

Technical News Bulletin

October 2022



New sidewall inspection device for opaque, transparent and stress type defects on the FlexInspect T

- Optimized illumination and camera controls for each inspection type (opaque, transparent and stress)
- Sealed, touch free optics
- Motorized camera adjustment for fast repeatable positioning

Introduction

The new sidewall inspection device for the FleXinspect T provides dedicated inspections for opaque, transparent and stress type defects. Adjustable, multi-patterned (high intensity) LED lights can be set up for the cameras to capture the optimal image for each inspection type.

System Description

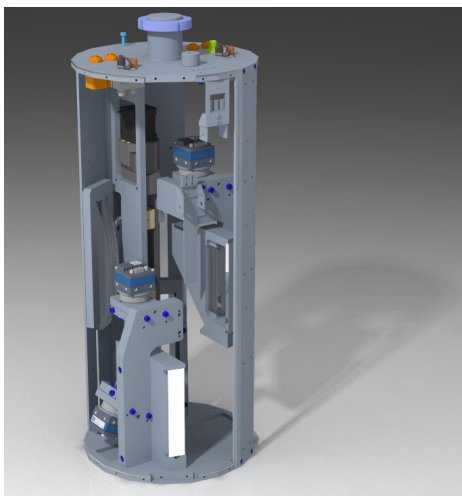
The FleXinspect T sidewall inspections are performed by capturing six fully unwrapped images of each container. With three upper views and three lower views (opaque, transparent and stress) the cameras look directly through the center axis of the bottle as it rotates. Each view provides a 360+ degree image of the container sidewall as it rotates. The positional heights of the cameras use programmable servo motors providing complete coverage of the entire sidewall of the bottle. The captured images have no distortion or shadows ensuring defects are reliably and repeatably detected.

Challenge of optimizing sidewall inspection for opaque and transparent type defects with the same light source

To detect transparent/cosmetic type defects, a uniform backlight (normally used for opaque defects) is not the solution. The backlight needs to be programmable to create a patterned/structured backlight to allow the cameras to see the refracted light from the defect as the light passes through.

Emhart's sidewall solution

The new FleXinspect T sidewall device uses two separate cameras (for opaque and transparent – upper and lower) and two separate cameras for stress inspection (upper and lower). Additionally, the new programmable light sources optimize the various light patterns to reliably detect each defect. The system now obtains the highest quality image for each inspection type. Users of existing FleXinspect T machines equipped with sidewall inspection can easily upgrade their systems to the newest technology.



Availability / Application

Field upgrades for the new line scan sidewall device providing opaque, transparent and stress inspections are now available for the existing generation 2 SCOUT FleXinspect T machines. This new sidewall device is now standard for all new generation 3 FleXinspect T / FleXinspect T¹⁸⁰ machines equipped with sidewall inspection.

Installation Requirements

This inspection device can be added to all FleXinspect T generation 2, FleXinspect T generation 3 and FleXinspect T¹⁸⁰.

Features

Independent light and camera settings for each inspection type

Motorized camera height adjustments

Sealed touch free optics

Benefits

Allows the user to optimize the images, to achieve the best results for each inspection type

Accurate and repeatable positioning of the camera optics when recalling previously saved jobs

Eliminates required maintenance and reduces the potential of mis-adjustments of the optical assemblies

