



MiniScan[®] EZ



measure
color
the way your
eye sees it





Compact, sturdy and portable, the MiniScan® EZ spectrophotometer conveniently travels... to the plant floor, production line, warehouse and outdoors, wherever your sample needs are. With unmatched reliability, it accurately determines the exact color of a sample, the color difference between two samples, or the difference between a sample and a product standard. Conforms to all industry standards for reflected color measurement and permits measurement in all commonly used color scales.

DESIGNED FOR

Paint Chips

extruded plastic pieces

patties

PELLETS

siding

steaks

decking material

paper

opaque solids

GLASS

Fabric

metals

meat

Carpet

YARN

tiles

FIBER PACKAGES

translucent solids

plastic parts

THREAD

plastic plaques

PACKAGING MATERIALS

fillets

Easy to Use



- Ergonomic and flexible design and ease of use, reducing user fatigue and preventing reading errors
- In-hand controls provide easy one-handed operation with thumb-tip navigation of all functions
- Easy pass/fail determination based on user-entered tolerances or automatic tolerances
- Large easy-to-read, LCD graphical display with screen four rotation options: 0°, 90°, 180° and 270°
- Lightweight construction, weighing only 1 kg (2.25 lbs) including batteries

Accurate



- Available in 45°/0° and diffuse/8° geometry systems. Color check tile provided
- Displays color data, color difference data, color plot, spectral data, spectral data difference, spectral plot, and spectral difference plot
- Measures the visible spectrum from 400 nm to 700 nm with 10 nm resolution

Features

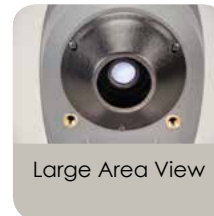
- Instant, accurate data measurements can be stored in memory for later printing or downloading to a PC
- Compatible with HunterLab's EasyMatch® QC software, and allows for up to 100 customized set-up configurations
- Each set-up includes the following parameters:
 - color scale,
 - indices,
 - illuminant and observer specifications,
 - standard values to specify product standard or target,
 - Pass/Fail tolerances against product specifications,
 - averaging for uneven and inconsistent samples,
 - display formats for multiple data types



Ergonomic Handle



Single Thumb-tip control



Large Area View



Large, easy-to-read data display

The HunterLab Advantage

The MiniScan® EZ is backed by over 60 years of quality innovation and experience from HunterLab, the world's most trusted color quality experts.

With an unmatched reputation for delivering the right solution for any challenge, HunterLab tailors products and technologies for every color measurement need and budget offering the broadest range of color measurement solutions in the industry.

For more information go to www.hunterlab.com
or contact your local HunterLab representative.



Accessories



D02-1014-416 **MiniScan® EZ-4500L Nose Cone with Screw-on Wet Sample Port**

Used to measure wet coatings spread on glass or card stock. This accessory includes a user-installable, modified nose cone base with replaceable A02-10140-431 screw-on wet sample end cap.



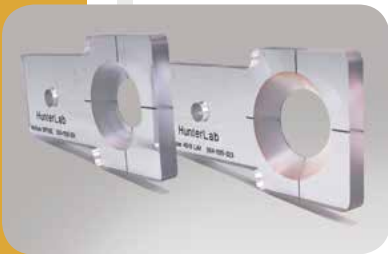
D02-1014-436 **Nose Cone with Screw-On 420-nm UV Filter Port**

Provides a user-installable, modified nose cone base with a replaceable A02-1014-437 screw-on end cap with 420-nm UV Filter in the port. This UV cut-off filter eliminates the effects of UV optical brightening with paper, plastics and textiles, allowing the base color to be measured. Also includes a replaceable A02-1014-435 screw-on end cap with a 32 mm open port to run instrument diagnostics.



D02-1014-367 **LAV Nose Cone with Screw-On Glass Port**

Provides a user-installable, modified nose cone base with a replaceable A02-1014-374 screw-on end cap with glass port. This port is designed to protect the instrument from dust, fluff and moisture. Also includes a replaceable A02-1014-435 screw-on end cap with a 32 mm open port to run instrument diagnostics.



POSITIONING DEVICES

D04-1015-329 **Positioning Device, 45/0 LAV**

D04-1015-331 **Positioning Device, Diffuse**

Allow precise sample measurement using the MiniScan® EZ. This device is aligned on the flat sample area to be measured using a cross-hair template. The MiniScan nosecone is then inserted into the top of the device to make measurement.



A13-1014-294 **USB Flexible Keyboard**

88 character keyboard allows user to enter IDs directly into MiniScan® EZ.

A13-1014-254 **USB Barcode Reader**

Barcode Scanner scans product IDs directly into MiniScan® EZ. Automatically detected at USB port.

A13-1014-259 **USB Printer**

USB printer allows hard copy measurements to be printed. Requires a standard USB cable, sold separately. Uses Thermal Printer paper, sold separately.

- **Accessories and sample handling fixtures available for every industry application**

SPECIFICATIONS

MiniScan[®] EZ

MEASUREMENT

Measurement Principle:	Dual-beam spectrophotometer
Geometries:	<ul style="list-style-type: none">• Diffuse/8° (specular component included) OR <ul style="list-style-type: none">• Directional annular 45° illumination / 0° viewing (specular component excluded)
Spectrophotometer:	256 element diode array and high resolution, concave holographic grating
Sphere Diameter:	63.5 mm (2.5 in.) (diffuse/8° models)
Port Diameters/View Diameters	
45°/0° models:	LAV 31.8 mm (1.25 in) illuminated/25.4 mm (1 in) measured
Diffuse/8° models:	LAV 25.4 mm (1 in) illuminated/20.0 mm (0.8 in) measured
Specular Component:	Excluded on 45°/0° models, Included on Diffuse/8° models
Spectral Range:	400 nm - 700 nm
Spectral Resolution:	< 3 nm
Effective Bandwidth:	10 nm equivalent triangular
Reporting Interval:	10 nm
Photometric Range:	0 to 150 %
Light Source:	Pulsed Xenon Lamp
Flashes per Measurement:	1 flash
Lamp Life:	> 1 million flashes
Measurement Time:	< 1 second from button push to measurement 2 seconds from button push to data display
Minimum Interval between Measurements:	3 seconds
Standards Conformance:	CIE 15:2004, ISO 7724/1, ASTM E1164, DIN 5033, Teil 7 and JIS Z 8722 Condition C
Standards Traceability:	Instrument standard assignment in accordance with National Institute of Standards and Technology (NIST) following practices described in CIE Publication 44 and ASTM E259

PERFORMANCE

Inter-Instrument Agreement:	$\Delta E^* \leq 0.15$ CIE L*a*b* (Avg) on BCRA II Tile Set $\Delta E^* \leq 0.25$ CIE L*a*b* (Max) on BCRA II Tile Set
Colorimetric Repeatability: (20 Readings)	$\Delta E^* \leq 0.05$ CIE L*a*b* on white tile

FIRMWARE

Data Views:	Color Data, Color Difference Data, Tristimulus Color Plot, Spectral Data, Spectral Difference Data, Spectral Plot, Spectral Difference Plot
USB Flash Drive Features:	Backup of Setups and Data, Setup Transfer to Multiple Units, Data Export to Excel
Other Features:	Pass/Fail, Average Multiple Readings, Search for Closest Standard
Illuminants:	A, C, D50, D55, D65, D75, F2, F7, F11
Observers:	2° and 10°
Color Scales:	CIE L*a*b*, Hunter Lab, CIE L*C*h, CIE Yxy, CIE XYZ
Color Difference Scales:	$\Delta L^*a^*b^*$, ΔLab , ΔL^*C^*H , ΔYxy , ΔXYZ
Color Difference Indices:	ΔE^* , ΔE , ΔC^* , ΔC and ΔE_{cmc}
Indices and Metrics:	E313 Whiteness and Tint(C/2° and D65/10°), E313 Yellowness (C/2° and D65/10°), D1925 Yellowness (C/2°), Y Brightness, Z%, 457 nm Brightness, Opacity, Color Strength Average and Single Wavelength), Gray Change, Gray Stain, Metamerism Index, Shade Number
Data Storage:	As Standard - 100 spectral or tristimulus with Pass/Fail tolerances as Working, Physical, Numeric and Hitch As Sample - 750 spectral
Languages:	Chinese, English, French, German, Italian, Japanese, Spanish

PHYSICAL / ELECTRICAL

Dimensions:	Height: 13.9 cm (5.5 in.) Width: 10.9 cm (4.3 in.) Depth: 26.7 cm (10.5 in.) Weight: 1 kg (2.2 lbs) with batteries
Display:	5.8 cm x 5.8 cm (2.3 in. x 2.3 in.) backlit LCD, blue monochrome
Interface:	USB 2.0
Power:	Six AA-size alkaline batteries or nickel-metal-hydride rechargeable batteries
Battery Performance:	With alkaline batteries approximately 4,000 measurements With nickel-metal-hydride batteries approximately 4,000 measurements when fully charged (varies with battery condition)
Operating Environment:	10° to 40°C (50° to 104° F), 10 % to 90 % RH, noncondensing
Storage Environment:	-20° to 65°C (-5° to 150° F), 10 % to 90 % RH, noncondensing
Standard Accessories:	<ul style="list-style-type: none">• NiMH batteries• Battery charger• Calibrated instrument white tile• Certificate of traceability• Black glass (45°/0° models) or Light trap (diffuse/8° models)• Green diagnostic tile (all instrument standards are contained in a single ergonomic holder)• Dust cover• Carrying case• USB flash drive• MiniScan EZ Users guide

For more information, please contact HunterLab at 703-471-6870, sales@hunterlab.com or visit www.hunterlab.com