

ARTIFICIAL INTELLIGENCE

Glass container manufacturing bolstered by HSTEC's AIQ Workstation

TRANSFORMING GUIDE PLATE QUALITY INSPECTION

In the current production process for glass containers, the quality inspection of, for example, guide plates is largely reliant on manual checks by human operators. Each guide plate, essential for forming the top portion of glass containers, must be closely examined to ensure defect-free functionality. This process, however, is prone

to human error and requires intense concentration and physical effort from operators. The repetitive nature of this work, combined with the need for unwavering precision, can lead to missed defects and inconsistent quality, especially during extended shifts. To address these challenges, HSTec's AIQ Workstation redefines the inspection process by offering an AI-powered, automated

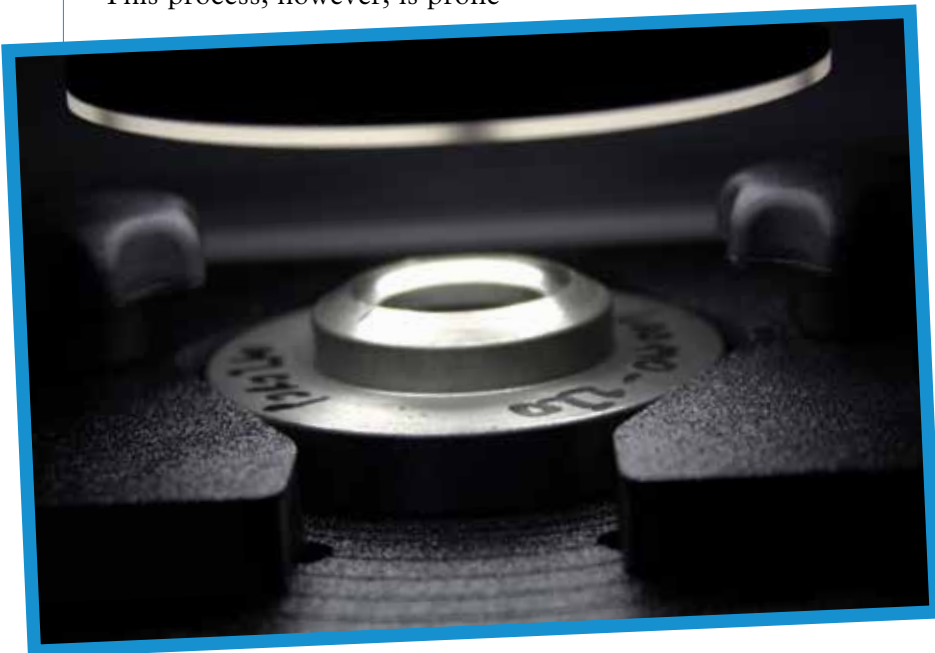
solution that delivers 100 percent accuracy without the limitations of manual checks.

A VERSATILE SOLUTION FOR 100 PERCENT QUALITY CONTROL

The AIQ Workstation can either be deployed as a standalone unit, integrated into an automated robotic cell, or placed within a functional robotic work cell, thanks to its compact design. This small footprint ensures it can easily fit into various production settings, even those with limited space, without requiring extensive reconfiguration. Whether as an individual unit or part of an automated line, it adapts seamlessly to support the specific requirements of the glass container manufacturing process.

ADVANCED ANOMALY DETECTION AND TRACEABILITY

Equipped with high-resolution cameras and AI-driven anomaly detection algorithms, the AIQ Workstation excels at



AI-driven and ensuring 100 percent defect detection, the AIQ Workstation from HSTEC revolutionizes quality control for glass container manufacturing by automating the traditional, manual process of guide plate inspection. Enhancing traceability while providing real-time data access, with its versatile deployment options it improves accuracy, efficiency and consistency – ultimately raising glass container quality standards.



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identifying a wide range of surface defects on various parts of glass container mould equipment, including scratches, dents and micro-inconsistencies that can impact container quality. As production demands evolve, it can be upgraded with additional cameras to expand coverage, capturing even the smallest deviations with precision. The AIQ Workstation also features integrated Optical Character Recognition (OCR) capabilities that read engravings on each guide plate. This enables full traceability, linking each inspection outcome to a specific workpiece and ensuring a comprehensive record of quality compliance. This traceability feature supports quality control teams in tracking and analyzing defect patterns, helping to inform improvements in upstream manufacturing processes.

REAL-TIME DATA ACCESS AND CONNECTIVITY

The AIQ Workstation also enhances operational oversight through its advanced connectivity options. Integrated into the local network, it provides real-time inspection data that quality control teams can access instantly, enabling quicker responses to production anomalies. Alternatively, with 5G connectivity, the AIQ Workstation allows remote access to inspection data, facilitating off-site monitoring and diagnostics. This flexibility ensures that inspection data and insights are readily accessible from anywhere, supporting dynamic and proactive quality management.

IMPROVED PRODUCT QUALITY AND OPERATIONAL EFFICIENCY

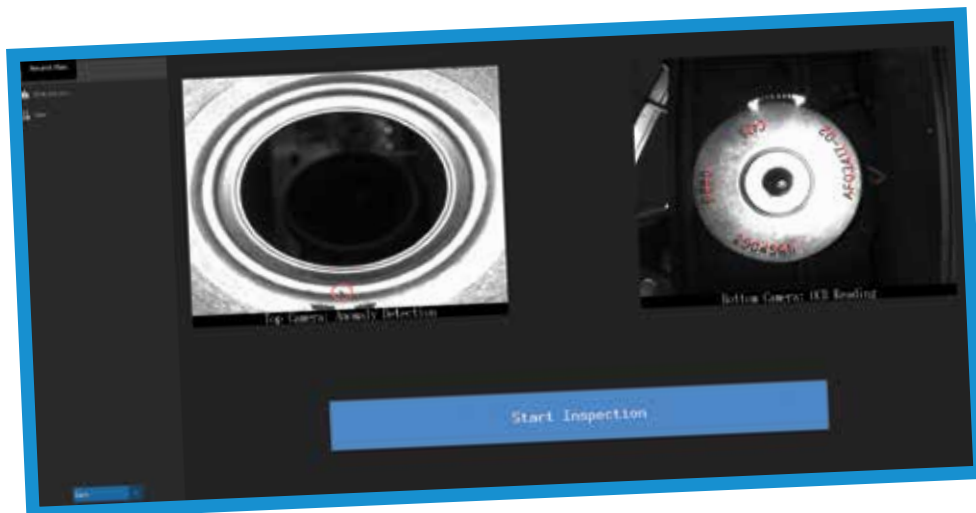
By automating the inspection process, the AIQ Workstation eliminates the inconsistencies and strain associated with manual checks. It ensures that every glass container mould part meets stringent quality requirements, minimizing the risk of defects in the final glass containers and reducing costly rework. Its ability to conduct 100 percent inspection with high accuracy not only elevates the reli-



ability of glass container mould equipment. It also streamlines production efficiency, enhancing overall product quality and customer satisfaction.

The AIQ Workstation represents a forward-looking solution

for quality control in glass container mould equipment manufacturing. Its modular design, expandable hardware and advanced connectivity capabilities make it an invaluable tool for ensuring consistent product standards in an industry where precision and reliability are paramount. ■



HSTec
Glass Systems

**HSTEC GLASS
SYSTEMS**

Zagrebačka 100
23000 - Zadar - CROATIA
Tel: +385-23-770-595
info@glass-systems.hr

www.glass-systems.hr