

DEFECT SCANNER SERIES

SURFX | EDGE | CURVE



SYNERGX Technologies designs non-contact, inline quality control systems for the glass industry. Our inspection systems provide measurable ROI and consistent production yield. **SYNERGX** works with the world's leading glass manufacturers to meet the increasing demand for defect-free products by improving the quality control of the glass manufacturing process.

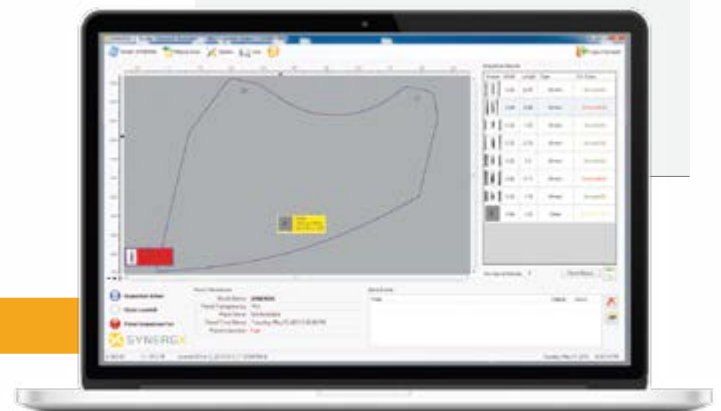
The **DEFECT SCANNER SERIES** incorporates the most advanced optics and illumination technology. Our classification software is specifically developed to meet demanding industry and process requirements. Engineered for both flat and bent glass products, **SYNERGX** systems identify, measure and classify a full range of surface and edge defects.

SYNERGX inspection systems are operating in glass manufacturing factories worldwide:

- > AUTOMOTIVE
- > ARCHITECTURAL
- > SOLAR
- > APPLIANCE

KEY BENEFITS

- Productivity improvement by reducing production costs
- Fast ROI by eliminating manual inspection and costly recalls
- Identifies process-induced defects
- Helps to diagnose production issues and drive corrective actions
- Installation and commissioning onsite by qualified SYNERGX engineers
- Convenient footprint and flexible interface allows easy integration into existing production or greenfield project



SURFX | EDGE | CURVE

SURFX

SURFX provides a complete in-process surface inspection solution for flat panels typically after cutting and grinding. It is available in standard and high resolution depending on defect size detection requirements.

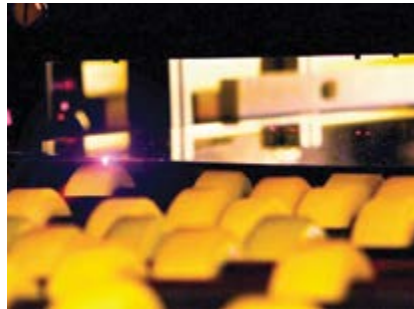


FEATURES

- Complete surface defect detection and classification of a wide variety of defects
- Continuous, fully automated, non-contact inspection at full production speed
- 4 seconds cycle time
- Review station for offline manual inspection at stacker point

EDGE

EDGE provides glass manufacturers with a complete non-contact, inline surface and grinded edge inspection, all in a single system, for flat glass.



FEATURES

- Integrated edge inspection for grinding defect detection
- Complete non-contact surface and side edge inspection for detection of shiners and edge chips, vents, scratches, inclusions, bubbles not visible from the surface
- Line speeds up to 60 m/min
- Industry-leading 4 seconds cycle time

SURFX & EDGE Specifications and Configuration

Optical Subsystem	Telecentric bright field optics and illumination
Field of View	400 mm per channel (8 for SURFX, 2 or 3 for EDGE)
Typical Minimum Glass Size (W x L)	300 mm x 300 mm (model dependant)
Maximum Glass Size (W x L)	400 mm to 3200 mm depending on number of channels for SURFX 800 mm to 1200 mm for EDGE
Direction of Glass Travel	Short edge or long edge leading
Conveyor Speed	Up to 60 m/min
Transmittance	From 6% to 92%
Defects Detected	Scratches, inclusions, distortions, edge defects, broken glass, drilled holes (presence, chips, cracks and count), shiners (EDGE only)

*Other configurations available on request

SURFX Options

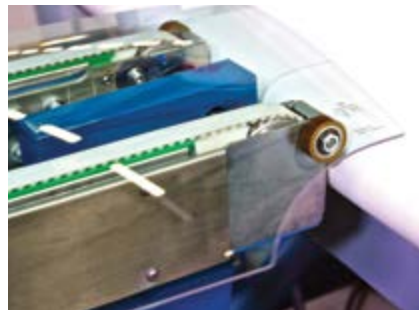
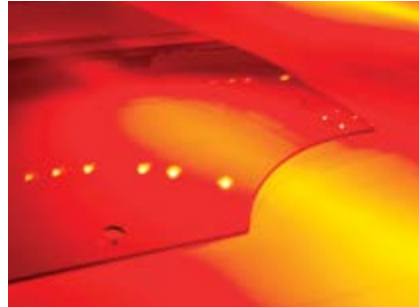
Basic Paint and Logo Inspection	Pinholes, trademark, logo and other paint work defects
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CURVE

CURVE systems provide glass manufacturers with a final inspection solution after bending. CURVE is a complete surface and paint inspection, typically installed just before final packaging, uniquely positioned to enable fully automated glass packaging and 100% computer-based inspection.

FEATURES

- Complete surface defect detection and classification of a wide variety of defects on bent glass
- Defects inspection on the opposite surface of the paint band with proprietary reflective lighting technology
- Continuous, fully automated, non-contact inspection at full production speed
- Industry-leading 2.3 seconds cycle time



CURVE Specifications and Configuration

Optical Subsystem	Telecentric bright field and reflective dark field
Field of View	400 mm per channel, 2 channels
Minimum Glass Size (W x L)	160 x 250 mm
Maximum Glass Size (W x L)	800 mm x 1200 mm
Conveyor Speed	Up to 60 m/min
Transmittance	From 6% to 92%
Defects Detected	Scratches, inclusions, distortions, edge defects, broken glass, drilled holes (presence, chips, cracks and count), paint and logo
Depth of Bend	60 mm
Dark Field Inspection System	Detection of small scratches, scuffs and defects over painted sections
Basic Paint and Logo Inspection	Pinholes, trademark, logo and other paint work defects (optional).

*Other configurations available on request

LEADER IN OPTICAL INSPECTION TECHNOLOGY

ABOUT SYNERGX

With systems installed worldwide, **SYNERGX Technologies Inc.** is a leading global supplier of automated optical inspection technology. We provide turnkey quality control solutions for the automotive, photovoltaic, appliance, bottling and architectural glass industries. Our inline tele-centric inspection systems use patented image acquisition hardware and our world-class software optimizes the quality control process.

Located in Laval, Canada, **SYNERGX** has sales offices and customer support services in North America, Asia and Europe. Our success is based on long term strategic alliances with leaders in glass processing.

SYNERGX strives to follow three core values:

- > QUALITY
- > PRECISION
- > INNOVATION

Typical Glass Defects

