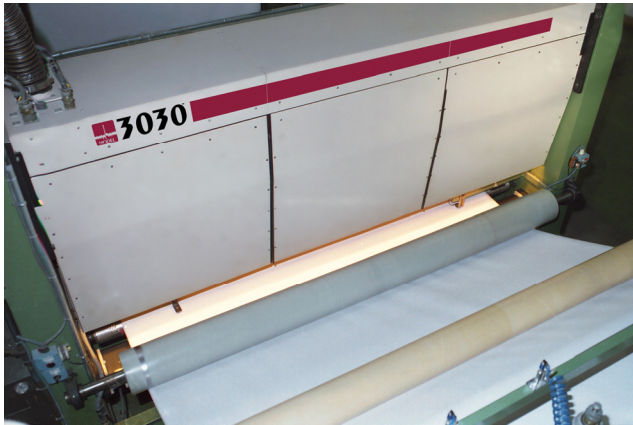


Model 3030 OPTOMIZER® Machine Vision Web Inspection Technology




MAXIMIZE PROFITABILITY

Undetected defects often result in excessive costs for customer returns, repairs to sensitive production equipment, and machine downtime in today's high speed web manufacturing operations. The Model 3030 OPTOMIZER® Machine Vision Web Inspection Technology provides real time detection and categorization of holes, spots, dirt, coating streaks, and many other types of defects.

Model 3030 OPTOMIZER® Machine Vision Web Inspection Technology can be integrated with new or existing web manufacturing equipment. These systems can help maximize the profitability of your web manufacturing operations by providing production, maintenance, and setup personnel with immediate notification of defects and the information they need to quickly locate and correct defect producing conditions.

DETECT AND CATEGORIZE ALL DEFECTS

Model 3030 OPTOMIZER® Machine Vision Web Inspection Technology use an array of high speed CCD Line Scan cameras for detection of random defects such as holes, spots, and edge cracks. A separate array of high resolution Streak Scan sensors is used to provide coating streak and scratch detection capabilities that are unachievable with line scan cameras alone. This combination of both types of cameras with proprietary and patented RKB signal processing technologies provide unprecedented performance in a single web inspection system.

	
TECHNICAL SPECIFICATIONS	
Defects Types Detected	All Types
Minimum Detectable Defect:	
Streaks and Scratches:	0.0001" (0.0025 mm)
All Other Defect Types:	0.00001 sq. mm
Maximum Detectable Defect:	
streaks and Scratches:	Unlimited
All Other Defect Types:	Unlimited
Maximum Web Speed	10,000 ft/min. (3,048 m/min) No Limit Streaks
Basis Weight Range	Subject to Tests
Material & Color Range	Subject to Tests
Line Scan Cameras:	
Type:	1024/2048
Lens Focal Length:	25/50 mm
Field Of View (FOV):	0.1" (2.54 mm) Min.
Pixel Resolution:	0.0001" (0.0025 mm) in CD
Streak Scan Cameras:	
Type:	Proprietary
Lens Focal Length:	25 mm
Field Of View (FOV):	10" CD (0.1" (25.4 cm)
Pixel Resolution:	0.0002" (0.005 mm)
Illumination:	Proprietary
Ambient Temperature	40 to 160° F (4 to 70° C)
Power	120/220/240 VAC 50/60 Hz Single Phase 3 -10 KW
Specifications are subject to change without notice.	



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Model 3030 OPTOMIZER® Machine Vision Web Inspection Technology



Span The Entire Web

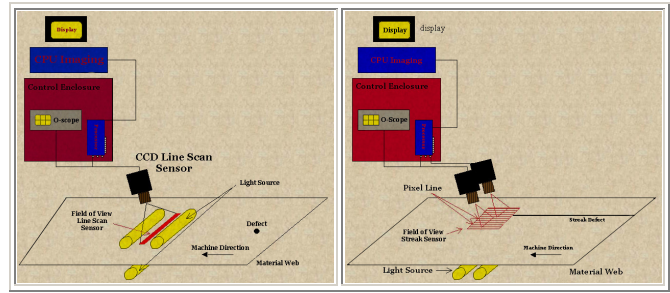
Each Model 3030 OPTOMIZER® Machine Vision Web Inspection Technology is designed to span the entire web width for 100% inspection of the web material. Now products can be fully qualified prior to shipment to customers. Our QAMS® Quality Assurance Management System software is also included with each system to provide complete data collection, analysis, reporting, setup, and diagnostic capabilities.

REDUCE PRODUCTION COSTS

Coating defects such as skips, voids and streaks & scratches often result in excessive production costs in today's high-speed coating processes. Our systems provide production, maintenance, and managerial personnel with immediate notification of defect events, size, type (i.e., streak or scratch), location and probable cause. Information can then be utilized to quickly locate the defect and take corrective action to eliminate the fault from continuing. Our defect fault imaging technology will help to significantly reduce your company's costs for producing, sorting, and disposing of substandard coated products. Our Model 3030 OPTOMIZER® can also help to reduce costs for customer returns, repairs to sensitive production equipment, and machine downtime.

CALL RKB

Call us to discuss your hole detection requirements and to learn more about the industries most cost effective and reliable hole detector in the world.



HOLES
This sample shows a large hole. The RKB OPTO-TEK sensing technology was used with a transmissive lighting technique. The sensor implemented a 25mm lens and was placed with a 10 inch (25.4cm) field of view in the cross machine direction. The lamp source was placed directly behind the sample material. The sample was placed perpendicular to the sensor to maximize the contrast of the defect to the material background (signal to noise).
As seen in the accompanied oscilloscope photo, the results achieved were excellent. The signal to noise ratio, as shown, was 20:1. This indicates that the hole defect shown here is highly detectable.

DIRT (Black Spots)
This sample consists of a light black spot (dirt) on a coated paper supplied by International Paper. Our Opto-Tek sensing technology was utilized with a reflective lighting technique. The sensor was positioned with a specified Field of View and at a slight angle to the material to facilitate maximum contrast of the defect to the material groundround (single to noise).
As seen in the accompanied oscilloscope photo, the results achieved were excellent. The top O-scope trace is the output of the defect in raw form. The bottom trace depicts the signal in digital format. The overall signal to noise ratio achieved was approximately 10:1 which indicates that the defect is highly detectable. (Please note the two outside signals are the ink marks used when the customer circled the defect for purposes of indicating location).

COATING SCRATCH
For this sample our patented coating scratch sensor was utilized with our proprietary data processing circuitry. A transmissive light source was used to maximize the defect to the material background. The sensor used a 25mm lens and was placed with a 2" (50.8mm) field of view in the cross machine direction.
As seen in the accompanied oscilloscope photo, the results achieved were excellent. The signal to noise ratio, as shown, was 7:1. This indicates the scratch defect shown here is highly detectable.

COATING STREAKS
This sample consists of several streaks on a coated paper. Once again, our patented coating streak sensor with proprietary circuitry was used. A transmissive lighting technique was utilized to enhance the defects of interest. A 25mm lens was used and the sensor was placed with a 2" (50.8mm) field of view in the cross direction.
As seen in the accompanied oscilloscope photo, the results achieved were very good. The signal to noise ratio was 4:1. This shows that the coating streaks are highly detectable.

Light Spots	Oil Drops	Dirt	Scale	Coating Streak	Streak Silicone
Holes	Coating Scratch	Cyclical Embossment Magnetic Media	Coating Streak Magnetic Media	Fiber/Lumps	Coating Void

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