

## SENSORS



TEXTILE



NONWOVENS



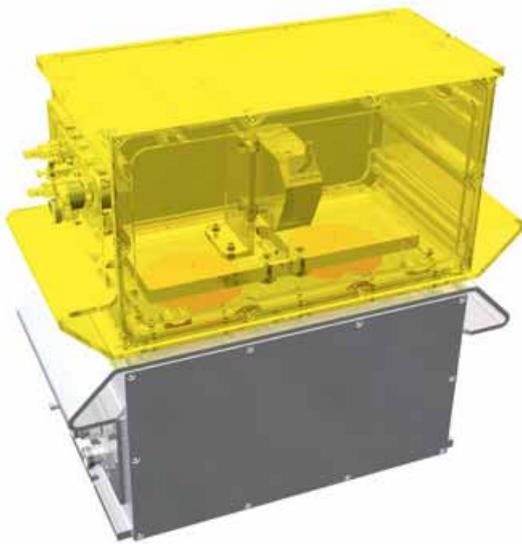
PAPER



PLASTIC

# CALIPRO DML

NON-CONTACT THICKNESS GAUGE

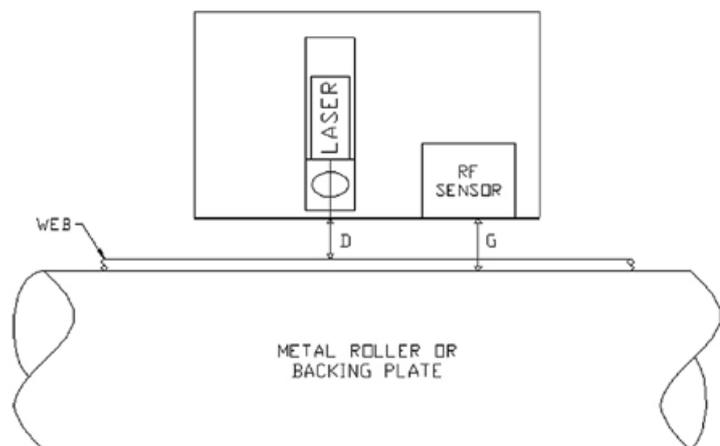


### Applications

In principle, the two-sided, non-contact, laser-type thickness gauge can be used to monitor virtually any product in web or sheet form. Successful applications for this technique can be found in the paper and cardboard industry, nonwoven sector, plants manufacturing PVC flooring or other calendered or extruded plastic webs and sheets, and in the manufacture of artificial leather.

### Product-highlights

- ✓ Non-contact, non-destructive and ultra-precise measurement online of product thickness
- ✓ Available in several configurations to accommodate a wide range of web thicknesses and accuracy requirements
- ✓ Can gauge either at one side against a reference roller or on both sides
- ✓ Opaque, translucent and transparent webs can be measured with high precision
- ✓ High sampling rate and resolution of the cross-web profile

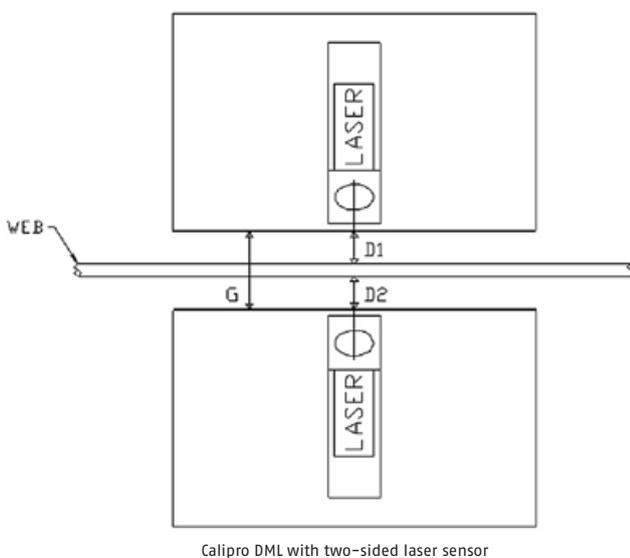


Calipro DML, single-sided version

## Principle of operation

Either one or two laser-triangulation sensors determine the exact distance between the gauging sensor(s) and product surface, either from one or both sides. Depending on the arrangement, the addition of high-precision eddy-current sensors, determines either the distance between the two gauging sensors or the distance between the one sensor and a reference roller.

The thickness of the product is then determined by evaluating the difference between the two measured values. This is done by the Calipro DML's built-in microprocessor, which at the same time synchronises the upper and lower lasers and, on certain versions, processes in real-time the data measured by the numerous temperature sensors which compensate for any temperature-related dimensional changes in the housing.



### PROMPT INSTALLATION

Our service team ensures that the installation of our equipment runs smoothly and on-time. So that your investment is turned quickly into profit.

### Customer benefits

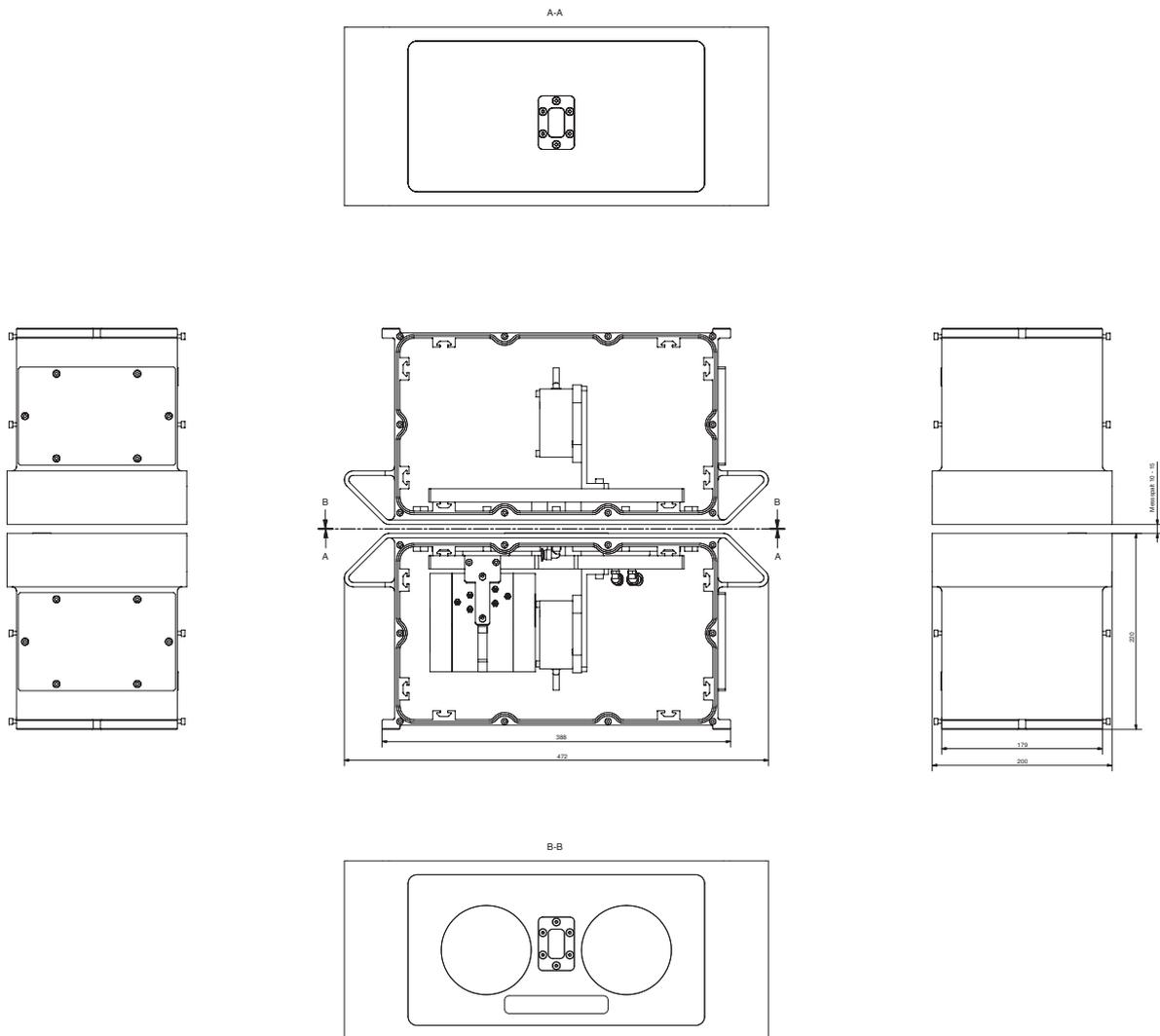
- ✓ Determines the thickness of a web or sheet directly without reference to product density
- ✓ Since the gauge is able to traverse, it indicates the thickness of the product from edge to edge
- ✓ Non-contact measurement has no adverse effect on either product quality or the manufacturing process
- ✓ Insensitive to variations in the surface of the product, hence a high degree of measurement-related stability

## TECHNICAL DATA | CALIPRO DML

Sensor	Calipro DML			
Configuration	Type 1 single-sided	Type 2 dual-sided	Type 3 single-sided	Type 4 dual-sided
	Continuous active gap compensation		Precision stored gap profile	
Measurement principle	Laser triangulation plus RF sensors, against precision reference roller	Laser triangulation plus RF sensors, sensors above and below web	Laser triangulation, against precision reference roller	Laser triangulation, sensors above and below web
Measuring range	0.05 - 10 mm (0.002 - 0.400 inches)		Dependent on material	0.25 - 45 mm (0.01 - 1.8 inches) (larger range available on request)
Measurement gap	15 mm (0.6 inches)		50 mm (2 inches) (larger gap available on request)	
Repeatability (dependent on material)	Typically $\pm 5 \mu$ ( $\pm 0.0002$ inches)		Typically $\pm 25 \mu$ ( $\pm 0.001$ inches)*	Typically $\pm 25 \mu$ ( $\pm 0.001$ inches)
Laser wavelength	650 nm			
Ambient limits	60° C (140° F), 0 - 95 % relative humidity (non-condensing)			
Options	Air purging, air or water cooling			

\* May be influenced by roller runout (TIR)

**Dimensions**



CALIPRO DML sensor  
91-201464