

Double-sided Multifunctional AOI

V5300 Series

Double-sided AOI



Double-sided AOI

PCBA Double-sided Simultaneous Inspection Leader

MagicRay Double-sided AOI-V5300 series provide a one-stop unmanned final inspection for simultaneous top and bottom inspection of PCBA and finished goods.

「Product Features」

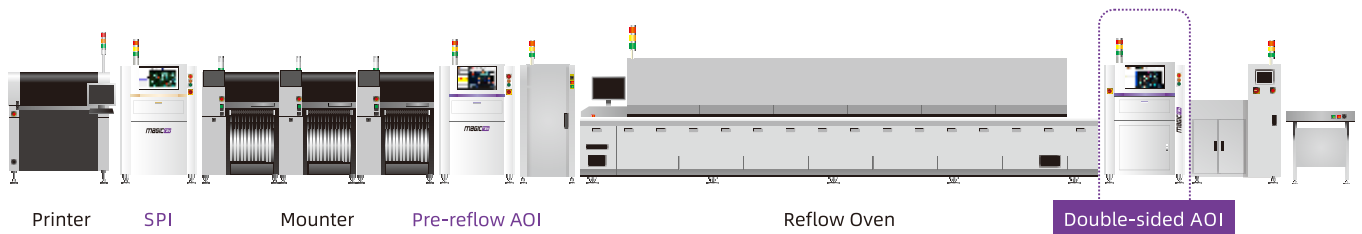
- Unique feature is its ability to inspect on both sides of the PCBA simultaneously saving production floor space and investment.
- Pulley type conveyor can be selected vs the standard belt type, of which the former is more resistant to high temperature, dirt and heavy loads.
- MagicRay's proprietary Solder Pad Positioning Algorithm and FOV Assisted positioning make detection of components more accurate.
- CPU-specific algorithm for pins accurately captures various defects such as pin bending, pin deformation and missing pins.



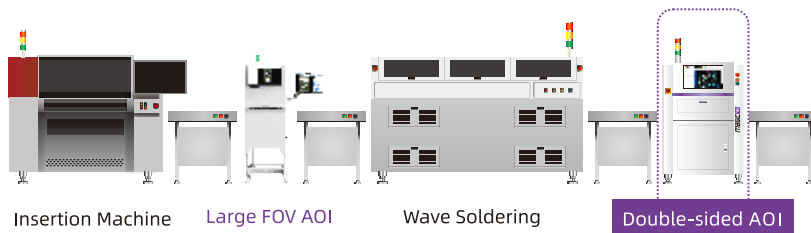
▲ Won SMT CHINA VA China Achievement Award.

「Multifunctionality」

「SMT」



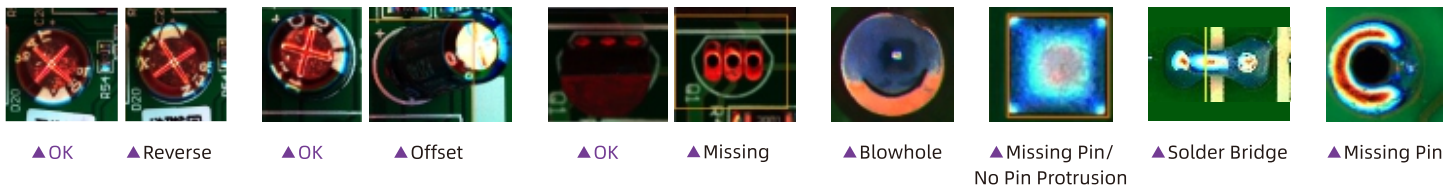
「Wave Soldering」



「Final Inspection」



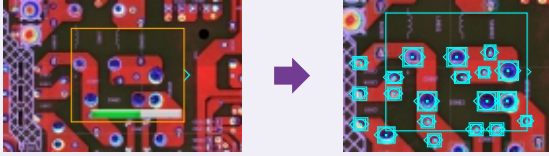
「Inspection Examples」



Core Technology and Advantages

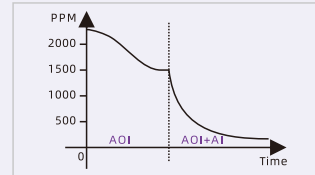
Automatic Pin Programming

Big data + AI deep learning algorithm to identify components can be done with one-click.



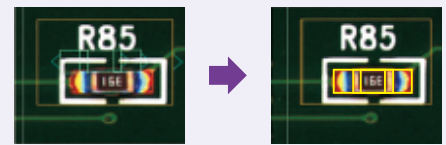
AI Intelligent Discrimination

With big data analysis, our AI deep learning algorithm can automatically identify errors and reduce manual intervention.



Intelligent Solder Pad Positioning + Entire FOV Assisted Positioning

With the use of MagicRay's proprietary Solder Pad Positioning we can significantly reduce false calls that are caused by deformation of PCB after wave soldering. This is even more pronounced for FPC. Our entire FOV assisted positioning algorithm also helps to significantly reduce false calls due to PCB warpage, silkscreen printing and interference cause by the board's legend.

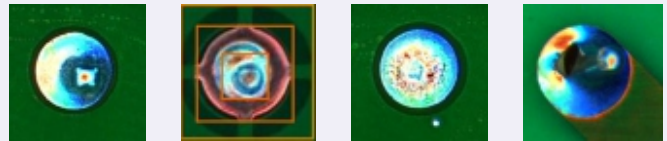


▲ Before positioning

▲ After positioning

Powerful Wave Soldering Algorithm for Through Hole Inspection

Powerful wave soldering algorithm for inspection of manually or machine inserted through hole components.



▲ Good Solder

▲ Insufficient Solder

▲ Missing Pin/
No Pin Protrusion

▲ Blowhole

Features & Functions

Centralized Management

Adopting centralized management of AOI in production line can realize remote judgement, offline programming and real-time debugging update.

Automatic Program Switch Through Barcode Scanning

Auto width adjustment is a standard feature and is achieved by simply reading the PCB's barcode. At the same time, it supports MES command.

Double-side Barcode Binding

Traceability is enhanced thru' our system software, which can automatically bind the barcode data as long as one side of the PCBA carry a barcode.

Major Defects Foolproof

This feature can be set up by an authorized personnel to specifically inspect key locations. This will prevent unauthorized individuals from allowing a bypass of such a location to be inspected. Such a feature helps ensure good control over critical locations to be inspected.

SPC Alarm Function

Real-time production quality monitoring can be achieved thru' timely feedback of abnormal situation, thus, preventing defects from flowing thru'.

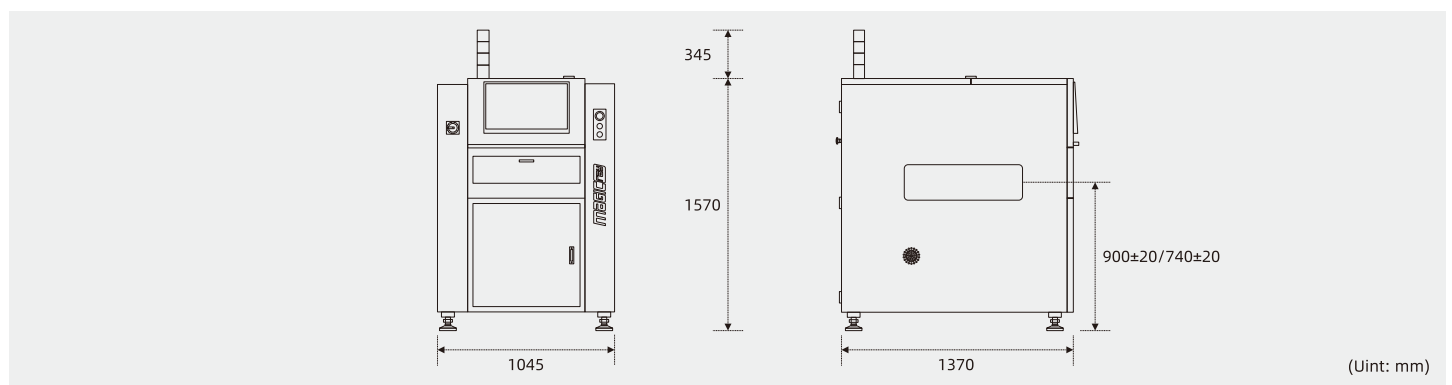
Output Entire Board Photo

The entire board photo of component or non-component area can be saved for the quality traceability purpose after the inspection is completed.

Product Specification

Equipment Model	V5300	V5300XL	
Image System	Camera	5MP/12MP industrial camera	
	Resolution	5MP Camera: 24μm, 15μm; 12MP Camera: 15μm	
	FOV	60°49mm (5MP, 24μm); 60°45mm (12MP, 15μm)	
	Lens	Telecentric lens	
	Lighting	4 color ring shape LED (RGBW)	
Movement Structure	X/Y Movement	AC Servo	AC Servo (Dual Ddrive)
	Width Adjustment	Automatic	
	Transport Type	Belt (Roller pulley optional)	
	Board Loading Direction	Left to right or right to left (Select at point of order)	
	Fixed Rail	1st Rail	
Hardware Configuration	Operating System	Win 10	
	Communication	Ethernet, SMEMA	
	Power Requirement	Single phase 220V, 50/60Hz, 5A	
	Air Requirement	0.4-0.6Mpa	
	Conveyor Height	900±20mm (740±20mm optional)	
	Equipment Weight	900kg	1000kg
	Equipment Dimensions	L1045*D1370*H1570mm (Without tower light)	L1200*D1370*H1570mm (Without tower light)
PCB Size	Size	50*50-510*510mm	50*50-650*610mm
	PCB Weight	≤10kg (Roller pulley optional: ≤30kg)	
	Thermotolerance	≤60°C (Roller pulley optional: ≤150°C)	
	Thickness	0.6-6mm (Roller pulley optional: ≤6.0mm)	
	Component Clearance	Top clearance 25-85mm adjustment, Bottom clearance 25-80mm adjustment	
	Clamping Edge	3.0mm	
Inspection Criteria	Component	Wrong Component, Missing, Polarity, Misalignment, Reverse, IC Lead Bend, Foreign Material, Tombstone, etc.	
	Solder Joint	No Solder, Insufficient Solder, Open Solder, Excess Solder, Solder Bridge, Blowhole, Solder Ball, etc.	
	Inspection Component	Chip: 03015 and above; LSI: 0.3mm pitch and above; Others: Odd shape component	
	Inspection Speed	200-250ms/FOV	

Equipment Dimensions



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