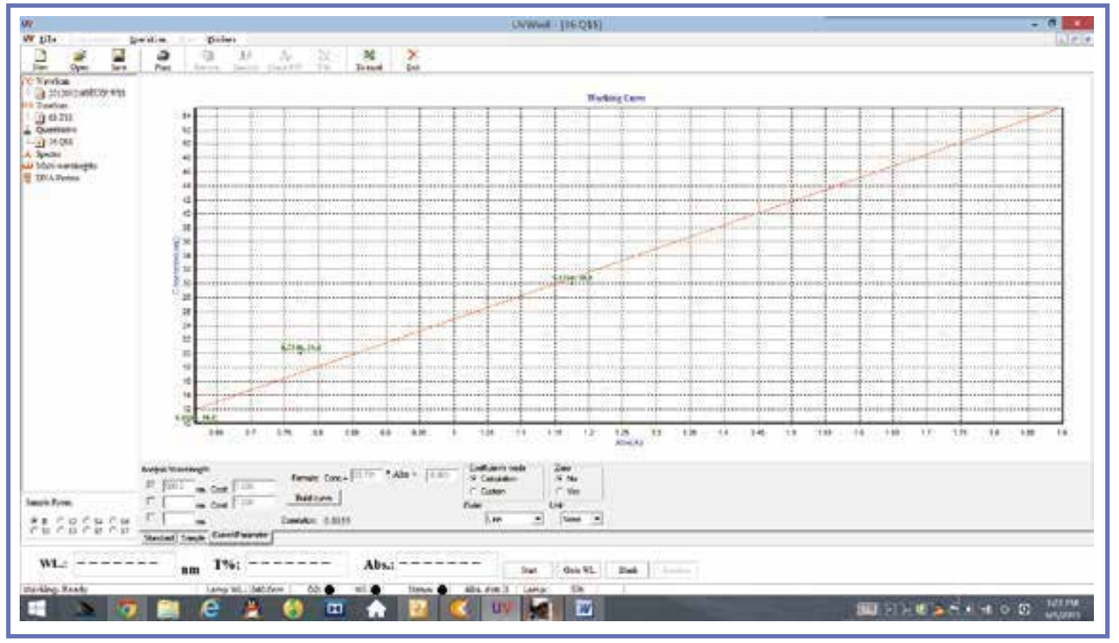
Standard Accessories

Model	SP-IV2S	SP-IV2
User Manual	1pc	
Glass Cuvette 1cm	4pcs	
Power Cable	1pc	
Fuse	2pcs	

Optional Accessories

UV WIN8 Spectrum data processing software
Cuvette holder 50mm
Cuvette holder 100mm





UV VIS Spectrophotometer Single Beam

SP-LUV759

Description

- The instrument has the features like delicate structure, high performance specification, long-life light source, various convenient functions and etc.
- They could make the qualitative and quantitative test in material research, pharmaceutical analysis, Biochemical and clinical examination, analysis of water quality control, food inspection and the other fields.

Main Features

Long-life Light Source:
Dramatically reduce the cost of light source replacement and the frequency of maintenance.

Low Stray Light:
Ensure the stray light lower than 0.05% to meet clients' need when they want to test high absorbance sample.

High Wavelength Accuracy:
Ensure the accuracy and long-term stability.

Wide Wavelength Range:
Meet the needs of most spectrophotometric test.

High-speed Scanning:
Eelp user to capture the instantaneous spectrum change of sample and improve the work efficiency.

USB ports:
User needn't set any parameter to enable online communication while the RS232 serial port have to set it.

Flash disk storage:
Make it easy for user to manage data in the format like Excel and etc.

Main Features

Auto-matching Function of Cuvettes:

Decrease the deviation occurred by the difference of cuvettes when process quantity measurement.

High Photometric Accuracy:

Ensure that the measurement of optical light path to meet the design requirements, improve process efficiency of the Assembly to achieve high precision photometry testing index.

Various offline quantitative measurement function:

Electronic System use 32 bits ARM core processor system, equipped with 128*64 big screen LCD, offline quantitative measurement could do multi wavelength test, Standard curve fitting and measurement, standard coefficient equation input, save and load standard equation, data storage and printing, quantitative measurement of concentration.

Powerful Software Function:

Software could achieve spectrum scanning, time scanning, dynamic scanning, quantitative measurement, multi-wavelength analysis and formula calculation, spectrum processing, find peak and valley, print data, DNA/RNA test, instrument calibration, performance verification and etc. to meet different needs in various analysis fields.

Specifications

Model	SP-LUV759
Optical system	Single Beam
Light source	Hamamatzu Deuterium Lamp，Osram halogen tungsten lamp
Wavelength Range	190nm~1100nm
Wavelength Accuracy	±0.5nm
Wavelength Repeatability	≤0.2nm
Bandwidth	2nm
Photometry Accuracy	±0.3%T
Photometry Repeatability	≤0.15%T
Stray Light	≤0.05%T(220nm, NaI)
Baseline Flatness	±0.002A
Stability	≤0.0008A
Noise	≤0.3%T(100%T), ≤0.1%T(0%T)
Photometry Range	0.0~200%(T),-0.3~4(A)
Display System	128*64 LCD Display
Functional Port	USB-A(U Disk), USB-B(PC), Serial Port(Printer)
Power	AC90V~250V, 50H/ 60Hz
Instrument Dimension	370mm*440mm*220mm
Package Dimension (W*D*H)(mm)	560*530*400
Weight	N.W.: 9KG; G.W.: 12.5KG

UV VIS Spectrophotometer Single Beam

SP-IUV752N Plus

Features

Linear regression method and coefficient method are added to the concentration test method.

The holographic blazed grating monochromator has the advantages of high wavelength accuracy, good monochromaticity and low stray light.

USB interface is added, and large capacity memory can store 30 concentration curves.

Adopt microcomputer measurement system, with high conversion accuracy of T-A, automatic adjustment of 0% T and 100% T, concentration factor setting and concentration direct reading.

High accuracy, Good Reproducibility and Stability of Measurement Readings.

7-inch multi color touch-screen, good human-computer interface. (SP-IUV752N Plus and SP-IV722N)

Automatic light gate technology, No need blackbody, to protect the photoelectric sensor.

Accessories

Standard Accessories
User manual 1pc
Glass cuvette 1cm 4pcs
Quartz cuvette 1cm 2pcs (SP-IUV752N Plus only)
Power cable 1pc
Fuse 2pcs

Optional Accessories
Cuvette holder 50mm

Specifications

Model	SP-IUV752N Plus
Photometry	Single Beam
Monochromator Type	Czerny-Turner
Focal Length	160mm
Grating	1200 lines/mm
Detector	Silicon Photocell
Wavelength Setting	Manual Turn Knob
Wavelength Range	200-1000nm
Wavelength Accuracy	±2nm
Wavelength Repeatability	≤1nm
Spectrum Bandwidth	2nm
Stray Light	≤0.1%T (at 220nm NaI, 360nm $NaNo_2$)
Photometric Range	0-100.0%T
	0-1.999A
	0-1999C
Photometric Accuracy	±0.5%T
Photometric Repeatability	≤0.2%T
Noise	100%(T)noise≤0.3%(T), 0%(T)noise≤0.2%(T)
Cuvette Holder Size	10mm
Package Dimension(W*D*H)(mm)	600*490*350
Power	AC220V±22V 50Hz±1Hz,120W
G.W.(kg)	13.5kg

- Sample compartment for 5-50mm cuvettes
- Equipped with USB port
- Precise automatic T/A changeover
- Automatic zero and full scale adjustment
- Direct concentration read-out and concentration factor setting function
- 7-inch multi color touch-screen (SP-IUV752N Plus and SP-IV722N)
- Automatic light gate technology to protect photoelectric sensors
- Standard software

UV VIS Spectrophotometer Double Beam

SP-MUV9000A SP-MUV9000S

Features

Lightpath design: double beam

SP-MUV9000 series' double light path design can prevent circuit fluctuation and stray light to ensure the stability of the instrument.

Long path light design

SP-MUV9000 series' unique 520mm long light path design greatly improved resolution and the bandwidth can reach 0.5nm.

Multi functions on Spectrophotometer

Multi functions operated directly on the spectrophotometer and display the test results' curve and data: wavelength scanning, standard curve, kinetics, multi-wavelength scanning, DNA/Protein test.

Perfect calibration system

All baseline, wavelength, dark current can be calibrated automatically to keep good running conditions.

Description

- SP-MUV9000 series are widescreen double beam spectrophotometers.
- They adopt a double beam long light path design to ensure stability and accuracy; They are the best choice of high-quality spectrophotometers.

6 inches LCD display

SP-MUV9000 series have a 6 inches LCD display to show results and curves directly on the screen.

16mm optical base

SP-MUV9000 series use a rigid 16mm diecast aluminim base as their optical mount to ensure the stability and reliability.

Data output

SP-MUV9000 series are equipped with USB port to connect with a PC, the softwore comes standard with the instrument.

Powerful software functions

Multi-functions like spectrum scanning, standard curve, kinetics, multi-wavelength scanning, DNA/Protein testing can be operated directly on the PC.

Specifications

Model	SP-MUV9000A	SP-MUV9000S
Optical System	Double Beam, 1200 Lines/mm Grating)	
Wavelength Range	190-1100nm	
Bandwidth	1.0nm	0.5, 1.0, 2.0, 4.0 nm
Wavelength Accuracy	±0.1nm(D2 656.1nm),±0.3nm@all	
Wavelength Repeatability	≤0.1nm	
Photometric Accuracy	±0.2%T(0-100%T)	
Photometric Repeatability	≤0.1%T(0-100%T)	
Photometric Range	-0.3-3A	
	0-200%T	
	0-9999C	
Stability	± 0.001A/h @ 500nm	
Baseline Flatness	± 0.001A/h	
Noise	± 0.0005A/h	
Stray Light	≤0.03%T @ 220nm,360nm	
Data Output Port	USB	
Printer Port	Parallel Port	
Display	320*240 Dots LCD	
Lamps	Tungsten Lamp&deuterium Lamp	
Detector	Silicon Photodiode	
Power Requirements	AC 220V/50Hz or 110V/60Hz	
Dimension	625*430*206mm	
Weight	32kg	34kg

Standard Accessories

Description	Quantity	Unit
Spectrophotometer	1	set
1cm Glass cuvette	4	pcs
Power cord	1	pcs
User's Manual	1	pcs
1cm quartz cuvette	2	pcs
Dust Cover	1	pcs

UV VIS Spectrophotometer Single Beam

SP-MUV6000T

Description

Adopt the optical system suspension design, the whole optical path is independently fixed on the 8mm thick aluminum deformation-free base, the deformation of the bottom plate and the vibration of the outside have no impact on the optical system, thus greatly improving the stability and reliability of the instrument

Powerful data analysis function, internal computer of the host, can input calibration curve, can independently complete photometric measurement, quantitative measurement, spectral scanning, dynamics, DNA/ protein testing, multi-wavelength testing, and data printing functions

With a powerful storage function, the instrument can be directly connected to the printer for A4 format data and graph printing
Data can be exported to U disk

Using high performance imported grating, lower stray light, stronger stability, reliability, more accurate analysis

With an automatic start-up verification and system positioning functions, to repair the deviation caused by long-term application

Equipped with 7 " touch screen, built-in 32G memory, support Bluetooth connection network

Specifications

Model	SP-MUV6000T
Wavelength Range	190-1100nm
The spectral bandwidth	2nm
Wavelength Accuracy	±0.5nm
Stray light	0.05% T @ 220 nm, 360 nm
Wavelength Repeatability	≤0.1nm
Photometric Accuracy	±0.2%T(0-100%T)
	±0.002Abs(0-0.5Abs)
	±0.004Abs(0.5-1.0Abs)
Photometric Repeatability	≤0.1%T(0-100%T)
	0.001Abs(0-0.5Abs)
	0.002Abs(0.5-1.0Abs)
Stability	±0.001A/h@500nm
Photometric Range	0-200%T、-0.3-3.0A、0-9999C
Baseline flatness	±0.001A
Noise	±0.005A
Display	800*480 touch screen
Data Output Port	USB
Print Port	USB Port
Light source	Tungsten Lamp&Deuterium Lamp
Power Requirements	AC220V/50Hz or 110v/60Hz
Detector	Silicon Photodiode
Dimension	460*380*180mm
Weight	20KG

Standard Accessories

Description	Quantity	Unit
Spectrophotometer	1	set
1cm Glass cuvette	4	pcs
Power cord	1	pcs
User's Manual	1	pcs
1cm quartz cuvette	2	pcs
Dust Cover	1	pcs

UV VIS Spectrophotometer Single Beam

SP-MUV5100

Specifications

Model	SP-MUV5100
Optical System	Single beam, Grating 1200 lines/mm
Wavelength Range	190-1000nm
Bandwidth	2nm
Wavelength Accuracy	±2nm
Wavelength Repeatability	0.5nm
Wavelength Setting	Auto
Photometric Accuracy	±0.5%T
Photometric Repeatability	≤0.2%T
Photometric Range	-0.3-3A,0-200%T,0-9999C
Photometric Mode	T,A,C,F
Stray Light	≤0.1%T
Stability	± 0.002A/h @ 500nm
Display	128*64 LCD
Detector	Silicon Photodiode
Light Source	Tungsten Lamp&Deuterium Lamp
Output	USB & Parallel Port(Printer)
Power Requirements	AC 85~250V
Dimension	420*280*180mm
Weight	12kg

Description

2.5 inches LCD screen

Equipped with a 2.5 inches LCD screen to give a clear display of standard curves and groups of results.

Standard curve

Can set up various standard curves according to customer ‘s solutions and find the concentration of unknown solutions.

Imported deuterium lamp

SP-MUV5100 is equipped with imported deuterium lamp which ensures low stray light, photometericaccuracy and is easy to be replaced.

Data output

Equipped with USB port to connected with a PC to display spectrum scanning,kinetics and Multi wavelength testing results on the screen.The software is

optional

Multiple results readout

Can display wavelength,absorption and transmittance with 5 results per screen.It also has a memory store of up to 200 results.

Auto setting wavelength

Users set wavelength automatically through arrow keys to avoid operation errors.

Standard Accessories

Description	Quantity	Unit
Spectrophotometer	1	set
1cm Glass cuvette	4	pcs
Power cord	1	pcs
User’s Manual	1	pcs
1cm quartz cuvette	2	pcs
Dust Cover	1	pcs

UV VIS Spectrophotometer Single Beam

SP-LUV752P

Description

- The instrument could set factor and directly read the transmittance, absorbance and concentration from 190nm to 1100nm.
- It also could set wavelength manually. 2nm bandwidth could meet the needs of most quantitative measurement requirements.
- They could make the qualitative and quantitative test in material research, pharmaceutical analysis, Biochemical and clinical examination, analysis of water quality control, food inspection and the other fields.

Description Light Weight and Small Size

Wide Wavelength Range:
The wavelength range covers from 190nm to 1100nm. The widest wavelength range of the similar products is offered to meet the needs of most spectrophotometric test.

Low Stray Light:
Precision optical design ensure the stray light lower than 0.05% to meet clients' need when they want to test high absorbance sample.

Convenient light source replacement:
Deuterium lamp adopt universal flange fixing, deuterium lamp replacement could be completed by operation of two screws, no need to adjust light path make maintenance easier and reliable.

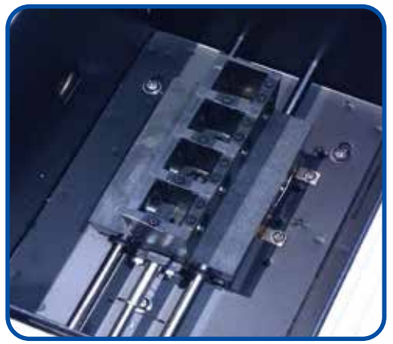
High Wavelength Accuracy:
Built-in spectral characteristics work for the auto wavelength detection and calibration to ensure the accuracy and long-term stability.

Specifications

Model	SP-LUV752P
Optical System	Single Beam
Light Source	Deuterium lamp,tungsten lamp
Optical System	1200 line Diffraction Grating C-T monochromator
Wavelength Range	190-1100nm
Bandwidth	2nm
Stray Light	≤0.2%T
Wavelength Accuracy	±2nm
Wavelength Repeatability	≤0.5nm
Photometric Accuracy	±0.5%T
Photometric Repeatability	±0.2%T
Salability	0%≤0.2%T 100%≤0.5%T
Transmittance Range	0.0-199.9%T
Absorbance Range	-0.3-2.999A
Instrument Dimension(W*D*H)(mm)	370*320*240
Package Dimension (W*D*H)(mm)	440*470*330
Weight	G.W.: 9kg N.W.: 7.5kg
Display	4 digits LED
Port	RS232 Serial Port

Spectrophotometer

SP-IUV4



Features

7-inch multi color touch-screen and patented technology to achieve simple and effective human-computer

interaction with a clear display of test data.

SP-IUV4S comes standard with a built-in thermal printer, which can print out test results and facilitate the formation and retention of data reports.

A USB communication port and UVWIN8 professional data processing software (optional) to achieve data processing and mapping functions and storage of massive amounts of data files, and to facilitate the secondary development by customers.

Automatic wavelength setting, fast and accurate.Functions such as wavelength scanning (S model only), kinetic time scanning, automatic wavelength, linear regression, direct read-out of concentration, peak detection, regular printing and etc.

Advanced power shut-down protection measures to memorize detected data, regression equation and instrument correction parameters to achieve fast initialization.

Tungsten lamp and deuterium lamp with lifetime protection.

Applications

- Novel series spectrophotometer, being combined with an ARM processed core, has test speeds and functions possessed by high-end instruments. The instrument can meet the requirement of quantitative analysis for most samples conducted within the visible and ultraviolet-visible spectral range in conventional laboratories and is suitable for use in medicine and health, clinical examination, biochemical, petrochemical, environmental protection, quality control departments, colleges and universities and others.

Specification

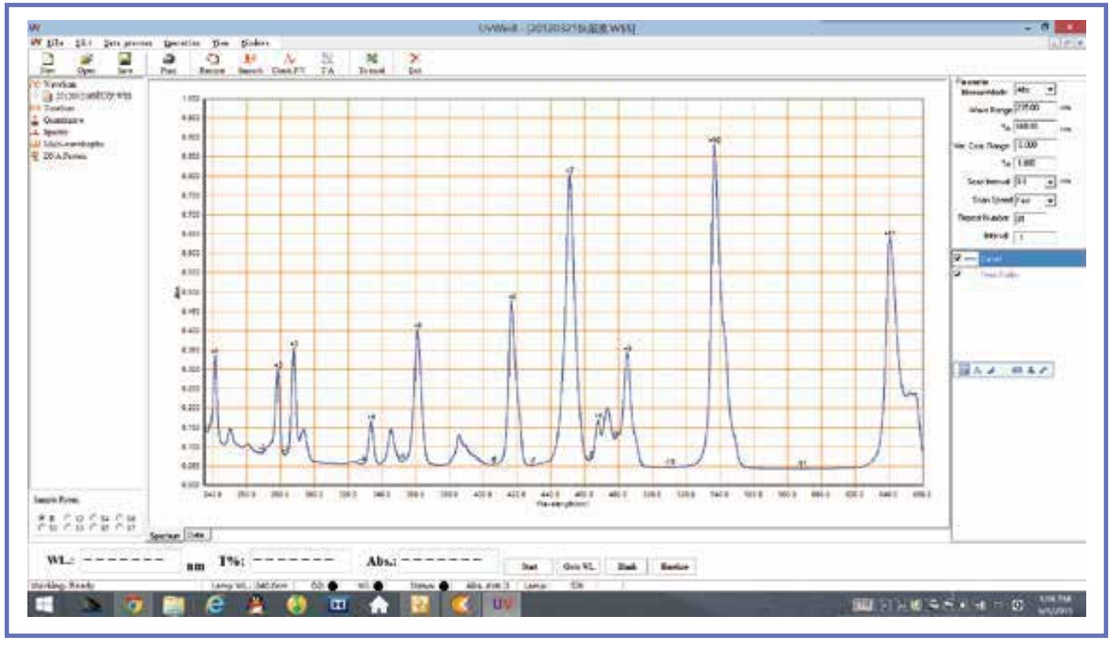
Model	SP-IUV4
Photometry	Single beam
Monochromator Type	Czerny-turner
Focal Length	160mm
Grating	1200 lines/mm
Detector	Silicon photocell
Spectrum Bandwidth	2nm
Wavelength Setting	7-inch color touch-screen
Wavelength Range	190-1100nm
Wavelength Accuracy	±1nm
Wavelength Repeatability	≤0.5nm
Photometric Range	0.0-200.0%T
	-0.301-4.000A
	0.000-9999C
Photometric Accuracy	±0.3%T
	±0.002Abs (0-0.5A)
	±0.004 Abs (0.5-1A)
Photometric Repeatability	≤0.15%T
	0.001 Abs (0-0.5A)
	0.002 Abs (0.5-1A)
Scanning Speed	○
Baseline	○
Stray Light	≤0.1%T (at 220nm NaI, 360nm NaNO2)
Noise	100%（T）Noise≤0.5%(T)， 0%（T）Noise≤0.2%(T)
Drifting	±0.002 Abs/30min (at 250nm and 500nm after 2h warm up)
Electricity	AC220V±22V 50Hz±1Hz,180W
Dimension(L*W*H)	475*365*200mm
N.W./G.W.(kg)	18kg/17.2kg
Package Dimension (W*D*H)(mm)	640*550*420mm

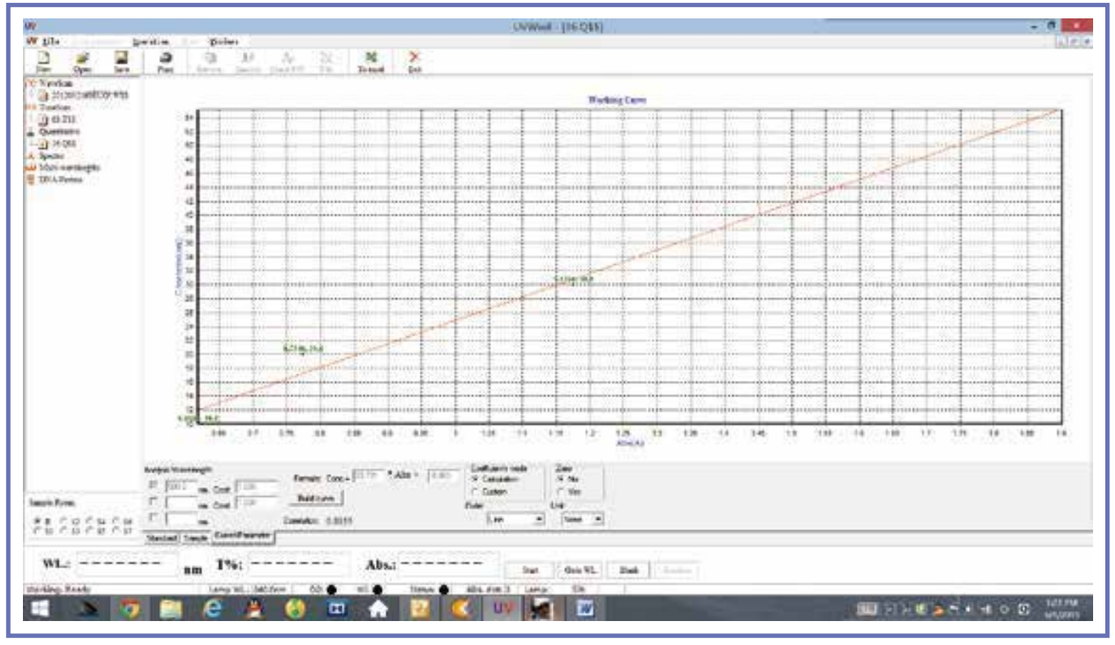
Standard Accessories

Model	SP-IUV4
User Manual	1pc.
Glass Cuvette 1cm	4pcs.
Quartz Cuvette 1cm	2pcs.
Power Cable	1pc.
Fuse	2pcs.

Optional Accessories

UV WIN8 Spectrum data processing software
Cuvette holder 50mm
Cuvette holder 100mm





UV Visible Spectrophotometer Double Beam

SP-IUV7

Description

- Double beam optical system
- Automatic zero and full-scale adjustment
- UV WIN8 Spectrum Data Processing Software optional
- 8-inch color touchscreen
- Automatic wavelength settings
- Equipped with the USB COM port
- Thermal plotter optional

Main Features

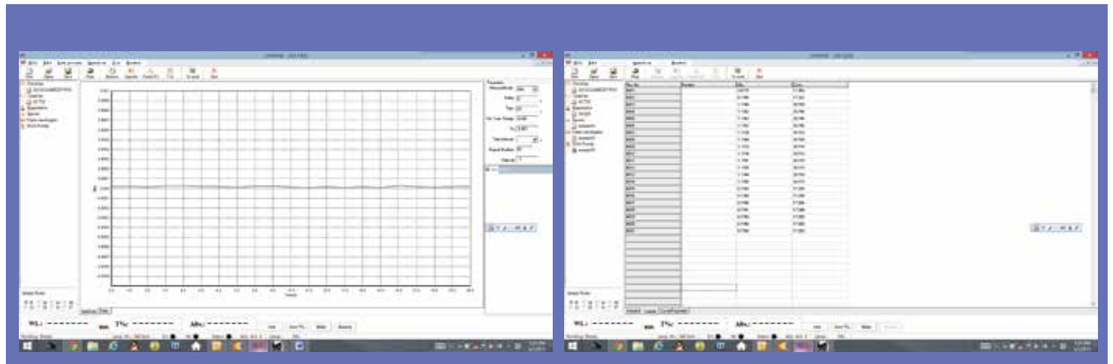
SP-IUV7 double beam UV-VIS spectrophotometers adopt double beam optical system, and blazed holographic

G They have outstanding test precision and very competitive prices.

8-inch color touch-screen, cutting-edge user interface, powerful functions, and easy operation.

With powerful functions, the equipment shows great performance in qualitative and quantitative testing, such as:

- Full-spectrum scanning
- Linear regression
- Detailed spectrum scanning
- Concentration direct reading
- Time-based kinetics determination
- Peak/Valley detecting
- GOTO λ
- Multi-wavelength measurement



Main Features

The equipment is designed with a sophisticated power protection system. With a high capacity of internal memory, it can store testing results, scanned images, regression equations, and correction data. Therefore, it follows a fast initialization when power is on.

The instrument can be connected with a dedicated printer, which can print testing results, or draw curves from spectral scanning, fixed wavelength time-based scanning, and linear regression.

With a USB COM port the device can be connected to a PC, which can not only enhance the performance in data testing and spectrum scanning but also expand the memory to save more testing results.

Standard Accessories

Description	
Operation manual	1
Glass cuvette	1cm 4pcs
Quartz cuvette	1cm 2pcs
Power cable	1
Fuse	2pcs

Optional Accessories

Description
UV WIN8 Spectrum data processing software

Specifications

Model	SP-IUV7
Photometry	Double Beam
Monochromator Type	Czerny-Turner
Focal Length	160mm
Grating	1200 lines/mm
Detector	Silicon Photocell
Spectrum Bandwidth	1.8nm
Wavelength Setting	8-inch color touch-screen
Wavelength Range	190-1100nm
Wavelength Accuracy	±0.5nm
Wavelength Repeatability	≤0.2nm
Scanning Speed	Fast-Medium-Slow
Stray Light	≤0.03%T (at 220nm NaI, 360nm $NaNo_2$)
Photometric Range	0.0-200.0%T
	-0.301-4.000A
	0.000-9999C
Photometric Accuracy	±0.3%T
	±0.002Abs (0-0.5A)
	±0.004 Abs (0.5-1A)
Photometric Repeatability	≤0.15%T
	0.001 Abs (0-0.5A)
	0.002 Abs (0.5-1A)
Baseline	≤±0.002A (200-1090nm)
Noise	100%（T）noise≤0.15%(T), 0%（T）noise≤0.1%(T)
Drifting	≤0.0009 Abs/30min (250nm and 500nm after 2h warm up)
Power	AC220V±22V 50Hz±1Hz, 200W
Packaging Size	710mm×590mm×505mm 0.21M^3 36kg

UV Visible Spectrophotometer Double Beam

SP-IUV8 SP-IUV9

Features

New optical platform

Enable the host machine with excellent optical properties, metering performance, low stray light and noise, high metering accuracy and stability.

Easy operation&Reliable performance

USB communication port.

8-inch color touch-screen, with a good user-machine interface, easy to operate.

Imported long-life deuterium lamp, imported OSRAM tungsten lamp.

Unique system of deuterium and tungsten lamp installation

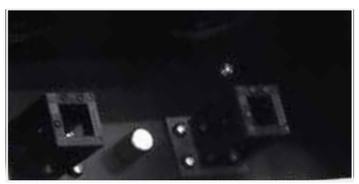
Facilitate the light source to automatically switch to the best position, and allow users to operate the instrument, replace the light source and maintain the instrument more conveniently, accurately and safely.

Powerful spectral data processing and storage capabilities

Sophisticated hardware and software design.

Automatic scanning measurement spectrum, multi-wavelength (1 ~ 3λ) measurement, kinetic measurement, 1-3 curve fitting, 1-4 derivative spectra.

Spectra printing and storage and data analysis.



Description

SP-IUV8 and SP--IUV9 Double Beam UV Visible Spectrophotometer serve as the basic equipment for quality control, technical evaluation and scientific research, and can be widely used in susceptibility testing, medicine and health, biochemistry, environmental monitoring, commodity inspection, petrochemical and other fields.

Specifications

Model	SP-IUV8	SP-IUV9
Photometry	Double beam	
Monochromator Type	Czerny-Turner	
Focal Length	200mm	
Grating	1600 lines/mm	
Detector	Silicon photocell	
Spectrum Bandwidth	2nm or 1nm	0.5nm,1nm,2nm,4nm,5nm
Wavelength Setting	8-inch color touch-screen	
Wavelength Range	190-1100nm	
Wavelength Accuracy	±0.3nm	
Wavelength Repeatability	≤0.1nm	
Scanning Speed	Fast-Medium-Slow	
Stray Light	≤0.02%T(at 220nm NaI, 360nm NaNo2)	
Photometric Range	0.0-200.0%T	
	-0.301-4.000A	
	0.000-9999C	
Photometric Accuracy	±0.3%T	
	±0.002Abs (0-0.5A)	
	±0.004 Abs (0.5-1A)	
Photometric Repeatability	≤0.15%T	
	0.001 Abs (0-0.5A)	
	0.002 Abs (0.5-1A)	
Baseline	≤±0.0008 A(200-1090nm)	
Sound Emission	100%（T）Sound emission≤0.1%(T)，	
	0%（T）Sound emission≤0.02%(T)	
Drifting	≤0.004 Abs/h (250nm and 500nm after 2h warm up)	
COM Port	USB	
Light Source	Hamamatsu D2 lamp，Osram halogen tungsten lamp	
Electricity	AC220V±22V, 50Hz±1Hz, 200W	
N.W./G.W	34/42.5kg	
Product Dimension(L*W*H)	584*504*360mm	
Package Dimension(W*D*H)(mm)	750*640*460	

UV VIS Spectrophotometer Double Beam

SP-LUV1910 SP-LUV1920

Features

Instrument is rich in functions:
The instrument is equipped with a 7-inch large-screen color touch LCD screen, which can perform wavelength scanning, time scanning, multi-wavelength analysis, quantitative analysis, etc., and supports the storage of methods and data files. View and print the map. Easy to use, flexible and efficient.

Spectral bandwidth:
The spectral bandwidth of the instrument is 1nm / 2nm, which ensures excellent spectral resolution and accuracy required for analysis.

Features

Long-term stability and reliability:
The design of the optical dual-beam optical system, coupled with real-time digital proportional feedback signal processing, effectively offsets the signal drift of light sources and other devices, ensuring the long-term stability of the instrument baseline.

Ultra-low stray light:
Excellent C-T monochromator optical system, advanced electronic system, to ensure ultra-low stray light level better than 0.03%, to meet the user's measurement needs of high absorbance samples.

High wavelength accuracy:
The high-level wavelength scanning mechanical system ensures the accuracy of wavelengths better than 0.3nm and the repeatability of wavelengths better than 0.1nm. The instrument uses the built-in spectral characteristic wavelengths to automatically perform wavelength detection and correction to ensure long-term wavelength accuracy stability.

Features

Light source replacement is convenient:

The instrument can be replaced without removing the shell. The light source switching mirror supports the function of automatically finding the best position. The in-line deuterium tungsten lamp design does not require optical debugging when replacing the light source.

High-quality devices:

The core devices are made of high-quality imported parts to ensure the stability and longevity of the instrument. For example, the core light source device is derived from the long-life deuterium lamp of Hamamatsu in Japan, which guarantees a working life of more than 2000 hours, greatly reducing the maintenance frequency and cost of daily replacement of the light source of the instrument.

Powerful PC software:

The instrument is connected to the computer via USB. The software supports multiple functions such as wavelength scanning, time scanning, kinetic testing, quantitative analysis, multi-wavelength analysis, etc. There is an optional audit tracking version software provides user authority management, operation traceability, and meet various requirements in different analysis fields such as pharmaceutical companies.

Specifications

Model	SP-LUV1910/SP-LUV1920
Optical system	Optical double beam system
Monochromator system	Czerny-Turner monochromator
Grating	1200 lines / mm high-quality holographic grating
Wavelength range	190nm~1100nm
Spectral bandwidth	1nm(SP-LUV1910) / 2nm(SP-LUV1920)
Wavelength accuracy	±0.3nm
Wavelength reproducibility	≤0.1nm
Photometric accuracy	±0.002Abs(0~0.5Abs)、±0.004Abs(0.5~1.0Abs)、±0.3%T(0~100%T)
Photometric reproducibility	≤0.001Abs(0~0.5Abs)、≤0.002Abs(0.5~1.0Abs)、≤0.1%T(0~100%T)
Stray light	≤0.03%(220nm,NaI;360nm,NaNO2)
Noise	≤0.1%T(100%T)，≤0.05%T(0%T)，≤±0.0005A/h（500nm,0Abs,2nm bandwidth）
Baseline flatness	±0.0008A
Baseline noise	±0.1%T
Baseline stability	≤0.0005Abs/h
Modes	T/A/Energy
Data range	-0.00~200.0(%T) -4.0~4.0(A)
Scan speed	High / medium / low / very low
WL scan interval	0.05/0.1/0.2/0.5/1/2 nm
Light source	Japan Hamamatsu long-life deuterium lamp, imported long-life halogen tungsten lamp
Detector	Photocell
Display	7-inch large-screen color touch LCD screen
Interface	USB-A/USB-B
Power	AC90V~250V, 50H/ 60Hz
Instrument Dimension(W*D*H)(mm)	600*470*220
Package Dimension (W*D*H)(mm)	800*690*580
Weigh(N.W./G.W.)(kg)	24/45

UV VIS Spectrophotometer Double Beam

SP-LUV7600

SP-LUV7600

Features

Instrument is rich in functions:
SP-LUV7600 is equipped with a 7-inch large-screen color touch LCD screen, which can perform wavelength scanning, time scanning, multi-wavelength analysis, quantitative analysis, and supports the storage of methods and data files. View and print the map. Easy to use, flexible and efficient. SP-LUV7500 is not equipped with a screen and is only used for computer operation.

Ultra-low stray light:
Excellent C-T monochromator optical system, advanced electronic system, to ensure ultra-low stray light level better than 0.03%, to meet the user's measurement needs of high absorbance samples.

Features

Continuously variable spectral bandwidth

The instrument's spectral bandwidth is continuously variable from 0.5nm to 6nm, the minimum bandwidth is 0.5nm, and the variable interval is 0.1nm, which not only ensures excellent spectral resolution, but also provides a variety of bandwidth options, which can better match the analysis and test targets.

High-quality devices

The core devices are made of high-quality imported parts to ensure the stability and longevity of the instrument. For example, the core light source device is derived from the long-life deuterium lamp of Hamamatsu in Japan, which guarantees a working life of more than 2000 hours, greatly reducing the maintenance frequency and cost of daily replacement of the light source of the instrument.

Long-term stability and reliability

The design of the optical dual-beam optical system, coupled with real-time digital proportional feedback signal processing, effectively offsets the signal drift of light sources and other devices, ensuring the long-term stability of the instrument baseline.

Features

High wavelength accuracy

The high-level wavelength scanning mechanical system ensures the accuracy of wavelengths better than 0.3nm and the repeatability of wavelengths better than 0.1nm. The instrument uses the built-in spectral characteristic wavelengths to automatically perform wavelength detection and correction to ensure long-term wavelength accuracy stability.

Light source replacement is convenient

The instrument can be replaced without removing the shell. The light source switching mirror supports the function of automatically finding the best position. The in-line deuterium tungsten lamp design does not require optical debugging when replacing the light source.

Powerful PC software:

The instrument is connected to the computer via USB. The software supports multiple functions such as wavelength scanning, time scanning, kinetic testing, quantitative analysis, multi-wavelength analysis, etc. There is an optional audit tracking version software provides user authority management, operation traceability, and meet various requirements in different analysis fields such as pharmaceutical companies.

Specifications

Model	SP-LUV7600
Optical system	Optical double beam system
Monochromator system	Czerny-Turner monochromator
Grating	1200 lines / mm high-quality holographic grating
Wavelength range	190nm~1100nm
Spectral bandwidth	0.5~6.0nm
Wavelength accuracy	±0.3nm
Wavelength reproducibility	≤0.1nm
Photometric accuracy	±0.002Abs(0~0.5Abs)、±0.004Abs(0.5~1.0Abs)、±0.3%T(0~100%T)
Photometric reproducibility	≤0.001Abs(0~0.5Abs)、≤0.002Abs(0.5~1.0Abs)、≤0.1%T(0~100%T)
Stray light	≤0.03%(220nm,NaI;360nm,NaNO2)
Noise	≤0.1%T(100%T),≤0.05%T(0%T),≤±0.0005A/h(500nm,0Abs,2nm bandwidth)
Baseline flatness	±0.0008A
Baseline noise	±0.1%T
Baseline stability	≤0.0005Abs/h
Modes	T/A/Energy
Photometric range	-0.00~200.0(%T) -4.0~4.0(A)
Scan speed	High / medium / low / very low
WL scan interval	0.05/0.1/0.2/0.5/1/2 nm
Light source	Hamamatsu long-life deuterium lamp and long-life halogen tungsten lamp
Detector	Photocell
Display	7-inch large-screen color touch LCD screen
Interface	USB-A/USB-B
Power	AC90V~250V, 50H/ 60Hz
Instrument Dimension(W*D*H)	600*470*220mm
N.W.	24kg
Package Dimension (W*D*H)	800*670*570mm
G.W.	50kg

UV VIS Spectrophotometer Double Beam

SP-MUV9000

Features

Lightpath design: double beam

SP-MUV9000 series' double light path design can prevent circuit fluctuation and stray light to ensure the stability of the instrument.

Long path light design

SP-MUV9000 series' unique 520mm long light path design greatly improved resolution and the bandwidth can reach 0.5nm.

Multi functions on Spectrophotometer

Multi functions operated directly on the spectrophotometer and display the test results' curve and data: wavelength scanning, standard curve, kinetics, multi-wavelength scanning, DNA/Protein test.

Perfect calibration system

All baseline, wavelength, dark current can be calibrated automatically to keep good running conditions.

Description

- SP-MUV9000 series are widescreen double beam spectrophotometers.
- They adopt a double beam long light path design to ensure stability and accuracy; They are the best choice of high-quality spectrophotometers.

6 inches LCD display

SP-MUV9000 series have a 6 inches LCD display to show results and curves directly on the screen.

16mm optical base

SP-MUV9000 series use a rigid 16mm diecast aluminim base as their optical mount to ensure the stability and reliability.

Data output

SP-MUV9000 series are equipped with USB port to connect with a PC, the softwore comes standard with the instrument.

Powerful software functions

Multi-functions like spectrum scanning, standard curve, kinetics, multi-wavelength scanning, DNA/Protein testing can be operated directly on the PC.

Specifications

Model	SP-MUV9000
Optical System	Double Beam, 1200 Lines/mm Grating)
Wavelength Range	190-1100nm
Bandwidth	1.8nm
Wavelength Accuracy	±0.1nm(D2 656.1nm),±0.3nm@all
Wavelength Repeatability	≤0.1nm
Photometric Accuracy	±0.2%T(0-100%T)
Photometric Repeatability	≤0.1%T(0-100%T)
Photometric Range	-0.3-3A
	0-200%T
	0-9999C
Stability	± 0.001A/h @ 500nm
Baseline Flatness	± 0.001A/h
Noise	± 0.0005A/h
Stray Light	≤0.03%T @ 220nm,360nm
Data Output Port	USB
Printer Port	Parallel Port
Display	320*240 Dots LCD
Lamps	Tungsten Lamp&deuterium Lamp
Detector	Silicon Photodiode
Power Requirements	AC 220V/50Hz or 110V/60Hz
Dimension	625*430*206mm
Weight	32kg

Standard Accessories

Description	Quantity	Unit
Spectrophotometer	1	set
1cm Glass cuvette	4	pcs
Power cord	1	pcs
User's Manual	1	pcs
1cm quartz cuvette	2	pcs
Dust Cover	1	pcs

Visible Spectrophotometer Single Beam

SP-IV721G

Applications

G series economic spectrophotometer been widely used in colleges and enterprises for general quantitative analysis and experiments based in absorbance measurements.

Features

Sample compartment for 5-100mm cuvettes
Large sample compartment, for 5 - 100mm path length cuvettes with optional holders.

High quality silicon photometric diode detector and 1200 lines/mm diffraction grating ensure the high quality accuracy and precision.
Equipped with RS232 port

Backlit LCD display for an easy readout.
Automatic 0A and 100%T.

Easy switching of transmittance, absorbance and concentration modes, just by pressing one key.

Direct concentration read-out and concentration factor setting function
Standard software(SP-IV721G-100)
Dedicated printer optional(SP-IV721G)

Easy to change the halogen lamp or deuterium lamp by the user himself.

Specifications

Model	SP-IV721G
Photometry	Single Beam
Monochromator Type	Czerny-Turner
Detector	Silicon Photocell
Wavelength Setting	Manual Turn Knob
Wavelength Range	340-1000nm
Wavelength Accuracy	±2nm
Wavelength Repeatability	≤1nm
Spectrum Bandwidth	5nm
Stray Light	≤0.5%T (at 360nm $NaNo_2$)
Photometric Range	0-100.0%T
	0-1.999A
	0-1999C
Photometric Accuracy	±0.5%T
Photometric Repeatability	≤0.2%T
Noise	100%（T）noise≤0.3%(T)， 0%（T）noise≤0.2%(T)
Drifting	±0.5 %T/3min
Cuvette Holder Size	50mm
Power	AC220V±22V 50Hz±1Hz, 50W
Packaging Size	560mm×490mm×285mm 0.08M^3
G.W.	14kg

Accessories

Standard Accessories
User manual 1pc
Glass cuvette 1cm 4pcs (SP-IV721G/SP-IV721G-100/SP-IV722G only)
Quartz cuvette 1cm 2pcs
Power cable 1pc
Fuse 2pcs
UV WIN7 software(SP-IV721G SP-IV722)
50mm cuvette holder(SP-IV721G SP-IV722)
100mm cuvette holder(SP-IV721G-100)

Visible Spectrophotometer Single Beam

SP-LV721

Applications

- SP-LV721 visible spectrophotometer is a compact, easy-to-use equipment.
- It can be used to measure transmission, absorption and concentration direct-reading at wavelengths from 360nm to 1000nm.
- It can be widely applied to departments related to medical health, clinical examination, biochemistry, petro-chemistry, environmental monitoring and quality control as qualitative and quantitative analyses.

Features

Special precision pre-adjustment lamps and lamp holder fittings. Not necessary to re-adjust optical path for installation which is convenient for users without any professional maintenance skills.

4-digit LED display
Automatic zero and 100%T adjustment
Concentration factor setting and concentration direct-reading functions

Reasonable structure with advanced optical system, using precision machining high-quality CT monochromator and sealed grating, the optical properties of which are superior to the traditional LITTROW monochromator, with obvious advantages in the indicators such as resolution, photometric accuracy, stray light and stability. And its size is smaller.

Sample cells made of special engineering plastics, resistant to solvent as well as strong acid/alkali, which enhances its anti-corrosion properties. Effusion dish and liquid storage container, which can be removed and cleaned, are mounted on the bottom to increase the service life.

Precision-linkage cutoff filter system automatically switching to appropriate wavelength filters, further reducing stray light

4-position cell holder, with optional rectangular optical path colorimetric dish with diameter from 1 cm to 5cm.

Specifications

Model	SP-LV721
Optical system	Diffraction grating C-T monochromator
Wavelength range	360nm-1000nm
Source lamp	Halogen lamp 10W/8V
Wavelength accuracy	±3.0nm
Wavelength repeatability	≤1.5nm
Transmittance accuracy	±0.8 %(t) (SRM930D)
Transmittance repeatability	≤0.3 %(t)
Spectrum bandwidth	≤6nm
Stray light	≤1.0 %(t) (360nm, NaNO2)
(F)	1-9999
(C)	0-9999
Power supply	90-250V, 50/60Hz, 40W
Dimension(mm)	350*300*220
N.W./G.W.(kg)	4kg/7kg
Package Dimension (W*D*H)(mm)	450*430*320

Accessories

Packing List	
Main device	1pc
Power cord	1pc
Operating manual	1pc
Product Quality Certificate	1pc
Fuse (2A)	2pcs
1cm rectangular colorimetric dish (glass)	4pcs
1cm optical path colorimetric dish shelf	1pc
Packing list	1pc

Optional spare parts
Fuse (2A/3A)
Illuminant light components with a pre-calibration
lamp bracket
Rectangular colorimetric dish: 1cm, 2cm, 3cm, 5cm
5cm optical path colorimetric dish shelf
Pr-Nd filters
Holmium trioxide filters

Visible Spectrophotometer Single Beam

SP-MV5000

Brief Introduction:

SP-MV5000 is a single beam visible spectrophotometer with manual wavelength setting. It is a basic model and ideal choice for routine analysis and general experiments.
The specially designed model is a low-cost spectrophotometer which offers high performance, easy operation and wide application.

Specifications

Model	SP-MV5000
Optical System	Single Beam, Grating 1200 lines/mm
Wavelength Range	325-1000nm
Spectral Bandwidth	4nm
Wavelength Accuracy	±2nm
Wavelength Repeatability	1nm
Photometric Accuracy	±0.5%T
Photometric Repeatability	≤0.2%T
Photometric Range	-0.3-3A,0-200%T,0-9999C
Photometric Mode	T, A, C, F
Stray Light	≤0.2%T
Stability	±0.002A/h @ 500nm
Display	LCD
Detector	Silicon Photodiode
Output	USB Port & Parallel Port(Printer)
Light Source	Tungsten Halogen Lamp
Power Requirements	AC 85~250V
Instrument Dimension (W*D*H)(mm)	420*280*180
Package Dimension (W*D*H)(mm)	600*470*320
G.W.(kg)	11

Features

Microprocessor controlled
With microprocessor controlled, SP-MV5000-can realize auto Zero and auto 100%T adjustment with one push-button.SP-MV5000 has a LCD display instead of LED display for direct readout of Transmittance, Absorption, and Concentration.

Data output
SP-MV5000 is equipped with USB port which can be connected to PC to edit date through specific software.Date can also be printed through a parallel port when connected to a micro printer

Compact design, easy to carry
The compact design of V-5000 saves bench space while all components function remain performed like 120mm wide sample compartment and long optical pat-h monochromator.

Four Display Mode
SP-MV5000 can display absorption, transmittance, concentration and coefficient directly by different mode switching.

Grating monochromator
SP-MV5000 uses 1200 line grating which ensures high resolution, low stray light and high parameters accuracy.

Standard Accessories

Description	Quantity	Unit
Spectrophotometer	1	set
1cm Glass cuvette	4	pcs
Power cord	1	pcs
User's Manual	1	pcs
Black block	1	pcs
Dust Cover	1	pcs

Visible Spectrophotometer Single Beam

SP-LV723S

Specifications

Model	SP-LV723S
Wavelength Range	320nm~1100nm
Wavelength Accuracy	±1nm
Wavelength Repeatability	≤0.5nm
Bandwidth	2nm
Photometry Accuracy	±0.5%T
Photometry Repeatability	≤0.2%T
Stray Light	≤0.1%T(220nm, NaI)
Baseline Flatness	±0.002A
Stability	≤0.0008A
Noise	≤0.5%T(100%T), ≤0.2%T(0%T)
Photometry Range	0.0~200%(T),-0.3~4(A)
Display System	128×64 LCD Display
Functional Port	USB-A(U Disk), USB-B(PC), Serial Port(Printer)
Instrument Dimension	370×357×220mm
Carton Dimension	450×420×310mm
Weight	N.W.: 8KG; G.W.: 10KG

Features

High Photometric Accuracy:
Ensure the measurement of optical light path to meet the design requirements, improve process efficiency of the Assembly to achieve high precision photometry testing index.

USB ports:
User needn't set any parameter to enable online communication while the RS232 serial port have to set it.

High Wavelength Accuracy:
Ensure the accuracy and long-term stability when the instrument is processing auto wavelength detection and calibration.

High Scanning Speed:
Help user to capture the instantaneous spectrum change of sample and improve the work efficiency.

Wide Wavelength Range:
Meet the needs of most spectrophotometric test

Offline U disk storage:
Nake it easy for user to manage data in the format like Excel and etc.

Various offline quantitative measurement function:
Electronic System use 32 bits ARM core processor system, equipped with 128×64 big screen LCD, offline quantitative measurement could do multi wavelength test, Standard curve fitting and measurement, standard coefficient equation input, save and load standard equation, data storage and printing, quantitative measurement of concentration.

Powerful Software Function:
Software could achieve spectrum scanning, time scanning, dynamic scanning, quantitative measurement, multi wavelength analysis and formula calculation, spectrum processing, find peak and valley, print data, DNA/RNA test, instrument calibration, performance verification and etc. to meet different needs in various analysis fields.

Brief Introduction:

The instrument has the features like delicate structure, high price-quality ratio, various convenient functions and etc.
They could make the qualitative and quantitative test in material research, pharmaceutical analysis, Biochemical and clinical examination, analysis of water quality control, food inspection and the other fields.

Visible Spectrophotometer Single Beam

SP-LV722S

Applications

SP-LV722S Spectrophotometer is a compact and easy to operate instrument.

- It can be applied in measurement of transmittance, absorbance and direct concentration readout of transparent material.
- They have been versatility employed in the fields of hygiene and medicine, clinical examination, biochemistry, petrol chemical engineering, environmental monitoring and inspections, and quality controls for qualitative and quantitative analysis of concerning samples.

Features

With RS232 serial interface,micro printer can be chosen for printing data directly;data processing package compatible, Transmittance and Absorbance, Standard Curve Mode, Quantitative Analysis Mode are provided;With RS232 parallel I interface.

Spacious sample compartment, 4 position cell rack, adaptable for 1-5 cm optical path rectangular cells.

Simple & clear keyboard operation is convenient to realize auto 0% T &100% T adjustment T/A transformation, factor setting and direct concentration readout function;

Aspherical light source optics, Curny-terner configuration diffraction grating monochromator.;

Specifications

Model	SP-LV722S
Display Mode	4 digits LED
Dimension(L×W×H)	450×420×280
Weight(Kg)	7(N) 9.5(G)
Wavelength Range	325-1000nm
Light Source Lamp	Halogen-Tungsten Lamp 20W/12V
Wavelength Accuracy	±2 nm
Wavelength Reproducibility	1 nm
Band width	5 nm
Photometric Accuracy	±0.5%(T)(SRM930D)
Photometric Reproducibility	0.2%(T)
Stray Light	£0.2%(T)
Noise	±0.5%(T)
Scale Display	TRANS: 0-199.9%
ABS	-0.3-2.999
FACT	1-9999
CONC	0-9999
Power Requirement	220V/110V±10% 50/60 Hz
Interface	RS232 serial & parallel I interface
Print	serial printer/general printer (windows compatible; use software package)

Accessories

Standard Package
Spectrumlab SP-LV722S main unit:: 1 Set
1 cm Rectangular cell: 1 Set (4 PCs)
4 position cell holder: 1 PC.
Power cable: 1 PC.
Operation manual: 1 PC.
Certificate of quality checking: 1 PC.
Fuse (2A): 1 PC.

Optional Spare Parts and Accessories
Fuse (2A/3A)
Source lamp assembly complete with pre-adjusted lamp holder
Rectangular cells 1 cm, 2 cm, 3 cm, 5 cm cell rack
Spectrophotometer data processing software package for cooperating with PC
RS-232C serial cable

Visible Spectrophotometer Single Beam

SP-IV722N

Applications

- Sample compartment for 5-50mm cuvettes
- Precise automatic T/A changeover
- Automatic zero and full scale adjustment
- 7-inch multi color touch-screen (SP-IV722N)
- Equipped with USB port
- Direct concentration read-out and concentration factor setting function
- Automatic light gate technology to protect photoelectric sensors
- Standard software

Features

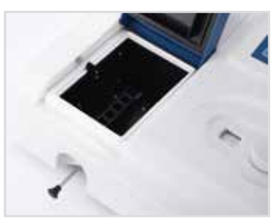
The holographic blazed grating monochromator has the advantages of high wavelength accuracy, good monochromaticity and low stray light.

Adopt microcomputer measurement system, with high conversion accuracy of T-A, automatic adjustment of 0% T and 100% T, concentration factor setting and concentration direct reading.

Linear regression method and coefficient method are added to the concentration test method.

USB interface is added, and large capacity memory can store 30 concentration curves.

High accuracy, good reproducibility and stability of measurement readings.



Specifications

Model	SP-IV722N
Photometry	Single Beam
Monochromator Type	Czerny-Turner
Focal Length	160mm
Grating	1200 lines/mm
Detector	Silicon Photocell
Wavelength Setting	Manual Turn Knob
Wavelength Range	325-1000nm
Wavelength Accuracy	±2nm
Wavelength Repeatability	≤1nm
Spectrum Bandwidth	2nm
Stray Light	≤0.1 (at 360nm $NaNo_2$)
Photometric Range	0-100.0%T
	0-1.999A
	0-1999C
Photometric Accuracy	±0.5%T
Photometric Repeatability	≤0.2%T
Noise	100%（T）noise≤0.3%(T), 0%（T）noise≤0.2%(T)
Cuvette Holder Size	10mm
Package Dimension (W*D*H)(mm)	580mm×460mm×345
Power	AC220V±22V 50Hz±1Hz,80W
G.W.(kg)	12.5

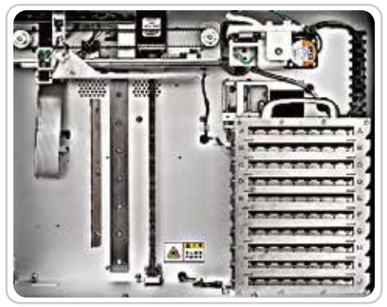
Accessories

Standard Accessories
User manual 1pc
Glass cuvette 1cm 4pcs
Quartz cuvette 1cm 2pcs (SP-IUV752N Plus only)
Power cable 1pc
Fuse 2pcs

Optional Accessories
Cuvette holder 50mm

Direct Mercury Analyzer

DMA-5 DMA-5P

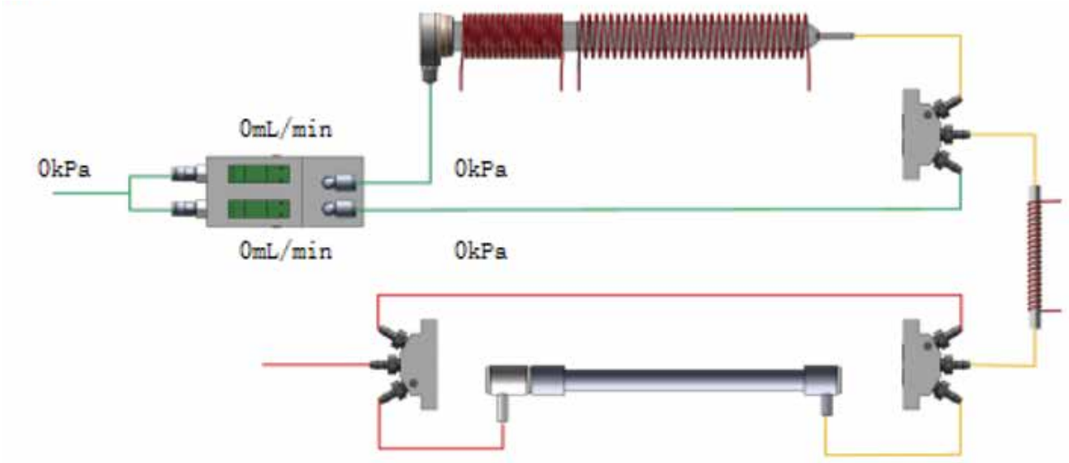


Description

- The DMA-5 Series Direct Mercury Analyzer is suitable for the analysis and detection of mercury content in various types of solid, liquid and gas samples; The instrument uses the principle of electrothermal evaporation, gold amalgam enrichment, and cold vapor atomic absorption spectroscopy (CVAAS). There is no need for tedious and complex sample pretreatment steps, and it effectively avoids problems such as cross contamination, memory effects, and environmental impacts that occur in traditional mercury element analysis processes.

Technical Principle

In an oxygen atmosphere, the instrument completes automatic sampling, and performs drying and thermal decomposition in an ashing furnace. The decomposed products are further carried into the catalytic combustion tube by oxygen, and the mercury ions are catalytically reduced to mercury atoms, which are then selectively captured by the amalgamation tube to form gold amalgam. As the amalgamation module heats up rapidly, elemental mercury (Hg) is released and carried by the carrier gas to a cold atomic absorption detector with a single wavelength (253.7nm) for analysis and detection. The amalgamation tube, a highly selective atomic trap, effectively separates the complex matrix in the sample from the elements to be analyzed, thereby completing the direct detection of mercury in the sample. The cold atomic absorption detector uses a measurement method in which multiple specifications of absorption cells are connected in series to obtain a wider detection range.



Applications

Suitable for laboratories in food, environment, medicine, agriculture, petrochemical, mining, nuclear power plants, coal-fired power plants, energy, etc.

Features and Advantages

High repeatability, stability, and sensitivity

The ashing furnace and catalytic combustion furnace are both high-precision PID temperature control systems, which can ensure the consistency of sample pretreatment and eliminate signal drift caused by fluctuations in ambient temperature;

With advanced pre-enrichment function, it can achieve more than 40 times enrichment capacity for ultra-low content samples;

High-efficiency amalgamation tube, using nano-gold-plated quartz sand, has high efficiency in capturing trace amounts of mercury, can achieve multiple captures of samples, greatly improves the sensitivity of the instrument, and ensures rapid absorption and release of mercury;

The detection system automatically switches the calibration curve according to the sample concentration to ensure the accuracy of the calculation results;

Double beam light source correction system, dynamic drift correction and reference beam are used to eliminate the influence of light source fluctuations on measurement results;

Effectively avoid cross contamination and memory effect

Amalgamation system with constant power heating can quickly and accurately reach the required temperature, avoiding cross contamination and memory effect;

The detection cell temperature range is from room temperature to 150°C, which effectively removes water vapor interference and avoids data errors caused by the memory effect of mercury;

Equipped with high mercury protection function, the system automatically and quickly cleans after high-content samples detection to avoid cross contamination;

Low cost and good user experience

Independently designed catalytic combustion tube and amalgamation tube can be replaced separately to reduce the cost of use;

No water removal consumables, reducing usage costs while the analysis results are not affected by changes in consumable performance;

Flexible and convenient to use

The sample tray is easy to switch and adjust, and no power-off is required. Emergency samples can be inserted for analysis at any time;

The three-dimensional injection structure can realize automatic injection of 100-position samples, truly realizing unattended operation for more than 8 hours;

Strong scalability to accommodate multiple application scenarios

Optional sample pretreatment systems include electrothermal decomposition, stannous chloride reduction, gas capture sampling, direct gas sampling, etc.;

Supports different liquid sample sampling volumes (5mL~250mL);

Supports high and low concentration switching (mercury trap module);

Upgradable gaseous mercury detection function, supporting gas bag and adsorption tube sample injection;

Can be connected to a standard interface balance to automatically import weighing results with one click, avoiding manual recording errors;

Specifications

Model	DMA-5	DMA-5P
Measurement Range	Long cell: 0~40ng, Short cell: 40~1000ng	Ultra-long cell: 0~10ng, Long cell: 0~40ng, Short cell: 40~1000ng
Detection Limit	0.005ng	0.001ng
Analysis Time	5mins/sample	
Light Source	Low pressure mercury lamp	
Wavelength	253.7nm	
Detector	Silicon-UV Photodetector	
Repeatability	RSD＜1.0%@1ng	
Sample Injection Volume	1500mg (solid), 1500μL(liquid)	
Temp. Range of Catalytic Combustion Furnace	RT.~1000℃	
Power Range of Mercury Trap	0~100W	
Temp. Range of Detection Cell	RT.~150℃	
Autosampler Capacity	100 positions (10*10)	
Sample Boat Material	Quartz boat/Nickel boat	