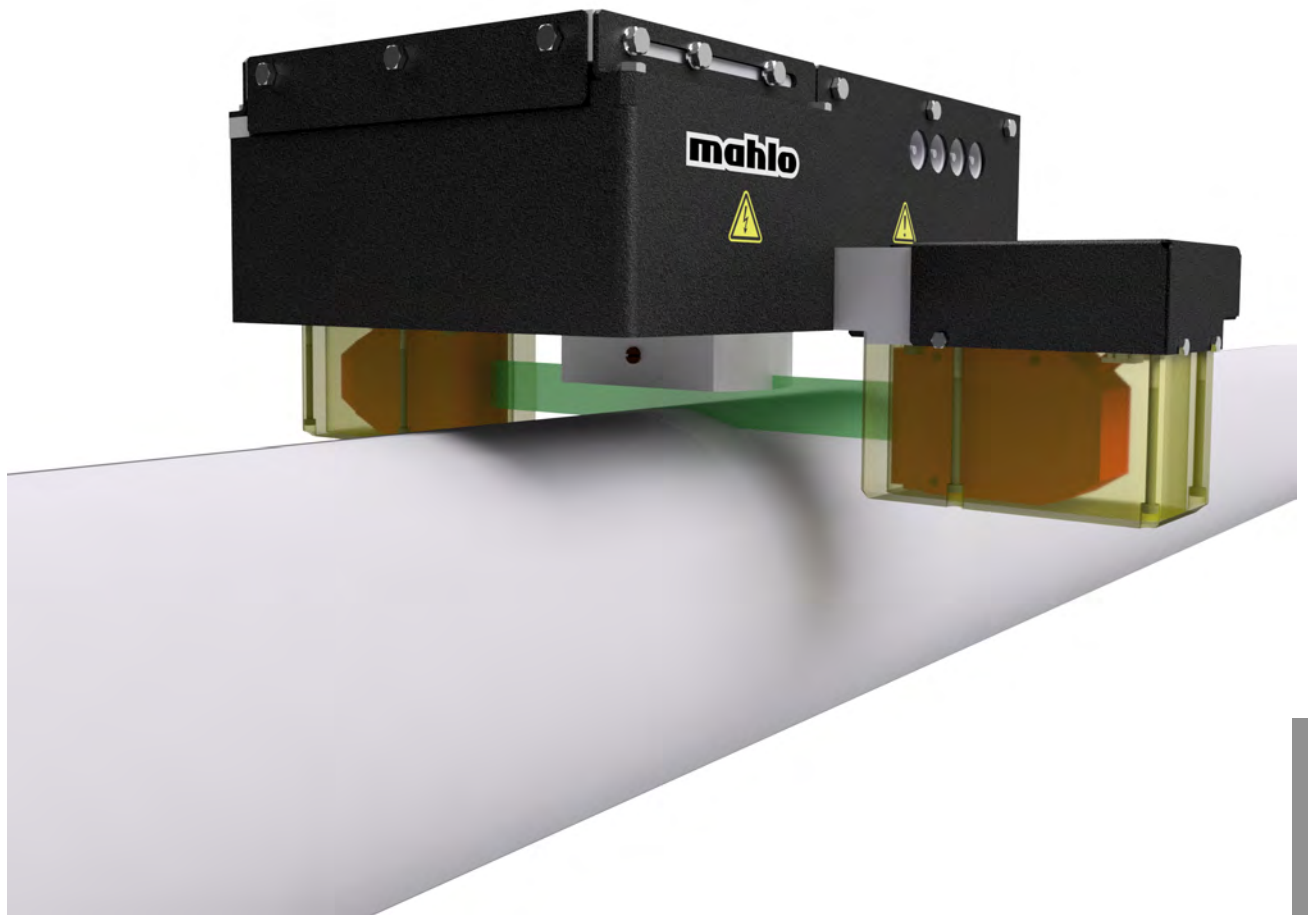


CALIPRO DMS

LED micrometer thickness measurement



CALIPRO DMS

Calipro DMS 84-010477, 1, en_GB

Subject to revision!



Quality made
in Germany



TEXTILE



NONWOVEN



COATING &
CONVERTING



PAPER



EXTRUSION

Mahlo GmbH + Co. KG
Donaustr. 12
93342 Saal/Donau
Germany
Telephone: +49-9441-601-0
Fax: +49-9441-601-102
Email: info@mahlo.com
Internet: www.mahlo.com

Sensors

Calipro DMS

Thickness measurement

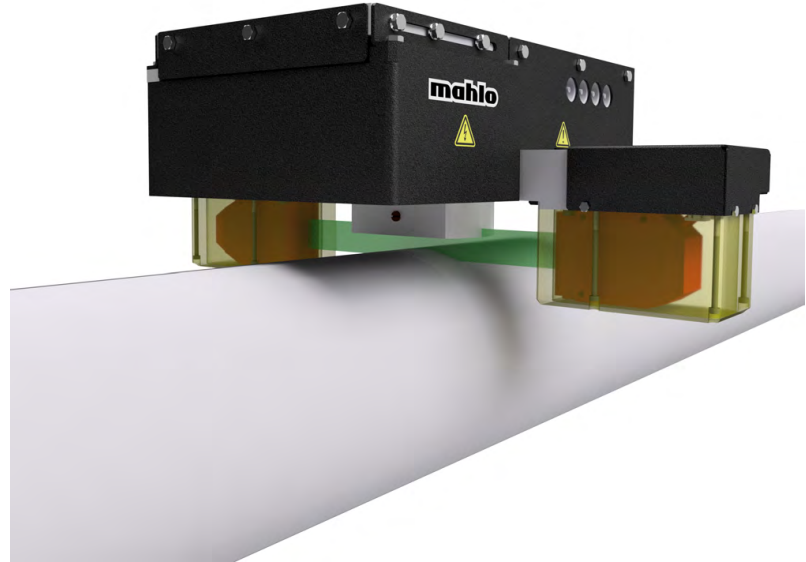


Fig. 1: Calipro DMS on one-sided measuring frame

Sensor for Qualiscan QMS-12

Calipro DMS measures the material thickness of the product using a light curtain. It is insensitive to colour, transparency and opacity as well as largely independent of the material surface.



Benefits for the customer

- Quick process optimization
- Material savings
- Quality assurance

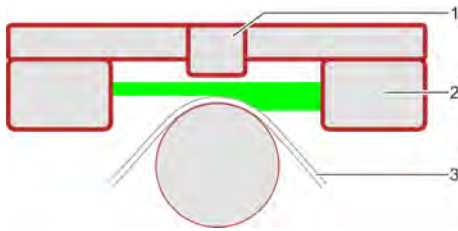


Product highlights

- High profile resolution
- Material-independent (colour, density, components, etc.)
- Contactless, wear-free measurement
- No calibration effort
- No radiometric measurements

Calipro DMS

Principle of operation



- 1 Eddy current sensor
- 2 LED light curtain
- 3 Product

The light of a LED is directed as uniform, parallel light beam onto a measuring object. The transition between the bright and dark area at the receiver is detected as measuring value. Depending on the material thickness, a certain area is thus shaded at the detector. The eddy current sensor measures the current roller position.

The material thickness is calculated from the difference between eddy current sensor and shading sensor.

Fig. 2: Calipro DMS principle sketch

Area of application



Fig. 3: Calipro DMS on the O-measuring frame

Some areas of application in thickness measurement are difficult to cover with classic laser measuring systems. These systems reach their limits if the material surface is structured, rough, very smooth or glossy. Laser triangulation is not suitable either with multi-colour, transparent or opaque materials.

This is where the Calipro DMS LED shading sensor comes into play. The combination of eddy current sensor and shading sensor makes the measurement insensitive against material surface, colour, transparency, opacity and temperature variations.

Applications

- Film extrusion & plate extrusion
- Nonwoven
- Textile
- Converting
- Calendering

Materials

- Mesh
- Nonwoven, foam, film
- Film and paper combinations
- PVC floor covering, entire range of colours

Technical data

Sensor for thickness measurement Calipro DMS

Sensor DMS		
Scanning spot	Micrometer	Approx. 1.5 mm width
	Eddy current	Approx. \varnothing 120 mm
Light source		3x green GaN LED
Measuring gap	maximum	20 mm
Measuring range		0,1 – 15 mm
Repeatability	static	0,2 μ m
	dynamic	2,4 μ m
Reference roller contact angle		> 60 °
Temperature range		10 – 50 °C
Temperature compensation		2x Pt100 (1x temperature eddy current + 1x housing temperature)
Relative humidity (non-condensing)		0 – 95 %
Power supply		+ 24 VDC
IP protection class (without / with air cooling)	Emitter	IP64 / IP42
	Receiver	IP64 / IP42

Dimensions

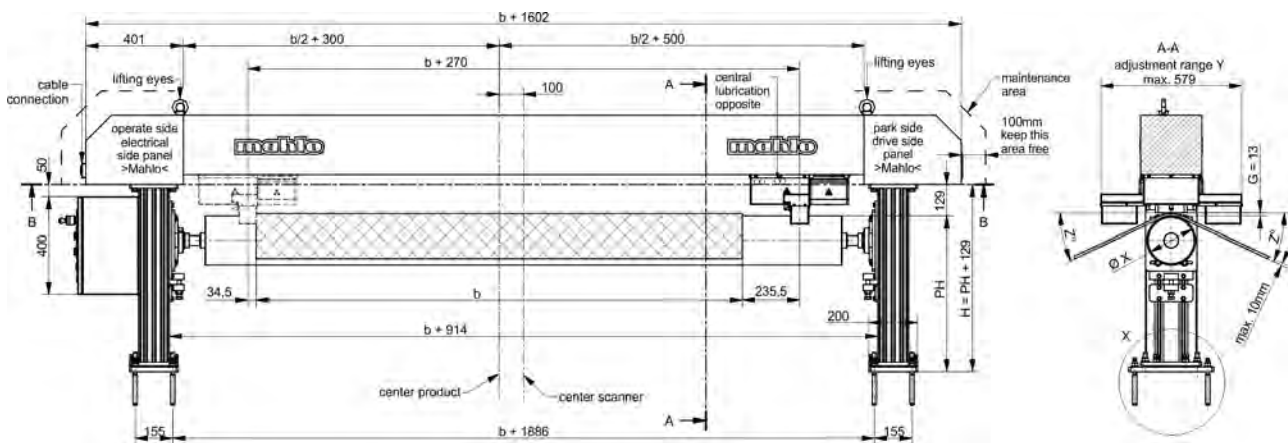
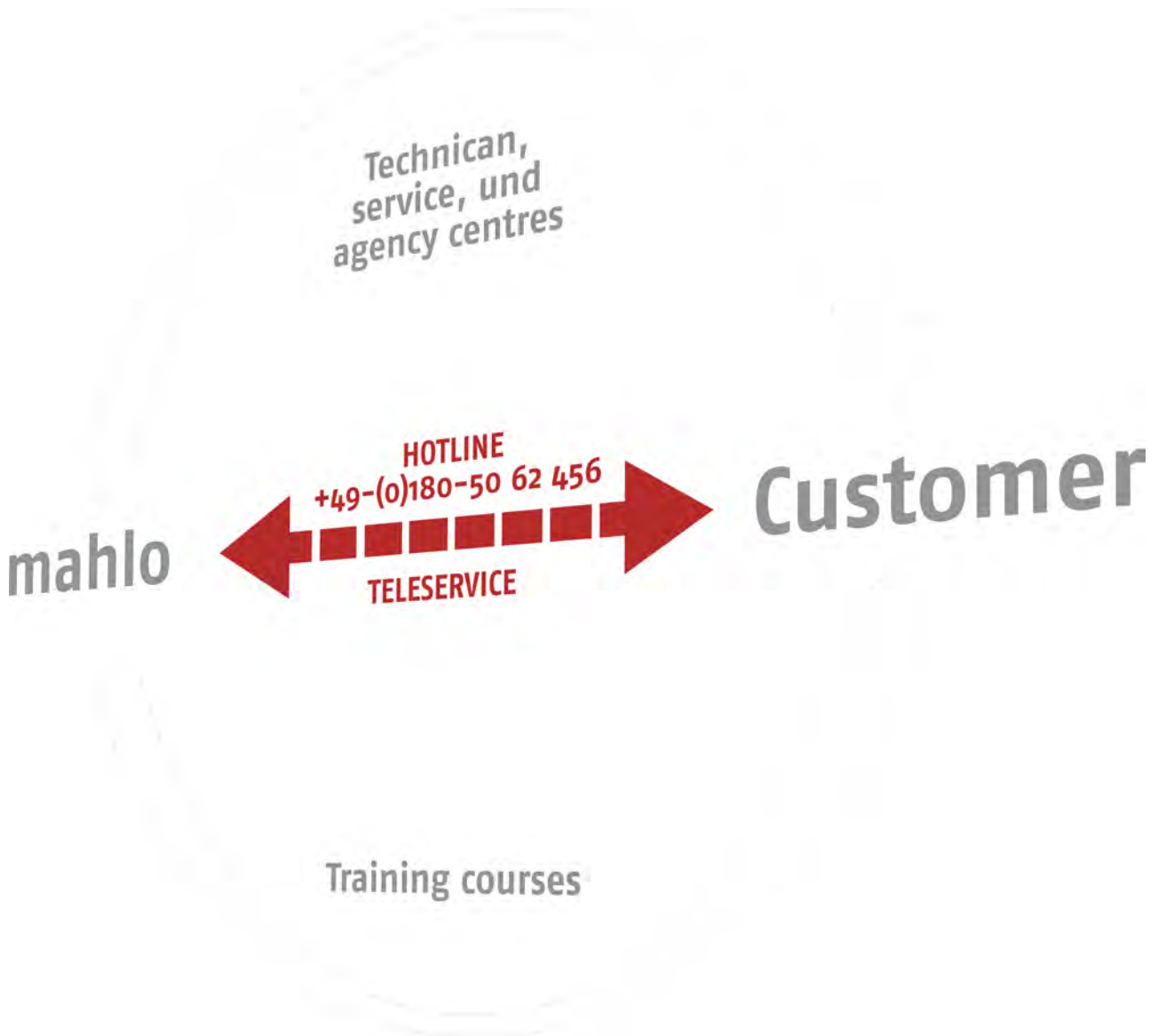


Fig. 4: Calipro DMS on Uniscan M (91-917979)

Service



For decades Mahlo® has been setting standards in the field of measuring and control systems for the textile industry: Using innovative and trend-setting technology.

In addition to the technology, direct contact with our customers is especially important to us. This includes intensive assistance and customer care wherever the customer is located and a global service and representative network including 24-hour replacement part service.

Mahlo customers can safely count on the know-how of our experts in any situation, whether installation and startup, conversion of existing systems or maintenance of their machines.

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Mahlo GmbH + Co. KG - Germany

Donastr. 12
93342 Saal / Donau
Telephone: +49-9441-601-0
Fax: +49-9441-601-102
Email: info@mahlo.com

Mahlo Italia S.R.L. - Italy

Via Fiume 62
21020 Daverio
Telephone: +39-0332-94-95-58
Fax: +39-0332-94-85-86
Email: mahlo.italia@mahlo.com

Mahlo America Inc. - USA

575 Simuel Road
Spartanburg S.C. 29304
Telephone: +1-864-576-62-88
Fax: +1-864-576-00-09
Email: mahlo.america@mahlo.com

Mahlo Ouest S.P.R.L. - Belgium

Quantum Center
Hütte 79 - Bte 10
4700 Eupen
Telephone: +32-87-59-69-00
Fax: +32-87-59-69-09
Email: mahlo.ouest@mahlo.com

Mahlo España S.L. - Spain

C/ Santa Margarida, s/n - Nave n°13
Polígono Industrial Riera de Caldes - Boada Vell
E08184 Palau Solità i Plegamans (Barcelona)
Telephone: +34-938-640-549
Email: mahlo.espana@mahlo.com

Mahlo do Brasil Ltda. - Brazil

Rua dos Lírios 849 e 851
Cidade Jardim II
Americana / SP CEP-13466-580
Telephone: +55-19-3407-7954
Fax: +55-19-3405-4743
Email: mahlo.brazil@mahlo.com