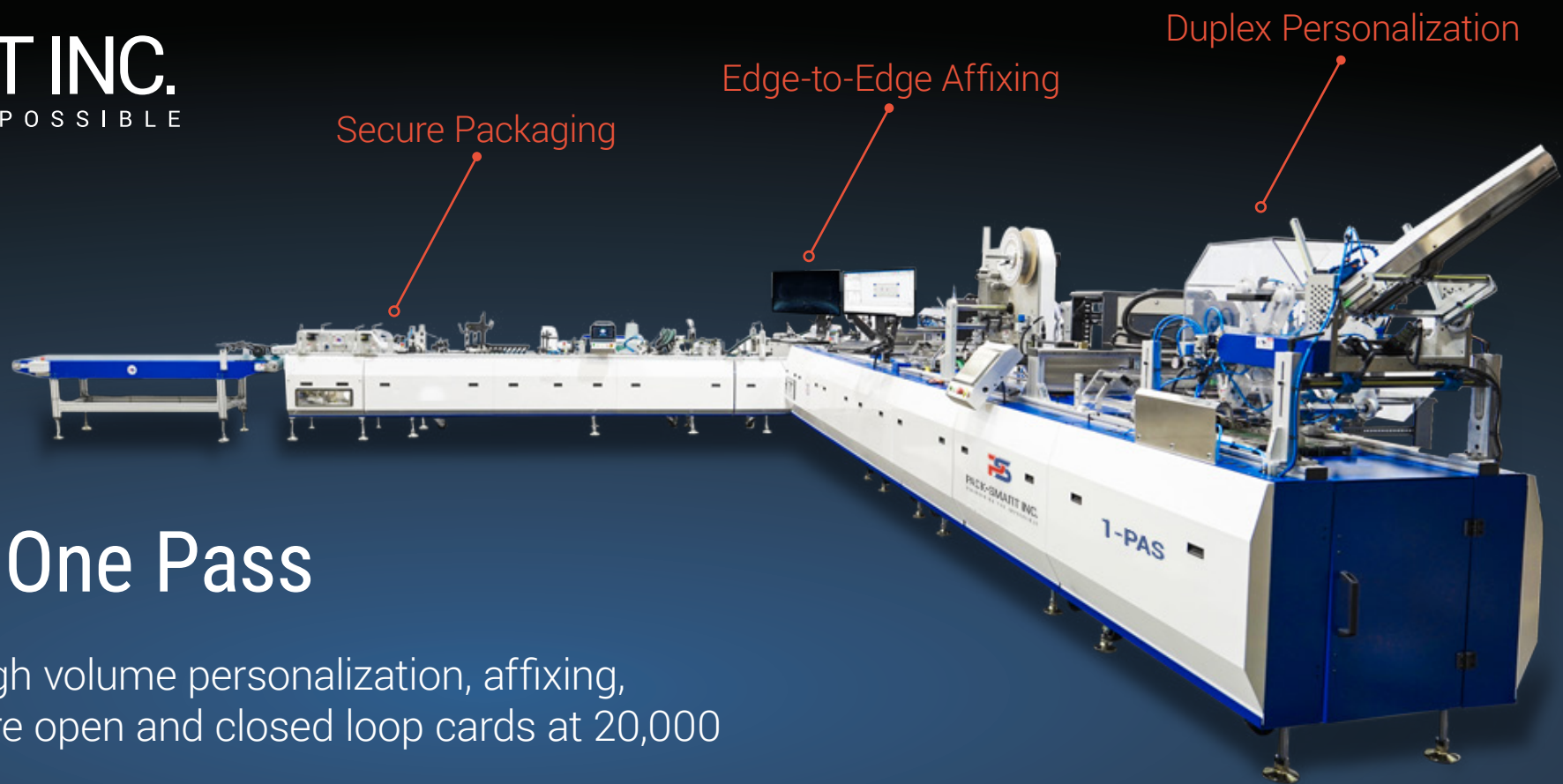


1-PAS

Card To Bundle In One Pass

World's first inline solution for high volume personalization, affixing, packaging and pack-out of secure open and closed loop cards at 20,000



OVERVIEW



Lowest Cost Per Piece Without Compromising Quality

Producing 100 % tamper proof packaging has never been easier. With continuous compression technology, the seal time is reduced to a half second allowing for 10 times the throughput compared to current heat seal processes. Governed by Delta-X software, 1-PAS allows real-time control of production data while mitigating quality assurance risks with End-to-End Reporting.



Tamper
Evident Packaging

Speeds
Up To 20,000 PPH

End-to-End
Reporting

BENEFITS



REDUCE COST

- ✓ Reduced Number of Operators
- ✓ Remove Requirements for Heat Seal



GROW YOUR BUSINESS

- ✓ Flexibility for Unique Product Workflows
- ✓ 600 dpi UV DOD Personalization
- ✓ ±0.4 mm Placement Accuracy



MINIMIZE DOWNTIME

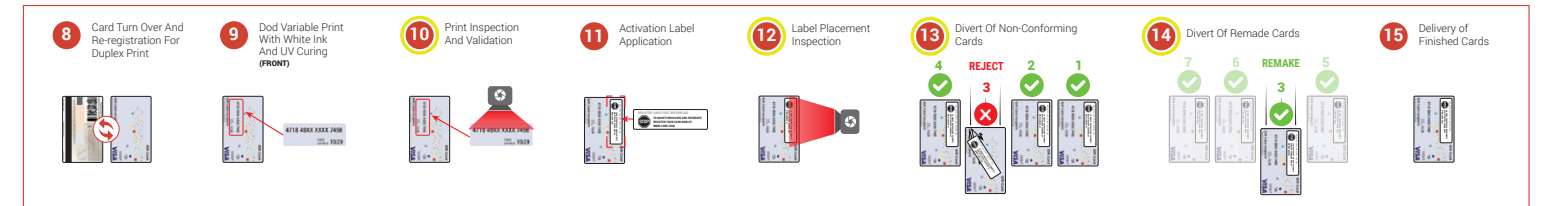
- ✓ Quick Product Changeover
- ✓ End-to-End Tracking and Reporting
- ✓ In-Line Automated Piece Remakes

INTERACTIVE PROCESS FLOW

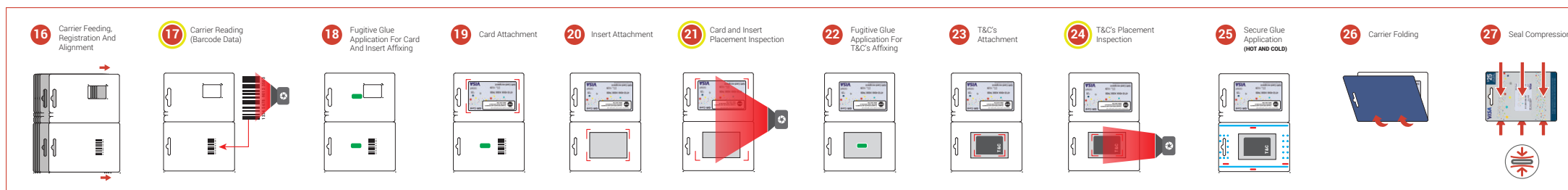
Simplex Card Personalization With DOD Print, Labelling And Magstripe Encoding



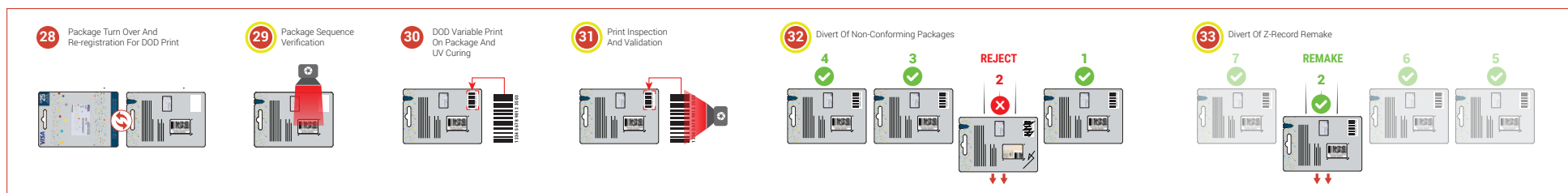
Duplex Card Personalization With DOD Print



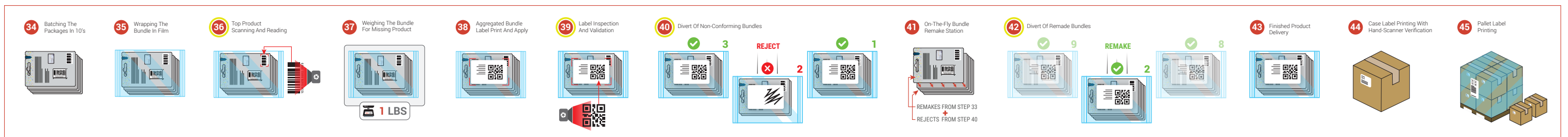
Carrier Feeding, Registering, Affixing And Secure Packaging



Package Personalization (Turnover, Printing And Validation)



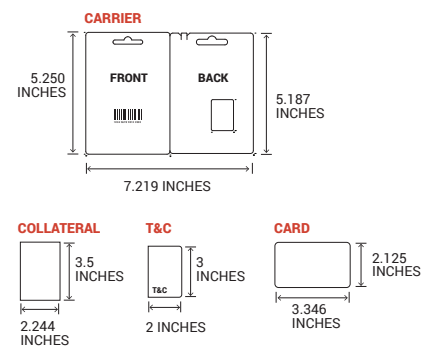
Pack-Out With Aggregated Bundle, Case And Pallet Label Printing And On-The-Fly Bundle Rework



Product Image



Product Dimensions



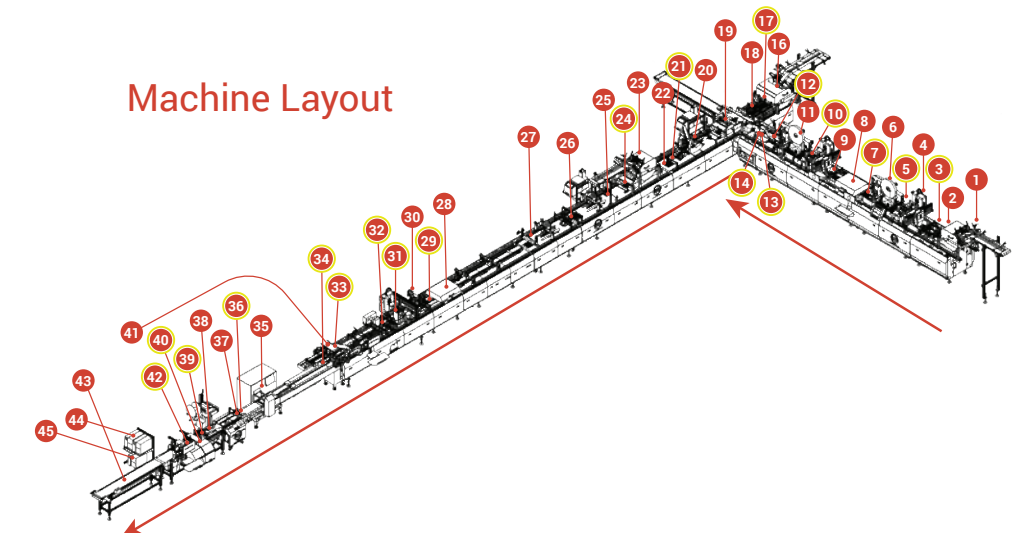
Colour Guide



Camera Inspection And QC

PROCESS	STEP	
1. Card Read via Magnetic Stripe Reader	3	
2. DOD Data Print Inspection and Validation (REAR)	5	
3. Scratch-Off Label Placement Inspection	7	
4. DOD Data Print Inspection and Validation (FRONT)	10	
5. Activation Label Placement Inspection	12	
6. Product Rejection Of Non-Conforming Cards	13	
7. Product Divert Of Remade Cards	14	
8. Carrier Reading via OCR and Barcode	17	
9. Card and Insert Placement Inspection	21	
10. T&C's Placement Inspection	24	
11. Package Sequence Verification	29	
12. Barcode Read Inspection	31	
13. Product Rejection Of Non-Conforming Packages	32	
14. Product Divert Of Remade/ Z-Record Packages	33	
15. Top Product Scanning and Reading (10th product of the bundle)	36	
16. Bundle Label Reading via OCR, Barcode and QR Code	39	
17. Product Rejection Of Non-Conforming Bundles	40	
18. Product Divert Of Remade Bundles	42	

Machine Layout



PERFORMANCE AND FEATURES

GENERAL

- Inline Card Personalization, Carrier Affixing, Secure Packaging and Pack-Out Speeds up to 20,000 PPH.
- Duplex Card Personalization Speeds up to 35,000 PPH.
- Drop-On-Demand UV Printing at 600 dpi (3.5 pL drop size).
- Edge-to-Edge Affixing Accuracy of ± 0.5 mm in Portrait and Landscape Orientation.
- Tamper Evident Package Security with Hybrid Adhesive Seal and Extended Compression.
- Batching, Flow-Wrapping, Bundle Labeling, and Case and Pallet Manifest.
- Real-Time Data-Matching, Tracking, Validation and End-to-End Reporting.
- Automated rejected card reissue with on-the-fly bundle remake, keeping the production in sequence without stopping.
- 100 % Servo Driven with Digital Brushless Servo Motors.
- Labor: 1 Operator + 2 Person Reloading + 1-2 People on Delivery.
- Virtual Machine Platform and System Diagnostics.

PERSONALIZATION

- DOD Inkjet Printing — High resolution drop-on-demand variable printing with 600 dpi at speeds up to 500 ft./min. Field replaceable Piezo print head with 3.5pL drop volume and 75 mm print width (1D & 2D barcode, SIM ICCID, redemption code, card numbers, logos & graphics).
- Labelling — Apply all varieties of pressure sensitive labels at line speeds up to 660 ft./min (400 labels per minute) and placement accuracy of ± 0.4 mm. (scratch-off, activation, magnetic stripe, RFID tag application) Minimize reloading frequency and increase productivity with up to 560mm roll diameter.
- Magstripe Encoding — Reverse, condensed, JIS encoding, with Hi-Co/Lo-Co coercivity selection at speeds of 35,000 cards per hour. Head lifespan over 100 million cycles.
- UV Curing — Single pass curing with high powered LED UV lamp. Achieve 85 %

increase in energy efficiency compared to standard arc or microwave technologies.

- Plasma Treatment — Rapidly micro cleaning card surfaces and raising surface energy to improve wettability and adhesion of glue, inks, and coatings. Adjustable maximum power of 500 W with 50 mm performance width.
- Dual-Belt Vacuum Transport — Independent personalization belts for ease of cleaning and prevention of premature cracking.
- Turnover and Re-registration — Inline duplex personalization for improved productivity with modular design for quick changeover to straight-through card transport.
- Barcode Grading — Ensure production of high-quality products through verification of scan ability and compliance with barcode verification standards. Instantly identify B and C grade barcodes to reduce defect rates and associated costs from wasted material.
- Ability to Run Personalization Section Offline.

AFFIXING & PACKAGING

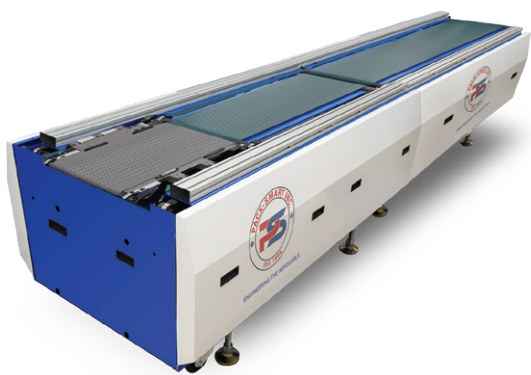
- Fugitive Glue — attach card to carriers with low tack glue dots for reduced consumable cost.
- PSA Adhesive Label — attach card to carriers with pressure sensitive labels.
- Hot Glue — ensure immediate seal bond with hot melt glue systems.
- Cold Glue — tamper evident seal is accomplished with fiber crosslinking cold glue which replaces legacy pressure seal applications.
- Extended compression — ensure glue is fully cured and performing at speeds 10x faster than legacy pressure seal technology.
- Edge-to-edge Card Affixing — modular alignment technology allows transferring cards and attaching to carriers within ± 0.020 " accuracy.
- Folding in All Directions — with flexible folding options, including front, back, and plow fold, accommodate any type of form packaging factors with quick changeover times.

- Carrier Printing & Personalization — print an activation barcode inline or apply a magnetic stripe label and match the card activation data.
- Batching and bundling — file controlled dynamic batching allows for predetermined sequential bundling.
- Shrink or Flow Wrapping — with options for bundle packaging ensure your end products meet the customer requirements.
- Labelling — track piece level sequence and provide an aggregated label for downstream distribution.
- Pallet Manifest — provide a complete card-to-pallet aggregation reporting.

SOFTWARE

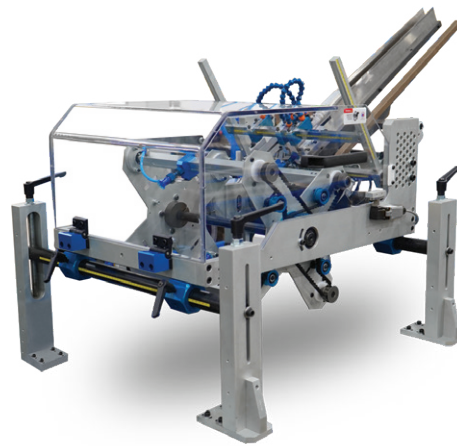
- Save recipes for module configurations to improve changeover and setup time.
- Multi-level customizable user access for every single functionality of the software.
- Data logger to create report files for details of every product exiting the final conveyor.
- Define limit for sequential errors on sensors/data acquisition units checking the product status. Tracking system will trigger a fault when maximum allowed consecutive errors occur.
- Match data between perso line and affixing line cameras to ensure accurate sequential product feed.
- Log acquired data to database file or verify accuracy of scanned data by comparison to database file.
- Connect with centralized camera control unit for shared interface and communication with all cameras.
- Tag non-conforming products after data matching or QC inspection for signaling to downstream modules.
- Generate remake database for remaking diverted products while in production (on the fly reproduction) or after the current job has finished (end of job reproduction).
- Control batching rules for conditional batching based on tagged or remade products.
- Track and signal divert for compensating batch counts.

INCLUDED TECHNOLOGIES



Vacuum Transfer
VCD250

Independent personalization belts for ease of cleaning and prevention of premature cracking.



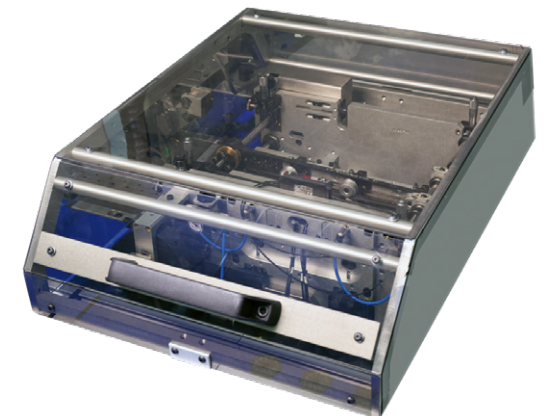
Rotary Pick and Place
RP300

Smooth card feeding with 0.02" placement accuracy. Minimize reload intervals with optional autoloader for maximum productivity.



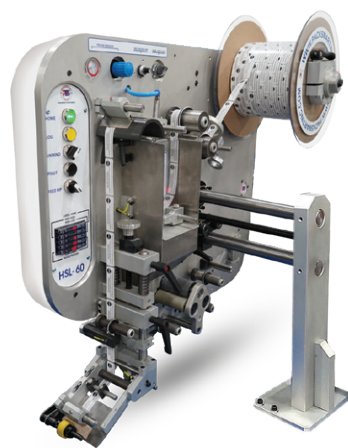
Surface Treatment
SP50

Rapidly micro cleaning card surfaces and raising surface energy to improve wettability and adhesion of glue, inks, and coatings. Adjustable maximum power of 500 W with 50 mm performance width.



Magstripe Encoding
MSE1

Reverse, condensed, JIS encoding, with Hi-Co/Lo-Co coercivity selection at speeds of 35,000 cards per hour. Head lifespan over 100 million cycles.



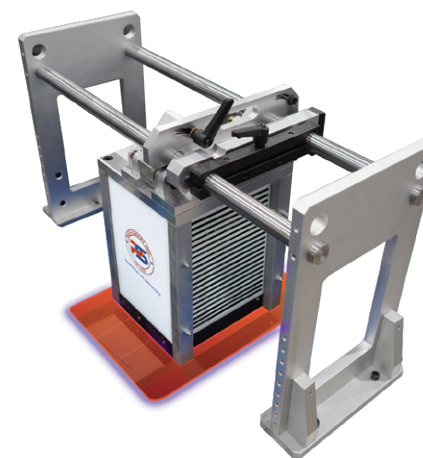
Labelling
HSL60

Apply all varieties of pressure sensitive labels at line speeds up to 660 ft./min (400 labels per minute) and placement accuracy of ± 0.4 mm. Minimize reloading frequency and increase productivity with up to 560 mm roll diameter.



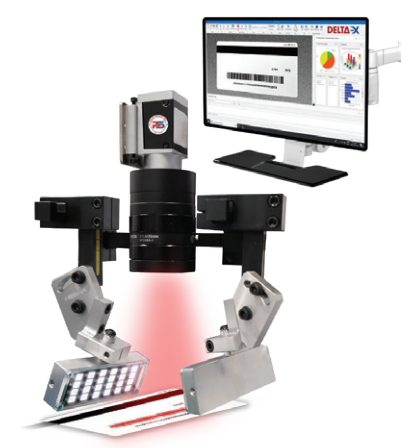
DOD Inkjet Printing
SJ75

High resolution drop-on-demand variable printing with 600 dpi at speeds up to 500 ft./min. Field replaceable Piezo print head with 3.5pL drop volume and 75 mm print width.



LED UV Curing
UVL7550

Single pass curing with high powered LED UV lamp. Achieve 85 % increase in energy efficiency compared to standard arc or microwave technologies.



Vision Camera Inspection
VSC1000

Real time vision scan with speeds of 600 ft./min with 2 ms response time. High accuracy inspection, data capture, and codification for a wide range of applications.



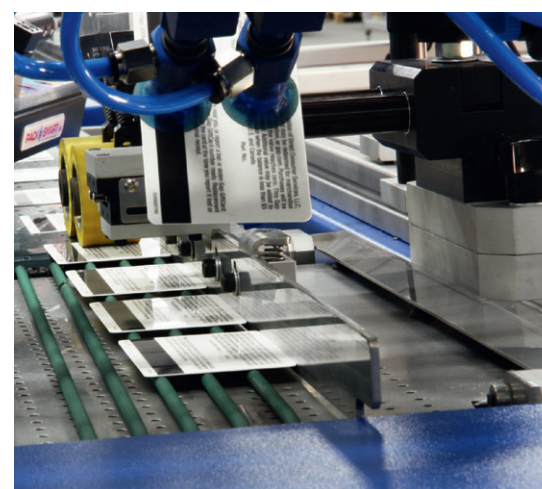
Real-Time Data Tracking
Delta-X Controller

Real-time data embedding, validation, reconciliation, and reporting at speeds up to 60,000 PPH. Support up to 64 I/O devices with modular and full API connection to ERP or other databases. Supports just-in-time aggregated label printing and has advanced architecture of data tracking and reporting.



Quality Assurance
DV500

Maintain production integrity by diverting non-conforming products in line. Reduce manpower in manual handling and quality control processes with double-divert for on-the-fly card reject and remake.



Registration & Turnover
SR250 & T0250

Register and align products with ± 0.4 mm accuracy. Enable inline duplex personalization for improved productivity with modular design for quick changeover to straight-through card transport.



Barcode Grading
BSG1000

Ensure production of high quality products through verification of scannability and compliance with barcode verification standards. Instantly identify B and C grade barcodes to reduce defect rates and associated costs from wasted material.