

SPECIFICATIONS



MEASUREMENT

Measurement Principle:	Dual-beam spectrophotometer
Geometry:	Tt/0° or Td/0° per ASTM 1164, CIE 15:2018
Measurement Pathlength:	Up to 100 mm
Measurement Time:	2.5 seconds
Measurement Time with Haze:	5 seconds
Measurement Interval:	MIN 3 seconds
Port Size/Measured Area:	11 mm (0.43 in) illuminated/9.8 mm (0.39 in) measured
Transmission Modes:	Tt (TTRAN) and Td (RTRAN) and Haze

TECHNICAL

Flashes per Measurement:	4 flashes
Measurement Pathlength:	Up to 100 mm
Illumination Range:	400 nm - 700 nm
Detection Range:	400 nm - 700 nm
Spectral Resolution:	< 3 nm
Effective Bandwidth:	10 nm equivalent triangular
Reporting Interval:	10 nm
Photometric Range:	0 to 150 %
Photometric Resolution:	0.003 % (0.01 % reported)
Standards Conformance	
Colorimetric:	CIE 15:2018, ASTM E1164, DIN 5033 Teil 7 and JIS Z 8722 Condition E, G
Haze:	ASTM D1003
Light Source:	Full spectrum, balanced LED array
LED Life:	5 years typical
Sphere Diameter:	76 mm (3 in)
Sphere Coating:	Spectralon™
Spectrophotometer:	256-element diode array; high resolution concave holographic grating

PERFORMANCE

Colorimetric Repeatability:	< 0.02 ΔE^* on air
Spectral Repeatability:	Standard deviation within 0.1 % T
Inter-instrument Agreement:	$\Delta E^* < 0.15$ (Avg) (Transmission Filter Set) $\Delta E^* < 0.25$ (Max) (Transmission Filter Set) $\pm 0.30\%$ Measuring 10% Haze

USER INTERFACE

Data Views:	EZ View, Color Data Table, Color Plot, Spectral Data, Spectral Plot, Trend Plot
Other Features:	Pass/Fail color indication, time and date stamp, auto-naming, auto-saving, data backup and recovery
Indices and Metrics:	APHA/PtCo/Hazen, ADMI, Saybolt, Gardner, ASTM D1500, Iodine, EBC, ASBC, ASBC Turbidity, Chinese Acid Wash, Lovibond® RYBN, AOCS RY, FAC, YI E313 Yellowness, YI D1925, WI E313, CIE Y Transmission, US Pharmacopeia, Japanese Pharmacopeia, EU Pharmacopeia, EP Opalescence, Haze, NTU
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 , $\Delta E_{CMC}(l:c)$, CIE ΔE_{2000}
Data Storage:	8 GB (> 1 million data records)
Illuminants:	D65, C, A, D50, D55, D75, F02, F07, F11, TL84, ULT30, ULT35
Observers:	2° and 10°
Languages:	English, Japanese, and Simplified Chinese (German coming soon)
Display:	Touch screen, high resolution 1280x800
External PC Software:	Compatible with HunterLab EasyMatch QC and EasyMatch QC-Electronic Records Quality Control Software

COMMUNICATIONS I/O

USB OTG:	Connectivity to printer, keyboard, mouse
Front Panel USB:	2.0 bidirectional, data export/import via thumb drive
Ethernet RJ45:	Print directly to standalone or network printers, Email directly from the instrument, Stream data to LIMS and SPC systems
Remote Access Support:	Enabled via internet-based support tool

PHYSICAL / ELECTRICAL

Dimensions:	Height: 177.8 mm (7.0 in.) Width: 485.8 mm (19.125 in.) Depth: 228.6 mm (9.0 in.) Weight: 6.35 kg (14.0 lbs)
Transmission Compartment:	Height: 108.0 mm (4.25 in.)* Width: 101.6 mm (4.0 in.) Depth: 187.3 mm (7.375 in.) with cover on* <i>*Removable cover opens compartment on three sides (top, front, back) to accommodate large samples</i>
Base to Measurement Port Distance:	63.5 mm (2.5 in.)
Power Requirements:	100 to 240 VAC, 47 to 63 Hz, 60 W
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:	• Didymium diagnostic filter • Certificate of compliance • Power supply • VISTA Quick Start Guide • Stylus • USB Flash Drive • Cleaning Cloth

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