



# HANDHELD SPECTROPHOTOMETER BHSP-901

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## DUAL OPTICAL PATHS FLAT GRATING SPECTROPHOTOMETER

The versatile, rugged and easy-to-use piece of test equipment color spectrometer, a product of three year dedicated R&D, It features a 1000 line precision blazed grating for light splitting and a double row 40 group silicon photodiode array sensor. This large area sensor ensures no saturation under strong light, high sensitivity to weak light, and a broad spectral response, guaranteeing fast, accurate, stable, and consistent measurements.

1000 line precision blazed grating for light splitting and a double row 40 group silicon photodiode array sensor

D/8 geometric optical illumination (SCI/SCE) measurement structure

Measure SCI and SCE reflectance data for both regular and fluorescent samples

Repeatability ( $\Delta E_{ab} \leq 0.03$ ) and inter instrument error ( $\Delta E_{ab} \leq 0.15$ )

Three measuring apertures ( $\phi 8\text{mm}$ ,  $\phi 4\text{mm}$ ,  $1 \times 3\text{mm}$ )

Fast: capture times less than one second



Silicon photodiode array (double 40 array) sensor:

The larger area of the double 40 array sensor, the strong light will not saturation, weak light sensitivity and a wider spectrum response range, to ensure the instrument measurement speed, accuracy, stability and consistency, master the core technology, and the international standard of the same platform, complete compatibility.

Professional whiteboard, a lifetime never change color commitment

Fast charging:

Special fast charging mode, low voltage to remind charging or use off-duty time charging, to ensure the capacity and life of the battery (note: frequent repeated battery charging causes more harm).

Equipped with three measuring apertures to meet the most samples measurement:

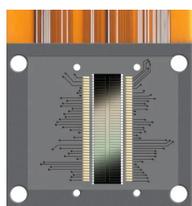
## SPECIFICATIONS

Model	BHSP-901
Optical Geometry	Reflectance: D/8 (Diffuse illumination, 8° acceptance) SCI & SCE; Include UV/Exclude UV
Standards Compliant	CIE No.15, GB/T 3978, GB 2893, GB/T 18833, ISO77241, ASTM E1164, DIN5033 Teil7
Integrating Sphere Size	$\phi 40\text{ mm}$
Light Source	Combined full spectrum LED light source, UV light source
Spectroscopic Method	Flat Grating
Sensor	Silicon photodiode array (double row 40 groups)
Spectral Range	400-700 nm
Wavelength Pitch	10 nm
Semibandwidth	10 nm
Photometric Range	0-200%
Measurement Aperture	Three apertures: MAV: $\phi 8\text{ mm}/\phi 10\text{ mm}$ ; SAV: $\phi 4\text{ mm}/\phi 5\text{ mm}$ ; LAV: $1 \times 3\text{ mm}$ (slightly worse accuracy; for color difference test)
Specular Component	SCI & SCE
Color Spaces	CIE LAB, XYZ, Yxy, Lch, CIE LUV, sRGB, Hunter Lab, LRV, $\beta_{xy}$ , DIN Lab99, Munsell (C/2)
Color difference formulas	$\Delta E^*_{ab}$ , $\Delta E^*_{uv}$ , $\Delta E^*_{94}$ , $\Delta E^*_{cmc}(2:1)$ , $\Delta E^*_{cmc}(1:1)$ , $\Delta E^*_{00}$ , DIN $\Delta E_{99}$ , $\Delta E(\text{Hunter})$
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, 8° Glossiness, 555 tone classification
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
Measurement Time	About 1.5 s (SCI & SCE about 3.2 s)

Repeatability	Spectral reflectance: MAV/SCI, std. dev. within 0.08% (400-700 nm: within 0.18%); Chromaticity value: MAV/SCI, within $\Delta E^*ab$ 0.03 (after calibration; measure the average whiteboard 30x at 5 s intervals)
Interinstrument agreement	MAV/SCI, within $\Delta E^*ab$ 0.15 (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	Li-ion battery; 6000 measurements within 8 hours
Lamp Life	5 years; >3 million measurements
Screen	3.5-inch TFT color LCD; capacitive touch screen
Interface	USB, Bluetooth
Data storage	Standard: 1,000 pcs; Sample: 30,000 pcs (one PCS can include both SCI & SCE)
Languages	Simplified Chinese, English, Traditional Chinese
Operating Environment	Temp: 0-40 °C; Humidity: 0-85% (no condensation); Altitude <2000 m
Storage Environment	Temp: -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; 8 mm flat aperture; 8 mm tip aperture; 4 mm flat aperture; 4 mm tip aperture; 1x3 mm tip aperture
Optional Accessories	Micro Printer; Powder test box
Alt Name	Handheld Spectrophotometer



## FEATURES



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#### Fast charging:

Special fast charging mode, low voltage to remind charging or use off-duty time charging, to ensure the capacity and life of the battery (note: frequent repeated battery charging causes more harm).



Equipped with three measuring apertures to meet the most samples measurement:

The Factory configuration of high performance spectrophotometer is with  $\varnothing$  8mm flat aperture,  $\varnothing$  8mm tip aperture,  $\varnothing$  4mm flat aperture,  $\varnothing$  4mm tip aperture,  $\varnothing$  1x3mm aperture, a total of five measuring apertures, to meet the most samples measurement.



Camera positioning can clearly observe the measured area:

Spectrophotometer built-in camera positioning, through the camera real-time view, can accurately determine whether the object measured part is the target center, improving the measurement efficiency and accuracy.



PC software has powerful function expansion:

SQCX quality management software with spectrophotometer is suitable for quality monitoring and color data management of various industries. Digitize user data color management.

## APPLICATIONS

Widely used in plastic electronics, paint coatings, textile printing and dyeing, printing, automotive, medical, cosmetics, and food industries



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