

Near-infrared wavelengths may be used for separating images into surface texture and pure color information.



VideometerLab 2

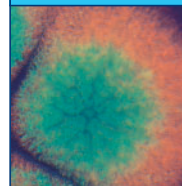
Multispectral vision for laboratory analysis

VideometerLab 2 is a vision-based laboratory equipment designed for fast and accurate determination of surface colour and chemical composition. The unit is an easy-to-use system integrating illumination, camera, and computer technology with advanced digital image analysis and statistics. The technology is particularly useful for quantitative measurements of chemical and visual properties of samples or surfaces.

Using strobed LED technology VideometerLab 2 combines measurements at up to 20 different wavelengths into a single high-resolution multispectral image. Every pixel in the image is a spectrum and the system will include wavelengths outside the range detected by traditional RGB technology.

Key features and advantages of VideometerLab 2

- Integrating sphere providing indirect homogeneous diffuse light
- Multispectral analysis in less than 6 seconds
- 20 different wavelengths available
- The high-resolution images may be improved with optional camera
- Standardized instrument including easy-to-use instrument calibration
- Near-infrared, ultraviolet and fluorescence information can be collected
- Improved colour determination compared to traditional RGB technology
- Improved signal-to-noise ratio by individual and automated adjustments of the light intensity in each wavelength band
- Automatic change of dynamic range, depending on the application
- Long lifetime of the light sources. Up to 100.000 hours
- Increased stability due to LED source technology
- Combined front light and backlight using optional backlights
- Automatic movement of illumination in relation to the sample



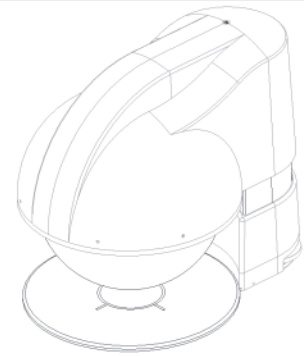
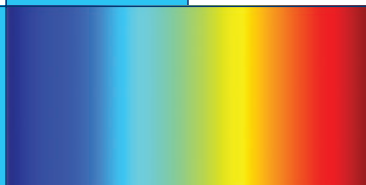
Near-infrared light penetrates deeper into the surface of the object. In combination with powerful data analysis tools this may reveal structures that are usually not visible.

Videometer





Customized with a selected combination of LEDs the VideometerLab 2 is a valuable tool for quality control based on visual inspection.



VideometerLab 2

Technical Specifications

Light sources	18 high power LEDs emitting wavelengths from 405 to 970 nm and two extra channels for illumination options or additional wavelengths. Customization from 1 to 20 selected wavelengths in the range from 370 to 1050 nm
Camera	1280 × 960 pixels camera. Customization using 1600 × 1200 pixels camera or higher
Optics	Special full-spectrum lens. Customization according to the required spatial resolution using other C-mount lenses
Dynamic range	Optimized according to the application and wavelength used
Sample size	Height max. 90 mm, diameter of inspection opening 110 mm
Time of analysis	6 seconds including movement, capture of 20 wavelengths and data processing. Customization with multiple accumulations of images or long time exposure. This may increase the signal-to-noise ratio at the cost of acquisition time
Dimensions	571 mm (h) × 423 mm (w) × 610 mm (d)
Weight	22 kg
Power supply	90 - 260 VAC, 47 – 63 Hz
Power consumption	300 VA
Ambient temperature	Operation: 5 – 40 °C, Storage: -5 – 50 °C
Ambient humidity	20 - 90 % RH non condensing
PC requirements	Minimum configuration: Intel Pentium 4 3.0 GHz processor with 2 GB RAM, RS-232 serial port, FireWire IEEE 1394a
Software requirements	Windows XP Professional, Service Pack 2, or later VideometerLab 2 software including image acquisition, basic image processing, and image statistics tools
Hardware options	<ul style="list-style-type: none"> - Additional wavelengths - Darkfield backlight illumination - Brightfield backlight illumination
Software options	<ul style="list-style-type: none"> - Image processing toolbox - Multispectral imaging toolbox for MATLAB® - Application modules (please refer to application notes) - User specific software modules

Videometer A/S develops vision systems for automated visual inspection. Both laboratory and in-line systems including dedicated software is developed.



Videometer A/S
 Lyngsø Allé 3
 DK-2970 Hørsholm
 Denmark
 Tel. +45 45761077
 Fax +45 45761041
 mail@videometer.com
 www.videometer.com