

Application Report Nonwoven

Manufacturing and Finishing of Nonwovens



Application Report Non-
woven

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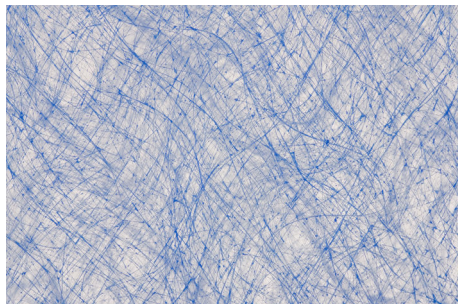
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1 MANUFACTURING AND FINISHING OF NONWOVENS

Nonwovens



The Nonwovens market exploded onto the scene throughout the past 20 years and doesn't show any signs of slowing down. The industry has become increasingly more competitive resulting in tighter product specifications and more challenging profit margins.

Mahlo has been providing solutions for these market challenges for over 25 years. For the nonwovens industry, Mahlo offers measuring, control and automation systems for all customer requirements.

Mahlo's experience and understanding of the nonwovens manufacturing industry has allowed us to tailor web gauging systems for the following processes:

- Airlaid/Dry Laid
- Carded
- Hydroentangled
- Melt Blown
- Needlepunched
- Spunbond/SMS
- Spunlaced
- Wetlaid



Manufacturers using Mahlo systems supply to the following non-woven Industries:

- Agricultural/Landscaping
- Automotive
- Clothing
- Construction
- Geotextiles
- Health Care
- Home / Office Furnishings
- Household
- Industrial/Military
- Personal Care / Hygiene



Among the nonwoven products manufactured using Mahlo systems are:

- Abrasives
- Automotive Trim: Headliners, Insulation and Padding
- Bedding
- Clothing Lining and Insulation
- Construction Insulation
- Crop Covers, Pond Liners, Weed Control Webs
- Diapers
- Disposable Gowns, Shoe Covers, etc.
- Feminine Hygiene
- Filters
- Housewrap and Pipe Wrap
- Household Wipes, Washcloths, Tablecloths

Durable and easy to maintain

- Incontinence Products
- Military Clothing
- Pillows
- Roofing Underlayment
- Soil, Roadbed and Railbed Stabilization
- Wallcoverings

1.1 Durable and easy to maintain

Built to last



From wide geotextile lines to diaper components to filter media and household wipes, Mahlo makes a quality control system tailored for your specific application, for your specific measurement and control needs. Fixed, single-sided and dual-sided scanning platforms are available with multiple synchronized scanners

The system measures tandem coatings, basis weight, moisture, thickness, color along with a myriad of combined calculations. It is standard for simple narrow webs to wide composite lines of eight meters and beyond.



With intelligent sensor and scanner technologies, quality management systems (QMS) from Mahlo measure continuously with extreme precision and sensitivity. The Windows-based data interface is open and complies with the industry standards for communication. Usability and configurability set standards. The menus and functions are designed intuitively and ensure quick success.



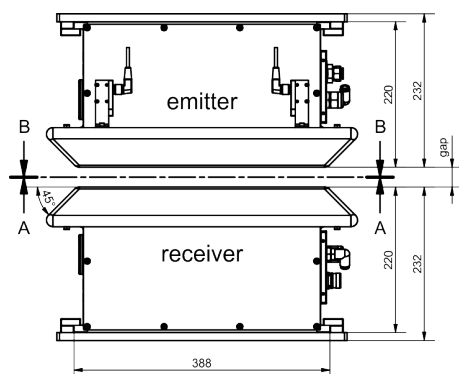
One of the outstanding features is the range of robust, traversing scanners. We know exactly that these scanners traverse reliably 24 hours a day, 365 days a year - for many for many years. The construction of robust industrial machines in German quality workmanship is one of Mahlo's strengths. The company grew out of the manufacture of large systems for the textile and carpet industry and continues this development today.

Whether scanners for single-sided infrared, laser or X-ray sensor applications, whether compact measuring frames for cramped conditions or large WebPro-L measuring frames for applications with broad wide webs and more than five sensors - all Mahlo systems are designed for long, trouble-free and uninterrupted operation. At the same time, they consist of commercially components and are therefore very easy to maintain.



1.2 Sensors & Measurements

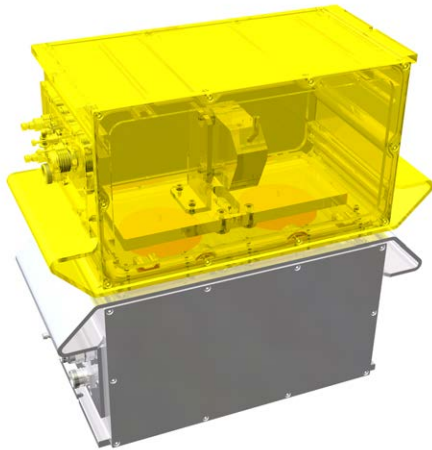
Measurements



Basis weight	
	Beta Transmission Sensor, Model DFI
1 – 200 g/m ²	■ Promethium-147
20 – 1 300 g/m ²	■ Krypton-85
150 – 6 000 g/m ²	■ Strontium-90
50 – 20 000 g/m ²	X-Ray Backscatter Sensor, Model FMX
5 – 1 000 g/m ²	X-Ray Low Voltage Sensor, Model FMX-T

Thickness / Caliper	
<0,2 - 80 mm	Single-Sided and Dual-Sided Laser Caliper Sensor, Model DML
0,3 – 100 µm	White Light Interference Sensor, Modell WLI

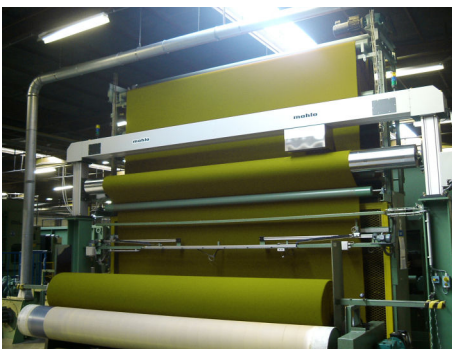
Scanners



Moisture	
0,1 – 90 %	Infrared Absorption Sensor, Model IMF or Model NIR - depending on application -
2 – 1 500 g/m ²	Microwave Sensors, Model HMF and AMF
Selective Coatings, e.g. adhesive, lacquer, silicone...	
approx. 0,1 – 200 g/m ²	Infrared Absorption Sensor, Model IMF or Model NIR - depending on application -

1.3 Scanners

Traversing Platforms



O-Frame Scanners	
Up to 2 meters	WebPro XS
Up to 3 meters	WebPro S
Up to 4.5 meters	WebPro M
Up to 8 meters	WebPro L
Single-Beam Scanners	
Up to 3 meters	UniScan S
Up to 6 meters	UniScan L
C-Frame Scanners	
Up to 2 meters	WebPro C

1.4 Operator stations & Options

Operator stations



Stand-Alone	Standard Operator Station
IP Desktop	QMS Visualization IP Desktop
Line Control Station	Integrated into Line Operator Station

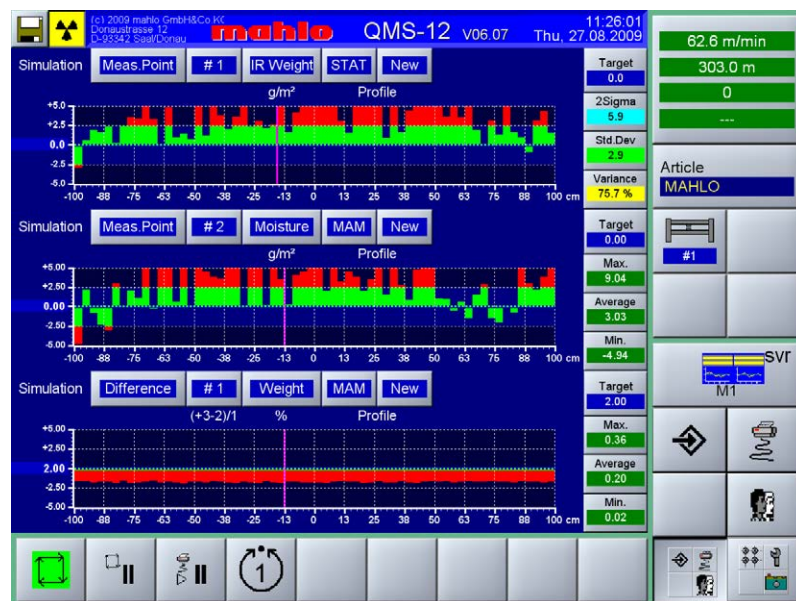
Options



Auto-Die-Control

SPC/QC Packages

Hazardous Ambient Applications



Operator stations & Options



2 MAHLO AT A GLANCE



Mahlo GmbH + Co. KG is one of the leading manufacturers worldwide of monitoring, control, and automation systems, not only for the textile and related finishing industries, but also for the paper, film and coating divisions. The long-established Bavarian company was founded in 1945 by Dr. Heinz Mahlo and has remained a family business that has maintained its position on the world market to this day. Through a worldwide network of service centers and a high quality standard combined with strong customer relationships, the special requirements of Mahlo's clientele are fully satisfied.



Due to the exorbitantly rising costs of raw materials, energy and water, and the high costs of environmental protection, it is more important than ever to keep an eye on these issues. The products from Mahlo set new standards in terms of quality assurance and process optimization. The goal is to work with the customer to determine the most competitive and cost-effective production solutions. The ultimate purpose of this strategy is to maximize profitability (ROI) by reducing the need for energy, raw materials and personnel while optimizing quality, equipment utilization and work processes.

Mahlo products and solutions

The portfolio of products and plant-related solutions is comprehensive. For more detailed information, please direct your inquiries to Mahlo. Please call us today at +49-9441-601-0 or visit us at www.mahlo.com.

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Monitoring and control systems, automation

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