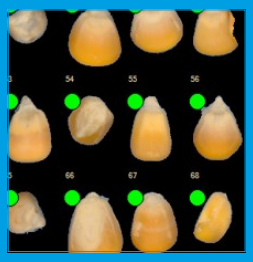
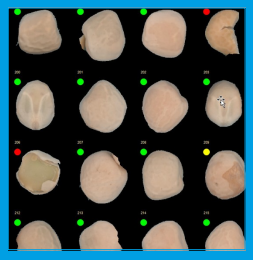
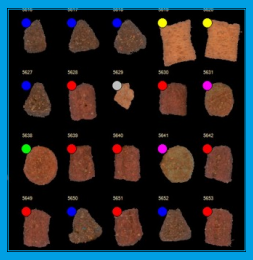


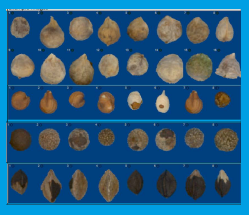
Maize (corn) application. Detection of healthy and defect maize kernels.



Peas application. Detection of broken peas and peas with cracks.



Pet food application. Classification of kibble shapes and detection of broken kibbles.



Spinach seed purity application. Species to be identified in spinach purity analysis.

Oat de-husk application. Detection of husked and de-husked kernels.

High throughput inspection of granular samples with Autofeeder option.

VideometerLab Autofeeder option

Enhance the capacity of your VideometerLab System with the Autofeeder option. The Autofeeder option together with the VideometerLab System provides a high throughput multispectral analysis instrument for granular samples.

The Autofeeder option uses a vibrator to distribute granules from a funnel evenly onto a belt. The belt transports the granules under the VideometerLab scanner and subsequently into a collection box. Images of the sample are acquired, segmented and analyzed, and a summary report is automatically created at the end of the measurement.

By option the system can be customized with a robot that picks up selected granules, based on the analysis result. The picking system is designed for physical sorting of high value granules, e.g. removal of defect granules (broken, non-germinating, infected).

VideometerLab Autofeeder option
KEY FEATURES AND ADVANTAGES

- The vibration unit distributes granules evenly onto the belt, in single layer formation.
- Segmentation routine extracts granules, separates touching granules and creates blob images for all granules in the sample.
- Prediction models classifies granules based on color, shape and texture features.
- Feature sets defines first order features to be calculated and summarized for each fraction/class defined by the prediction model.
- Images of granules and analysis results are displayed during the measurement.
- Summary report is created automatically at end of measurement.

Videometer

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VideometerLab Autofeeder option

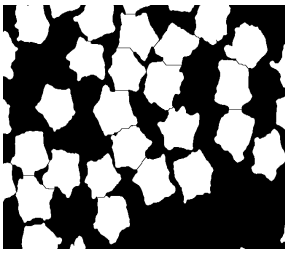
TECHNICAL SPECIFICATIONS

Sample size	Standard up to 1.5 liter. Larger sample sizes possible by customization.
Width of belt	66 mm.
Weigh	33.9 kg.
Processing speed	160 cm belt = app. 1200 cmC belt area per minute.
Sample throughput	Examples: Pet-food kibbles: 1.0 kg in approx. 15 minutes. Corn (maize) kernels: 300 grams in 4-5 minutes. Wheat & barley grain: 100 grams in 3-4minutes.
Sample distribution	Vibrator unit with adjustable vibration profiles for different sizes and types of granular products.
Software	The Autofeeder option is controlled with the VideometerLab Blob Analyzer tool. Interfacing with external sample feeding is possible via customized

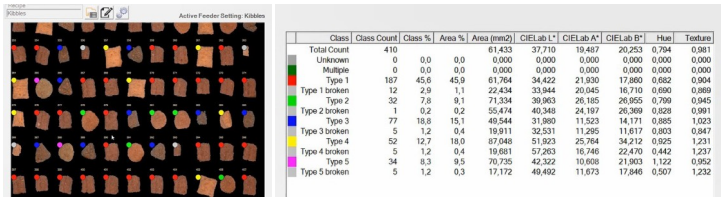
Details

Funnel for sample in-led.

Even distribution of granules onto belt by vibration unit.



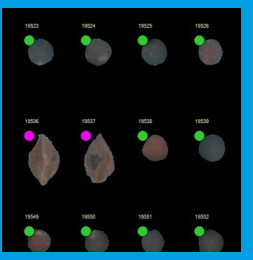
Touching objects are separated in segmentation process.



Class	Class Count	Class %	Area %	Area (mm2)	CIELab L*	CIELab A*	CIELab B*	Hue	Texture
Total Count	410			61,433	37,710	19,487	20,253	0,794	0,981
Unknown	0	0,0	0,0	0,000	0,000	0,000	0,000	0,000	0,000
Multiple	0	0,0	0,0	0,000	0,000	0,000	0,000	0,000	0,000
Type 1	187	45,6	45,9	61,764	34,422	21,930	17,880	0,682	0,904
Type 1 broken	12	2,9	1,1	22,434	33,944	20,045	16,710	0,690	0,869
Type 2	32	7,8	9,1	71,334	39,963	26,185	26,955	0,799	0,945
Type 2 broken	1	0,2	0,2	55,474	40,348	24,197	26,369	0,828	0,991
Type 3	77	18,8	15,1	49,544	31,980	11,523	14,171	0,885	1,023
Type 3 broken	5	1,2	0,4	19,911	32,531	11,295	11,617	0,803	0,847
Type 4	52	12,7	18,0	87,048	51,923	25,764	34,212	0,825	1,231
Type 4 broken	5	1,2	0,4	19,881	57,263	16,746	22,470	0,442	1,237
Type 5	34	8,3	9,5	70,735	42,322	10,608	21,903	1,122	0,952
Type 5 broken	5	1,2	0,3	17,172	49,492	11,673	17,846	0,507	1,232

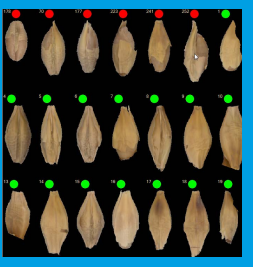
Display of detected granules (left), classification statistics and first order feature values (right).

Videometer offers a wide range of multispectral imaging instruments measuring what you see with your eyes – and beyond. They are fast, non-destructive, versatile, and reproduceable with world-leading accuracy. The accompanying Videometer software provides a unique variety of machine learning and AI spectral imaging analysis tools. Laboratory, at-line, on-line, and in-line systems are designed for quality assurance, process control, PAT, and product development.

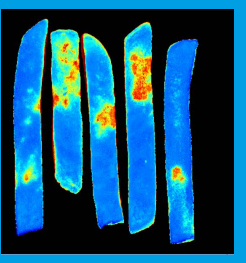


OSR (Oil Seed Rape) application. Detection of admixture in OSR-samples.

Detection of cracks in pellets for the pharmaceutical industry.



Barley skinning application. Classification of kernels with and without skinning.



French fries application. Calculation of strip size, and detection of browning.

Videometer

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