BANNER®
more sensors, more solutions

Constant, Consistent Height Measurement for Cereal Dough Using Banner Sensors

L-GAGE® LH Series Laser Sensors deployed on the sprout line measure dough height prior to baking

Customer
A large-scale, global food producer

Customer Requirements
Automated and consistent measuring of cereal dough height prior to baking

Banner Solution
L-GAGE® LH Series Laser Sensor

Why Banner?

Accuracy – CMOS linear imager is capable of micrometer level resolutions

Versatility – Non-contact laser sensor is immune to differences in material color, texture and viscosity

Customer Benefits

Consistency – Constant inspection ensured dough did not fall out of required parameters

Cost Savings – Accuracy in measurement improved production output and efficiency

L-GAGE® LH Series Laser Sensor

L-GAGE LH Series Features

• 1024 pixel CMOS linear imager

• High resolution 4-20 mA or RS-485 serial communication outputs

• Precise narrow laser spot for easy alignment to the target

• PC-based software application for easy, step-by-step sensor set up, simple data collection and performance monitoring

Learn More

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

• L-GAGE LH Series overview

Background

A leader in the food industry manages an impressive portfolio of popular brands. Their products are found in households around the globe. Over their long history, the company has earned a solid reputation for product quality, taste and nutrition.

The dough for one of the company's many popular breakfast cereals must fall within specific height parameters to ensure that it will have the perfect flake. Dough that is too thick will emerge from baking stiff and heavy. Dough that is too thin will crumble easily. This impacts the quality, taste and texture of the final product as well as product weight and packaging. Any product that does not meet the rigorous quality standards of the company will not be shipped or sold on the consumer market.

Challenge

To maintain quality standards, inspectors took periodic measurements of the dough using micrometers. Operators used these measurements to make adjustments to the nip rollers to correct the dough's height. Measurement inconsistencies and other mistakes were easy to make. If dough was too thick or too thin, staff would have to halt the line and remove the dough. The cost in lost productivity and time across several production lines exceeded $150,000 annually. The company wanted to automate the process to improve consistency, save time and reduce expenses.

Solution

Working with Banner and Banner partners, the company deployed an L-GAGE® LH Series Laser Sensor onto the cereal extruder. The sensor features a high resolution 1024 pixel CMOS linear imager capable of micrometer level resolutions, making it ideal for measurement applications requiring a high degree of accuracy. The L-GAGE LH provides continuous non-contact height measurement of the dough as it travels towards the oven. As variations in the dough occur, adjustments to the nip rollers can easily be made to maintain a proper and consistent dough height.