

Portable Sphere Spectrophotometer



The SP 60 series provides absolute and difference measurements for the following colorimetric systems. These values can be obtained from any of nine illuminants with 2° or 10° observer angle: L^*a^*b , $\bar{A}L^*\bar{A}a^*\bar{A}b^*$, $L^*C^*h^\circ$, $\bar{A}L^*\bar{A}C^*\bar{A}H^*$, $\bar{A}E^*_{ab}$, $\bar{A}ECMC$, $\bar{A}E$ CIE94 and XYZ. Whiteness and yellowness per ASTM E313-98, Metamerism Index and DIN 6172

Features

- Diffuse/ 8° sphere optical geometry
- Flip-back target shoe for flexible use
- Large, easy-to-read graphical LCD display
- Opacity and color strength measurement & shade sorting
- Simultaneous measurement of both specular component included SPIN & specular component excluded SPEX
- Pass/Fail mode
- Quick color compare
- Special Project mode (SP62, SP64)
- Job Mode (SP64)

Technical Specifications

Measuring Geometrics	: d/8°, DRS spectral engine, choice of optical aperture : 4mm measurement area (SP62), 6.5 mm target window 8mm measurement area (SP60/SP62), 13mm target window 14mm measurement area (SP62), 20mm target window Switchable 4mm/8mm measurement area (SP64)
Light Source	: Gas-filled tungsten lamp.
Illuminant Types	: C, D50, D65, D75 A, F2, F7, F11& F12
Standard Observers	: 2° & 10°
Receiver	: Blue-enhanced silicon photodiodes
Spectral Range	: 400nm – 700nm
Spectral Interval	: 10nm – measured, 10nm - output
Storage	: 1,024 standards with tolerances, 2,000 samples
Lamp life	: Approx. 500,000 measurements
Short-term Repeatability	: 0.10 $\bar{A}E^*_{ab}$ on white ceramic

Model SP962 & SP964 are with O/45 optical geometry

Optional Accessories

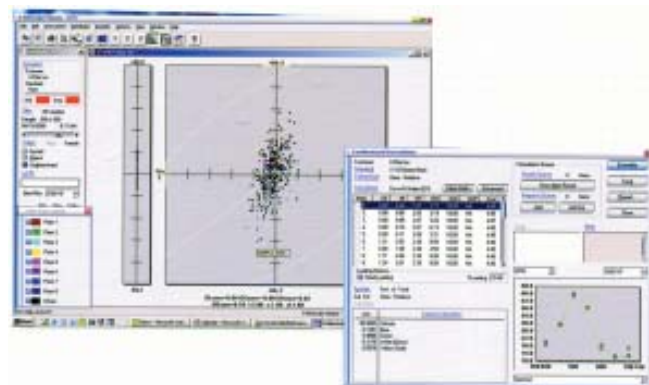
	Ref. No	Model
Benchtop Stand	XR02 AT01	DRS-80
Pellet Holder	XR02 AH01	DRS-801
Liquid Cell Holder	XR02 AH02	DRS-810
Cell Holder for Powder or Liquid	XR02 AH03	DRS-811
Universal Sample holder (to hold small and odd-shaped parts)	XR02 AH04	DRS-803



Ref. No	Model
XR02 B001	SP 60
XR02 B002	SP 62
XR02 B003	SP 64
XR02 B004	SP 962
XR02 B005	SP 964

Colour Analysis Software

QA-Master I, QA-Master II, Formulation Master I, Formulation Master II, Formulation Master III



Ref. No	Model
XR02 AS01	QA-Master I
XR02 AS02	QA-Master II
XR02 AS03	Formulation -Master I
XR02 AS04	Formulation -Master II
XR02 AS05	Formulation -Master III

Technical Specifications

	Formulation III	Formulation II	Formulation I	QA II	QA I
Communications					
Network (LAN) version	*	*	*	*	*
Server-Based (Internet) Computing	*			*	
ColorMail® (e-mail)	*	Optional	Optional	Optional	Optional
Multiple Illuminants					
A, C, D50, D65, D75, F2, F7, F11, F12	*	*	*	*	*
Data Views					
Multiple view capability	*	*		*	
Simple, L*a*b*, indices (L*a*b* data, general and textile), spectral, spectral data, status density, trend, notes & tags and visual color	*	*	*	*	*
FMC2	*	*		*	
Formula	*	*	*	*	
Verbal color	*	*		*	
Functions					
Color-coded tag plot	*	*		*	
Dot area/contrast ratio calculation	*	*		*	
Multiple formulation methods	*	*	*		
Quick correct	*	*	*		
Assign and create tags	*	*		*	
Filters	*	*		*	
Multiple tolerances for standards	*	*		*	
User defined controls	*	*		*	
Projects and jobs	*	*		*	
Alternate standard creation	*	*		*	
Delete sample set	*	*	*	*	*
Display options	*	*		*	
Customize toolbar	*	*	*	*	*
View sets	*	*		*	
5 and 3 angle QA databases	*	*		*	
Creat/modify calibration sets	*	*		*	
ColorDesigner emulation	*	*		*	
Vue-Rite (on-screen color)	*	*	*	*	*
Reports					
General	*	*	*	*	*
Conformance and custom	*	*		*	
Sample and sample set	*	*	*	*	*
Languages					
English, French, Italian, German, Spanish and Chinese (Simplified)	*	*	*	*	*
Training	*	Optional	Optional	Optional	Optional

Colour Test**Features**

- Portable colorimeter with external probe
- 45°/0° measuring geometry according to DIN 5033
- Small probe head, spring-loaded
- Non-volatile memory for 1000 color readings and for 100 color readings including remission spectra
- Comprehensive data processing software

Technical Specifications

Measuring geometry	: 45°/0°- circular illumination at 45°, measurement at 0° according to DIN 5033.
Standard illumination	: D65, D55, A, C
Standard Observer	: 2° (1931) & 10° (1964)
Colorimetric data and models	: XYZ, Yxy, Æ CIE L*a*b*, Æ CIE L*u*v*
Spectral Range	: 400nm – 700nm
Spectral Resolution	: 10nm (internal, 3.5nm)
Light source	: 3 white and 3 blue light emitting circular diodes
PC interface	: serial data transfer via RS-232C

Ref. No : EP02 B006

Model : ColourTest

Multi Angle Spectrophotometer



Allows accurate evaluation of the changes exhibited in metallic, pearlescent and special effect paint finishes

Features

- Five angles of measurement (15°, 25°, 45°, 75°, 110°)
- Color values displayed in various formats :
L*a*b*, $\Delta L^* \Delta a^* \Delta b^*$, L*C*h°, $\Delta L^* \Delta C^* \Delta H^*$, Flop Index, Δ Flop Index, $\Delta E_{L^*a^*b^*}$ and ΔE_{cmc}
- Dynamic Rotational Sampling(DRS) :
X-Rite's Dynamic Rotational Sampling technology utilizes a simple, robust optical system which provides simultaneous measurement of all angles.

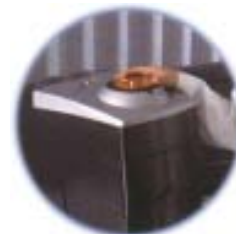
Technical Specifications

Measuring Geometrics	: 45° illumination, 15°, 25°, 45°, 75°, 110° specular viewing, Angular accuracy $\pm 0.15^\circ$ Fiber optic pick-up, coupled with DRS technology
Measuring Area	: 0.5 in. diameter (12mm)
Light Source	: Gas-filled tungsten lamp, color corrected to approx. 4000° K.
Illuminant Types	: C, D ₆₅ , D ₅₀ , A, F2, F7, F11 & F12
Standard Observers	: 2° & 10°
Receiver	: Blue-enhanced silicon photodiodes
Spectral Range	: 400nm - 700nm
Lamp life	: Approx. 500,000 measurements
Short-term Repeatability	: 0.10 ΔE^*_{ab} on white ceramic

Ref. No : XR02 B007

Model : MA 68II

High Performance BenchTop Spectrophotometer



Features

- Built-in image capture technology - ensuring accurate sample positioning
- Horizontal and vertical positioning - offering the power of two instruments in one
- Transmission and reflectance measurement – providing maximum flexibility

Technical Specifications

Model	X-Rite Colour Premier 8400
Spectrophotometer	: Horizontal and vertical
Geometry	: d/8°
Sphere diameter	: 6" (Spectralon®)
Specular component	: Included/excluded
Detector	: Photodiode array with holographic grating (x2)
Light source	: Pulsed Xenon
Spectral Range	: 360nm – 740nm
Wavelength interval	: 10nm
Reflectance resolution	: 0.001%
Repeatability (white)	: 0.01 ΔE^* avg / 0.02 ΔE (Premier 8200)
Software interface	: USB
Transmission measurement	: Direct and total
Fluorescent measurement	: Auto UV Calibration
View aperture size	: 4.0/ 8.0 / 19.0 mm

Ref. No
XR02 B008
XR02 B009

Model
X-Rite Colour Premier 8200
X-Rite Colour Premier 8400

Color Reflection Spectrodensitometer



Features

Security :

- Lock out of specified functions
- Lock out of configuration menu

Density Features

- Density (absolute or minus paper)
- Density Difference (16 reference values)
- Dot Area (Tone Value)
- Hue Error/ Grayness
- Dot Gain with triple reference
- News mode
- Print Contrast
- Apparent Trap
- High precision data format feature
- Electronic Function Selection™ (EFS)
- Selectable User Configuration (US, Euro, NewsBalance, News3-color)
- Selectable Status Response (T, E, I, A, G, Tx, Ax, Ex & Hi-Fi)

Color Features

- Lab (CIE or Hunter) • $L^*u^*v^*$ • $Y_u^*v^*$
- $L^*C^*h^°$ • XYZ • Yxy
- $\Delta E(ab)$, CMC, and CIE 94 tolerancing
- High-precision data format feature
- Color compare with up to 24 references.
- On-screen graph of $L^*a^*b^*$ (actual or difference)
- Match

Technical Specifications

Measurement Geometry	: 45°/0° per ANSI, DIN & ISO Standard
Spot size at sample	: 3.4mm (0.13 in) standard 2.0mm (0.078 in) optional 6.0mm (0.236 in) optional 1.6mmH (0.063 in) x3.2mmW Micro-Spot (0.125 in)
Light source	: Gas pressured @ 2856°
Spectral Range	: 400nm – 700nm
Illuminant Types	: A, C, D50, D55, D65, D75, F2, F7, F11, F12
Standard Observers	: 2° & 10°
Response types	: T, E, I, A, G, Tx, Ax, Ex & Hi-Fi
Measurement Range	: 0.00D-2.5D; 0-160%R
Repeatability	: $\pm 0.005D$ 0.00-2.00D* $\pm 0.010D$ 2.00-2.50D* *Polarized Yellow $\pm 0.010D$ 0.00-1.80D 0.10 ÅE Max Microspot $\pm 0.010D$ 0.0-1.8D
Database	: 1400+ samples
Data Interface	: RS-232 serial interface

Ref. No : XR02 B010

Model : 528

Colour Assessment Cabinets



Suitable for all industries and applications where there is a need to maintain colour consistency and quality – e.g. Automotive, Ceramics, Cosmetics, Dyeing, Foodstuffs, Footwear, Furniture, Inks, Knitwear, Leather, Ophthalmic, Packaging, Printing and Textile.

Technical Specifications

Combination of Light Source

D65	'Artificial Daylight' fluorescent lamps conforming to the international Standard illuminant D6500 within the tolerances prescribed in BS950:Part 1
TL84	Philips Triphosphor fluorescent lamps often chosen as a "Point of Sale" illuminant
F	Tungsten Filament lighting required by BS950:Part 1 as a test for metamerism (CIE Illuminant 'A')
UV	Ultra Violet Backlight to reveal the presence of fluorescent dyes and bleaches.

Dimensions (mm)

Ref. No	Model	Viewing Cavity :	Width	Height	Depth
VR02 B011	CAC150		1520	570	590
VR02 B012	CAC120		1260	570	590
VR03 B013	CAC60		680	360	380

Portable Gloss Meter - TMS 724

A gloss meter that uses near-infrared-rays, almost impervious to ambient light and unaffected by colours, are pulse-emitted and projected on the measuring surface. The light reflected converges at the detector and signal received are converted to gloss value.

Features

- Dual Angle 20°/ 60°
- Small separate measurement probe

Technical Specifications

Measuring Range : 0 - 100 / 0 - 199 (Display)
Resolution : 1
Reproducibility : ±5% F.S. ± 1 digit.

Ref. No : TC02 C001

Model : TMS 724

Portable Gloss Meter - PicoGloss 560 (ISO 2813, ASTM D 523, DIN 67 530)**Features**

- Single Angle 60°
- **60° Gloss Measurement**
Specifically for gloss measurements in the 0 – 199.9 gloss units range
- **Mirror gloss measurement**
60° mirror gloss measurements can be conducted on metallic surfaces in the 0 – 1999 gloss units range

Technical Specifications

Light source : Tungsten filament vacuum lamp (5V/45mA)
Photo-sensor : Si-photocell
Measuring geometry : 60°

Ref. No : ER02 C002

Model : PicoGloss 560

Portable Three-Angle Gloss Meter - PicoGloss 503 (20°/60°/85°)**Features**

- Three measuring geometries : 20° (high gloss), 60° (medium gloss), 85° (low gloss)
- Measurements in accordance with DIN, ISO, ASTM, BS and JIS
- Certified acc. To DIN 67 530
- With data storage 50 x 999 value, statistical functions
- Interface for data transfer to PC
- Software for PICOGLOSS 503

Ref. No : ER02 C003

Model : PicoGloss 503

45/0 Reflectometer**Instrument for measuring whiteness and following application :**

- Hiding Power – paints, inks, coatings
- Shade – paints, auto trims, furniture
- Fading – textiles, clothing, plastics, any pigmented system
- Chalking – paints
- Efficiency of Detergents – washing powders, cleaning fluids
- Cleanliness & Oxidisation of metal surfaces such as (blasted steel)

Item	Ref. No	Model
Statistical NOVO-SHADE	RH02 C004	NGR45/0/S
Non-statistical NOVO-SHADE	RH02 C005	NGR45/0