AI-powered visual inspection with DAI-50

DAI-50 is the world's first fully automated visual inspection machine built for difficult-to-inspect products. Powered by Boon Logic's AI inspection platform, AVIS, the DAI-50 learns normal variations in acceptable products, delivering unprecedented inspection accuracy with minimal false ejections.

Dimensions: 97 in x 74 in

Throughput: 70 units/minute

Max no. cameras: 4

Container size: Up to 1,000 ML

Inspection technology: AVIS

Training time: 60 minutes

Case study

Powder-filled molded glass

Challenge

A CMO recently failed numerous AQLs from semi-automated visual inspection and was looking for a solution to inspect their powder-filled molded glass container.

Solution

AVIS developed an inspection recipe by learning from 500 compliant vials, capturing normal variations like irregular glass thickness, bubbles, and powder clumps.

Outcome

A feasibility assessment was conducted with AVIS using a customer-defined defect set. The detection accuracy was 98% with a false eject rate of 3%, significantly outperforming human inspectors.

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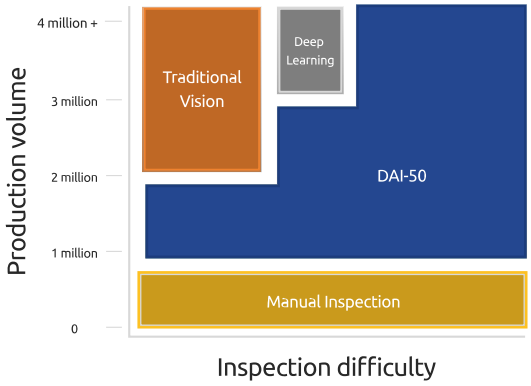
The next generation of visual inspection

The gap in pharma visual inspection

A gap exists in pharmaceutical manufacturing for inspecting difficult-to-inspect products. Traditional automated systems are slow to train, hard to qualify, and prone to high false eject rates. As a result, manufacturers rely on manual inspection for products like lyophilized cakes, powders, and molded glass.

The DAI-50 closes this gap by enabling reliable, automated inspection where it wasn't possible before. It adapts to each product's natural variation, maintaining accuracy while dramatically reducing false rejects and manual workload.

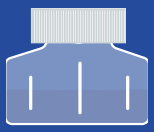


Difficult-to-inspect products

Powder and lyophilized product

Tubular and molded glass

Liquids prone to bubbles



Translucent plastics

Understand the normal to detect the abnormal

Once you know what normal is, detecting the abnormal is easy—even with difficult-to-inspect products. Unlike conventional AVI systems that rely on manually configured, rule-based models, the DAI-50 uses AI to build its model by learning from the normal variation found in acceptable units.

As a result, manufacturers can detect all visible defects with near 100% accuracy—without compromising yield due to high false eject rates.