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Southwest Office

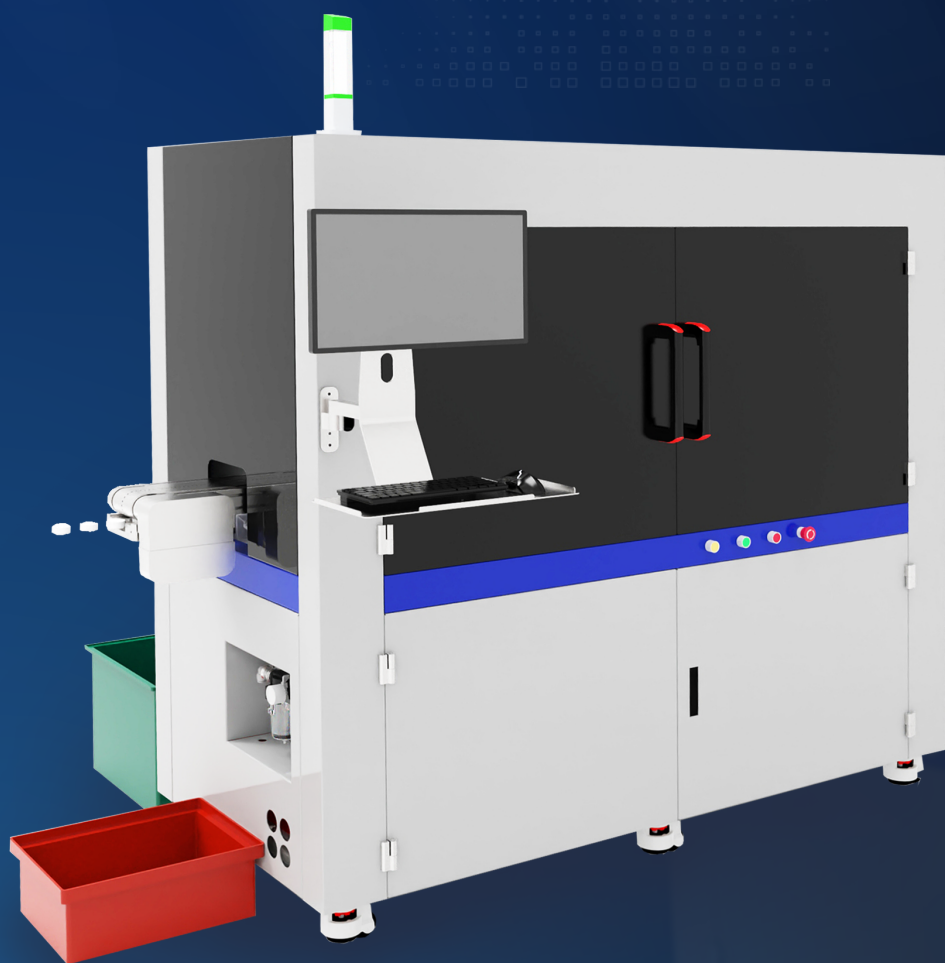
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You can scan the QR code below to follow
Huicui Intelligent and stay updated with
the latest news and developments.

* This manual contains promotional specifications. For the latest updates,
please refer to the updated specifications and parameters.

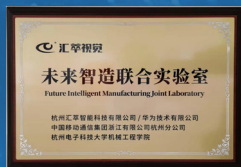
Intelligent Inspection Solutions for the Packaging Industry



Technological pioneer of vision systems, software, and industrial cameras

Mstar Technologies, Inc. (abbreviated as mstartech) is a provider of machine vision hardware and software products and solutions. Established in March 2012, the core team consists of industry elites, including nationally appointed experts, IEEE Fellows, former executives of Fortune 500 companies, and former executives of domestic listed companies. The company is headquartered in Hangzhou Future Technology City (Haitai Park) and has branches/offices in various provinces across China, including Beijing, Zhejiang, Jiangsu, Guangdong, Sichuan, and Anhui.

In the field of food and beverage packaging, the company's self-developed equipment, including bottle cap inspection devices, character detection equipment, empty cup foreign object inspection devices, and aluminum foil sealing inspection equipment, enables the intelligent upgrading of processes such as beverage bottle sealing detection, foreign object identification, and code and character detection. This helps enterprises quickly improve automation on production lines, significantly enhance production efficiency, and effectively ensure food safety and production compliance. Mstartech offers customized, localized, and round-the-clock self-operated services.



Company Milestones

2012-2015

- The company was established and was recognized as an A-class project, entering the Future Technology City.
- Released the General-purpose Intelligent High-speed Machine Vision Platform, filling a gap in the domestic market.

2016-2017

- Awarded as the Most Promising Overseas Talent Entrepreneurial Enterprise by the Ministry of Human Resources and Social Security.
- Recognized with the National High-tech Enterprise Certification.
- Honored as a Leading Innovation and Entrepreneurship Team in Hangzhou.
- Selected for the Zhejiang Stock Exchange's "National Capital Market's First Talent Board".
- Listed in the Zhejiang Stock Exchange Center for the Zhejiang Listed Enterprise Cultivation and Reserve program.

2018-2019

- Participated in the 2nd "Bloom Cup" 5G Application Competition organized by the Ministry of Industry and Information Technology and won the First Prize.
- Huicui Intelligent, in collaboration with Haier, Huawei, and China Mobile, launched the world's first "5G+ Machine Vision" smart factory solution.
- Established the Haier-Huicui Intelligent Inspection Joint Laboratory.
- Released the first domestic infrared thermal imaging industrial camera and vision system.

120⁺

Invention Patents

35⁺

Utility Model Patents

100⁺

Software Copyright

3000⁺

AI and Machine
Vision Algorithms

2600⁺

Corporate Partners

6000⁺

Industry Solutions



2020-2021

- Zhongke Long Triangle Capital invested in the company.
- Awarded the National Packaging Industry Science and Technology Second Prize (First Prize of the year was vacant).
- Received the Third Science and Technology Award for Industrialization of Science and Technology from the China Association for the Promotion of Science and Technology.
- Established the "Future Intelligent Manufacturing Joint Laboratory" in collaboration with Huawei, China Mobile, and Hangzhou University of Electronic Science and Technology.
- Signed a "5G+ Machine Vision" Strategic Cooperation Agreement with Huawei to jointly promote the application of 5G deterministic networks and machine vision in manufacturing.

Released the Machine Vision Measurement Instrument and Artificial Intelligence Training Platform.

-Established internship bases with Zhejiang University of Technology and Hangzhou University of Electronic Science and Technology to jointly carry out teaching practices.

2022-2023

- Dacheng Caizhi Capital invested in the company.
- Awarded the National "Specialized, Refined, Featured, and Innovative" Small Giant Enterprise.
- Selected as a "Specialized, Refined, Featured, and Innovative" Enterprise in Zhejiang Province.
- Ranked on Hangzhou's Pre-Unicorn Enterprise List.
- Approved for the Zhejiang Provincial Postdoctoral Workstation.
- Recognized as a Zhejiang Provincial Enterprise Research Institute.
- Awarded the National Major Project.

2024

- Recognized as a National "Specialized, Refined, Featured, and Innovative" Key Small Giant Enterprise.
- Awarded the National Major Project.
- Recognized as a National Key Software Enterprise.
- Honored with Zhejiang Province's First Batch of "Two New" Major Technological Achievements.
- Ranked on Hangzhou's Pre-Unicorn Enterprise List.
- Selected as a Provincial Industrial Internet Platform.



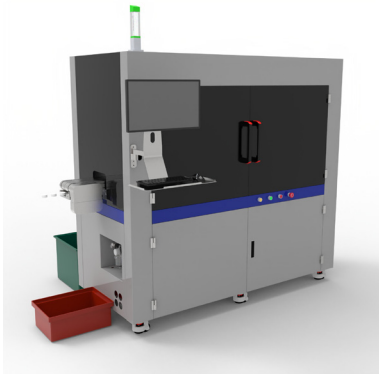
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Bottle Cap Inspection Equipment

PRODUCT OVERVIEW

The Bottle Cap Inspection Equipment is an intelligent inspection system that utilizes machine vision technology to conduct high-speed AI-based inspections of various bottle caps, including tamper-evident caps, two-piece caps, butterfly caps, and aluminum-plastic caps. The system allows for customizable camera configurations based on customer requirements. Inspected products can be sorted into designated material bins, significantly improving inspection efficiency while reducing labor costs.



Offline High-Speed Bottle Cap Inspection Equipment



Online High-Speed Bottle Cap Inspection Equipment

EQUIPMENT FEATURES

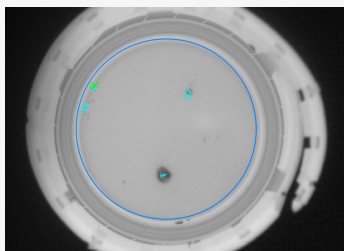
Applicable Products: Suitable for pharmaceutical beverage bottle caps, pharmaceutical ointment caps, eye drop caps, health supplement bottle caps, etc.

Function Description: Detects defects such as tamper-evident ring malformation, tamper-evident ring breakage, color variation, burrs on the outer shell, inner plug dents, printing anomalies, black spot impurities, contamination, and deformation.

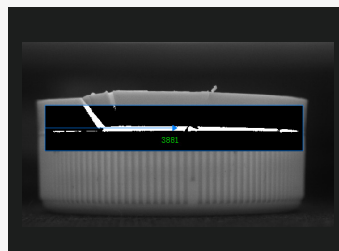
Inspection Speed: Compatible with cap sorting machines, with a speed of up to 60,000 pcs/hour.

Equipment Dimensions: : 2500mm*850mm*1800mm (L*W*H)

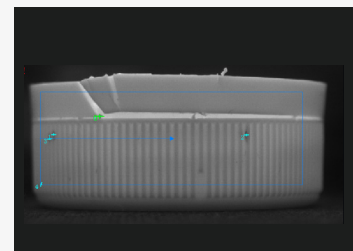
INSPECTION ITEMS



Contamination on the bottom of the bottle cap



Tamper-evident ring breakage or missing



Contamination on the outer wall of the bottle cap

Code Printing, Liquid Level, and High Cap Tilt Inspection Equipment

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PRODUCT OVERVIEW

The Code Printing, Liquid Level, and High Cap Tilt Inspection Equipment is an intelligent inspection system that uses machine vision technology to check whether product bottle caps, liquid levels, labels, and other components meet specified requirements. This equipment offers stable performance and easy installation, making it suitable for a wide range of applications in the production of alcoholic beverages, soft drinks, dairy products, pharmaceuticals, and more.



EQUIPMENT FEATURES

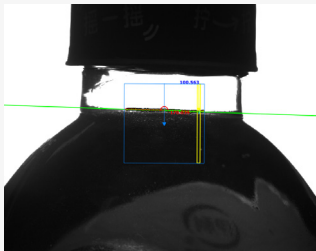
Applicable Products: Suitable for PET bottles, glass bottles, etc.

Function Description: Detects quality defects such as incomplete or missing code printing, code misalignment, missing caps, high or low caps, tilted caps, and inconsistent liquid levels.

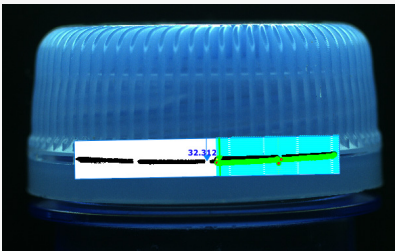
Inspection Speed: Compatible with production lines, with a speed of up to 60,000 pcs/hour.

Equipment Dimensions: : 1340mm*850mm*1600mm (L*W*H)

INSPECTION ITEMS



High and low liquid levels



Tamper-evident ring



Tamper-evident ring

PET Blow Mold Bottle Inspection System

PRODUCT OVERVIEW

The PET Blow Molding Machine Light Inspection System uses machine vision technology to detect external defects in PET bottles, including but not limited to issues such as oval bottle necks, internal and external neck defects, through-holes, body size deviations, poor molding, bottom size deviations, and other molding issues. This equipment significantly improves inspection accuracy and reduces inspection time.



EQUIPMENT FEATURES

Function Description: Detects defects such as through-holes in the bottle neck, internal and external neck defects, bottle body deformation, and holes in the bottle bottom.

High Detection Accuracy: The system achieves an inspection accuracy rate of approximately 99.97%, with a missed detection rate of less than 0.1%.

Increased Production Efficiency: Effectively enhances production line efficiency and reduces the defect rate.

Reduced Production Costs: Minimizes manual inspection costs while improving efficiency.

Automated Quality Inspection and Intelligent Analysis: Records, analyzes, and statistically tracks defective products and defect data to optimize the production process.

INSPECTION ITEMS



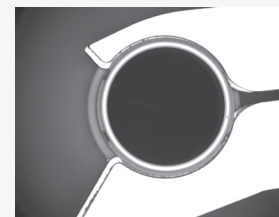
OK



Through-holes in the bottle neck



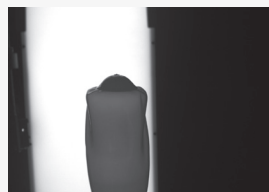
OK



External defects in the bottle neck



OK



Bottle body deformation



OK



Holes in the bottle bottom

Label Inspection Equipment

PRODUCT OVERVIEW

The Label Inspection Equipment is an intelligent inspection system that uses machine vision technology to verify whether labels meet specified requirements. This equipment offers stable performance and easy installation, making it suitable for a wide range of production processes in the alcoholic beverage, soft drink, dairy product, pharmaceutical, and other industries.



EQUIPMENT FEATURES

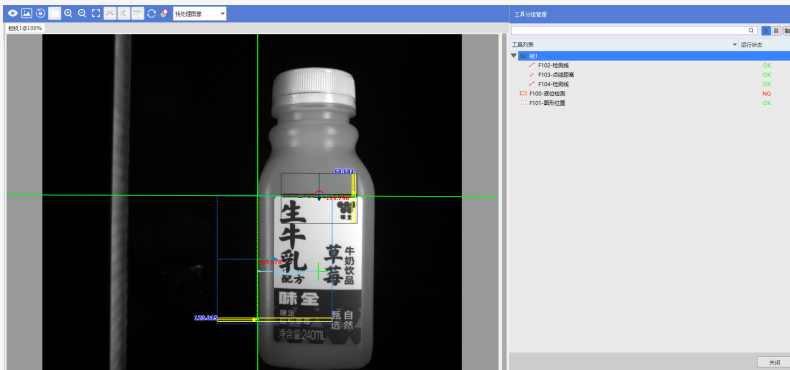
Applicable Products: Suitable for PET bottle labels, glass bottle labels, etc.

Function Description: Detects defects such as high labels, low labels, missing labels, skewed labels, label tears, tape adhesion, and poor shrinkage.

Inspection Speed: Compatible with production lines, with a speed of up to 60,000 pcs/hour.

Equipment Dimensions: : 1100mm*840mm*1580mm (L*W*H)

INSPECTION ITEMS

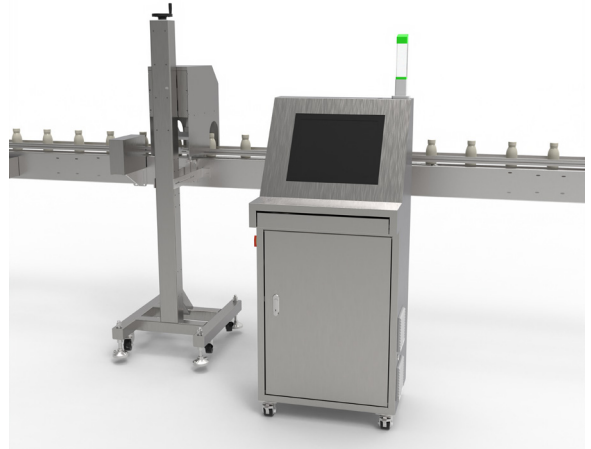


Label Offset

Character Inspection Equipment

PRODUCT OVERVIEW

The Character Inspection Equipment utilizes machine vision technology to detect product characters and automatically reject defective items in real-time. This equipment is highly compatible, compact in size, and supports non-standard customization, making it widely applicable in the production processes of dairy products, glass bottles, empty bottles, cartons, Tetra Paks, pharmaceutical bottles, and more.



EQUIPMENT FEATURES

Applicable Products: Suitable for bottle cap character marking inspection

Function Description: Detects the presence, absence, and completeness of characters

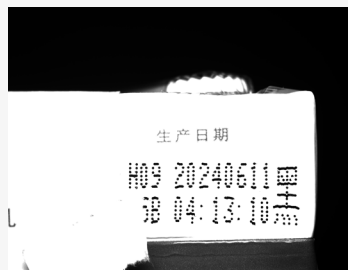
Inspection Speed: Compatible with production lines, with a speed of up to 60,000 pcs/hour

Equipment Dimensions: : 1000mm*600mm*1750mm (L*W*H)

INSPECTION ITEMS



Character presence detection



Character missing detection



Character recognition

Carton Inspection Equipment

PRODUCT OVERVIEW

The Carton Inspection Equipment is an intelligent inspection system that utilizes machine vision technology to verify whether the carton’s appearance meets specified requirements. This equipment offers stable performance and easy installation, making it widely applicable in the production processes of alcoholic beverages, soft drinks, dairy products, condiments, and other industries.



EQUIPMENT FEATURES

Applicable Products: Suitable for case erectors and end-of-line packaging machines

Function Description: Detects defects such as improper carton forming and unsealed flaps

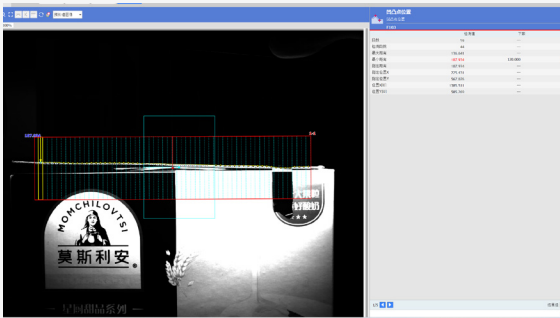
Inspection Speed: Compatible with production lines, with a speed of up to 7,200 pcs/hour

Equipment Dimensions: 2500mm*850mm*1800mm (L*W*H)

INSPECTION ITEMS



Captured image



Unsealed flaps detection

Foreign Object and Code Printing Character Inspection for Empty Cups

PRODUCT OVERVIEW

The Empty Cup Foreign Object and Code Printing Character Inspection Equipment is an intelligent inspection system that utilizes machine vision technology to detect black spots and opaque foreign objects in preformed cups.



EQUIPMENT FEATURES

Applicable Products: Suitable for preformed yogurt cups, beverage cups, etc

Function Description: Detects foreign objects, hair, metal, black spots, paper scraps, plastic film, and more inside the cup

Inspection Speed: Compatible with preformed cup filling machines, with a speed of up to 20,000 pcs/hour

Equipment Dimensions: : 2500mm*850mm*1800mm (L*W*H)

INSPECTION ITEMS

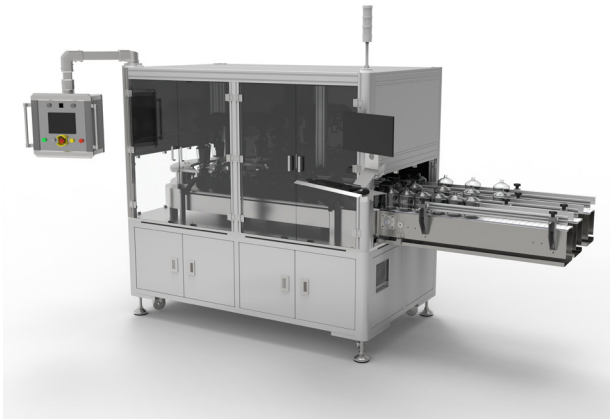


Black spots & Opaque foreign objects

Empty Bottle Inspection Equipment

PRODUCT OVERVIEW

The Empty Bottle Inspection Equipment utilizes advanced machine vision technology to conduct a comprehensive inspection of various parts of glass bottles, including but not limited to the bottle neck, body, and bottom. It detects a wide range of defects, such as height variations (tall/short bottles), irregularly shaped bottles, discolored bottles, tipped-over bottles, half-cut bottles, residual liquid, chips or breakage on the upper, outer, or lower bottle neck, contamination or foreign objects on the sidewalls and bottom, off-center bottle bottoms, and bottle bottom damage. The system ensures real-time rejection of defective products, significantly improving quality control in production lines.



EQUIPMENT FEATURES

High-Speed Inspection: Supports speeds of up to 60,000 pcs/hour, meeting the demands of high-speed production lines

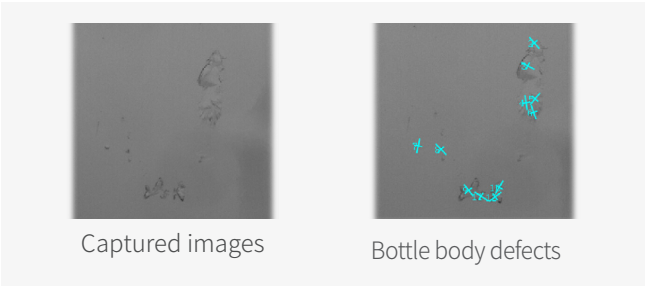
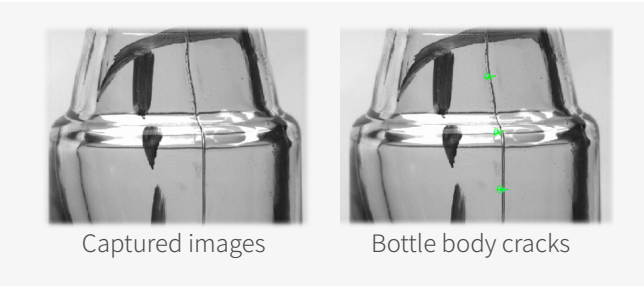
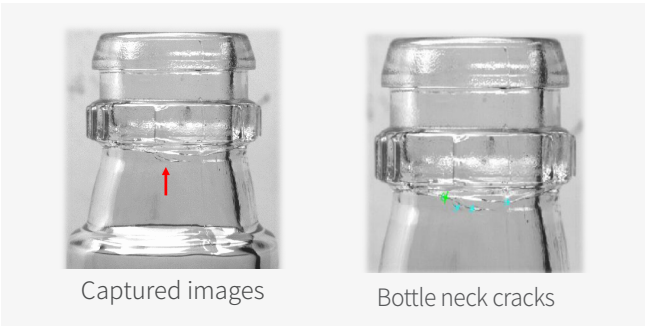
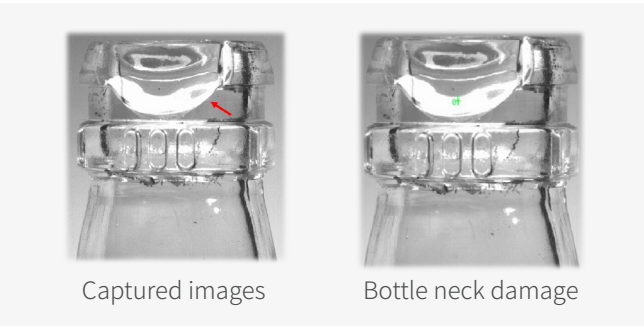
Stable Conveyance: Equipped with a stable linear bottle-clamping conveyor system to ensure bottle stability during inspection

High-Resolution Cameras: Utilizes high-resolution, high-speed area scan CCD cameras to enhance inspection accuracy

Dedicated LED Lighting: Features a long-lasting LED light source with a lifespan of 30,000 hours, ensuring stable illumination conditions

Compact Design: The space-saving design makes it suitable for production environments with limited space

INSPECTION ITEMS



Carton Hot Melt Adhesive Infrared Inspection Equipment

PRODUCT OVERVIEW

The Carton Hot Melt Adhesive Infrared Inspection Equipment uses machine vision technology to detect the quality of adhesive application on cartons, in situations where human inspection and visible light machine vision cannot effectively perceive the adhesive quality. This intelligent inspection system ensures that the glue strip spraying meets the required standards.



EQUIPMENT FEATURES

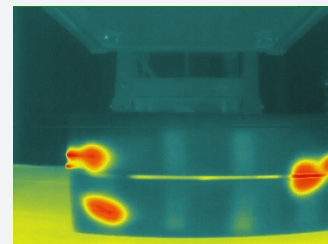
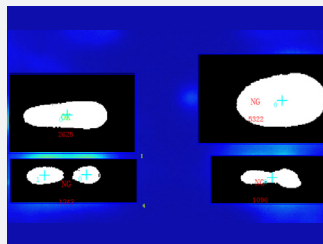
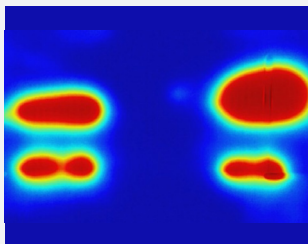
Applicable Products: Suitable for hot melt adhesive carton sealing processes

Function Description: Detects issues such as insufficient adhesive, excessive adhesive, incorrect adhesive placement, and false adhesion

Inspection Speed: Compatible with sealing machines, with a speed of up to 36,000 pcs/hour

Equipment Dimensions: : 2500mm*850mm*1800mm (L*W*H)

INSPECTION ITEMS



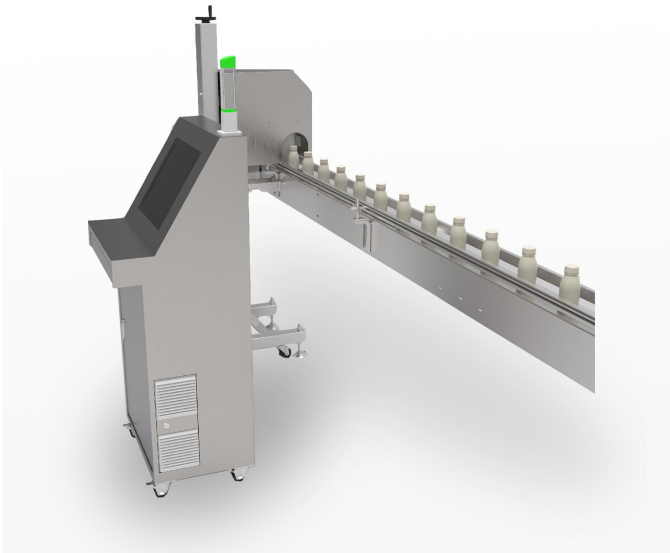
Insufficient/Excessive adhesive spraying

False adhesion

Aluminum Foil Sealing Inspection Equipment

PRODUCT OVERVIEW

The Aluminum Foil Sealing Inspection Equipment uses machine vision technology to inspect the quality of single-layer aluminum foil caps. This equipment is highly compatible, compact in size, and supports non-standard customization, making it widely applicable in bottling aluminum foil production lines.



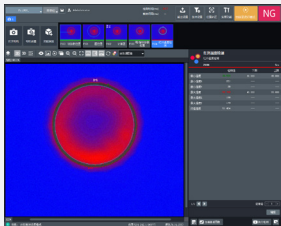
EQUIPMENT FEATURES

- Applicable Products:** Suitable for the backend of induction heating machines
- Function Description:** Detects the presence or absence of film, correct/incorrect film orientation, and sealing defects
- Inspection Speed:** Compatible with induction sealing machines, with a speed of up to 7,200 pcs/hour
- Equipment Dimensions:** Customized according to the packaging machine

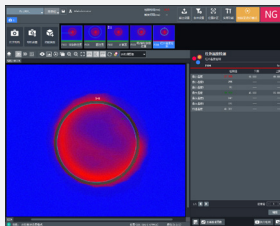
INSPECTION ITEMS



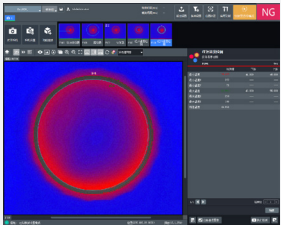
Incorrect aluminum foil placement



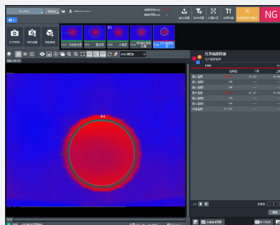
Aluminum foil edge folding



Air leakage at non-edge areas of aluminum foil



Aluminum foil missing



Partners

Collaborating Companies

Empowering business transformation and upgrading through machine vision, jointly building a new ecosystem for intelligent manufacturing

Partner Universities

Industry-Education Integration, collaborating with multiple universities to build industry-specific colleges