



Automated Chicken Nugget Grading: Consistent Quality. Real-Time Decisions. Less Manual Labor.

P&P Optica's **Modular Smart Imaging System** brings objective, AI-driven grading to chicken nugget production lines. By replacing subjective manual inspection with real-time machine vision, processors can consistently meet customer specifications while reducing labor, rework and giveaway.

The Challenge

Chicken nugget processors are under increasing pressure to deliver uniform product at high speeds. In many plants, quality grading still relies on human inspection, which can be:

- Inconsistent and subjective
- Labor-intensive and costly
- Difficult to scale as line speeds increase

At the same time, processors must work within limited floor space and tight operational constraints.

The PPO Solution: Modular Smart Imaging System with Nugget Grading

The PPO system inspects singulated chicken nuggets in real time, making accept or reject decisions for every individual piece.

The system is designed specifically for quality applications. Its compact, portable footprint allows it to be placed wherever grading is most effective—without disrupting the rest of the line.



What the System Evaluates

Using advanced image analysis, each nugget is assessed for:

- **Breading Coverage:** Detection of "bald spots" or uneven coating to ensure consistent product texture and quality.
- **Shape and Size Verification:** Precise measurement of length, width, and overall geometry to maintain uniform product appearance.
- **Color Consistency:** Real-time monitoring of cook color to identify over- or under-processed batches.
- **Targeted Rejection:** The ability to identify and reject individual nuggets that fail to comply with specific customer requirements, preventing entire batch rejections.

Only nuggets that meet your defined criteria continue downstream.

Key Capabilities

Built for poultry processing environments, the system combines performance with practicality:

- Nugget-by-nugget inspection and rejection
- Multi-lane rejection to minimize yield loss
- Operating speeds from **20-100 ft/min**
- LED lighting for consistent, repeatable results
- Selectable programs for different customer specifications
- Small footprint, designed to fit into existing line layouts

Business Impact

By automating nugget grading, processors can:

- Reduce reliance on manual inspection
- Improve grading accuracy and consistency
- Lower rework and product loss
- Increase confidence in meeting customer and brand requirements
- Generate objective quality data to support continuous improvement

Automate nugget grading. Improve consistency. Protect your brand.

PPO is a trusted leader in intelligent inspection for meat and poultry processors.

We've inspected **over 8 billion pounds** of meat and poultry products worldwide, building unmatched expertise in advanced image analysis and real-world plant deployment.

Our grading solutions extend that proven inspection capability beyond food safety—into quality and specification compliance.

Let's Talk About What PPO Can Do for Your Nuggets Process

Contact us to learn more about how PPO can fit into your facility—and take your inspection capabilities to the next level.