



KS1510 Color Haze Meter

TRANSPARENT MATERIAL TESTING EXPERT

Precision Analysis of Haze,
Transmittance, Clarity, and Chromaticity



The KS1510 horizontal color haze meter adopts a spectrophotometric optical structure with a compensated port design, primarily used for testing haze, total transmittance, clarity, and colorimetric data of transparent and translucent materials. It supports the 0/d transmission illumination geometry and complies with international standards such as ASTM D1003, ISO 13468, GB/T 2410, and others. It is specifically designed for high-end R&D, precision inspection, and full-scenario compliance testing.

BEYOND COLOR — EXPERT IN HAZE ANALYSIS

The KS1510 color haze meter features high-end hardware, integrating a 400–700nm combined LED light source, a $\Phi 154\text{mm}$ integrating sphere, and a nano-integrated spectral sensor, paired with a silicon photodiode array (dual-row 18-set) detector. It precisely captures the transmittance curve of transmission samples and outputs accurate colorimetric data. The instrument is equipped with an open measurement area, supporting both vertical and horizontal testing for easy measurement of liquids, large-sized, or irregularly shaped samples. Three optional measurement apertures ($\Phi 20\text{mm}$, $\Phi 15\text{mm}$, $\Phi 8\text{mm}$) are available to meet the testing needs of small-sized materials. It is widely applicable for optical and appearance quality control in industries such as glass, plastics, films, displays, and liquid pharmaceuticals.

Haze

Transmittance

Clarity

Chromaticity

I. Comprehensive Parameter Coverage



Dual-Standard Compensation Measurement: Supports both ASTM D1003 (non-compensation method) and ISO 13468 (compensation method), flexibly meeting diverse industry testing requirements and ensuring measurement results align with international standards.



Multi-Parameter Synchronous Testing: Simultaneously performs total transmittance, haze, and clarity tests. It also accurately captures the sample's transmittance curve and outputs various colorimetric data, enabling integrated optical and colorimetric analysis.



Precise Spectrophotometric Technology: Equipped with a 400–700nm combined LED light source and nano-integrated spectral device, paired with a silicon photodiode array (dual-row 18-set) detector, ensuring accuracy and stability in spectral acquisition.



II. Accurate and Reliable Measurement Performance

High-Precision Measurement: Haze resolution reaches 0.01 units, with transmittance accuracy better than $\pm 1\%$. Under the $\Phi 20\text{mm}$ aperture, repeatability for haze, transmittance, and color difference is less than 0.028, and platinum-cobalt color accuracy is $\leq \pm(5\% H+1)$ (where H is the standard value), ensuring comprehensive data precision.

Fast and Efficient Measurement: A single complete measurement takes approximately 1.5 seconds, meeting the rapid testing needs of batch samples and significantly improving inspection efficiency in laboratories and production lines.

Full-Spectrum Coverage: The measurement wavelength range covers 400–700nm in the visible spectrum, with a wavelength interval and half bandwidth of 10nm, ensuring no blind spots in spectral acquisition and comprehensive measurement results.

III. Wide Applicability and Flexibility



Compatibility with Various Sample Types: Capable of testing samples of different materials and forms, including glass, plastics, films, displays, and liquid pharmaceuticals, adapting to diverse testing requirements.



Fast and Efficient Measurement: A single complete measurement takes approximately 1.5 seconds, meeting the rapid testing needs of batch samples and significantly improving inspection efficiency in laboratories and production lines.



Full-Spectrum Coverage: The measurement wavelength range covers 400–700nm in the visible spectrum, with a wavelength interval and half bandwidth of 10nm, ensuring no blind spots in spectral acquisition and comprehensive measurement results.

IV. Flexible and Convenient Structural Design

Open Measurement Area: Supports both horizontal and vertical testing, allowing flexible adjustment based on laboratory space and sample placement requirements.

User-Friendly Operation: Equipped with a 7-inch TFT true-color capacitive touchscreen with an intuitive interface. Supports three languages: Simplified Chinese, Traditional Chinese, and English.

High Durability: The illumination light source has a lifespan of up to 5 years, supporting over 3 million measurements. The instrument weighs approximately 8.0kg, with a robust structure suitable for long-term, high-frequency testing.



V. Comprehensive Data Processing Capabilities

Large Data Storage Capacity

Can store up to 5,000 standard samples and 30,000 test samples, meeting the long-term storage needs of large volumes of test data for subsequent query, comparison, and analysis.

Multiple Interface Data Transmission

Equipped with USB, serial print port, and Bluetooth interfaces, supporting rapid data export and printing. It can connect to computers for further professional data processing and sharing.

Intuitive Data Display

Real-time display of spectral graphs, sample colorimetric values, color difference values/graphs, and chromaticity diagrams. Features color simulation and pass/fail result determination, with intuitive data presentation for quick result interpretation.

VI. Compliance with Multiple Authoritative Standards

International Standards: Complies with ASTM D1003/1044, ISO 13468, ISO 14782, CIE 15.2, ASTM E308, JIS K7105, JIS K7361, JIS K 7136, and other international standards.

National Standards: Meets GB/T 2410, JJF 1303–2011, GB/T 3978, and other national testing standards, ensuring authoritative results and industry recognition.

Full-Dimensional Colorimetric Indices: Supports various color spaces such as CIE LAB, XYZ, Yxy, LCh, and multiple color difference formulas including ΔE_{ab} , ΔE_{94} , ΔE^{*00} . It can detect haze, transmittance, clarity, whiteness, yellowness, absorbance, platinum–cobalt index, Gardner index, CMYK, Tint (ASTM E313–00), metamerism index MI, turbidity, and other comprehensive colorimetric indicators.

APPLICATION FIELDS



Leveraging its advanced spectrophotometric technology, dual-standard compensation measurement, and high-precision data acquisition, the KS1510 Color Haze Meter is widely used in industries such as glass processing, plastic processing, film manufacturing, display processing, packaging, and liquid pharmaceutical analysis. It excels in product R&D, quality control, and batch production line testing, effectively ensuring the optical and colorimetric quality of products across various industries.

OPTIONAL ACCESSORIES

Product Name	Material Code	Image	Function
Test Fixtures (Cuvette, Thick Plate, and Film Fixtures)	/	 Cuvette Fixture	Conveniently fixes samples onto the instrument for measurement.
Micro Printer	1.609.01.0020		Portable design allows printing of various measurement parameters without connecting to a computer.
Standard Haze Plates	/		Facilitates haze value transfer and self-calibration for haze meter measurements.
Foot Switch	2.002.53.0006		Enables hands-free operation, improving efficiency and safety.

PRODUCT SPECIFICATIONS

Product Model	KS1510 Color Haze Meter
Geometry	Transmission: 0/D (parallel light illumination, diffuse reception);
Meet The Criteria	ASTM D1003/1044, ISO 13468, ISO 14782, GB/T 2410, JJF 1303–2011, CIE 15.2, GB/T 3978, ASTM E308, JIS K7105, JIS K7361, JIS K 7136
Integrating sphere size	Φ154mm
Light Source	400–700 nm combined LED light source
Spectrophotometric Mode	Nano–integrated spectral device
Sensor	Silicon photodiode array (dual–row, 18 sets)
Wavelength Range	400~700nm
Wavelength Interval	10nm
Half Bandwidth	10 nm
Transmittance Measurement Range	0–100%
Measurement Aperture	Φ20 mm / Φ15 mm / Φ8 mm (single aperture selected)
Sample Size	Thickness less than 105 mm
Color Space	CIE LAB, XYZ, Yxy, LCh, sRGB, βxy, CIE LUV, Munsell, HunterLab
Color Difference Formulas	ΔEab, ΔE94, ΔEcmc (2:1), ΔEcmc (1:1), ΔE00, ΔEuv, ΔE*CH
Other chromaticity index	Haze (ASTM D1003/1044, ISO 13468), Transmittance T (ISO), Transmittance T (ASTM), Clarity,WI (ASTM E313, CIE/ISO, AATCC, Hunter, Taube, Berger, Stensby),YI (ASTM D1925, ASTM 313), Absorbance,Platinum–Cobalt Index, Gardner Index, CMYK, Tint (ASTM E313–00), Metamerism Index MI, Turbidity
Observer Angle	2°/10°
Illuminant	D65, A, C, D50, D55, D75, F1, F2, F3, F4, F5, F6, F7, F8, F9, F10, F11, F12, CWF, DLF, TL83, TL84, TPL5, U30, NBF
Displayed Data	Spectral graph, sample colorimetric values, color difference values/graph, chromaticity diagram, color simulation, pass/fail results
Measuring Time	Approx. 1.5 s
Haze Resolution	0.01 units
Haze Repeatability	For Φ20 mm aperture: less than 0.028 (standard deviation of 30 measurements of a standard haze plate with haze approx. 30, taken at 5 s intervals after warm–up and calibration)
Transmittance Resolution	0.01 units
Transmittance Accuracy	Better than ±1%
Transmittance Repeatability	For Φ20 mm aperture: less than 0.028 (standard deviation of 30 measurements of a standard haze plate with haze approx. 30, taken at 5 s intervals after warm–up and calibration)
Color Difference Repeatability	For Φ20 mm aperture: less than 0.028 (standard deviation of 30 measurements of white glass taken at 5 s intervals after warm–up and calibration)
Platinum–Cobalt Resolution	0.01
Platinum–Cobalt Accuracy	≤ ±(5%H + 1), where H is the standard value
Platinum–Cobalt Range	0–1000
Turbidity Range	0–1000 NTU
Dimensions	487 × 260 × 298 mm (L × W × H)
Weight	Approx. 8.0 kg
Power Supply	24 V DC, 3 A power adapter
Light Source Lifespan	5 years or >3 million measurements
Display	TFT true color, 7–inch capacitive touchscreen
Interfaces	USB, serial print port, Bluetooth
Data Storage	5,000 standard samples, 30,000 test samples
Languages	Simplified Chinese, Traditional Chinese, English
Operating Temperature Range	0–40°C (32–104°F)
Storage Temperature Range	–20–50°C (–4–122°F)
Standard Accessories	Power adapter, user manual, quality management software (download from official website), data cable, 0% calibration box, measurement aperture
Optional Accessories	Micro printer, test fixtures, standard haze plates, foot switch