IV700 Vision System for empty bottles Inspection

The FT System IV700 Vision system will detect defects on empty glass and plastic containers. The system can detect chipped finish on the sealing surface, residual rinsing fluid or foreign objects in the bottom of the container, scuffs and cracks in the sidewall or damaged or missing threads. The system uses dedicated cameras to inspect each container at full production speeds. The ergonomic design provides easy access to the control panel and supports fast tool-less change overs. The system is modular in design and can be configured to inspect a single region or all surfaces of the container.

IV700 VISION TECHNOLOGY

Theory of Operation

The FT System IV700 Empty Bottles Inspection system uses independent inspection units to inspect specific areas of the container. Each inspection unit includes a camera with microprocessor for image acquisition and processing and industrial optics. The enclosed inspection tunnel utilizes an analog light driver to control lighting intensity. As the container passes through the system the independent cameras capture the image of a specific area of the bottle. If a container has shifted out of position, FT System special "dynamic position compensation" algorithm compensates for the movement and adjusts the image.

- **Base inspection for clear and opaque substances**
- **Neckfinish inspection**
- **Sidewall inspection (dirt and/or damage)**
- **Scuff detection**
- **Thread inspection**
- **Residual liquid detection**
- **Bottle shape verification at machine in feed**
- **Rejection of broken or damaged bottles to a reject bin using a ram style rejector**
Bottles with foreign objects or residual liquid can be diverted to back to the rinser using a progressive rejector.

FT System
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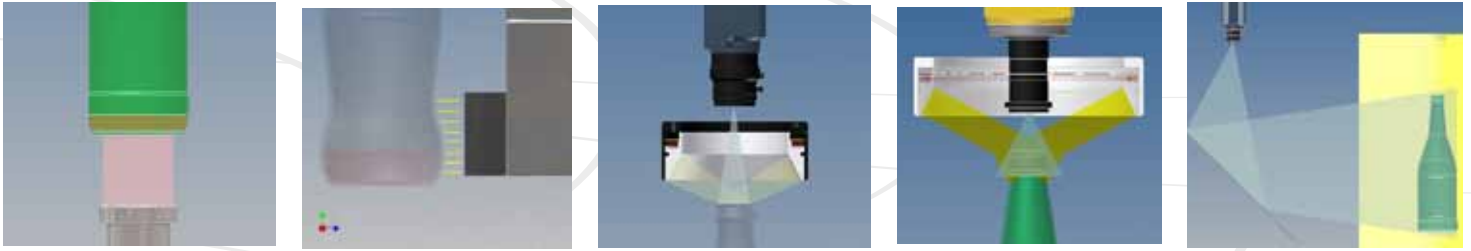
CAMERA SYSTEM FEATURES

Stainless steel independent support structure for camera and illumination source.
Industrial camera with dedicated microprocessor
Enclosed illuminator designed for uniform lighting of all closure surfaces
Strobing LED light source with analog light driver. Lighting intensity can be set for each container type to optimize image quality
Standard 1600x1200 (high resolution) cameras

CONTROL SYSTEM FEATURES

- Independent controller housing
- Microprocessor unit with integrated UPS (uninterrupted power supply)
- Ethernet communications port
- Industrial PC with 15" TFT touch screen monitor
- FT System Control Manager Software
- Simple user interface designed for easy set up and change-over
- Dynamic position compensation algorithm that compensates for containers that have moved laterally on the production conveyor. Software scales the image to improve image analysis
- Segregated data base for storage of historical production data for up to 18 months including storage of past failure alarms with date and time stamp.

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