

# APPLICATION EXAMPLE

## Apex 3-CMOS R-G-B color area scan cameras for pharmaceutical inspection

The pharmaceutical industry is under constant pressure to meet international regulations and safeguard patient health. Achieving this requires reliable quality assurance routines throughout the production of tablets and liquid medicines.

Below are key examples of machine vision inspections where precise color accuracy is essential, and where the Apex Series can help improve inspection efficiency.

### Tablet coating and color uniformity

In addition to verifying shape, size, and surface defects, monitoring color consistency is critical. Slight variations in tablet color can indicate improper coating, incorrect formulation, or mixing errors.

### Ampoule and vial inspection

Optical inspection ensures the integrity of glass containers by detecting cracks, scratches, or incomplete seals. Equally important is verifying label colors—such as warning labels—and color codes to confirm they are printed correctly and remain legible.

### Outer packaging inspection

Color print inspection plays a vital role in confirming correct color tones, detecting blurred or missing text, identifying misalignments, and at the same time ensuring barcodes and QR codes are properly printed for reliable traceability.

### The Apex advantage

JAI's Apex Series 3-CMOS R-G-B cameras provide highly accurate color differentiation and superior spatial resolution, enabling vision systems to detect subtle color variations and the smallest defects. This capability makes them an ideal camera component in a range of pharmaceutical inspection tasks including above examples.



### AP-5100T models:

- 3 x 5.1 megapixels. (2472 x 2064 pixels).
- 3 x IMX548 Pregius S (backside illuminated).
- Up to 75 FPS full resolution.
- 2.74  $\mu\text{m}$  x 2.74  $\mu\text{m}$  pixels.
- CoaXPress v2.0, 5GigE Vision and Camera Link.

### AP-3200T models:

- 3 x 3.2 megapixels. (2064 x 1544 pixels).
- 3 x IMX265 and 3 x IMX252 Pregius.
- Up to 106 FPS in full resolution.
- 3.45  $\mu\text{m}$  x 3.45  $\mu\text{m}$  pixels.
- 10GigE Vision, USB3 Vision and Camera Link.

### AP-1600T models:

- 3 x 1.6 megapixels. (1456 x 1088 pixels).
- 3 x IMX273 Pregius.
- Up to 126 FPS in full resolution.
- 3.45  $\mu\text{m}$  x 3.45  $\mu\text{m}$  pixels.
- Interfaces: GigE vision, USB3 Vision and Camera Link.

### More information:

For more information on the Apex 3-CMOS prism-based camera models please visit:

<https://www.jai.com/products/product-lines/apex-series-3-sensor-area-scan>

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