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SurfaceSTAR: The new, preconfigured surface inspection systems for blown film, cast film, and converting applications

The Surface & Print Inspection division of ISRA VISION, a leading global provider of machine vision solutions, is further expanding its business with machinery manufacturers by introducing the SurfaceSTAR brand. This new product range currently includes a surface inspection system (SIS) and a plug-and-play sensor system for detecting gels, inclusions, and other similar defects. The brand is aimed at manufacturers of blown film, cast film, coating, and converting systems. The cost-effective and scalable standard systems are available as preconfigured modules from stock. Thanks to their plug-and-play functionality, they can be adapted to existing production environments quickly and easily, saving both the manufacturer and the end customer time and money.

SurfaceSTAR SIS is an inline inspection system for automatically detecting surface defects. It comprises a camera bank with a high-end embedded vision camera and LED lighting. The SMASH inspection software and the easy-to-use, browser-based Touch & Inspect user interface complete the package.

The SurfaceSTAR camera and lighting technologies come from the well-known SMASH series and are developed and manufactured by ISRA VISION in-house. They can reliably detect and classify surface defects starting from around 100 µm, depending on the web width. The standard inspection width is between 200 mm and 1600 mm, with other widths available on request.

Thanks to its plug-and-play functionality, SurfaceSTAR SIS integrates into the customer's environment quickly and easily. The SurfaceSTAR SIS software included with the system offers the latest features, such as the Auto-X Features, and a self-learning AI-based classifier, allowing for a quick ramp-up of production. By detecting and classifying all relevant defects, the system gives the operator immediate feedback on the production process and the quality of the material. Moreover, based on the obtained data, it allows production-related defects to be mitigated immediately. This effectively minimizes waste and continuously optimizes both the quality and the process.

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New gel sensor facilitates closed-loop control for process optimization

SurfaceSTAR GS (gel sensor) is a compact, all-in-one inspection sensor for detecting gels, inclusions, and black spots when manufacturing blown or cast films. This sensor combines all the required components, such as the embedded camera, LED lighting, and the sensor itself, in a single compact system. The field of view width is 400 mm. The innovative GS software included with the sensor is based on the high-end SMASH technology developed by ISRA VISION and guarantees top performance at all times. SurfaceSTAR GS is the first product of its kind that does not require a user monitor to run; instead, it can be operated via commercially available mobile devices (smartphone, tablet, etc.).

The sensor system is available as a turnkey plug-and-play component for the plant manufacturer to install directly or as a retrofit kit to add to existing production lines. The system can be integrated into the line via the flange-mounting points provided or, alternatively, using a stand to save as much space as possible. Moreover, because SurfaceSTAR GS supports the OPC (Open Platform Communications) and MQTT (Message Queuing Telemetry Transport) Industry 4.0 standards, it can communicate directly with the existing process control system. The result is a closed control loop, which counts and monitors defects as they arise. This enables potential problems caused by temperature fluctuations during extrusion, for example, to be identified at the earliest possible stage and remedied by adapting the process parameters accordingly. The system, therefore, helps to prevent defective products and to lower costs.

You can find more information on SurfaceSTAR SIS and SurfaceSTAR GS online at www.isravision.com

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SurfaceSTAR SIS (surface inspection system) is an inline inspection system kit for automatically detecting surface defects. It includes a camera bank with a high-end embedded vision camera, LED lighting, and other required ISRA hardware and software components.

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SurfaceSTAR GS (gel sensor) is a compact, all-in-one solution for detecting gels, inclusions, and black spots when manufacturing films.

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