COATING/CONVERTING APPLICATION REPORT

The Coating and Converting market is very diverse and requires a Quality Control System that is both flexible and configurable. In addition, these industries have become increasingly more competitive resulting in tighter product specifications and more challenging profit margins. Mahlo has responded to these market pressures by providing coating and converting measurement and control solutions for over 25 years.

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

- Roll Coating
- Direct Die Coating
- Laminating
- Curtain Coating
- Rod Coating
- Saturating
- Knife-over-Roll / Belt Coating
- Air Knife Coating
- Kiss Coating

Manufacturers using Mahlo systems supply to the following coating / converting Industries:

- Paper, Film, & Nonwovens Industries
- Padding
- Adhesive Tape
- Aerospace
- Automotive
- Composite structures
- Floor Products
- Graphic Arts
- Health / Personal Care / Hygiene
- Pressure sensitive labels

Among the coated and converted products manufactured using Mahlo systems are:

- Disposable Food Service
- Food Packaging
- Abrasives (eg. sandpaper)
- Automotive Trim & Films: Headliners, Insulation and Padding
- Decorative Products
- Gift Wrap
- Flexible Packaging Laminates
- Gaskets
- Graphic arts products
- High Pressure Laminates
- Medical patches
- Pressure sensitive labels
- Pressure sensitive tapes
- Protective Films
- Wallcoverings

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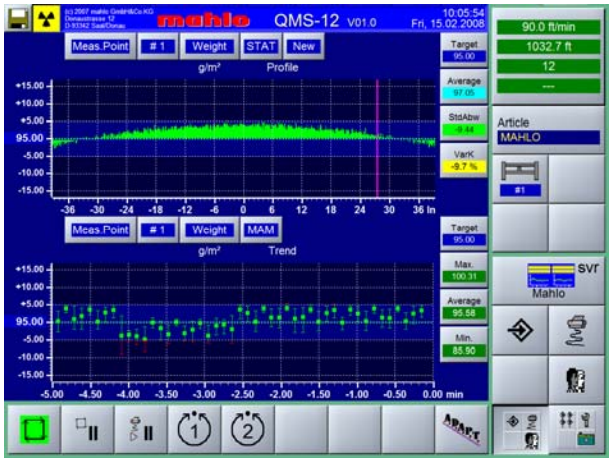
For the entire gamut of converted products, Mahlo makes a quality control system tailored to your specific application, for your specific measurement and control needs. Fixed, single-sided and dual-sided scanning platforms are available with multiple synchronized scanners measuring tandem coatings, basis weight, moisture and thickness plus a myriad of combined calculations and are standard for simple narrow webs to wide coating & laminating lines. Automated control integration is possible with our coat weight control capabilities for roll gap, roll skewing, applicator roll speed/ratio, die pump, linespeed and APC (automatic die profile control) to name a few. Sealing / purging for hazardous locations (Class 1, Div. 1) is available.

Utilizing intelligent sensor and scanner techniques, the Mahlo QMS systems measure on-line continuously and with extreme precision and response. The computer interface is Windows XP based, is fully open and conforms to industrial communications standards. Ease of use and configurability were built in from the ground up and the menus and functions are very easy to understand with a short learning curve.

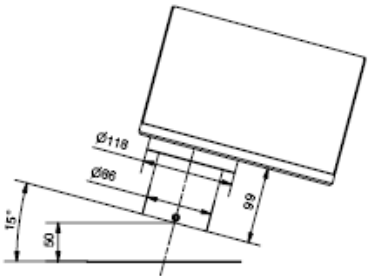


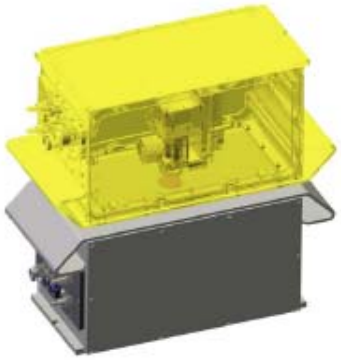
One of the many strengths of the Mahlo system is the family of rugged steel O-Frames. We know that these scanners must traverse back and forth around the clock, 365 days per year for many years. Building tough industrial machinery is a forte of German manufacturing, and Mahlo grew up making large-scale machinery for the textile and carpet industry, and continues to this day. Over-engineered for long, trouble-free life, yet easy to maintain with commercial components, all Mahlo scanners whether single-sided for Infrared, Laser or X-Ray sensor applications, Compact O-Frames for tight spaces or the WebPro-L O-Frame scanner for those wide web applications and a payload of up to five sensors, are built to last.

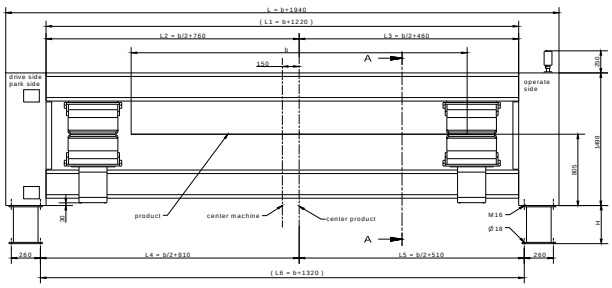
Mahlo QMS Quality Control System Offerings

Measurements

Basis Weight	
	Model FMI Beta Transmission Sensor
0 – 200gsm	Promethium-147
5 – 1,200gsm	Krypton-85
50 – 5,500gsm	Strontium-90
75 – 20,000gsm	*Model FMX X-Ray Backscatter Sensor*
Thickness	
<0.001 - 4.00in	*Model DML Single-Sided Laser Caliper Sensor*
<25µ - 100mm	*Model DML Dual-Sided Laser Caliper Sensor*
Moisture	
0.01 - 95% }	*Model IMF Infrared Absorption Sensor*
0.01 - 1000 g/m^2 }	*Model HMF Microwave Resonance Sensor*
Selective Coatings	
	Model IMF Infrared Absorption Sensor





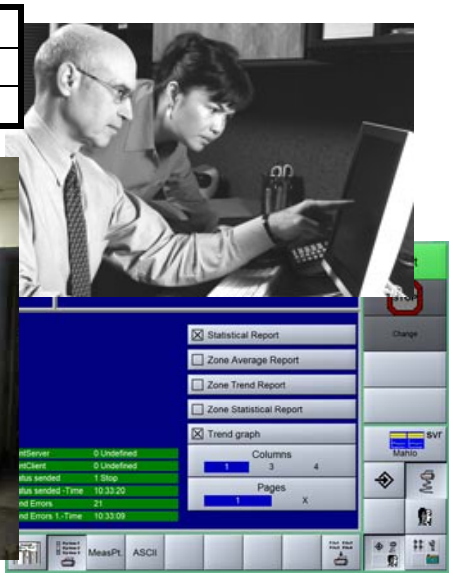


Traversing Platforms

O-Frame Scanners	
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 4 meters	*WebPro - C*

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

About Mahlo

For over 60 years, Mahlo has built its reputation based on the design and manufacture of rugged, innovative, cost effective on-line monitoring and control technologies. It is our focus to provide our customers with tailored solutions that offer a quick return on investment and are supported by our experienced and responsive technical support team.

Mahlo is headquartered in Saal, Germany, in the heart of Bavaria. We are privately owned by the Mahlo family and take great pride in continuing the tradition of quality-built products based upon German engineering and craftsmanship. Mahlo employs over 300 people worldwide with over 100 sales and service centers in 115 countries.

Mahlo America, located in Spartanburg South Carolina, is celebrating its 40th anniversary in 2008. Our facility, along with a network of sales and service offices through out North America, provide unparalleled customer support and a true commitment to helping our customers improve their manufacturing processes and reduce production costs.

In addition, our U.S. office maintains a comprehensive spare parts inventory and houses a fully operational pilot line with QC laboratory for product testing, sample evaluation, and technical training. The line is capable of processing up to 80” wide webs and is equipped with a full suite of traversing scanners and measurement sensors for detailed evaluation of our on-line web gauging technologies.

Please call us today at (864) 576-6288, or visit us at www.mahloamerica.com.