

Hawk[®] 4

Scratch + Defect Inspection System

LiteSentry™

Setting the Standard in Glass Inspection

PREVENTS
DEFECTIVE
GLASS FROM
PROCEEDING
TO HIGH
VALUE-ADDED
OPERATIONS

INTERCEPTS
DEFECTS
BEFORE
SHIPMENT TO
CUSTOMERS

IMPROVES
QUALITY AND
INCREASES
PROFITS

HAWK[®] 4

Scratch + Defect Inspection System

Hawk[®] 4 by LiteSentry™ is a high-resolution camera-based inspection system. The Hawk inspects both front and rear surfaces of monolithic or laminated glass as it moves down the fabrication line. This on-line defect inspection system operates on any line width at conveyor velocities up to 914 mm/36 inches per second, the fastest in the industry.

Designed and built in the U.S. for durability, quality, and performance, the Hawk is ideal for insulating, double or triple glazing, laminating, and coating lines. All defects are logged in a production database for trend analysis by defect type, location, glass size, date, time, and other parameters. The result: better process control.

The Hawk is engineered for vertical or horizontal installation to fit any production line.

Accuracy

The Hawk exceeds the industry standard defect detection specification (ASTM 1036)

- » The MIL standard defines scratches and digs (coating pinholes or other circular defects) as any non-linear geometry
- » 100 = 0.1 mm scratch width of any length (user-specified)
- » 20 = 0.2 mm (0.008 inch) diameter dig

Defects detected

- » Scratches, digs, surface pits or debris, coating pinholes and voids, coating spot clusters, tin spots, abrasion, finger prints, skid marks, tire marks, seeds, stones, laminate inclusions, edge delete skips, glass shards, and many others.



Top Four Reasons to Install the Hawk

1. Industry-Leading Inspection Capability

- » Unique quad-light detection channels identify defects in any orientation
- » Proprietary Raven™ sensor technology detects and measures thickness, coatings, coating side, and IG unit measurements
- » Patented technology differentiates low-E coated glass from non-coated glass and sets unique inspection criteria for each type of glass

2. Broadest Range of Defect Detection in the Industry

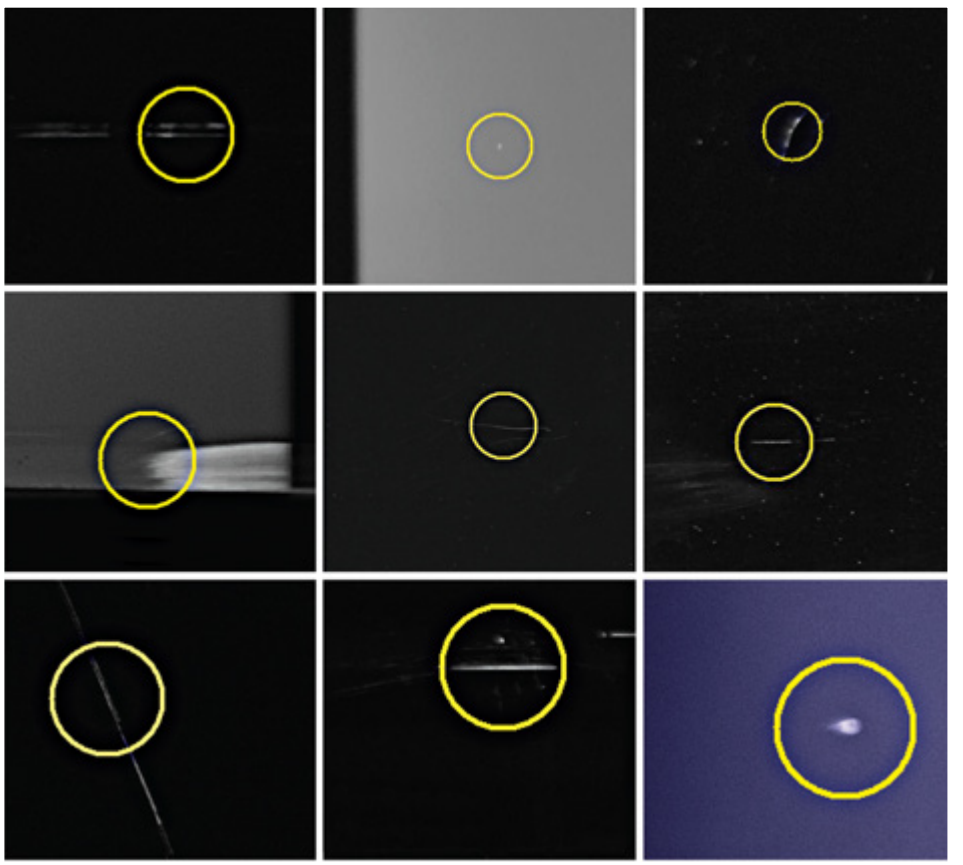
- » Patented Hawk technology detects defects our competitors miss
- » Detects pinholes, arc marks, edge grind skips and misses, skip scratches, and cluster defects

3. Ease of Use

- » Intuitive operator interface
- » Pop-up display details every defect
- » Reviewer Utility Program displays real-time results on remote computers
- » XML open source data integration with customer databases

4. Designed for Durability

- » Active system components (sensors, lights, and cameras) are installed above the glass to avoid cullet and debris
- » Modular design of sensors, lights, and cameras for ease of maintenance
- » Software updates are installed remotely



Actual Hawk Glass Images

“Your team blazed in, installed the system, trained our people and blazed out! Not one problem with the system [in the 27 months] since installation. Your support staff must be bored.”

— PELLA CORPORATION

The Bottom Line

The Hawk® 4 is your best defense against physical defects. It's a triple win: ensure quality, satisfy your customers, and increase profits.

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LiteSentry.com

- » **OSPREY® 9 Complete** » Anisotropy, Distortion + Flatness Inspection
- » **OSPREY® 9 Distortion** » Distortion + Flatness Inspection
- » **TemperQC™** » Complete Tempering Quality Control System
- » **HAWK® 4** » Scratch + Defect Inspection
- » **OWL® 3** » Recipe Selection + Fault Detection
- » **RAVEN™ 12** » Thickness + Coating Sensor
- » **FALCON®** » Precision Size + Geometry Inspection
- » **LOAD VALIDATOR™** » Load Geometry + Fault Condition Detection