



# Grating Spectrophotometer

XD 7x series is a grating spectrophotometer that XD company has spent 3 years to design and is developed by XD independent intellectual property right XD . The instrument adopts XD 1000 line precision blazed grating as the spectroscopic element, the silicon photocell array with large photosensitive area as the detector, the full spectrum LED with high life as the light source, and the optical resolution is less than 10nm in the visible light range.

Under the condition of d/8 geometric optical illumination recommended by CIE, XD-7600/7700 grating spectrophotometer can accurately measure the SCI and SCE reflectance data of samples / fluorescent samples, and also can accurately measure and express various color difference formulas and color indexes in various color spaces. With spectrophotometer XD 7600, it can easily realize the accurate transmission of color and can also be used as the detection equipment of accurate color matching system.

Spectrophotometer XD-7600/7700 is also widely used in the color quality control of various products . XD-7600/7700 is equipped with high-end color management software, which is connected to the computer to realize more function expansion. The instrument has stable performance, accurate color measurement and powerful function. It is widely used in plastic electronics, paint and coating, textile printing and dyeing, printing paper, automobile, medical treatment, cosmetics and food industries, as well as scientific research institutions and laboratories etc.



# Technical Specification

Model	XD-7600	XD-7700
Optical Geometry	Reflect: di : 8° , de: 8° (diffused illumination, 8-degree viewing angle);	
	SCI (specular component included)/ SCE (specular component excluded) , excluded UV light source;	SCI (specular component included)/ SCE (specular component excluded) ; Include UV / excluded UV light source
	Conforms to CIE No.15,GB/T 3978,GB 2893,GB/T 18833,ISO7724-1, ASTM E1164,DIN5033 Teil7;	
Characteristic	Customized one aperture, It is used for precise color measurement and quality control in plastic electronics, paint and ink, textile and garment printing and dyeing, printing, ceramics and other industries, and for fluorescent sample measurement.	Cus double apertures for accurate color analysis and transmission in laboratory.It is used for precise color measurement and quality control in plastic electronics, paint and ink, textile and garment printing and dyeing, printing, ceramics and other industries, and for fluorescent sample measurement.
Integrating Sphere Size	Φ40mm	
Light Source	Combined full spectrum LED light source	Combined full spectrum LED light source, UV light source
Spectrophotometric Mode	Flat Grating	
Sensor	Silicon photodiode array (double row 40 groups)	
Wavelength Range	400~700nm	
Wavelength Interval	10nm	
Semiband Width	10nm	
Measured Reflectance	0~200%	
Measuring Aperture	Customized one aperture: MAV:φ8mm/φ10mm; SAV: φ4mm/φ5mm	MAV: φ8mm/φ10nm; SAV: φ4mm/φ5mm
Specular Component	SCI&SCE	
Specular Component	CIE LAB,XYZ,Yxy,LCh, CIE LUV, s-RGB, β xy, Munsell (C/2)	CIE LAF,XYZ,Yxy,LCh, CIE LUV, s-RGB, HunterLab, β xy, DIN Lab99 Munsell (C/2)
Color Space	ΔE*ab, ΔE*uv,ΔE*94,ΔE*cmc(2:1), ΔE*cmc(1:1), ΔE*00	ΔE*ab, ΔE*uv,ΔE*94,ΔE*cmc(2:1), ΔE*cmc(1:1), ΔE*00, DIN ΔE99, ΔE(Hunter)
Other Colorimetric Index	WI(ASTM E313, CIE/ISO,AATCC,Hunter), YI(ASTM D1925, ASTM 313), Staining Fastness, Color Fastness, Color Strength, Opacity, 8° Glossiness,	WI(ASTM E313, CIE/ISO,AATCC,Hunter), YI(ASTM D1925, ASTM 313), Metamerism Index MI, Staining Fastness, Color Fastness, Color Strength, Opacity, 8° Glossiness,555 tone classification

Model	XD-7600	XD-7700
Observer Angle	2° / 10°	
Illuminant	D65,A,C,D50,F2(CWF),F7(DLF),F10(TPL5), F11(TL84),F12(TL83/U30)	D65,A,C,D50,D55,D75,F1,F2(CWF),F3,F4,F5,F6, F7(DLF),F8,F9,F10(TPL5),F11(TL84),F12(TL83/U30)
Displayed Data	Spectrogram/Values, Samples Chromaticity Values, Color Difference Values/Graph, PASS/FAIL Result, Color Offset	
Measuring Time	About 1.5s (Measure SCI & SCE about 3.2s)	
Repeatability	Spectral reflectance: MAV/SCI, Standard deviation within 0.1% (400 nm to 700 nm: within 0.2%) Chromaticity value: MAV/SCI, within AE*ab 0.04 ( When a white calibration plate is measured 30 times at 5 second intervals after white calibration)	Spectral reflectance: MAV/SCI, Standard deviation within 0.08% (400 nm to 700 nm: within 0.18%) Chromaticity value: MAV/SCI, within AE*ab 0.02 ( When a white calibration plate is measured 30 times at 5 second intervals after white calibration)
Inter-instrument Error	MAV/SCI, Within AE*ab 0.2 (Average for 12 BCRA Series II color tiles)	MAV/SCI, Within AE*ab 0.15 (Average for 12 BCRA Series II color tiles)
Measurement Mode	Single Measurement, Average Measurement(2-99times)	
Locating Method	Camera Locating, stabilizer cross position	
Dimension	L*W*H = 129 × 76 × 217mm	
Weight	Approx 600g	
Battery	3.7V,5000mAh Li-ion battery, 6000 measurements XD within 8 hours	
Illuminant Life Span	5 years, more than 3 million times measurements XD	
Displayed Data	3.5-inch TFT color LCD, Capacitive Touch Screen	
Data Port	USB	USB,Bluetooth 4.2
Data Storage	Standard 1000 Pcs, Sample 20000 Pcs	Standard 1000 Pcs, Sample 30000 Pcs
Language	Simplified Chinese, English, traditional Chinese	
Operating Environment	0~40° C, 0~85° %RH (no condensing), Altitude < 2000m	
Storage Environment	-20~50° C, 0~85° %RH (no condensing)	
Standard Accessory	Power Adapter, User Guide, PC Software(Download from office website), USB cable, White and Black Calibration Cavity, Protective Cover, Wrist strap, One aperture (8mm or 4mm)	Power Adapter, User Guide, PC Software(Download from office website), USB cable, White and Black Calibration Cavity, Protective Cover, Wrist strap, 8mm flat aperture, 8mm tip aperture, 4mm flat aperture, 4mm tip aperture
Optional Accessory	Micro Printer, Powder Test Box	
Notes	The specifications are subject to change without notice.	