



HAMMER-IMS

## Extensive coverage, inline basis-weight and thickness measurements of drylaid non-wovens:

### Marveloc-CURTAIN-0

Card infeed density measurement

### Edge-Vision-4.0

Card outfeed inhomogeneity monitoring

Carding

### Marveloc-CURTAIN-0

Final basis weight measurement

Crosslapping

Needlepunching

### Edge-Vision-4.0

Final quality inspection

### Seamless integration at every step of the non-woven production process

Precise measurements and quality control are critical for non-woven production. Hammer-IMS's state-of-the-art sustainable measurement systems offer real-time data on basis-weight and detect anomalies in the production process. Our technology provides accurate and reliable measurements, enabling manufacturers to optimize their production processes and improve product quality while reducing waste

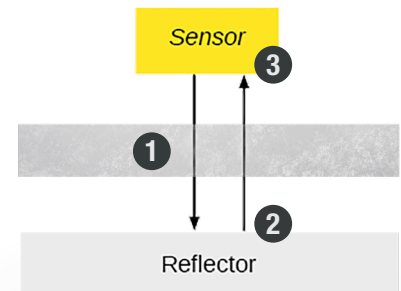
## Depending on your needs and application we can

- ✓ Measure the fibre matt weight distribution after the chute (also possible for airlaid products)
- ✓ Homogeneity Index monitoring and defect detection after carding
- ✓ Basis weight / Thickness measurement of the final product (also possible before needle punching)
- ✓ Defect inspection

### Marveloc Sensor Technologies

#### M-Ray: millimeter wave sensor technology

The concept of our M-Ray technology for basis-weight (grammage) measurements is straightforward: a sensor at the top sends out a millimeter wave. This wave goes through the material we want to measure. **1** When it reaches the bottom, it bounces off a reflector **2** and comes back up through the material once again. Finally, it reaches the sensor again, where we can capture it and analyze it. **3**



#### L-Ray: laser-based sensor technology

For thickness control, L-Ray laser-based sensors are integrated at the last step of the production process. This integration allows for a complete analysis of the material's thickness profile.



Marveloc-CURTAIN O-Frame

### Edge-Vision-4.0 for non-woven anomaly detection and classification

Our Edge-Vision-4.0 product family adds an extra eye to your non-woven production process. Edge-Vision-4.0 captures and analyses high-resolution images of your product, and this is mainly done by means of machine-vision technology or specialized color sensors. An Edge-Vision-4.0 system can be seen integrated in the non-woven production line visual.

The Edge-Vision-4.0-CURTAIN machine-vision system is able to detect defects and other anomalies in the non-woven production. Basis-weight measuring solutions can be combined with machine-vision solutions, realizing a smart fully-integrated quality solution. Contact our sales representative to discuss your particular case.

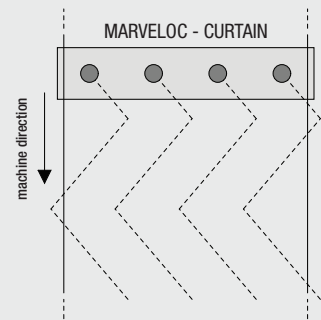
## Sustainable measuring systems, no harmful emissions, no compromises



Marveloc-CURTAIN systems equipped with M-Ray sensors are able to obtain product basis-weight in a sustainable way. Compared to older radioactive technologies, Marveloc sensors from Hammer-IMS are not harmful for the environment nor the operators handling the system. Moreover, when taking into consideration the licenses required to use traditional radioactive measuring technologies, Hammer-IMS systems do not require such licenses, making it a better total-cost-of-ownership solution.

## Multi-sensor measurement for 100% material coverage

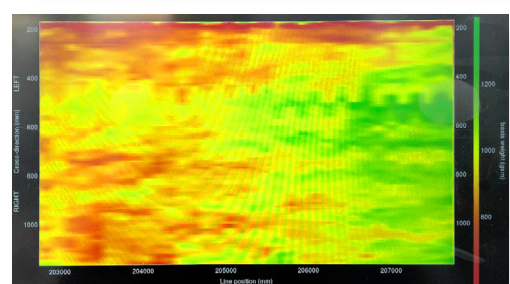
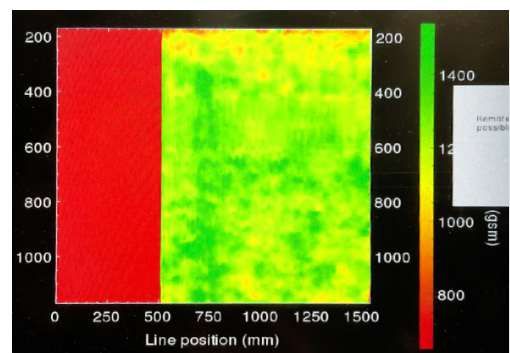
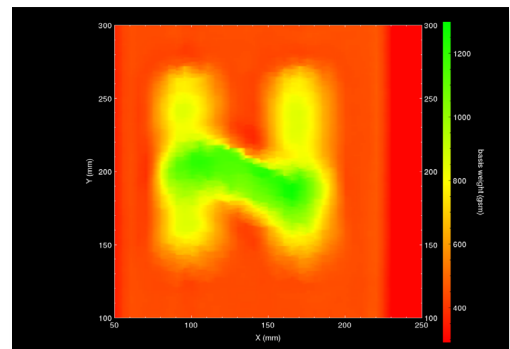
We are proud to have introduced our first solution based on multiple sensors back in 2016. Today we offer quality control system configurations containing multiple sensors, developed to simultaneously measure weight, thickness or anomaly level. The use of multiple sensors provides up to 100% material coverage. This compares favorably against the use of single-sensor systems that only make use of one sensor head unit.



## Heat map add-on for real-time basis-weight mapping of the production

Heat maps from Hammer-IMS provide an instant and intuitive visual representation of g/sm distribution across the non-woven material. This allows operators to quickly identify variations or irregularities in the web. This is crucial for ensuring consistent product quality, especially in applications where detailed g/sm data is essential, such as medical textiles or filtration media.

Red areas show light areas in the material, while green areas translate to heavy areas. Operators and engineers can use this visual data to generate real-time reports and make informed decisions.



Edge-Vision-4.0

## Contact us to discuss your specific application

The list below provides a general product overview of the systems in this brochure and the software package for the control of it. An extensive list of add-ons can be implemented to your process and quality control system in consultation with a sales representative.

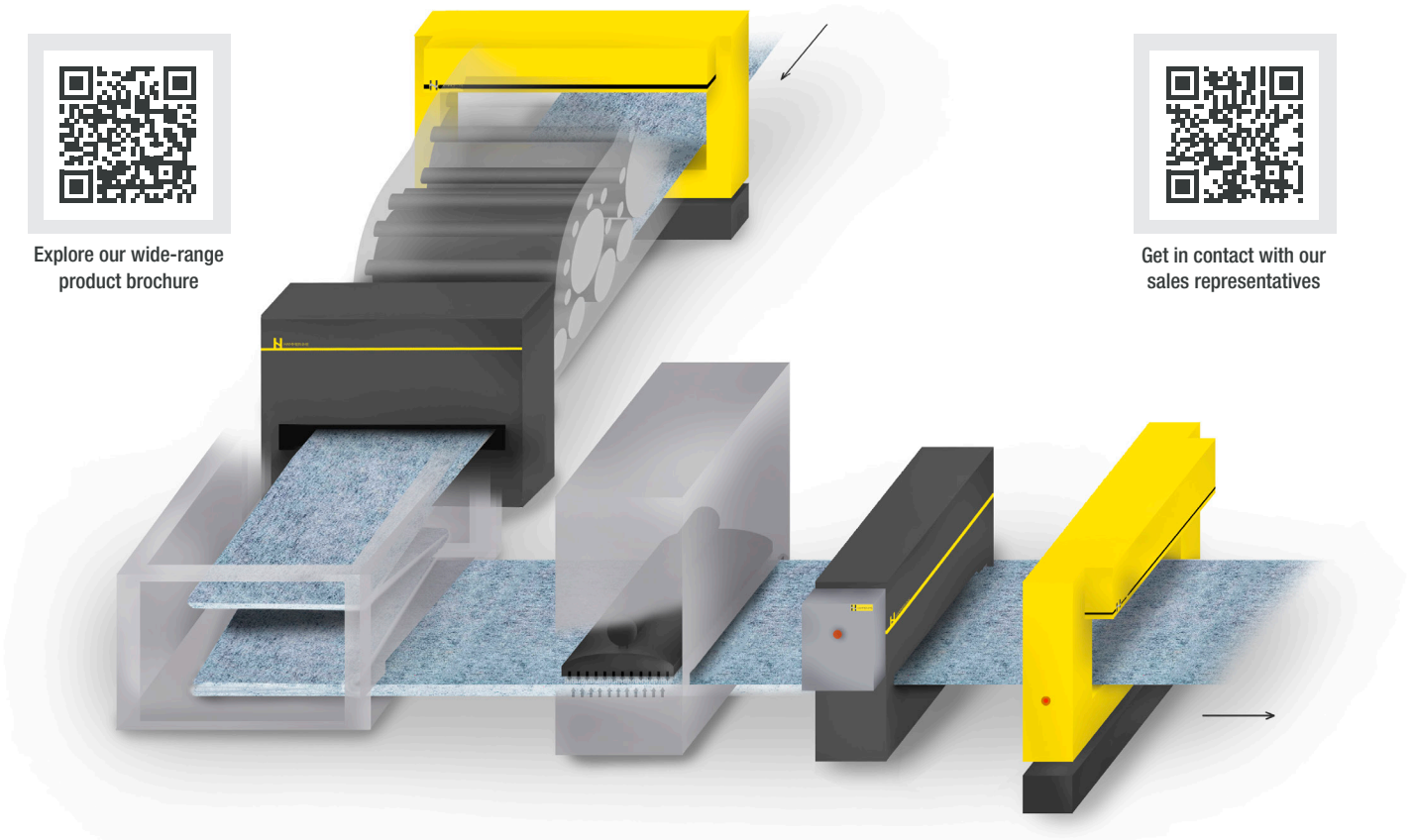
Product name	Product group	Product description	Combinations
Marveloc-CURTAIN-O featuring M-Rays	Industrial basis-weight quality control systems.	Machine for basis-weight measurement of flat materials. Closed frame.	+ L-Ray for thickness measurements.
Marveloc-CURTAIN-C featuring M-Rays	Industrial basis-weight quality control systems	Machine for basis-weight measurement of flat materials. Open frame.	+ L-Ray for thickness measurements.
Marveloc-CURTAIN-C Slim featuring M-Rays	Industrial basis-weight quality control systems	Compact machine for basis-weight measurement of flat materials. Open frame.	+ L-Ray for thickness measurements.
Edge-Vision-4.0-CURTAIN-O	Machine-vision systems	Machine-vision solution for detection and classification of anomalies or continuous monitoring. Closed frame.	
Edge-Vision-4.0-CURTAIN-C	Machine-vision systems	Machine-vision solution for detection and classification of anomalies or continuous monitoring. Open frame.	
Connectivity 3.0	Control software	Industrial software to connect to PLCs and various information sources.	



Explore our wide-range product brochure



Get in contact with our sales representatives



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The data as listed in this brochure is nonbinding. Contact us to obtain a dedicated technical datasheet, a feasibility analysis for your industrial case, or to get in touch with our preferred integrators and resellers. Our general terms and conditions apply.

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