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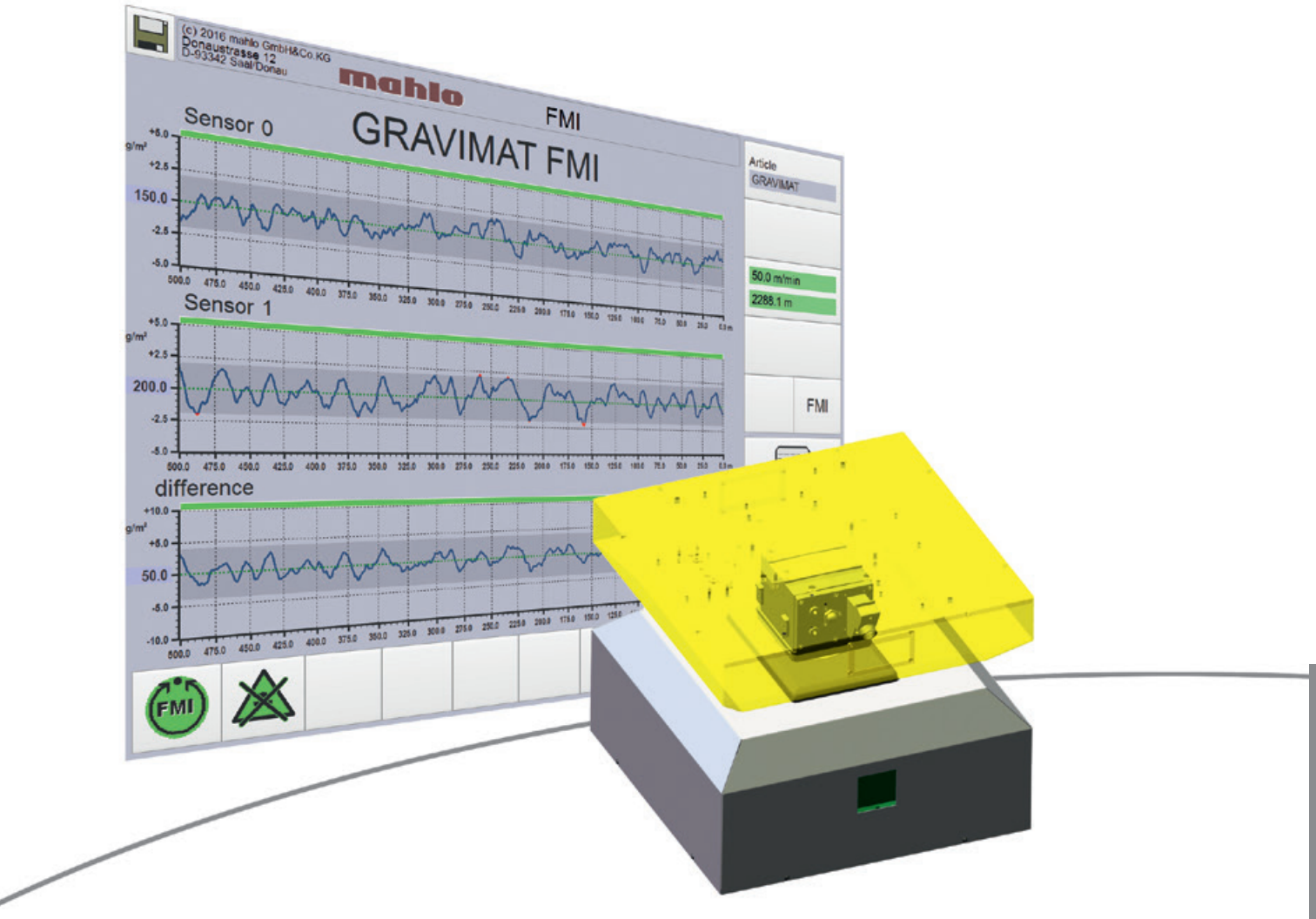
GRAVIMAT FMI-15

Grammage measurement and control system



GRAVIMAT FMI-15

Quality made in Germany

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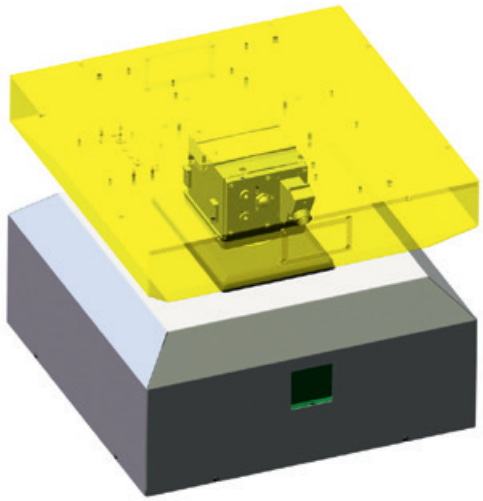
GRAVIMAT FMI

Grammage measurement



The weight monitoring and control system measures the weight continuously, without contact, destruction-free and on moving product.

Area of application

The correct grammage is a decisive quality criterion in many process technologies in the textile industry and coating technology. Monitoring, control and logging of this parameter is therefore a decisive process step. The key is to determine the grammage under the given industrial conditions online and with high repeatability.

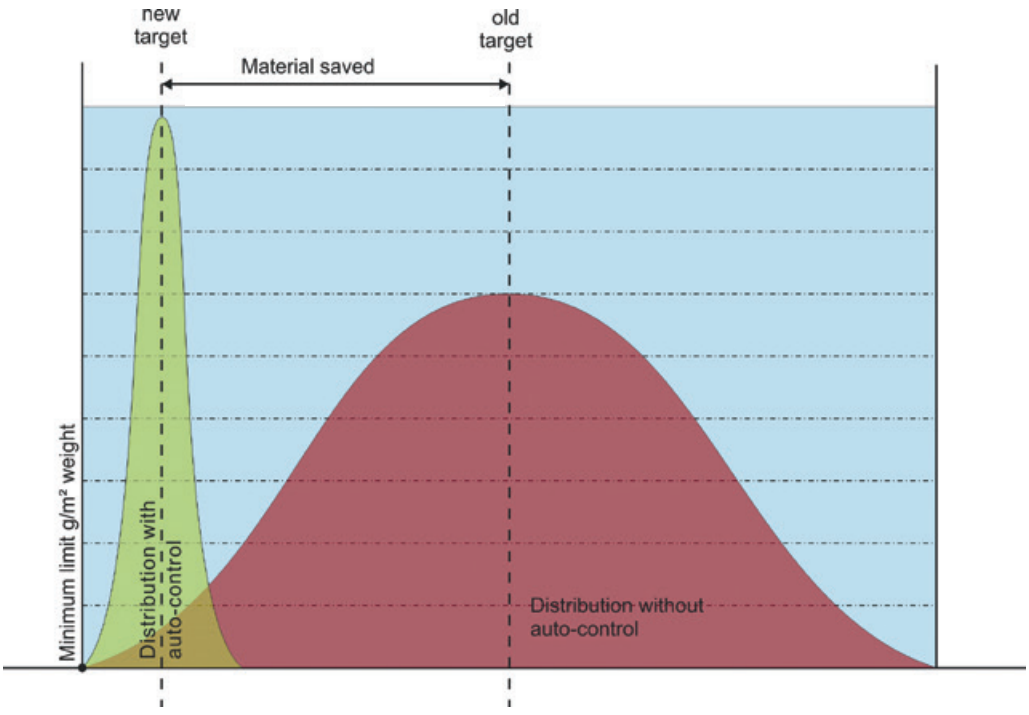
In addition to ensuring product quality, an appropriate setpoint with narrow tolerances can provide considerable savings in material and energy consumption, achieve process reliability while at the same time increasing production (see diagram).

Produkt-Highlights

- ✓ Highest repeatability of the measured values
- ✓ Non-contacting measurement
- ✓ Digital signal processing
- ✓ Integrated temperature compensation
- ✓ Integrated source ageing compensation
- ✓ Integrated air gap compensation

Benefits for the customer

- ✓ Material savings
- ✓ Quality assurance
- ✓ Increased production
- ✓ Comprehensive quality documentation

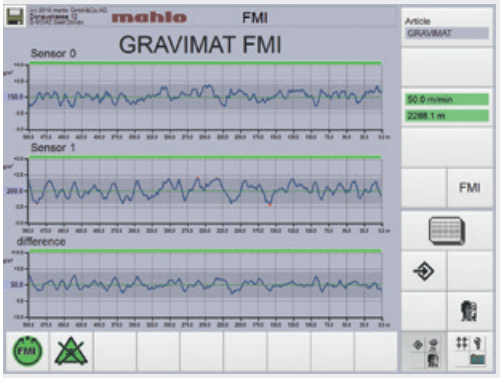


RELIABILITY
Our machines do exactly what we build them for: Hour after hour, year after year. Making sure you will always reach your goal.

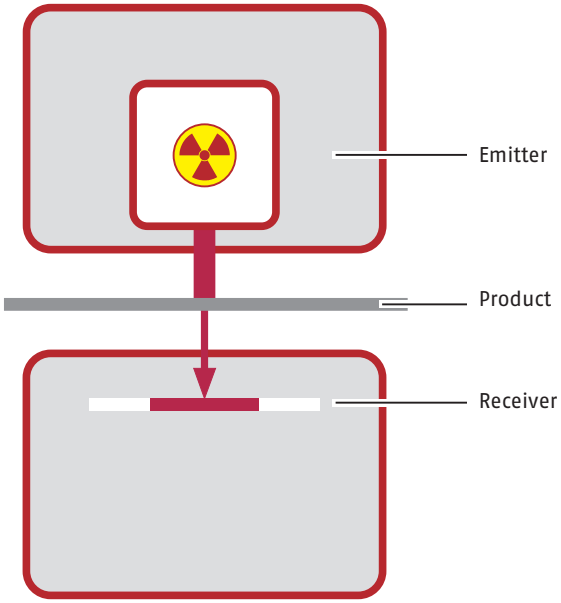
Principle of operation

With the common grammage area measurement is based on the attenuation of radioactive rays through the substrate located in the measuring gap. This attenuation in intensity is an indication of the weight of the product. The grammage is hereby determined without contact and continuously at high accuracy.

For very different weight ranges, such as pile carpeting or coated textile bases, different nuclides are available. Differential measurements with two measuring points are normally made to control a coating process. The coating weight is continuously recorded in the process and the application or coating unit of the machine is automatically adjusted. This allows immediately responding even to short frequency changes of the incoming grammage.



Grammage measurement trend diagram



Principle of operation

BASIS

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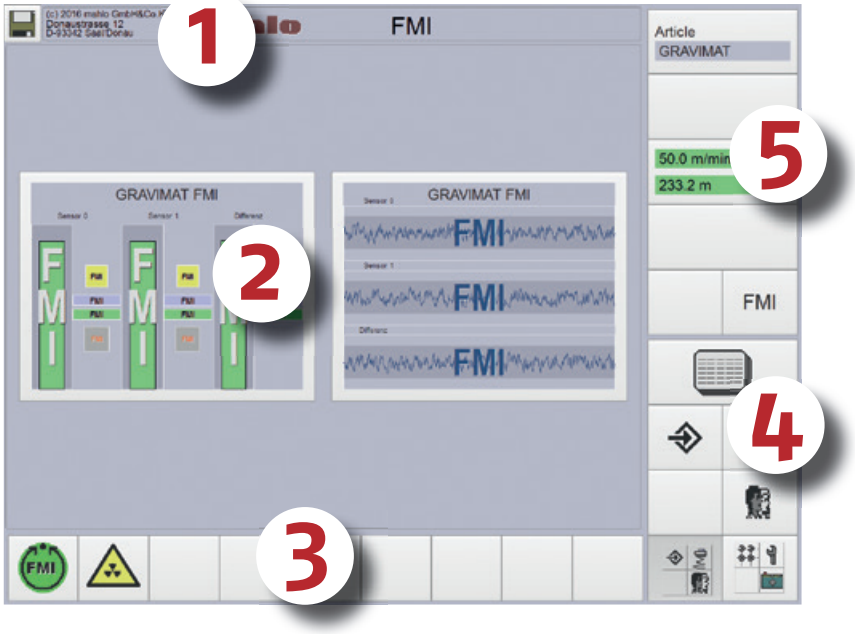
VISUALIZATION

Everything at a glance

All entries are made directly on the touchscreen using large, ergonomic buttons. Operation is simple and intuitive. All key information is visible at a glance.

Visualization and operation per touchscreen



Main screen for selection

The user interface consists of five areas:

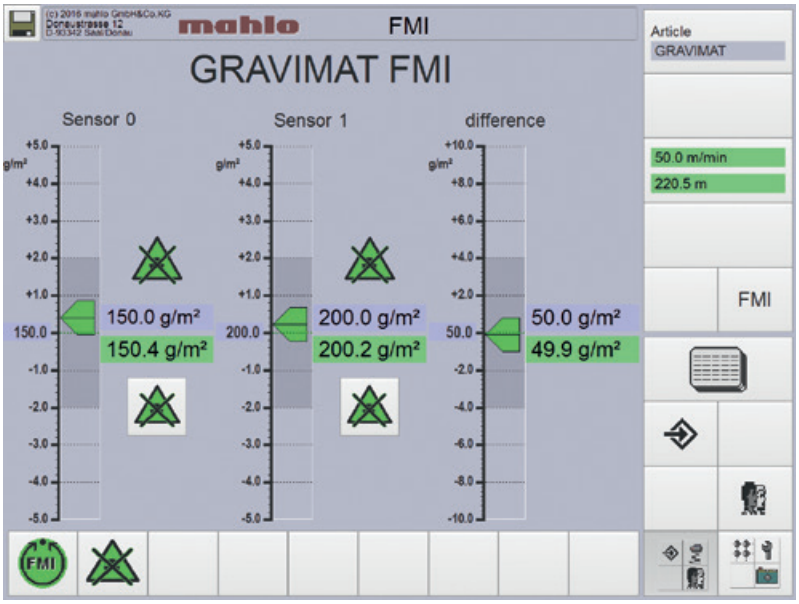
1. Title line:
General information (including alarm bar)

2. Display area:
Selectable screen pages (display forms)

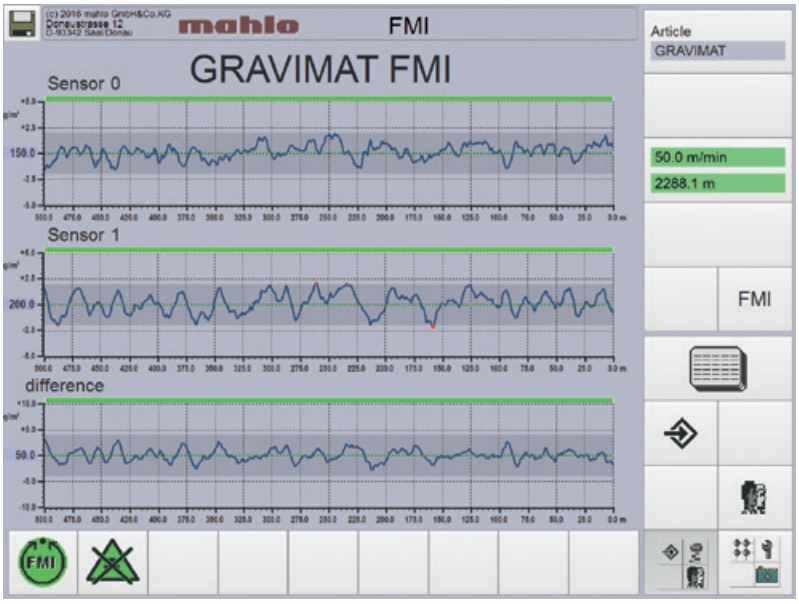
3. Horizontal block:
Operating buttons for basic functions and submenu

4. Selection block:
Navigation within the operating software

5. Vertical block:
Operating buttons for the menu selection



Display of current values of differential measurement



Grammage measurement trend diagram

Product highlights

- ✓ Simultaneous management of various sensors
- ✓ Freely scalable trend diagrams
- ✓ Image scale for historical graph selectable
- ✓ Password protection: Unauthorised users are prevented from accessing the program
- ✓ Recipe management

Customer benefits

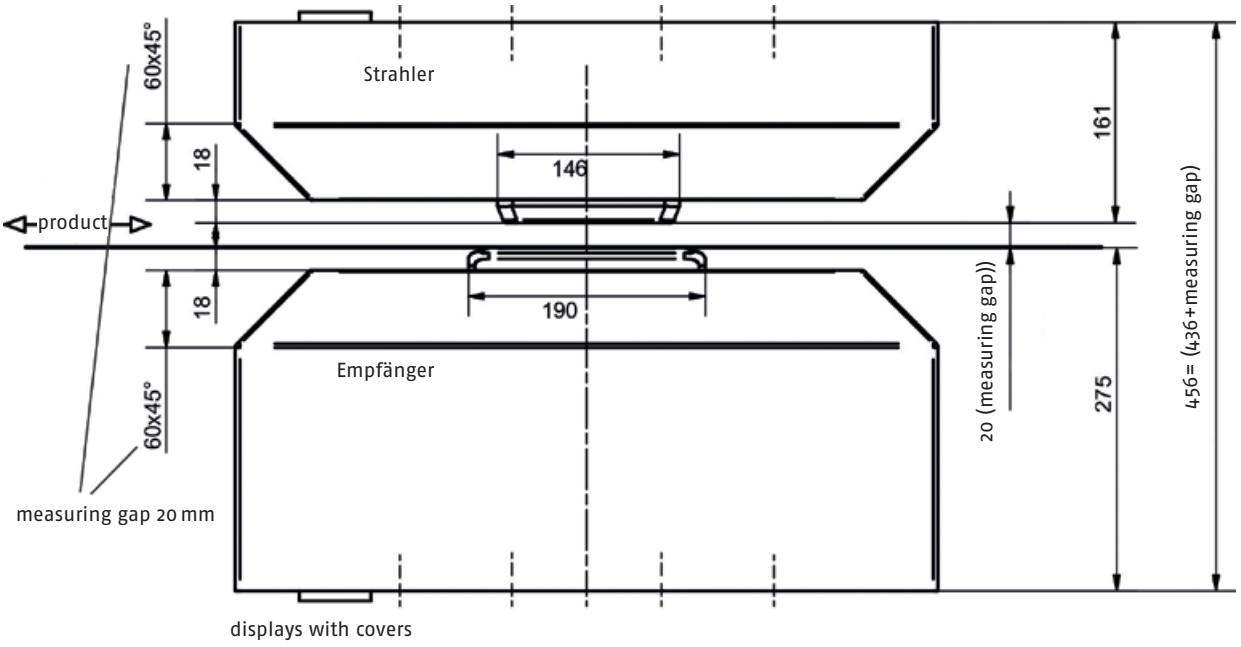
- ✓ Menu guide in all common languages
- ✓ Very user-friendly
- ✓ Ergonomic user prompting
- ✓ ase of operation

VISUALIZATION

TECHNICAL DATA | GRAVIMAT FMI

Sensor	Gravimat FMI	
Isotope	Krypton-85 (Kr-85)	Strontium-90 (Sr-90)
Activity	3,0 GBq 9,62 GBq	500 MBq
Measuring range	10 – 1400 g/m²	100 – 5000 g/m²
Repeatability (2σ, 1s) (whichever value is greater)	±0.1 % oder ±0.1 g/m² (80 mCi : t = 4 s)	±0.3 % oder ±0.5 g/m²
Measuring gap height	10 – 100 mm	10 – 100 mm
Temperature compensation	At 4 locations (one each for the emitter and receiver housing, and one each above and below in the measuring gap)	
Barometric compensation	Electronic (included in control and display station)	
Temperature range	+10 – +60 °C (with sensor cooling) Use at higher temperatures upon request	
Relative humidity (non-condensing)	0 – 95 %	

Dimensions



Sensor GRAVIMAT FMI
91-013098-03

PERSONALITY
You're not just a number for us. Your individual needs and special requirements are our highest priority. We are there for you with our expertise, our leading technology and full dedication. So you can always play to win.

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