BANNER
more sensors, more solutions

Solution Profile » Assembly & Manufacturing

Customer

A maker of specialty paper products for the catering, hospitality and restaurant industries

Customer Requirement

Paper roll measurement for tension control

Banner Solution

L-GAGE® LE550 laser gauging sensors

Why Banner?

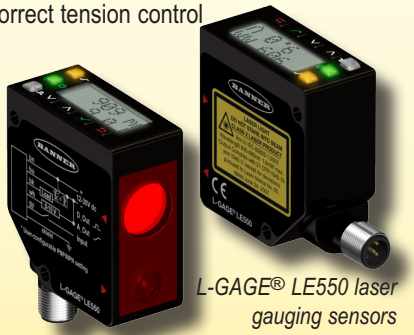
Color Insensitivity – Linear array imager sees dark and color saturated paper

Cost – Less expensive with superior linearity and repeatability than comparable sensors

Ease of Use – Comes fully scaled over its entire operational range out of the box

Customer Benefit

Improved Productivity – Reliable roll measurement and consistent output reduced machine downtime and product damaged by incorrect tension control



L-GAGE® LE550 laser gauging sensors

L-GAGE LE550 Features

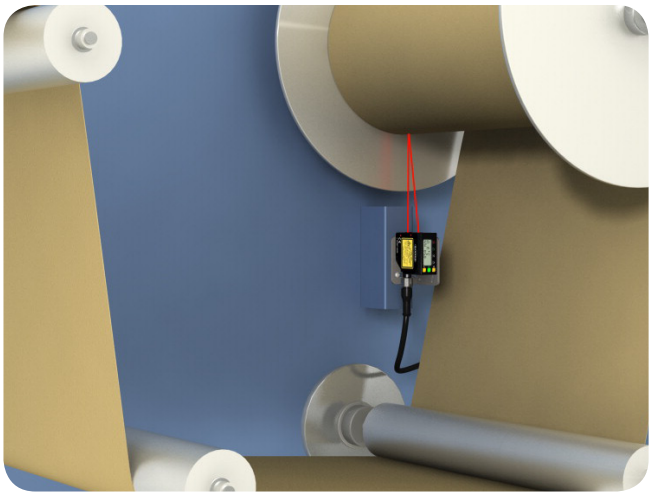
- Sensing range from 100 mm to 1000 mm
- Two-line, eight-character LCD display simplifies setup and adjustment
- Repeatability across shiny surfaces
- Visible Class 2 laser for small spot size and easy alignment
- Highly accurate and cost-effective sensor

Learn More

Visit *www.bannerengineering.com* for product information and to locate a distributor

- L-GAGE® LE550 overview

Laser Sensors Measure Paper Rolls in a Range of Colors & Automatically Scale Output



An L-GAGE® LE550 laser gauging sensor provides continuous roll diameter measurement for paper table coverings in a broad pallet of colors and regulates unwind speed

Background

Prior to being packaged, paper table coverings are unwound from large rolls and cut to size. Insufficient or excessive tension on the paper can damage the table coverings, making them unsellable. To maintain the proper level of tension, the unwind speed needs to increase proportionately to the shrinking size of the roll.

Challenges

A manufacturer of table top products offers paper table coverings in many styles and in a broad pallet of colors. Because of their immunity to variations in color, ultrasonic sensors were used to take continuous measurements of each roll's diameter and regulate unwind speeds. Gusts of air passing through the production area caused measurement errors which led to disproportionate unwind speeds.

Product losses and downtime prompted the company to seek an alternate solution. In testing, optical sensors were unaffected by the gusts, but darker colored table coverings were difficult for the sensors to measure, resulting in incorrect outputs.

Solution

After a convincing demonstration, the company chose Banner's L-GAGE® LE550 laser gauging sensors to replace the ultrasonic sensors on their winders.

Like the optical sensors, the LE550 is unaffected by drafts in the facility. Unlike the optical sensors, the LE550 is color insensitive. Linear array technology enables the LE550 to measure each roll, regardless of paper color, even colors that had most challenged the optical sensors. The superior linearity, repeatability and resolution of the LE550 ensure reliable and consistent roll measurement and output.

Using the default settings, the company deployed the L-GAGE LE550 sensors throughout the facility without having to teach or scale the outputs. Out of the box, the LE550 automatically scales across its entire operational range, from 100 mm to 1000 mm. The LCD display provides real-time measurement and output information and makes it easy for the company to assign set points and output levels.