







PARTICLE SPECTROPHOTOMETER PS808

Specifically designed for granular, powdered, and textured samples.



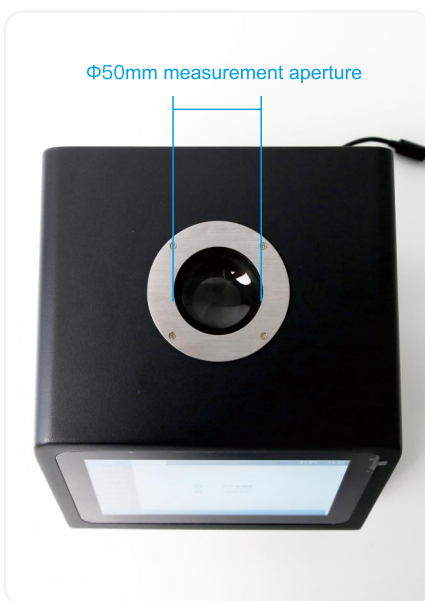
-  Exclusive color measurement for particles: 45/0 optical geometry + $\Phi 50$ mm large aperture, compliant with ASTM D6290-19 particle standard.
-  High repeatability: ΔE^*ab repeatability ≤ 0.03 , spectral reflectance deviation $\leq 0.07\%$.
-  Stable inter-instrument agreement: $\Delta E^*ab \leq 0.35$, ensuring consistent data across multiple devices.
-  40+ standard light sources: Built-in a full range of observation light sources, supporting $2^\circ/10^\circ$ dual observer angles.



The Spectrophotometer PS808 is a high-precision spectrophotometer specially designed for measuring granular, powdered, and textured samples. It adopts 45° annular illumination, is equipped with a $\Phi 50$ mm large measurement aperture, and strictly complies with CIE, ISO, ASTM, and multiple national standards, meeting the requirements of ASTM D6290-19 for particle color testing. The instrument provides a wide measurement area and highly representative data, making it ideal for color measurement of granular samples. It can be widely used for precise color measurement and quality control in industries such as plastics & electronics, paints & inks, textile & apparel dyeing, printing, ceramics, and food.

FEATURE HIGHLIGHTS

I. Tailored for Particle Sample Testing – Meeting Diverse Needs



Special Large Aperture Design: The $\Phi 50$ mm measurement aperture is suitable for non-uniform samples such as granules, powders, and textured materials, greatly reducing measurement errors caused by sample non-uniformity, ensuring data stability and representativeness, and meeting the requirements of ASTM D6290-19.

Full Industry Color Indices Support: In addition to conventional color spaces and color difference calculations, the instrument provides a variety of colorimetric indices such as whiteness (WI, supporting ASTM E313, CIE/ISO, R457, AATCC, Hunter, Taube, Berger, Stensby), yellowness (YI, supporting ASTM D1925, ASTM 313), tint (supporting CIE/ISO, ASTM E313-20), metamerism index MI, staining fastness, color change fastness, strength, hiding power, color density CMYK, etc., meeting the quality testing needs of plastic granules, food granules, chemical raw materials, and other industries.

Compliance with International Standards: Strictly follows CIE No.15, GB/T 3978, ISO 7724-1, ASTM E1164, and other international and national standards, ensuring authoritative and comparable measurement data, providing strong support for product export and international benchmarking.

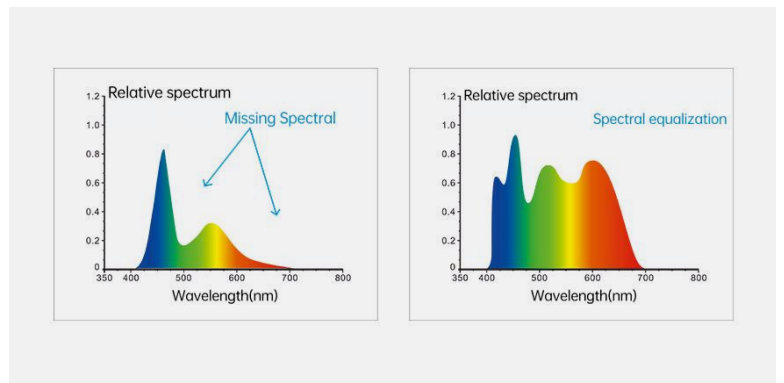
II. High-Precision Measurement – Reliable and Stable Data



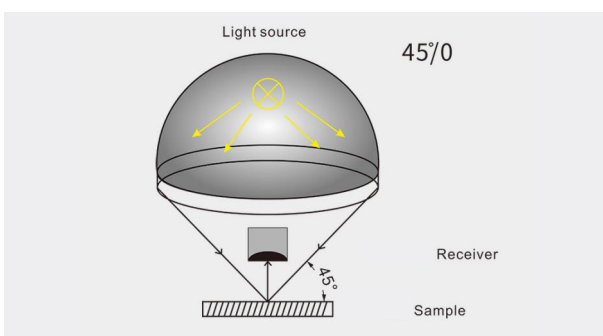
High Repeatability: After warm-up and calibration, 30 consecutive measurements of a standard white plate at 5-second intervals give color value repeatability $\Delta E^*ab \leq 0.03$; spectral reflectance standard deviation $\leq 0.07\%$ ($\leq 0.2\%$ for 400–700 nm band). Suitable for high-precision laboratory analysis and micro color difference identification.

Good Inter-Instrument Agreement: The average value of measurements on 12 BCRA Series II standard color tiles gives inter-instrument agreement $\Delta E^*ab \leq 0.35$, ensuring consistent color data transfer and alignment across multiple devices, laboratories, and production sites, achieving standardized cross-regional quality control.

Full-Band Accurate Acquisition: Measurement wavelength range covers the full visible band 400–700 nm, wavelength interval 10 nm, half-bandwidth 10 nm, reflectance range 0–200%, achieving precise capture of sample spectral information without blind spots.



III. Professional Optical System Design – Adaptable to Various Measurement Scenarios



Standard 45/0 Optical Geometry

45° annular uniform illumination and 0° reception, fully matching human visual characteristics, avoiding the influence of sample surface texture and gloss on measurement results. Measured data is highly consistent with visual evaluation, especially suitable for color testing of granular and textured samples.



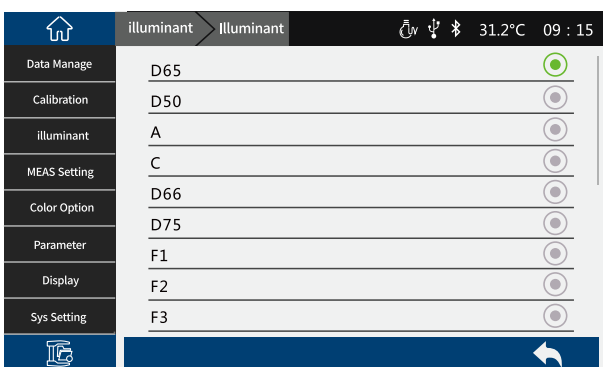
Advanced Spectrophotometric Technology

Uses a nano-integrated spectral device combined with a dual-row 20-set silicon photodiode array, achieving high-speed, high-sensitivity acquisition of spectral signals, ensuring high-fidelity measurement results. Measurement time only about 1 second.



Rich Light Source Options

Built-in over 40 standard observation light sources (D65, A, C, F-series, LED-series, etc.), supporting 2°/10° observer angles, simulating color appearance under various lighting conditions, meeting different industry standards and expanding application boundaries.



IV. Efficient and Convenient Operation & Data Management



Fast Measurement: Single measurement takes only about 1 second. Supports single measurement and average measurement modes (2–99 times), enabling rapid batch sampling or full inspection, greatly improving testing efficiency on production lines and in laboratories.



Intuitive Visual Operation: Equipped with a 7-inch TFT true-color capacitive touchscreen, directly displaying spectral graph/data, sample color values, color difference values/graph, pass/fail results, and color deviation — intuitive interpretation without external devices.



Large Storage Capacity: Stores up to 1,000 master sample data and 30,000 test sample data, fully meeting the data storage and traceability needs of large-scale industrial production.



Full-Platform Software Compatibility: Comes with professional quality management software (download from official website) supporting in-depth data analysis, batch management, remote transmission, and report export, facilitating the establishment of a digital color management system.



Multi-Language Support: Built-in languages include Simplified Chinese, English, Traditional Chinese, Russian, and others, adapting to global application scenarios.



V. Industrial-Grade Durability & Strong Environmental Adaptability



1. Long-Life Light Source

Combined LED light source with a service life of up to 10 years or >2 million measurements, greatly reducing equipment maintenance costs.

2. Broad Environmental Adaptability

Operating temperature range 0–40°C, humidity 0–85% RH (non-condensing), altitude below 2000 m, suitable for most production and testing scenarios. Storage temperature range –20 to 50°C, ensuring safe storage when not in use.

3. Stable Power Supply

Powered by a 24 V DC, 3 A power adapter, ensuring stable operation during long-term continuous use, ideal for fixed installation in laboratories and production lines.

OPTIONAL ACCESSORIES

Product Name	Material Code	Image	Function
Micro Printer	1.609.01.0020		Portable, allowing you to print various measurement parameters without connecting to a computer.

TECHNICAL SPECIFICATIONS

Product Model	PS808
Geometry	45/0 (45° annular uniform illumination, 0° reception)
Compliant Standards	CIE No.15, GB/T 3978, GB 2893, GB/T 18833, ISO 7724-1, ASTM E1164, DIN 5033 Teil 7
Features	The Particle Spectrophotometer adopts 45/0 optical geometry and is equipped with a Φ 50 mm large aperture, meeting the requirements of ASTM D6290-19 for particle color testing. The instrument provides a wide measurement area and highly representative data, making it ideal for color measurement of granular samples. It is used for precise color measurement and quality control in industries such as plastics & electronics, paints & inks, textile & apparel dyeing, printing, ceramics, and food.
Integrating sphere size	/
Light Source	Combined LED light source
Spectroscopy	Nano-integrated spectral device
Sensor	Silicon photodiode array (dual-row 20 sets)
Wavelength Range	400-700nm
Wavelength Interval	10nm
Half Bandwidth	10nm
Reflectance Range	0-200%
Measurement Aperture	Φ 50
Color Space	CIE LAB, XYZ, Yxy, LCh, CIE LUV, s-RGB, HunterLab, β xy, DIN Lab99, Munsell (C/2)
Color Difference Formulas	ΔE_{ab} , ΔE_{uv} , ΔE_{94} , $\Delta E_{cmc}(2:1)$, $\Delta E_{cmc}(1:1)$, ΔE_{00} , $DIN\Delta E_{99}$, ΔE (Hunter)
Other chromaticity index	Spectral reflectance, WI (ASTM E313, CIE/ISO, R457, AATCC, Hunter, Taube, Berger, Stensby), YI (ASTM D1925, ASTM 313), Tint (CIE/ISO, ASTM E313-20), Metamerism Index MI, Staining fastness, Color change fastness, Strength, Hiding power, Color density CMYK
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,B ,U35,NBF,ID50,ID65, LED-B1, LED-B2,LED-B3,LED-B4,LED-B5,LED-BH1,LED-RGB1 ,LED-V1,LED-V2,LED-C2,LED-C3,LED-C5
Display	Spectral graph/data, sample colorimetric values, color difference values/graph, pass/fail results, color deviation
Measuring Time	Approx. 1 s
Repeatability	Spectral reflectance: standard deviation $\leq 0.07\%$ ($\leq 0.2\%$ for 400-700 nm) Colorimetric values: $\Delta E^*ab \leq 0.03$ (after warm-up and calibration, 30 measurements of white plate at 5 s intervals)
Inter-Instrument Agreement	$\Delta E^*ab \leq 0.35$ (average of measurements on 12 BCRA Series II color tiles)
Measurement Time	Approx. 1 s
Measurement Modes	Single measurement, average measurement (2-99 times)
Dimensions	210 x 245 x 188 mm
Weight	3.1 kg
Power Supply	24 V DC, 3 A power adapter
Light Source Lifespan	10 years or >2 million measurements
Display	TFT true color 7-inch capacitive touchscreen
Interfaces	USB, Bluetooth
Data Storage	1,000 standard samples, 30,000 test samples
Languages	Simplified Chinese, English, Traditional Chinese, Russian
Operating Temperature Range	0-40°C, 0-85% RH (non-condensing), altitude below 2000 m
Storage Temperature Range	-20 to 50°C, 0-85% RH (non-condensing)
Standard Accessories	Power adapter, data cable, user manual, quality management software (Download URL: http://www.3nh.com/en/client_en_14.html), white plate, Petri dishes x2
Optional Accessories	Micro printer

GUANGDONG THREENH TECHNOLOGY CO., LTD.



Spectrophotometers



Colorimeters



Haze Meters



Gloss Meters



Test Charts



Light Booths

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