

# Intelligent color measurement, easy operation



## YL4520–Non–contact benchtop spectrophotometer

YL4520 is a benchtop grating spectrophotometer which is developed by 3nh independently with independent intellectual property. YL4560 has many features, like 7 inches TFT capacitive touch screen display, full illuminants, UV light source, 45/0 optical geometry, which can achieve precise non-contact measurement between the measuring probe and the sample like liquids, sauces, powders, etc. It can be applied for accurate color analysis and transmission in laboratories and R & D industries; it can also be used for accurate color measurement and quality control of automated production lines; it is widely used in cosmetics, fruits and vegetables, food hygiene, plastic electronics, paint and ink, printing, ceramics and other industries.



7 inch capacitive touch screen



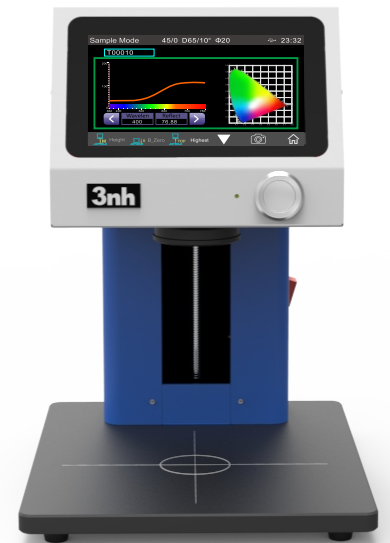
Concave grating spectral



Measurement wavelength:  
400 ~ 700nm

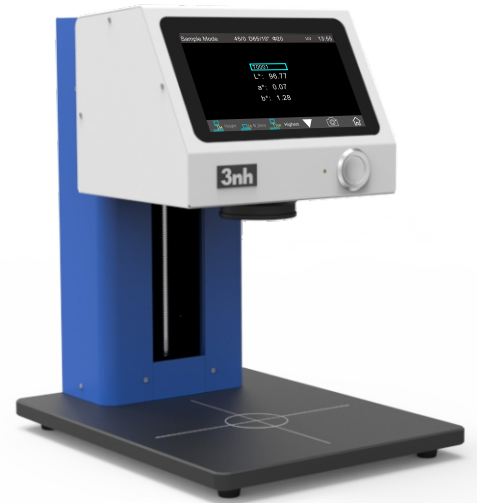


Camera location



## PRODUCT FEATURES

1. According to the actual height of the testing sample, the measuring probe can be moved up and down automatically and the height of the testing sample can be stored.
2. TFT true color 7 inch capacitive touch screen; concave grating.
3. 256 Image Element Double Array CMOS Image Sensor.
4. Wavelength range: 400~700nm, 10nm output.
5. Lighting source: full spectrum LED light and UV light.
6. Multiple measurement modes: Sample mode, QC mode, Continuous Statistical mode are optional to meet more customer needs.
7. Large capacity storage: Sample mode + QC mode: 40,000  
Continuous statistics mode: 10,000
8. Built-in camera locating.
9. PC software has powerful expansion function.



## PRODUCT DETAILS



### Display

TFT true color 7 inch capacitive touch screen, Clear display and easy operation



### Non-contact measurement

The reflectance and chromaticity of the sample can be measured without directly contacting the measuring probe with the sample.



### Movable measuring probe

The measuring probe can be moved up and down according to the actual height of the measured sample.  
The height of the testing sample can be stored.



### Measuring aperture

Aperture: 20mm

## APPLICATION INDUSTRY

45/0 non-contact benchtop spectrophotometer, which can achieve precise non-contact measurement between the measuring probe and the sample like liquids, sauces, powders, etc. It can be applied for accurate color analysis and transmission in laboratories and R & D industries; it can also be used for accurate color measurement and quality control of automated production lines; it is widely used in cosmetics, fruits and vegetables, food hygiene, plastic electronics, paint and ink, printing, ceramics and other industries .



Cosmetics



Food



Sauces



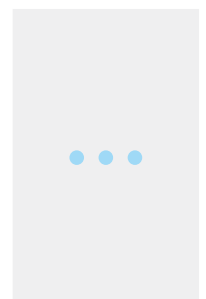
Powder



Liquid



Laboratory



Others

## TECHNICAL SPECIFICATIONS

**Model:**YL4520

**Illumination system:** 45/0 method(45 ring-shaped illumination, vertical viewing);

Comply with the standards of CIE No.15, GB/T 3978,GB 2893,GB/T 18833,ISO7724-1,ASTM E1164,DIN5033 Teil7,GB 2893、GB/T 18833.

**Features:**45/0 non-contact benchtop spectrophotometer, which can achieve precise non-contact measurement between the measuring probe and the sample

like liquids, sauces, powders, etc. It can be applied for accurate color analysis and transmission in laboratories and R & D industries; it can also be used for

accurate color measurement and quality control of automated production lines; it is widely used in cosmetics, fruits and vegetables, food hygiene, plastic electronics,

paint and ink, printing, ceramics and other industries . And it can be used for fluorescent sample measurement.

**Light Source:**Full spectrum LED light

**Spectrophotometric Mode:**Concave Grating

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

**Wavelength Range:**400-700nm/10nm output

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

**Measured Reflectance Range:**Φ20mm

**Non-contact distance:**7.5mm

**Sample height:**0~150mm

**Distance adjustment method:**Manual adjustment (test height can be stored)

**Measuring mode:**Sample mode/QC Mode/Continuous statistics mode

**Locating Method:** Camera View Finder Locating

**Color Space:** CIE LAB,XYZ,Yxy,LCh,CIE LUV, HunterLAB

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

**Observer Angle:** 2°/10°

**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, Chromaticity Graph, Color Simulation, PASS/FAIL Result, Color Offset

**Measuring Time:**About1.5s

**Data Storage Capacity:**Sample mode + QC mode: 30,000,Continuous statistics mode: 10,000

**Repeatability:**Spectral reflectance: Standard deviation within 0.08%

Chromaticity value: Within  $\Delta E^*ab$  0.05 (When a white calibration plate is measured 30 times at 5 second intervals after white calibration)

**Inter-instrument Error:**Within  $\Delta E^*ab$  0.25 (Average for 12 BCRA Series II color tiles)

**Measurement Mode:**Single Measurement, Average Measurement(2 ~ 99 times)

**Dimension:**330\*250\*370mm

**Weight:**About 10 kg

**Power Supply:**DC 24V, 3A Power Adapter

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

**Display Screen :**7" TFT Capacitive Screen-touch Display

**Data Port:**USB/RS-232

**Language:**Simplified Chinese,Tranditional Chinese,English

**Working Environment:**Temperature: 0~40°C; Humidity: 0~85% (No Condensation); Altitude < 2000m

**Storage Environment:**Temperature: -20~50°C; Humidity: 0~85% (No Condensation)

**Standard Accessory:**Power Adapter, User Manual, USB cable, Standard Calibration Board, Black calibration Board

**Notes:**The specifications are subject to change without notice.

## GUANGDONG THREENH TECHNOLOGY CO., LTD.



Spectrophotometers



Colorimeters



Haze Meters



Gloss Meters



Test Charts



Light Booths

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