

# LUSTER

en.lusterinc.com



Flexible  
packaging



Label  
& Narrow  
web



Carton  
packaging



## CARTON PACKAGING PRINT INSPECTION

PRINTING QUALITY INSPECTION AND MANAGEMENT SOLUTIONS

“

Towards the starry sky of industrial artificial intelligence!

”



CHAIRMAN AND FOUNDER OF LUSTER

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## Global Service Network 34

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# WHO IS LUSTER?

LUSTER LightTech Co., Ltd. (hereinafter referred to as "LUSTER") takes innovation in optical technology as its foundation to develop businesses of vision imaging and fiber optics, with the aim of becoming a global leader in the fields of vision AI and opto-electronic information.

Focusing on vision imaging technology, LUSTER insists on "Implant Eyes and Brains in Machines", and provides customers with leading products and solutions such as configurable vision system, intelligent vision equipment and vision components.

LUSTER has always adhered to the business philosophy of customer-orientation to promote intelligent "manufacturing" in different industries such as Electronic Manufacturing, Display, Printing, Packaging, New Energy, Plastic Web, Television, Animation, Scientific Imaging, Rail Transportation. With over 20 years' experiences of optical imaging, vision software and algorithms, innovative vision components etc., LUSTER continues to innovate its products and strives to be the optimal, strategic, trusted and honorable choice for its customers. In the field of fiber optics, LUSTER is a solution provider of high-end optical devices and instruments, and it also provides independent broadband optical access and smart home networking solutions for the radio and television industry.

LUSTER currently has over 500 patents and property rights, and won one first prize of National Technological Invention Award and two second prize of National Awards for Science and Technology Progress which are the highest awards for technology innovation.

LUSTER has undertaken numerous major national science and technology projects to help promote the national science and technology level and industrial development.



## MISSION

To implant eyes and brains in machines, to empower optical inter-connection, to create and realize customer's dream.

## VISION

To become the world leader in vision artificial intelligence and optoelectronic information fields!

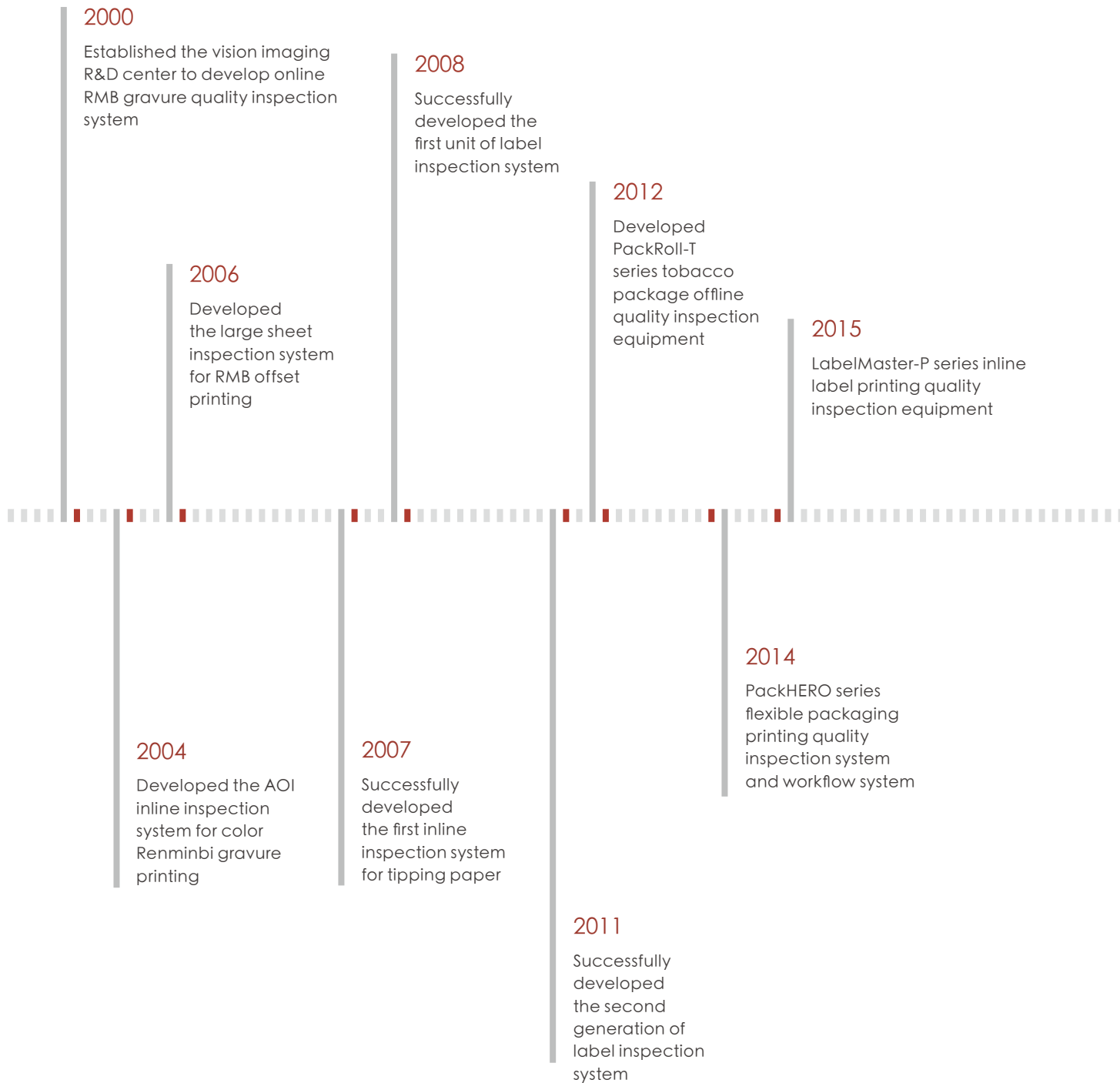
## VALUE

To take the responsibility of promoting industry development and strive together.

To transform knowledge into fortune, and to let the fortune belongs to its own creators!



# MILESTONES





2017

PrintMan series of carton box packaging printing quality solution

2019

PackSheet series offset inline inspection system BNOS-2000/BNOS-4000 offset printing online/offline quality proofing equipment

2021

CartonTANK-S Series carton offline quality inspection equipment CartonTANK-B Series folder gluer inline quality inspection equipment ScanTANK Proofing system with non-contact scanner solution

2016

Successfully developed the third generation of label inspection system LabelMaster-LT series low tension offline printing quality inspection equipment LabelMaster-R series high-

2020

CartonTANK folder gluer full connected inspection equipment LabelMan-220T tabletop label inspection rewinder SmartFAB management system

2018

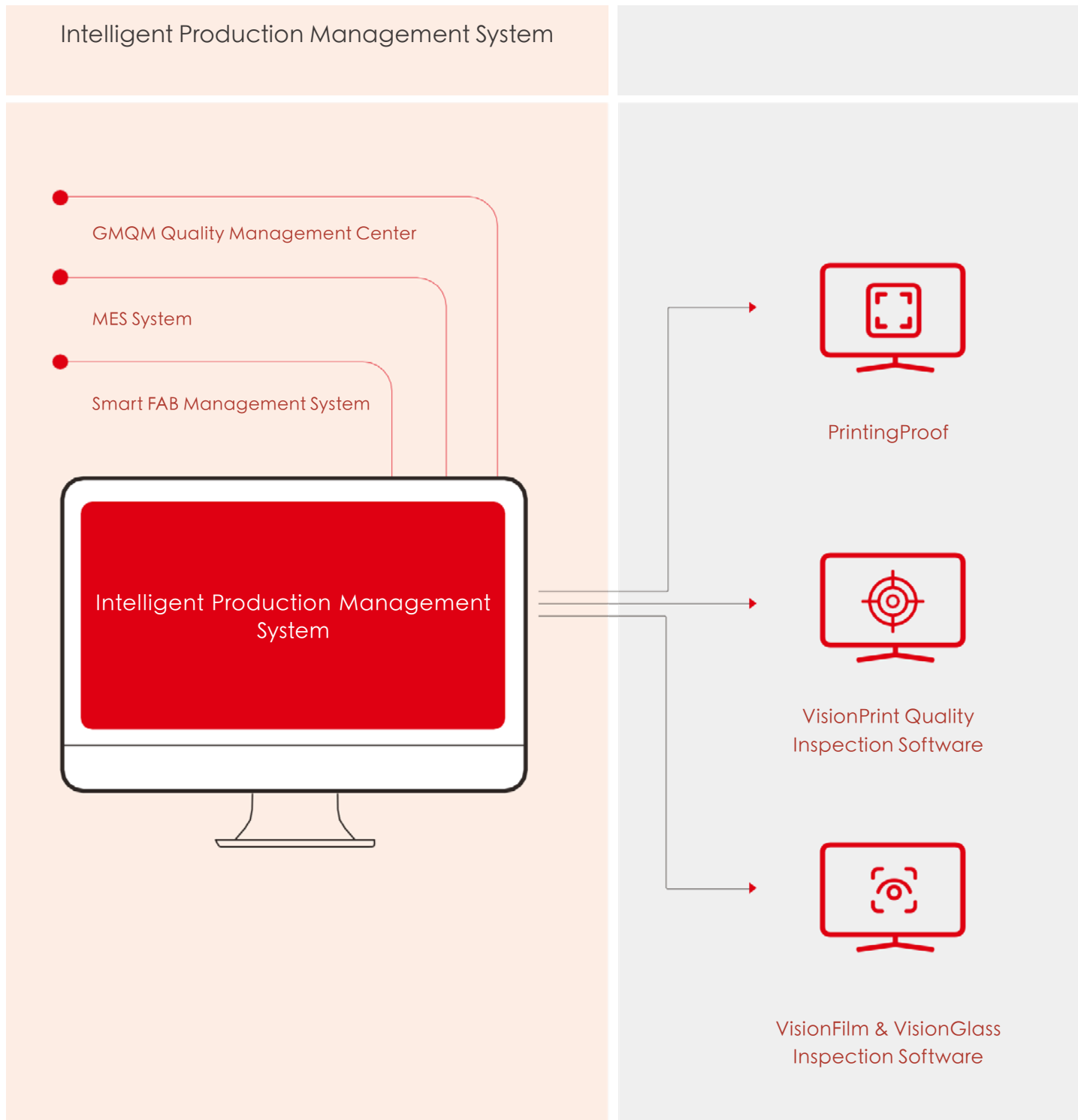
PrintMan-650S inkjet printing and quality inspection all-in-one machine PrintMan-650S folder gluer inline quality inspection equipment PrintMan-200 tag inspection machine PrintingProof inspection system

2022

IPO of A-STAR Share Market PackHERO Intelligent Printing Quality Inspection System Released

# PRINTING QUALITY INSPECTION AND MAN

## 1 COMPLETE PRINTING QUALITY INSPECTION SOLUTIONS





# AGEMENT SOLUTIONS

## Printing Quality Inspection and Management Solutions



### Carton Packaging Inspection Products

- CartonHERO Offset Inline Printing Inspection System
- CartonTANK-B Series Folder Gluer Inline Connection Quality Inspection Equipment
- CartonTANK-S Series Offline Quality Inspection Equipment
- CartonTANK-430S Tobacco Packaing Quality Inspection Equipment
- TagTANK-200 Tag Quality Inspection Equipment



### Flexible Packaging Inspection Products

- PackHERO-P Inline Inspection System
- PackHERO-F Offline Inspection System
- SlitTANK series Slitting Machine
- RewindTANK series Inspection Rewinding Machine



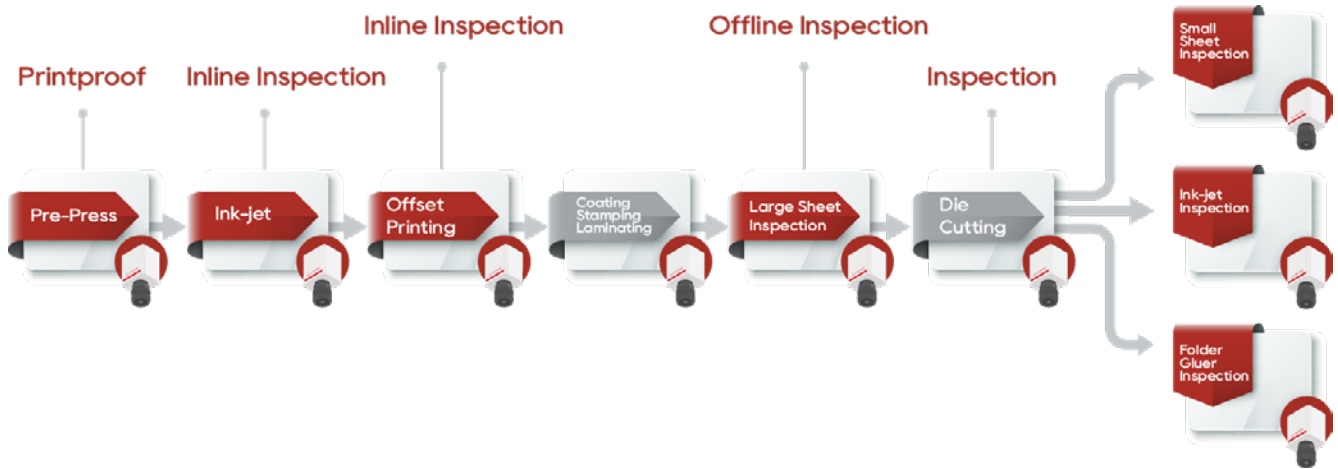
### Narrow-web Inspection Products

- LabelHERO-P Inline Inspection System
- LabelHERO-F Offline Inspection System
- LabelTANK-220T Table Top Inspection Rewinder
- LabelRoll-LT series Low Tension Offline Inspection Equipment
- LabelRoll-RS series Roll-to-sheet Offline Inspection Equipment

# 2 CARTON PACKAGING INSPECTION

For carton packaging inspection such as pharmaceutical packaging, food & beverage packaging, 3C electronic products packaging, cosmetic packaging, tag, card, corrugated packaging etc., LUSTER specially developed the CartonHERO/ CartonTANK series to effectively reduce labour cost and greatly improve inspection performance and efficiency. With advanced solutions of 2-5 camera combinations and different light source options, as well as innovative mechanical designs for various sizes of products, you can truly achieve 100% inspection of all kinds of defects and materials.

## 2.1 Inspection Overview



## 2.2 Sample Products

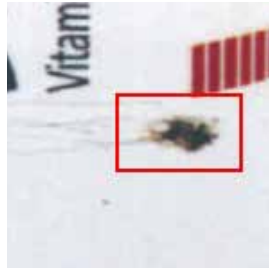


## 2.3 Sample Defects

- Printing Defects



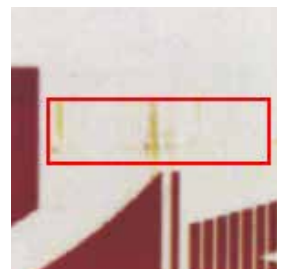
Scratch



Insects



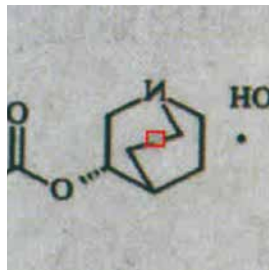
Oil Stain



Ink Stain



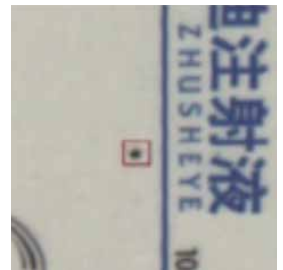
Crease



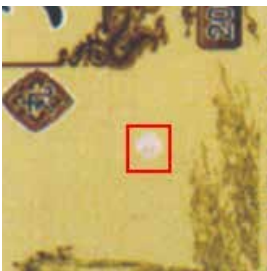
Missing Print



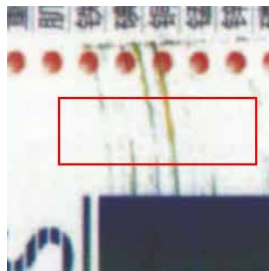
Color Variation



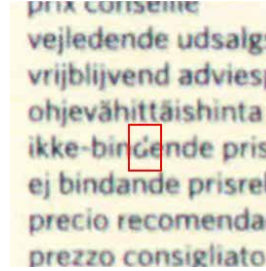
Black Spot



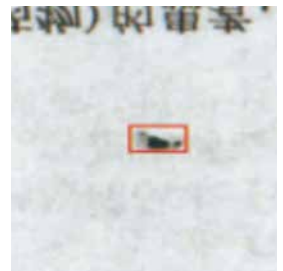
White Spot



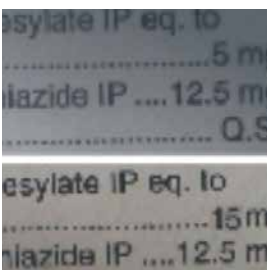
Ink Mark



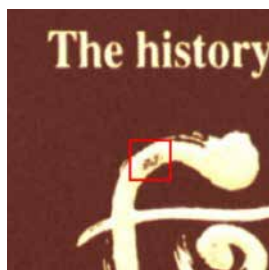
Broken Stroke



Paper Hole



Mix-up cartons



Gold Stamping

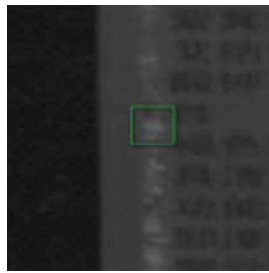


Back Stains

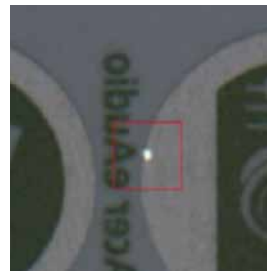
- 3D & Holographic/High Reflective Defects



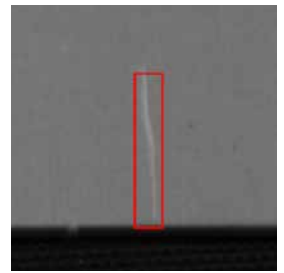
Crease



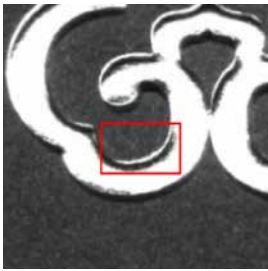
Improper Coating



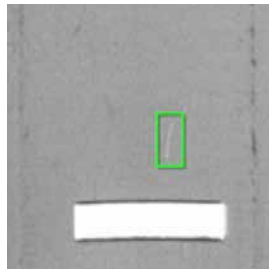
Bubble



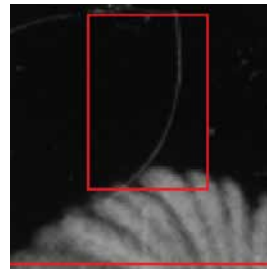
Crease



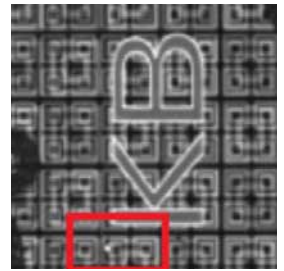
Embossing



Scratch



Holographic Defect



Holographic Defect

- Variable Code Defects



DM Code



QR Code



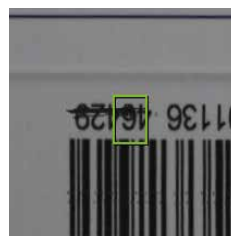
Barcode



SN Code



OCR



PDF417

# 3 PRINTING INSPECTION SOFTWARE FEATURES AND FUNCTIONS



Live Image of Different

Live image of each

Tolerance setup on different

## Main Features

### 01. Scientific Quality Standard

New software algorithm enables reliable and strong inspection performance. To ensure the accuracy of inspection, it only needs one master image as reference for job setup. No studying or training of multiple products, it can greatly improve the reliability of inspection and reduce false alarm.

### 02. High Inspection Precision

100% print inspection is truly achieved that the Printing Plus software reliably identifies every small defect like a colon or a decimal point in text.

### 03. Accurate Classification of Defects

Printing Plus software accurately identify different defects type and category, the operator can set different quality standard on defects type and region of interests to achieve minimum false alarm and best inspection performance.

### 04. Easy to Use

The Printing Plus software is very easy to use, only basic computer skills are needed. User simply follows few steps on screen to finish template setup process in few minutes. Clear instructions of tolerance adjustment are provided to facilitate users to quickly set up wanted template.

### 05. Faster than every system you have seen before

The software only needs ONE computer to achieve the processing speed and reliable performance of 4-6 computers. Due to the advanced algorithm, the system can achieve high-speed inspection while still remain high accuracy of inspection.



## Optional Modules

### CodeHERO

#### Variable Code Reading and Inspection

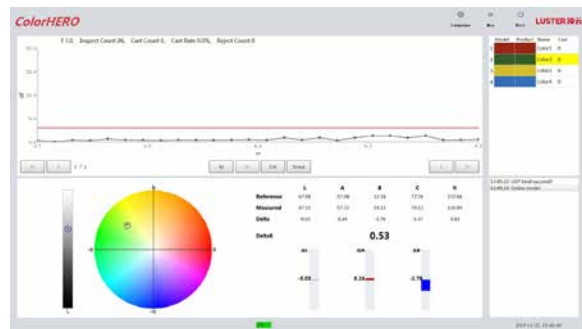
- Barcode, 2D code, Sequence number, OCR and other variable data type accurate reading and inspection.
- Achieves decoding speed of 400 codes per second.
- Automatically recognition of variable data when setup.



### ColorHERO

#### Color Monitoring and Inspection

- Live monitor of max. 20 color zones for color control.
- Color fluctuation curve monitoring and real-time visual, light and sound alarm.
- Color variation detection accuracy of  $\Delta E \geq 2$ .
- Real time demonstration of Delta E value, and L.a.b. value.



### ProofHERO

#### PDF Proof and Job Verification

- Support printing jobs proofing against PDF, JPEG, TIFF, BMP etc.
- Supported different PDF layer setup.
- Avoid loading errors before job start.
- All master templates can be saved in the system, for repeated jobs.



### GradingHERO

- Special alarm and handling process of severe or continuous quality issues to prevent any human-caused errors.
- Intelligent and precise defects classification.
- Traceable of every quality issue.

序号	日期	产品	缺陷	缺陷位置	缺陷描述	处理
2019-11-11 10:27:30	20191111	甲	印刷缺陷	001.1008	001.7164	合格
2019-11-11 10:27:30	20191111	乙	印刷缺陷	001.1008	001.7164	合格
2019-11-11 10:27:30	20191111	丙	印刷缺陷	001.1008	001.7164	合格
2019-11-11 10:27:30	20191111	丁	印刷缺陷	001.1008	001.7164	合格
2019-11-11 10:27:30	20191111	戊	印刷缺陷	001.1008	001.7164	合格
2019-11-11 10:27:30	20191111	己	印刷缺陷	001.1008	001.7164	合格
2019-11-11 10:27:30	20191111	庚	印刷缺陷	001.1008	001.7164	合格
2019-11-11 10:27:30	20191111	辛	印刷缺陷	001.1008	001.7164	合格
2019-11-11 10:27:30	20191111	壬	印刷缺陷	001.1008	001.7164	合格
2019-11-11 10:27:30	20191111	癸	印刷缺陷	001.1008	001.7164	合格

# 4 CARTON PACKAGING INSPECTION SOLUTIONS

## 4.1 Product Application

Application	Applied Model
Pre-press	<ul style="list-style-type: none"> <li>• ScanTANK series</li> <li>• PrintingProof software</li> </ul>
Offset press	<ul style="list-style-type: none"> <li>• CartonHERO inline inspection system</li> </ul>
Folding process	<ul style="list-style-type: none"> <li>• CartonHERO folder gluer inline system</li> <li>• CartonTANK-B series folder gluer inline inspection machine</li> </ul>
Offline inspection	<ul style="list-style-type: none"> <li>• CartonTANK-S series</li> <li>• CartonTANK-430S</li> <li>• TagTANK-200</li> </ul>

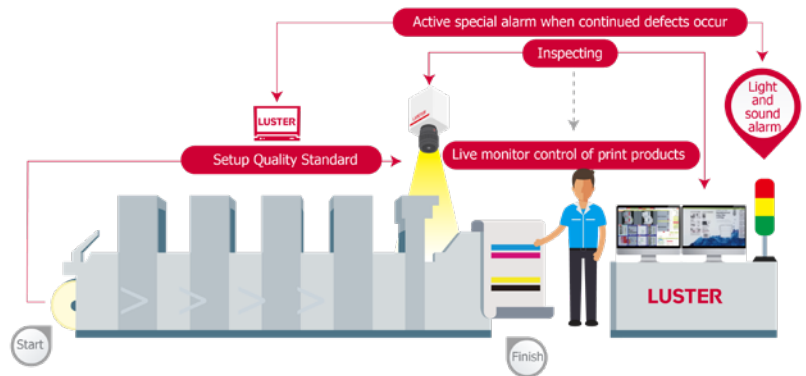
Print Type	Application	100% Inspection System Integration
Sheet/ Carton Printing	Tobacco Packaging	<ul style="list-style-type: none"> <li>• CartonHERO offset inline inspection system</li> <li>• CartonTANK-430S</li> </ul>
	Pharmaceutical/Food/ Cosmetic Packaging /Electronic Packaging	<ul style="list-style-type: none"> <li>• CartonHERO offset inline inspection system</li> <li>• CartonTANK-B folder gluer inline inspection machine</li> <li>• CartonTANK-S offline quality inspection equipment</li> </ul>
	Tag	<ul style="list-style-type: none"> <li>• TagTANK-200</li> </ul>



## Inline Inspection Solution

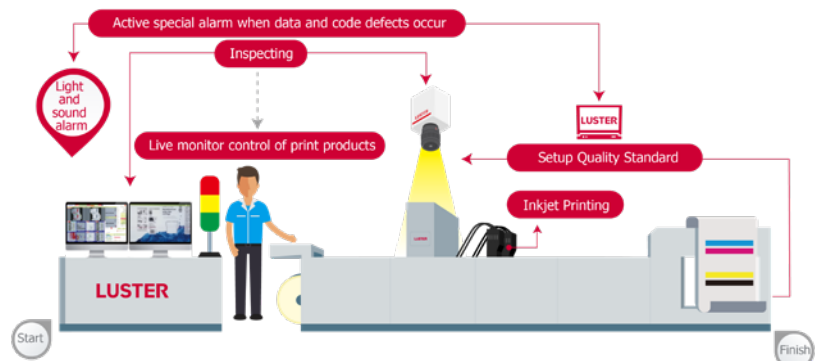
### Offset Inline printing inspection solution

- The Sheet-fed Offset Inline Quality Inspection System is a highly precise, automatic printing quality inspection system designed to effectively control printing quality and color consistency during production, to reduce waste and improve production efficiency.
- It is mainly used for defect inspection of instruction books, examination paper, sheet-fed packaging and colour printing products such as commercial print works.



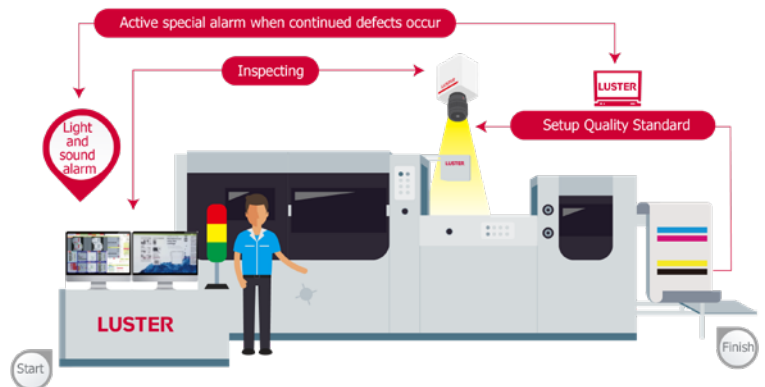
### Inline inkjet inspection solution

- The sheet-fed Inkjet Inline Quality Inspection System is highly precision detection system designed for variable data detection by integrated with Inkjet sheet machine, to guarantee ZERO defect on code printing error.
- It mainly used for security package with variable codes and data, such as pharmaceutical boxes, electric boxes, health care products with security ID and

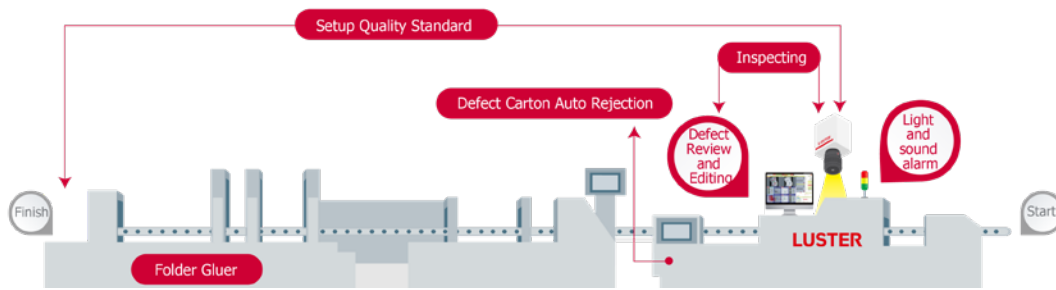


### Inline die cutting inspection solution

- The sheet-fed Die-cut Inline Quality Inspection System is auxiliary system designed focus on die-cutting error detection by selected areas, which installed at sheet-fed die-cutting machine, to avoid the material waste during production.
- It mainly used for carton and corrugated sheet with strict die-cutting requirement, especially high quality products like cosmetic box, tobacco box, food packages

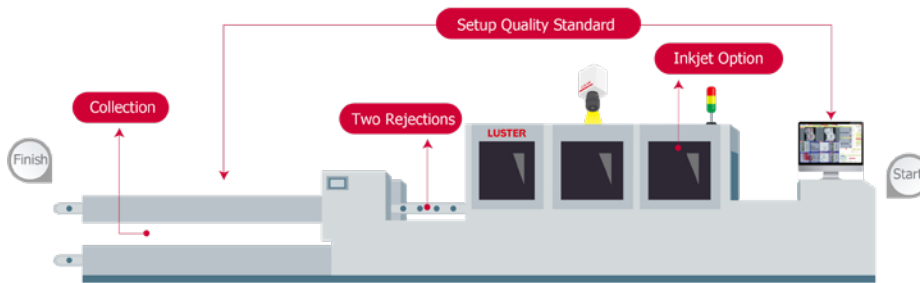


## Folder Gluer Inline Connection Solution

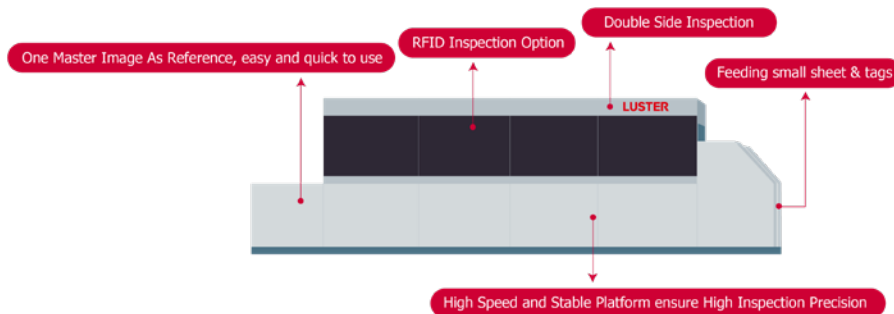


- Combines the quality inspection and carton gluing processes into one.
- Reduces 2-4 workers and production cost.
- Runs up to 300m/min and can be connected with many folding gluer model.

## Offline Inspection Solution



- Specially developed for carton packaging inspection such as pharmaceutical packaging, food & beverage packaging, 3C electronic products packaging, cosmetic packaging, tobacco packaging etc.
- Provides effective inspection and verification of variable data and can also be used as an independent inkjet printing machine.
- All-in-one machine with both ink-jet and inspection function, especially for inkjet printing requirements less than 100,000 sheets per order.

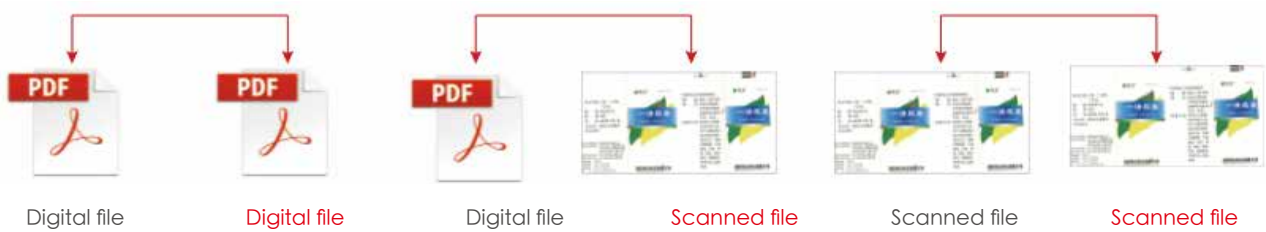


- Specially designed for tag and card products, optional function for RFID inspection and reading.
- Providing stable double side inspection for accurate check of print, texts, code and other special defects.

## 4.2 PrintingProof Inspection

The PrintingProof Inspection System can effectively proof digital files, printing samples, and sample files to control the quality in pre-press stage. It can be used to detect the errors in the pre-printing process, such as mis-registration, dirty spots, missing content, color variation, text/graphics/print errors, etc. The system is applicable throughout the whole process of printing, such as proofreading for the original sample and film assembly, initial printing, random printing sample inspection, etc. The system features high inspection efficiency and accuracy, which can significantly improve your work efficiency.

### Solutions



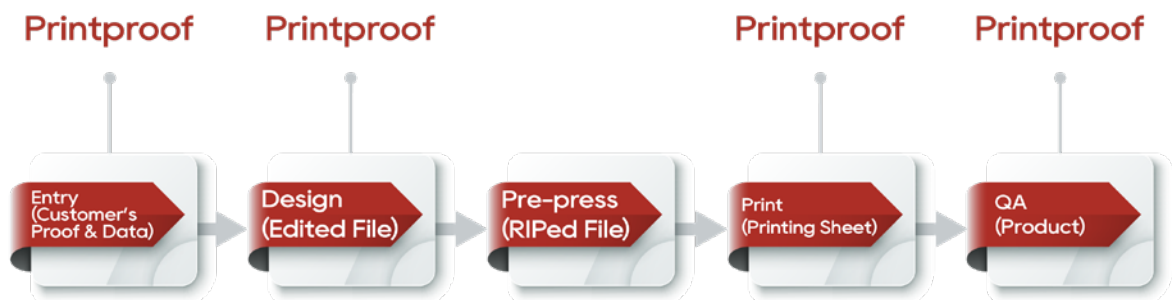
### Files Supported



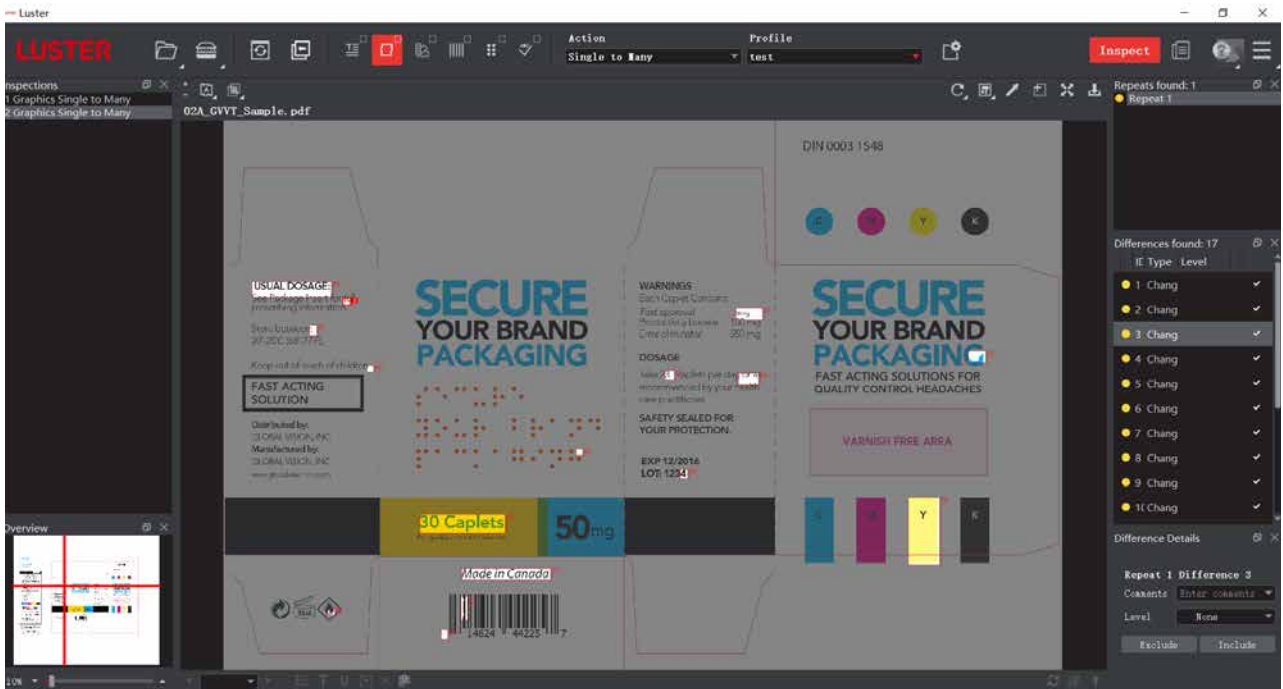
### Sample of Defects



### Workflow



## Printing Proof Software



## Scanner Options



Flatbed Scanner A3 Sheet



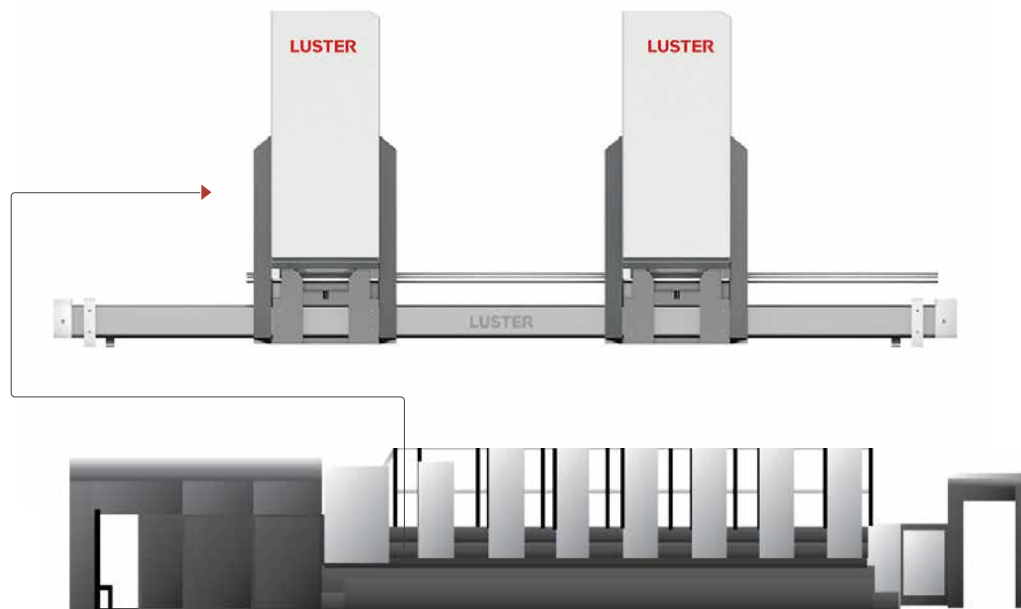
Flatbed Scanner A2 Sheet



Non-Contact Scanner A0 Sheet

## 4.3 CartonHERO Offset Inline Printing Inspection System

CartonHERO Offset Inline Printing Inspection System is a highly precise, automatic printing quality inspection system designed to effectively control text and graphics print quality and colour consistency during production, to reduce waste and improve production efficiency. It is mainly used for defect inspection of carton packaging printing, book and leaflets printing, examination paper printing, commercial print works, and other offset printing products.



### ■ Features

- Modular and special system design to widely adapt different model and brand of offset printing machine and product range.
- Powerful software enables high speed inspection to be compatible with offset printing speed for efficient quality control.
- Various options of rejection handling, such as label flag or ink-jet marking.
- Only need one master image, setup process and user interface are easy to understand with smart and automatic features and ensure quick job start.
- Accurate inspection result for common detection requirements as well as special ones such as color monitoring and management, PDF proofing, micro text inspection, and reflective material inspection.

## Specifications

Type of Printing defect	Dirty spot, white spot, missing print, hole, crease, mosquito, oil stain, mis-registration, color variation, etc.
Max. Width of sheet	1040mm
Thickness	200-400g
Max. Inspection Speed	18000sheet/hr
Inspection Accuracy	<ul style="list-style-type: none"> <li>• Min. Dot size 0.1mm<sup>2</sup> (high contrast) or 0.2mm<sup>2</sup> (low contrast)</li> <li>• Min. Width of streak/line ≥ 0.15mm, Length ≥ 5mm</li> </ul>
Software	Inspection software PrintingPlus International Edition
Hardware	<ul style="list-style-type: none"> <li>• 2 pcs import 4K RGB color high-frequency COMS line scan industrial camera</li> <li>• 1pcs designed air blow system to make sheet flat for detection</li> </ul> And other hardware components
E-Cabinet Dimensions	700×700×1200mm



Heidelberg



Komori



Ryobi Mhi



Manroland

Can be mounted on any offsetpress like Heidelberg, Komori, Ryobi Mhi, Manroland, Koenig & Bauer, etc



Koenig & Bauer

## 4.4 CartonTANK-B Series Folder Gluer Inline Connection Quality Inspection Equipment

CartonTANK-B Series folder gluer inline connection quality inspection equipment combines the quality inspection and carton gluing processes into one, reducing 2-4 workers and production cost. This equipment can run up to 300m/min and able to be connected with many folding gluer models.



### ■ Features

- Automatic rejection unit with automatic speed adjustment.
- Impact inspection unit, for both sides of inspection and various camera options.
- Max. 300m/min inspection speed to greatly improve efficiency.
- Same feeding method as folding gluer.
- Specially designed mechanical structure can connect to folder gluer feeder seamlessly.



## Specifications

Application	Sheet-fed cartons such as pharmaceutical packaging, food packaging, cosmetic packaging, electronic packaging, etc.
Inspection Size (L×W)	650mm, 800mm (Folder gluer size)
Min. Inspection Size (L×W)	90×90mm
Max. Speed	300m/min
Paper Weight	90-350g/m <sup>2</sup>
Min. Defect Size (as a dot)	0.06mm <sup>2</sup>
Min. Defect Size (as a line)	±0.15mm
Color Deviation accuracy	$\Delta E \geq 3$

### Vision Inspection Solution

Workstation 1	<ul style="list-style-type: none"> <li>• 4K/7K resolution color RGB line-scan camera</li> <li>• Printing &amp; Foil stamping inspection</li> </ul>
Workstation 2	<ul style="list-style-type: none"> <li>• 8K resolution black &amp; white line-scan camera</li> <li>• Embossing, lamination &amp; varnishing inspection</li> </ul>
Workstation 3	<ul style="list-style-type: none"> <li>• 4K or mono line-scan camera</li> <li>• Holographic inspection</li> </ul>
Back Side Workstation	<ul style="list-style-type: none"> <li>• 4K resolution black &amp; white line-scan camera</li> <li>• Serious defect of dirt and printing missing</li> </ul>
Variable Data Workstation	<ul style="list-style-type: none"> <li>• 1,300,000 pixel Area-Array Camera (black &amp; white)</li> <li>• Variable data defect inspection: Wrong text, printing missing, dirty spot and foreign objectives</li> </ul>
Software	Inspection software PrintingPlus International Edition

Platform Solution	
Feeder Unit	Friction feeder (Reverse Side Feeding to avoid scratch on surface)
Conveying Unit	Mechanical platform +Vacuum belt convey
Ejecting System	NG path 1#: Air-blow ejection system with shingle stream waste collection exit, for printing defect Ejecting
	NG Path 2#: Air-blow ejection system with shingle stream waste collection exit, for variable data defect Ejecting (Optional)
Collecting Unit	Shingle stream collection with neat stacking result
Machine Dimensions (L×W×H)	7000×1980×1208mm
Machine weight	About 4.5T
Power Supply	AC380V 18KW 50Hz Three-phase-five-wire
Compressed Air Supply	≥ 0.8MPa

## 4.5 CartonTANK-S Series Offline Quality Inspection Equipment

Specially developed for carton packaging inspection such as pharmaceutical packaging, food & beverage packaging, 3C electronic products packaging, cosmetic packaging etc. Its wide adaptability allows accurate inspection of highly-reflective materials as well as normal ones, for instance gold and silver paperboard, holographic paperboard, aluminized material and stamping material. It is able to inspect defects like streak line, missing print, dirty spot, splash, mis-registration, colour variation as well as embossing defects. What's more, it can provide effective inspection and verification of variable data. This machine can also add additional ink-jet station to combine ink-jet and inspection all in one, for inkjet printing requirements less than 100,000 sheets per order.



### ■ Features

- Stacking unit for good products.
- Inspection unit, for both sides of inspection and various camera options.
- Can change to ink-jet+inspection two in one model (front feeding model) by adding ink-jet station and corona treatment.
- Calibration unit to ensure accurate position.
- Patent reverse side feeding and inspection design to prevent any scratch issues without confusion of choosing different feeder options.
- Can choose two exits to separate common defects products and severe defects products.

## Specifications

Application	Sheet-fed cartons such as pharmaceutical packaging, food packaging, cosmetic packaging, electronic packaging, etc.
Maximum sheet size(L×W)	650×500mm (Can also choose 800mm model)
Minimum sheet size(L×W)	<ul style="list-style-type: none"> <li>90×90mm</li> </ul>
Paper weight	90-440g/m <sup>2</sup>
Maximum Inspection Speed	300m/min
Max. Ink-jet Speed	150m/min
Minimum defect size(as a pot)	0.06mm <sup>2</sup>
Minimum defect size(as a line)	0.1×5mm
Minimum color Variation( Δ E)	≥ 3

### Vision Inspection Solution

Workstation 1	<ul style="list-style-type: none"> <li>4K/7K resolution color RGB line-scan camera</li> <li>Printing &amp; Foil stamping inspection</li> </ul>
Workstation 2	<ul style="list-style-type: none"> <li>8K resolution black &amp; white line-scan camera</li> <li>Embossing, lamination &amp; varnishing inspection</li> </ul>
Workstation 3	<ul style="list-style-type: none"> <li>4K or mono line-scan camera</li> <li>Holographic inspection</li> </ul>
Back Side Workstation	<ul style="list-style-type: none"> <li>4K resolution black &amp; white line-scan camera</li> <li>Serious defect of dirt and printing missing</li> </ul>
Variable Data Workstation	<ul style="list-style-type: none"> <li>1,300,000 pixel Area-Array Camera (black &amp; white)</li> <li>Variable data defect inspection: Wrong text, printing missing, dirty spot and foreign objectives</li> </ul>
Software	Inspection software PrintingPlus International Edition

Platform Solution		
Ink-Jet Printing Unit (Optional)	Max. Printing Speed	150m/min (platform transformer speed)
	Max. Printing Width	54mm
	Printing Resolution	600×600 pixel
	Printing Accuracy in tolerance	Left/Right ±0.2mm ; Front/Backward ±0.5mm
	Printing scope of Variable data	1D code: 39 code, 128 code, 2/5 code, CodaBar, UPCA, EAN128, EAN8, EAN13, DataMatix.
		2D code: PDF417, DataMatix, QR Code
Max. Printing Content	<ul style="list-style-type: none"> <li>• Maximum 10 group variable data matches together.</li> <li>• Able to do customized function regarding to customer needs.</li> </ul>	
Feeding Method	Reverse Feeder (sames as folder gluer type)	
Collecting Method	Accepted Products Handling (Standard)	Single Stream with fish scale collecting path
	Accepted Products Handling (Stacker)	Single Stream, Automatic Stacking and Counting (Optional)
Rejection Method	Rejected Products Handling (Standard)	General printing defect collection, Single Stream, Automatic Counting (Optional)
	Rejected Products Handling (VD)	Variable barcode/data defect Ejecting, Single Stream, Automatic Counting (Optional)
Dimension(L×W×H)	5999×1290×1208mm	
Gross weight	≈ 5T	

## 4.6 CartonTANK-430S Tobacco Packaging Quality Inspection Equipment

Special designed for tobacco packaging inspection, it equipped with special optical solutions which can detect the complicated tobacco printing designs at the same time like embossing, stamping, varnishing, hologram, coating, laser and variable code. Professional inspection software developed for tobacco packaging can balance the defects detection without false. High speed more than 100,000 sheets per hour improves the production efficiency instead of labors.



### ■ Features

- Auto Stack Unit.
- Multiple camera station options.
- High speed convey.
- Feeder Unit for Tobacco Packaging Shape.
- One master image as reference, easy and quick to use.
- Special Hologram inspection solution.
- Up-to-date platform design for high-speed inspection with accuracy.
- Tobacco packaging changing graphic region can be masked for efficient inspection.

## Specifications

Application	Tobacoo sheet and box with all size range, incl. barrel package and single package.
Material	Common paper boards as well as special reflective material such as ivory paper, coated, etc.
Maximum sheet size	430×350mm
Minimum sheet size	<ul style="list-style-type: none"> <li>• 90×90mm (Friction feeder)</li> <li>• 120×120mm (Air suction feeder)</li> </ul>
Paper weight	90-350g/m <sup>2</sup>
Maximum Inspection Speed	300m/min
Minimum defect size(as a pot)	0.05mm <sup>2</sup> (High Contrast)
Minimum defect size(as a line)	0.05×5mm (High Contrast)
Minimum color Variation( Δ E)	≥ 3
Vision Inspection Solution	
Workstation 1	<ul style="list-style-type: none"> <li>• 4K/7K resolution color RGB line-scan camera</li> <li>• Printing &amp; Foil stamping inspection</li> </ul>
Workstation 2	<ul style="list-style-type: none"> <li>• 8K resolution black &amp; white line-scan camera</li> <li>• Embossing, lamination &amp; varnishing inspection</li> </ul>
Workstation 3	<ul style="list-style-type: none"> <li>• 4K or mono line-scan camera</li> <li>• Holographic inspection</li> </ul>
Workstation 4	<ul style="list-style-type: none"> <li>• 4K resolution black &amp; white line-scan camera</li> <li>• Serious defect of dirt and printing missing</li> </ul>
Back Side Workstation	<ul style="list-style-type: none"> <li>• 8K resolution black &amp; white line-scan camera</li> <li>• Serious defect of dirt and printing missing</li> </ul>



Vision Inspection Solution			
Variable Data Workstation	<ul style="list-style-type: none"> <li>1,300,000 pixel Area-Array Camera (black &amp; white)</li> <li>Variable data defect inspection: Wrong text, printing missing, dirty spot and foreign objectives</li> </ul>		
	Barcode and Variable Data Type (Optional)	1D-Codes	Readable Code Format: CODE128, CODE39, CODE93, EAN8, EAN13 UPCA,UPCE, ITF, CODABAR Min Width for inspection: 2 pixel/ 0.15mm
		2D-Codes	Readable Code Format: QR, DM Min. Dimension for inspection: 0.3mm (Length)×0.3mm (Width)
		SN Codes	SN Code that contains numbers and capital letters Condition of inspection: 1) Single row 2) Bar code and text numbers are separated with space 3) Min. Height of text: > 20 times of pixel 4) lattice code is not fully guaranteed up to its print quality
		Sequence Inspection	Order mistake, repeated number, wrong number
Software	Inspection software PrintingPlus International Edition		
Platform Solution			
Feeding Method	Fiction Feeding	120-220m/min; Fast Speed for normal printed paperboard	
	Suction Feeder	Avoid scratch issue for materials with UV coating, lamination and others with sensitive surface	
Collecting Method	Accepted Products Handling (Standard)	Single Stream with fish scale collecting path, Automatic Counting (Optional)	
	Accepted Products Handling (Stacker)	Single Stream, Automatic Stacking and Counting (Optional)	
Ejecting Method	NG Products Handling (Standard)	General printing defect collection, Single Stream, Automatic Counting	
	NG Products Handling (VD)	Variable barcode/data defect Ejecting, Single Stream, Automatic Counting (Optional)	
Dimension(L×W×H)	7290×2583×1806mm		
Gross weight	≈ 5T		
Total power	AC380V 20KW 50Hz Three-phase-five-wire		

## 4.7 TagTANK-200 Tag Quality Inspection Equipment

TagTANK-200 Tag Quality Inspection System is developed for quality inspection and final check of clothing tag, card and other small size sheet-fed products. It supports accurate inspection for front and back side printing with vacuum structure from both sides. It can achieve effective inspection of all kinds of defects as well as variable data and RFID inspection.



### ■ Features

- Optional RFID inspection and reading function.
- High accuracy double side inspection for print, graphics, text, code, lamination, coating etc..
- Feeder designed for small width of tags.
- One master image as reference, easy and quick to use.
- High speed and stable platform ensure high inspection precision.

## Specifications

Application	For printed card, paper tag, and small size sheet & carton detection, covers cosmetic package, beer and liquid labels, garment tag, commercial tag & sheet etc.
Max. Inspection Size (L×W)	200×200mm
Min. Inspection Size (L×W)	30×50mm
Max. Speed	280m/min
Paper Weight	90-350g/m <sup>2</sup>
Min. Defect Size (as a dot)	0.3mm <sup>2</sup>
Min. Defect Size (as a line)	Width ≥ 0.1mm, Length ≥ 4mm
Mis-Registration inspection accuracy	0.1mm
Color Deviation accuracy	$\Delta E \geq 3$

### Vision Inspection Solution

Front side inspection	2D inspecting system <ul style="list-style-type: none"> <li>• 4K resolution color RGB line-scan camera</li> <li>• Printing &amp; Foil stamping inspection</li> </ul>
	3D inspecting system <ul style="list-style-type: none"> <li>• 4K resolution black &amp; white line-scan camera</li> <li>• Embossing, lamination &amp; varnishing inspection</li> </ul>
Back side inspection	2D inspecting system <ul style="list-style-type: none"> <li>• 4K resolution color RGB line-scan camera</li> <li>• Printing &amp; Foil stamping inspection</li> </ul>
	3D inspecting system <ul style="list-style-type: none"> <li>• 4K resolution black &amp; white line-scan camera</li> <li>• Embossing, lamination &amp; varnishing inspection</li> </ul>
Other Workstation	<ul style="list-style-type: none"> <li>• Bar code, variable data inspection</li> <li>• RFID reading station (Optional)</li> </ul>
Software	Inspection software PrintingPlus International Edition

Platform Solution

Feeder Unit	Friction feeder
Conveying Unit	Mechanical platform + belt convey
Ejecting System	Air-blow ejection system with single stream waste collection exit, for printing defect ejecting
Collecting Unit	Fish-scale single stream collection
Machine Dimensions (L×W×H)	5400×1100×1600mm
Machine weight	About 4.5T
Power Supply	AC380V 15KW 50Hz Three-phase-five-wire
Compressed Air Supply	0.8-1MPa

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