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(57) Abstract :

An autonomous quality inspection apparatus is disclosed, comprising a conveyor (12), object under inspection (14), robotic arm (16), and AI-enabled vision system with camera (18). The invention provides real-time classification of products using AI, coordinated by a controller. Defective products are removed or repositioned using the same robotic arm, ensuring seamless inspection with minimal human intervention. The apparatus achieves high-speed, adaptable inspection in manufacturing environments, enhancing consistency, traceability, and operational efficiency.

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