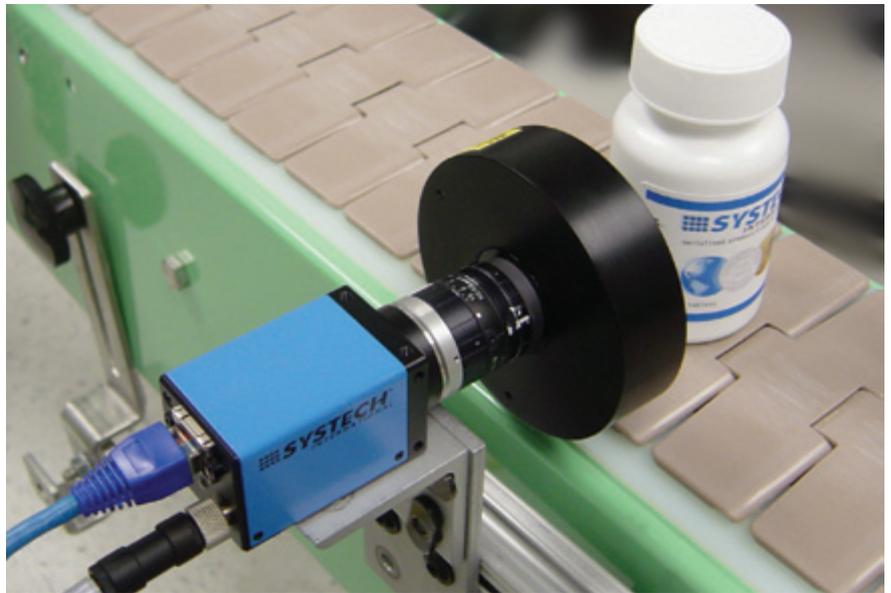


Pharmaceutical packaging control

Reliable package inspection system based on Baumer cameras ensures 100% control of pharmaceutical packaging

The pharmaceutical industry requires 100% accuracy in their packaging operations. Therefore, to guarantee packaging integrity, pharmaceutical companies demand highly reliable vision systems. Accurate inspection of 'critical copy' elements including product identification codes, optical characters and 1-D or 2-D Barcode contain crucial data. In order to capture all this information, digital matrix cameras like Baumer's product offering, provide reliable images to ensure quality control.

Systech Senti, Systech's vision inspection product, offers an extensive set of vision inspection tools including Optical Character Verification (OCV), Optical Character Recognition (OCR), Barcode Verification (BCV) and Print Quality Verification (PQV). Combining these tools with Senti's intelligent location registration methods provides the flexibility to handle variations in product size and print locations. In support of this, Senti allows an unlimited combination of inspection tools from a single image with up to 4 independent camera acquisition channels. Senti uses



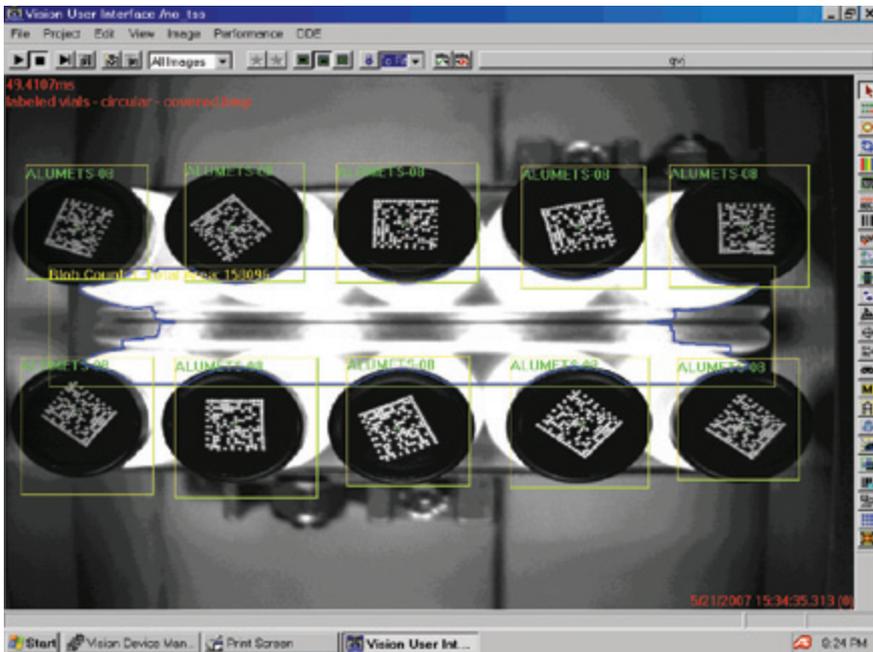
Systech camera

up to 4 Baumer Gigabit Ethernet cameras with Power over Ethernet (PoE) technology connected to a Baumer unmanaged switch for signal consolidation in order to acquire the images for inspection. The cameras with VGA resolution are capable to provide up to 90 frames per second. The Baumer cameras work with the Senti software to capture images at high speeds, which results in higher throughput of product with 100% inspection and verification. The GigE Vision® interface was chosen in order to realize a simple multi-camera setup. Additionally, Baumer's Power over Ethernet technology as a single cable solution helps to save installation and maintenance costs. For a reliable inspection, the vision tool outlines the area, which needs to be inspected. Senti can put multiple images on the screen and apply OCV, OCR, or data-

matrix recognition, making it easier for the line operator to operate the system. A clear advantage of Baumer's digital cameras is the support of Systech's image merging and multi-trigger stitching acquisition modes. This way ultra-high resolution images can be built using multiple lower resolution cameras. These synthetic multi-megapixel images allow high fidelity machine vision analysis to be used where it otherwise would not be possible. On the other hand, some inspections, like broad area PQV or inspections driven by regulations such as CIP13, require high native image resolution. Baumer cameras support this by delivering high resolution cameras where needed while making available the less costly lower resolution cameras for use where appropriate. It is a saying in machine vision that 90% of any solution comes from



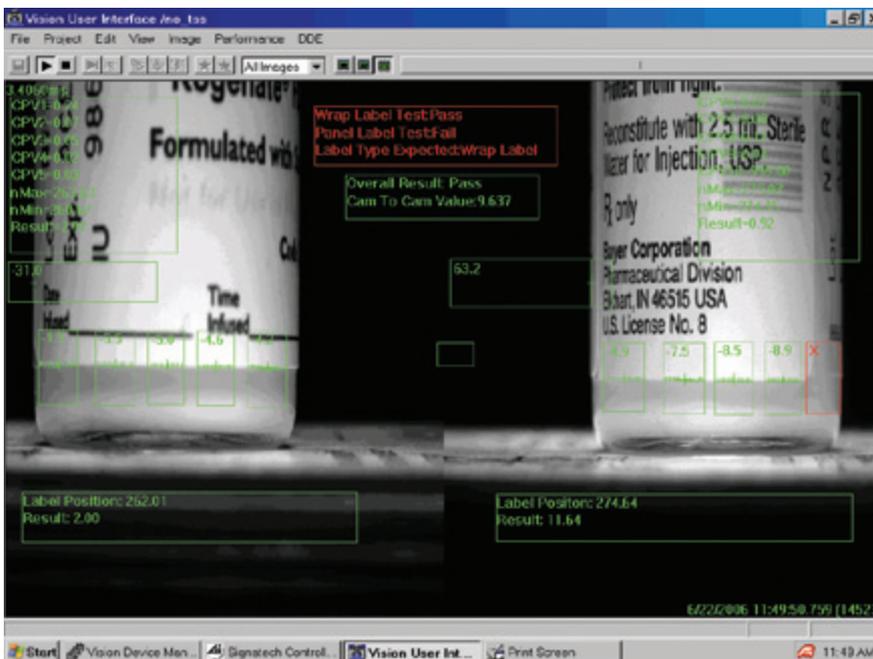
Layer



Labeled Vials - Circular - Covered

acquiring a high quality image. Baumer cameras support this by reliably delivering images to Systech's inspection tools at high sustained rates (>1200 PPM) for long periods of continuous production without lost transfers, missed triggers or corrupt image data. Baumer's high image quality and stable trigger/strobe synchronization is ensuring that Systech's machine vision

tools see what they need to in order to perform their jobs. Overall, by using Baumer cameras, Systech is able to provide reliable inspection systems detect seal defects, verify correct quantities and the color of vials in cartons and trays, inspect stopper positions and liquid fill levels as well as all kinds of identification codes.



Labelskew



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