

# Accurate measurement of sample reflectance and various chromaticity data



## YS4510- Standard grating spectrophotometer

YS4510 standard spectrophotometer with 45/0 geometrical optics structure( 45 ring-shaped illumination ,vertical viewing), comply with C I E N o . 1 5. Adopting concave grating light splitting method. accurately measure the reflectivity and various chromaticity data of samples. users can customize the measurement aperture( $\Phi 8$  /  $\Phi 4$  /  $\Phi 2$  m m) according to the sample measuring demands, meet the industry accurate color measurement and quality control.



Concave-Grating Spectral



Long life LED light sources



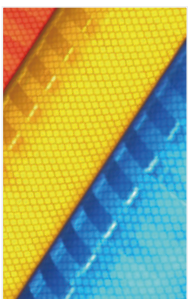
Customized measuring aperture



High-configuration electronic hardware

## APPLICATION INDUSTRIES

The grating spectrophotometer can easily achieve the accurate transmission of color, and can also be used as the detection equipment of the accurate color matching system; it is used for accurate color measurement and quality control of traffic road signs, plastics, electronics, paint and ink, textile and garment, printing and dyeing , ceramics and other industries.



Traffic road sign



Textile



Plastic



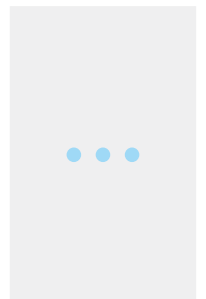
Paint



Food



Laboratory



Other

## PRODUCT FEATURES

- 1.Perfect combination of beautiful appearance and the human body mechanics structural design
- 2.45/0 geometrical optics, conforms with CIE No.15, GB/T 3978,GB 2893,GB/T 18833,ISO7724/1,ASTM E1164,DIN5033 Teil7, GB 2893、GB/T 18833
- 3.Accurate color measurement and quality control
- 4..High electronic hardware configuration: 3.5–inch TFT color LCD,Capacitive Touch Screen, concave grating, 256 Image Element Double Arrays CMOS Image Sensor
5. Measure sample spectra, accurate Lab data , can be used in color matching and accurate color transmission
- 6.Use long life and low power consumption combined LED light source
- 7.Customized single aperture: MAV: >8mm/φ10mm; SAV: φ4mm/φ5mm; SSAV: φ2mm/φ3mm, suitable for more samples
- 8.USB port, widely useful
- 9.PC software has a powerful function extension

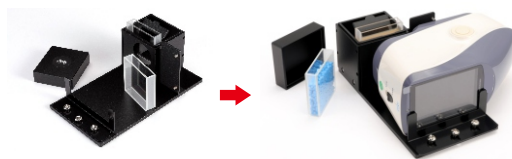


## OPTIONAL ACCESSORIES

The instrument is equipped with various accessories; Such as micro printer, powder test box, etc.; Meet the needs of more measurement samples.



Powder test box: Easy to use, focusing on powdered target measurement.



Multifunctional test components: can be used to test liquid reagents, sauces (such as ketchup, paint), powders (such as coffeeBrown), color masterbatch, etc.



Micro printer: easy to carry, without computer can continuously print out the measurement of various parameters, easy to save.

## SPECIFICATION PARAMETERS

**Model:** YS4510

**Illumination:** 45/0(45 circular illumination, vertical viewing)

**Standard:** CIE No.15, GB/T3978,GB2893,GB/T 18833,ISO7724-1,ASTM E1164,DIN5033 Teil7

**Integrating Sphere Size:** 48mm

**Light Source:** Combined LED Light

**Spectrophotometric Mode:** Concave Grating

**Sensor:** 256 Image Element Double Array CMOS Image Sensor

**Wavelength Range:** 400-700nm

**Wavelength Interval:** 10nm

**Semiband Width:** 10nm

**Measured Reflectance Range:** 0-200%

**Measuring Aperture:** customized single aperture: MAV:φ8mm/φ10mm;  
SAV:φ4mm/φ5mm;SSAV:φ2mm/φ3mm

**Color Space:** CIE LAB, XYZ, Yxy, LCh, CIE LUV, Hunter LAB,βxy

**Color Difference Formula:**ΔE\*ab,ΔE\*uv,ΔE\*94,ΔE\*cmc(2:1),ΔE\*cmc(1:1),ΔE\*00,ΔE(Hunter)

**Other Colorimetric Index:** WI(ASTM E313, CIE/ISO, AATCC, Hunter),YI(ASTM D1925, ASTM 313),  
Metamerism Index MI, Staining Fastness, Color Fastness, Color Strength, Opacity

**Illuminant:** 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

**Observer Angle:**2°/10°

**Measuring Time:** 1.5s

**Repeatability:** Spectral reflectance: MAV, standard deviation within 0.1%(400~700nm: within 0.2%)

**Chromaticity value:** MAV, withinΔE\*ab 0.05(After calibration, measure the average value of the white board 30 times each 5S.)

**Inter-instrument agreement:** MAV, withinΔE\*ab 0.2(Average value for 12 BCRA series II color tiles)

**Battery:** Li-ion battery. 5000 measurements within 8 hours

**Dimension:** L\*W\*H=184\*77\*105mm

**Weight:** 600g

**Illuminant Life Span:** 5 years, more than 3 million times measurements

**Display:** 3.5-inch TFT color LCD, Capacitive Touch Screen

**Data Port:** USB

**Data Storage:** Standard 500 Pcs, Sample 20000 Pcs

**Language:** English, Chinese

**Operating Environment:**0~40°C, 0~85%RH (no condensing), Altitude < 2000m

**Storage Environment:** -20~50°C, 0~85%RH (no condensing)

**Standard accessories:** power adapter, data line, built-in lithium batteries, instructions, quality control software (download from official website), black and white calibration board, protection cover, polarization filter box(Optional accessories: Micro printer, Powder test box, multi-functional test component)