



### YS3020 Customized Aperture Spectrophotometer

YS3020 is independently developed by 3nh, who has complete intellectual property rights. With variety of light sources, single customized aperture (8 or 4 or 1\*3 mm), USB/Bluetooth 4.0 dual modes, it has high accuracy and standard storage, very suitable for lab color analysis and transmission. It can accurately measure the SCI and SCE reflectance data of samples/fluorescent samples, and can accurately measure various color difference formulas and color indexes under multiple color spaces.



Con-cave Grating



USB/Bluetooth



LED light



Camera Locating



## PRODUCT FEATURES

- 1.D/8 geometrical optics, conforms with CIE No.15,GB/T 3978,GB2893, GB/T 18833, ISO7724/1, ASTM E1164, DIN5033 Teil
- 2.Use long life and low power consumption combined LED light source
- 3.Single 8mm aperture, support both SCI and SCE at the same time;
- 4.Measure sample spectra, accurate Lab data , can be used in color matching and accurate color transmission;
- 5.High electronic hardware configuration: 3.5-inch TFT color LCD,Capacitive Touch Screen, concave grating, 256 Image Element Double Arrays CMOS Image Sensor;
- 6.Super stain-resistant and stable standard white calibration plate;
- 7.Large capacity storage space, over 20,000 measurement data;
- 8.Two standard observer angles, a variety of illuminant, a variety of color indexes, conforms with a variety of standard colorimetric data, meet a variety of customers' demand for color measurement;
- 9.Camera Locating Function, better position;
- 10.PC software has a powerful function extension.



## APPLICATION INDUSTRIES



Automobile

Leather

Plastics

Paint

Foodstuff

Laboratory

Others

## SPECIFICATION PARAMETERS

**Model:** YS3020( Customized Aperture)

**Optical Geometry:** Reflect: di:8°, de:8°(diffused illumination, 8-degree viewing angle)

**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%

**Customized measuring aperture:** φ4mm/φ8mm/1x3mm

**Specular Component:** SCI&SCE

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

**Color Difference Formula:**  $\Delta E^*ab, \Delta E^*uv, \Delta E^*94, \Delta E^*cmc(2:1), \Delta E^*cmc(1:1), \Delta E^*00v, \Delta E$ (Hunter)

**Other Colorimetric Index:** WI(ASTM E313, CIE/ISO, AATCC, Hunter), YI(ASTM D1925, ASTM 313),

TI(ASTM E313, CIE/ISO),

Metamerism Index MI, Staining Fastness, Color Fastness, Color Strength, Opacity, 8° Glossiness

**Illuminant:** D65, A, C, D50, D55, D75, F1, F2, F3, F4, F5, F6, F7, F8, F9, F10, F11, F12

**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/SCI, standard deviation within 0.1%(400~ 700nm: within 0.2%)

**Chromaticity value:** MAV/SCI, within  $\Delta E^*ab$  0.04(After calibration, measure the average value of the white board 30 times each 5S.)

**Inter-instrument agreement:** MAV/SCI, within  $\Delta E^*ab$  0.2(Average value for 12 BCRA series II color tiles)

**Measurement mode:** single measurement, average measurement(2-99 times)

**Locating Method:** Camera Locating

**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/RS-232

**Data Storage:** Standard 1000 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 Accessory:** Power Adapter, Built-In Li-ion Battery, User Guide, PC

Software, White and Black Calibration Cavity, Dust Cover

**Optional Accessory:** Micro Printer, Powder Test Box

**3nh**<sup>®</sup>  
Focus on Color

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