

EMG SOLID® IR InfraRed Spectroscopy

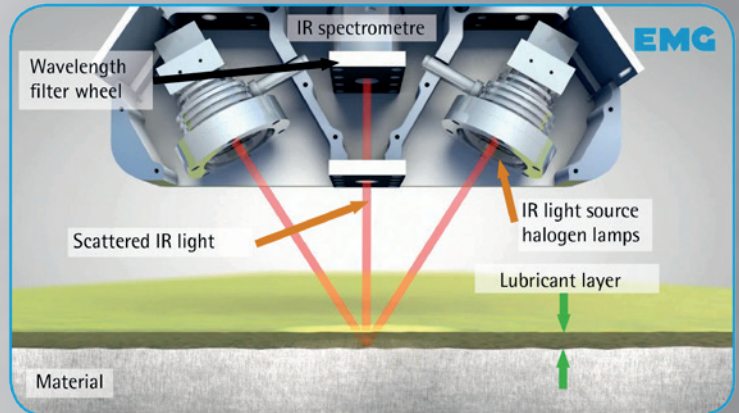


- ▶ unaffected by oil mixtures
- ▶ high measuring accuracy
- ▶ measurement over complete length and width

Oil layer measurement

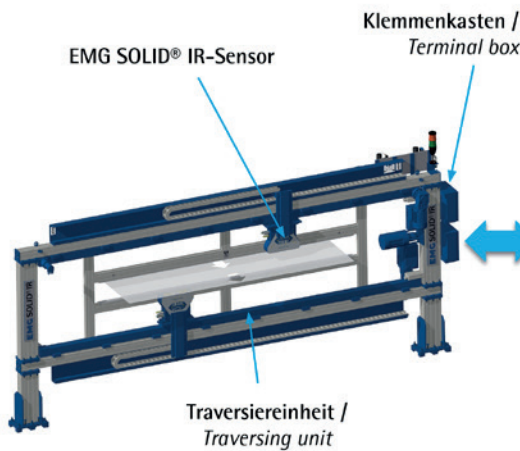
Measuring principle:

- The infrared light emitted by EMG SOLID® IR passes through the oil layer, is scattered back from the strip surface and passes through the oil layer again.
- In doing so the intensity of specific wave-lengths of the oil layer is attenuated.
- According to the Lambert-Beer law, the layer thickness is then calculated from the logarithm of the absorption.

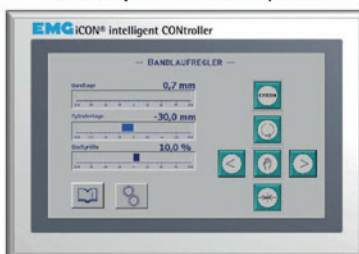


EMG SOLID® IR-System

Sensoreinheit / Sensor unit



Bedienpult / Control panel



Schaltschrank / Cabinet

Bildschirm inkl. Tastatur / Monitor incl. key board



Visualisierungs-PC / Visualisation PC



Regelverstärker / Control amplifier



Schnittstellen / Interfaces

Externes Terminal / External terminal



Kunden-Netzwerk / Customer's net work

SPS in der Linie / Line PLC
Externe Hardware Signale / External hardware signals

Stromversorgung / Power supply

InfraRed Spectroscopy

Customer's benefit:

- unaffected by oil mixtures
- easy calibration of new oil types and clear oil type classification due to group calibrations
- high repetition accuracy (min. 0.0015 g/m²)
- absolute and relative measurements possible
- no falsification through unevenly applied passivation coatings
- special EMG solution for keeping the lens clean
- automatic system check via integrated reference measurement
- high measuring accuracy
- worldwide proven technology



Optimise your oiling and pressing process!

Technical data:

Measuring method	infrared spectroscopic
Measured variable	area weight of lubricant layer in g/m ²
Measuring range	0.1 – 6 g/m ²
Measuring accuracy	measuring range 0.1 – 0.5 g/m ² : +/- 0.1 g/m ² measuring range 0.5 – 2 g/m ² : +/- 0.2 g/m ² measuring range > 2 g/m ² : +/- 10 % from measured value
Repetition accuracy	> 0.0015 g/m ²
Measuring resolution	0.01 g/m ²
Materials	all metal and non-metal surfaces with low glossy level, e.g.: <ul style="list-style-type: none">• steel/cold strip, hot-dip galvanised, electrolytically galvanised, phosphated, aluminised, ZnMg surfaces, galvanized• aluminium – uncoated, pre-treated
Lubricants	mineral oil, mineral oil thixotropic, hotmelts, waxes
Operating distance (measuring position)	120 mm (traversing)
Strip height deviations	+/- 10 mm
Ambient temperature	+5 °C up to +50 °C (extended temperature range with cooling possible)
Measuring frequency	60 Hz
Traversing speed	0.5 m/sec

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Further details can be found in our EMG SOLID® movie.

Please follow the QR code or visit our website:
www.emg-automation.com.