

WINTRISS

INSPECTION SOLUTIONS

A Subsidiary of Wintriss Engineering Corporation USA



Automatic Surface Inspection System

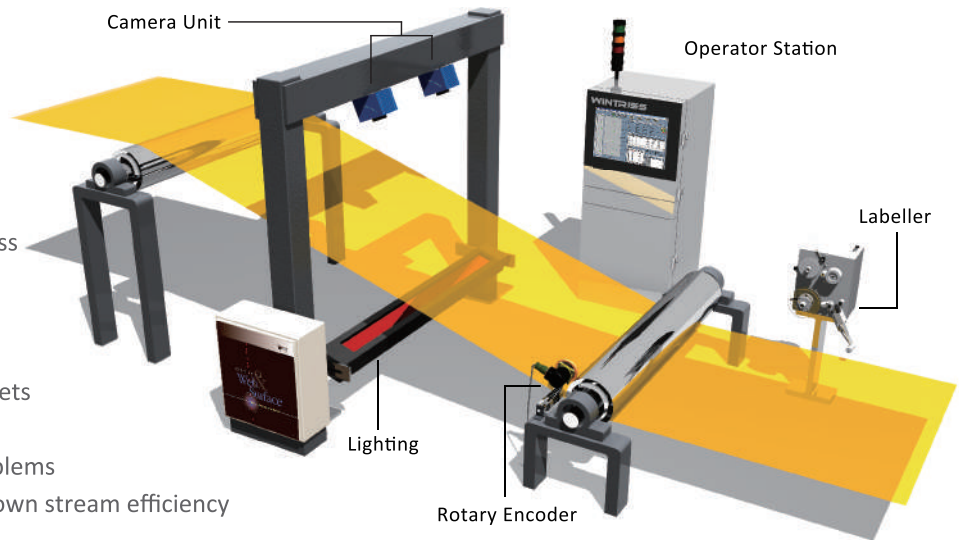
www.winspection.com

www.weco.com

Web Ranger - Surface Inspection System

Benefits

- Refine and Improve process
- Improve Quality
- Accurate Grading of Rolls
- Generate Roll Reports
- Automate Pass/Fail of sheets
- Maximize Yields
- Identify incoming roll problems
- Provide information for down stream efficiency



Hardware Specifications

Smart Camera Stand-alone Web Inspection System



OPSIS 7500 Series

- 7448 Pixel CCD
- 4.7 x 4.7 micron pixel size
- Variable Scan rate
- 10,320 scans/sec at 7448 pixels
- 390,000 scans/sec at 256 pixels



OPSIS 8000 Series

- 8192 Pixel CMOS sensor
- 7um x 7um pixels
- Variable scan rate up to 40,000 scans/sec

Lighting



LED

- Compact, Energy-Efficient Lightsource for surface inspection applications

Operator Workstation



Operating System

- Win7 X64
- Inspection Software
- Web Ranger 2000 Database
- Microsoft SQL Server

Labeller



Tagger

- Up to 300 M/min
- Automatic calibration
- Pressurized roller for robust tagging
- Tagger roll complete alarm
- Tag dispensing speed controlled



Marker

- Up to 3000 M/min
- Automatic edge tracking
- PLC control
- Automatic/manual mode selection

A powerful classification engine quickly and accurately sorts the defects into user-defined categories to aid in production quality control and process improvement. All defect data can be viewed in real time and is also stored in a comprehensive database for subsequent review, analysis, reporting and archiving.

Features

Advanced Classification

precise classification of defects into user-defined categories using advanced statistical (KNN) and non-linear heuristic methods (neural networks)

SQL Database

comprehensive database of defects with images, positions and all defect features

Automatic Archiving

automatic transfer of defect data to an external device or system based on user-defined criteria

Flexible Reporting

standard and custom reports of inspection results and statistics in tabular and graphical format

Formation Analysis

Graphical display of product quality based on calculation of a Non Uniformity Index

Factory Interfaces

Windows-based open architecture allows easy connections to other systems and devices via OPC, TCP/IP, SQL Query, Ethernet, or custom digital interface

Defect Density

automatic defect monitoring based on user-specified criteria that assign points to defect class occurrences

Roll Grading

automatic grading of rolls based on user-specified grading criteria that assign points to defect class occurrences

Trend Analysis

automatic detection and reporting of repeating defects

Custom Digital I/O

to generate alarms, trigger marking and tagging systems, automatically start/stop jobs, etc.

Multi-Language GUI

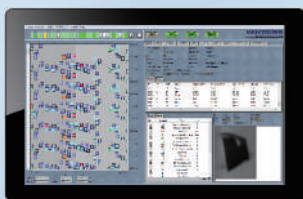
English, German, Chinese, Japanese, Korean, Traditional Chinese, Simplified Chinese

Access

Remote access via Internet for system maintenance and software upgrades

Support

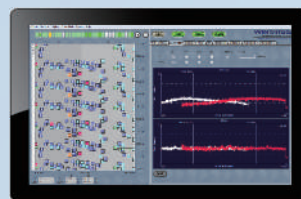
24/7 Technical Support via Internet and Telephone Hotline



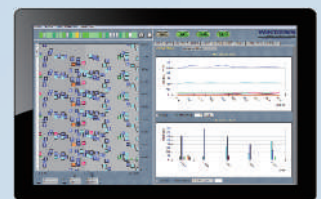
Operator Interface



Picture Book



Line Profile



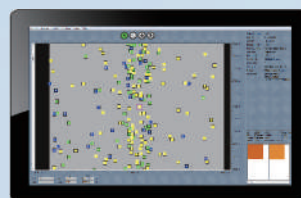
CD-MD Charts



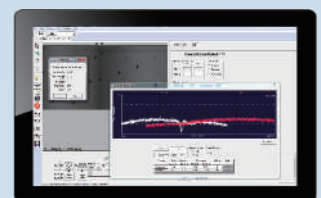
Classifier



Formation



Optimization



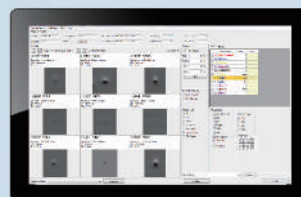
Setup Interface



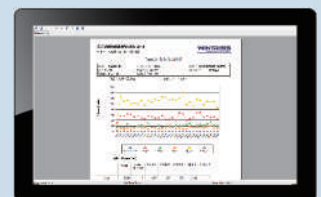
DB Analysis-CD Report



DB Analysis-Defect Report

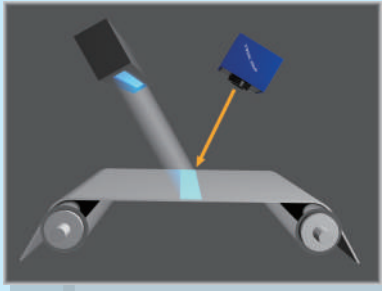


DB Analysis-Image Report

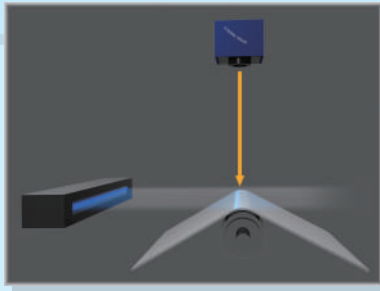


DB Analysis-MD Report

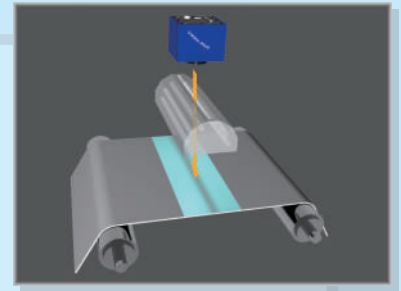
Lighting Configurations



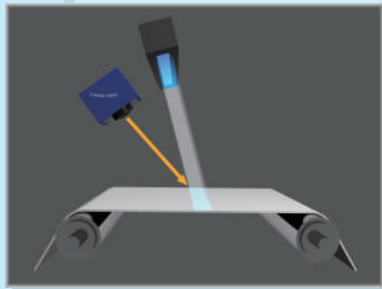
Specular Front Light



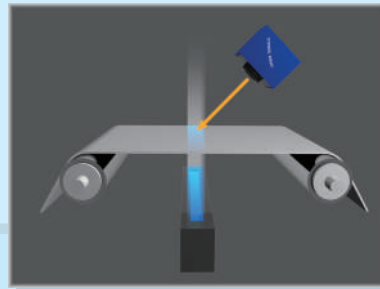
Oblique Front Light



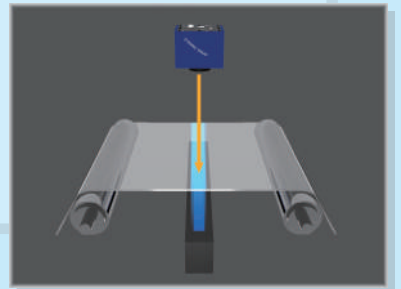
Diffuse Front Light



Dark Field Front Light



Dark Field Back Light



Pure Back Light



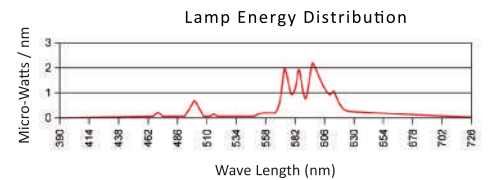
LED Light

High Intensity, long life, uniform and modular LED light to suit applications up to 12 meters in width. LED color chosen based on application (Red, Blue, Cyan, Green, White)



Sodium Light

The lighting system shown includes 400-watt sodium lamps which produce 200,000 lux uniform illumination (over twice the brightness of sunlight). Each lamp enclosure contains its own power supply and high frequency ballast.

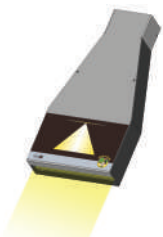


Lights



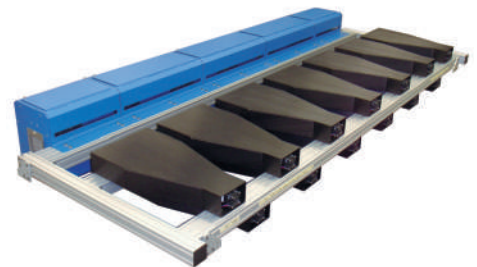
Micro Ranger

An integrated linescan camera and LED light source that detects micron-sized defects. Collimated light for detection of 2 micron defects in opaque material.



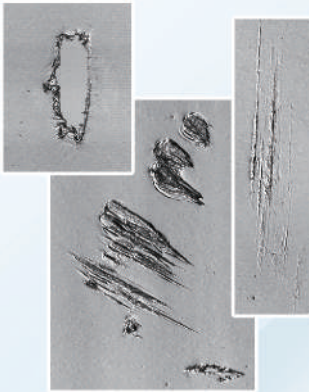
Refraction Ranger

Collimated Light for detection of subtle MD scratches, dents, gels and other optical film defects using a single array of cameras.



Patented lighting products are specifically designed for optical film inspection applications.

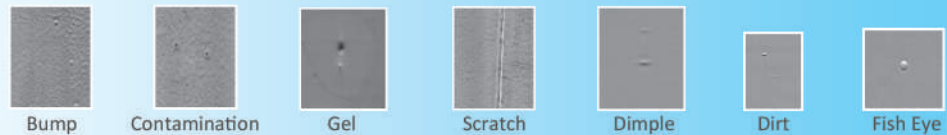
Precise Defect Classification



The Web Ranger's advanced classification engine can perform precise defect classification based on extremely subtle differences between defect categories. Using more than one hundred extracted features and multiple techniques, the classification engine can be easily trained to reliably recognize distinct defect categories present in the material being inspected. Web Ranger's superior classification performance greatly enhances product grading, process control and overall quality control.

Optical film; extruded, cast, and blown film; transparent, translucent, and opaque; laminated, coated, and metallized

Film



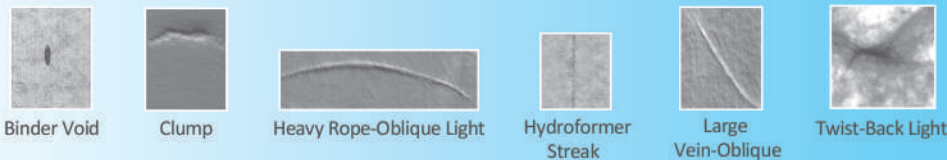
Copper Foil, copper clad laminates, polished steel belts, and coated aluminum & steel coils

Metal



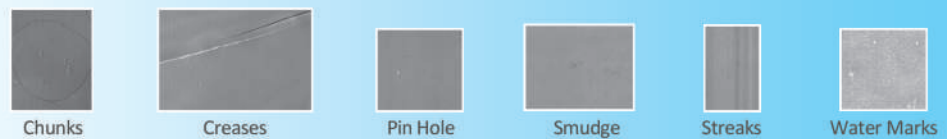
Coated, glass mat, scrim, spunbond, wetlaid, meltblown, airlaid, and spunlace

Nonwoven



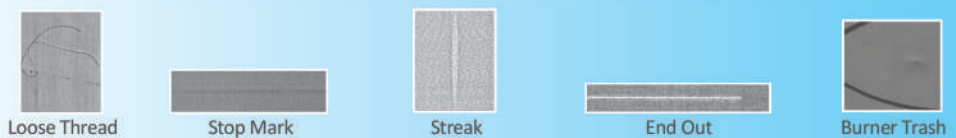
Coated, paperboard, specialty, fine, and synthetic paper

Paper



Industrial textiles, engineered fabrics, composites, unpatterned fabrics, fiberglass

Woven



Woven Fiberglass, Poly Preg (coated Fiberglass), Paper PP, Copper Foil, Sputtered Cu Foil, PI, Copper Clad Laminate (CCL)

PCB



Applications

Nonwoven

Coated Nonwoven, Spun Bond, Spun-laced, Bonded, Needle Punch

Metals

Coated metals, Aluminum foil, Copper Foil, Cold Rolled Steel, Polished Steel Belts

Glass

Display Glass, Coated Glass, Glass Tubes (CCFL tubes)

Plastic Film Industry

Coated Films, Laminated Film, Extruded Films, Blown Films, Optical Films, Acrylic Sheets, PC Film Sheets, Vinyl sheets, Diaper Film

PCB Industry

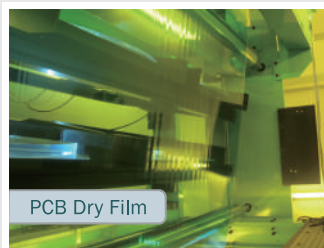
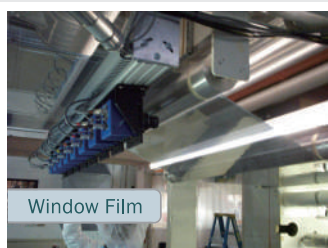
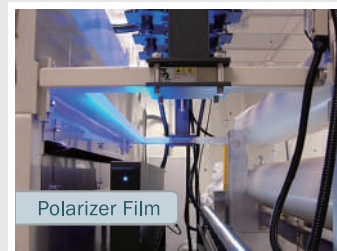
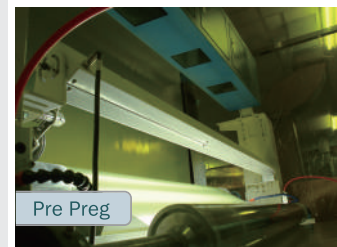
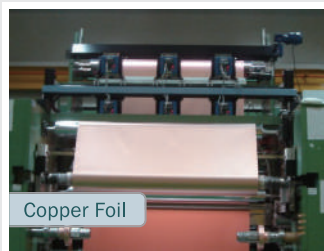
Woven Fiberglass, Poly Preg (coated Fiberglass), Paper PP, Copper Foil, Sputtered Cu Foil, PI, Copper Clad Laminate (CCL)

Paper

Base Paper (25gsm to 400gsm), Coated Paper (Art Paper), Paper Boards, Industrial Paper, Cigarette Paper, Tissue Paper and Synthetic Paper

One System

Endless Applications



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Wintriss Inspection Solutions, Ltd., a subsidiary of California-based Wintriss Engineering Corporation, develops and manufactures optical surface inspection systems using smart, CCD linescan cameras. Rapidly expanding and with a world-wide presence, Wintriss has installed over 500 inspection systems in North America, Asia, and Europe. The company's principal manufacturing facility in Taipei, Taiwan, is centrally located in Asia. Product development and R&D are performed in both Taipei and San Diego, California.

Wintriss employs a variety of sales channel partners/distributors covering both geographical and specialized industrial market segments. Sales and technical support offices are located in Taiwan, the U.S., China, Korea, Indonesia, India, Philippines, and Thailand.

Having developed our first smart camera in 1994, Wintriss Engineering is a pioneer in embedding processing intelligence in cameras. We have created increasingly capable cameras with greater processing speed, higher resolution, and stand-out flexibility, specifically adapted for web and other types of surface inspection applications.

Our design hallmark is a powerful field programmable gate array in the high-resolution camera, which hosts a real time image processing capability. Additional on-board processing using a general purpose CPU simplifies overall inspection system architecture, facilitates system scalability, enhances reliability, and significantly reduces system cost.

Wintriss Inspection Solutions' flagship product is the Web Ranger System, which employs the linear cameras in a network-based, distributed architecture. Our core competency is the in-depth understanding of optics and image processing. This expertise and our surface inspection experience enable the company to conceive and implement innovative designs to meet diverse customer requirements for surface inspection. Key patents in image processing and illumination technology are the basis for the exceptional defect detection capability of the Web Ranger System and Wintriss' market leadership in the inspection of display films.

Do you have a challenging surface inspection requirement? With sales and technical support located in Asia and North America, Wintriss responds instantly to meet customer requirements. We invite you to contact our professional staff for consultation on a solution tailored to satisfy your requirements.



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China Warehouse

China

Wintriss Inspection Solutions (Shanghai) CO. LTD.



China Sales Office