

Chinese high-tech enterprises

# FAT GIRL SERIES SPECTROPHOTOMETER

## PS2060&PS2050

Color measurement by science and technology



LED full spectrum  
Support UV



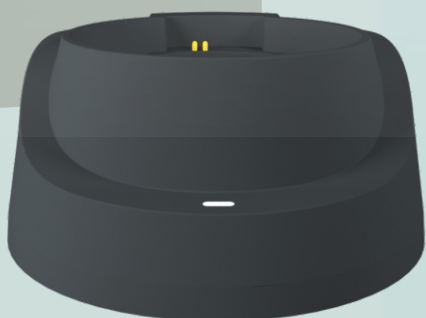
Camera  
positioning



Dual optical  
path system



APP connection



# Model:PS2060&PS2050

Conform to the standard:  
CIE No.15,GB/T 3978,GB 2893,  
GB/T 18833,IS07724-1,  
ASTM E1164,DIN5033 Teil7

Portable design, sturdy construction  
Anti-shaking, dustproof and knock

## Product features

D/8 geometric optical structure,  
Suitable for a variety of measurement conditions

Full spectrum with high life and  
low power consumption  
The combined LED light source,  
UV support fluorescence measurement

Dual optical path system  
The SCI and SCE spectra of samples can be  
measured simultaneously

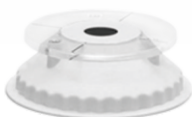
2°/10° standard observer Angle,  
Multiple light source mode,  
multiple color space  
A variety of chroma parameters

Imported white board is  
not easy to dirty,Ensure  
measurement accuracy

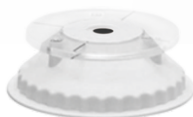


PS2060 Three apertures:  
MAV:Φ8mm/Φ10mm(Flat);  
SAV:Φ4mm/Φ5mm(Flat);  
SSAV:1x3mm(Flat);

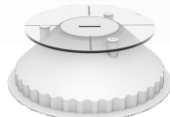
PS2050 Double aperture:  
MAV:Φ8mm/Φ10mm(Flat);  
SAV:Φ4mm/Φ5mm(Flat);



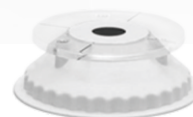
8mm Flat



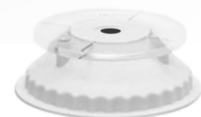
4mm Flat



1x3mm Flat



8mm Flat



4mm Flat

# Fat girl series

## PS2060 Spectrocolorimeter

### Powerful

- Suitable for color difference quality control in plastic electronics, paint and ink, textile and garment printing and dyeing, printing, ceramics and other industries
- Support the spectral reflectance, WI (ASTM E313, CIE/ISO, AATCC, Hunter), YI (ASTM D1925, ASTM 313), the same color spectrum index of Mt, touch color fastness, color fastness, strength, cover degree, 555 color classification, Munsell(C/2) (mobile APP implementation)

### Durable

- Light weight, impact resistance, dirt resistance and storage resistance
- Operating temperature range 0~40°C, 0~85%RH(no condensation), Altitude: below 2000m
- Storage temperature range -20~50°C, 0~85%RH(no condensation)

### Efficient

- Ideal for laboratory and factory use
- Support USB cable computer transfer data
- The measurement is fast and accurate, and it only takes 1S to measure SCI and SCE simultaneously
- Color display, touch control, easy to operate

### Accuracy of reading

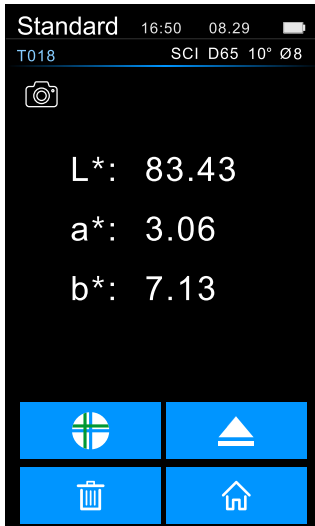
- Measurement accuracy 0.01
- The standard deviation of repeatability was within 0.03 of  $\Delta E^*ab$
- Support multiple national and international standard measurement
- A variety of different caliber algorithms



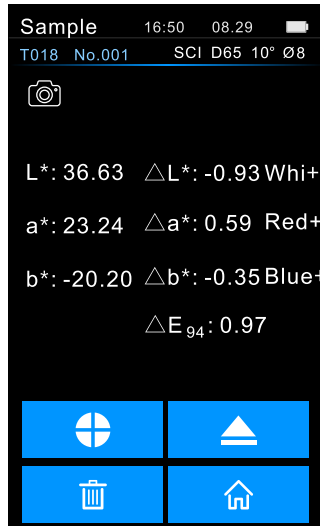
# Fat girl series

## PS2060 Spectrocolorimeter

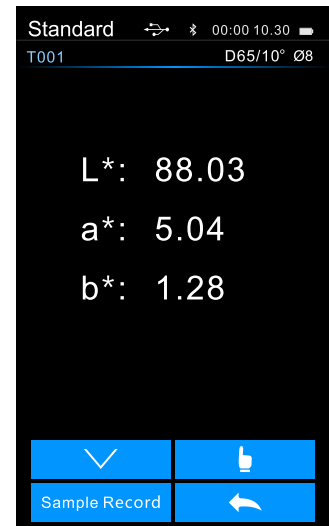
### Main function



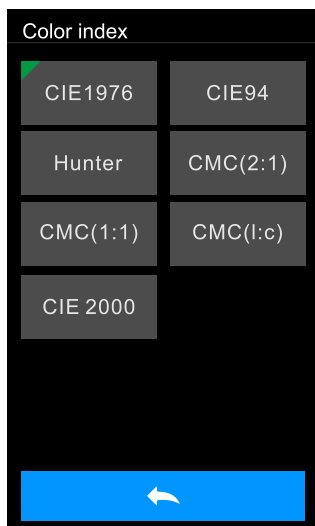
Standard Measure



Sample measurement and color difference



View Measurement record



Color index selection



Illumination setting



Color space selection

### Optional accessories

The instrument comes with 2 accessories: micro printer, powder test box.

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



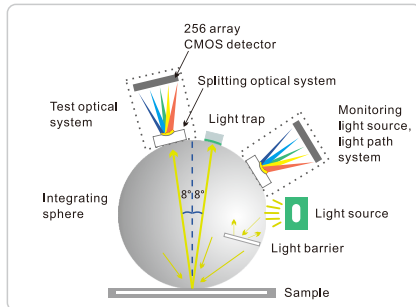
Powder test box: Easy to use, focusing on powdered target measurement.



# Fat girl series

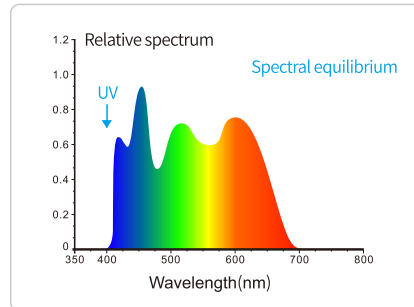
## PS2060 Spectrocolorimeter

### Product features



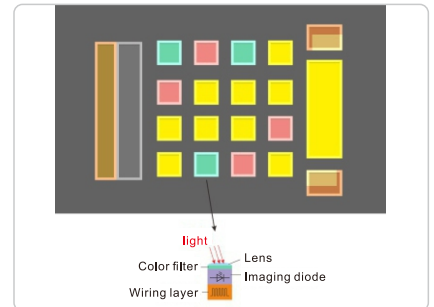
#### 1. The international D/8 SCI/SCE synthesis technology was adopted

The spectrocolorimeter PS2060 adopts D/8 lighting observation conditions and SCI/SCE (including specular reflection/excluding specular reflection) synthesis technology with a wide range of international applications, which is applicable to all industries.



#### 2. Balanced LED illuminant+UV

The 400~700nm full band balanced LED light source is used as the instrument lighting source, which has sufficient spectral distribution in the visible light range, avoiding the spectral loss of white LED in specific bands, and the fluorescent materials can also be easily measured.



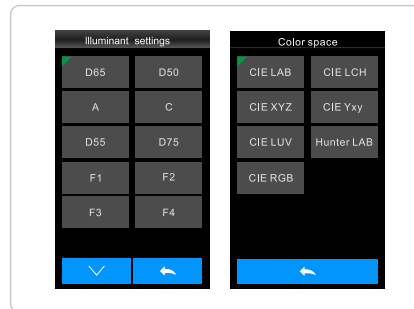
#### 3. CMOS dual beam splitting sensor

High speed and high sensitivity CMOS dual beam splitter sensor makes color data processing more efficient and accurate.



#### 4. Contact automatic whiteboard calibration

The spectrophotometer PS2060 is equipped with an intelligent calibration base, Contact automatic whiteboard calibration is available, professional standard Whiteboard reflectivity  $R\% \geq 95\%$ , good surface uniformity, It has high stability and can obtain repeated and accurate data.



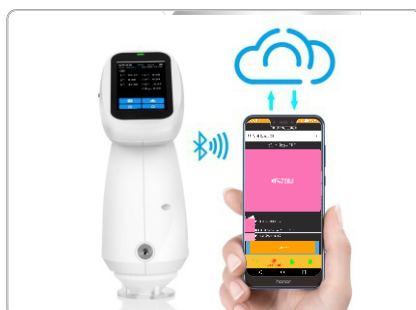
#### 5. Multiple color measurement spaces, multiple illumination source

Support CIE LAB, XYZ, Yxy, LCh, CIE LUV, s-RGB,  $\beta$ xy, DIN Lab99, Munsell(C/2) Color space and D65, A, C, D50, D55, D75, F1, F2(CWF), F3, F4, F5, F6, F7(DLF), F8, F9, F10(TPL5), F11(TL84), F12(TL83/U30) multiple illumination source, Meet different measurement requirements.



#### 6. Ergonomic design and easy measurement

The fitted palm is suitable for continuous detection, which makes you fast and easy to use. An easy to measure device for automatic measurement is added, which is portable, fast, easy to measure and use.



#### 7. Cloud storage, carrying massive color databases

Use apps and applets to establish your private color database in the cloud, without carrying heavy color cards, you can share them with partners anytime and anywhere.



#### 8. The camera can clearly observe the measured area

The built-in camera is used for view taking and positioning. Through real-time view taking, it can accurately determine whether the measured part of the object is the target center, which improves the measurement efficiency and accuracy.



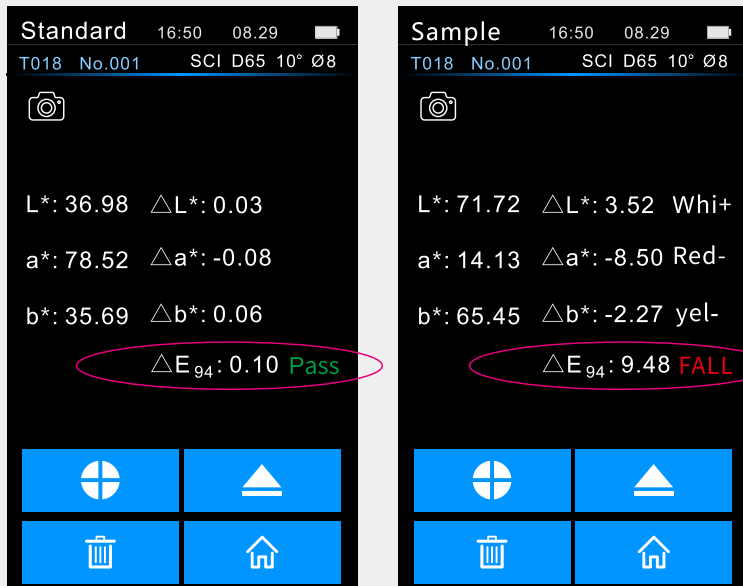
#### 9. Color management software

Quality management software Andriod, IOS, Windows, WeChat app and Hongmeng system are applicable to quality monitoring and color data management in various industries. Data the user's color management, compare color differences, and generate test reports.

# Fat girl series

## PS2060 Spectrocolorimeter

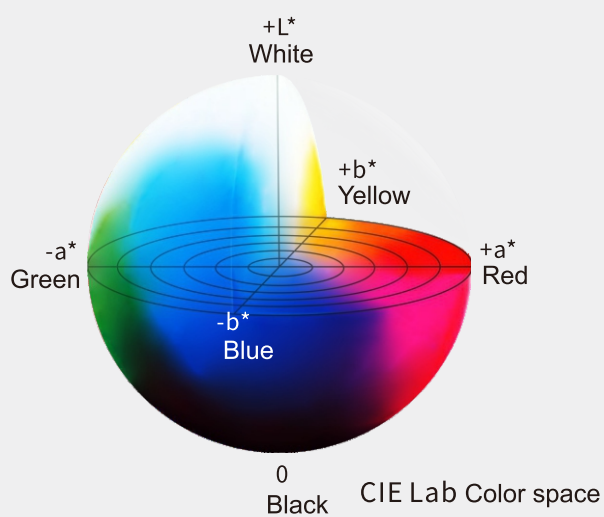
### Result evaluation



Under the ISO7724-1 and ASTM E1164 standards, the color values of the standard sample and sample obtained under the light source are set, and the system conducts rigorous formula calculation to obtain the color difference value and color tendency. Within the set tolerance range, the system will display "qualified"; when it exceeds the set range, the system will display "unqualified".

The difference of color difference is distinguished by NBS unit, which is derived based on the unit of color difference calculation formula established by Judd Hunter. When the value of NBS unit is larger, the color difference is more obvious, and vice versa.

NBS	Level
0.00-0.50	trace
0.50-1.50	slight
1.5-3	noticeable
3-6	appreciable
6+	much



Color space CIE LAB, XYZ, Yxy, LCh, CIE LUV, s-RGB, HunterLab, βxy, DIN Lab99 choice, For example, common CIE Lab color space:

L \* means black and white. The larger the value of L \*, the higher the brightness;

A \* represents red and green, +a \* represents red, and - a \* represents green;

B \* represents yellow blue, +b \* represents yellow, and - b \* represents blue.

We can easily adjust the color through the color bias display.

\* The above test results have been corrected in black and white after startup, and are within the validity period of correction.

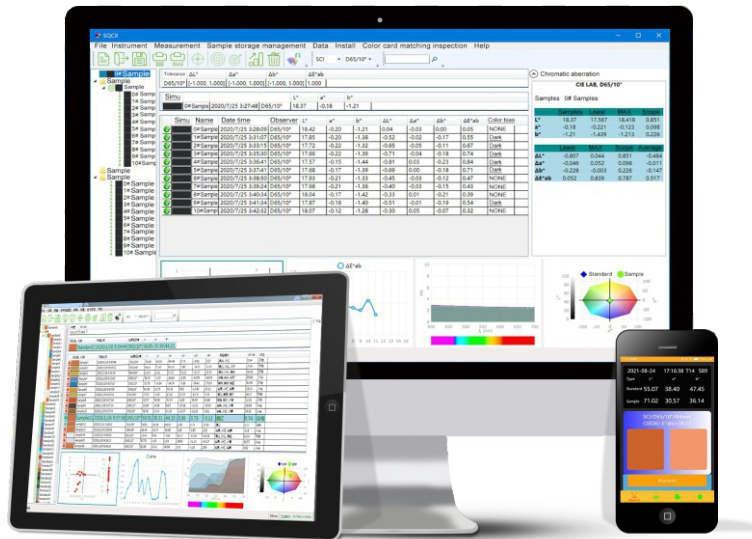
# Fat girl series

## PS2060 Spectrocolorimeter

# SQCX

Connect devices for powerful function expansion

Create instant reports using SQCX



Export

PDF

Send

Mail

upload

Cloud color matching



SQCX can connect the spectrophotometer through USB cable and Bluetooth (only for instruments supporting Bluetooth), control the instrument to measure, change the instrument configuration, and operate the instrument data. At the same time, it also greatly expands the functions of the instrument, supports a variety of surface color systems, light sources, more complex data management, color detection, report generation, etc., and is a powerful assistant for color quality management.

Connect the computer through the data cable and use the SQCX program to achieve:

1. Save the sample values measured on site directly to the mobile device.
2. View the color chart in real time during the test.
3. You can view historical data and personal saved data, and modify the name.
4. It can be transferred to the printer for printing and output.
5. The test data can be managed, transmitted and color matched by computer.

# Parameter

Model	PS2060	PS2050
<b>Optical Geometry</b>	D/8 (diffuse lighting, receiving at 8 ° direction), SCI/SCE (including specular light/removing specular light)	
<b>Standards Compliant</b>	CIE No.15,GB/T 3978,GB 2893,GB/T 18833,ISO7724-1,ASTM E1164,DIN5033 Teil7	
<b>Illumination source</b>	Combined full spectrum LED & UV light source	
<b>Integrating Sphere Size</b>	Φ40mm	
<b>Sensor</b>	CMOS dual beam splitting sensor	
<b>Spectral Range</b>	400~700nm	
<b>Measurement Aperture</b>	Three apertures:MAV:Φ8mm/Φ10mm(Flat); SAV:Φ4mm/Φ5mm(Flat); SSAV:1x3mm(Flat);	Double aperture: MAV:Φ8mm/Φ10mm(Flat); SAV:Φ4mm/Φ5mm(Flat);
<b>Specular Component</b>	SCI/SCE	
<b>Color Spaces</b>	CIE LAB,XYZ,Yxy,LCh,CIE LUV,s-RGB,HunterLab,βxy,DIN Lab99	
<b>Color Difference Formula</b>	$\Delta E^*ab, \Delta E^*uv, \Delta E^*94, \Delta E^*cmc(2:1), \Delta E^*cmc(1:1), \Delta E^*00$ , DINΔE99,ΔE(Hunter)	
<b>Other Colorimetric Index</b>	Reflectivity, WI (ASTM E313, CIE/ISO, AATCC, Hunter), YI (ASTM D1925, ASTM 313), metamerism index Mt, color fastness, color fastness, strength, hiding degree, 555 tone classification, Munsell (C/2) (realized by mobile phone APP)	
<b>Observer Angle</b>	2°/10°	
<b>Illuminant</b>	D65,A,C,D50,D55,D75,F1,F2(CWF),F3,F4,F5,F6,F7(DLF),F8,F9,F10(TPL5),F11(TL84),F12(TL83/U30),U35,NBF,ID50,ID65	
<b>Displayed Data</b>	Spectrogram/data, sample chromaticity value, chromatic aberration value/graph, Pass/Reject result, color simulation, color bias	
<b>Measurement Time</b>	About 1s	
<b>Repeatability</b>	Chromaticity value: MAV/SCI, standard deviation value $\Delta E^*ab$ within 0.03 (after preheating correction, the average value of the whiteboard is measured for 30 times at an interval of 5s) Spectral reflectance: MAV/SCI, standard deviation within 0.08% (400-700nm: within 0.18%)	
<b>Inter-instrument agreement</b>	MAV/SCI, $\Delta E^*ab$ 0.3 within(BCRA series II 12 color plate measurement average)	
<b>Display accuracy</b>	0.01	
<b>Reflectivity range</b>	0~200%	
<b>Reflectivity accuracy</b>	0.01%	
<b>Measurement Mode</b>	Single Measurement,Average Measurement(2-99times)	
<b>Locating Method</b>	Stabilizer positioning+camera view positioning	
<b>Whiteboard verification method</b>	Contact automatic whiteboard calibration	
<b>Locating Method</b>	Length X width X height =94X68X188mm (without correction base)	
<b>Weight</b>	316g (without correction base)	
<b>Battery</b>	Lithium battery, 3.7V, 3200mAh	
<b>Life Lamp</b>	1.2 million measurements in 10 years	
<b>Screen</b>	TFT true color 2.8inch, capacitive touch screen	
<b>Interface</b>	USB , Bluetooth	
<b>Data storage</b>	500 records for standard sample and 10000 records for sample,supporting APP/PC storage	
<b>Software support</b>	Andriod, IOS, Windows, WeChat applet, Hongmeng	
<b>Languages</b>	Simplified Chinese, English,Traditional Chinese	
<b>Standard Accessory</b>	Power adapter, data cable, manual, quality management software (official website download), black and white correction box, protective cover, wrist strap, measuring caliber	
<b>Optional Accessory</b>	Micro printer, powder test box	