

## Whiteness Colorimeter



### Introduction:

The instrument uses the integrating sphere to realize the measurement of spectral diffuse reflectance. The optical principle is to use the blue light emitted by the semiconductor light source to directly enter the integrating sphere. The spectrum reflected by the surface is converted into an electrical signal by the silicon photocell after passing through the condenser lens, light barrier, and color filter group; another silicon photocell receives the base signal in the sphere. The two electrical signals are respectively amplified and processed by a single-chip microcomputer to realize the system functions of automatic zero calibration, working whiteboard calibration, and sample testing. Users can easily use this instrument to test the whiteness of various samples.

### Application:

Whiteness colorimeter is widely used in building materials (cement, silicate, talcum powder, kaolin), daily chemicals (cosmetics, detergents, washing powder), ceramics (building ceramics, daily ceramics), flour, salt industry, food, Beverage, textile, flax, fiber, chemical industry, plastics, metallurgy, ultrafine powder, papermaking, printing, measurement, commodity inspection, etc.

### Feature:

**\* Wide range of applications:**

The instrument can perform reflective measurement on solid samples, powder samples, pasty samples, silk samples and other surfaces.

**\* Good measurement performance:**

The computer-aided design is adopted to make the spectral characteristics of the instrument measurement sensor conform to the CIE standard observer response curve, and can accurately obtain the XYZ tri-stimulus value.

**\* Rich color system and chromaticity value:**

The instrument provides a variety of color systems, whiteness values and reference color differences, etc.

**\* High automation and multi-function:**

The instrument can automatically collect and process data during operation, and the operation is simple and fast.

The instrument also has a complete editing function, the user can input or modify the data and color difference target value of the standard whiteboard through the keyboard, and can choose the output mode arbitrarily.

### Technical Parameters:

Model	BK-W3C
Lighting/Observation Condition	0/d Condition
Observing Condition	Standard D65 luminous source
Standard Observer	10° field of view
Measuring Aperture	φ 18 mm
Specimen Size	Diameter >φ15mm, Thickness <40mm
Indication Accuracy	x, y 0.0001, other 0.01
Stability	Zero drift ≤ 0.1; Indication drift ≤ 0.2
Measurement Accuracy	(Whiteness) W<1.0
Measurement Repeatability	(Whiteness) ΔW<0.2
Apparent Color Parameters	Absolute value: CIE XYZ, Yxy, L*a*b*, L*C*H*, HunterLab; Chromatic aberration: Yxy, L*a*b*, L*C*H*, HunterLab; Whiteness: CIE86 whiteness Wg and TW value, R457 whiteness Wr value, Hunter whiteness Wh value, GB5950 whiteness Wj value, Stensby whiteness Ws value, Stephansen whiteness Wp value
Power Supply	220V, 50/60Hz (Standard); 110V, 60Hz (Optional)
Working Temperature	0~40°C
External Size(W*D*H)	300* 330*280 mm
Net Weight	4.8 kg
Packed Size(W*D*H)	400*400*400mm
Gross Weight	9kg