Colorimeters

Models: C-200, C-210, C-220

Overview

Vteke Colorimeters repeatability dE*ab≤0.03 ideal for on-site measurement and color management of various materials including plastics, coatings, textiles, automotive interiors, and metal products. The device is easy to operate and can quickly determine if products 'pass' or 'fail'.

- Enhanced repeatability accuracy with dual optical path design.
- Measures over 30 metrics including color difference, whiteness, and yellowness.
- Features 37 evaluation lighting options.
- Capable of measuring fluorescent colors with UV inclusion.
- Offers up to 6 measuring apertures for diverse sample requirements.
- Integrated high-definition camera clearly displays testing area on the screen for confident testing.
- Automatic calibration with a "synthetic diamond" on the base to ensure long-term instrument stability.
- Compatible with Android and iOS mobile apps.
- Equipped with a robust PC color management system.

Repeatability dE*ab ≤ 0.03.

The dual-pathway design allows simultaneous monitoring of the sample signal and the fluctuations in light source energy, thereby reducing interference during measurements and enhancing stability. This design has improved the instrument's repeatability index to a level of dE*ab ≤ 0.03. The technology ensures the speed, accuracy, and consistency of measurements and is protected by invention patents in both China and the United States.

Over 30 measurement indicators

- RGB, Lab, Spectral Reflectance, LCh, Hunter Lab, CIE-Luv, XYZ, Yxy
- Color difference: ΔE*ab, ΔE*cmc, ΔE*94,ΔE*00
- Whiteness: ASTM E313-00, ASTM E313-73, CIE/ISO, AATCC, Hunter, Taube Berger Stensby
- Yellowness: ASTM D1925, ASTM E313-00, ASTM E313-73
- Blackness: My,dM. Staining Fastness, Color Fastness, Tint (ASTM E313-00)
- Color Density CMYK (A,T,E,M), Metamerism Index Milm, Munsell, Opacity, Strength (Dye Strength, Coloring Power).

37 types of evaluation light sources

There are 37 types of evaluation light sources available, including A, B, C, D50, D55, D65, and more, covering nearly all color measurement standards and light source types used in the industry.

UV - for measuring fluorescent colors

Even when assessing colors on surfaces containing fluorescent materials, the C-200 series colorimeter consistently delivers reliable and precise reflectance data.

Includes SCI measurement mode

SCI (Specular Component Included) measurement is primarily used in situations where the focus is on the properties of the color itself rather than the glossiness of the surface to which the color is applied. For example, in certain textile products, the accuracy of the color is extremely important, whereas the surface glossiness is not a primary consideration.

"artificial diamond" — calibration whiteboard

The calibration whiteboard is key to ensuring instruments' accuracy. Made from zirconium with a Mohs hardness of 9, it is as hard as diamond, scratch-resistant, and doesn't change color with temperature or humidity shifts. This makes it more stable and durable than similar products using ceramic or plastic. The whiteboard is installed on a calibration base. Just place the colorimeter on the base for it to automatically calibrate, ensuring it's always ready and stable.

11mm, 6mm, 3mm apertures

We offer three apertures (11mm, 6mm, 3mm) to accommodate different sample requirements. Switching the measurement aperture is straightforward—just remove one and install another with a simple twist, no screws needed. Set the large aperture (Φ11mm) to 'M' and the smaller apertures (Φ6mm, Φ3mm) to 'S'.

Connect your smartphone and computer

Our apps, available for both iOS and Android, allow you to create a personal color database. You can log details of various color cards, search for similar colors, and upload and share data. The package also comes with the ColorExpert color management system, which can be connected to your computer via Bluetooth or USB. It features four key functions: My Colors, Color Measurement, Color Matching System (available for purchase), and Personal Center.

Specifications

Model	Colorimeter C-200	Colorimeter C-210	Colorimeter C-220
Geometry	d/8, SCI		
Repeatability	ΔE*ab ≤ 0.03		
Display Precision	0.01		
Illumination Area/Apertures	2 Apertures: Φ6mm, ▽6mm.	4 Apertures: Φ11mm, Φ6mm, ▽11mm, ▽6mm.	6 Apertures: Φ11mm, Φ6mm, Φ3mm ▽11mm, ▽6mm,▽3mm.
Color Spaces and Indices	Reflectance, CIE-Lab, CIE-LCh, HunterLab, CIE Luv, XYZ, Yxy, RGB, Color difference(ΔE*ab, ΔE*cmc, ΔE*94,ΔE*00),WI(ASTM E313-00,ASTM E313-73,CIE/ISO, AATCC, Hunter, Taube Berger Stensby), YI(ASTM D1925,ASTM E313-00,ASTM E313-73), Blackness(My,dM),Color Fastness, Tint,(ASTM E313-00),Color Density CMYK(A,T,E,M), Milm, Munsell, Opacity, Color strength		
Illuminants	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, ID65, LED-B1, LED-B2, LED-B3, LED-B4, LED-B5, LED-BH1, LED-RGB1, LED-V1, LED-V2.		
Field of view	2°, 10°		
Sphere Size	40mm		
Standards	Conform to CIE No.15, GB/T 3978, GB 2893, GB/T 18833, ISO7724-1, ASTM E1164, DIN5033 Teil7		
Spectroscopic method	Nanointegrated spectroscopic devices		
Sensor	Silicon photodiode array, Double 16 groups.		
Wavelength Interval	10nm		
Wavelength Range	0-200%		
Reflectance Resolution	0.01%		
Measurement Time	≈ 1 seconds		
Light Source	Full wavelength balanced LED		Full wavelength balanced LED + UV
Measurement observation	Visual inspection	Camera	
Calibration	Manual Calibration	Intelligent auto calibration	
Software	Android, iOS, Windows		
Interface	USB, Bluetooth		
Screen	IPS Full Color Screen, 2.4 inches		
Battery	Li-ion, rechargeable, 8000 times continuous tests, 3.7V/3000mAh		
Lamp Lifetime	10 years, 1 million tests		
Languages	Chinese and English		
Storage Memory	Instrument: 100 standard samples, 10,000 test samples; APP: Massive storage.		

- Diffuse illumination with D/8° directional reception, including/excluding specular reflection.
- Standard deviation of measuring a whiteboard 30 times with 5-second intervals after whiteboard calibration.

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