

Easily deliver defect-free, perfect print quality to brand owners and print customers

Specifically designed for wide web packaging substrates, Defender 100% Inspection is the foundation for the industry's most comprehensive defect tracking solution

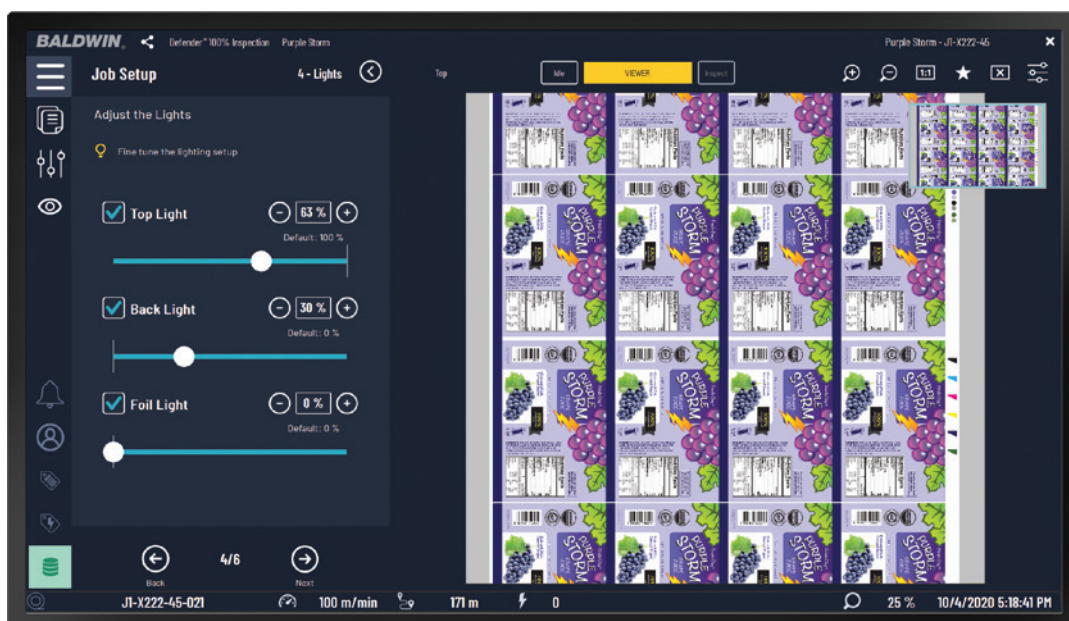
Defender 100% Inspection monitors the entire web 100% of the time to detect and manage defects such as spots, streaks, color shifts, haze, wrinkles, pinholes, contamination, and any other random defects. Powerful yet simple to use, the Defender platform speeds your production while ensuring that no defective material gets into your customers' hands—saving you time and money.

Easily deliver defect-free, perfect print quality

Operators are alerted to errors and can take corrective action in real time. Defect positions, classifications, and images are recorded and can be accessed at post-press processes. Inspect all types of materials and substrates: film (opaque to transparent to metalized), paper, board, and foil.

Features and Benefits

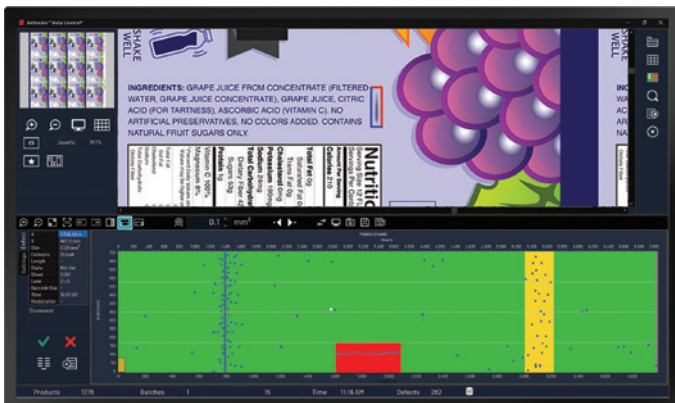
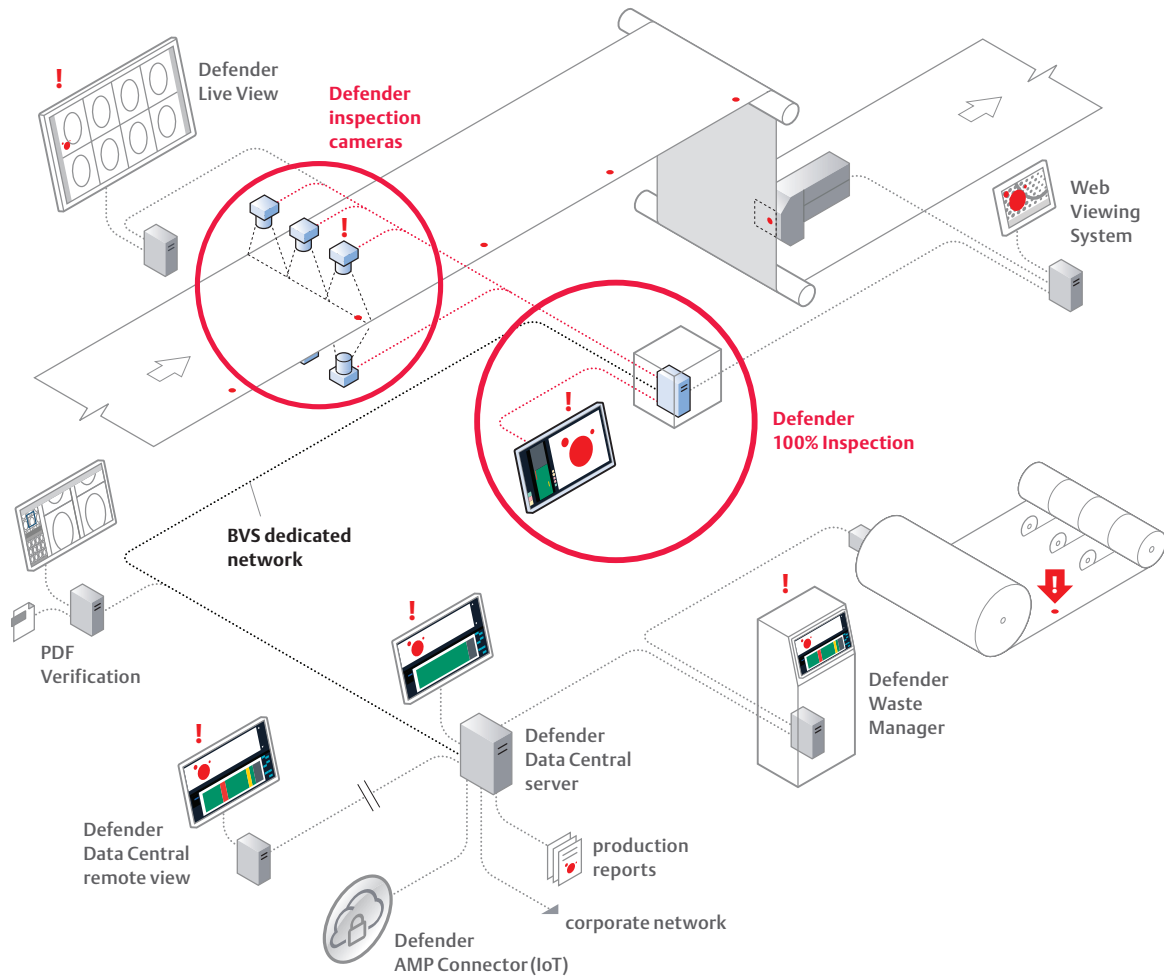
- Specifically designed for flexible packaging substrate inspection, the Defender is capable of **inspecting very tensile substrates** without generating false detections.
- **Self-learning algorithms** monitor the capabilities of your press and automatically apply optimum inspection tolerances to each job. False defect warnings are eliminated, helping operators to focus on real defects and not waste time.
- The industry's **most advanced defect detection algorithms** allow the system to quickly classify each defect. This additional context helps drive better quality decisions.
- The **Embedded Defender Data Central®** records and tracks every detected defect for the entire inspection run, making analysis and quality control fast and easy.
- With **automatic adjustment for stretchy materials**, the system will continue inspecting even the most challenging flexible applications. The Defender is more robust and capable of inspecting when other systems simply get lost and fail to inspect.
- **Highly customizable** to fit your specific application, the camera field of view is configurable—ensuring that each system is optimized to deliver maximum effective resolution and optimal image quality.
- Automated, inline **barcode verification**.
- Automated **repeat length monitoring**.
- Available option to inspect **both sides of the substrate** simultaneously, giving you automated monitoring of front-to-back register.
- Defender can inspect **both graphic and non-graphic product** as standard. Complex images to simple flood coats can be interchanged job after job—automatically, without any adjustments to the system.
- Optional feature to **inspect clear treatments**, such as cold seal, varnish, and other coatings. When combined in a dual-side system, cold seal registration to the print side can be monitored to a defined tolerance, and the operator is alerted to out-of-tolerance front-to-back register errors.
- Defender optionally **supports the use of UV lighting** to inspect custom fluorescing applications.
- The powerful yet easy-to-use multi-touch interface **requires very little training** to operate. New users can be trained on the app-style system in a few minutes.
- The live roll map allows operators to quickly identify different types of defects, and **make fast decisions** about defect severity and remedies.
- Modern, high efficiency **fan-cooled LED lighting** delivers high intensity with low energy consumption.
- Lighting options (top, foil, back) provide **extreme brightness and unwavering uniformity** over time. This eliminates perceptible image noise even at the highest press speeds, while delivering greater sensitivity to color changes.
- The **inspection stand option** gives you a full turnkey solution. Simply drop in a complete inspection unit including lights, cameras, and web path idlers.
- Designed to be flexible, features can be added as your business grows, providing a **future-proof investment**.



The **intuitive, multi-touch interface** allows for efficient navigation. An easy-to-use training wizard interface provides a step-by-step guide through the setup process. New users can be trained on the system in a few minutes.

Comprehensive defect tracking solution

When combined, the **Defender 100% Inspection**, Data Central and the Waste Manager function as a seamless defect detection and tracking solution. Many inspection providers offer a combination of inspection and defect data storage. Baldwin Vision Systems takes it a step further by adding a fast and efficient way to track *and remove* all defects in finishing.



Defender Data Central uses visual maps of each inspected roll so quality control operators can analyze for defect distribution, count, and type. Out-of-tolerance areas are identified for removal, and job-based quality reports can be generated.



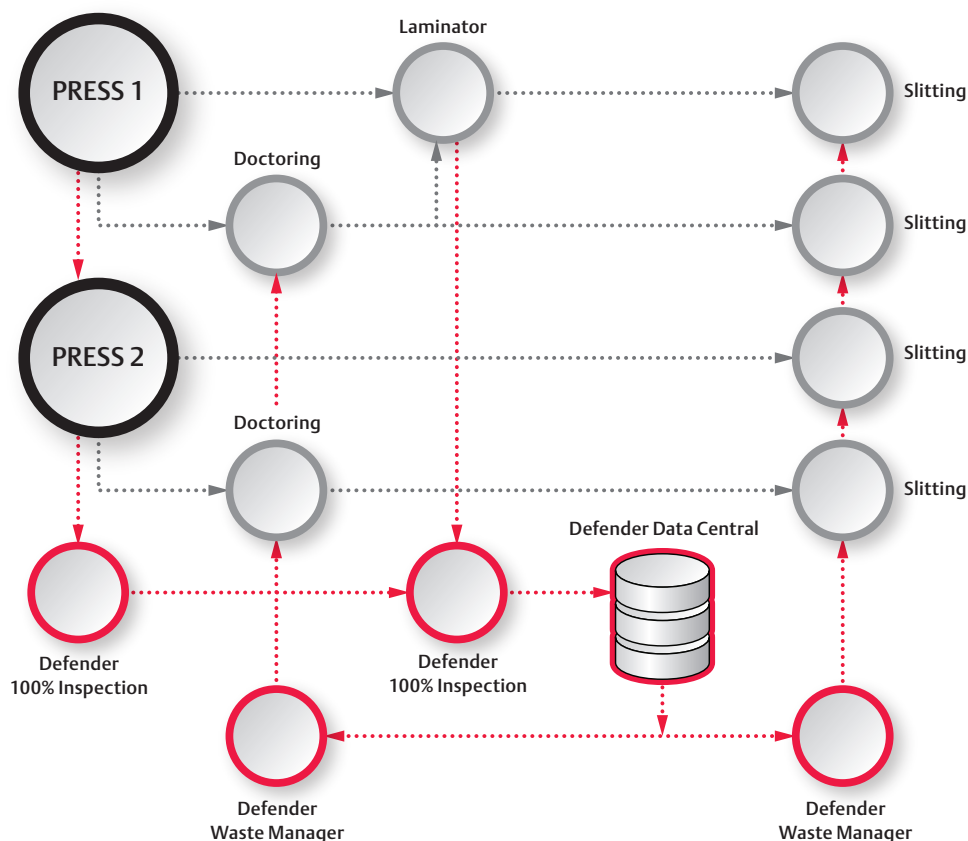
Defender Waste Manager can interface to rewinding, slitting, and sheeting equipment to automatically control when they stop/reject—allowing for fast and easy removal of defective material.

Baldwin Vision Systems **Defender** data-connected workflow

Our advanced, **data-connected workflow** gives you the ability to make strategic decisions *based on facts*. With the tracking workflow, it's possible to eliminate all defects from outgoing product, **providing perfect quality to brand owners**.

It is also possible to make tactical decisions about which defects do and do not need to be removed, based on your customers' specifications. This ensures maximum yield and **maximum profitability—job after job**.

Knowing where defects are and having the tools to remove them **greatly reduces the risk** of returns, litigation, lost business, and a damaged reputation. Meet your brand owners' expectations, retain your current customers, and **win new business** with a clear competitive advantage.



Specifications (100% Inspection)

PERFORMANCE

Inspection frequency up to 28 repeats/second
 Maximum printing speed 1000m/min
 Maximum substrate width 2800mm
 Typical minimum detectable defect size 0.05mm²

OPERATOR CONTROL STATION

Operating System Windows® 10, 64-bit architecture
 Display Multi-touch,
 23" HD (1920 x 1080p) standard, scalable to 4K
 User Interface Wizard-based setup

CAMERAS

Type High speed color linescan
 Maximum number of cameras 8

LIGHTING

Type High intensity fan-cooled LED
 Options Top, Foil, Back, UV

OPTIONAL EQUIPMENT

PDF Verification
 Defender Live View
 Defender Data Central Standard, MAX
 Defender Data Central remote view
 Defender Waste Manager
 Defect Tracking physical or electronic tagging
 Defect Tagging
 Inspection Stand Turnkey Solution
 Two-Surface Inspection
 Defender AMP Connector (IoT)

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