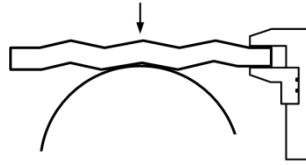


Description



Non-contact thickness measurement MRP CLP DLA 2003

Thickness measurement using the laser shading principle - DLA 2003

Indicator / Characteristics

The thickness measurement DLA according to the laser shadowing principle is characterized by the following features:

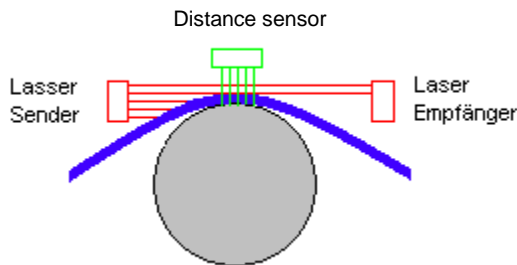
- contactless
- colour insensitive
- material independent
- online capable
- applicable in industrial environment

The prerequisite for this measurement is that the product web is in full contact with the roller and that the product web is not electrically conductive.

Measurement accuracy

2 different sensor types are offered, which differ only in the measuring range.

Principle functionality



With this measuring method, the material to be measured is guided over a roller. The material forms a shadow in the laser beam. Thus a change in thickness of the material acts directly as a change in light intensity on the receiving diode. The thicker the material, the less laser light hits the receiving diode. Thus the received light is a direct measure for the thickness of the product web. Out-of-roundness and deflections of the roller are compensated by an additional distance measuring system to the roller. This system measures the distance of the sensor to the roll surface (roll surface = product bottomside). The difference between these signals is thus a direct measure of the thickness of the product web. Tolerances in the production of the roll and the bearing are compensated.

Typ	MRP-CLP DLA-1	MRp-CLP DLA-10
Measurement range	0-800µm	0-9600µm
Resolution	1 µm	10 µm
Accuracy	± 5µm	± 50µm
Laser class	LED	LED
Wavelengths	Red	red
Operating temperature	10°C-50°C	10°C-50°C

Additional temperature compensation can be implemented for locations where the ambient temperature changes significantly.