Eagle Vision

Eagle Vision Metal Ends Inspection

INDUSTRIAL PHYSICS

Protecting Product Integrity

Introduction

The packaging of products can be as important as the product itself, and the metal ends are a vital part of canned food packaging.

Standard or sanitary ends are widely used across the canned food industry, including vegetable, fish and infant formula cans. They are the means to keep products contained, preserved and safe – from filling stages, throughout transportation, on the shelf and into the consumer's hands.

Canned food has become an integral package design throughout the food industry both from a protective standpoint and for preservation.

With its robust design, canned products provide the ability to offer food with long shelf lives, sealed safely for mass distribution. Additionally, cans are very easy to recycle, further adding to its appeal across the food industry worldwide.

In quality control, it is critical that metal ends meet specification and are fit for use within the food industry. The quality of metal packaging must be very high.

Why it is important to inspect metal ends?

For 3-piece cans, ends are attached to the can body on one side in the can making process and on the other side, once the can has been filled.

This means that fillers will expect high quality metal ends to seam flawlessly onto their cans and perform to the highest integrity. Therefore, it is crucial for can makers to inspect their metal ends before they are used by fillers and identify any defects.

There are a variety of defects that can occur, some of which are very common but can have a big impact. These can be from cosmetic complaints, through to a comprised product quality, to even customer health incidents by spoiled product inside.

These are typical defects that can occur on metal ends:

- **Seaming compound voids and skips**
- **Seaming compound mispositioning**
- **Misplaced compound drops**
- **Oven dirt**
- **Contamination**
- **Rust**
- **Foreign objects**
- **Out of round / ovality**
- **Scratches**
- **Dents**
- **Smashed curls**
- **Cut curls**
- **Curl dents**

A defect, such as a scratch, can mean a few issues. Not only is it a cosmetic issue, but it can also mean it is a weak spot in the product packaging, potentially risking the integrity of the food inside and its shelf life. If the scratch occurs on a lacquered coating, this could risk the product to contamination and compromise the product quality.

For compound misapplications, curl issues or dents, these too can compromise the integrity of the product, making it susceptible to damage or contamination – impacting on the can's protective design and preservation.

If a defect on a metal end goes unchecked, it can potentially lead to the following consequences:

- Risk of leaks or contaminated products
- Customer complaints
- Compromised product quality for the customer
- Risk of product recall / defective batches
- Destroy costs (waste)
- Impact on reputation as a supplier
- Consumer health issues

What we can offer?

We can help ensure you meet quality control and production requirements by providing the best inspection solutions – keeping your production lines to a high standard.

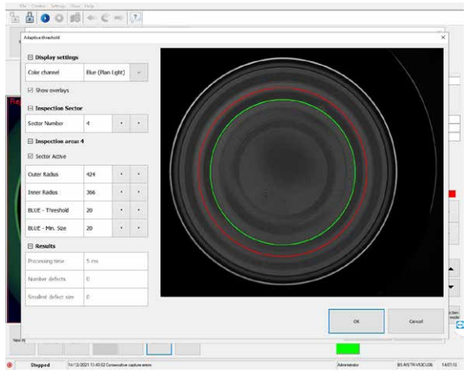
Our Metal Ends Inspection instrument by Eagle Vision can detect a wide range of defects that commonly occur with sanitary can ends. This includes scratches, dents, rust, contamination, compound misapplications and more.

This advanced, compact inspection instrument is hygienic in design, easy to install and provides highly accurate detection capabilities due to the smart 3 light color source technology – every light source highlights different defect types reliably. Perfect for end manufacturers who need to assure quality ends.

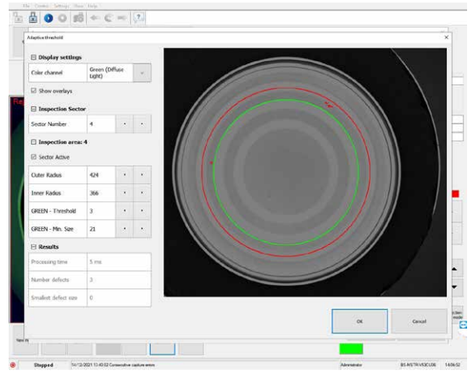
- **Reliable and highly accurate inspections**
- **Smart 3 color light source technology**
- **Industry 4.0 automated**
- **Easy to install, connect and maintain**
- **Modular, compact and hygienic design**
- **Advanced optimization**
- **Excellent ongoing support**

Smart 3 Color Light Technology

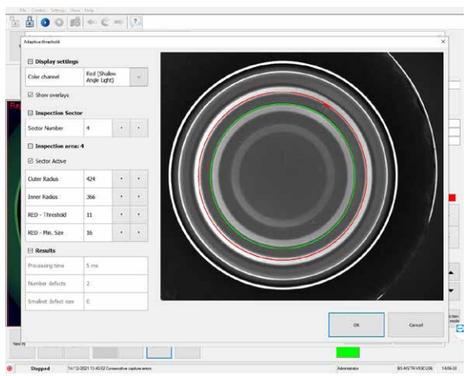
A key feature of the Metal Ends Inspection unit is the three color light smart technology for identify product defects. Each light color is optimised to identify specific types of defects, allowing for sophisticated and convenient quality assurance checks.



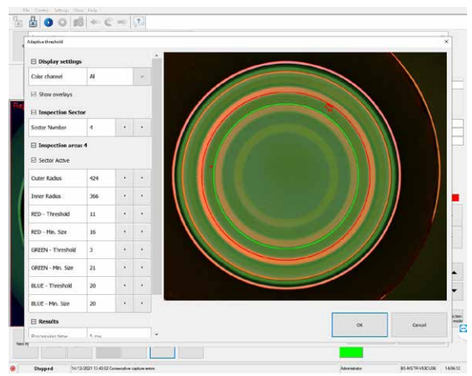
Blue Light: Optimised for identifying stains or scratches to coatings that expose metal.



Green Light: Optimised for dents and dust particles. This light technology is also ideal for inspections of compound applications.



Red Light: Optimised for identifying scratches and dents with height information. This light technology is also ideal for inspecting the curl.



All lights.

Features & Benefits

Reliable Metal Ends Inspections:

- Smart 3 color light source technology – every light source highlights different defect types.
- Very easy to set-up and install, due to circular Region Of Interest (ROI) setup.
- Sensitivity adjustable per Region Of Interest (ROI).
- Highly accurate detection, less than a small dot of a thin contrasting fine liner.
- Detects damages that may erase coating, to cause corrosion.
- Detects foreign objects that can contaminate the canned product.
- Detects rust that can contaminate the canned product.
- Detects compound failures may cause leaking cans.
- Detects curl flange damages that can cause double seam failures and seamer issues.
- Blue dot inspection for blue dot ends (by use of dedicated separate Optical Unit).
- Stainless steel hygienic design.
- Modular design – select and combine camera points by need.
- Robust mounting to the floor – more stability compared to mounting on conveyor with full weight.
- Easy to use interface – large pictures, large buttons, intuitive navigation.
  - Logging of statistics, pictures and data.
  - Translations in all languages possible.

Industry 4.0 Automated:

- Product selection by the line management.
- Optional OPC communication.
- Statistics and picture logging.
- Consecutive reject signal.
- Short changeover time.
  - Product selection via Touch Screen or MES input.
  - Zero disturbance of production.

Easy to install, connect & maintain:

- Simple installation.
  - Compact footprint.
  - Single box hygienic optical unit design.
  - Installed to customers conveyor.
- Ethernet network and DIO connection.
- Remote access connection.
- Log-in levels can be personally managed.
- Easy maintenance because of no moving parts and single closed unit design.
- Modular platform.

Advanced optimization:

- Smart filters against reflection.
- Features against camera appearance.
- Multiple Regions of Interest (ROIs) possible.
- Every Region of Interest (ROI) can have dedicated sensitivity settings.
- Critical Control Point (CCP) in-line and off-line validation tools available.
- Illumination normalizer.
- Fail-safe self-control of critical elements, like encoder, sensors, air and power to rejecter.
- Consecutive reject separate signal to stop the line or alarm an operator.

High Class Support:

- Service level agreements including 24/7 support.
- Remote access by TeamViewer or VPN.
- Global network of sales and service partners for ongoing support.

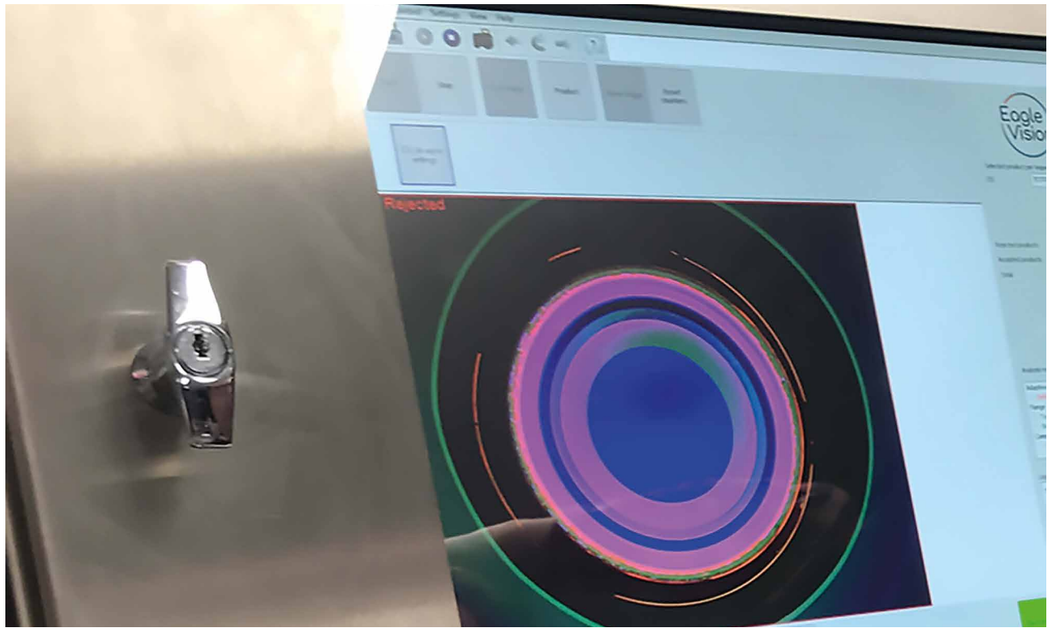
About Industrial Physics

Industrial Physics is your global test and inspection partner. And we provide packaging, product, and material integrity testing solutions to manufacturers, production lines, and laboratories across the world. It's our purpose to protect the integrity of our customer's brands and products.

Operating across a family of brands – including Eagle Vision, we've spent almost 100 years providing the highest quality of packaging, product, and material testing solutions for businesses across the world.

At Industrial Physics, we develop instruments for a variety of demands. And we can offer multiple solutions across a diverse range of industries. Utilizing the latest advancements in technology, our instruments test across highly specific applications that will ensure the integrity of your packaging, products, and materials.

As your inspection partner, you'll experience safe, cost-effective, and highly accurate results. But we can also provide a global service offering that puts your needs first including calibration, repairs and maintenance.



Industrial Physics: Eagle Vision Metal Ends Inspection

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Innovative Technology

Testing & Inspection in...

15 Industries
40 Applications
22 Materials

20,000+
Customers

Over
300
People

Customers in **75** **Countries**

12+
Brands

Global Service **& Distribution** Network

Get in touch

Eagle Vision

To find out more about how we can support your unique needs, get in touch today.

Email: **info@industrialphysics.com**

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