

Portable spectrophotometers

CWD HSF 100



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The CWD HSF series portable spectrophotometers belong to a new generation of color measurement instruments, featuring a full-band balanced LED light source combined with a xenon lamp, including UV, and pre-installed Color Quality Control software.

Instruments with $d/8^\circ$ diffuse sphere geometry for reflectance measurements are suitable for color measurement applications such as quality control, color comparison and color formulation.

The instruments are compact and ergonomic, equipped with a 3.5-inch color LCD capacitive touchscreen and USB and Bluetooth interfaces for PC communication.



CWD HSF 100 • MAIN FEATURES

Optical Geometry	Reflect: d / 8 ° (diffused illumination, 8 ° viewing angle); SCI + SCE
Light Source & UV	Full-band balanced LED light source + xenon lamp, Includes UV
Color space	CIE LAB, CIE LUV, LCh, Hunter Lab, Yxy, XYZ, Musell, s-RGB, β_{xy}
Color Difference Formula	ΔE^*_{ab} , ΔE^*_{CH} , ΔE^*_{uv} , ΔE^*_{cmc} , ΔE^*_{94} , ΔE^*_{00} , ΔE_{ab} (Hunter)
Observer Angle	2°/10°
Colorimetric Index	SPECTRAL REFLECTANCE, CIE-LAB, CIE-LCH, HUNTERLAB, CIE-LUV, XYZ, YXY, RGB COLOR DIFFERENCE (ΔE^*_{AB} , ΔE^*_{CMC} , ΔE^*_{94} , ΔE^*_{00}), WHITENESS (ASTM E313-00, ASTM E313-73, CIE, ISO2470/R457, AATCC, HUNTER, TAUBE BERGER STENSBY), YELLOWNESS (ASTM D1925, ASTM E313-00, ASTM E313-73) BLACKNESS (MY, DM), STAIN FASTNESS, DISCOLORATION FASTNESS, TINT (ASTM E313-00) COLOR DENSITY CMYK (A, T, E, M), METAMERISM INDEX MILM, MUNSELL, HIDING POWER, STRENGTH (DYE STRENGTH, TINTING STRENGTH)
Illuminant	A, B, C, D50, D55, D65, D75F1, F2, F3, F4, F5, F6, F7, F8, F9, F10, F11, F12CWF, U30, U35, DLF, NBF, TL83, TL84, ID 50, ID65, LED-B1, LED-B2, LED-B3, LED-B4, LED-B5, LED-BH1, LED-RGB1, LED-V1, LED-V2
Spectrophotometric Mode	Concave Grating
Wavelength Range	360 nm - 740 nm
Wavelength Interval	10 nm
Measured Reflectance Range	0 - 200%
Integrating Sphere Size	Ø40 mm
Sensor	Dual column high-precision CMOS array sensor
Measuring Time	Single mode <1s
Measuring Aperture	Φ11mm, Φ6mm
Repeatability*	$\Delta E^*_{ab} \leq 0.02$
Inter-instrument Agreement**	$\Delta E^*_{ab} = 0.25$ (Average for 12 BCRA Series II color tiles)
Data Port & Connectivity	USB, Bluetooth
Data Storage	10 000 items
Language	Simplified Chinese, English, Italian
Power	7.2V/3000mAh Power adapter power supply
Display	3.5-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=233x77x93mm
Weight	0,6 kg
Standard Accessory	Power Adapter, USB cable, White and Black Calibration Board, 11 caliber, 6 caliber

* After the whiteboard is calibrated, measure the whiteboard 30 times at 5-second intervals. Standard deviation of the MAV caliber measurement results.

** The average of the MAV caliber measurement values of 12 color plates in the BCRA series.