



GRAVIMATDFI  
BASIS WEIGHT SENSOR  
by Mahlo GmbH + Co.

# GRAVIMATDFI

## BASIS WEIGHT SENSOR

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NON-CONTACTING  
CONSTANT MEASUREMENT

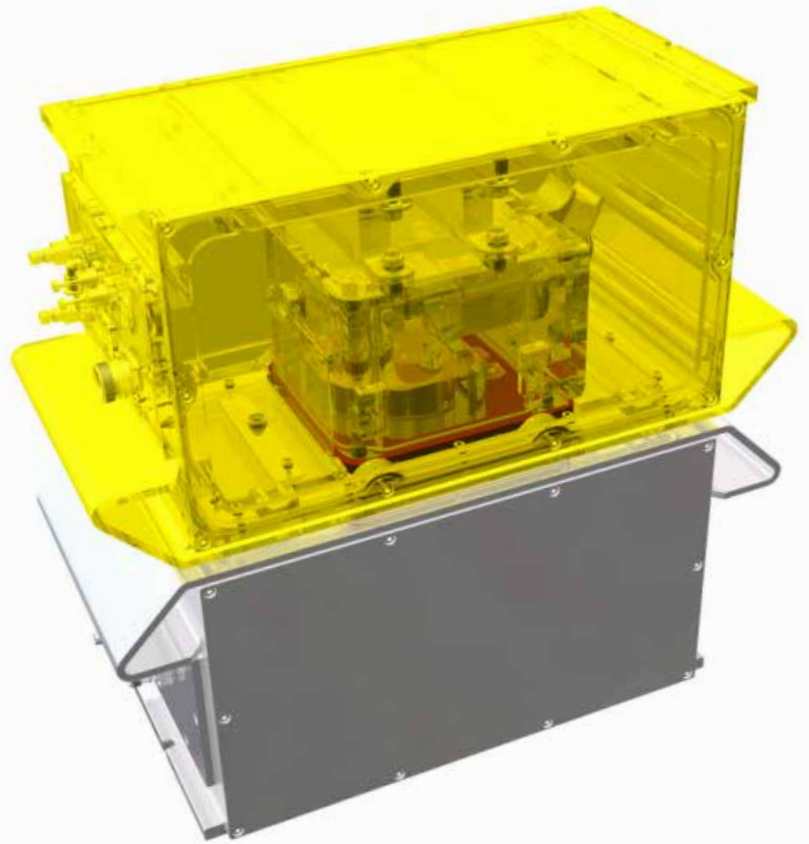
WIDER MEASUREMENT  
GAPS FOR SOFT WEBS  
AND WET COATINGS

ULTRA-EFFICIENT  
BETA RADIATION

LIGHTNING FAST  
MICROPROCESSOR

4 TEMPERATURE SENSORS  
WITH AIR PRESSURE  
COMPENSATION

MINIMAL CALIBRATION

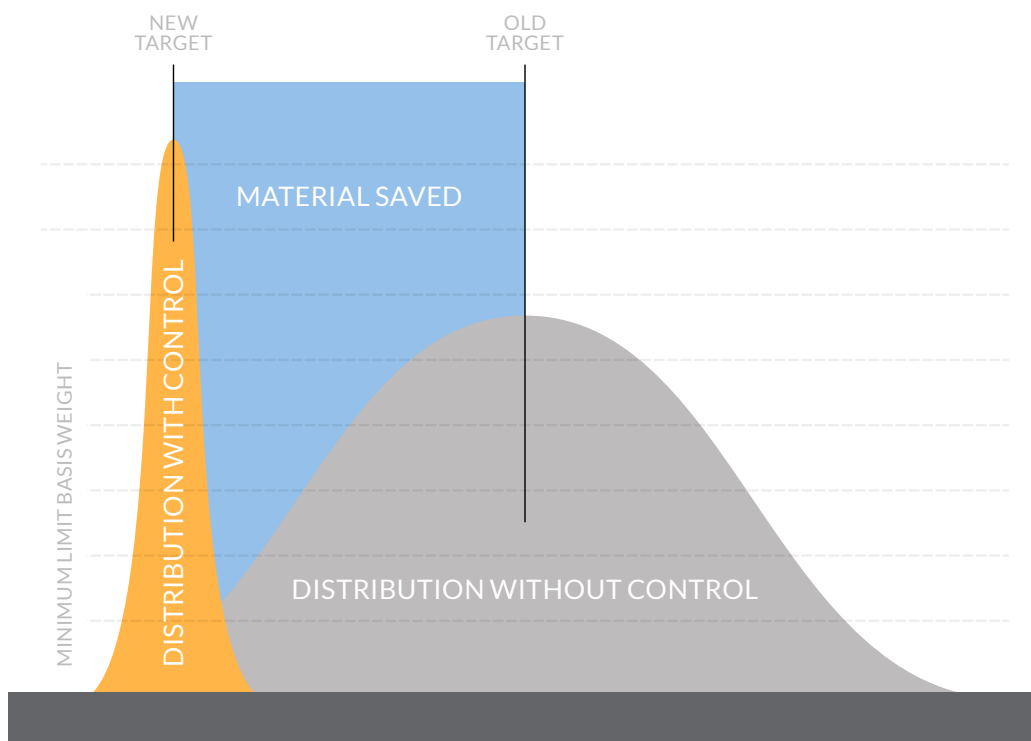


## This new sensing technology is a revolution

Measuring basis weight is critical, yet challenging, to paper-making and non-woven processes. Changes in web flutter, passline change, ripples, sag or edge curl can affect other methods of paper quality measurement. Variation in loft, density and thickness on non-woven webs can cause changes to center of mass. The key is obtaining an accurate profile for basis weight with high repeatability in spite of these factors. New sensing technology in the Gravimat DFI Basis Weight Sensor uses radiological transmission to see past these dynamic conditions and measure basis weight with precision.

## Tighter tolerance

Measuring basis weight continually and with greater precision allows paper mills to manage paper quality nearest to the center line. Higher paper quality is only part of this sensor's ROI. Your process will become more reliable, resulting in less downtime. The mill will experience significant material and energy savings.

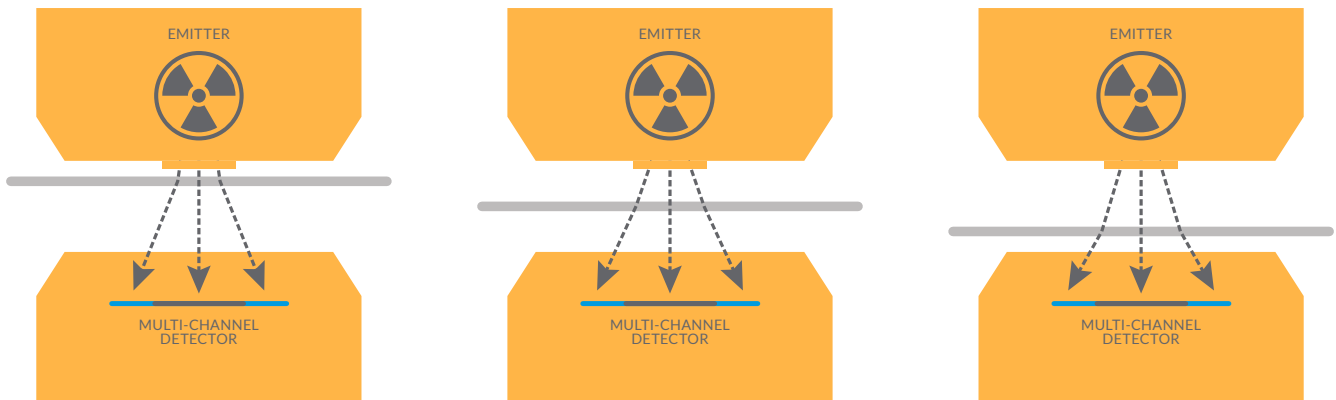


Higher quality and efficiency

## Principle of operation

Basis weight measurement is based on the attenuation of radioactive rays through the substrate passing through the measuring gap. This attenuation in intensity is an indication of the weight of the product. We measure basis weight **continuously** with absolute precision and without contacting the product.

No heavy absorbers or highly radioactive sources are necessary, yet these sensor provides the best accuracy, speed and resolution available. Measurement gaps can now be substantially increased without concern for additional web movement. Soft, easily damaged products or wet coatings can run through a larger gap while measuring even lightweight products.



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## Specifications

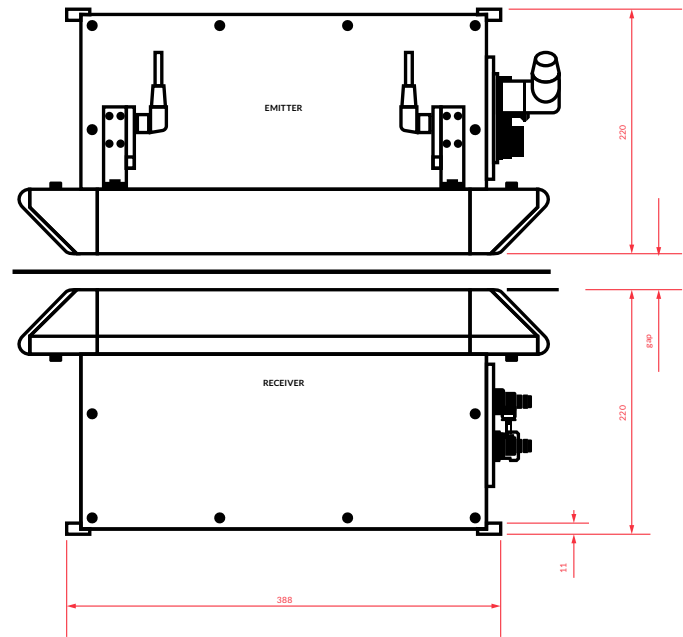
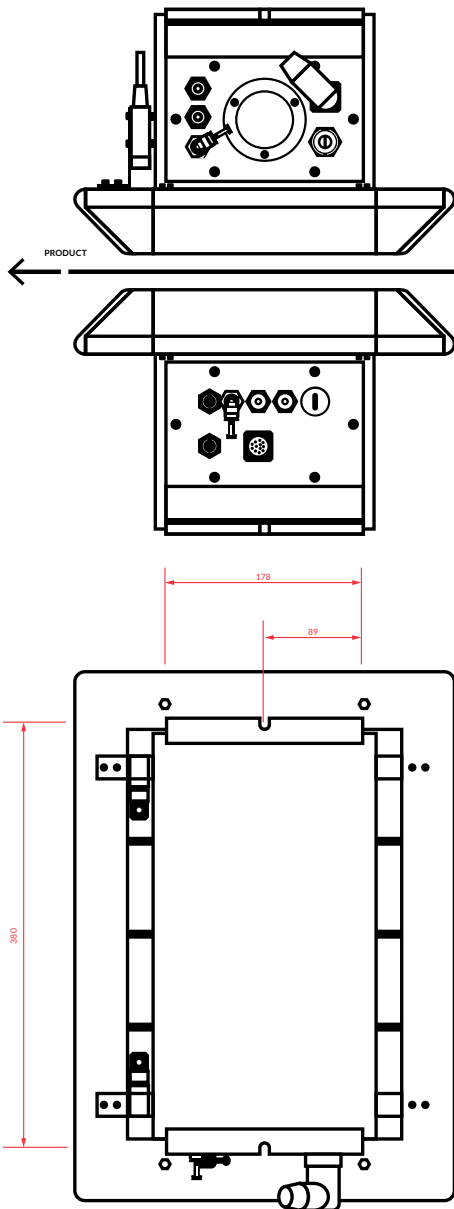
Isotope	Promethium-147	Krypton-85	Strontium-90
Activity	1000 mCi (37 GBq)	400 mCi (15 GBq) 260 mCi (9.6 GBq) 80 mCi (2.9 GBq)	20 mCi (750 mBq)
Range (basis weight)	.5 - 32 lbs/1000 sf 2.5 - 160 g/m <sup>2</sup>	2.05 - 286 lbs/1000 sf 10 - 1400 g/m <sup>2</sup>	20.5 - 1024 lbs/1000 sf 100 - 5000 g/m <sup>2</sup>
Repeatability (2 $\sigma$ , 1s) whichever value is greater	$\pm 0.05\%$ or $\pm 0.01$ lbs/1000 sf or $\pm 0.05$ g/m <sup>2</sup>	$\pm 0.1\%$ or $\pm 0.02$ lbs/1000 sf or $\pm 0.1$ g/m <sup>2</sup> (80 mCi : t = 4 s)	$\pm 0.1\%$ or $\pm 0.02$ lbs/1000 sf or $\pm 0.1$ g/m <sup>2</sup>
Measurement gap	.393 - .787 in 10 - 20 mm	.393 - 3.937 in 10 - 100 mm	.393 - 3.937 in 10 - 100 mm
Temperature compensation	At 4 locations (source and detector enclosures, measurement gap at source and detector faces)		
Barometric compensation	Electronic, included in C&D console		
Passline/flutter tolerance	100% of measurement gap from 10-40mm (minimum of 2.4" within larger gaps)		
A/D conversion resolution	16 bit (1/65536 FS)		
Power supply	24V DC		
Maximum ambient conditions*	140° F 60° C 0-95% relative humidity (non-condensing)		
Maximum current usage	Source max. 1 A (continuous 0.5 A)	Detector max. 2 A (continuous 0.3 A)	
* Larger gaps available upon request † Use at higher temperatures upon request			



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## Dimensions







PantherQCS

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# GIVE US A CALL TODAY

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