R.K.B. OPTO-ELECTRONICS, INC. LINE CARD

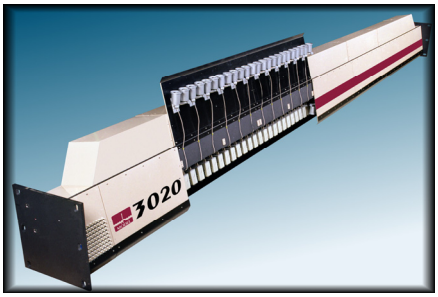
RKB OPTOELECTRONICS

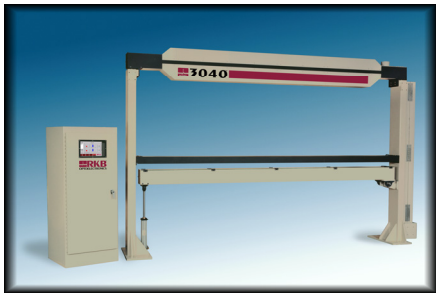
RKB MACHINE VISION; PROVEN TECHNOLOGIES

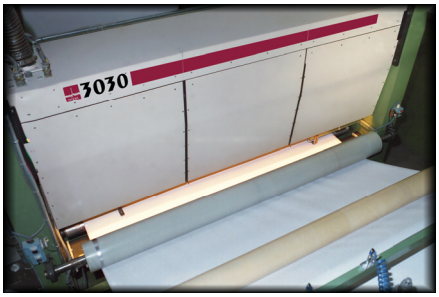
At RKB we are focused on optimizing your paper, film, foil and allied web based materials quality and efficiency. Our unique offering includes complete machine vision inspection and control solutions from hole detection to full sheet imaging and data mining capabilities for all web based material processes. Our process optimization packages provide versatile solutions with state-of-the-art technology for all customer needs. RKB's expertise in machine vision dates back more than 50 years when we first pioneered online inspection of paper for holes and have delivered more inspection solutions worldwide than any other supplier.

HD3000 SERIES

Our Progressive Web Imaging Technology offers you the latest state-of-the-art tools for the identification of web defects. Our HD3000 has a number of performance processes providing smarter, accurate, and consistent defect detection and data mining integration unequaled by any other supplier. The heart of the HD3000 is its advanced smart sensor technology, high-resolution, flexible geometric design, noise reduction and classification technology, and its calibration-free scalability. The operator interface facilitates immediate access to defect information of all anomalies in your process. RKB's ALI technology, specifically designed for industrialized use, ensures consistent light dilution throughout the life of the source – regardless of aging, dirt or luminousness changes. Coupled with the world leading and proven coating streak detection technology (as ascertained by the IPST in conjunction with the AFPA), our HD3000 provides essential quality initiative tools that will lower installation costs and maintenance costs, while providing higher technological reliability. The HD3000 comes with a full range of toolpacks and reporting features that support day-to-day production decisions. Intelligent interface structures facilitate easy integration into specialized data mining architecture that provide real time analysis and state-of-the-art predictive analysis reducing machine downtime, web breaks, coating streaks as well as a variety of other types of defects common in the production of web based materials. The distinct advantage of our solution is that it not only allows you to certify the quality of your product, but also to fine tune your process online and in real-time.







RKB MVT-WIS BENEFITS

RKB MVT-WIS provide quality assurance and controls for reliable defect detection, accurate defect identification, and machine process visualization on an open platform. The return-on-investment can be realized in increased productivity and constant quality unequaled by other technologies. Additional benefits realized by you and, ultimately, your customers are: -

- Reliable and Consistent Product Grading
- Quality Certification of all Shipments
- Reduction in Customer Claims
- Reduction in Broke and Sub-Quality Product
- Improved Process Control and Optimization
- Accurate, Reliable and Consistent Coating Streak Detection
- Higher Realized Year End Profits

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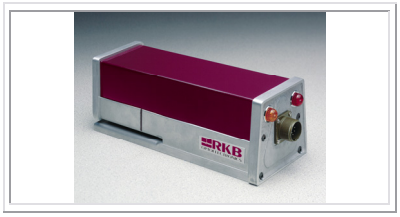


Model 1032

This splice detection technologies proven performance reduces costs, downtime and ensures product quality. This unit provides ultra-alert sentinel response in any web situation calling for immediate notification of a splice (joint), tear-out, fold-over or web break in all forms on non-metallic web fed processes.

Specifications

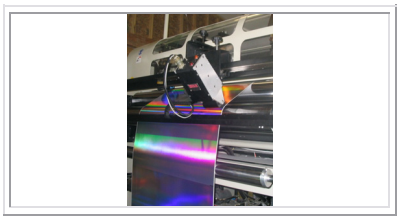
Power: 120/240 VAC, 50/60 Hz, Single Phase
Dimensions: 11.43cm x 11.43cm x 30.48cm
Mounting: ¼-20 or M6; mounting holes
Total web Thickness: 5.08mm
Total Weight: Approximately 3 Kilogram

Model 1032B

This splice detector technology is the most reliable method of splice (joint) and web break detection. The 1032B provides ultra-alert sentinel service in any web situation calling for immediate notification of a splice (joint) in all forms on non-metallic web material.

Specifications

Power: 120/240 VAC, 50/60 Hz, Single Phase
Dimensions: 15.24 cm X 24.13 cm x 11.43 cm
Mounting: ¼-20 or M6; mounting holes
Total web Thickness: 6.35mm
Total Weight: Approximately 5.22 kilogram

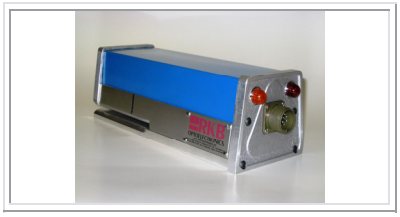


Model 1032C

This splice detector technology is the most reliable method of splice (joint) detection in metallic types of web materials commonly used in food packaging. The 1032C provides ultra-alert sentinel service in any web situation calling for immediate notification of a splices (joints) in all forms of web material.

Specifications

Power: 120/240 VAC, 50/60 Hz, Single Phase
Dimensions: 15.24 cm X 29.53 cm x 15.24 cm
Mounting: ¼-20 or M6; mounting holes
Total web Thickness: 500 microns
Total Weight: Approximately 5.5 kilogram



Model 1088

The Sentinel splice detection technology consumes very little power while providing dependable and consistent splice (joint) detection on virtually any web process application. It is designed to monitor 1-16 webs of material and will detect any splice or joint that may exist within the web based process.

Specifications

Power: 24VDC
Dimensions: 11.43cm x 11.43cm x 30.48cm
Mounting: ¼-20 or M6, Mounting holes
Total web Thickness: 5.08mm
Total Weight: Approximately 3 Kilogram

Model 1088B

The Sentinel provides dependable and consistent splice (joint) detection on virtually any non metallic web process application. It is designed to monitor 1-16 webs of material. It helps prevents damage to sensitive equipment in subsequent conversion processes.

Specifications

Power: 24VDC
Dimensions: 15.24 cm X 24.13 cm x 11.43 cm
Mounting: ¼-20 or M6; mounting holes
Total web Thickness: 6.35mm
Total Weight: Approximately 5.22 kilogram

Model 1108

Our Register Control WIS ensures material registration, can detect any bug or keymark, improves delivered quality, reduces cost, and helps you achieve reliable high speed operations.

Specifications

Power: 110/240 VAC, 50/60 Hz, Single Phase
Registration Accuracy: 1/16" (1.5 mm) or Less
Marks Detected: Non-Keyed marks; keyed marks; Printed marks.

Model 1122

The Model 1122 Reject Control Computer interfaces with a wide variety of web inspection, processing, and material handling equipment to provide automatic sorting or rejection of defective material. Choose the Model 1122 for faster, more reliable, control of delivered product quality.

Specifications

Power: 110/220 VAC, 50/60 Hz, Single Phase
Reject Accuracy: 0.4 mm Max
Margin Inhibit: 0.5 to 1.5% of Sheet Length
Defect Input: 9-12 VDC Pulse
Outputs: 2.0 Amp at 20 VDC
Maximum Web Speed: None

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Model 1280

Positively mark defects with our Multicolor Spray Marking System. Incorporate our spray marking technology to accomplish automatic control as part of a complete inspection solution that tracks web edge motion, Pinpoint location of defect faults, and improves your productivity.

Specifications

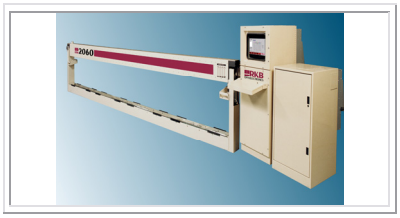
Power: 110/240 VAC, 50/60 Hz, Single Phase
Marking Width: 50.8mm
Web Tracking: 27.94 cm
Clean and Dry Air: 80 to 90 PSI
Ink Types: Water Based Inks

Model 1478

The reliability of our missing ply detection technology is unparalleled in the industry. Regardless of the application, machine or surroundings, our sensors will not quit. Our technology does not require operational intervention, adjustments or re-calibration.

Specifications

Power: 24VDC
Dimensions: 15.24 cm X 24.13 cm x 11.43 cm
Mounting: ¼-20 or M6; mounting holes
Total web Thickness: 6.35mm
Total Weight: Approximately 5.22 kilogram



Model 2060

Expand your inspection capabilities with our Infrared Phototransistor Flaw Detection Technology. Fully qualify your products, add analysis and reporting, and most importantly, improve your productivity. This is RKB's most cost effective flaw detector worldwide.

Specifications

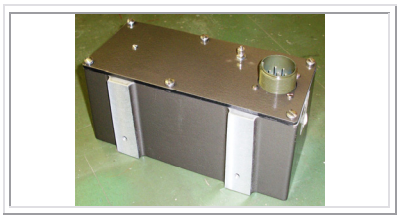
Power: 220/240 VAC, 50/60 Hz, Single Phase
Defects Types Detected: Hole & Spot
Defect Size Detected (min): 0.031" (0.8 mm) dia.
Illumination: Infrared Light.

Model 2084

Choose cost effective hole detection with our Ultraviolet Hole Detection Technology. Improve profitability, fully qualify your product, and add analysis and reporting. Costs starting at USD 30,000.00 this is RKB's most cost effective hole detector worldwide.

Specifications

Power: 208/220/240 VAC, 50/60 Hz, Single Phase
Defects Types Detected: Hole Only
Defect Size Detected (min): 1.5 mm dia.
Basis Weight Minimum: 35 gsm
Illumination: Germicidal Ultraviolet



Model 2086

The UV Resistive Coat Skip Detection Technology provides the most cost effective and reliable detection of coating skips as small as 1/16" (1.5mm) diameter in any translucent film web material that has UV resistive coating applied.

Specifications

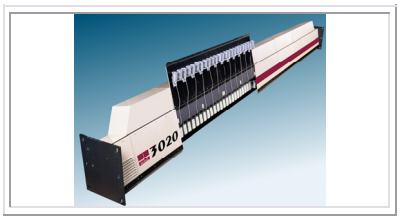
Power: 208/220/240 VAC, 50/60 Hz, Single Phase
Defects Types Detected: Coat Skip & Holes
Defect Size Detected (min): 1.5 mm dia.
Material: UV Resistive Coated Film
Illumination: Germicidal Ultraviolet

Model 3010

The HDI3010 HRMV-WIS technology detects, classifies and analysis subtle autonomous defects such as pinholes, dirt, scale, light spots, and oil. Defects that can adversely affect product quality and damage fragile mechanical components in supercalendering, coating, printing, embossing, laminating, and similar processes.

Specifications

Power: 120/220 VAC, 50/60 Hz, Single Phase
Min Detectable defect: 0.00001 sq. mm.
Maximum Web Speed: 3,048 m/min
Camera: 512/1024 Pixel Line Scan
Illumination: Proprietary
Basis Weight Range: Subject to Test



Model 3020

HD3020 OPTOMIZER® HRCS-WIS provide very accurate, reliable, high speed, detection of any coating streak or scratch as they occur during web material coating operations. They can be integrated with existing web inspection equipment to add complete capabilities for streak and scratch detection.

Specifications

Power: 120/220 VAC, 50/60 Hz, Single Phase
Min Detectable defect: 0.0025 mm
Maximum Web Speed: None
Camera: Streak Scan Camera
Illumination: Proprietary Low Illumination
Basis Weight Range: Subject to Test

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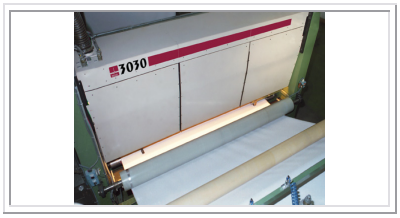

Model 3030

The HDI3030 HRMVS-WIS Technology provides real time detection and categorization of holes, spots, dirt, coating streaks, and many other types of defects. This system helps maximize profitability by providing production and maintenance personnel with immediate notification of defects.

Specifications

Power: 120/220 VAC, 50/60 Hz, Single Phase
Min Detectable defect: 0.00001 sq. mm H/S
Min Detectable defect: 0.0025 mm streak
Maximum Web Speed: 3,048 m/min
Cameras: Streak & Line Scan Camera
Illumination: Proprietary Illumination
Basis Weight Range: Subject to Test

Model 3040

Model HD3040MV-WIS makes it possible to add economical, high speed, inspection capabilities to existing web manufacturing operations. This system detects and categorizes common types of defects that can adversely affect product quality.

Specifications

Power: 120/220 VAC, 50/60 Hz, Single Phase
Min Detectable defect: 0.25mm diameter holes
0.5mm diameter spots
Maximum Web Speed: 3,048 m/min
Camera: 2048/4096 Pixel Line Scan
Illumination: Proprietary
Basis Weight Range: Subject to Test

Model 3050

Our Model 3050 MV-PHS makes it possible to economically add pinhole detection capabilities to your web manufacturing processes. The system combines a high speed Line Scan with state-of-the-art signal processing to achieve very high resolution detection of pinhole defects.

Specifications

Power: 120/220 VAC, 50/60 Hz, Single Phase
Min Detectable defect: 0.00001 sq. mm.
Maximum Web Speed: 3,048 m/min
Camera: 512 Pixel Line Scan
Illumination: Proprietary
Basis Weight Range: Subject to Test

Model 3060

The Model HD3060 MVEC makes it possible to economically add edge crack detection to existing web manufacturing equipment. The system includes two high speed CCD line scan sensors. Each sensor is mounted above an edge of the web for continuous edge monitoring.

Specifications

Power: 120/220 VAC, 50/60 Hz, Single Phase
Min Detectable defect: 0.0008 sq. mm.
Maximum Web Speed: 3,048 m/min
Camera: 1024/2048 Pixel Line Scan
Illumination: Proprietary
Basis Weight Range: Subject to Test

Model 3600

The Folio Cut Size WIS will provide quality management to ensure defective material is detected, classified and diverted from one to multiple successive sheets prior to stacking. Mounted prior to the cutter in-feed and upon detection of critical defects, the reject gate will activate altering the flow sheeted material.

Specifications

Power: 120/220 VAC, 50/60 Hz, Single Phase
Min Detectable defect: 0.00001 sq. mm H/S
Min Detectable defect: 0.0025 mm streak
Maximum Web Speed: 3,048 m/min
Cameras: Streak & Line Scan Camera
Illumination: Proprietary Illumination
Basis Weight Range: Subject to Test

Model 4000

The Model 4000ART is an advanced automatic tracking system designed so our customer can adapt edge mounted quality assurance, control and analytical monitors and/or components to facilitate complete automation. The technology incorporates high tech electronic edge sensors, controls and rodless cylinders.

Specifications

Edge Guide Power: +15VDC (± 10%)
Linear Cylinder: 10 - 4,000 mm Stroke
Framework: 6061 x 19.05mm Aluminum
Web Auto Track: Yes
Web Break Sensor: 0.1 to 2 m Sensing Range
Machine Process Speed: 3,048 m/min
Dimensions: Custom Made to Process

Model 4010

Model 4010 Crease and Lump Detectors are designed to detect creases, lumps, splices, and other types of elevation defects in moving webs of material. Because of their mechanical construction and operating principles, these detectors can be used in a wide variety of web inspection applications.

Specifications

Minimum Detectable Defect: 0.001" (0.025 mm)
Sensitivity Range: 100 to 1
Web Material Texture: Smooth
Inspection Increments: 15.24 cm per Head
Contact Head Pressure: 2 grams/linear mm
Maximum Web Speed: 304.8 m/min
Illumination: Fluorescent

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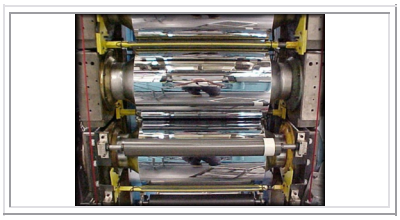

Model 9000

The Model 9000 MMFC imager technology was developed for the emerging markets of magnetic media and fuel cell technologies to combat very subtle defect anomalies. This technology maximizes profitability of your magnetic media and fuel cell production operations by providing immediate notification of defects that can be quickly corrected reducing waste

Specifications

Power: 120/240 VAC, 50/60 Hz, Single Phase
Defects Types Detected: Hole, spot, streak
Defect Size Detected (min): < 2 micron online

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