STALWART

Spectrophotometer
ST-800

Introduction

ST-800 spectrophotometer uses the principle of combination LED precision spectroscopy, separates the light according to a certain wavelength interval, and adopts groups of sensor array to perform sensitive analysis. ST-800 spectrophotometer with higher accuracy is very sensitive to any colors. It not only can measure Lab value and delta E value accurately, but also can display spectral reflectance curve which can realize color matching function and calculate the real parameters of various color formulas.

Features

- Aesthetic design perfectly combined with ergonomics structure.
- 45/0 geometrical optics structure, comply with CIE, ISO, ASTM, DIN standard.
- 3.5 inch large capacitive touch screen.
- Two standard observer perspectives, multiple light sources modes, a variety of color systems.
- The repeatability ΔE*ab is within 0.04, the errors between each instrument ΔE* ab is less than 0.2.
- Large capacity storage, can save more than 10000 data.
- PC software with powerful extension functions.
- High hardware configuration with a number of innovative technologies.
- Oversized integrating sphere, more effective homogenization ray of lights and precise measurement.
- 15° oblique angle screen, more in line with the human eye observation.

Specification

Item	ST-800
Illumination/observation system	45/0 method (45 ring-shaped illumination, vertical viewing), Comply with CIE No.15
Integrating sphere Size	Φ58mm
Light Source	Combined LED sources
Sensor	Silicon photodiode array
Wavelength range	400~700nm
Wavelength interval	10nm
Reflectance range	0~200%
Measuring Aperture	Φ8mm
Color Space	CIE LAB, XYZ, Yxy, LCh, CIE, LUV
Color difference Formula	ΔE*ab,ΔE*uv,ΔE*94,ΔE*cmc(2:1),ΔE*cmc(1:1),ΔE*00
Other Chromaticity Data	WI(ASTM E313, CIE/ISO, AATCC), YI(ASTM D1925, ASTM 313), TI(ASTM E313, CIE/ISO), Metamerism Index (Mt), Color Stain, Color Fastness
Observer	2°/10°

Specification

Other Colorimetric Index	WI(ASTM E313, CIE/ISO, AATCC),YI(ASTM D1925,ASTM 313), TI(ASTM E313, CIE/ISO), Metamerism Index MI, Staining Fastness, Color Fastness, Color Strength, Opacity, 8° Glossiness
Observer Angle	2°/10°
Illuminant	D65, A,C,D50, D55, D75, F2, F6, F7, F8, F10, F11,F12
Display Data	Spectral Value/Graph, Colorimetric Value, Color Difference Value/Graph, PASS/FAIL Result, Color Offset, Color Simulation
Measurement Time	1.5s
Repeatability	Spectral Reflectance: standard deviation within 0.1%(400~700nm: within 0.2%) Colorimetric Value Standard deviation within Delta E*ab 0.04 (Measurement conditions: white calibration plate measured 30 times at 5 seconds intervals after white calibration was performed.)
Inter Instrument Agreement	Within Delta E*ab 0.2 (Average for 12 BCRA Series II color tiles)
Dimension	L*W*H=90*77*230mm
Weight	600g
Battery	Li-ion battery. 5000 times within 8 hours
Lamp Life	5 years, more than 1.6 million measurements
Display Screen	TFT 3.5inch, Capacitive Touch Screen
Interface	USB/RS-232
Data Memory	1000 Standards, 15000 Samples
Operating Temperature	0~40° C(32~104°F)
Storage temperature	-20~50° C(-4~122°F)
Standard Accessory	Power Adapter, Li-ion Battery, Operating Instruction, CD-ROM (containing management software), Data Line, White and Black Calibration Cavity, Protective Cover and Wrist Strap
Optional Accessory	Micro Printer, Universal Test Component.

Application

ST-800 spectrophotometer is widely used in plastic, electronic, paint, ink, textile, garment, printing and dyeing, food, medical, cosmetic, industries, scientific research institutes, schools and laboratories. It can measure reflectance spectrum and other color index precisely. ST-800 spectrophotometer not only can help to perform color matching and color management studies, but also can control product quality management accurately. The instrument is equipped with high-end color management software which can connect PC to achieve more extension functions


Paint


Pigment


Textile


Plastic


Rubber


Cosmetic