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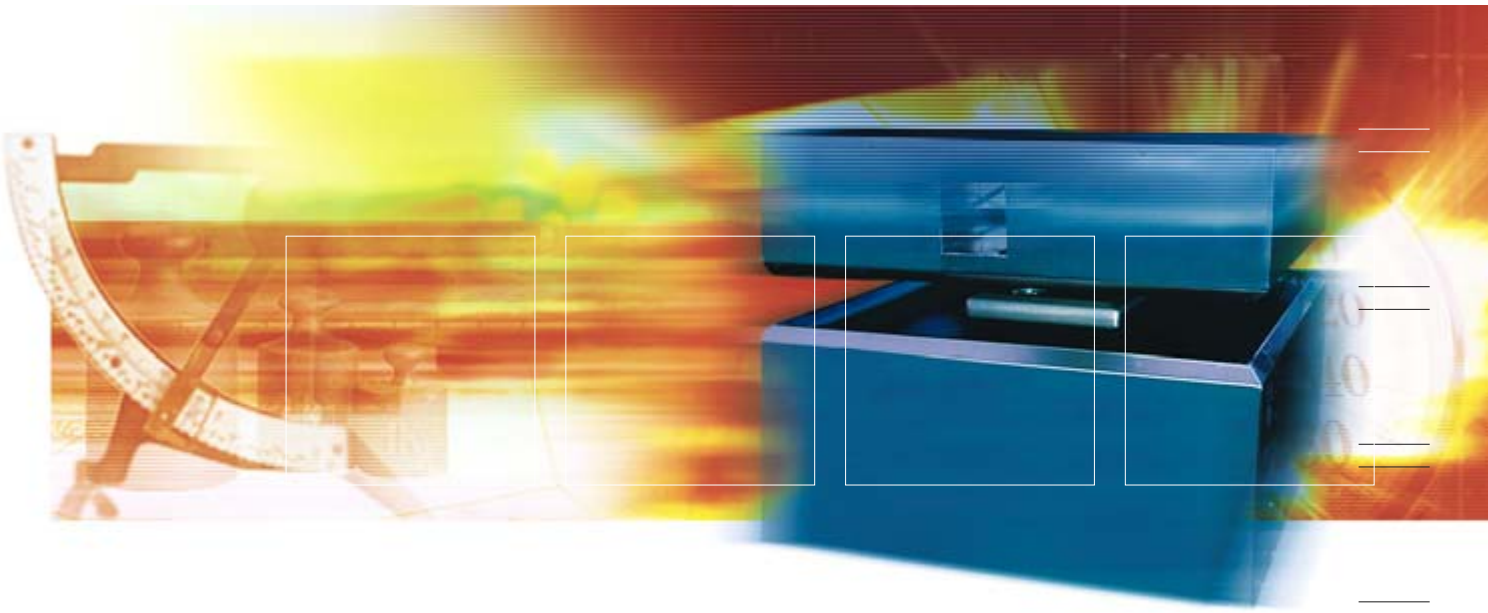


GRAVIMAT FMI

Weight monitoring and control system

Measurement

Control

Automation

GRAVIMAT FMI

A control system for continuous, non-contact, non-destructive measurement of the weight per m^2 of on-line materials.

Continuous and accurate measurement of weight per m^2 on many processes associated with the manufacture of textiles, paper, nonwovens, plastics and coated products in sheet or open-width form is considered to be the criterion most vital to assessment of finished quality.

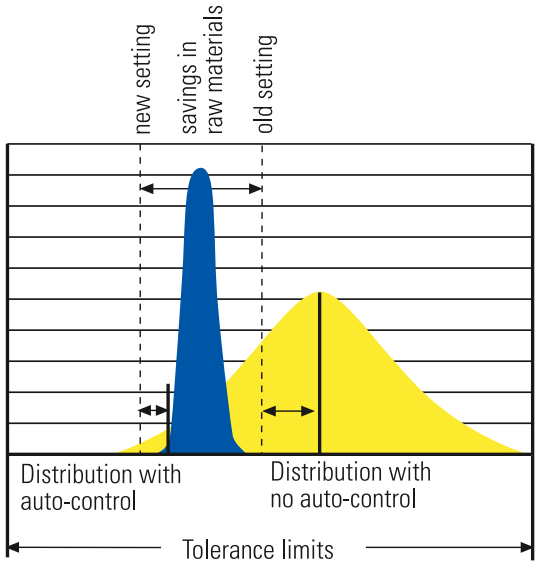
More importantly, the system must also be able to measure on-line and with a high degree of reproducibility in any given industrial environment.

Gravimat FMI -
Accuracy pays in the long run!

In addition to quality assurance, impressive savings in raw materials and energy can be achieved, process reliability attained, and productivity increased by setting a suitable target weight and opting for close tolerances (as illustrated in the following diagram).

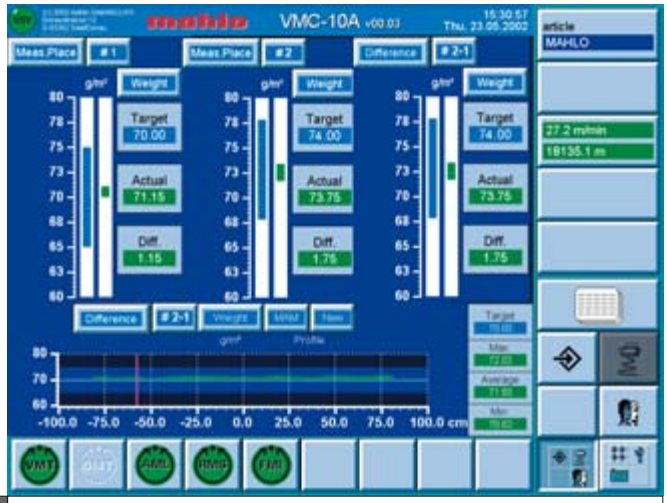
The all-important benefits:

- -economic use of materials
- -quality assurance
- -increased productivity
- -full quality-related documentation

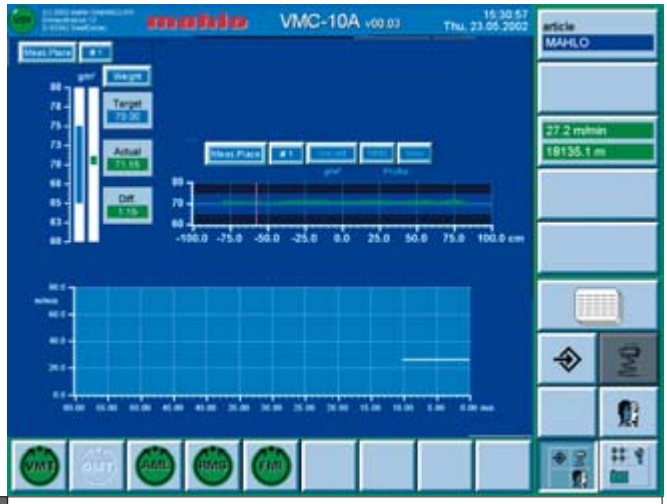


How it measures

When the rays from a radioactive isotope pass through a material their intensity weakens in accordance with the mass of the on-line sheet. This decrease in intensity is a measure of the product's weight per m^2. Specially designed and patented techniques offset any factors likely to falsify measurements and thus help promote the utmost degree of accuracy.
An exceedingly wide range of weights can be covered by using various radioactive elements.



①



②

Operating features

Having switched the system on, a user-interface appears on the touchscreen monitor. This facilitates control by direct finger-contact with the screen.

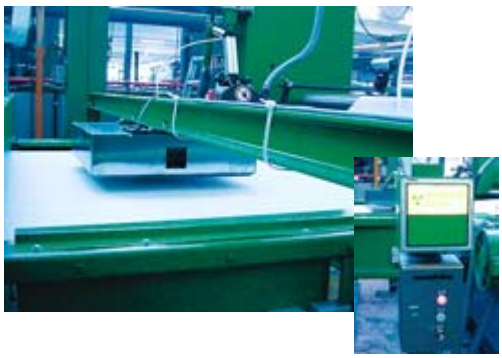
Screen displays:

① Graphic display of weight differential (example: typical configuration for coating ranges applications).

- Measurements taken at two points and the computed difference between the two are indicated by bar graphs.
- Informative target and readout data is displayed in figures
- A separate histogram records the trend of the computed differential

② Graphic indication of weight per m^2 (example: typical configuration for use at the delivery end of a dryer)

- Measurements taken at a single point are recorded by a bar graph
- The trend of the weight per m^2 is plotted on a histogram
- Progressive line-speed is recorded by a separate histogram



Typical installation: FMI at the exit end of a stenter (with control box and visual display)

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Technical data

Type of measurement	Beta-ray transmission	
Activity	Radiation source Kr-85	Radiation source Sr-90
	3GBq	500MBq
Range	Radiation source Kr-85	Radiation source Sr-90
	20 - 800 g/m^2	1000 - 5000 g/m^2
Reproducibility (at 20 °C T_{amb})	Radiation source Kr-85 ±0,1 g/m^2	Radiation source Sr-90 ±0,5 g/m^2
Scanning gap	10 - 60 mm	
Temperature compensation	at 4 locations (emitter and receiver enclosures, scanning gap at emitter and receiver ends)	
Power supply	230/115V AC 50/60 Hz	
Ambient limits	max. 50 °C, 0-95% relative humidity (non-condensing)	

	Emitter	Receiver
max. current consumption	max. 1A (continuous: 0,5A)	max. 2A (continuous: 0,3A)
approx. dimensions in mm (WxHxD) with covers	560 x 560 x 160	560 x 560 x 280

Illustration - emitter

Illustration - receiver