

Portable Spectrophotometer CS-500/520

Hangzhou CHNSpec Technology Co., Ltd



CHNSpec Technology



CS-500



CS-520

Feature 1



ColorSpec for High Accuracy Color Test

- ✓ It can pass Level I of National Institute Metrology
- ✓ Spectrophotometer, 20 kinds of color spaces, 26 kinds of illuminants



Feature2



Excellent Inter-instrument Agreement and Repeatability

Level I national institute metrology

Repeatability < 0.03*

Inter-instrument agreement < 0.2

Ensures test results consistency of different devices

Feature 3



Auto Calibration

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



Feature 4



Connect to APP to expand more functions

Connect to APP to find the similar color from different color swatches.

Personal color database can also be established

Samples saved in cloud can be set into target for color difference test

Feature 5

Multi-function Calibration Base

Combine calibration and charging in one base

When instrument is placed on the base, it will be automatically charged and calibrated which saves a lot of time for user.

White Tile Top Quality Ceramic

Brightness > 98 | Wear-resistant | Unchanging Color



Feature 6

Switchable Apertures

Durable and stable aperture sizes to measure samples with different sizes



Feature 7



Camera to see the measurement area

Integrated camera to see the measurement area for accurate test

Feature 8

Excellent Appearance Design

- ✓ One-piece body, streamlined appearance
- ✓ Ergonomic design
- ✓ Vertical design, vertical placement not only saves space but is more stable



Feature 9

Patented Technology

26 National Patents





Color Spec Product Advantages

- ✓ High accuracy, it can pass Level I metrology
- ✓ Auto calibration for better user experience
- ✓ Connect to APP to find similar color
- ✓ UV included /UV excluded ,UV calibration
- ✓ Multi-function calibration base, combine calibration and charging functions
- ✓ SCI/SCE
- ✓ Integrated camera to see the measurement area for accurate test



Color Spec Series Products

Model	Instrument	Light Source	Wavelength Range	Repeatability (average)	Inter-instrument Agreement	Auto Calibration	Aperture Quantity	Camera	UV	SCI/SCE	Display Accuracy	APP
CS-500		LED	400-700nm	dE≤0.05	0.3	√	1			SCI	0.1	√
CS-520		LED	400-700nm	dE≤0.03	0.2	√	3	√	√	√	0.01	√

Model	CS-500	CS-520
Geometry	D/8 (diffused illumination,8° viewing), Specular Component Included (SCI)	D/8 (diffused illumination,8° viewing), SCI (Specular Component Included) , SCE (Specular Component Excluded)
Color Spaces and Indices	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	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
Light Source	LED(Full band balanced LED)	LED(Full band balanced LED)
Illumination Area/Aperture	MAV:Φ8mm/Φ11mm	MAV:Φ8mm/Φ11mm; MAV:Φ4mm/Φ6mm; MINI:1*3mm
Wavelength Interval	10nm	10nm
Wavelength Range	400-700nm	400-700nm
Repeatability	Chromaticity value: Max. : $\Delta E^*ab < 0.1$, Average : $\Delta E^*ab < 0.05$, standard deviation within ΔE^*ab 0.03 (when a white tile is measured 30 times at 5-seconds interval) Reflectance: standard deviation < 0.1%	Chromaticity value:Max. : $\Delta E^*ab < 0.04$, Average : $\Delta E^*ab < 0.03$, standard deviation within ΔE^*ab 0.02 (when a white tile is measured 30 times at 5-seconds interval) Reflectance: standard deviation < 0.1%
Test Time	About 2s	About 1s
Interface	USB , Bluetooth	USB , Bluetooth
Illuminants	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	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
Display Accuracy	0.1	0.01
	Conform to CIE No.15 GB/T 3978 GB 2893 GB/T	Conform to CIE No.15 GB/T 3978 GB 2893 GB/T 18833 ISO7724-

Model	CS-500	CS-520
Sphere Size	40mm	40mm
Reflectance Range	0-200%	0-200%
Reflectance Resolution	0.01%	0.01%
Observer Angles	2° , 10°	2° , 10°
Battery	Rechargeable, 8000 times continuous tests, 3.7V/3000mAh	Rechargeable, 8000 times continuous tests, 3.7V/3000mAh
Lamp Lifetime	10 years, 1 million tests	10 years, 1 million tests
Language	Chinese and English	Chinese and English
Software	Andriod,IOS,Windows	Andriod,IOS,Windows
Camera	without	with
Pass Metrology	Yes, metrology level I	Yes, metrology level I
Storage	APP mass storage	APP mass storage
Sensor	256 pixel CMOS sensor	256 pixel CMOS sensor
Inter-instrument agreement	$\Delta E^*_{ab} < 0.3$ (BCRA Series II, average measurement of 12 tiles , MAV/SCI)	$\Delta E^*_{ab} < 0.2$ (BCRA Series II, average measurement of 12 tiles , MAV/SCI)
Screen	IPS Full Color Screen,2.4 inches	IPS Full Color Screen,2.4 inches
Calibration	Auto	Auto



New Generation
Spectrophotometer
CS-500/520

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