Presenting...

UltraScan® VIS

The CIE Visible Range Color Measurement Spectrophotometer

HunterLab

Measure Color...Measure Quality

UltraScan® VIS

Makes full color measurement easy

UltraScan® VIS is a high-performance color measurement spectrophotometer that measures the full range of human color perception in seconds. It can be used in production and in the laboratory for inspecting raw materials, for evaluating finished product or developing methods color analysis. Because of its excellent inter-instrument agreement and long term stability, you can be confident that differences between measurements are due to product color changes, not instrument variability. Materials on the borderline of accepted tolerances will not be unnecessarily rejected. The UltraScan VIS measures both reflected and transmitted color as well as transmission haze and meets CIE, ASTM and USP guidelines for accurate color measurement. UltraScan VIS uses diffuse/8° geometry with automated specular component inclusion/exclusion. For transmission measurement, the sphere geometry virtually eliminates errors introduced by sample turbidity and haze. The dual beam optical system uses two diode arrays and has an effective bandwidth of 10nm. Spectral data is reported every 10nm and tristimulus color calculations are performed from 360 to 780nm as recommended by the CIE. Contact your HunterLab representative for a detailed specification sheet.

Easy to Use

UltraScan VIS incorporates automated functions to make operation simple and reliable. Measurement procedures can be completed in a matter of seconds. Specular included/excluded modes, UV control and sample viewing area are all under computer control. Indicator lights visually show selected modes and reduce the chance of error in instrument setup and operation. Solid samples are easily positioned and supported at the reflectance port with the ergonomically designed sample clamp. A large transmission compartment is highly accessible and permits easy placement of samples for transmission measurements. Additionally, a read button is located close to the sample port for convenient initiation of sample measurement. For system communication both USB and RS-232C outputs are provided.

Precise Measurement

UltraScan VIS uses d/8° (sphere) geometry, which conforms to ASTM, ISO, CIE, DIN and JIS standards for reflection measurements. Transmission measurements are made using d/0° geometry for regular transmission and d/8° for total transmission. A single xenon lamp is flashed "softly" to avoid triplet absorption. The short duration flash will not heat the sample and has minimal photochromic effect. Having an extended life, the xenon lamp will last many years in typical use and is easily replaced by the user. UltraScan VIS uses sealed double-beam optics with dual diode array detectors to provide sensitivity for excellent measurement precision even on dark and highly saturated samples. To confirm colorimetric measurement accuracy and inter-instrument agreement, each system is tested with calibrated color tiles. To ensure that wavelength accuracy is maintained, a wavelength calibration check filter is provided with each instrument.

Measurement Versatility

Use UltraScan VIS for both research and quality control. From opaque solids to clear liquids to transparent films, UltraScan VIS precisely measures both reflected and transmitted color, spectral reflectance, spectral transmittance and transmission haze. A host of measurement features and specialized sample handling devices make UltraScan VIS a highly versatile color measurement spectrophotometer.

Full Visible Range

With a wavelength range of 360 to 780nm, the UltraScan VIS measures the full spectral range of human color perception and more. No part of the visible spectrum will be left out of tristimulus calculations. And spectral measurement down to 360nm enables the transmission measurement of UV blockers.

Versatile Sample Clamp

Large, small, and odd shaped samples are all easily positioned at the reflectance port with the over-sized, spring-loaded sample clamp. Two quick release buttons allow you to adjust and set the clamp position. The clamp pulls down a full 180°, and can be pulled out in small increments to accommodate thick samples or can be removed entirely.

Automated Specular Included/ Excluded

A motorized port door permits measurement with the specular component includedto measure reflected color without the effect of gloss or texture. The specular exclusion mode is used to measure color including the effects of gloss and texture. The multimode function permits automated specular included and excluded measurements to be made with one press of a button.

Two Measurement Areas

Two reflectance measurement area sizes are provided:

- **Large Area View (LAV):** aperture is 25mm (1.00inch), with a respective optical viewing area of 19mm (0.75inch).
- **Small Area View (SAV):** enables the measurement of small sample areas and has a 9.5mm (0.38inch) aperture and a viewing area of 6.3mm (0.25inch).

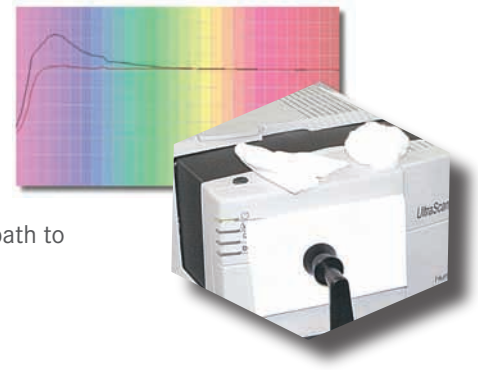
The user selects the large or small viewing area and the system automatically inserts the appropriate lens. To assure that the proper viewing area has been selected, the system monitors agreement between sample port inserts, lens position, and standardization mode. A sample viewing screen assures the position of small samples at the reflectance port.

Large Transmission Compartment

The transmission compartment of UltraScan VIS makes measuring over-sized samples easy and accommodates various sample handling devices. The spacious compartment is open on three sides so you have access from either side or from the top of the sensor. It accommodates thin films, sheets, solids such as preforms and transmission cells with path lengths up to 80mm. Samples can be positioned to make regular and total transmission measurements. Total transmission is the most precise way to measure transmitted color. The effect of sample haze and turbidity on measurement precision is minimized.

Automated UV Control

To measure materials that have UV induced fluorescence, such as optical brighteners, the UltraScan VIS uses D65 illumination that is calibrated and controlled in the ultraviolet per Ganz-Griesser. A UV control filter is motorized and automated for convenient UV calibration using the optional fluorescent standard. This filter can also be fully inserted into the light path to exclude UV energy.



System Features

- Diffuse/8° geometry with automated specular inclusion/exclusion
- Wavelength range of 360-780nm with 10nm optical resolution
- Full wavelength scan in seconds
- Long life xenon lamp filtered to simulate D65 illumination
- Large transmission compartment
- Sample measurement areas of 19mm (0.75 inch), and 6.3mm (0.25 inch)
- Read button for convenient initialization of sample measurement
- Status indicator lights visually indicate selected mode
- USB and RS-232C interfaces

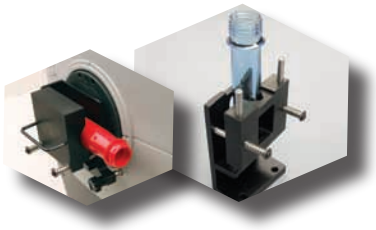
Sample Handling Devices

Numerous specialized sample handling devices are available to enable optimum sample presentation for a wide range of samples. Many of these devices are shown below. Contact your HunterLab representative for information on other devices or to have a custom device designed for your unique application.

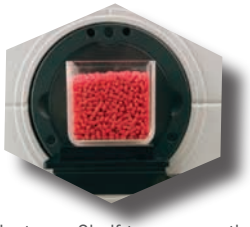
Compression Cell Holder for compressing fibers for repeatable measurements

Transmission Lens Holders for the measurement of ophthalmic lenses and blanks

Transmission cell holders for rectangular, cylindrical, tall and flow cells

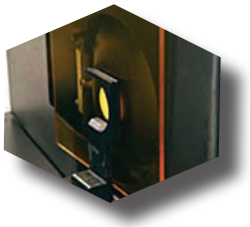


Plastic Preform Holders permit transmission or reflection measurement of plastic preforms



Reflectance Shelf to measure the color of nonsolid materials such as powders, pellets, granules and pastes

Skein Holder for measuring yarn and string skeins



Transmission Clamp for transmission measurement of glass, plastic sheet and film.

Dedicated to worldwide support through local representation, HunterLab provides over 50 years of experience to meet the color measurement needs of customers around the world. We offer the industry's most comprehensive set of end-to-end solutions – an integrated package of resources, from the complete array of instrumentation, software, and support services to training, education and decades of application knowledge.

HunterLab
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ISO 9001:2000 Certified

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12/06