

FACT SHEET



DISCOVERY ROLL INSPECTOR

In-Line, High Performance, Print Quality Inspection For Digital Web Print Environments



PRODUCT OVERVIEW

Gone are the days when simple strobed, web viewing units were enough to show a static section of the web to the operator to monitor print quality. Today, sophisticated document composition tools can produce jobs where every page can be different from the next! These can be printed in simplex, duplex, full color - at speeds exceeding 1000 fpm. Under these conditions, operators stand little chance of detecting print defects which can quickly produce large amounts of waste. Moreover, if the defective print goes out undetected and uncorrected, it could result in expensive rejects, reruns or worse, loss of business!

Without a high performance, inline print quality inspection system which automatically inspects 100% of the web, production costs could quickly spiral out of control and can expose the business to unacceptable levels of risk.

Introducing Discovery Roll Inspector

The Discovery Roll Inspector is an inline, all-in-one, 100% print quality inspection system from Lake Image Systems. Ideally suited for most laser and inkjet web printing systems†, the Discovery Roll Inspector ensures all your printing meets the high standards required by your clients.

100% Print Quality Assurance

The Discovery Roll Inspector utilizes the latest generation of line scan cameras, including Discovery Maxscan (our awarding winning new linear contact scanner) to capture high quality, high resolution images at high speed. The Discovery Roll Inspector utilizes sophisticated software tools to simultaneously analyze multiple areas of interest (AOIs) and apply multiple quality tests per page. This enables the Roll Inspector to instantly detect print defects such as ink spots, toner streaks, voids, color variations, and image/barcode quality issues. Optionally, Roll Inspector checks readability of barcodes, text, postal codes, and MICR lines as well as performing sequence checks, alignment, data verification, and matching checks for a variety of highly complex, data extensive, variable documents.

Auto Job Template Selection

Every job can have different inspection instructions. Roll Inspector can automatically change inspection areas based on a job indicator in a control barcode. Multiple jobs can be run continuously, one after another, without the need to stop the print line. At the end of each job, buffer pages with a job control barcode for the next, allows the system to close one job and start the next. This provides the operator with hands-off efficiency within a master roll run. It minimizes errors during template loading and job change-over, it improves ease of set-up, AND it saves time and money!

Conditional Logic Processing

Triggered by a "marker" printed on a page, such as a logo, data in a barcode, or a statement OCR line, conditional logic processing is an extremely powerful feature that allows Roll Inspector to inspect any aspect of a page. You can now perform highly complex inspection analysis for applications that have no set, recurring, or predictable formats by combining multiple verification tests on a specific page as required! For example, by reading a control barcode with a "page 1" marker, Roll Inspector can "conditionally" perform Address Verification and validate the IMB code (when all address information is located on page 1 for a given job). Another example would be on a following page, a check could be detected and a determination could be made if the MICR line was printed correctly. If so, Roll Inspector could then correlate and record the checks with the related pre-printed sequential numbers (on base material) for further check run reconciliations.

Comprehensive Web Reporting and ADF integration

The Discovery Roll Inspector maintains a detailed audit file of all pages, statuses, and errors detected – that can be downloaded as a simple CSV text file. This can then be easily used to create comprehensive "reprint/remake" reports, job manifests, or reports for ADF and postal online systems. Full web-based reporting is available on request to meet your specific reporting requirements.

One System, Three Configurations

The Discovery Roll Inspector is a scalable, flexible, and a robust solution for 100% inspection of every printed page for web widths up to 22" and web speeds up to 1,000 fpm. Discovery Roll Inspector is available in three configurations to address all levels of inspection requirements: View, Standard, and Full. This modular design enables clients to start with the View "base system" and upgrade all the way to a "Full" system as their requirements grow! This design approach allows the user an upgrade path and protects against asset obsolescence!

Complete, All-in-One Solution

The Discovery Roll Inspector is available as a complete, all-in-one solution from one vendor. Roll Inspector includes a self-contained module with a PC controller, two monitors (one for each side of the web), cameras, and lighting – all within a footprint of about 4 feet. It's configured to handle roll-to-roll, roll-to-sheet, and roll-to-fanfold configurations. The solution includes installation, training, and ongoing support to ensure all inspection requirements are met.

† Includes Versamark™ V-Series, Océ JetStream™ Family, Pitney Bowes IntelliJet™ Printing Systems, HP T300 & 200 and InfoPrint Solutions IP5000 Series



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CONFIGURATIONS

VIEW: This is our entry level solution that displays an image of the printed page. The frequency of the image displayed is user adjustable. This allows the operator to do a visual inspection and declare the image good or bad. All QC retained and defect images are stored with associated date and time stamp, machine ID, and operator ID. All images can be reviewed at a later date or when a customer wants proof of print quality.

STANDARD: All of the capabilities of View, but also captures the job leader pages and records everything by Job ID. When a defect is detected, the image is displayed and zoomed into the defect. The defect is highlighted by a red box, and an indication of what was wrong is given. The operator must view the image and declare it good or bad and optionally type in a reason. The printer is NOT STOPPED unless the operator ignores too many defects, or is configured to stop after a set number of defects.

FULL: All of the capabilities of Standard, but includes a full set of reading, data integrity and print quality analysis tools to automate inspection needs. These additional tools can be customized to meet users' specific needs. See below for a list of available integrity, verification, inspection, and reading tools available.



FEATURES

Data Integrity Verification

- Page and Set collation
- Correct sequencing tracking
- Correct paper stock
- Address Masking
- Front / Back duplex matching
- Identify duplicate / missing items
- Presence / absence of text, logos & images
- "X-Y" location, orientation & measurement
- MICR Elements e.g. Check/Account Numbers.

Print Quality Inspection

- Streaks, creases, hickies, smears, ink spots & voids
- Missing, filled-in or broken text & images
- Die-cut and positional variations
- Print registration (vertical and horizontal)
- ANSI Barcode Grading
- Color Variation Measurement (ΔE) - Optional.

Control

- Operator Alarms / Warnings / Stop
- Conditional Logic Processing
- Auto Job Template Selection
- System Security - Admin and Operator Logins.

Reporting

- 100% Audit log & Job Accounting
- Operator/job/production logs
- QC Retains - Image Archive at defined intervals
- Roll to Roll Job Sheet generation.

SUPPORTED CODES

Text and OCR Fonts

- Full Alphanumeric font trainable by system operator.

Postal Barcodes

- US IMB, POSTNET, PLANET
- UK MailMark™, 4State code
- Australian Post
- Japanese Post.

ID & 2D Barcodes

- EAN 13 & EAN 8
- OMR & Datamatrix
- PDF417 & Phamacode
- QR Code
- UPC A & UPC E
- Code 128 / 39 / 93
- 2/5 discrete & Interleaved.

SYSTEM

User Interface

- Intuitive menu-driven navigation
- Full HD quality, full-page, multi display viewing
- Picture in Picture & pan/zoom functionality
- Dual Monitor - colour coded view of each defect.

Input Devices

- 4K or 8K Color Line Scan Cameras
- Resolution: up to 372 DPI at 22" web width
- Discovery Maxscan linear scanner (600 dpi)
- Lighting: Long life L.E.D. Optional back-light.

Performance

- Min. defect sizes: sub 1mm²
- Press Speeds: up to 1000 ft./min
- Web widths: Up to 22"

Installation / Integration

- Installation & system customization support
- ADF Connectivity
- Remote technical support and training.

ADVANTAGES

- **Machine independent** - Can be retro-fitted to most existing web printers from major printer vendors
- **Scalable** - adapt to changing customer requirements. minimizes obsolescence
- **Reliable** - Reading and matching of a multitude of symbologies and print defects at high speeds
- **Flexible** - Ability to perform variable and multiple verifications/inspections simultaneously, page by page — with user-defined error thresholds.
- **Supported** - Comprehensive maintenance contracts featuring remote diagnostics

BENEFITS

- **Less Scrap / Waste** - Immediately detect errors to prevent costly scrapping of large runs of misprinted product
- **Improved Productivity** - Automate labor intensive inspection processes, job set-ups and reporting
- **Compliance** - Ensure all jobs comply to client needs and government regulations
- **Lower Costs & Mitigate Risks** - Prevents costly reruns and rejects and reduces risks
- **Increased Customer Satisfaction** - 100% inspection meets requirements of large, demanding customers.
- **Increased Revenues:** Attract more customers - ability to meet 100% quality inspection & accountability requirements

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