

LASER THICKNESS GAUGES

Models 170, 172

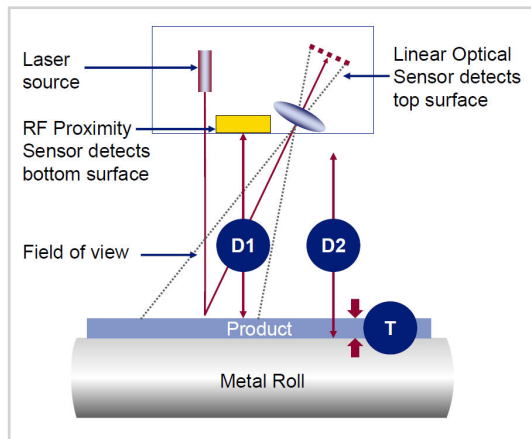
Non-Contacting Laser Gauges for Sheet Thickness Measurement

Applications:

- ▶ Calendered rubber sheet
- ▶ Calendered vinyl sheet
- ▶ Opaque extruded sheet

Features:

- ▶ Non-contacting measurement
- ▶ Non-nuclear measurement
- ▶ High-precision measurement
- ▶ Dynamic compensation for gap changes or roll runout
- ▶ Compact, rugged and easily maintainable



NDC's laser gauges are designed for continuous on-line thickness measurement of web products. The thickness measurement technique is based on distance triangulation computation of a laser beam. The gauges compensate for any changes in the measurement gap or the distance to a roll with an integrated precision inductive radio frequency proximity sensor.

Laser Thickness Gauge Model 170

This gauge utilizes a single laser that measures off a reference roll. The laser source emits a coherent laser beam which is reflected off the top surface of the product and focused onto a linear optical receiver that precisely measures the beam position. The laser is located in the center of an inductive radio frequency proximity sensor that measures the distance between the single-sided laser and a reference roll.

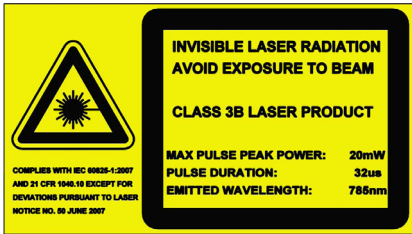
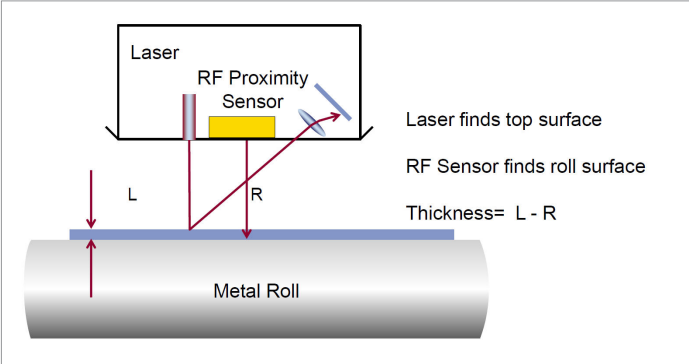
Dual Laser Thickness Gauge Model 172

Two laser sensors measure the product on opposite sides. Each laser source emits a coherent laser beam which is reflected off the top and bottom surfaces of the web and focused onto linear optical receivers that precisely measure each beam position. A single inductive radio frequency proximity sensor continuously measures the distance between the top and bottom lasers. The product thickness is calculated as the difference between the sum of the laser distances and the proximity sensor.

Technical Specifications

Specifications

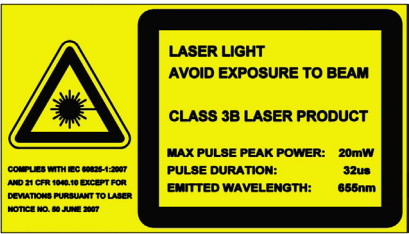
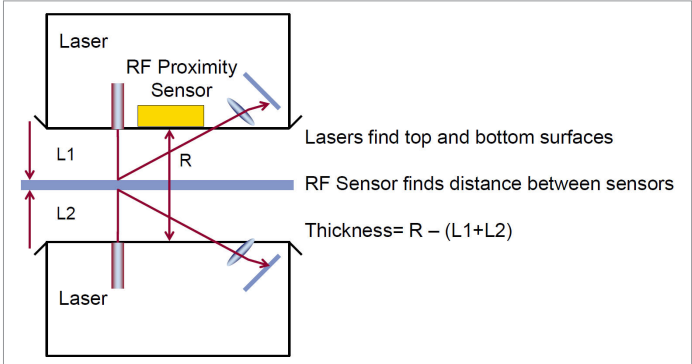
Laser Measurement Rate: 16kHz
Measurement Acquisition Rate: 50Hz
Head Dimensions: 157 x 165 x 216 (6.2 x 6.5 x 8.5in). Two heads (top/bottom) for 172 sensor
Operating Temperature: 0-50°C (32-122°F)
Sensor Cooling: Water cooling required
Construction: 5mm (0.2in) thick aluminum housing with stainless steel allen head fasteners. Exposed surfaces are powder coated, sealed with quick-disconnect electrical connectors. IP64 (DIN 40050) rating



Model	170	172
Type	1-Sided	2-Sided
Range ¹	1mm - 18mm (0.7in)	1mm - 15mm (0.6in)
Air Gap ²	23mm (0.9in)	26mm (1.0in)
Resolution	0.5 micron	0.5 micron
Repeatability ± 2-sigma	±10microns (0.4mils)	±10microns (0.4mils)

¹ Stated measurement ranges are intended to reflect the typical product thicknesses for which satisfactory performance is obtained. It may be possible to make acceptable product measurement outside these limits; in these cases, please consult with NDC Marketing regarding your product and measurement requirements.

² For other measurement gaps, please consult NDC Technologies.



* Static repeatability is measured with a static gauge using stationary samples. Dynamic accuracy and repeatability is a function of product presentation, scanner condition, backing roll metallurgy and other factors. Please contact NDC for a repeatability estimate for your product.

NDC is represented in over 60 countries worldwide. ISO9001:2008 www.ndc.com



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