



Portable Spectrodensitometer CWD 5050 PLUS



URAI®

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The portable spectrodensitometer model CWD 5050 PLUS belongs to the new generation of color measurement instruments with LED technology.

The instrument with 45°/0° geometry has a compact and ergonomic design and a 3.5-inch TFT color touch screen display. Its versatility is particularly suitable for the measurement and quality control of optical density and dot magnification in inkjet printing.

With 45/0 geometric optical illumination and the test conditions of MO, M1, M2, M3 established by the ISO 13655 standard, the instrument can accurately measure the reflectance data of samples. With multiple color spaces, it can accurately measure various printing density indices, color difference formulas and indices.



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45/0 geometric optical structure, under the test conditions of MO, M1, M2, M3 established by ISO 13655 standard, can accurately measure various printing density and overprint speed

The instrument is equipped with a sophisticated 3.5-inch TFT color LCD display with capacitive touch screen

Optional apertures: Ø2/4/8mm, suitable for more samples

Accurately measure the reflectance spectrum, CMYK density and Lab value of the sample

Internal memory can store over 30,000 measurements

Uses a combination LED light source with high durability and low power, including UV/excluding UV

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TECHNICAL CHARACTERISTICS OF THE INSTRUMENT

Optical Geometry	45°/0° (45 ring-shaped illumination, 0 degree viewing angle); ISO 5-4,CIE No.15
Light Source	Combined LED Light, UV Light
Color space	CIE Lab, XYZ, Yxy,LCh, CIE LUV, HunterLab
Color Difference Formula	ΔE^*_{ab} , ΔE^*_{uv} , ΔE^*_{94} , $\Delta E^*_{cmc}(2:1)$, $\Delta E^*_{cmc}(1:1)$, ΔE^*_{00} , DIN ΔE_{99} , ΔE (Hunter)
Observer Angle	2°/10°
Colorimetric Index	WI(ASTM E313,CIE/ISO,AATCC,Hunter), YI(ASTM D1925,ASTM 313), MI (Metamerism Index),Opacity,
Illuminant	A,C,D50,D55,D65,D75,F2(CWF),F7(DLP),F11(TL84),F12(TL83/U30),F1,F3,F4,F5,F6,F8,F9,F10(TPL5)
Measurement Conditions	Compliance with ISO 13655 measurement conditions; M0 (CIE Light Source A), M1 (CIE Light Source D50), M2 (Excluding UV light source), M3 (M2+Polarized light filter)
Spectrophotometric Mode	Concave Grating
Wavelength Range	400~700nm
Wavelength Interval	10 nm
Semiband Width	10 nm
Measured Reflectance Range	0 a 200%
Sensor	256 Image Element Double Array CMOS Image Sensor
Measuring Time	About 1.5 s
Measuring Aperture	Optional apertures: $\Phi 2$ mm, $\Phi 4$ mm, $\Phi 8$ mm
Repeatability	Density: Within 0.01 D, Chromaticity value: within ΔE^*_{ab} 0.03 (When a white calibration plate is measured 30 times at 5 second intervals after white calibration) Except M3
Density Standards	ISO Status A, E, I, T
Density index	Density value, density difference, dot area, dot enlargement, overprint, printing characteristics, printing contrast, tone error and gray scale, density scanning
Inter-instrument Error	Within ΔE^*_{ab} 0.18 (Average for 12 BCRA Series II color tiles) Except M3
Data Port	USB, Bluetooth
Data Storage	20.000 pcs
Language	Chinese,English
Power	LI-Li-ion battery. 5000 measurements within 8 hours
Illuminant Life Span	5 years, more than 3 million times measurements
Display	3.5-inch TFT color LCD, Capacitive Touch Screen
Operating Environment	Temperature: 0~40°C; Humidity: 0~85% (No Condensation)
Storage Environment	Temperature: -20~50°C; Humidity: 0~85% (No Condensation)
Dimension	184 × 77 × 105 mm
Weight	600 gr.
Standard Accessory	Power Adapter, USB Cable, User Manual, White and Black Calibration Board
Optional Accessory	Micro printer