

Accurate Inspection of Randomly Oriented Cylindrical Surfaces

Cylindrical surfaces of three-dimensional products such as bottles, vials and cosmetic containers are difficult to inspect. Cameras often cannot be placed in the ideal locations, the part may have unknown orientation, or the surface to inspect may span multiple camera views. The OmniView Cylindrical Product Inspection System solves these problems.

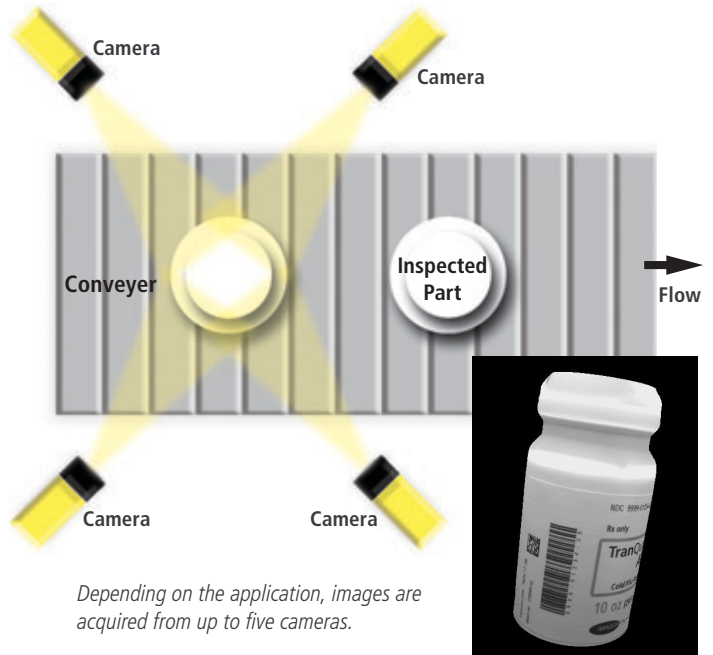
This system uses images acquired from one or more cameras, and combines those images to create a seamless and undistorted image of an object surface. As long as a feature of interest appears in one or more of the physical camera images, it can be inspected.

OmniView completely eliminates the complex and expensive requirement to mechanically spin parts in order to inspect them. This reduces production line complexity, lowers costs, and increases production speed.

OmniView even compensates for rotation, tilt, uneven lighting, and perspective distortion ... the factory floor problems that exist in the manufacturing process.

Advantages

- Dramatically simplifies part handling and inspection by eliminating the need to spin parts in order to inspect them
- Handles random part rotation, tilt and position
- Allows entire curved surface to be inspected at the same time



Complete Hardware and Software

The OmniView Cylindrical Product Inspection System comes complete with:

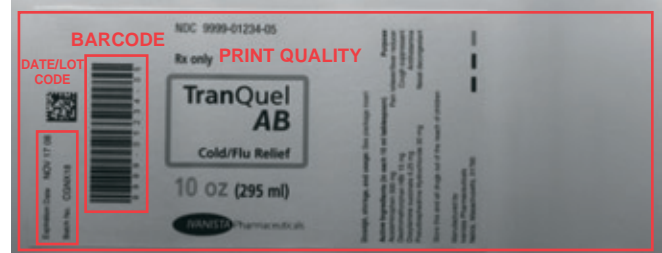
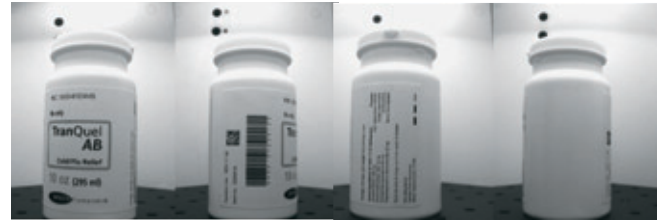
- Application software
- Cognex PC-based frame grabber
- Fully-configured PC
- Cameras
- Illumination system
- Software for remote diagnostics
- Design kit for mounting hardware

- Enables non-contact 100 percent inspection at up to 1200ppm, at standard resolution
- Provides extremely robust solutions that result from Cognex leading-edge vision algorithms
- Offers a faster and less expensive solution than line scan cameras

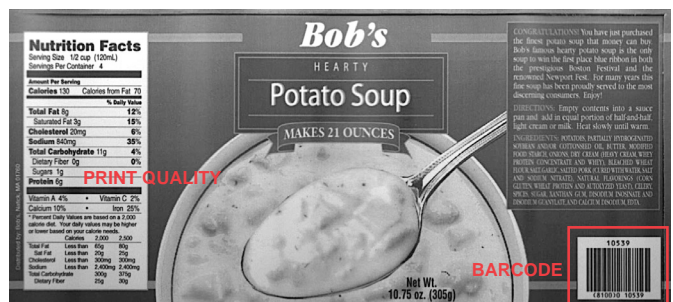
Applications

The OmniView system facilitates traceability and performs extensive product quality checks on cylindrical food, beverage, pharmaceutical, and many other products. Packaging flexibility, food safety, productivity, and quality control all benefit from the simplified 360-degree product inspection. Here are some of the many OmniView applications and benefits:

- **Confirming package/product match** ... lowering the risk of a recall
- **Reducing scrap** ... by detecting wrong or mislabeled products early in the production process
- **Checking for torn or missing labels** ... critical to the packaging process
- **Reading 1D and 2D codes** ... enables products to be tracked and traced through manufacturing
- **Verifying label printing integrity** ... to ensure a positive brand image on store shelves
- **Detecting damaged products** ... that result from operations such as cartoning
- **Checking date code presence** ... ensuring that an inkjet printer is functioning properly
- **Performing date/lot code OCR and OCV** ... verifies that product information is correctly printed and that labels are placed onto the right products
- **Checking for roundness** ... for enhanced brand image
- **Gauging** ... without a telecentric lens



A seamless and undistorted image of a cylindrical pharmaceutical product simplifies inspections needed for product safety and traceability.



The 360-degree virtual image of cans and bottles facilitates label inspection and code reading.