

SENSORS



TEXTILE



NONWOVENS



PAPER



PLASTIC

INFRALOT IMF

MOISTURE AND ORGANIC COMPOUND MEASUREMENT

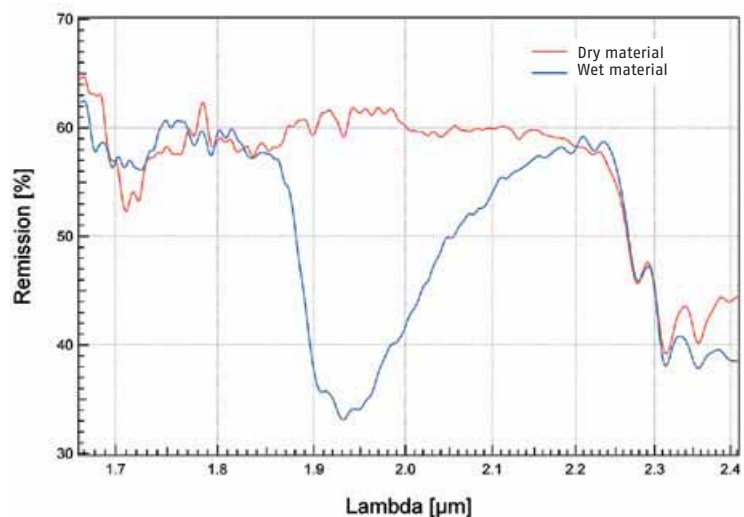
Applications

By optically analysing reflected light energy in the near-infrared range (NIR), the Mahlo® IMF sensor can measure online, non-destructively and without adversely affecting the product's characteristics important product-specific parameters such as moisture (water), coating weight, the thickness of plastic film, or the organic components in nonwovens. The NIR backscatter sensors of the Infralot IMF series are based on the classic 6-filter measuring principle, but are updated with the very latest optical components and in accordance with the most recent trends in optical measuring technology.



Product-highlights

- ✓ Beam generation by means of a robust halogen lamp
- ✓ High-speed filter wheel with six optional filters
- ✓ Easy to install, non-critical with respect to product distance and impurities
- ✓ Can be calibrated by the customer by means of a simple gauging tile
- ✓ Detectors cooled by an integrated, regulated Peltier element
- ✓ Easy access to the measuring optics for cleaning purposes



Infralot IMF diagram

Principle of operation

Light-specific wavelengths can induce the atomic bonds of certain molecules to oscillate at a multiple of their basic frequency, whereby the major portion of the incidental light energy is absorbed by the product. If the light reflected from a product is evaluated for its energy separately for each wavelength, a relationship between the degree of absorption of these resonant wavelengths and the number of absorbing molecules can be determined. The graph shows this clearly. Dependent on the amount of moisture in the product, the light energy absorbing alters significantly at the resonant wavelength of the water molecule. To obtain a stable measurement in practice, the reflected light energy at the resonant wavelength is compared with other non-absorptive wavelengths (references).

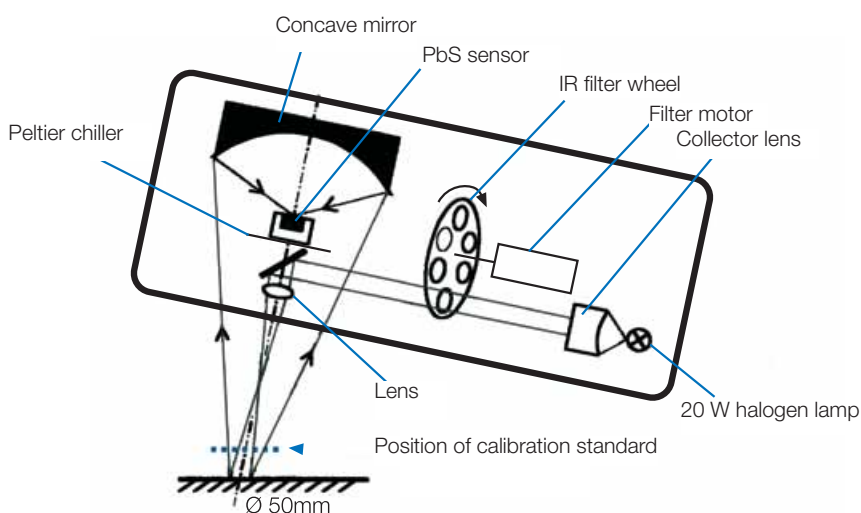


LISTENING

Our sales team knows how to listen: with our customers' individual requirements, wishes and ideas firmly in mind, they point our R&D engineers in the right direction. Consequently, you get exactly what you really need.

Customer benefits

- ✓ Non-destructive, continuous analysis of various web or sheet parameters
- ✓ Exceedingly accurate and stable measurements; calibration reduced to a minimum
- ✓ Long life expectancy through the use of high-quality components
- ✓ Wide range of applications by using various measuring wavelengths



Schematic representation of the IMF measuring principle

TECHNICAL DATA | INFRALOT IMF

Sensor	Infralot IMF
Measurement	Near infrared backscatter sensor
Wavelength band filter	1000 – 2800 nm
Measuring range	Moisture: 0.1 – 95 % absolute Coating weight: 0.5 – 500 g/m ² Organic constituents: 2 – 1000 g/m ²
Distance to product	130 – 250 mm (standard: 150 mm)
Length of air-purge union	125 mm
Scanning spot diam.	30 mm (at a distance of 150 mm), (smaller measurement spot upon request)
Life of lamp	Lifetime guarantee
Scan duration (internal)	25 ms
Power supply	24 V DC
Ambient limits	Max. 60° C, 0 – 95 % relative humidity (non-condensing)



AROUND THE CLOCK

We know every nut and bolt on our machines. Your replacement part will be on its way to you within 24 hours. We set everything in motion. Just so that you don't stand still.

Online-Support:

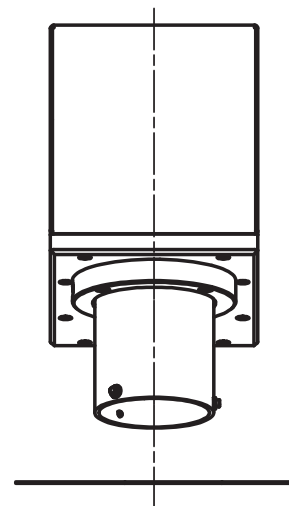
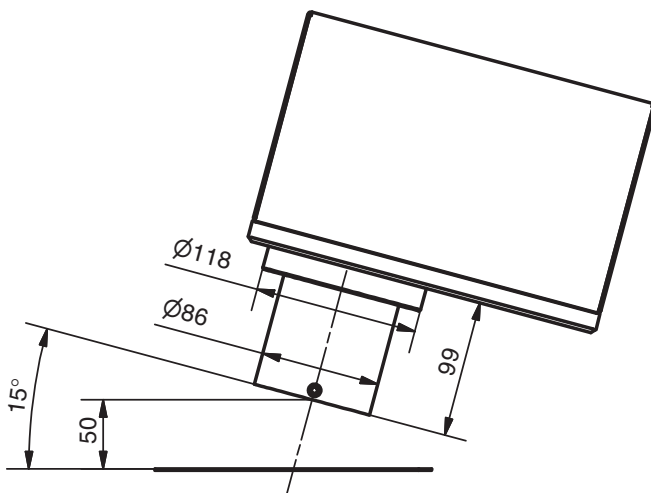
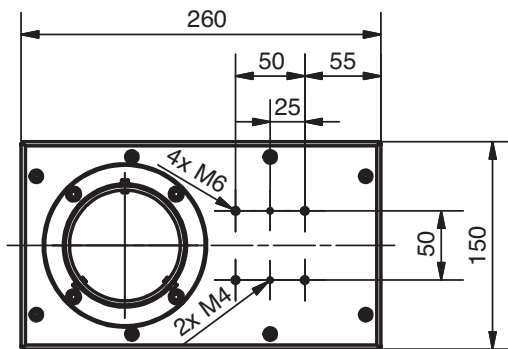
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Support-Hotline:

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Dimensions

lower view, without cloth



INFRALOT IMF sensor
91-014306