



Videometer Lab4 Multi spectral imaging as a complete analytical solution

VideometerLab 4 is a spectral imaging instrument designed for fast and accurate determination of colour, texture, and chemical composition. The instrument is an easy-to-use system integrating illumination, camera, and computer technology with advanced digital image analysis and statistics. Using strobed LED technology VideometerLab 4 combines measurements at up to 20 different wavelengths into a single high-resolution spectral image. Every pixel in the image is a reflectance spectrum and the instrument may include UV, visual, and NIR wavelengths.

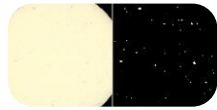
Key features and Technical Specifications :

- » Integrating sphere providing homogeneous and diffuse illumination
- » Spectral imaging and quantitative analysis in **5-10 seconds**
- » Light Source : **19-20** different wavelengths/ illuminants which range from **365 nm** to **970 nm**
- » **12.3 Mega pixels** per wavelength providing **120-360** million pixels/image
- » Resolution **~40 µm / pixel**
- » Dynamic range : Optimized according to the application using auto light setup
- » Calibration: Absolute reflectance calibration using 2 reflectance calibration targets and one geometric calibration target. Simple calibration wizard procedure that takes 3 minutes
- » Automatic change of dynamic range, depending on the application
- » Long lifetime of the light sources. Up to **100,000 hours**
- » Automatic movement of illumination in relation to the sample
- » Standardized instrument including easy-to-use instrument calibration
- » Superior colour determination compared to traditional RGB technology. Weight **14.1 kg** (Net), **26.6 kg** (Gross)
- » Power supply **110-240 VAC, 50/60 Hz**
- » Ambient temperature Operation: **5-40 °C**, Storage: **-5-50 °C**
- » Dimensions instrument **490-585 mm(h) * 420 mm(w) * 590 mm(d)**

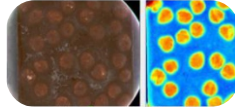
Hardware options :

- » Darkfield / brightfield backlight
- » Darkfield frontlight
- » Filter changer (for combined reflectance/fluorescence)
- » Autofeeder (for granular products)
- » Deep UV excitation light source 270-340 nm

Dairy /Chocolate



Milk powder
Burnt Particle



Chocolate – nut
count

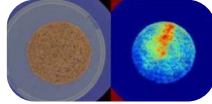


Bloom Index

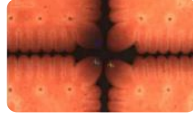


Graininess &
Texture

Bakery



Moisture



Browning and
browning
homogeneity

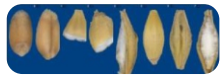


Dimensions after
processing, Coating

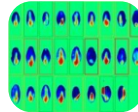


Texture , Colour
Fermentation ,
Crust Formation

Grains



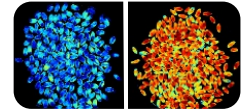
Size, shape, broken,
skinned and
cracked kernels



Color, Seed coat,
Germination



Pathogens: Fusarium
and other molds

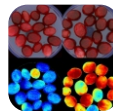


Variety identification
and classification

Fruit / Vegetable / Nuts / Tea / Coffee



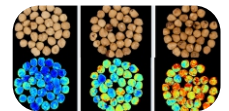
Potato Greeniness ,
Frenchfires defect etc



Maturity and ripeness



Cracks in Vegetable



Roasting degree on
Nuts, Coffee etc..

Feed / Pet food / Packaging



Size, Shape, Granules



Purity of Sample

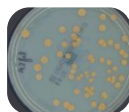


Packaging Solutions

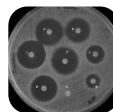


Coating Efficiency

Microbiological



Colony counting



Zone of Inhibition

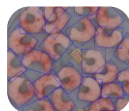


Strip Test

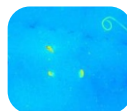


Membrane Count

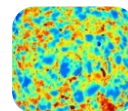
Sea food / Meat / beef/ Pork



Size, Shape, Colour



Parasites and Impurities



Muscle, fat,
and meat color



Adulteration of minced
beef with horse meat

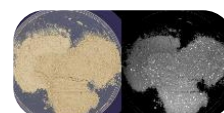
Adulteration and fraud detection



Margarine oxidation



Almond Adultrated
in Groundnut



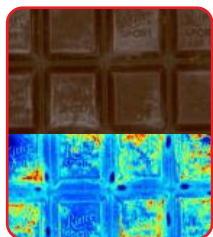
Adulteration of
Powders



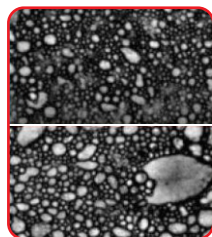
Purity Checking in
raw Material

Videometer Multiray

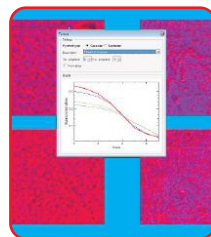
- » It is designed for fast and accurate determination of μ -topography, graininess, gloss and porosity of material surfaces. The measurements are instantaneous and non-destructive.
- » **Handheld instrument combining multiple illumination geometries.**
- » **illumination:** brightfield/darkfield and coaxial illumination
- » Wavelength: 400-780 nm
- » Time of analysis 1 second per sample.
- » Pixel Size: 1



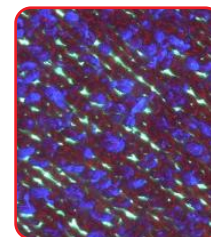
A blooming index is computed for every pixel and mapped as a heat map with high contrast. This is bloom 4.5.



Coffee foam bubble size distribution



Hazelnut spread fat crystallization patent



Fuzz and Pills on fabrics

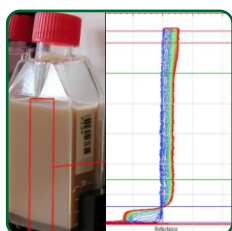
Other Example Applications:

- » Gloss/shine of fruit and vegetable surfaces.
- » Surface texture of anodized materials.
- » Graininess in emulsions like yoghurt, ghee and mayonnaise.

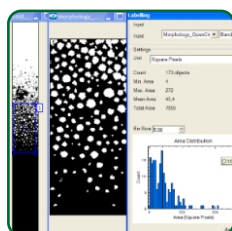
VideometerLiq



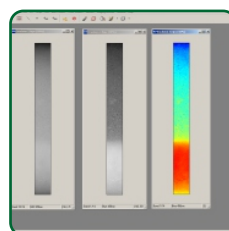
- » VideometerLiq is an easy-to-use multispectral imaging instrument for fast and accurate determination of stability/instability and shelf life in liquid products.
- » It generally provides a better understanding of why some products are stable and others are not.
- » Application Examples are emulsions, yoghurt, drinks, juices, paints, cosmetics, coffee whitener.



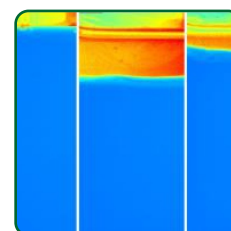
Chocolate milk marbling and sediments.



Bubble Formation Analysis



Stability and instability of emulsions, suspensions and foams.



Syneresis formation in yoghurt

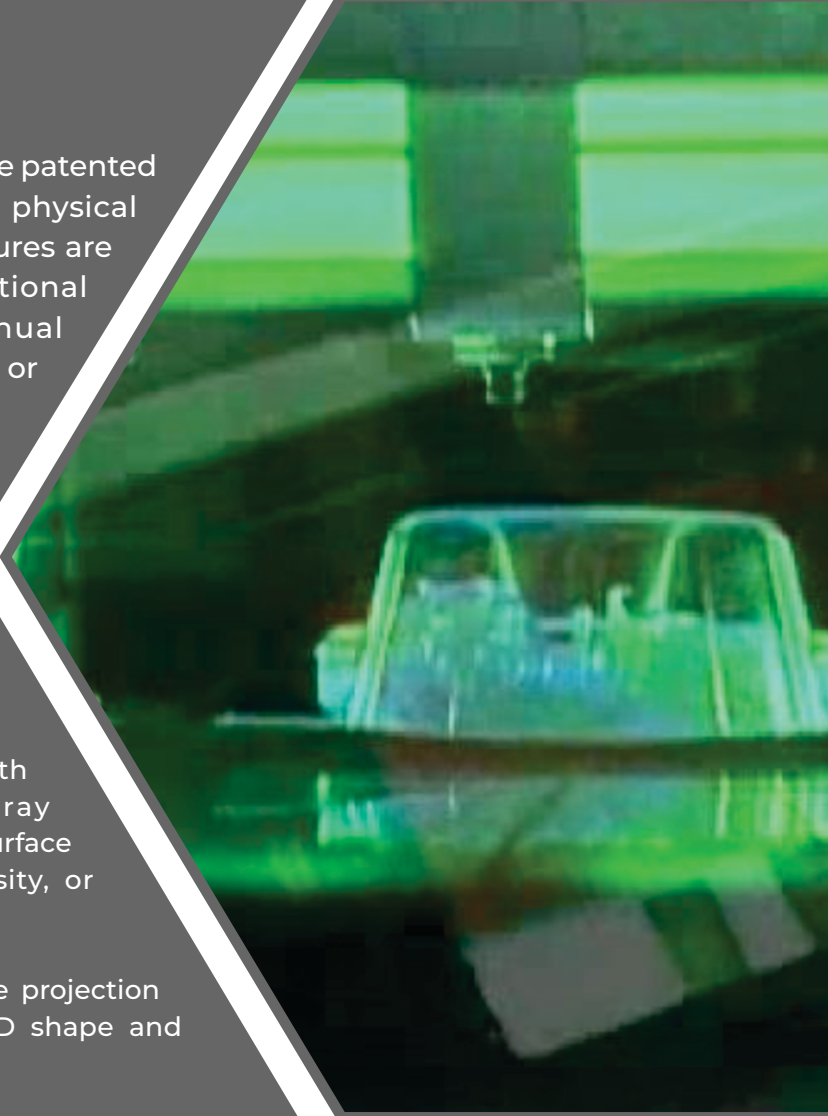
VideometerLine

VideometerLine solutions are based on a unique patented technology for accurate analysis of colour, physical texture and chemical composition. These features are in general difficult to achieve using traditional analysis methods such as subjective manual assessment, colour sensors, colour cameras, or spectral analysis on homogenized samples.

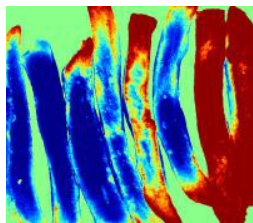
Spectral imaging combines multiple images at different wavelengths using the same diffuse illumination geometry. This technology obtains a spectrum for each pixel and is especially suited for mapping the surface chemistry and colour of the sample.

Multiray imaging combines multiple images with different illumination geometry. The multiray technology deals effectively with many physical surface measurements such as gloss, graininess, porosity, or micro-topography.

3D imaging based on laser triangulation or fringe projection profilometry provides accurate assessment of 3D shape and volume.



Baked product inspection



Quality inspection of French fries.



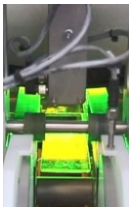
Coating efficiency, Size shape of processed food



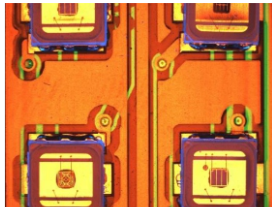
Robot guidance applications.



In-line quality inspection with VideometerLab.



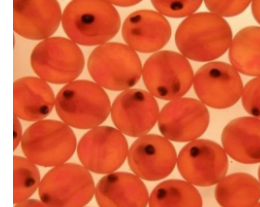
Medical device inspection.



Quality Control in electronics production



Pick and place robot vision application



Sorting of fish eggs based on fish eye size for the fish breeding industry.



Automated green house Systems

Get in Touch

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