

# SPECIFICATIONS

## UltraScan<sup>®</sup> VIS

### Measurement

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<b>Measurement Principle:</b>	Dual-beam spectrophotometer
<b>Geometry:</b>	Diffuse d/8° reflectance, d/8° total transmission, d/0° regular transmission
<b>Spectrophotometer:</b>	Two 256 element diode arrays with a high resolution, concave holographic grating
<b>Sphere Diameter:</b>	152 mm (6 in.)
<b>Sphere Coating:</b>	Spectrafect™ for sphere, Duraflect™ for port plate and specular exclusion door
<b>Port Size/Measured Area:</b>	
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
<b>Lens Switching for LAV/SAV:</b>	Automatic
<b>Specular Component:</b>	Automated Included (RSIN) or Excluded (RSEX) in reflectance
<b>Spectral Range:</b>	360 nm - 780 nm full CIE visible range
<b>Wavelength Resolution:</b>	< 2 nm
<b>Effective Bandwidth:</b>	10 nm equivalent triangular
<b>Reporting Interval:</b>	10 nm
<b>Photometric Range:</b>	0 to 150 %
<b>Photometric Resolution:</b>	0.003 % (0.01 % reported)

<b>Light Source:</b>	Pulsed Xenon lamp, filtered to approximate D65 daylight
<b>Automatic UV Control:</b>	400 nm cutoff filter for UV control and UV exclusion Optional 420 nm cutoff filter for UV exclusion
<b>Flashes per Measurement:</b>	1 in LAV mode (4 in. SAV mode)
<b>Measurement Time:</b>	< 5 seconds
<b>Transmission Modes:</b>	Total (TTRAN) and Regular (RTRAN)
<b>Transmission Compartment:</b>	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)
<b>Standards Conformance</b>	
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
<b>Standards Traceability:</b>	Instrument standard assignment in accordance with National Institute of Standards and Technology (NIST) following practices described in CIE Publication 44 and ASTM E259

## Performance

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

<b>Dimensions:</b>	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)
<b>Power:</b>	100 to 240 VAC, 47 to 63 Hz 60 watts passive, 120 watts maximum
<b>Interface:</b>	RS-232C serial, 19,200 baud, DB9 (female) terminal
<b>Operating Environment:</b>	10° to 40°C (50° to 104° F), 10 % to 90 % RH, noncondensing
<b>Storage Environment:</b>	-21° to 66°C (-5° to 150° F), 10 % to 90 % RH, noncondensing
<b>Standard Accessories:</b>	<ul style="list-style-type: none"> <li>• Calibrated instrument white tile</li> <li>• Certificate of traceability</li> <li>• Black calibration light trap</li> <li>• Transmittance zero calibration plate</li> <li>• Green diagnostic tile</li> <li>• Wavelength diagnostic filter</li> <li>• Reflectance sample clamp</li> <li>• LAV and SAV apertures</li> <li>• RS-232C cable</li> <li>• USB-to-Serial adapter</li> <li>• Power cord</li> <li>• EasyMatch QC Software</li> <li>• EasyMatch QC Basic manual</li> </ul>

For more information, please contact HunterLab at 703-471-6870, [sales@hunterlab.com](mailto:sales@hunterlab.com) or visit [www.hunterlab.com](http://www.hunterlab.com)