

# Two tools introduced for flexible glass inspection

Emhart Inex has introduced two tools for glassmakers that it believes will increase automation efficiency and reduce costs. The Flexinspect family, comprised of Flexinspect BC and Flexinspect M, offers a configurable platform for modular versatility.

**F**lexinspect BC can perform all of the optical inspections necessary to ensure that a quality product is being shipped to the end user. Inspection functions for sidewall, dimensional, stress, finish and base are all performed in a continuous, in-line machine that operates at production line speeds.

This combined 'one box' system allows customers to configure only those functions they need on a modular platform. This allows for the opportunity to keep costs down while having the flexibility to add additional inspections on the existing platform as the need arises. Based on Emhart Inex's proprietary architecture, this new system improves ease of use and streamlines maintenance while offering flexibility for incorporating cutting edge inspection technologies.

## Flexinspect BC

Flexinspect BC inspects round and non-round containers with heights from 38 to 381mm and diameters from 16 to 170mm. Bottles are inspected as they pass through a ware spacing device that is integrated into the handling system. Multiple cameras with high resolution optics and a variety of illumination and lighting techniques are employed in this eight-station machine. Flexinspect BC, when fully loaded with all available options, can capture 18 individual inspection views of the side wall (six opaque, six transparent, three dimensional and three stress), as well as sealing



Emhart Glass operates four facilities in the USA (Connecticut, Missouri, Florida and New York).

surface, base, base stress, vision plug, wire edge, vision dip and mould reading with two dedicated cameras for dot codes and bottom codes. The proprietary design includes 360° wraparound and patterned lighting for 100% sidewall inspection even when inspecting embossed or fluted containers, precisely pinpointing both opaque and transparent defects. Polarised lighting is utilised for stress inspection to ensure detection of stress defects that are not captured by conventional methods.

Designed for ease of communication over Ethernet networks, Flexinspect BC provides comprehensive quality data in real time and facilitates immediate action on product variance or manufacturing issues. A new control centre with a colour 19in touch screen user interface has been developed that uses icon-based command sequences for simplified

set up and operation. Product parameters are pre-programmed for easy recall of set standards, thereby reducing downtime for job changes.

The in-line machine design allows straightforward installation on a break in the existing production line. Other features include overhead opening doors for quick interior access, control console conveniently positioned for optimum operator comfort and active electronics cooling with air conditioning.

Standard inspections include:

- Sealing surface.
- Base.
- Vision mould number reading in base image.
- Opaque sidewall defect.
- Transparent sidewall defect.
- Sidewall stress.
- Dimensional inspection.

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Optional inspections include:

- Base stress.
- Vision plug gauging.
- Wire edge.
- Vision dip/saddle.
- Bottom up mould reading.
- Top down alpha code/ bottom dot reading.

Additional views for opaque sidewall defect, transparent sidewall detect, sidewall stress and dimensional inspections (with additional cameras and double image acquisition)

### Flexinspect M

Flexinspect M gives glass manufacturers an extensive range of inspections to confirm container attributes and verify manufacturing standards. True to the Flexinspect name, this machine also provides flexibility to run round and non-round ware ranging from 16mm diameter x 36mm tall (21mm minimum shoulder height) to 170mm diameter x 350mm tall (260mm maximum shoulder height.) With speeds to 400bpm, Flexinspect M is a versatile machine for all check inspection requirements.

Standard inspections include vision plug, ring and dip inspection, modulated light and sensor check inspection and heel dot code mould number defect correlation. Glassmakers can choose from a menu of optional inspections to tailor their system for individual requirements.

Optional inspections include:


- Contact plug and ring inspection.
- Contact dip inspection.
- Vision check inspection.
- Vision base code mould number defect correlation.
- Vision wire edge detection.
- Vision knockout/flange detection.
- Wall thickness measurement (VMA).
- Wall thickness measurement (CHRocodile).

Containers are carefully transferred during high speed inspection through servo-controlled starwheel handlers and Flexinspect M demonstrates its flexibility in this area. It may be configured with Emhart 9/18 or 6/12/24 pocket starwheels as well as other industry standard starwheels. After inspection, acceptable containers are gently guided back to the production line conveyor and defective containers are rejected as they exit the machine.

Flexinspect M also offers three methods for machine speed regulation – one manual and two automatic to suit each glass plant's requirements. The icon-driven, touch screen operator centre simplifies control and allows easy data communication over most plant Ethernet networks.

"The new Flexinspect family of vision inspection machines gives glassmakers the tools to compete in the competitive and evolving marketplace. These inspection systems are destined to enhance the quality and integrity of glassmakers' products for decades to come," says Glen Long, Director of Sales, Marketing and Customer service at Emhart Inex. ■




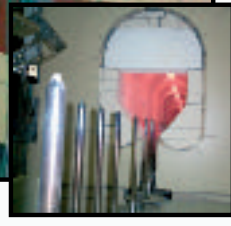
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