



PACKAGING INSPECTION SOLUTIONS

Beijing Daheng Image Vision Co.,Ltd.

A VISION OF FUTURE

Driven by the vision of “Industry 4.0”, the world of manufacturing is advancing in intelligent manufacturing.

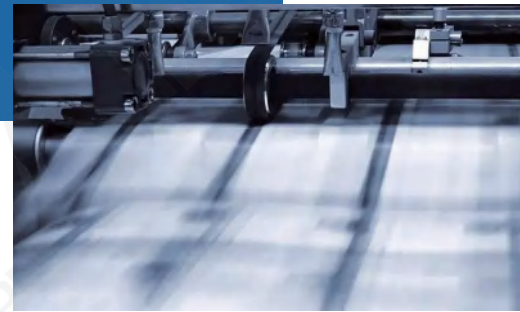
Drastically increasing number of companies consider “Industry 4.0” as key to achieve the production of more flexible, efficient, safe and sustainable, with ability to continuously optimize, improve and update as well. As an important part of intelligent manufacturing, machine vision technology will play a significant role in all kinds of new industries and consumer upgrades in the future, and will be highly regarded. Changes in manufacturing are bound to detonate the rapid development of visual industry.

Focusing on printing industry, problems like excess capacity, energy intensive, low intelligent, weak innovation ability, inferior core competence, are affecting the sustainable development of enterprises, which must be solved by transformation. The future is the age of fully-automatic factory and unmanned industry. New production services, intelligent factories, intelligent equipment, and intelligent products will be greatly developed. Enterprises intend to stand firm in the change and seize the new round of opportunities certainly will layout intelligence beforehand so as to enhance international competitiveness.

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Deeply cultivated in the field for over 30 years,
Daheng Imavision leads the industry in new changes
and foresees the new future of inspection!



OVER 30 YEARS DEDICATED TO PRINT INSPECTIONS

Established in 1991, Daheng Imavision is the earliest company that specializes in machine vision in China. Now, it becomes the leading machine vision solution provider in industries including printing, pharmaceutical, glass bottle, electronics manufacturing, etc.

Affiliated to China Daheng Group, Inc. (Ticker Symbol: 600288), Daheng Imavision has dedicated to print inspections for over 30 years, with many “breakthroughs” which have been recorded in the machine vision history of China. In more than 30 years, over 4,000 sets of user-friendly and innovative print inspection systems have been sold worldwide.

Daheng Imavision offers the leading technologies, superior products, and customer-oriented services with the commitment “following our fundamental ideas of putting customers first, making innovations and getting actions rather than speech”.



- People-oriented Strategy
 - Authentic Integrity
- Diligence & Pragmatism
 - Perpetual Innovation
- Win-win Collaboration

Our Vision

Promote the society by
machine vision application!

Our Mission

We are aiming to create, develop, produce high quality vision solutions worldwide with leading technology. We help our customers to reach higher productivity and production quality. We serve society and realize self-fulfillment through creating value for customers continuously.

PROFESSIONAL AND COMPETENCE IN MACHINE VISION

As a know-how company with a long history in machine vision industry, Daheng Imavision demonstrates professional and competence in machine vision research, with a great number of talent people.



Post-doctoral station dedicated to machine vision research



Proven innovation ability and patented technologies



Member of Association for advancing automation and European Machine Vision Association

Featuring a R&D team with over 200 professionals, 40% of employees having master degree.



We have established the close cooperation with world-famous companies like Teledyne DALSA, Siemens, Chromasens, Schneider Kreuznach, MVTec, FESTO, etc. that makes sure our customers have the latest products with state-of-the-art technologies.



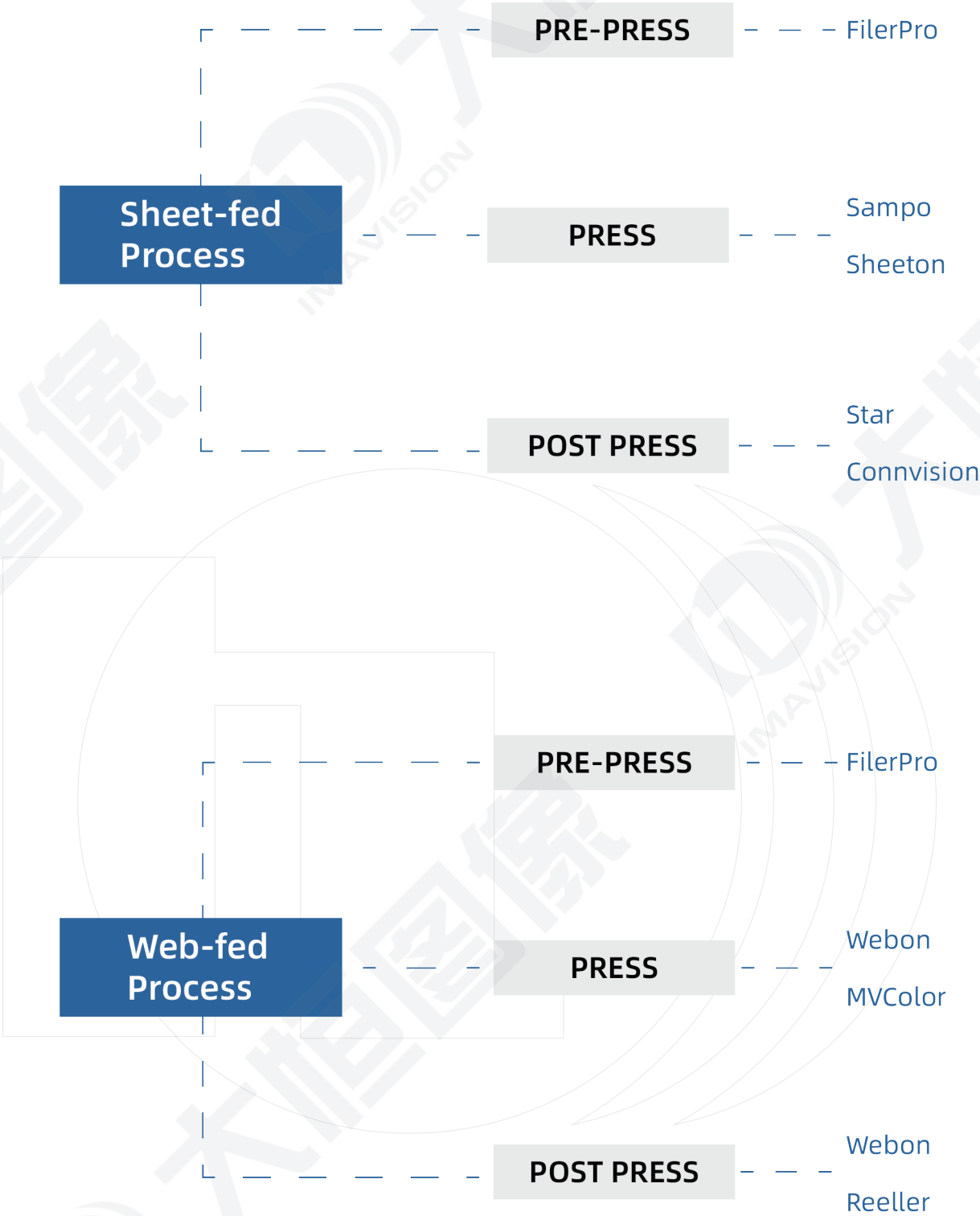
WHAT WE CAN DO

Daheng Imavision, offers a complete range of innovative and user-friendly print inspection equipment from stand-alone machines to fully integrated tailored lines. Based on the printing and packaging manufacturers' needs, we provide quality assurance from the design to printing process with exquisite quality and high performance.

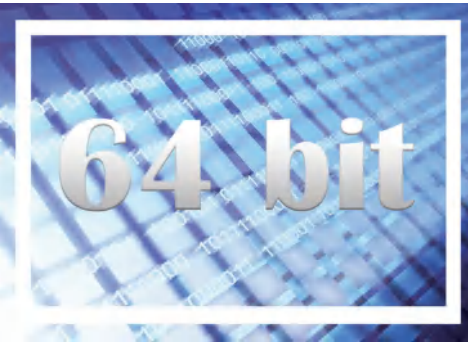


DAHENG IMAVISION PRINT INSPECTION SOLUTIONS

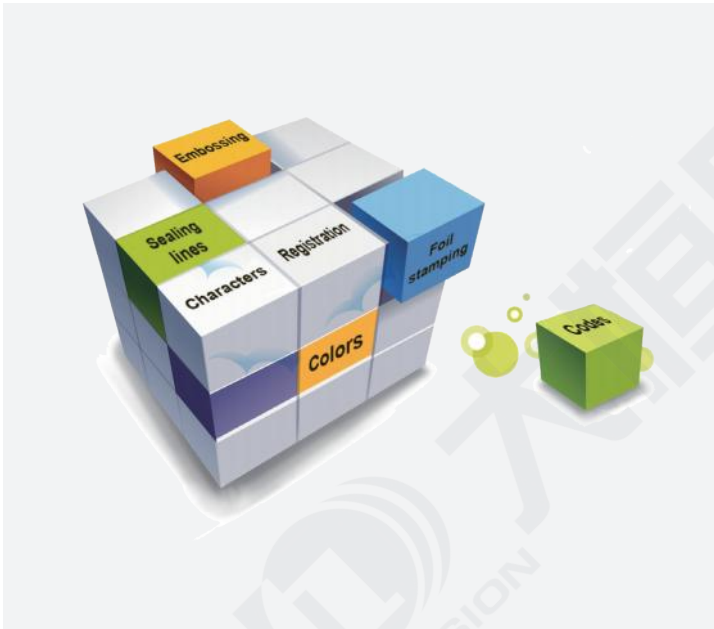
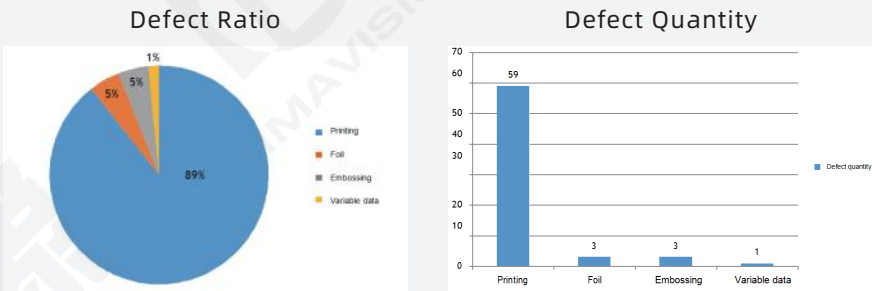
1	Sampo: Sample Print Inspection and Proofing Machine	P09
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INSPECTIONS YOU CAN PELY ON



Inspection report



The earliest 64-bit platform user in print inspection industry

Smartcheck is the earliest print inspection program supports for 64-bit OS and multi-core, multi-processor platforms with DDR SDRAM of up to 16 GB. With the thread-based programming technique, Smartcheck can automatically achieve parallelization in data processing, consequently speed up inspections and increase productivity.



Building-block modular algorithms with powerful inspecting capability

According to the different print features, various inspection algorithms are developed and launched as a tools package which includes modular, algorithms for the inspecting or measuring of characters, registration, foil stamping, embossing, codes, colors, sealing lines, and many more. Special algorithms for specific requirements from customers can be developed and integrated into Smartcheck software.



Flat style appearance of user interface

The Win8 style flat appearance is introduced into the software interface design, friendlier, and conforms to operation habit.



Pioneering image quality scoring function

The software has the function of image quality score to assess and quantify the imaging quality to remind the operator to adjust the optical components in time, so as to prevent the bad imaging issue from affecting the normal inspection performance.



Smart defects classifier and production analyzer

Inspection report in PDF format and production report in Excel format can be generated after inspection, which can help printing companies to analyze overall production information and support for conducting further quality management.

SAMPO-SAMPLE PRINT INSPECTION AND PROOFING MACHINE



Introduction

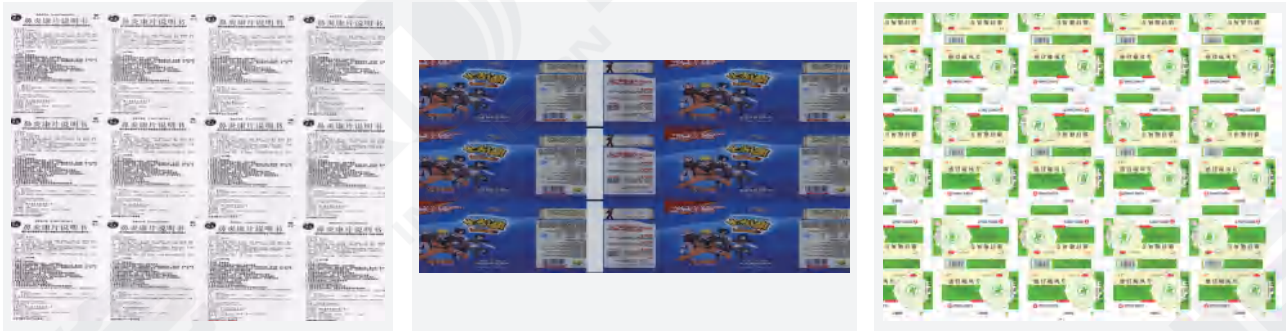
Sampo is a print quality inspection and proofing machine, normally used to check the quality of CTP press plate, first print before mass printing and sampling inspection during printing. It is suitable to inspect a variety of materials like C/M/Y/K press plates, printed sheets, leaflets and booklets for industries of pharmaceuticals, cigarettes, consumer goods packaging, and so forth.

It applies camera to scan the CTP plate, or printed sample on the suction platform, load PDF file or image of good print as the template to compare to find out if any difference between template and sample, so as to alert quality issue for printing adjustment.

Feature

- Three steps to set up: scan production sample, load PDF template, and inspect the sample
- Software supports to identify and separate printed and non-printed layers in PDF file
- Optical resolution is up to 0.036 mm/pixel (708DPI), inspection accuracy is up to 0.1 mm×0.1 mm
- Software can generate the inspection report in PDF format
- Multi-master function allows to inspect the sheet with different ups at the same time

Application



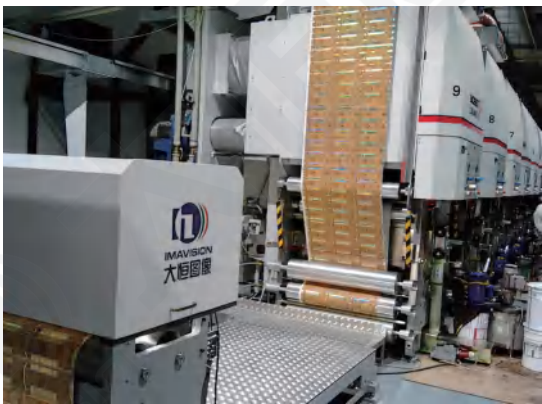
Specification

Item	DH-CJ1020
Max. sheet inspection size	1020 mm×720 mm
Paper quality	40-500 g/m ²
Resolution	0.036 mm/pixel (708 DPI)
Inspection accuracy	0.1 mm×0.1 mm
File format	PDF、AI
Min. color variance (Δ E)	Δ E ≥ 3 (compare with acceptable sample)
Min. registration deviation	±0.1 mm
Inspection time per sheet	≤ 90 s
Total power	3.5 kw
Machine dimension (L×W×H)	1920 mm×1550 mm×1300 mm
Gross weight	500 kg

SHEETON/WEBON-INLINE PRINT INSPECTION SYSTEM



Sheeton - Inline inspection solution for offset printing



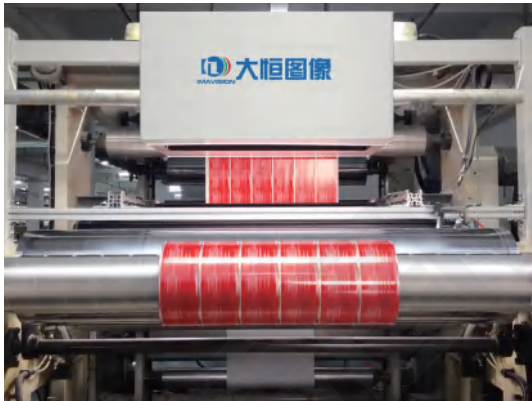
Webon - Inline inspection solutions for gravure printing



Webon - Inline inspection solutions for flexo printing



Webon - Inline inspection solutions for rotary die-cutting process



Webon - Inline inspection solutions for slitting process

Introduction

Sheeton, sheet-fed inline inspection system, is integrated on a variety of offset press machines, such as Heidelberg, KBA, Komori, Mitsubishi, Manroland, etc.

Webon, web-fed inline inspection system, is integrated on gravure and flexo printing machine, slitter and rewinding machine, rotary die-cutting machine, web-fed foil-stamping machine, web-fed ink-jet machine, stripping machine, laminator, etc.

They perform real-time quality inspection, and alert the defects during the process.

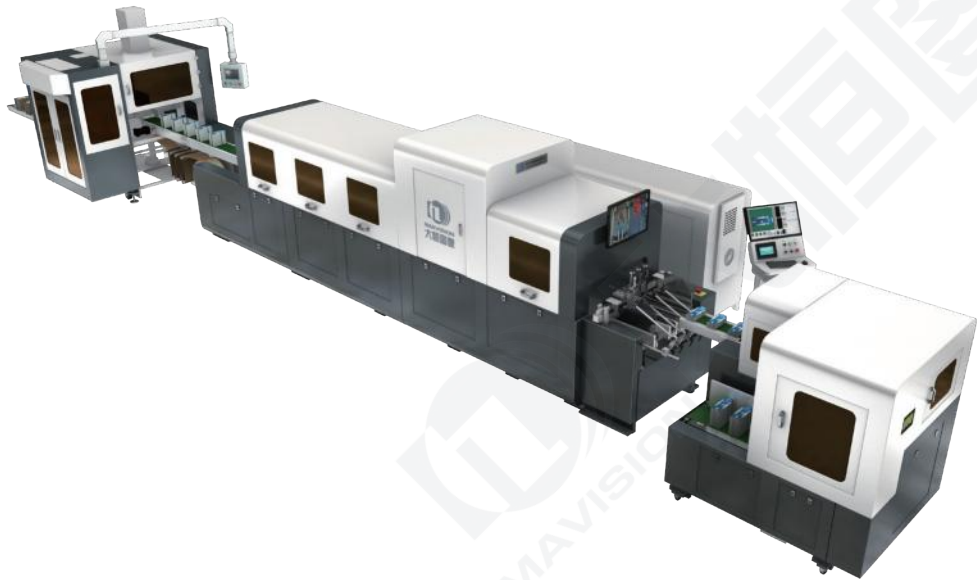
Feature

- Integrated on existing printing or converting machines without interference
- Less than 3 min to set up master, less than 1 min for product with master to start inspection
- Real-time inspection & alarming to reduce the waste during production
- Record defects into database, and generate inspection report for further analysis

Specification

Item	Sheeton	Webon
Installation platform	Offset press machine	Web-fed press and converting machines, etc
Max. inspection speed	15,000 sheets/hour	200-1000 m/min
Max. inspection size	1040 mm × 720 mm	300 mm-3000 mm
Suitable material	Paper (40-400 g/m ²)	Paper, plastic film, transparent and semitransparent material, etc
Defects-handling methods	Sound and light alert (standard) Labeling defects, inkjet (option)	Sound and light alert (standard) Labeling defects, reviewing defects (option)
Min. defect size (as a spot)	0.16 mm ²	0.15 mm ²
Min. color variance (Δ E)	Δ E ≥ 3	Δ E ≥ 3
Min. registration deviation	±0.2 mm	±0.15 mm
Power supply	AC220 V/50 Hz	AC220 V/50 Hz

AUTOMATIC PRODUCTION LINE FOR CIGARETTES CARTONS



Introduction

Daheng Imavision has successfully connected the automatic paper breaking machine and automatic packer machine on the basis of the original high-speed inspection machine, fully realizing a complete production process of automatic paper breaking, paper loading, printing quality inspection, and automatic packaging of qualified products for small cigarette packaging boxes, maximizing product quality, improving production efficiency, and reducing labor and costs.

Feature

- High automation: pre-storage of paper, automatic breaking, loading, stacking collection, connecting to automatic packaging machines, greatly saving manpower and reducing labor intensity
- High speed inspection: The maximum inspection speed can reach 130,000 pcs/h, and the fastest delivery speed can reach 300 m/min
- High precision inspection: Adopting imported high-speed CCD camera with three front workstations to meet various defects inspection needs in the market

Application



Specifications of auto breaking machine

Items	Parameters
Size range (WxL)	98 mmx(242-250) mm
Paper quality	200-250 g/m²
Quantity per stack	140-150 pcs/stack
Max. breaking speed	14 stack/min
Total power	0.82 kw
Compressed air	0.6-0.8 MPa
Machine dimension(LxWxH)	2650 mmx1470 mmx1770 mm

Specifications of auto packer machine

Items	Parameters
Connecting part dimension (LxWxH)	2600 mmx1800 mmx1200 mm
Machine dimension(LxWxH)	3000 mmx1800 mmx1800 mm
Paper type	Small sheet of cigarette packs
Packaging method	Kraft paper hot melt adhesive
Packaging height	160 mm
Max. packaging speed	15-20 pack/per
Strap width	≤ 160 mm
Total power	3.3 kw

Specifications of high speed inspection machine

Items	Parameters
Max. inspection size (WxL)	420 mmx350 mm
Min. inspection size (WxL)	90 mmx90 mm
Paper quality	90-350 g/m²
Max delivery speed	300 m/min
Max. inspection speed	130,000 pcs/h
Min. defect accuracy	0.1 mm² (contrast ≥ 20)
Min. defect size (as a line)	W ≥ 0.1 mm L ≥ 5 mm (contrast ≥ 20)
Min. color variance (ΔE)	ΔE ≥ 3
Min. registration deviation	±0.1 mm
Machine dimension (LxWxH)	7300 mmx1160 mmx1880 mm
Gross weight	4000 kg
Total power	16.5 kw
Accepted products handling	Shingle stream to stacker to auto packer
Rejected products handling	Shingle stream & side output

STAR-PRINT INSPECTION MACHINE FOR FOLDING & CORRUGATED CARTONS



Introduction

Star is one series of offline inspection machine commonly used to inspect the print quality of cigarette blanks, pharmaceutical, cosmetic, food, daily consuming, and FMCG cartons, tags, labels, and corrugated board, etc. It is able to inspect the quality of foil stamping, embossing, varnishing, lamination, hologram, braille, and variable code, etc.

Star can configure maximum 6 cameras to capture the image(s) of cartons one by one, compare with standard master, reject the defective cartons, and separate the good ones and bad ones into different collection module, so as to make sure that only good products are delivered to customer.

Specification

Specifications	DH-CJP200	DH-CJP300	DH-HSJP420	DH-HSJP550
Max. inspection size (WxL)	200 mmx200 mm	300 mmx200 mm	420 mmx350 mm	550 mmx400 mm
Min. inspection size (WxL)	30 mmx30 mm	40 mmx50 mm	90 mmx90 mm	90 mmx90 mm
Paper quality	180-350 g/m ²	150-400 g/m ²	90-500 g/m ²	90-500 g/m ²
	150 m/min	150 m/min	270 m/min	270 m/min
Stable inspection speed	90,000	90,000	130,000 (Cigarette blank:248 mmx98 mm)	130,000
	(Carton: 35 mmx40 mm)	(Carton: 40 mmx50 mm)		(Carton: 90 mmx90 mm)
Min. defect size (as a spot)	0.05 mm ²	0.1 mm ²	0.1 mm ²	0.15 mm ²
Min. registration deviation	±0.05 mm	±0.1 mm	±0.1 mm	±0.15 mm
Min. color variance (ΔE)	ΔE ≥ 3	ΔE ≥ 3	ΔE ≥ 3	ΔE ≥ 3
Accepted products handling	Shingle stream, counting, direct output		Shingle stream & pile stacking, counting, direct output	Shingle stream, counting, direct output
Rejected products handling	Shingle stream, direct output		Shingle stream, lateral output	Shingle stream, direct output
Gross weight	2000 kg	2800 kg	4000 kg	3700 kg
Total power	9 kw	9 kw	16.5 kw	15.5 kw

Option

- Suction feeder and reverse feeder for feeding cartons with easy-scratch surface
- Auto stacker for stacking regular shape products after inspection
- Pre-feeder and banding machine for automatic production
- Additional cameras for inspecting hologram, variable data, back-side print, etc

Feature

- Our new technology eliminates the need for vacuum suction to reduce power consumption, heat, and noise
- First in the industry to introduce 5K high resolution camera
- Multi-spectral camera technology for precise color variance measurement
- Fully automated and user-friendly software enable quick setups in minutes
- Multi-master feature to inspect the folding carton products with varying images in specified region
- Diagnostic doctor software monitors the overall system performance and stability by evaluating light, camera, computer, sensor, etc
- Statistic feature generates an inspection report in PDF per each job

DH-JP650	DH-JP800	DH-JP800B	DH-JP1100	DH-JP1100B
650 mmx500 mm	800 mmx500 mm	800 mmx500 mm	1100 mmx500 mm	1100 mmx800 mm
100 mmx100 mm	150 mmx120 mm	250 mmx250 mm	150 mmx120 mm	250 mmx250 mm
90-500 g/m ²	180-450 g/m ²	200-500 g/m ²	180-450 g/m ²	200-500 g/m ²
		Flute B/E/F/G		Flute B/E/F/G
270 m/min	240 m/min		240 m/min	
110,000 (Carton: 100 mmx100 mm)	90,000 (Carton: 150 mmx120 mm)	230 m/min	90,000 (Carton: 150 mmx120 mm)	230 m/min
0.2 mm ²	0.1 mm ²	0.15 mm ²	0.15 mm ²	0.15 mm ²
±0.2 mm	±0.1 mm	±0.15 mm	±0.15 mm	±0.15 mm
ΔE ≥ 3	ΔE ≥ 3	ΔE ≥ 3	ΔE ≥ 3	ΔE ≥ 3
Shingle stream, counting, direct output				
Shingle stream, direct output			Carton: Shingle stream, direct output	
			Corrugated board: Shingle stream, lateral output	
4000 kg	4100 kg	6500 kg	5300 kg	6500 kg
16.5 kw	18.5 kw	25 kw	30 kw	25 kw

CONNVISION-PRINT INSPECTION MACHINE INLINE TO FOLDER-GLUER



Introduction

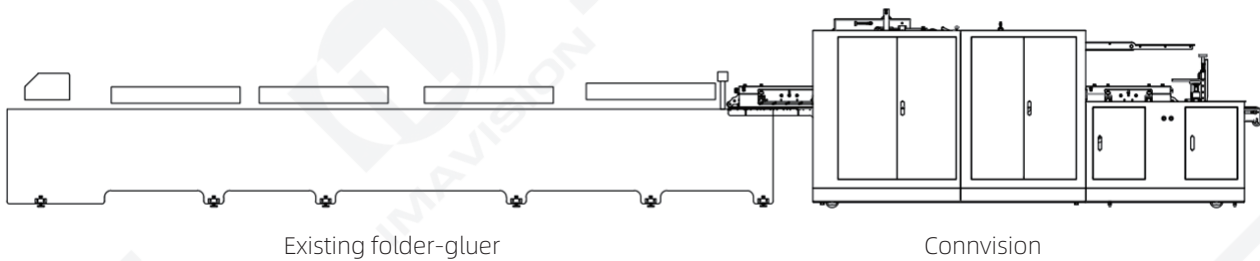
Connvision is the latest innovation from Imavision for in-line inspection. The efficient and compact unit is easily retro fitted to most folder gluer machines to perform 100% inspection of folding cartons. Camera inspection for print quality and color, foil stamping, embossing, varnishing, lamination, backside inspection, Braille and variable code, etc.

Installed in front of your existing folder-gluer, the Connvision in-line inspection solution captures the image(s) of cartons one by one, compares them with standard master, rejection of defective cartons, while good cartons are transferred directly to the folder gluer ensuring a quality folding carton product to your customer.

Feature

- Compatible carton feeding design for seamless connection with existing folder-gluer
- Exclusive carton rejection design ensures no damage to rejected cartons
- Compact footprint takes minimal floor space for high quality inspection
- Our new technology eliminates the need for vacuum suction to reduce power consumption, heat, and noise
- Fully automated and user-friendly software enable quick setups in minutes
- Diagnostic doctor software monitors the overall system performance and stability by evaluating light, camera, computer, sensor, etc
- Statistic feature generates an inspection report in PDF per each job
- Option: Variable data inspection and verification; Back-side inspection; Braille inspection

Illustration



Specification

Specifications	DH-HJP550	DH-HJP650	DH-HJP800
Max. inspection size(W×L)	550 mm×400 mm	650 mm×500 mm	800 mm×500 mm
Min. inspection size(W×L)	100 mm×100 mm	100 mm×100 mm	150 mm×120 mm
Paper quality	90-500 g/ m²	90-500 g/ m²	180-500 g/ m²
Max. inspection speed	270 m/min	270 m/min	240 m/min
Camera information	Two camera workstations as standard configuration: 1)Color camera workstation for defects of printing, foil stamping 2)Mono camera workstation for defects of varnish, lamination and embossing		
Min. defect size (as a spot)	0.15 mm²	0.2 mm²	0.1 mm²
Min. registration deviation	±0.15 mm	±0.2 mm	±0.1 mm
Min. color variance (Δ E)	Δ E ≥ 3		
Accepted products handling	Direct delivery to folder-gluer		
Rejected products handling	Shingle stream collection		
Total power	14.5 kw	15.5 kw	18 kw
Power and air supply	AC380 V/50 Hz , 0.6~0.9 MPa		
Dimension (L×W×H)	7500 mm×1160 mm×1880 mm	7500 mm×1380 mm×1880 mm	7500 mm×1380 mm×1880 mm

REELLER-PRINT INSPECTION SLITTING & REWINDING MACHINE



Introduction

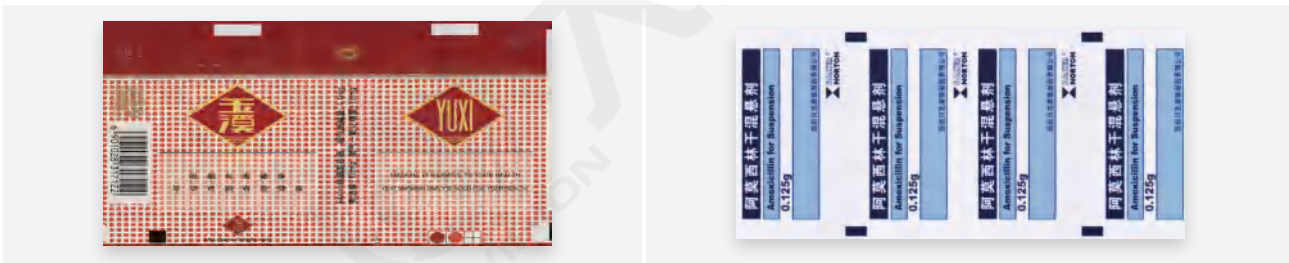
Reeller, narrow-web print inspection slitting & rewinding machine, is used to inspect a variety of rotary cigarette, pharmaceutical, cosmetic, food, daily consuming, and FMCG labels and packages and able to slit into multiple rolls after inspection.

Reeller can configure several cameras to capture the image of narrow-web material, compare with standard master, as soon as defect is checked out, alert the users with light and sound to handle the defect timely.

Feature

- Support for setting up master within 3~5 min for quick inspection
- Organized interface displays defect in accordance with label inspection feature and operation habit
- Support for inspecting the print defects, and multiple variable data at the same time
- Various defect handling methods: sound and light alert, machine stop as standard and defect review machine as option
- Support to store inspection record into database in real time for traceability afterwards

Application



Specification

Item	DH-FQ6533	DH-FJ8026
Mainly suitable packages	Pharmaceutical, cosmetic, food, daily consuming, and FMCG labels	Soft cigarette packages
Max. inspection width	330 mm (customization available)	260 mm (customization available)
Max. rewind diameter	650 mm	800 mm
Core inner diameter	φ 3 inch (customization available)	φ 6 inch (customization available)
Max. inspection line speed	150 m/min	200 m/min
Material thickness	0.08-0.4 mm	40-250 g/m ²
Min. defect size (as a spot)	0.1 mm ²	
Min. registration deviation	±0.1 mm	
Min. color variance (Δ E)	Δ E ≥ 3	
Defect handling method	■ Stop machine to handle defects one by one during inspection (Standard) ■ Configure defect review machine (Optional)	
Variable code inspection (*option)	Variable code type: Barcode, 2D code, batch No., etc Inspected code defect: Code repetition, code absence, code error, etc	
Slitter knife quantity	5 slitter knives as default	-
Min. slitting width	16 mm/roll	-
Total power	10 kw	11 kw
Gross weight	1500 kg	1000 kg
Power supply	AC380 V/50 Hz	
Machine dimension(mm)	2800 mm×1500 mm×1200 mm	2500 mm×1450 mm×1090 mm

GLOBAL SALES AND SERVICE NETWORK



In 1991, Daheng Imavision was founded in Beijing. With more than three decades' development, we have opened offices in Beijing, Shanghai, Shenzhen, Xi'an, Chengdu, Wuhan, and Weifang. Now, we provide prompt and professional service to our clients come from Europe, Asia, America, South America, Oceania and dozens of countries and regions with a strong sales and service network.

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Ministry of Natural Resources Producer



OUR SERVICES

Our powerful service network covers all the regions worldwide including Europe, Asia, Oceania, South America, Middle East. With our technical service, we work with you to optimize your productivity fast and efficiently.



■ Professional service team is in charge of the machine's installation, commissioning and training on site.



■ Online service team is at the customers' disposal 24 hours a day, 7 days a week.

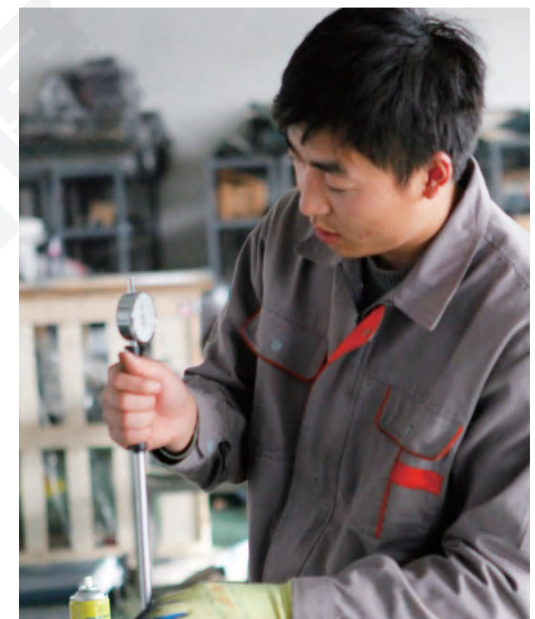
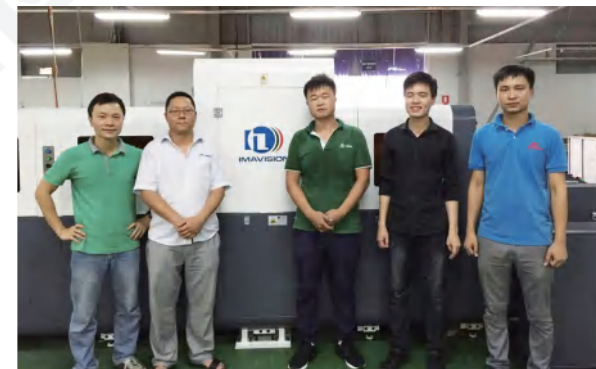


■ Field technician is able to arrive at domestic site within 4 hours, and 48 hours for international clients in case of an emergency.

ENSURING YOUR SUCCESS

95% of our service technicians offer 2,000 hours' technical service at site per year. More than 1000 clients have been serviced with positive feedback. Our comprehensive range of services ensures your success in every step of quality control.

"We believe Daheng can offer customer with reliance and ensurance, it is not just because of its efficient quality control equipment, also because highly qualified team will advise for a variety of unexpected production." said one production manager in one European factory after Daheng's technician spent almost ten days at site undergoing jet-leg for coordinating R&D to develop a customized function for a very tough job.



SAMPLES

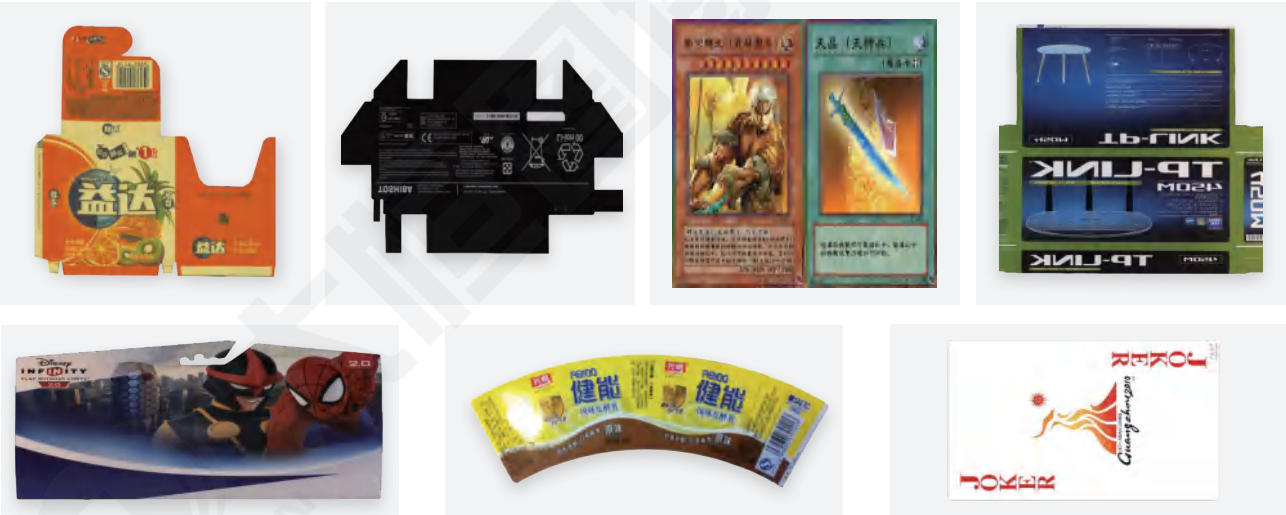
Cigarette Cartons:



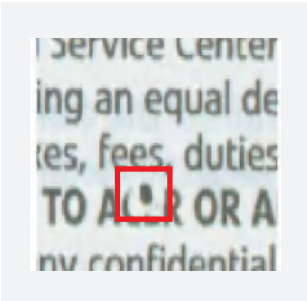
Pharmaceutical Cartons:



Others:



DEFECTS IN PACKETS PRINTING



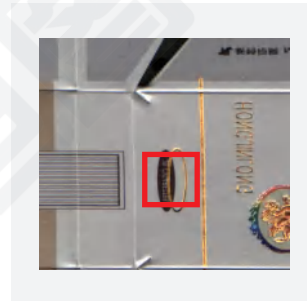
Ink peel



Foil stamp missing



Lamination bubble



Foil stamp deviation



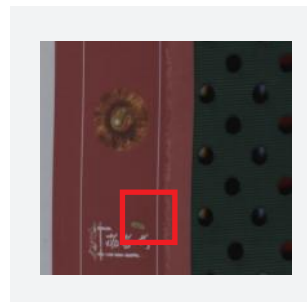
Ink jet defect



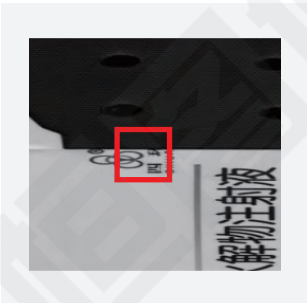
Material wrinkle



Embossing deviation



Varnish missing



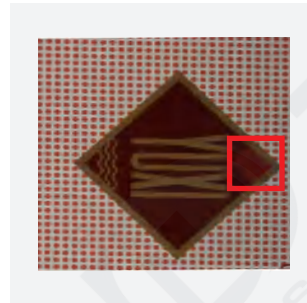
Die-cutting deviation



Ink streak



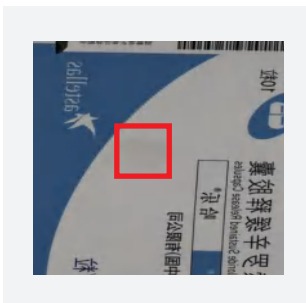
Scratch



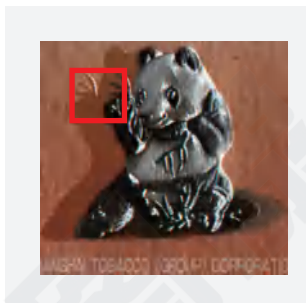
Foil stamp missing



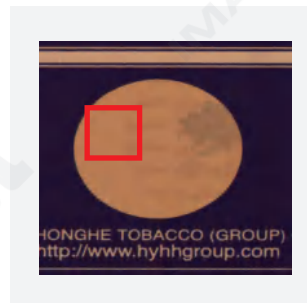
Embossing deviation



Dirty spot



Varnish deviation



Foil stamping alignment error



Misregister



Shading deviation

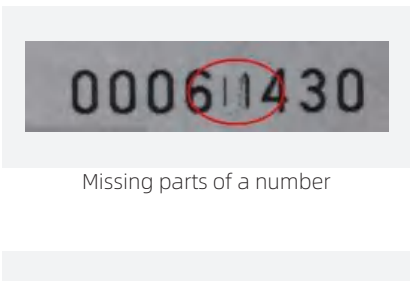


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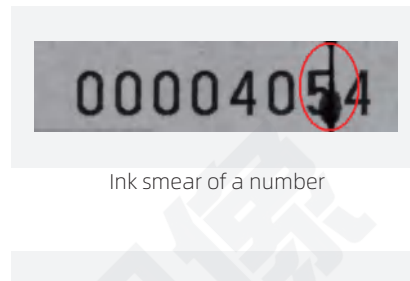


Dirty spot

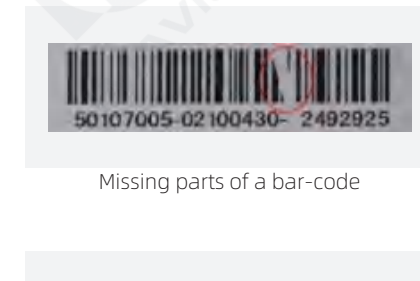
DEFECTS IN VARIABLE INFORMATION PRINTING



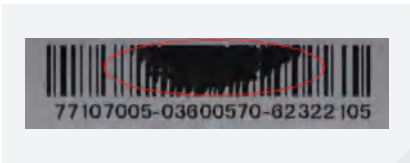
Missing parts of a number



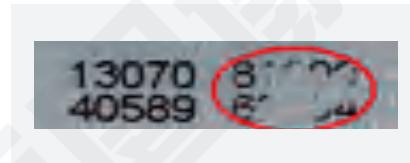
Ink smear of a number



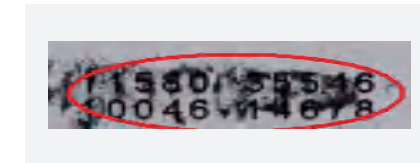
Missing parts of a bar-code



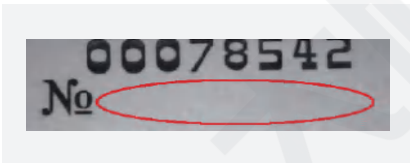
Ink smear of a bar-code



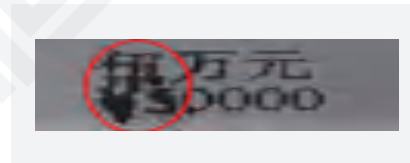
Omission



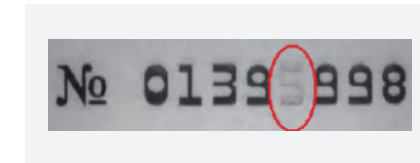
Huge ink smear



Offset from a correct position



Ink smear



Faded part of a number



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+86-10-83057466



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