

CWD benchtop spectrophotometers

BSF 200 SERIES



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The BSF series CWD spectrophotometers are new generation instruments used to measure and control colour. They are equipped with XENON + LED technology and a factory pre-installed Quality Control software. They are able to take reflection and transmittance measurements on liquid, solid, covering, translucent and transparent samples.

The instrument features a transmittance sample holder compartment, a large swivel colour touch screen and a built-in camera to view the colour. D/8° optical geometry with reflection in included and excluded specular mode, and d/0° in transmittance mode.

The BSF series CWD spectrophotometers guarantee high precision and outstanding reliability over time.



BSF 200 • MAIN FEATURES

Optical Geometry	Reflect: d / 8 ° (diffused illumination, 8 ° viewing angle); SCI & SCE Include/excluded UV. Transmittance: d / 0 ° (diffused illumination, 0° viewing angle)
Light Source & UV	Pulsed xenon lamps and LED, Includes UV, 400nm cutoff, 420nm cutoff, 460nm cutoff
Color space	CIE LAB, CIE LUV, LCh, Hunter Lab, Yxy, XYZ, Musell, s-RGB, βxy
Color Difference Formula	ΔE^*ab , ΔE^*CH , ΔE^*uv , ΔE^*cmc , ΔE^*94 , ΔE^*00 , ΔEab (Hunter), 555 color tone classification
Observer Angle	2°/10°
Colorimetric Index	WI (ASTM E313-20, ASTM E313-73, CIE, ISO2470/R457, AATCC, HUNTER, TAUBE, BERGER STENSBY), YI (ASTM D1925, ASTM E313-20, ASTM E313-73), TINT (ASTM E313-20), ISOCHROMATIC INDEX MILM, COLOR FASTNESS, COLOR CHANGING FASTNESS, ISO BRIGHTNESS, R457, A DENSITY, T DENSITY, E DENSITY, M DENSITY, APHA/HAZEN/PT-CO (PLATINUM-COBALT INDEX), GARDNER (GARDNER INDEX), SAYBOLT (SEIBERT INDEX), ASTM COLOR, FOG, TOTAL TRANSMITTANCE, COVERING POWER, FORCE, INTENSITY
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, I D65, LED-B1, LED-B2, LED-B3, LED-B4, LED-B5, LED-BH1, LED-RGB1, LED-V1, LED-V2
Displayed Data	Spectral data, Spectrogram, chromaticity data, chromaticity Data, chromaticity map, Pass/Fail judgment, Simulation color, Color evaluation, fog, liquid chromaticity, Color bias
Spectrophotometric Mode	Concave Grating
Wavelength Range	360 nm - 780 nm
Wavelength Interval	10 nm
Measured Reflectance Range	0 - 200%
Integrating Sphere Size	Ø152 mm
Sensor	Differential spectrum engine
Measuring Time	Single mode <2s
Measuring Aperture	Reflective: Ø30mm / Ø25.4mm, Ø18mm / Ø15mm, Ø11mm / Ø8mm, Ø6mm / Ø3mm - Transmissive: Ø25mm / Ø17mm
Long-term Repeatability	XLAV chroma value: standard deviation ΔE^*ab within 0.1 (0°C-40°C arbitrary temperature change) XLAV chroma value: standard deviation ΔE^*ab 0.01 or less (under constant temperature conditions, the white correction plate is measured every hour within 24 hours)
Repeatability*	$\Delta E^*ab \leq 0.005$ Spectral reflection/transmittance $\leq 0.1\%$
Inter-instrument Agreement**	Ø25.4mm / SCI, Within $\Delta E^*ab = 0.12$ (Average for 12 BCRA Series II color tiles)
Data Port & Connectivity	USB, Print serial port, Bluetooth, Wi-Fi, RS-232
Data Storage	8 GB
Language	Simplified Chinese, English, Traditional Chinese, Russian, Spanish, Portuguese, Japanese, Thai, Korean, German, French, Polish, Italian
Power	DC 24V, 3A Power adapter power supply
Camera	Ultra HD camera (1400 dpi)
Display	7-inch color LCD, Capacitive Touch Screen
Operating Environment	5~40°C, 0~80%RH (no condensing)
Storage Environment	-20~45°C, 0~80%RH (no condensing)
Dimension	L*W*H=550x250x280mm
Weight	11,2 kg
Standard Accessory	Power Adapter, USB cable, White Calibration Board, Black Calibration Cavity, Green Calibration Board, Fluorescence Calibration Board, Transmission fixture, Cuvette, 30 caliber, 18 caliber, 11 caliber, 6 caliber
Optional Accessory	Heating transmission jig, vertical bracket, small sample holding accessories, reflection cupping plate (non-removable).
Others	The instrument can be measured sideways, up and down (using accessories); Automatic temperature and humidity compensation function
Automatic calibration	✓ Can greatly improve the long-term repeatability of the instrument
Fluorescence calibration	✓ Can automatically adjust the UV intensity, and ensure that the value of the instrument is highly consistent with that of other imported instruments when measuring materials containing fluorescence

* After instrument calibration, the white correction plate was measured 30 times at 5-second intervals to measure the standard deviation of the result in XLAV caliber.

** Based on 23°C, the average value of XLAV aperture measurement of 12 swatches of BCRA Series is measured.