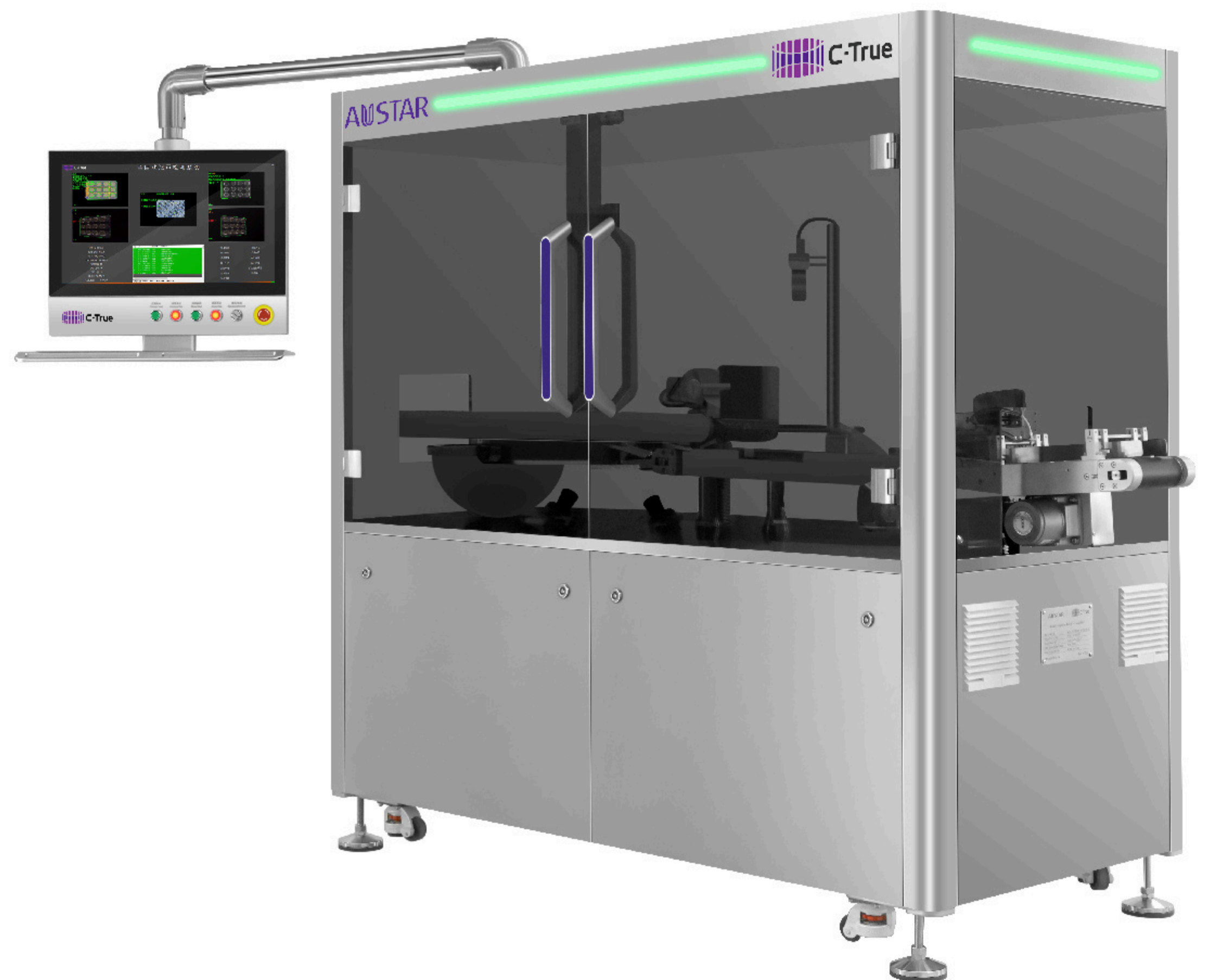


Automatic Blister Inspection Machine ABI-450 Series

Product Introduction

The ABI-450 Series Automatic Blister Inspection Machine includes two models: the single-channel 450D and dual-channel 450S. The system utilizes high-precision optical imaging and intelligent algorithms to perform fully automated inline inspection of aluminum-plastic blister packs. The system is capable of rapid and accurate identification of packaging defects (including missing pills, breaches, and foreign matter), precisely locating flaws while classifying and recording them in real-time. This solution completely replaces manual visual inspection, ensuring outgoing product quality while significantly improving production efficiency.



Functional Characteristics

Smart Vision Algorithm

- Integrating AI deep learning with traditional algorithms to effectively reduce false rejections while improving defect detection rates.
- AI adaptive learning automatically optimizes algorithm parameters and continuously improves the model through large-scale data, effectively enhancing detection accuracy and stability without frequent manual intervention.
- AI enables precise detection of complex latent defects, including subtle tablet chipping, indentations, and color variations, with outstanding robustness against lighting and size variations, significantly improving accuracy.
- Supporting unsupervised anomaly detection, learning solely from normal product samples to accurately identify unknown and novel defects.

Rejection & Control Systems

- Through-beam Fiber Optic Triggering: Ensures stable activation regardless of blister type, eliminating untriggered events that cause missed inspections.
- Real-time Pressure Monitoring: Continuous tracking of bellows vacuum and ejection air pressure.
- Aerial Ejection Mechanism: Solves critical rejection challenges including non-inflated blisters and malformed cuts.
- Rejection Verification Mechanism: Monitors the ejection status to achieve closed-loop control.

System Compliance & Governance

- Compliant with FDA 21 CFR Part 11.
- Database management with audit trail functionality, detection data download, backup, and printing.
- Supporting offline analysis and remote diagnostics.
- Comprehensive functionalities include recipe management, three-tier access control, and electronic signatures.

Product Advantages

- Independent Intellectual Property: Core technologies with full autonomy and controllability.
- High Compatibility: Supports multiple blister pack types.
- Audit-ready Tracking: Complete process history recording.
- Comprehensive Data Repository: Real-time statistical monitoring and fully retrievable historical records.
- Customized Development: Tailored solutions for client-specific requirements, including PVC layer, lidding foil, blister sidewalls, etc.

Technical Parameters

Product Category	Defects
Capsules	Capsule Defects: Empty cavity, broken capsule, double cap, discolored capsule, capsule size variation, split capsule, stained capsule.
	Blister Cavity Defects: Foreign matter in cavity, powder leakage, crushed cavity, poor cavity forming.
	Product Side Defects: Powder residue, stains, hair, poor cutting, improper sealing, missing batch number, cut-off batch number, misaligned batch number, overprinted batch number.
	Lidding Side Defects: Foil seam defects, foil perforation, foil contamination, misaligned logo.
Tablets	Tablet Defects: Empty cavity, broken tablet, overlapped tablets, chipped edge, cracks, color variation, embedded spots, coating defects.
	Blister Cavity Defects: Foreign matter in cavity, powder leakage, crushed cavity, poor cavity forming.
	Product Side Defects: Powder residue, stains, hair, poor cutting, improper sealing, missing batch number, cut-off batch number, misaligned batch number, overprinted batch number.
	Lidding Side Defects: Foil seam defects, foil perforation, foil contamination, misaligned logo.

Main Parameters

Applicable Products	Capsules, tablets, softgels, honey pills
Applicable Specifications	$\leq 125 \times 100$ mm
Inspection Precision	≥ 40 μ m
Inspection Speed	Single-channel: ≤ 450 packs/minute
	Dual-channel: ≤ 900 packs/minute
Net Weight	Single-channel: 400 kg
	Dual-channel: 600 kg
Rated Power	Single-channel: 3.5 kW
	Dual-channel: 8.5 kW
Dimensions (L×W×H)	Single-channel: 1900×800×1700 mm
	Dual-channel: 1900×920×1700 mm
Power Supply	AC 380 V / 50 Hz
Air Supply	≥ 0.5 MPa

