CATALOG

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Expert for Color and Gloss Measurement Solutions

รวม CATALOG BRAND CHN

CHN Spec

CHN Spec

Haze Meter

CS-700/720

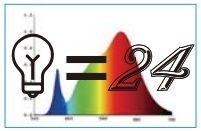
Product Features

Design for plastic, films, glass, LCD panel, touch screen and other transparent and translucent materials color, haze and transmittance measurement.

- 24 kinds of parameters total transmittance, haze, color whiteness, yellowness and others.

- Vertical and horizontal measurement method, different fixtures for sheet, films and liquid.

- 24 kinds of illuminants for transmittance color measurement



- Conform to ASTM,ISO and JIS standard

Product Advantages

- Free PC Software to save, analysis test result and print test report.
- Lower Cost and Better User Experience
- 5.0 inch TFT display screen for friendly interface, large data storage memory
- Flexible customized service to provide professional solutions for all customers

Application Examples

▲GLASS

▲Film

▲Lamp Diffuser

▲Touch Screen

Technical Data

	Color and Haze Meter CS–720	Haze Meter CS–700
Type		
Light Source	CIE–A,CIE–C,CIE–D65 Chromaticity Value: A,C,D50,D55,D65,D75, F1,F2,F3,F4,F5,F6,F7,F8,F9,F10,F11,F12, CMF,U30,DLF,NBF,TL83,TL84	CIE–A,CIE–C,CIE–D65
Standards	ASTM D1003/D1044,ISO13468/ISO14782, JIS K 7105,JIS K 7361,JIS K 7136,CIE No.15,ISO 7724/1,ASTM E1164,DIN 5033 Teil7,JIS Z8722 Condition C standard, GB/T 2410–2008,JJF 1303–2011	ASTM D1003/D1044, ISO13468/ISO14782, JIS K 7105,JIS K 7361, JIS K 7136,GB/T 2410–2008,JJF 1303–2011
Parameters	HAZE, Transmittance (T), CIE Lab,LCh,CIE Luv,XYZ,Yxy, Transmittance spectrum, Hunter Lab Munsell MI, CMYK,WI (ASTM E313–00,ASTME313–73, CIE/ISO,Hunter,Taube Berger Stensby), YI(ASTM D1925,ASTM E313–00,ASTM E313–73),Tint(ASTM E313–00), Metame–rism Index Milm,APHA, Pt–Co, Gardner, Color Difference(ΔE*ab, ΔE*CH, ΔE*uv, ΔE*cmc(2:1), ΔE*cmc(1:1), ΔE*94, ΔE*00)	HAZE, Transmittance (T)

Spectral Response	CIE Luminosity function Y/V(λ)
Wavelength	400–700nm
Wavelength Interval	10nm
Geometry	0/d
Illumination and Test Aperture Size	16.5mm/21mm
Measurement Range	0–100%
Haze Resolution	0.01Unit
Haze Repeatability	≤0.1Unit
Sample Size	Thickness ≤150mm
Display	5 inch TFT LCD screen
Data Storage	20000 pcs of samples
Interface	USB
Power	110–240V
Working Temperature	0~45℃, relative humidity 80% or below(at 35° C),no condensation
Storage Temperature	–25–50℃, relative humidity 80% or below(at 35° C),no condensation
Size	598mm X 247mm X 366mm (L x W x H)
Standard Accessory	PC software (Haze QC)
Optional	Measurement Fixture, Haze Standard Film

Haze Meter

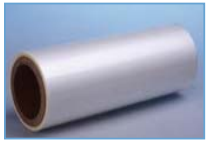
TH-100

Instrument Advantages

- It conforms to international standards ASTM D 1003,ISO 13468,ISO 14782, JIS K 7361 and JIS K 7136.
- Three kinds of light sources A,C and D65 for haze and total transmittance measurement.
- It can realize transmittance compensation measurement which can provide higher accuracy test result.
- Open measurement area, no limit on sample size.
- Instrument is with 5.0 inches TFT display screen with good human–computer interface.
- It can realize both horizontal and vertical measurement to measure different kinds of materials.
- It adopts LED light source whose lifetime can reach 10 years.
- No need to do warm–up, after instrument is calibrated, it can be used. And measurement time is only 3 seconds.
- Small size and light weight which makes it much easier to carry.

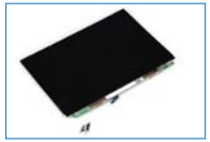
Application

▲ Plastic Sheet



▲ Film

▲ Glass



▲ Screen

Technical Data

Type	Haze Meter TH–100
Light Source	CIE–A、CIE–C、CIE–D65
Standards	ASTM D1003/D1044,ISO13468/ISO14782,JIS K 7105,JIS K 7361,JIS K 7136，GB/T 2410–08
Parameters	HAZE, Transmittance(T)
Spectral Response	CIE Luminosity function Y/V (λ)
Geometry	0/d
Measurement Area/ Aperture Size	16.5mm/21mm
Measurement Range	0–100%
Haze Resolution	0.01unit
Transmittance Resolution	0.01unit
Haze Repeatability	≤0.1unit
Transmittance Repeatability	≤0.1unit
Sample Size	Thickness ≤150mm
Wavelength Interval	10nm
Memory	20000 value
Interface	USB
Power	DC24V
Working Temperature	10–40 ℃ (+50 – 104 ° F)
Storage Temperature	0–50℃ (+32 – 122 ° F)
Size (LxWxH)	310mm X 215mm X 540mm
Standard Accessory	Free PC software (Haze QC), one pcs of haze standard plate
Optional	Fixtures

Bench-top Spectrophotometer

CS-820N

Instrument Advantages

- Instrument adopts xenon lamp
- It can measure both reflectance and transmittance
- Auto temperature and humidity compensation function
- 4 kinds of UV modes for choices
- 4 test apertures as standard accessories, auto aperture size recognition
- 10 million samples storage memory
- Instrument is with camera to view the measurement area
- Vertical and horizontal measurement for testing different kinds of samples

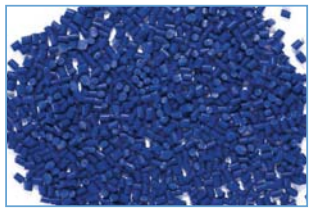
Application

▲ Paint

▲ liquid

▲ Powder

▲ Glass



▲ Master Batches

▲ Packing Material

Technical Data

Illumination/ Viewing System	Reflection: d/8(Diffused illumination, 8 degree viewing) Simultaneous measurement of SCI/SCE (ISO7724/1, CIE No.15, ASTM E1164,DIN5033 Teil7,JIS Z8722 Condition C standard)Transmittance d/0(Diffused illumination, 0 degree viewing)
Sphere Diameter	152mm
Wavelength	360–780nm
Wavelength Pitch	10nm
Reflectance Range	0–200%
Resolution	0.01%
Light Source	Pulse Xenon Lamp
UV Measurement	Include UV, 400nm cut, 420nm cut, 460nm cut
Measurement Time	SCI/SCE < 2s SCI+SCE < 4s
Transmittance Sample Size	No limit on sample width and height, thickness ≤50mm
Inter–Instrument Agreement	XLAV ΔE*ab 0.015 (BCRA Series II, Average measurement of 12 tiles, at 23℃)
Measurement Aperture	Reflectance: XLAV Φ25.4mm/Φ30mm, LAVΦ15mm/18mm,MAVΦ8mm/Φ11mm,SAVΦ3mm/Φ 6mm (Aperture size can be custom made) Auto aperture size recognition Transmittance:Φ17mm/Φ25mm
Viewing Angles	2° and 10°
Repeatability	XLAV Spectrum Reflectance/Transmittance: standard deviation within 0.1%XLAV Chromaticity value: Standard deviation within ΔE*ab 0.015 * When a white calibration plate is measured 30 x at 5–second intervals after white calibration
Color Spaces	L*a*b, L*C*h, Hunter Lab, Yxy, XYZ
Illuminants	A,C,D50,D55,D65,D75,F1,F2,F3,F4,F5,F6,F7,F8,F9, F10,F11,F12,CWF,U30,DLF,NBF,TL83,TL84

Display	Reflectance and Transmittance graph/value, color value, color difference values,pass/fail, olor simulation, color assessment, haze, liquid chromaticity values, color tendency
Color Difference	ΔE*ab, ΔE*CH, ΔE*uv, ΔE*cmc, ΔE*94, ΔE*00, ΔE*ab(hunter),555 shade sor
Other Indices	WI(ASTM E313–00,ASTM E313–73,CIE/ISO, AATCC, Hunter, Taube Berger, Stensby)YI(ASTM D1925,ASTM E313–00,ASTM E313–73),Tint(ASTM E313–00,CIE, Ganz),Metamerism index milm, stain fastness, color fastness, ISO brightness, R457, A density, T density, E density, M Density, APHA/Pt–Co/Hazen, Gardner, Saybolt,ASTM color, Haze, Total Transmittance, Opacity, Color Strength
Language	Chinese and English (or Custom made)
Storage Memory	8GB
Screen Size	7 Inches Touch Screen
Power	12V/2.5A
Operate Temperature	5–40℃(40–104F), relative humidity 80% (at 35℃) no condensation
Storage Temperature	–20–45℃(–4–113F), relative humidity 80% (at 35℃) no condensation
Accessories	Black Calibration Cavity, White Calibration Tile, Power Adaptor, Operate Manual, PC software (CD), USB Cable, Reflectance Test Support,30mm,18mm,11mm and 6mm apertures, fixture for transmittance
Optional Accessories	Support for vertical measurement, liquid heater (transmittance)
Interface	USB and RS–232
Instrument Size	430x240x260mm
Weight	10.8kg

Transmittance and Reflectance Spectrophotometer

CS-820

Product Advantages

Transmittance and reflectance in one instrument

Transmittance measurement: D/0 Geometry (diffused illumination, 0 degree viewing) to measure liquid APHA, Pt-Co, Gardner and other parameters.

D/8 geometry, simultaneous SCI/SCE measurement

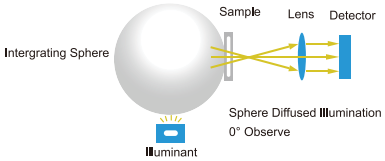
Reflectance measurement: D/8 Geometry (diffused illumination, 8 degree viewing)

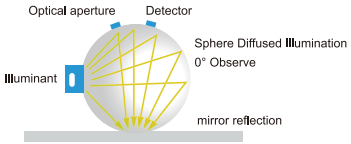
4 Test Apertures

CS-820 contains 4 kinds of testing apertures and the largest reaches 25.4mm to meet the color measurement requirement for different kinds of materials.

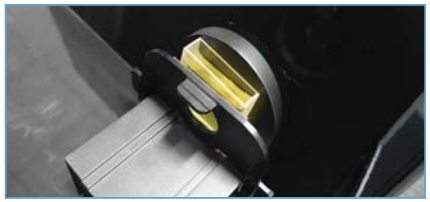
Double optical path spectrum analysis technology

Simultaneously obtains the sample reflection signal and the light source intensity signal, guarantees the instrument measuring accuracy and the long-term repeatability.



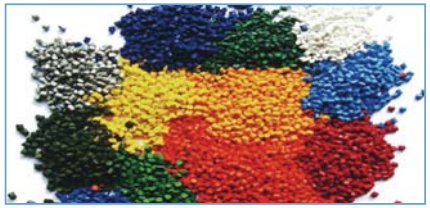


Application Examples



▲ Liquid

▲ Spraying Industry



▲ Plastic

▲ Building materials

Technical Data

Type	CS-820
Illumination /Viewing System	Reflectance: d/8 (diffused illumination, 8 degree viewing) Simultaneous measurement of SCI /SCE (CIE No.15, ISO7724/1,ASTM E1164,DIN5033 Teil 7, JIS Z8722 Condition C standard)Transmittance: d/0 (diffused illumination, 0-degree viewing)
Integrating Sphere	15.2cm, Avian-D Fully diffuse reflective surface coating
Light Source	CLEDs
Detector	Dual optical sensor array
Wavelength	400-700nm
Wavelength Pitch	10nm
Half Band Width	5nm
Reflectance Range/ Resolution	0-200% 0.01%
Illuminants	A,C,D50,D55,D65,D75,F1,F2,F3,F4,F5,F6,F7,F8,F9,F10, F11,F12,CWF,U30,DLF,NBF,TL83,TL84
Observers	2°/10°
Display	Reflectance graph/value, chromaticity value, color difference values, pass/fail, color tendency, history data, color simulation, manually input target value,generate test report
Measurement Aperture	Large (LAV):2.54cm (1 inch) Medium (MAV):1.5cm (0.6 inch) Small (SAV):0.75cmx1.01cm (0.3inchx0.4inch) Extra Small (VSAV):0.3cmx0.8cm (0.12inchx0.31inch)
Measurement Time	2s

Color Spaces	CIE-L*a*b,L*C*h,L*u*v,XYZ,Yxy,Transmittance,Hunterlab, Munsell,MI,CMYK, RGB,HSB
Color Difference	ΔE*ab,ΔE*CH,ΔE*uv,ΔE*cmc(2:1),ΔE*cmc(1:1),ΔE*94, ΔE*00,Eab(Hunter),555 shade sort
Other Indices	WI(ASTM E313-00,ASTM E313-73,CIE/ISO,AATCC,Hunter, Taube,Berger Stensby),YI(ASTM D1925,ASTM E313-00, ASTM E313-73),Tint(ASTM E313-00),A density, T density, E density, M density,Metamerism index Mi|m,staining fastness, color fastness,APHA,Hazen,Pt-Co Index,Gardner,ISO Brightness,Saybolt,Astm color,Haze
Repeatability	standard deviation within 0.08%; Chromaticity value: ΔE*ab 0.015 (When a white calibration plate is measured 30 x at 5-second intervals after white calibration), max. 0.03
Inter-instrument agreement	Within ΔE*ab 0.2 (BCRA Series II, average measurement of 12 color tiles)
Interface	USB
Power	117VAC/50-60Hz，230VAC/50-60Hz
Size	583*330*304mm（L*W*H）
Operation Temperature	15℃-32 ℃ (60°F-90°F)
Working Temperature	0-45℃,relative humidity 80% or below (at 35℃); no condensation
Standard Accessories	Power line, color QC software, driving software, USB cable, white/black calibration tile, 40x10mm cuvette, cuvette support, 4 kinds of testing calibers, verification certification.
Optional	40x40 cuvette

Transmittance Spectrophotometer

CS-810

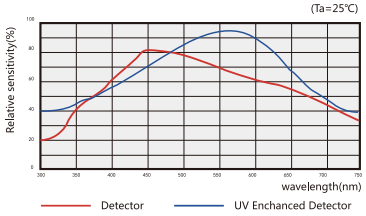
Product Advantages

Glass and Liquid Color Measurement

CS-810 transmittance spectrophotometer is specially designed for measuring the material transmittance, absorbance, chromaticity and other datas. It adopts D/0 geometry, CLEDS, double optical path spectrum analysis technology and every test calibration technology. Instrument resolution reaches 0.0001, transmittance repeatability standard deviation is within 0.08% and chromaticity value ΔE*ab 0.015.

Adopts CLEDs illuminant

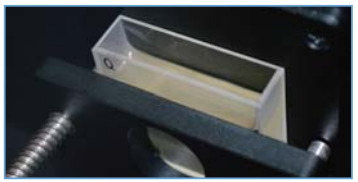
Full-band balanced light source which ensures adequate spectral distribution in the visible range, to avoid the spectral loss of white LED in a particular band,improve the measurement speed and results accuracy.



Adopt UV-enhanced Silicon Photodiode

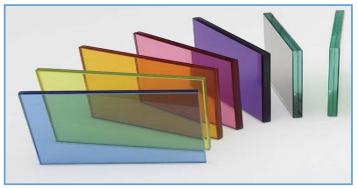
Transmittance measure range improved from 0-100% to 0-200%

Application Examples

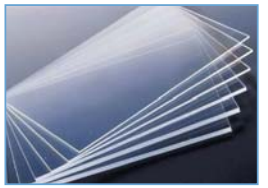


▲ Clear liquid

▲ Solvent



▲ Glass



▲ Transparent Plastic

Technical Data

Type	CS-810
Illumination /Viewing System	Illumination: d/0 (diffused Illumination, 0 degree viewing) (conform to CIE No.15, ISO 7724/1, ASTM E1164, DIN 5033 Teil7, JIS Z8722 Condition C standard)
Integrating Sphere	40mm, Avian-D Fully diffuse reflective surface coating
Light Source	CLEDs
Detector	Dual optical sensor array
Wavelength	400-700nm
Wavelength Pitch	10nm
Half Band Width	5nm
Measurement Range/ Resolution	0-200% 0.01%
Illuminants	A,C,D50,D55,D65,D75,F1,F2,F3,F4,F5,F6,F7,F8,F9,F10, F11,F12,CWF,U30,DLF,NBF,TL83,TL84
Display	Reflectance graph/value,chromaticity value,color difference values,pass/fail,color tendency,color simulation,manually input target value,generate test report
Measurement Interval	1s
Measurement Time	1s
Aperture	10mm (cuvette support)
Color Spaces	CIE-L*a*b,L*C*h,L*u*v,XYZ,Yxy,Transmittance,Hunterlab, Munsell,MI,CMYK

Color Difference	ΔE*ab,ΔE*CH,ΔE*uv,ΔE*cmc(2:1),ΔE*cmc(1:1),ΔE*94, ΔE*00
Other Indices	WI(ASTM E313-00,ASTM E313-73,CIE/ISO,Hunter, Taube Berger Stensby),YI(ASTM D1925,ASTM E313-00, ASTM E313-73),Tint(ASTM E313,CIE,Ganz)Metamerism index MiIm.staining fastness,color fastness,APHA,Hazen, Pt-Co Index,Gardner,Saybolt,Astm color
Repeatability	Transmittance, standard deviation within 0.08% Chromaticity value: ΔE*ab 0.015 (When a white calibration plate is measured 30 x at 5-second intervals after white calibration), max. 0.03
Inter-instrument agreement	Within ΔE*ab 0.2
Data Storage	Mass storage (PC)
Interface	USB
Light source lifetime	5years, 1.5 million tests
Size	475*340*150mm（L*W*H）
Operate Temperature	0-45℃,relative humidity 80% or below (at 35℃); no condensation
Storage Temperature	-25-55℃,relative humidity 80%,or below (at 35℃), no condensation
Standard Accessories	Power line, color QC software, driving software, USB cable, black calibration tile, 40x10 cuvette
Optional Accessories	40x33mm Cuvette (for ASTM color),40x100mm Cuvette (for Saybolt)

Sideward Spectrophotometer

CS-801

Product Advantages

D/8 geometry, Simultaneous SCI/SCE measurement

Adopt international D/8 geometry (Integrating sphere diffused illumination, 8 degree viewing)
Simultaneous measurement of SCI/SCE compatible with lighting observation conditions.

Sideward Caliber for Color Measurement

With sideward testing caliber, it is suitable for fix the samples. Solid sample (cloth) can be placed directly on the testing caliber. Powder material and pasty material need to be held by cuvette and then put on the testing caliber. Sideward testing caliber can prevent the scattered powder into the integrating sphere, affecting the test accuracy.

Flexible Fixture

Samples with different thickness and sizes can be fixed on the testing caliber to in case of light entering into the instrument to affect the testing accuracy.

Application Examples

▲ Open the fixture

▲ Tablets made by powder

▲ Cloth

▲ Solvent

Technical Data

Type	CS-801
Illumination /Viewing System	d/8 (diffused illumination, 8 degree viewing)Simultaneous measurement of SCI (Specular Component Included) / SCE (Specular Component Excluded)(conforms to CIE No.15, ISO7724/1,ASTM E1164,DIN5033 Teil 7, JIS Z8722 Condition C standard)
Integrating Sphere	40mm, Avian-D Fully diffuse reflective surface coating
Light Source	CLEDs
Detector	Dual optical sensor array
Wavelength	400-700nm
Wavelength Pitch	10nm
Half Band Width	5nm
Reflectance Range/ Resolution	0-200% 0.01%
Illuminants	A,C,D50,D55,D65,D75,F1,F2,F3,F4,F5,F6,F7,F8,F9,F10, F11,F12,CWF,U30,DLF,NBF,TL83,TL84
Display	Reflectance graph/value, chromaticity value, color difference values,pass/fail, color tendency, display measurement area, history color,color simulation, manually input target value, generate test report
Measurement Interval	1s
Measurement Time	0.5S
Aperture	Φ11mm
Color Spaces	CIE-L*a*b,L*C*h,L*u*v,XYZ,Yxy,Reflectance,Hunterlab, Munsell MI,CMYK,RGB,HSB

Color Difference	ΔE*ab,ΔE*CH,ΔE*uv,ΔE*cmc(2:1),ΔE*cmc(1:1),ΔE*94, ΔE*00,ΔE*ab (hunter).555 shade sort
Other Indices	WI(ASTM E313-10,ASTM E313-73,CIE/ISO,AATCC,Hunter, Taube Berger,Stensby),YI(ASTM D1925,ASTM E313-10, ASTM E313-73),Tint(ASTM E313,CIE,Ganz),Metamerism index Milm，staining fastness，color fastness，ISO brightness, 8°Gloss,A Density,T Density,E Density,M Density
Repeatability	Reflectance: standard deviation within 0.08% Chromaticity value: ΔE*ab 0.015 (When a white calibration plate is measured 30 x at 5-second intervals after white calibration), max. 0.03
Inter-instrument agreement	Within ΔE*ab 0.2 (BCRA Series II, average measurement of 12 tiles)
Battery Power	Rechargeable, 20000 continuous tests, 7.4V/6000mAh
Interface	USB
Data Storage	20000 pcs of samples
Light source lifetime	10years, 3 million tests
Working Temperature	0-45℃,relative humidity 80% or below (at 35℃); no condensation
Storage Temperature	-25-55℃,relative humidity 80%, or below (at 35℃); no condensation:
Standard Accessories	AC power line, operating manual, color QC software, driving software, electric operating manual, USB cable, white/black calibration tile, verification certification Optional: powder presser, cuvette with diameter 29mm, cover
Color Matching Software	Workable
UV Light Source	Without

Top-port Spectrophotometer

CS-800

Product Advantages

The First Bench-top Spectrophotometer in China

CS-800 is the first bench-top spectrophotometer in China to make up for the corresponding domestic market vacancies. Over the years, its accuracy and performance make great improvement, and now has a huge market.

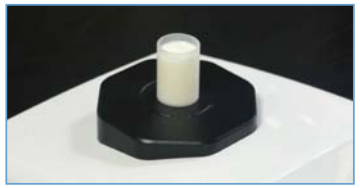
D/8 geometry, Simultaneous SCI/SCE measurement

Adopt international D/8 geometry (Integrating sphere diffused illumination, 8 degree viewing) Simultaneous measurement of SCI/SCE compatible with lighting observation conditions.

Top-port Aperture for Color Measurement

Adopt geometric conditions of D/8 illumination and viewing with top-port aperture which is easier for testing all kinds of samples. Solid samples (steel, cloth) can be placed directly on the measurement aperture, particles (tablets, master batch), powder (Calcium Carbonate, pigment, coffee), paste objects (tomato sauce) can be placed in a cuvette, then placed in the aperture.

Application Examples



▲ Opaque liquid

▲ Paste

▲ Powder

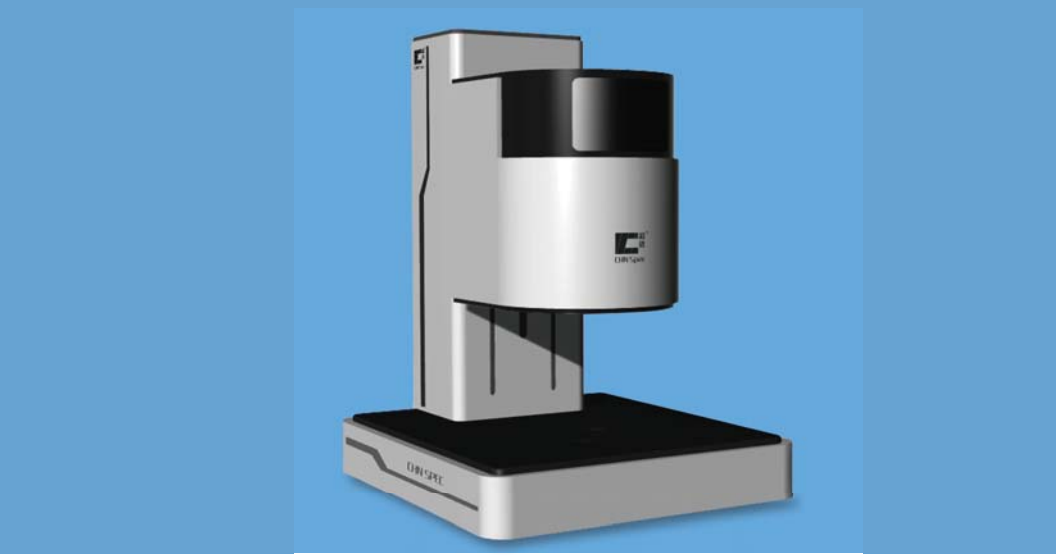
▲ Pellet

Technical Data

Type	CS-800
Illumination /Viewing System	d/8 (diffused illumination, 8 degree viewing)Simultaneous measurement of SCI (Specular Component Included) / SCE (Specular Component Excluded)(conforms to CIE No.15, ISO7724/1,ASTM E1164,DIN5033 Teil 7, JIS Z8722 Condition C standard)
Integrating Sphere	40mm, Avian-D Fully diffuse reflective surface coating
Light Source	CLEDs
Detector	Dual optical sensor array
Wavelength	400-700nm
Wavelength Pitch	10nm
Half Band Width	5nm
Reflectance Range/ Resolution	0-200% 0.01%
Illuminants	A,C,D50,D55,D65,D75,F1,F2,F3,F4,F5,F6,F7,F8,F9,F10, F11,F12,CWF,U30,DLF,NBF,TL83,TL84
Display	Reflectance graph/value, chromaticity value, color difference values,pass/fail, color tendency, display measurement area, history color,color simulation, manually input target value, generate test report
Measurement Interval	1s
Measurement Time	0.5S
Aperture	Φ11mm
Color Spaces	CIE-L*a*b,L*C*h,L*u*v,XYZ,Yxy,Reflectance,Hunterlab, Munsell MI,CMYK,RGB,HSB

Color Difference	ΔE*ab,ΔE*CH,ΔE*uv,ΔE*cmc(2:1),ΔE*cmc(1:1),ΔE*94, ΔE*00,ΔE*ab (hunter).555 shade sort
Other Indices	WI(ASTM E313-10,ASTM E313-73,CIE/ISO,AATCC,Hunter, Taube Berger,Stensby),YI(ASTM D1925,ASTM E313-10, ASTM E313-73),Tint(ASTM E313,CIE,Ganz),Metamerism index Milm，staining fastness，color fastness，ISO brightness, 8°Gloss,A Density,T Density,E Density,M Density
Repeatability	Reflectance: standard deviation within 0.08% Chromaticity value: ΔE*ab 0.015 (When a white calibration plate is measured 30 x at 5-second intervals after white calibration), max. 0.03
Inter-instrument agreement	Within ΔE*ab 0.2 (BCRA Series II, average measurement of 12 tiles)
Battery Power	Rechargeable, 20000 continuous tests, 7.4V/6000mAh
Interface	USB
Data Storage	20000 pcs of samples
Light source lifetime	10years, 3 million tests
Working Temperature	0-45℃,relative humidity 80% or below (at 35℃); no condensation
Storage Temperature	-25-55℃,relative humidity 80%, or below (at 35℃); no condensation:
Standard Accessories	AC power line, operating manual, color QC software, driving software, electric operating manual, USB cable, white/black calibration tile, verification certification Optional: powder presser, cuvette with diameter 29mm, cover
Color Matching Software	Workable
UV Light Source	Without

Non-Contact / Online Color Measurement Device



CRX-50

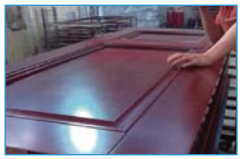
Instrument Advantages

- It adopts 45/0 geometry which eliminate the effect of test direction.
- Dual optical path spectrum splitting system for color analyzing to get the absolute L*a*b value.
- It adopts high brightness pulse xenon lamp which can eliminate the effect of test environment.
- Height of measurement sensor and sample is adjustable to make it suitable for color measurement of most kind of material.
- Self-adjust sample distance: even sample is not in the measurement area, instrument can measure it with high accuracy
- Automatic black and white calibration: It will not need calibration tile, instrument can do calibration automatically
- Fast and accurate position the sample.
- It is with reflectance measurement software to meet user requirement for test result analysis.

Application

Labtory

▲ Cosmetic



▲ Paint

▲ Picture

Inline

▲ Car Paint

▲ Textile

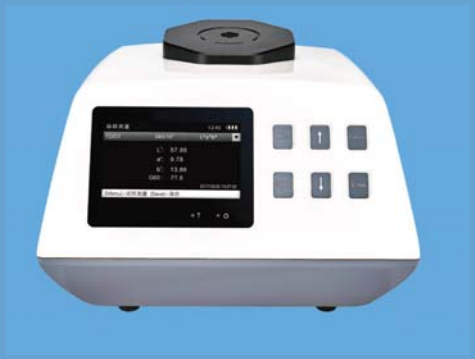
▲ Wood

Technical Data

Measurement Range	0–150% (Reflectance)
Reflectance Resolution	0.01%
Color Spaces	L,a,b, Y,x,y, Luv, XYZ, LCH, RGB, Whiteness(R547,ISO brightness)
Viewing Angles	2° /10°
Light Source	A,C,D50,D55,D65,D75,F1,F2,F3,F4,F5,F6,F7,F8,F9, F10,F11,F12,CWF,U30,DLF,NBF,TL83,TL84
Color Difference	ΔE*ab, ΔE*CH, ΔE*uv, ΔE*cmc(2:1), ΔE*cmc(1:1), ΔE*94, ΔE*00, ΔE*ab(hunter), 555 shade sort
Geometry	45/0 (CIE15–2004 standard)
Distance Compensation	±3mm, <0.1 DE*ab when measure white tile
Wavelength Range	400–700nm,330–740nm or customer made
Wavelength Pitch	10nm
Measurement Distance	7.5mm
Aperture	ϕ7mm
Measurement Time	20ms

Measurement Interval	typ 20s; 3s min
Light Source	Pulse Xenon Lamp
Repeatability	dE≤0.07 (standard white calibration)
Inter-instrument Agreement	dE≤0.1 (white color tiles) dE≤0.3 (BCRA color tiles of 12 pcs)
Build-in White and Black Calibration	Yes
UV Filter	Optional (Custom made)
Fluorescence Measurement	D65, UV 400nm, 420nm or customer made
Working Temperature	max. 60℃
System Diagnosis	Switch on Diagnosis/ Regular Diagnosis
Qualified Judgment	Pass/Fail Judgment
Interface	USB,RS232,RS485,CAN or customer made
Power	12V DC Power Adaptor
Instrument Weight	16kg
Size	330mm*290mm*465mm(L*W*H)

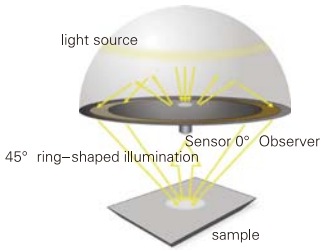
45/0 Spectrophotometer



CS-600C/600CG/800C/800CG

Instrument Features

45/0 spectrophotometer adopt 45/0 geometry , directional dependence is eliminated ,regardless of changing the sample position, tilting sample or rotating instrument can achieve higher accuracy and repeatability.



45/0 Optical structure

Instrument Advantages

- Measurement Management Software
- National Verification Certification
- Top–port aperture makes it much simpler to measure solid, pellet, powder, pasty material and others
- 60 Degree Gloss Measurement
- Conform to CIE,ISO,ASTM,DIN standard for color and gloss measurement
- Instrument can connect with PC by USB cable.

Application Examples

Plastic and Rubber


Automobile Decoration


Road Signs


Plastic floor

Thin Films


PET film


Screen film


Reflective film

Coating


Color Steel Plate

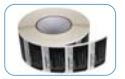

Home Decoration


Coil Coatings

Print


Plastic package


Magazine


Label

Technical Data

Model	CS–600C	CS–800C	CS–600CG	CS–800CG
Function	color		color and gloss	
Geometry	45/0 (45 ring–shaped illumination, 0 degree viewing)			
Aperture	11mm			
Wavelength	400–700nm			
Wavelength Interval	10nm			
Sensor	high sensitivity silicon photodiode			
Light Source	LED			
Repeatability	Reflectance: standard deviation within 0.08% Chromaticity value: ΔE*ab 0.03 (when a white plate is measured 30 times at 5 second intervals after white calibration),Maximum 0.05			
Inter Instrument Agreement	0.2 ΔE*ab (BCRA II color tiles, average test value of 12 tiles)			
Language	Chinese and English			
Observer	2° / 10°			
Illuminants	A,C,D50,D55,D65,D75,F1~F12,CWF,U30,DLF,NBF,TL83,TL84,U35			
Color Spaces	CIE–L*a*b,L*C*h,L*u*v,XYZ,Yxy, Reflectance,Hunter–lab,Munsell MI,CMYK			
Indices	WI(ASTM E313–00,ASTM E313–73,CIE/ISO,AATCC,Hunter,Taube Berger Stensby),YI(ASTM D1925,ASTM E313–00,ASTM E313–73),Tint(ASTM E313,CIE,Ganz),Metamerism index MiIm, Stick color fastness, Color fastness,ISO brightness, A density, T density, M density, E density			
Color Difference	ΔE*ab, ΔE*CH, ΔE*uv, ΔE*cmc(2:1), ΔE*cmc(1:1), ΔE*94, ΔE*00, ΔEab(Hunter),555 shade sort			
Gloss Test Angle			60°	
Test Area			5x10 mm	
Test Range			0–1000 GU	
Repeatability			0.2 GU(0–100GU) 0.2%(100–1000GU)	
Reproducibility			1.0 GU(0–100GU) 1.0%(100–1000GU)	
Light Source Life Time	10 years 3million test			
Screen	2.8 inch color screen	5.0 inch color screen	2.8 inch color screen	5.0 inch color screen
Data Storage	20000 samples			
Interface	USB			
Power	Rechargeable Lithium Battery, 20000 continuous tests, 7.4V/600mAh			
Working Temperature	0–45℃ relative humidity 80% or less (at 35℃) with no condensation			
Size	181*73*112mm(L*W*H)	350*300*200mm(L*W*H)	181*73*112mm(L*W*H)	350*300*200mm(L*W*H)
Weight	about 800g (without battery)	about 4.5kg (without battery)	about 800g (without battery)	about 4.5kg (without battery)
Standard accessories	Adapter, Lithium Battery, operate manual, color QC software, driver software, USB cable, Calibration tile (Black and white)			
			Gloss calibration tile	

Portable Spectrophotometer

CS-580/600/610/650/660

Product Advantages

SCS optical engine
Patent No.:ZL201210337619.2

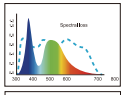
Adopt innovative light splitting system SCS optical engine which creates the best measurement repeatability for portable spectrophotometers, and guarantees accurate measurement of materials surface color.

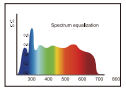
Camera to see the measurement area
Patent No.:ZL20130519382X

In previous spectrophotometer, we can only aim at the testing area approximately, and it may introduce errors. Our new spectrophotometer includes a camera, so the user can clearly see the measurement area to avoid measurement errors.

Adopt CLEDs light source – spectrally balanced LED light source
Patent No.:ZL2013107548347

LED light source has balanced intensity across visible spectrum avoids the spectral deficiency in certain parts of the spectrum in common white LEDs, which guarantees the speed and accuracy ofthe measurement results. This research has been published in national leading optical journal Chinese Optics Letter.





Pantone Color Number Matching

To improve the utility and convenience of our instrument, we develop spectrophotometer with build-in pantone color swatches. After measurement,instrument can help us find three similar colors from the color swatches which can greatly improves working efficiency.

Technical Data

Type	CS-580	CS-600	CS-610	CS-650	CS-660
Illumination/Viewing System	Observer : 2°/10° d/8(Diffused illumination, 8 degree viewing) , simultaneous measurement of SCI(specular component included)/ SCE(specular component excluded) (conform to CIE No.15,ISO 7724/1,ASTM E1164,DIN 5033 Teil7, JIS Z8722 Condition C standards)				
Integrating Sphere	Φ40mm,Avian diffused reflection surface coating				
Light source	CLEDs			Pulse Xenon Lamp	CLEDs
Sensor	dual light path sensor array				
Wavelength Range	400-700nm			360-740nm	400-700nm
Wavelength Pitch	10nm				
Half Band Width	5nm				
Reflectance Range	0-200%				
Resolution	Reflectance 0.01%				
Illuminants	A,C,D50,D55,D65,D75,F1,F2,F3,F4,F5,F6,F7,F8,F9,F10,F11,F12, CWF, U30,DLF, NBF,TL83,TL84,U35				
Display	Reflectance graph/value, chromaticity value, color difference values, pass/fail results, color tendency, color simulation, history data, color simulation, manually input target value, generate test report				
Measurement time	2s	0.5s		about 2s	0.5s
Measurement Interval	about 2s				
Color Spaces	CIE-L*a*b, L*C*h, L*u*v, XYZ, Yxy, Reflectance	CIE-L*a*b, L*C*h, L*u*v, XYZ, Yxy, Reflectance,Hunter-lab, Munsell MI,CMYK, RGB,HSB			
Color Difference	ΔE*ab, ΔE*CH, ΔE*uv, ΔE*cmc(2:1), ΔE*cmc(1:1), ΔE*94,ΔE*00	ΔE*ab, ΔE*CH, ΔE*uv, ΔE*cmc(2:1), ΔE*cmc(1:1),ΔE*94,ΔE*00, ΔE*ab (Hunter),555 color shade			
Other Indices	WI(ASTM E313-10,ASTM E313-73,CIE/ISO, AATCC, Hunter, Taube Berger, Stensby),YI(ASTM D1925,ASTM E313-00, ASTM E313-73),Tint(ASTM E313,CIE,Ganz);Metamerism Index MiIm, Staining Fastness, Color Fastness				
	ISO Brightness, 8°Gloss, A density, T density, M density, E density				
Repeatability	Reflectance: standard deviation within 0.08%				
	Chromaticity value: ΔE*ab 0.03 (when a white calibration plate is measured 30 x at 5-second intervals after white calibration, (max.0.05)		Chromaticity value: ΔE*ab 0.02 (when a white calibration plate is measured 30 x at 5-second intervals after white calibration, (max.0.04)		Chromaticity value: ΔE*ab 0.015 (when a white calibration plate is measured 30 x at 5-second intervals after white calibration,(max.0.03)
Inter-Instrument agreement	ΔE*ab within 0.2(BCRA Series II, average measurement of 12 tiles)				
Battery	rechargeable, 10000 continuous tests, 7.4V/6000mAh				
Interface	USB				
Data Storage	20000 test results				
Light Source Lifetime	5 years, 1.5 million tests				
Size	181*73*112mm(L*W*H)				
Weight	about 550g(without battery)				
Screen	2.8 inches color screen				
Working Temperature	0~45℃, relative humidity 80% or below(at 35°C),no condensation				
Storage Temperature	-25℃ to 55℃, relative humidity 80% or below(at 35°C),no condensation				
Standard Accessories	Power Adapter, Lithium Battery, Operate Manual, color QC software, driver software, color USB cable, black/white calibration tile, tile protective cover, carrying bag, electronic color charts, verification certification				
Optional Accessories	powder molding device, micro printer				
UV light source	without		with		without

Three Angles Color Spectrophotometer

CS-390

Product Advantages

- It changes color matching into a simpler work
- Best to guide for color matching
- Fast to get paint formula
- Simple interface and easy operation
- Instrument is with rubber mat to prevent from sliding during measurement
- Small measurement aperture for curve material measurement
- Optional bluetooth function to connect with mobile phone and other devices.

Portable Spectrophotometer

Application Examples

Car Paint

Paint Color Matching

Hardware Paint

Mobile Phone Case

Technical Data

Illumination Angle	45°
Measurement Angles	25° 、45° 、110°
Wavelength Range	400–700nm
Wavelength Pitch	10nm
Reflectance Range	0–500%
Resolution	0.01%
Light Source	LED
Measurement Time	Less than 2s
Inter-instrument Agreement	dE≤0.1 Max. after white calibration (measured 30 x at 5-second intervals)
Inter-instrument Agreement	dE≤0.3 Average measurement of BCRA II color tiles)

Viewing Angles	2° and 10°
Illuminants	A,C,D50,D55,D65,D75,F1,F2,F3,F4,F5, F6,F7,F8,F9,F10,F11,F12,CWF,U30.DLF, NBF,TL83,TL84.U35
Light Source Life time	10 years, ⩾1 million times
Interface	USB
Instrument Size	165x70x100mm
Instrument Weight	500g
Power	3.7V/3000mAh rechargeable lithium batter
Temperature	0–40℃ (32–104 F)
Storage Temperature	–20–50℃ (–4–122 F)

Spectral Colorimeter

CS–280/280+/286/288

Product Advantages

- Auto Light Compensation
- Optical Engine
- Every Test Calibration
- Full-band Balanced Light Source

- Measure Absolute Color Value
- Spectrum Measurement Principle Achieve High Accuracy
- Patented Technology Guarantees Repeatability
- Mass Storage Memory

Application Examples

▲ Plastic

▲ Paint

▲ Printing

▲ Food

Technical Data

Type	CS-280	CS-280+	CS-286	CS-288
Illumination/Viewing System	di/8(diffused illumination: 8°viewing),SCI (confrom to CIE No.15,ISO 7724/1,ASTM E1164,DIN 5033 Teil7,JIS Z8722 Condition c standard)			
Intergrating Sphere Size	Φ40mm,Avian-diffused reflection surface coating			
Light source	CLED			
Sensor	Array Sensor			
Wavelength Range	400-700nm			
Spectral Resolution	10nm			
Measurement Time	2s			
Measurement Aperture	11mm,optional 4mm，6mm，15mm			
Repeatability	Standard Deviation ΔE*ab 0.08(When a white calibration plate is measured 30 x at 10-second intervals after white calibration)			
Observer	2° and 10°			
Illuminants	A,C,D50,D65		A,C,D50,D55,D65,D75,F1~F12,CWF,U30,DLF,NBF, TL83,TL84,U35	
Display	Chromaticity value(L*a*b，L*C*h),delta E value,pass/fail,color tendency,average,generate test report,reflectance graph reflectance figure			
		with camera	with camera,spectrum reflectance value,manually input target value	
Color Differences	ΔE*ab,ΔE*CH		ΔE*ab,ΔE*CH, ΔE*uv,ΔE*cmc(2:1), ΔE*cmc(1:1), ΔE*94, ΔE*00	
Color Spaces	CIE-L*a*b,L*C*h	CIE-L*a*b,L*C*h,XYZ,Yxy	CIE-L*a*b*,L*C*h,L*u*v,XYZ,Yxy,Reflectance	
Other Index	Staining Fastness, Color Fastness	WI(ASTM E313 -10,ASTM E313 -73,CIE/ISO,AATCC,Hunter,Taube Berger,Ganz,Stensby) YI(ASTM D1925,ASTM E313 -00,ASTM E313 -73)Tint(CIE,ASTM E313,Ganz),staining fastness,color fastness		
			metameric index Milm	
Data Storage	20000 pcs of samples			
Light Source Lifetime	5 years,1.5 million			
Other	without	camera,electricity pantone color chart	camera,electricity pantone color chart,Mobile Phone APP	
Display	Panchromatic true color screen			
Language	Chinese and English			
Interface	USB2.0			
Working Temperature	5~45°C relative humidity 80% or less(at 35°C) with no condensation			
Storage Temperature	-25°C to 55°C,relative humidity 80% or less (at 35°C) with no condensation			
Power	Rechargeable Lithium Battery 8.4V/2000mAh,adaptor DC12V			
Size	77×86×210mm			
Weight	about 550g			
Standard Accessories	Power Adapter,Operating Manual,Color QC Software,Driving Software,USB Cable,Calibration Tiles (Black and White), Protection Cover,Canvas bag			
Optional	Micro Printer			
Color Matching System	not support			
UV Light Source	without			

CS–10/200/210/220/260

Product Advantages

CS-10 is the cheapest colorimeter designed for assembly line. It could meet most color measurement requirement with high accuracy.

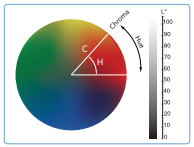
CS-200 is the update version of CS-10 for the improvement of testing accuracy and measuring YI and WI. It belongs to high cost-effective product.

CS-210 is with build-in camera for viewing the measuring area. It is convenient for customer to see the measuring area and suitable for testing patterned and colorful samples.

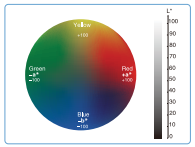
CS-220 provides specular component excluded(SCE) measuring condition. It is designed for the color measurement of powder, pasty materials and highly reflective materials.

CS-260 is with build-in color charts. After measurement, instrument will match three color numbers from the color charts for the colourist reference.

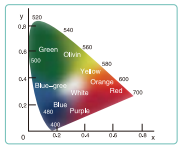
Multiple color spaces



CIE L*c*h* Color Space



CIE L*a*b* Color Space



Yxy Color Space

Being the most commonly used testing device, our colorimeter with color display indicators transformation program that makes our device could be used for color measurement in many different industries. It does not need convert the measurement data by manual which greatly improve the working efficiency.

PC Software

PC Color QC System

It can connect colorimeter with PC for color management. Real-time display of pass or fail, generate testing report, save the color data, suitable for the enterprise to evaluate and manage the color data.

Technical Data

Type	CS-10	CS-200	CS-210	CS-220	CS-260
Illumination and Viewing	8/d (8°illumination/diffused viewing) SCI (specular component included)			8/d , SCE	8/d , SCI
Dispaly	Chromaticity Value:L*a*b,L*C*h,ΔE*ab,XYZ,Yxy,Relative RGB;Color Difference:ΔE*ab,ΔE*Ch				
		Whiteness:Hunter Whiteness,Ganz Whiteness; Yellowness:YI			
Measuring Aperture	Φ8mm				
Measuring Condition	CIE 10°standard observer/CIE D65 light source				
Measuring Range	L* : 1~100				
Repeatability	Standard deviation within ΔE*ab < 0.1(measuring condition:measuring white calibration tile 30 times)	Standard deviation within ΔE*ab < 0.08 (measuring condition: measuring white calibration tile 80 times)			
Storage	10 targets and 100 samples for each target	100 targets and 100 samples for each target			
Measurement Time	0.5s				
Light Source	LED				
Language	Chinese and English				
Power	Four 1.5V AA-sized alkaline battery or nickel metal hydride batteries/Power Adaptor DC5V				
Interface	USB2.0,Printer				
Weight	550g				
Size	77x86x210mm				
Other Functions			Camera View	Powder Pasty Material Measurement	Build-in color card

Benchtop Tiny-aperture Gloss Meter

CS-3000S

Product Advantages

Tiny Aperture

2x3mm aperture make it suitable for gloss measurement of curved surface irregular and extra small products

Simple and Statistic Modes to meet all gloss measurement requirement

Simple mode: get gloss result directly on screen fast and effective
Statistic mode: get gloss difference value to analysis the gloss difference between samples

Simple Operation, 5 Inches Color Screen

Large color screen intuitive operate interface

International Leading Level Repeatability

Optimize the light source to make sure the measurement stability
Double light paths technology, Japan sensor and US processor chips for best repeatability

Powerful PC software

Connect with PC by USB cable to transfer test value to PC, test result analysis, generate and print test report.

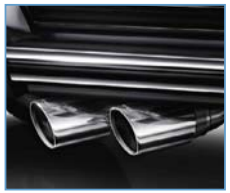
Large Battery Power

Rechargeable lithium battery for 100,000 continuous tests

Application Examples

▲Plastic

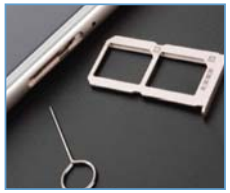
▲Metal



▲Automobile Accessories

▲Glasses accessories

▲Ceramics Accessories



▲Cell Phone Accessories

Details

2mm Aperture

5 Inches Color Screen

Test key

Switch on-off

Gloss calibration tile

Technical Data

Test Angle	60°
Aperture	2*3mm
Measurement Range	0–600GU
Repeatability	0.2GU (0–100GU) 0.2%GU (100–600GU)
Reproducibility	1.0GU (0–100GU) 1.0%GU (100–600GU)
Screen	5 inches color screen
Light Source Life Time	10 years,3million tests
Data Storage	100 pcs of targets; 10000 pcs of samples

Language	English and Chinese
Working Temperature	0–45℃ relative humidity 80% or less (at 35℃) with no condensation
Interface	USB
Size	350*300*200mm (L*W*H)
Power	rechargeable Lithium Battery, 7.4V/6000mAh
Weight	4.5kgs
Standard Accessories	Calibration tile, Power adapter, USB cable, operate manual, verification certification, PC Software

Gloss Meter

CS-300/380/CS-300S

Product Advantages

High Precise

Every instrument comes with verification certification from National Modern Metrology and Instrument Testing Laboratory. It conforms to ASTM D 523, D2457, DIN 67530, ISO 2813, ISO 7668, JIS Z8741, BS3900, BS6161 international standards.

High Stability

Every gloss meter made by us has done the following tests:
412 calibration tests
43200 stability tests
110 hours of accelerated aging test
17000 vibration tests

Comfortable Grab Feeling

The shell is made by Dow Corning TiSLV material, a desirable elastic material. It is resistant to UV and bacteria and does not cause allergy. All designs are for better user experience.

Large Battery Capacity for 50000 continuous tests

We fully utilize every space of the device and specially custom made advanced high density lithium battery which ensures continuous testing for 54300 times.

Application Examples

Automobile accessories

Metals

Ceramic tile

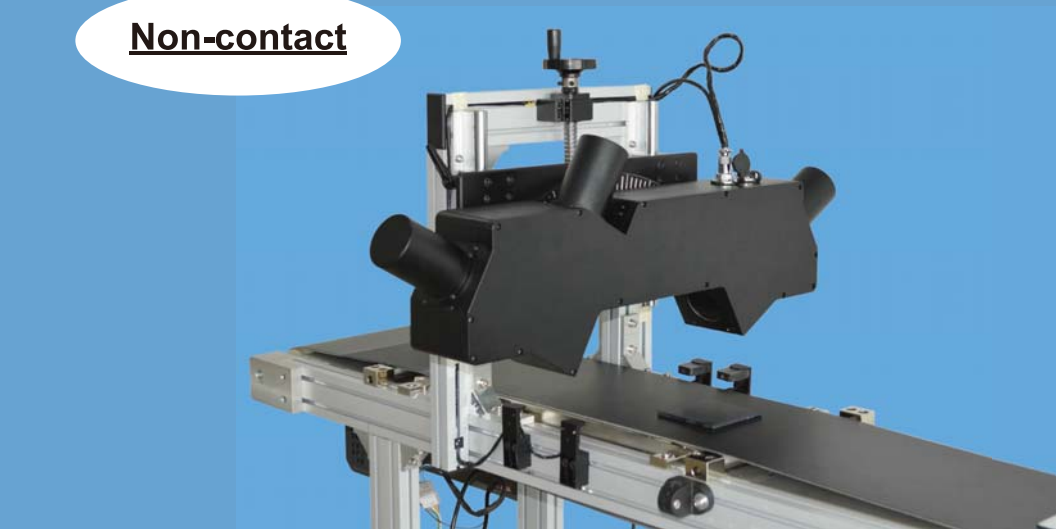
Glass

Technical Data

Type	CS-380	CS-300	CS-300S
Test Angle	20°、60°、85°	60°	60°
Test Light Spot(mm)	20°：10*10 60°：9*15 85°：5*38	60°：9*15	60°：2*3
Test range	20°：0-2000GU 60°：0-1000GU 85°：0-160GU	60°：0-1000GU	60°：0-1000GU
Stability	0-100:0.1GU; > 100:1GU		
Repeatability	0-100GU:0.2GU100-2000GU:0.2%GU		0-100GU:0.2GU 100-600GU:0.2%GU
Test Modes	simple mode and statistics mode		
Accuracy	Conform to JJG 696-2002 standard for first class gloss meter		
Test time	Less than 1s		
Data storage	100 pcs of target; 10000 pcs of sample		
Size(mm)	165 x 51 x 77 (L x W x H)		
Weight	About 400g		
Language	Chinese and English		
Battery	3000mAh lithium battery		
Interface	USB, Bluetooth (optional)		
Working Temperature	0-40 C		
Working Humidity	<85%, no condensation		
Accessories	5V/2A charger, USB cable,operating manual, PC software CD,calibration tile, verification certification		5V/2A charger, USB cable,operating manual, PC software CD,calibration tile

Inline Gloss Measuring System

Non-contact

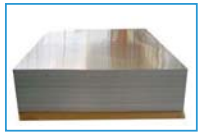


Products Introduction

Non–contact inline gloss measuring system can provide products gloss data for production line without interrupting production. It can help improving quality control level and save operating expenses. The whole system installation and maintenance is simple.

Application Examples

▲ Ceramic Tiles



▲ Metal

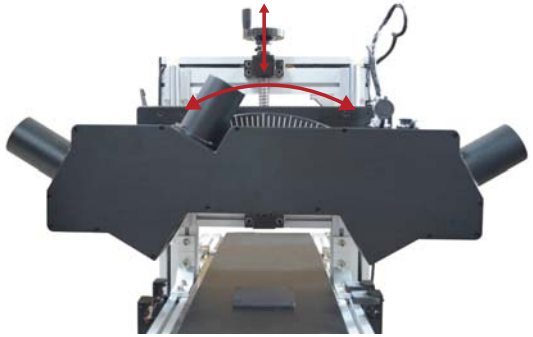
▲ Plastic & Rubber

▲ Crystalline Silicon

Inline Gloss Measuring System

Products Introduction

100% online gloss measurement, non–contact, non–destructive gloss measurement



Irregular material can be measured

Adjustable test angle to ensure the product measuring surface and optical path is 60 ° angle.

Adjustable Measure–ment Height

The measurement height is adjustable to make it suitable for measuring materials with difference thickness.

Technical Data

Type	Non–contact Inline Gloss Measurement System
Test Angle	60°
Measurement Spot(mm)	25*55
Measurement Range	0–1000GU
Repeatability	0.1GU
Measurement Mode	Continuous Test and Single Test
Measurement Repeatability	0–100GU:0.3GU;100–1000GU:0.3%GU
Measurement Time	Less than 0.5s

Type	Non–contact Inline Gloss Measurement System
Instrument Size(mm)	1500x700x1200 (Length x Width x Height) custom made service is available
Weight	About 60kgs
Language	English and Chinese
Interface	USB
PC Software	custom made service is available
Working Temperature	0–40℃
Humidity	Less than 85%, no condensation
Accessories	Calibration tile, Power Adaptor

Color Swatch and Light Box

Pantone Color Swatch

Pantone C/U Color Swatch includes 644 kinds of new colors which added in 2010. In 2015, new colors chart adds blusher, pink, blue, green and purple. Designer or printing workers can use it for sparking inspiration.

Light Box

Light box is also called light booth or color matching cabinet. It is the illuminant for checking the samples color difference. After connect with power, press the illuminant button, the corresponding light will be switched on. Then we could compare the samples color inside it. Multi light sources could be chosen at the same time. Customer could choose the suitable light source according to his or her need and the most commonly used light source is D65.

Four/Five/Six Illuminations Color Light Box
Low power consumption, no heat producing, high efficiency, small volume, simple operation, low cost, configuration UK and US commonly used standard light sources.

1200L Six Illuminations Color Light Box
Six Illuminations Color Light Box contain 6 kinds of illuminations: D65,TL84,CWF,UV,U30 and F/A.