Model 3010 OPTOMIZER® Machine Vision Web Inspection Technology

RKB OPTOELECTRONICS

Save Time and Money

The Model 3010 OPTOMIZER® Machine Vision Web Inspection 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 web manufacturing processes. Choose the Model 3010 OPTOMIZER® to save time and money in your production operations through reduced machine downtime, elimination of costly repairs, and fewer customer complaints.

Process Diverse Materials

The Model 3010 OPTOMIZER® is designed to provide accurate, consistent, and reliable on-line inspection for a wide variety of web materials. Compatible material types include cotton fiber bond, embossed; text; and specialty papers, de-inked recycled papers, films, gloss and matt coated offset and rotogravure papers, lightweight coated groundwood papers, magnetic media, metals and foils, plastics, rubber, and many other types of web processed materials.

Achieve High Resolution

An array of high speed 1024 CCD Line Scan Sensors, combined with our proprietary signal processing and filtering technologies, makes it possible to achieve very high resolution capabilities with this system. Defects can be detected and categorized by the system in real time and under real world conditions.

MODEL 3010™

TECHNICAL SPECIFICATIONS

Defects Types Detected	Blisters	Creases	Dirt
	Pinholes	Scale	Holes
	Spots	Fish Eyes	Oil
	Linting	Lumps	Knots
	Edge Cracks	Indentations	Wrinkles
	Bugs	Tearouts	Splices
Min Detectable defect	0.00001 sq. mm.		
Maximum Web Speed	To 10,000 ft/min. (3,048 m/min.)		
Basis Weight Range	Subject to Tests		
Material & Color Range	Subject to Tests		
Line Scan Cameras:			
Type:	512/1024		
Focal Length:	25 mm		
Field Of View:	0.1" (2.54 mm) Min.		
Max Data Rate:	40" (101.6 cm) Max up to 60 MHz		
Pixel Resolution:	0.0001" (0.0025 mm) in CD		
Illumination:	Proprietary		
Ambient Temperature	40 to 160° F (4 to 70° C)		
Power	120/220/240 VAC 50/60 Hz Single Phase 2.5 - 5 KW Dependent On Width Alternative Power Requirements Per Quotation		

Specifications are subject to change without notice.

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Demand Proven Performance

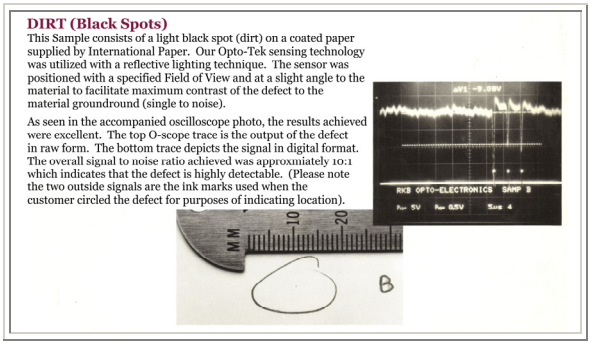
RKB Model 3010 OPTOMIZER® Machine Vision Web Inspection Technology has been designed for stable and reliable operation under real world conditions found in various low, high and ultra high-speed papermaking, printing, and converting processes. Their performance is well established and proven in various installations worldwide.

Call RKB

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

Provide Fully Qualified Products

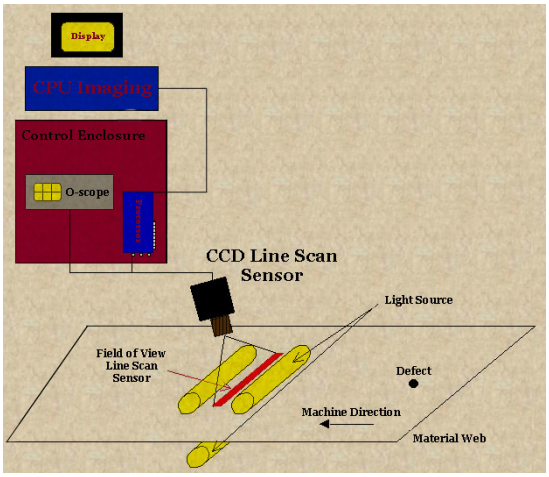
Each Model 3010 OPTOMIZER® Machine Vision Web Inspection Technology is designed to span the entire web width for 100% continuous inspection of the web material. Now you can ensure that your products are fully qualified prior to shipment to customers. Our QAMS® Quality Assurance Management System software is also included with each system to provide complete data collection, analysis, reporting, setup, and diagnostic capabilities.

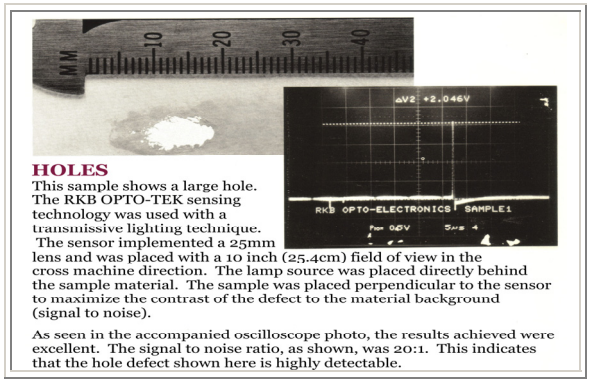


DIRT (Black Spots)

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 approxmiately 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).

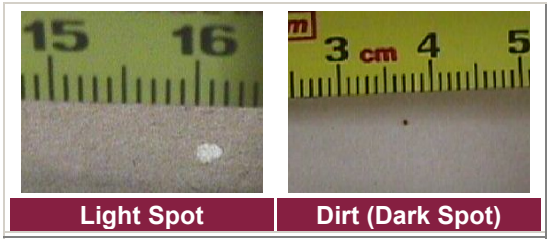




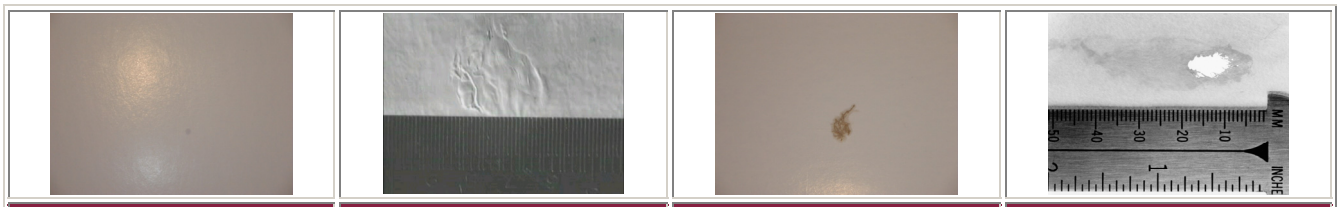
HOLES

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.



Light Spot	Dirt (Dark Spot)



Coating Skip	Coating Void	Fiber	Hole

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