

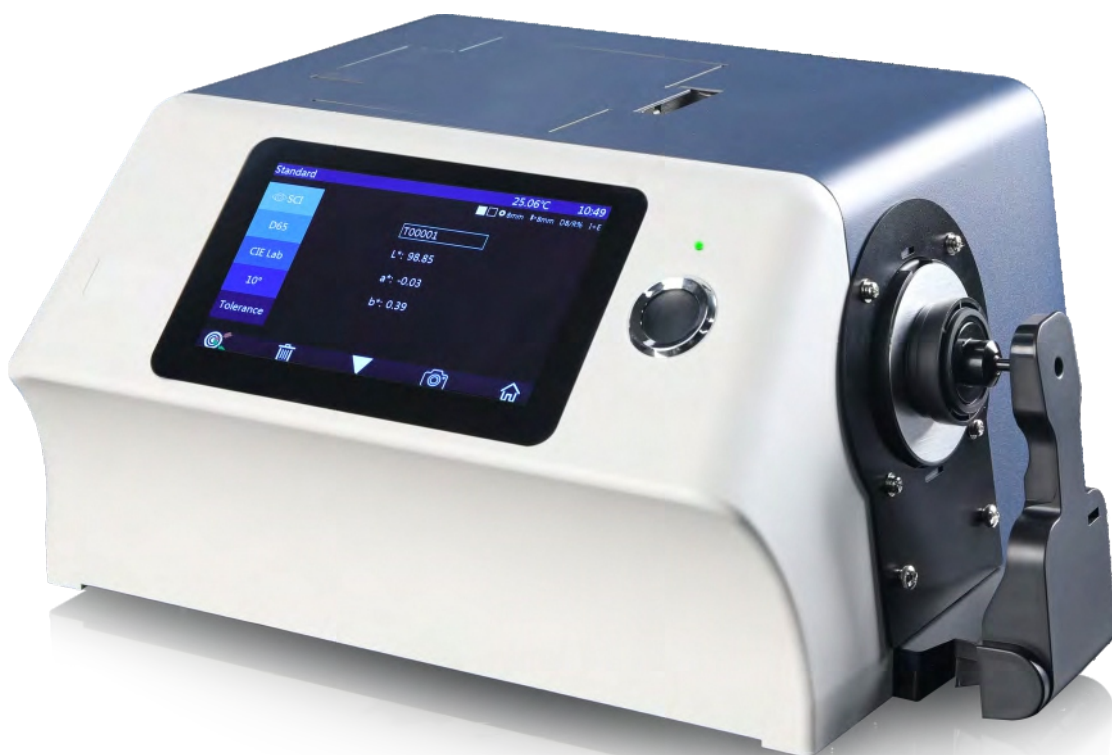


3nh Global

SHENZHEN THREENH TECHNOLOGY CO., LTD.

Benchtop Spectrophotometer TS8216

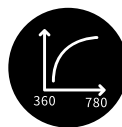
High-precision microporous type



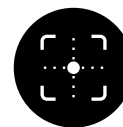
7in color touch screen



USB/Bluetooth



360-780nm Full spectrum

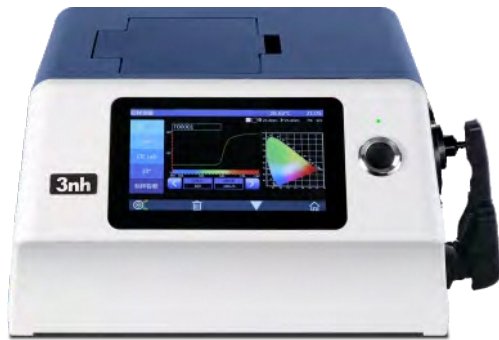


Camera framing
positioning

For colorimetric control of small area reflective samples and small volume transmissive samples.



1. Instrument display



▲ Front



▲ Back



▲ Left side



▲ Right side

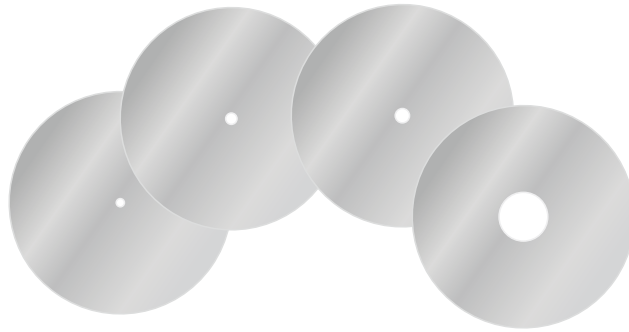
2. Introduction to the instrument

The desktop spectrophotometer TS8216 is a spectrophotometer developed by using its own spectroscopic core technology. It adopts a dual-array CMOS image sensor with high sensitivity and wide spectral response range, and the test is more accurate. The repeatability ΔE^*_{ab} of the TS8216 desktop spectrophotometer is easily controlled within 0.01, and the inter-stage difference ΔE^*_{ab} is controlled within 0.12. The data is stable and reliable, and can be used for accurate color analysis and transmission in the laboratory.

3. Instrument Features

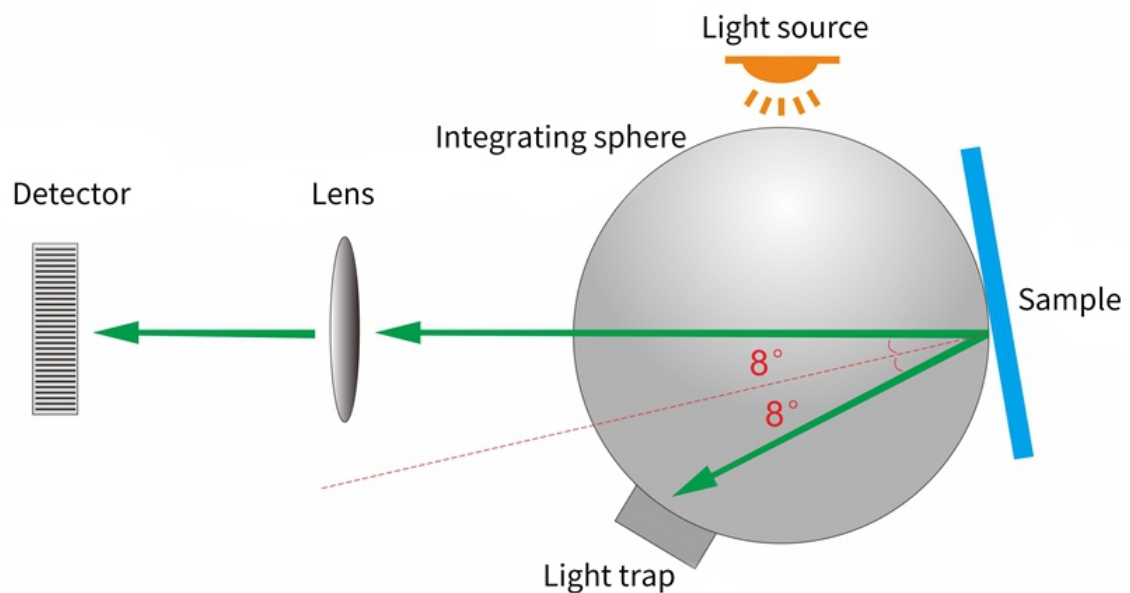
1. Micropore diameter

TS8216 desktop spectrophotometer provides reflection: $\Phi 0.3\text{mm}/ 0.5\text{mm}/ 1\text{mm}$ (select only one aperture) transmission: $\Phi 8\text{mm}/ 4\text{mm}$ (select only one aperture), for small area reflection samples and small volume transmission samples Chroma control.



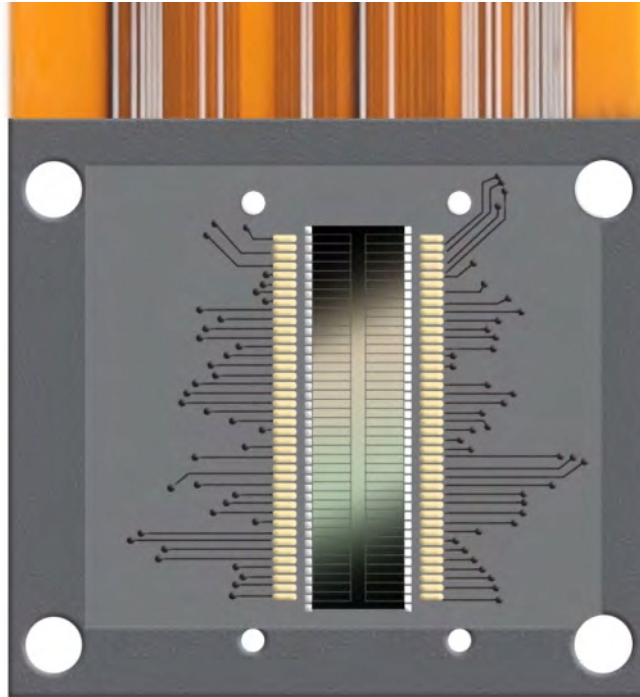
2. Adopt the international D/8 structure, support SCI+SCE simultaneous fast measurement

TS8216 desktop spectrophotometer adopts D/8 illumination observation conditions which are widely applicable in the world, SCI/SCE (including specular reflection/without specular reflection) synthesis technology, support SCI+SCE simultaneous fast measurement.



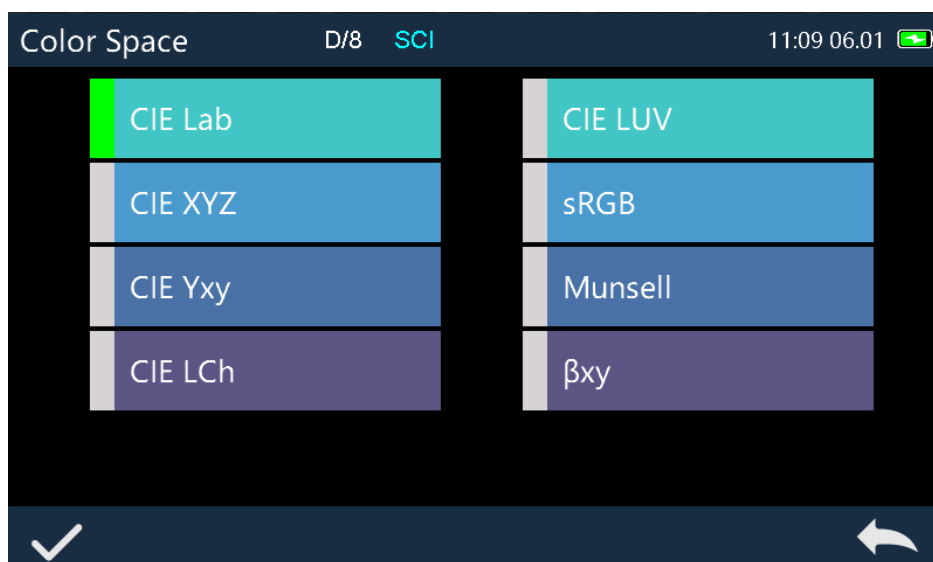
3. Dual-array CMOS image sensor

It has high sensitivity and wide spectral response range, which ensures the measurement speed, accuracy, stability and consistency of the instrument.



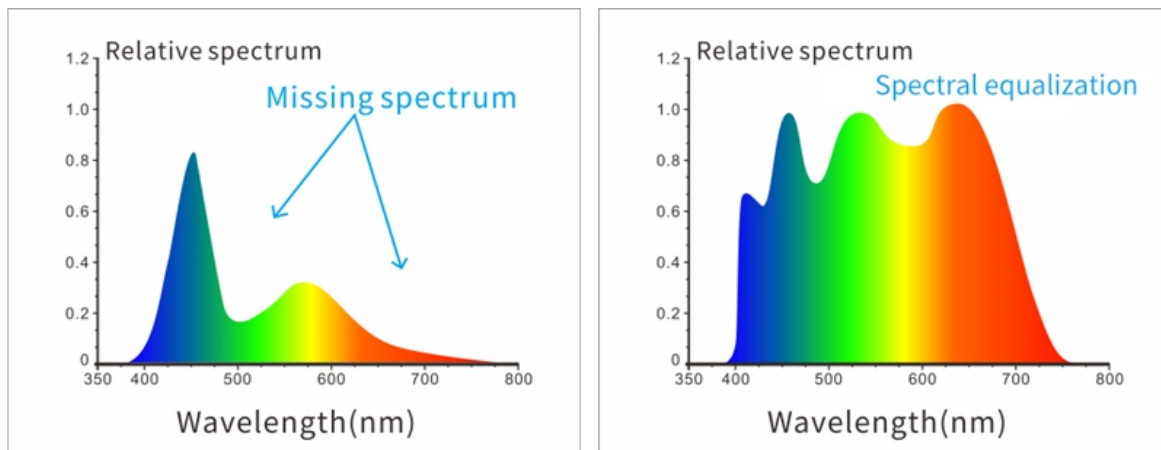
4. Multiple color measurement spaces and multiple observation light sources

The TS8216 benchtop spectrophotometer provides CIE LAB, XYZ, Yxy, LCh, CIE LUV, Musell, s-
RGB, HunterLab, β xy, DIN Lab99 color spaces, as well as D65, A, C, D50, D55, D75, F1, F2, F3,
F4, F5, F6, F7, F8, F9, F10, F11, F12, CWF, DLF, TL83, TL84, TPL5, U30 various observation light
sources, which can meet the special measurement requirements under different measurement
conditions.



5. Using combined full-spectrum LED light source and UV light source

The full-band balanced LED light source ensures sufficient spectral distribution in the visible light range, avoids the spectral loss of white LEDs in specific bands, and ensures the measurement speed of the instrument and the accuracy of the measurement results. The professional UV light source ensures more reliable UV testing.



6. Metrological verification report

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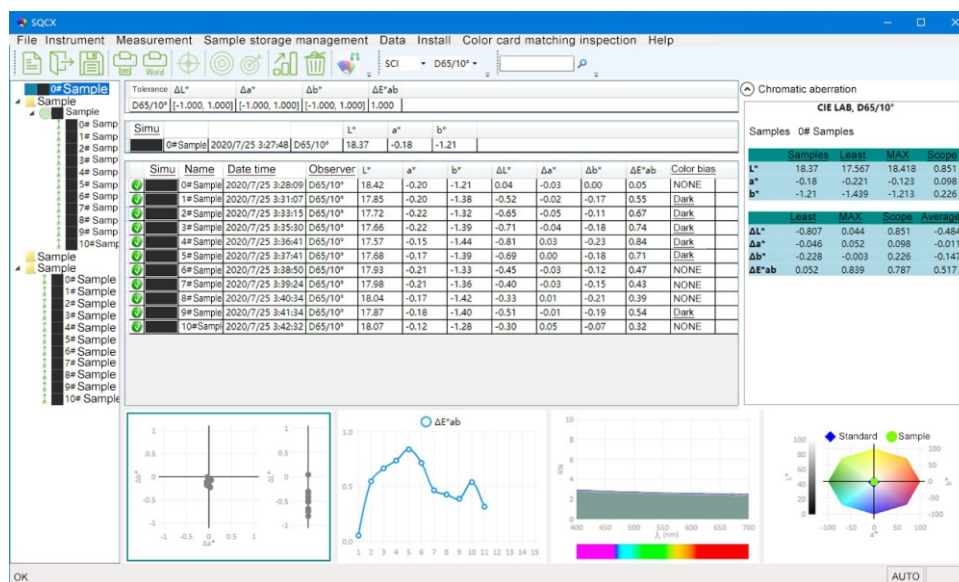
7. Industrial-grade high-definition touch screen, easy-to-use user interface

Using a 7-inch industrial-grade high-definition touch screen, the control is smooth, and the easy-to-use user interface makes the operation comfortable, convenient and easier to use.



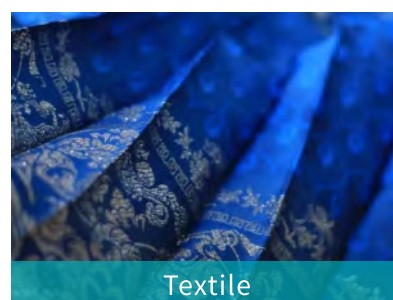
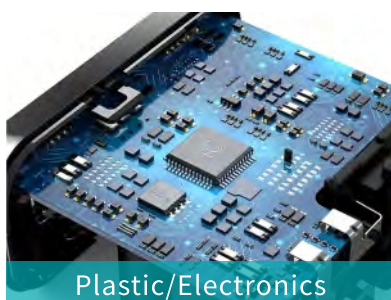
8. Color management software

The SQCX quality management software matched with the TS8216 desktop spectrophotometer is suitable for quality monitoring and color data management in various industries. Dataize the user's color management, compare color differences, generate test reports, provide a variety of color space measurement data, and customize the customer's color management work.



4. Application areas

TS8216 microporous spectrophotometer is an instrument with higher configuration in the desktop. It adopts microporous, which has wider applicability and higher measurement accuracy, and is suitable for laboratory color analysis and transfer; as well as plastic electronics, paint inks, Textile and garment printing and dyeing, printing, paper products, medical, cosmetics and food industries.



5. Packing list

【Standard accessories】

Benchtop Spectrophotometer

Reflection: $\Phi 0.3\text{mm}/\Phi 0.5\text{mm}/\Phi 1\text{mm}$ (select only one aperture)

Transmission: $\Phi 8\text{mm}/\Phi 4\text{mm}$ (select only one aperture)



Measuring diameter



Power Adapter



USB cable



Manual



Certificate
Warranty Card



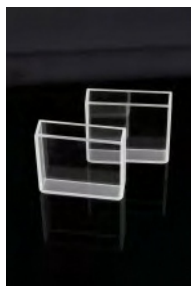
Calibrate the whiteboard
black tube



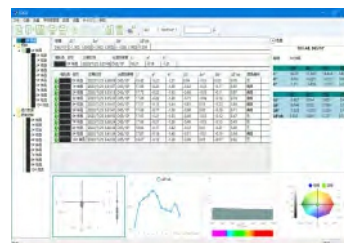
Transmission black baffle



Sample holder



Transmission dish



Computer software
(download from official website)

【Optional accessories (sold separately)】



Micro Printer



Inverted Test Fixture



$\Phi 70\text{mm}$ H15mm

Petri Dish

6. Product parameters

Model: TS8216
Optical Geometry Reflect: di:8°, de:8°(diffuse illumination, 8°direction reception) ; SCI (specular component included)/SCE (specular component excluded) ;Include UV/exclud UV Transmittance: di:0°, de:0° (diffuse illumination: 0°direction reception) ; SCI (specular component included)/SCE (specular component excluded) ; Include UV/exclud UV Haze(ASTM D1003)
Standard: Conforms to CIE No.15,GB/T 3978,GB 2893,GB/T 18833,ISO7724/1,ASTM E1164,DIN5033 Teil7
Integrating Sphere Size: Φ154mm
Light Source: 360 nm to 780 nm, Combined LED Light, 400nm cut-off light source,420nm cut-off light source
Spectrophotometric Mode: Concave Grating
Sensor: 256 Image Element Double Array CMOS Image Sensor
Wavelength Range: 360-780nm
Wavelength Interval: 10nm
Semiband Width: 5nm
Measured Reflectance Range: 0-200%
Measuring Aperture: Reflective : Φ0.3mm/Φ0.5mm/Φ1mm (only choose one aperture) Transmissive : Φ8mm/Φ4mm (only choose one aperture)
Specular Component: Reflectance: SCI/SCE Transmittance: SCI/SCE
Color Space: CIE LAB,XYZ,Yxy,LCh,CIE LUV,Musell,s-RGB,HunterLab,βxy,DIN Lab99
Color Difference Formula: $\Delta E^*ab, \Delta E^*uv, \Delta E^*94, \Delta E^*cmc(2:1), \Delta E^*cmc(1:1), \Delta E^*00, \text{DIN}\Delta E99, \Delta E(\text{Hunter})$
Other Colorimetric Index: WI (ASTM E313, CIE/ISO, AATCC, Hunter),YI (ASTM D1925, ASTM 313),Metamerism index Mt, Staining Fastness, Color Fastness, Color Strength, Opacity,APHA/Hazen/Pt-Co (Platinum Cobalt Index), Gardner Index 8° gloss, 555 color classification, haze (ASTM D1003), Saybolt (Sybert index), ASTM D1500 color scale, Chinese Pharmacopoeia color scale
Observer Angle: 2°/10°
Illuminant: D65,A,C,D50,D55,D75,F1,F2,F3,F4,F5,F6,F7,F8,F9,F10,F11,F12,CWF,DLF,TL83,TL84,TPL5,U30
Displayed Data: Spectrogram/Values, Samples Chromaticity Values, Color Difference Values/Graph, PASS/FAIL Result, Color Offset
Measuring Time: About 2.4s (Measure SCI & SCE about 5s)
Repeatability: Spectral reflectance: Φ1mm/SCI, Standard deviation within 0.08% Chromaticity value:Φ1mm/SCI, Standard deviation within ΔE^*ab 0.15 (After the instrument is warmed up and calibrated, measure the average value of the whiteboard 30 times at an interval of 5s) Spectral transmittance: Φ8mm/SCI, Standard deviation within 0.1% Chromaticity value:Φ8mm/SCI, Standard deviation within ΔE^*ab 0.18(After the instrument is warmed up and calibrated, measure the average value of the whiteboard 30 times at an interval of 5s)
Inter-instrument Error: Φ1mm/SCI, Within ΔE^*ab 0.25 (Measured average value of 12 tiles of BCRA series II)
Dimension: L*W*H=370x300x200mm
Weight: Approx. 9.6kg
Power: AC 24V, 3A Power adapter power supply
Illuminant Life Span: 5 years, more than 3 million times measurements
Display: 7-inch TFT color LCD, Capacitive Touch Screen
Data Port: USB, Bluetooth®, print serial port
Data Storage: Standard 5000 Pcs, Sample 40000 Pcs(SCI/SCE counts as one piece of data)
Language: Simplified Chinese, Traditional Chinese, English, (German, French, Spanish can be customized)
Standard Accessory: Power adapter, manual, quality management software (download from official website), data cable, standard calibration board, black calibration box, transmission black baffle, sample holder, single reflection aperture, transmission test fixture assembly, single transmission test fixture assembly
Optional Accessory: Mini printer, instrument upside down test fixture, petri dish



SHENZHEN THREENH TECHNOLOGY CO., LTD.

Address:F/6, Block 5B, Skyworth Inno Valley, Tangtou 1st Road,
Shiyan, Baoan District, Shenzhen, P.R. China

Service Hotline: 400-666-2522

Email: 3nh@3nh.com

Tel: 86-0755-26508999

Fax: 86-0755-27190609