



UltraScan[®] VIS



measure
color
the way your
eye sees it





The UltraScan® VIS color measurement spectrophotometer measures opaque, transparent, and translucent solids and liquids in

the complete CIE recommended spectral range of 360 – 780 nm,

ensuring no part of the visible spectrum is excluded from the tristimulus calculations.

Its D65 illumination, combined with its ability to measure in the 360 nm range, makes the UltraScan® VIS the first choice for those who measure materials with UV induced fluorescence.

DESIGNED FOR

Paint Chips

loose powders

PREFORMS

PELLETS

Milk

LIP BALM

Opaque Liquids

transparent bottles

LENSES

pigments

GLASS

Fabric

metals

acids

Carpet

YARN

tiles

FIBERS

opaque bottles

juices

panels & plaques

COLORANTS

small quantities of liquids

FILMS

plastic plaques

automotive glass

Silica

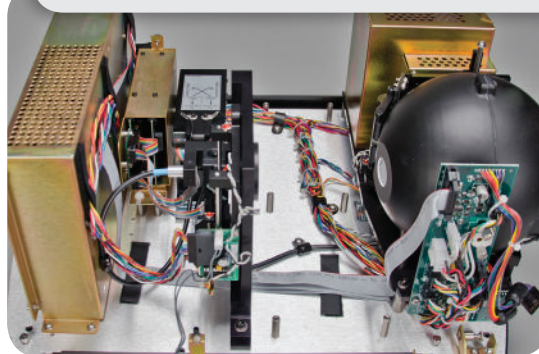
Small Plastic Parts

dyes

Reliable

Underneath its sleek exterior lives a mechanical-optical assembly, ruggedly built in excess of specification on a rigid optical platform, ensuring years of reliable, accurate service.

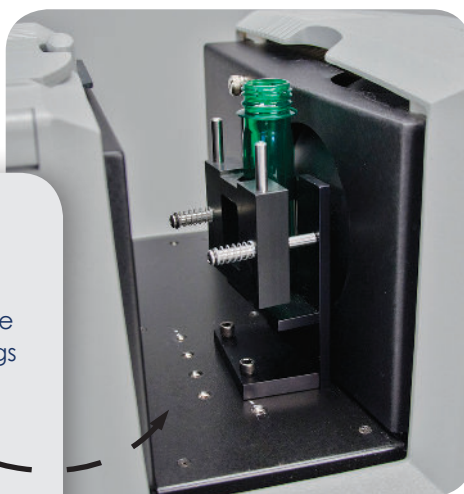
- Aircraft grade stainless fasteners
- Solid ½" thick optical platform, eliminating flex factor
- Robust electronic subassemblies



Versatile

The UltraScan® VIS has available sample measurement accessories designed to hold virtually any type of solid or liquid sample for accurate and repeatable measurements.

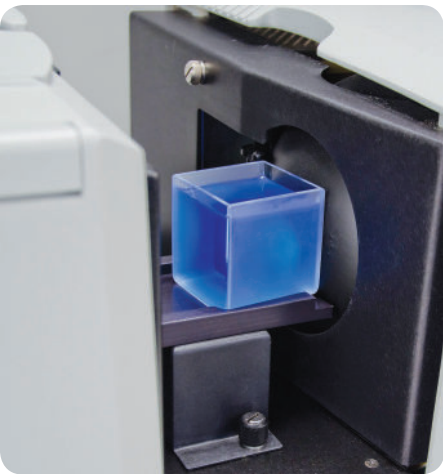
- Measures opaque, transparent, and translucent samples
- Specular Included and Excluded measurement choices, with multi-mode function allowing simultaneous readings with single sampling
- Industry-leading oversized transmission measurement compartment for both regular and total transmission measurements



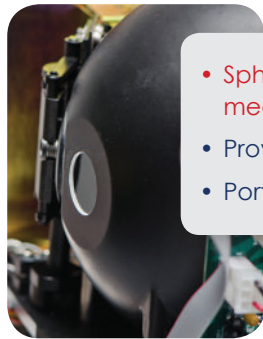
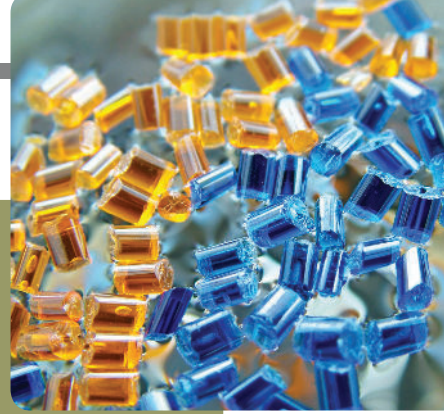
Transmission Compartment:

Open on 3 sides;
10.2 cm D x 35.6 cm W x 16.5 cm H

High Performance Excellent Value



UltraScan® VIS uses sealed double-beam optics with dual diode array detectors that allow simultaneous measurement of the sample with real-time reference beam correction for each data point. A long life Xenon lamp with UV controls provides instant-on high energy illumination for accurate 360 nm to 780 nm measurement in less than 2 seconds. The advanced optical system provides excellent measurement precision even on dark and highly saturated samples. The UltraScan® VIS serves both quality control and research application needs.



- Sphere geometry enables accurate transmittance measurements on scattering material and turbid solutions
- Provided wavelength calibration check filter and tile
- Port insert underside finished to complete sphere geometry

Features

- Measures full CIE recommended spectral wavelength range of 360 nm to 780 nm
- Color measurement of liquids and solids; also transmission haze
- Large transmission compartment open on three sides
- Automatic specular included/excluded port door for multimode measurement
- Two reflectance measurement areas of 25 mm (1.00 inch) and 9.5 mm (0.38 inch)
- Ergonomic sample clamp for supporting a wide range of samples
- Status indicator lights visually indicate selected mode
- EasyMatch® QC Software included with instrument purchase

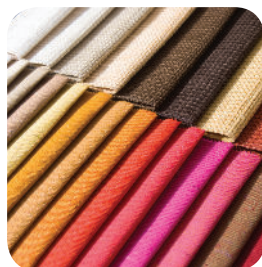


The HunterLab Advantage

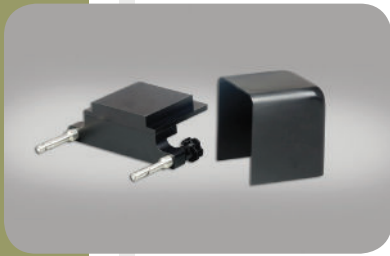
The UltraScan® VIS is backed by over 60 years of quality innovation and experience from HunterLab, the world's most trusted color quality experts.

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



B02-1005-172

Reflectance Shelf Assembly

To use for the reflectance measurement of powders, granules and semi-solids.



13-8573-40
04-4592-00
13-8573-20

Optical Cells

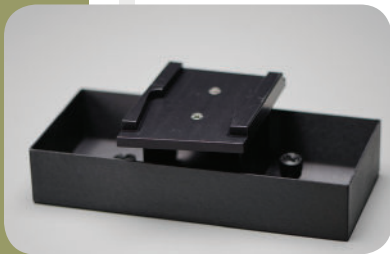
Optically clear glass cells with fixed path length of 10 mm, 20 mm or 50 mm. Sample volume 20 ml, 40 ml and 100 ml respectively. For use with Transmission Spill Tray and Cell Holder.



C02-1005-481

Transmission Cell Holder

To use for placing transmission cells at the transmission port.



D02-1011-568

Transmission Spill Tray and Cell Holder

Permits transmittance measurement of liquids using rectangular transmission cell.



C02-1005-444

Transmission Clamp

Holds transparent film, glass or plastic in position for total or regular transmission measurement.

• Accessories and sample handling fixtures available for every industry application

SPECIFICATIONS

UltraScan[®] VIS

Measurement

Measurement Principle:	Dual-beam spectrophotometer
Geometry:	Diffuse d/8° reflectance, d/8° total transmission, d/0° regular transmission
Spectrophotometer:	Two 256 element diode arrays with a high resolution, concave holographic grating
Sphere Diameter:	152 mm (6 in.)
Sphere Coating:	Spectrafect™ for sphere, Duraflect™ for port plate and specular exclusion door
Port Size/Measured Area:	
Port Diameter/View Diameter in RSIN/RSEX reflectance modes	
Large Area View (LAV):	25 mm (1 in) illuminated/19 mm (0.75 in) measured
Small Area View (SAV):	9.5 mm (0.375 in) illuminated/6 mm (0.25 in) measured
Port Diameter/View Diameter in TTRAN transmittance modes	
Large Area View (LAV):	25 mm (1 in) illuminated/17.4 mm (0.69 in) measured
Small Area View (SAV):	25 mm (1 in) illuminated/10 mm (0.40 in) measured
Port Diameter/View Diameter in RTRAN transmittance mode where lens is field stop for all areas of view	
Large Area View (LAV):	17 mm (0.67 in) illuminated/17 mm (0.67 in) measured
Small Area View (SAV):	17 mm (0.67 in) illuminated/17 mm (0.67 in) measured
Lens Switching for LAV/SAV:	Automatic
Specular Component:	Automated Included (RSIN) or Excluded (RSEX) in reflectance
Spectral Range:	360 nm - 780 nm full CIE visible range
Wavelength Resolution:	< 2 nm
Effective Bandwidth:	10 nm equivalent triangular
Reporting Interval:	10 nm
Photometric Range:	0 to 150 %
Photometric Resolution:	0.003 % (0.01 % reported)

Light Source:	Pulsed Xenon lamp, filtered to approximate D65 daylight
Automatic UV Control:	400 nm cutoff filter for UV control and UV exclusion Optional 420 nm cutoff filter for UV exclusion
Flashes per Measurement:	1 in LAV mode (4 in. SAV mode)
Measurement Time:	< 5 seconds
Transmission Modes:	Total (TTRAN) and Regular (RTRAN)
Transmission Compartment:	Large and open on 3 sides, 10.2 cm D X 35.6 cm W x 16.5 cm H (4 in. D x 14 in. W x 6.5 in. H)
Standards Conformance	
Reflectance:	CIE 15:2004, ISO 7724/1, ASTM E1164, DIN 5033, Teil 7 and JIS Z 8722 Condition C
Transmittance:	CIE 15:2004, ASTM E1164, DIN 5033 Teil 7 and JIS Z 8722 Condition E, G Haze conformance per ASTM D1003 Section 8. Procedure B Spectrophotometer
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

Colorimetric Repeatability: (20 readings range)	< 0.03 ΔE^* CIE $L^*a^*b^*$ on white tile in LAV and SAV modes < 0.05 ΔE^* CIE $L^*a^*b^*$ on blue denim tile in LAV and SAV modes
Spectral Repeatability:	Max 0.20 peak-to-peak between 435 nm and 695 nm
Inter-instrument Agreement:	$\Delta E^* < 0.15$ CIE $L^*a^*b^*$ (Avg) on BCRA II Tile Set $\Delta E^* < 0.25$ CIE $L^*a^*b^*$ (Max) on BCRA II Tile Set

Physical / Electrical

Dimensions:	Height: 27.9 cm (11 in.) Width: 42.0 cm (16.5 in.) Depth: 49.8 cm (19.6 in.) Weight: 20.4 kg (45 lbs)
Power:	100 to 240 VAC, 47 to 63 Hz 60 watts passive, 120 watts maximum
Interface:	RS-232C serial, 19,200 baud, DB9 (female) terminal
Operating Environment:	10° to 40°C (50° to 104° F), 10 % to 90 % RH, noncondensing
Storage Environment:	-21° to 66°C (-5° to 150° F), 10 % to 90 % RH, noncondensing
Standard Accessories:	• Calibrated instrument white tile • Certificate of traceability • Black calibration light trap • Transmittance zero calibration plate • Green diagnostic tile • Wavelength diagnostic filter • Reflectance sample clamp • LAV and SAV apertures • RS-232C cable • USB-to-Serial adapter • Power cord • EasyMatch QC Software • EasyMatch QC Basic manual

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