

Bench-top Spectrophotometer WS-820N Introduction



Part 1. Introduction

WS-820N is the new model of bench-top spectrophotometer. It is all-in-one model and can measure both reflectance and transmittance. It can measure both opaque and transparent materials such as paint, textile, plastic, films, master batches, printing materials, glasses, liquid and powder materials, etc.

Part 2. Instrument Advantages

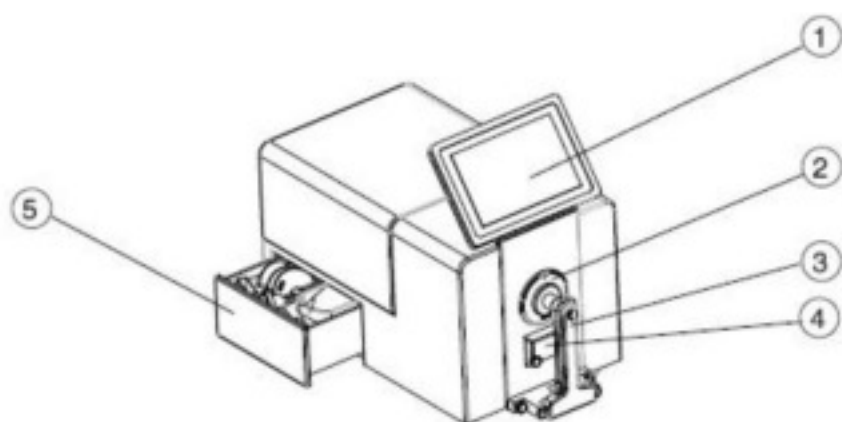
- Instrument adopts xenon lamp
- It can measure both reflectance and transmittance
- Auto temperature and humidity compensation function
- 4 kinds of UV modes for choices
- 4 test apertures as standard accessories, auto aperture size recognition
- 10 million samples storage memory
- Instrument with real time camera to view the measurement area
- Vertical and horizontal measurement for testing different kinds of samples

Part 3. More Instrument Pictures

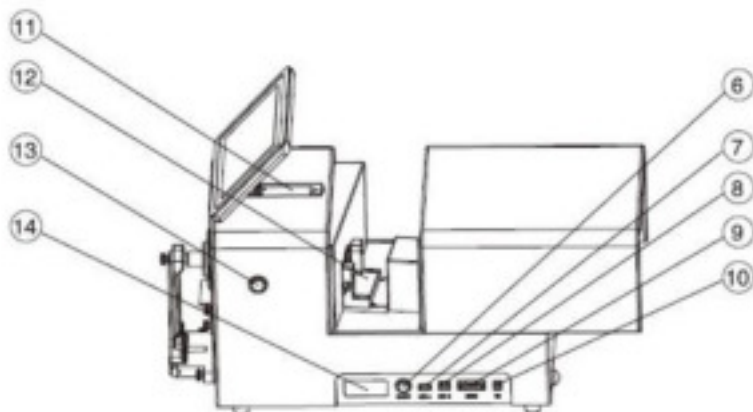




Part 4. Instruemnt Strcture Introduction



- ① Touch Screen
- ② Test Aperture
- ③ Fixture
- ④ Support
- ⑤ Drawer for Accessories



- ⑥ Switch on-off ⑦ USB-A ⑧ USB-B ⑨ RS-232
- ⑩ Power Outlet ⑪ Screen Anti-shake Bracket
- ⑫ Transmittance Fixture ⑬ Test ⑭ Nameplate
- ⑮ Top Cover Slide lock ⑯ Manual Damper ⑰ Bench

Part 5. Technical Data

Illumination/ Viewing System	Reflection: d/8(Diffused illumination, 8 degree viewing) Simultaneous measurement of SCI/SCE (ISO7724/1, CIE No.15, ASTM E1164,DIN5033 Teil7,JIS Z8722 Condition C standard) Transmittance d/0(Diffused illumination, 0 degree viewing)
Sphere Diameter	152mm
Wavelength	360-780nm
Wavelength Pitch	10nm
Reflectance Range	0-200%
Resolution	0.01%
Light Source	Pulse Xenon Lamp
UV Measurement	Include UV, 400nm cut, 420nm cut, 460nm cut
Measurement Time	SCI/SCE < 2s SCI+SCE < 4s
Measurement Aperture	Reflectance: XLAV Φ25.4mm/Φ30mm, LAVΦ15mm/18mm,MAVΦ8mm/Φ11mm,SAVΦ3mm/Φ6mm (Aperture size can be custom made) Auto aperture size recognition Transmittance:Φ17mm/Φ25mm

Transmittance Sample Size	No limit on sample width and height, thickness $\leq 50\text{mm}$
Repeatability	XLAV Spectrum Reflectance/Transmittance: standard deviation within 0.1% XLAV Chromaticity value: Standard deviation within ΔE^*ab 0.015 * When a white calibration plate is measured 30 x at 5-second intervals after white calibration
Inter-Instrument Agreement	XLAV ΔE^*ab 0.15 (BCRA Series II, Average measurement of 12 tiles, at 23°C)
Illuminants	A,C,D50,D55,D65,D75,F1,F2,F3,F4,F5,F6,F7,F8,F9,F10,F11,F12 CWF,U30,DLF,NBF,TL83,TL84
Display	Reflectance and Transmittance graph/value, color value, color difference values, pass/fail, color simulation, color assessment, haze, liquid chromaticity values, color tendency
Viewing Angles	2° and 10°
Color Spaces	L*a*b, L*C*h, Hunter Lab, Yxy, XYZ
Other Indices	WI(ASTM E313-00,ASTM E313-73,CIE/ISO, AATCC, Hunter, Taube Berger, Stensby) YI(ASTM D1925,ASTM E313-00,ASTM E313-73),Tint(ASTM E313-00,CIE,Ganz),Metamerism index milm, stain fastness, color fastness, ISO brightness, R457, A density, T density, E density, M Density, APHA/Pt-Co/Hazen, Gardner, Saybolt, ASTM color, Haze, Total Transmittance, Opacity, Color Strength
Color Difference	ΔE^*ab , ΔE^*CH , ΔE^*uv , ΔE^*cmc , ΔE^*94 , ΔE^*00 , ΔE^*ab (hunter),555 shade sort
Language	Chinese and English (or Custom made)
Storage Memory	8GB
Screen Size	7 Inches Touch Screen
Power	12V/2.5A
Operate Temperature	5-40°C(40-104F), relative humidity 80% (at 35°C) no condensation
Storage Temperature	-20-45°C(-4-113F), relative humidity 80% (at 35°C) no condensation
Accessories	Black Calibration Cavity, White Calibration Tile, Power Adaptor, Operate Manual, PC software (CD), USB Cable, Reflectance Test Support,30mm,18mm,11mm and 6mm apertures, fixture for transmittance
Optional Accessories	Support for vertical measurement, liquid heater (transmittance)
Interface	USB and RS-232
Instrument Size	430x240x260mm
Net Weight	10.8kgs

Part 6. Instrument Working in Customer's Factory

