Model 3040 OPTOMIZER® Machine Vision Web Inspection Technology

RKB OPTOELECTRONICS

High Speed Inspection

Model 3040 OPTOMIZER® Machine Vision Web Inspection Technology make it possible to add economical, high speed, inspection capabilities to existing web manufacturing operations. These systems detect and categorize common types of defects that can adversely affect product quality and damage fragile mechanical components in production equipment such as coaters, embossers, laminators, printing presses, and supercalenders. Our Model 3040 Video Web Inspection Systems can help your company reduce overall production costs through reductions in machine downtime, elimination of costly repairs, and
fewer customer complaints.

Detect and Categorize Defects

An array of high speed Charge Coupled Device (CCD) 2048 pixel line scan video cameras, combined with our signal processing technologies, makes it possible to achieve high resolution with this system. Our QAMS™ Quality Assurance Management System software is also included with each system to provide complete data collection, analysis, reporting, setup, and diagnostic capabilities.

Process Diverse Materials

Our Model 3040 OPTOMIZER® Machine Vision Web Inspection Technology provide accurate, consistent, and reliable online inspection for a wide variety of web materials including cotton fiber bond, embossed; text; and specialty papers, deinked recycled papers, films, gloss and matt coated offset and rotogravure papers, lightweight coated groundwood papers, magnetic media, metals and foils, plastics, and rubber.

MODEL 3040™

TECHNICAL SPECIFICATIONS

Defects Types Detected	Spots Creases Dirt Pinholes Scale Holes Knots Fish Eyes Oil Bugs Edge Cracks Wrinkles
Min Detectable defect	0.25mm diameter holes 0.5mm diameter spots
Basis Weight Range	Subject to Tests
Line Scan Cameras: Type: Focal Length: Field Of View: Max Data Rate: Pixel Resolution:	 2048 50 mm 10" (25.4 cm) Min. 40 MHz 0.004" (0.102 mm) CD
Illumination:	Proprietary
Ambient Temperature	40 to 160° F (4 to 70° C)
Power	120/220/240 VAC 50/60 Hz Single Phase

Specifications are subject to change without notice.

Reliability Equals Profit

The reliability of our Model 3040 OPTOMIZER® Machine Vision Web Inspection 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, re-calibration and monitoring, unlike competitive solutions. Our technology is not designed as the "Quick Fix", but is a committed investment that ensures cost effective quality assurance and control that translates into a much higher ROI and increased profitability.

R.K.B. OPTO-ELECTRONICS, INC.
6677 Moore Road • Syracuse, New York • 13211 • United States of America
Tel: +001-315-455-6636 • Fax: +001-315-455-8216 • Email: sales@rkbopto.com
Internet: www.rkbopto.com / www.webinspection.us / www.hole-detection.com

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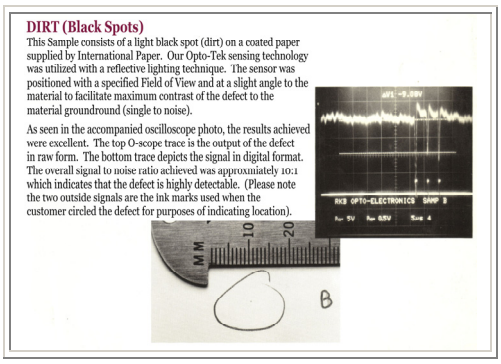
Simple, Quick and Effective

Easy to set up and operate, and harmonious with logic systems and programmable controllers, the Model 3040 OPTOMIZER® Machine Vision Web Inspection Technology can be easily integrated on any application that calls for the detection of and analysis of holes and spot type defects contained within the web material process. Modular in design, our detection technology does not require intervention, complicated setup procedures or constant tweaking.



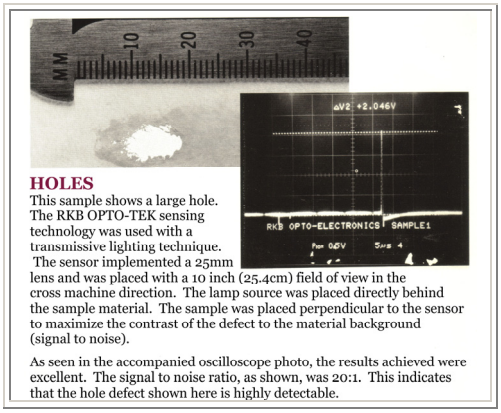
DIRT (Black Spots)

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).

Ensure Delivered Quality

Each Model 3040 OPTOMIZER® Machine Vision Web Inspection Technology is designed to span the entire web width for 100 percent inspection of the web material. Now you can ensure that your products are fully qualified prior to shipment to customers. Our Model 1280 Guardian® Multicolor Edge Marking™ Technology can also be combined with a Model 3040 system to provide visible edge marks that positively identify defect types and locations.



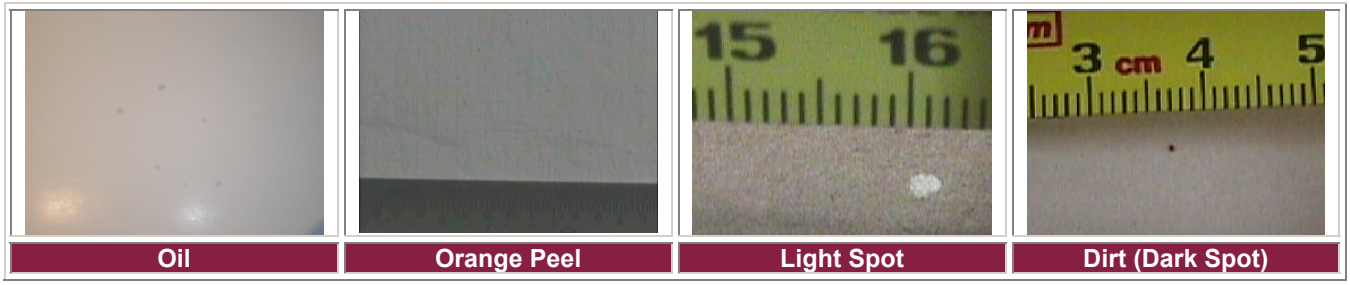
HOLES

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).

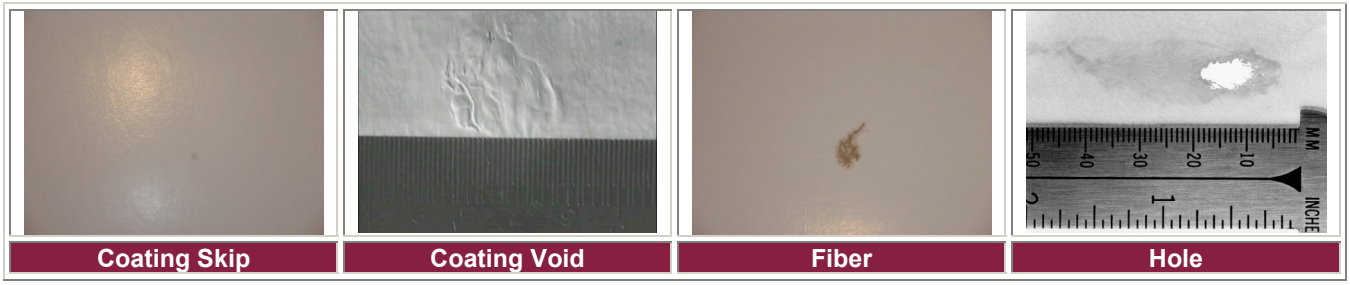
As seen in the accompanied oscilloscope photo, the results achieved were excellent. The signal to noise ratio, as shown, was 20:1. This indicates that the hole defect shown here is highly detectable.

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.



Oil	Orange Peel	Light Spot	Dirt (Dark Spot)



Coating Skip	Coating Void	Fiber	Hole

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