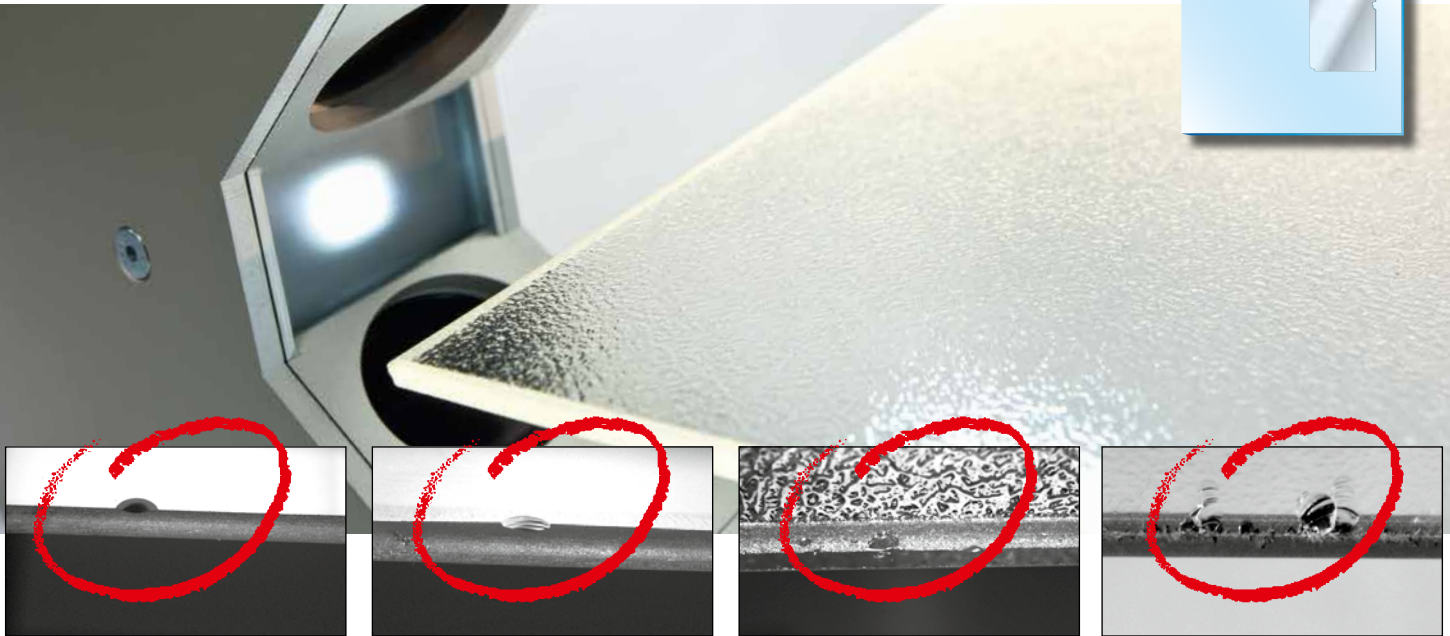


P² (PowerPlate) – Edge

Glass edges all around safely checked at a glance

P²-EDGE



Keeping an eye on the glass edges

Fully monitored and simultaneously entirely automated processes are important factors for the machining and processing of glass sheets. This applies especially to the quality control of the glass edges. For the solar industry for instance, the substrate edge is a decisive determinant for the quality of the subsequently completed module – particularly in the area of thin-film technology. With systems available to date, essential defects are detected in practice only under certain marginal conditions, or not at all. The new sensor head lends a helping hand.

The P² (PowerPlate)-EDGE sensor facilitates a comprehensive, safe, and cost-effective inspection of all glass edges. Due to its smart design it makes the all around acquisition of the glass edge possible at a glance – defects previously “invisible” if looked at from one direction only thus, become apparent.

Advantages:

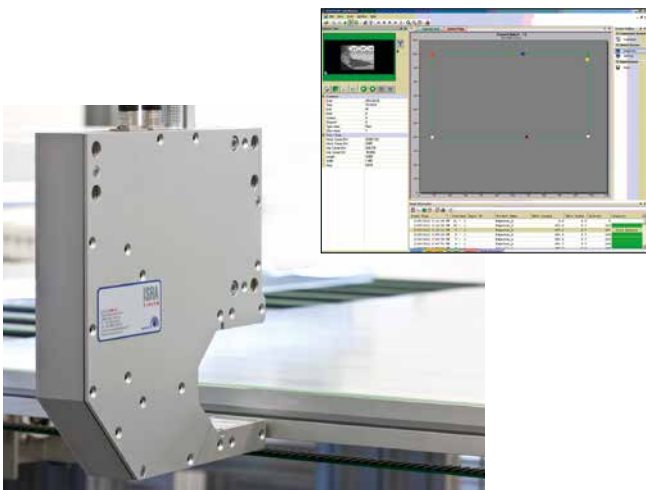
- Complete “all around” acquisition of glass edges at a glance – therefore, no „invisible“ defects
- For all glass edges: cut or grinded C-grind, K-grind ...
- Shells in grinding, chips in grinding and surface, shiner, burner, wheel line, grinding profile (C or K) not symmetric, grinding wavelike, broken edges, raw edges breakage and cracks, scratches on glass surface close to grinding
- For highest processing speeds
- Suitable for use with a robot
- High resolution
- Real time image acquisition
- Fast and easy start-up

Measuring principle

The sensor is designed to see around the edge with one single image acquisition, whereby in addition to the edge area a shoulder beyond it is looked at. Equipped with fast CCD cameras combined with switchable LED illuminations the sensor allows the recognition defects invisible until now. The sensor produces high-definition images to permit entire glass edge to be analyzed. Owing to its narrow construction style, the sensor match with all conveyor designs.

To scan the entire glass edge, the tough sensor can be mounted at the existing feeding device or directly on a robot arm. The sensor is suitable for the highest feeding speeds. Through the easy to use, intuitive interface the operator is supplied with all the information necessary to improve the process. The results of the inspection are visualized graphically. All of the following typical edge defects are recognized:

- Grinding defects
- Chips
- Shiner
- Burn marks
- Shells
- Edge chunking
- Unsymetric grinding
- Corner chips



Application

- Solar glass, thin-film solar glass
- Glass / automotive glass sheets: printed / unprinted, coated / uncoated, curved, laminated, non-laminated

Features

- All around acquisition of the glass edge at a glance
- Suitable for use with a robot
- Real-time image acquisition
- Robust and compact
- Narrow construction style

Technical Data

Resolution	better 33 µm
for glass thickness	1.0 to 6.0 mm
for feeding	Standard: 60 m / min
(speed)	Optional 80 m / min

Available PowerPlate (P²) modules

<p>P²-SIZE</p> <p>Dimensions Edge defects Broken corners</p>	<p>P²-INSPECT</p> <p>Absorbing defects Scratches plus even more...</p>	<p>P²-COLOR</p> <p>All coating defects Inhomogeneity ... and more</p>
<p>P²-COLOR</p> <p>Color homogeneity Color shift control</p>	<p>P²-LAMI</p> <p>Lamination defects Absorbing defects</p>	<p>P²-CUT CONTROL</p> <p>Size measurement Form check</p>
<p>P²-EDGE</p> <p>Grinding quality Asymmetry check Edge defects</p>	<p>P²-OPTICS</p> <p>Distorting defects Optical defects Zebra and more...</p>	<p>P²-3D</p> <p>Bending inspection Flatness 3D Form</p>

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