Digspec® Series Image Spectrophotometer

DS-1000/1050/1100

Product Features

- Digspec® Series image spectrophotometer is the advanced model and can be used to measure most kinds of samples from different industries.
- Digspec® can get every point of color and reflectance of image and the smallest point can achieve 0.0016 mm^2 (0.04mm*0.04mm).
- Repeatability dEab≤0.01 (max.), Digspec® can achieve the maximum repeatability dEab≤0.01※ regardless of whether it is measuring the white tile or the black cavity , which is a new standard for bench-top spectrophotometers.
- Adopt LED or pulse xenon lamp as light source to guarantee the traceability data consistency with the traditional color spectrophotometer.
- Perfect calibration structure and algorithm provide completely reliable short-term and long-term measurement repeatability.
- 20+ kinds of illuminants, 30+ kinds of indexes, SCI/SCE test mode. It covers all the functions of the traditional spectrophotometer, and can provide the same parameters and measurement conditions as the traditional spectrophotometer.

Technical Data

Model	DS-1000	DS-1050	DS-1100
Instrument Type	Double beam d/8, SCI (specular component included)/ SCE(specular component excluded)		
Light Source	Full wavelength LED	High-precision simulation of sunlight full wavelength LED	High-precision simulation of sunlight xenon light source
Sphere Diameter	152mm / 6 inches		
Wavelength Range	400nm-700nm(Cover the entire visible light range)		400nm-1000nm (Covers near infrared and all visible light)
Reporting interval	10nm	2.5nm	
Photometric range	0-200%, resolution 0.01%		
30 read repeatability ※※ on white tile using double flash (CIELAB)	ΔE*ab≤0.03（max.）	ΔE*ab≤0.01（max.）	
Inter-instrument ※※※ agreement:reflectance measurements (CIELAB)	0.4	0.25	
Aperture Plates	LAV (Square 30mm illuminated, 25mm viewed), custom made aperture is available		
Standards	Conform to CIE No.15, GB/T 3978, GB 2893, GB/T 18833, ISO7724-1, ASTM E1164, DIN5033 Teil7, JISL Z8722 condition C, ASTM D1003-07		
Sensor	CMOS Array Sensor	Silicon-based metal oxide image sensor	
Grating Method	Grating spectroscopy	Ultra-high precision holographic transmissive volume grating	
Image Resolution	300dpi	500dpi(high resolution)	600dpi(ultra-high resolution)
Minimum measurement area	0.01mm² (0.1*0.1mm)	0.004mm² (0.06*0.06mm)	0.0016mm² (0.04*0.04mm)
Observer Angle	2°and10°		
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		
Color Space	L*a*b,L*C*h,Hunter Lab,Yxy,XYZ		
Other Indices	WI(ASTM E313-00,ASTM E313-73,CIE,ISO2470/R457,AATCC,Hunter,Taube,Berger Stensby),YI(ASTM D1925, ASTM E313-00,ASTM E313-73),Tint(ASTM E313-00),Metamerism index milm, stain fastness, color fastness, ISO brightness, ISO brightness, R457, A density, T density, E density, M Density, Opacity, Color Strength		
Color Difference	ΔE*ab,ΔE*CH,ΔE*uv,ΔE*cmc,ΔE*94,ΔE*00,ΔEab(Hunter),555 shade sort		
Measurement Time	<8s	<5s	
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	Power Adapter, USB Cable, White Tile		
Interface	USB 3.0		

※ The surface color of samples is greatly affected by temperature. dEab≤0.01 is an extremely precise measurement repeatability condition. When testing Digspec® repeatability, please ensure the surface temperature stability of the measured sample

※※ The measuring diameter is 25*25mm. After the instrument is calibrated, measure the BCRA white tile 30 times at 10s intervals

※※※ The average of the measurement results of 12 BCRA ceramic tiles