



HANDHELD SPECTROPHOTOMETER BHSP-903

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DUAL OPTICAL PATHS FLAT GRATING SPECTROPHOTOMETER

Designed for fast and precise color measurements of surfaces, spectrophotometer can easily achieve precise color transmission, and can also serve as a detection device for precise color matching systems, which is widely used in the quality control of color difference for various products. Equipped with highend color management software, can be connected to a computer for more functional extensions.

Dual optical path system

Custom 8mm or 4mm aperture

SCI and SCE spectrum

3.5inch TFT true color screen

Storage 20000 test data

Excellent interstation consistency $dE^*ab < 0.2$; Ultrahigh repeatability accuracy: dE^*ab Better than + or 0.04

Color management software



D / 8 geometric optical structure

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

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

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;

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

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

SPECIFICATIONS

Model	BHSP-903
Optical Geometry	Reflectance: D/8 (Diffuse illumination, 8° acceptance) SCI & SCE; Exclude UV
Standards Compliant	CIE No.15, GB/T 3978, GB 2893, GB/T 18833, ISO77241, ASTM E1164, DIN5033 Teil7
Integrating Sphere Size	Φ40 mm
Light Source	Combined full spectrum LED light source
Spectrophotometric Mode	Flat Grating
Sensor	Silicon photodiode array (double row 40 groups)
Wavelength Range	400-700 nm
Wavelength Interval	10 nm
Semiband Width	10 nm
Measured Reflectance Range	0-200%
Measurement Aperture	Customized one aperture: MAV: φ8 mm/φ10 mm; SAV: φ4 mm/φ5 mm
Specular Component	SCI & SCE
Color Spaces	CIE LAB, XYZ, Yxy, LCh, CIE LUV, sRGB, βxy, Munsell (C/2)
Color difference formulas	ΔE^*ab , ΔE^*uv , ΔE^*94 , $\Delta E^*cmc(2:1)$, $\Delta E^*cmc(1:1)$, ΔE^*00
Other Colorimetric Index	WI (ASTM E313, CIE/ISO, AATCC, Hunter), YI (ASTM D1925, ASTM 313), Staining Fastness, Color Fastness, Color Strength, Opacity, 8° Glossiness
Observer	2° / 10°
Illuminant	D65, A, C, D50, F2 (CWF), F7 (DLF), F10 (TPL5), F11 (TL84), F12 (TL83/U30)
Displayed Data (results)	Spectrogram/Values, Samples Chromaticity Values, Color Difference Values/Graph, PASS/FAIL Result, Color Offset
Measurement Time	About 1.5 s (simultaneous measurement SCI/SCE about 3.2 s)

Repeatability	Spectral reflectance: MAV/SCI, Standard deviation within 0.1% (400-700 nm: within 0.20%). Chromaticity value: MAV/SCI, within ΔE^*ab 0.04 (30x white plate at 5 s intervals after calibration)
Interinstrument Error	MAV/SCI within ΔE^*ab 0.2 (Average for 12 BCRA Series II color tiles)
Measurement Mode	Single measurement, average measurement (2-99 times)
Locating Method	Camera locating, stabilizer cross position
Dimension (LxWxH)	129 x 76 x 217 mm
Weight	Approx. 600 g
Battery	3.7V, 5000mAh Li-ion; 6000 measurements within 8 hours
Illuminant Life Span	5 years; more than 3 million times measurements
Screen/Display	3.5-inch TFT color LCD; capacitive touch screen
Data Port	USB
Data storage	Standard: 1000 pcs; Sample: 20,000 pcs (one PCS can include both SCI & SCE)
Languages	Simplified Chinese, English, Traditional Chinese
Operating Environment	Temperature: 0-40 °C; Humidity: 0-85% (no condensation); Altitude < 2000 m
Storage Environment	Temperature: -20-50 °C; Humidity: 0-85% (no condensation)
Standard Accessories	Power Adapter; User Guide; PC Software (download from office website); USB cable; White & Black Calibration Cavity; Protective Cover; Wrist strap; One aperture (8 mm or 4 mm)
Optional Accessories	Micro Printer; Powder test box
Alt Name	Handheld Spectrophotometer



FEATURES

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

USB interface, convenient for expansion of various functions;

Super dirt resistant and stable standard white calibration board; Calibrated white tile (artificial diamond zirconium material)

Mohs hardness: 9

Spectral reflectance: >90%

No discoloration due to changes in temperature and humidity

No discoloration from oxidation

Ultrahigh strength and resistant to scratching

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

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;

Camera locating position and Stabilizer cross measurement position;

PC software has powerful function expansion;



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