

V500 Series

High Precision and High Speed
Inline Pre-reflow AOI



Advanced Hardware Structure

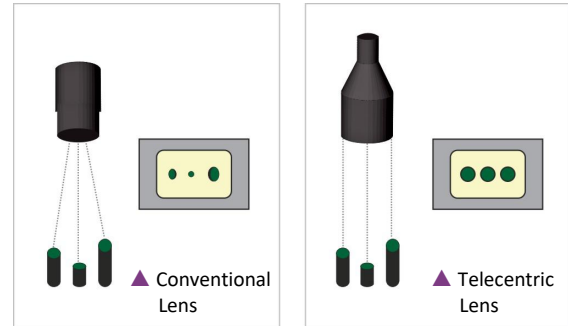
- **Granite Platform and Frame**

Ensure the stability of the equipment and the consistency of sharing program between machines.



- **Industrial Camera + Telecentric Lens**

The high component solder joint inspection is not affected as no shadow effect in the entire field of view.



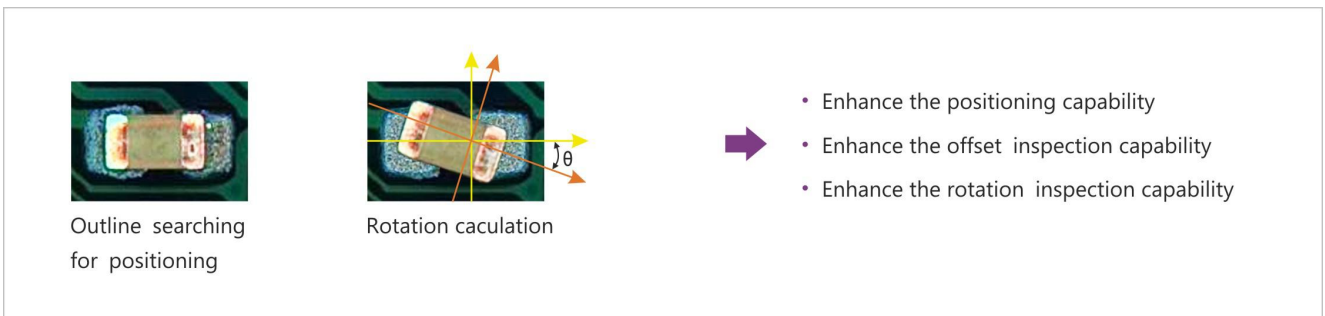
Core Technology and Advantages

- **Component Body Positioning Technology**

Using vector technology and edge searching algorithms, MagicRay can accurately locate the position of the component body. Also, precisely output the X, Y, Θ coordinate of the component and can accurately calculate the offset value of the component body relative to the pad.

- **Entire FOV Assist Positioning**

High detection ability on no exposed pad components (BGA, etc.) or partially shielded components.



- **High inspection ability for laser body marking**—The laser barcode and laser body marking are difficult to differentiate by RGB light source due to background noise. Magic Ray using unique design light source which is helpful to inspect the laser barcode and laser body marking.

RGB Light Source

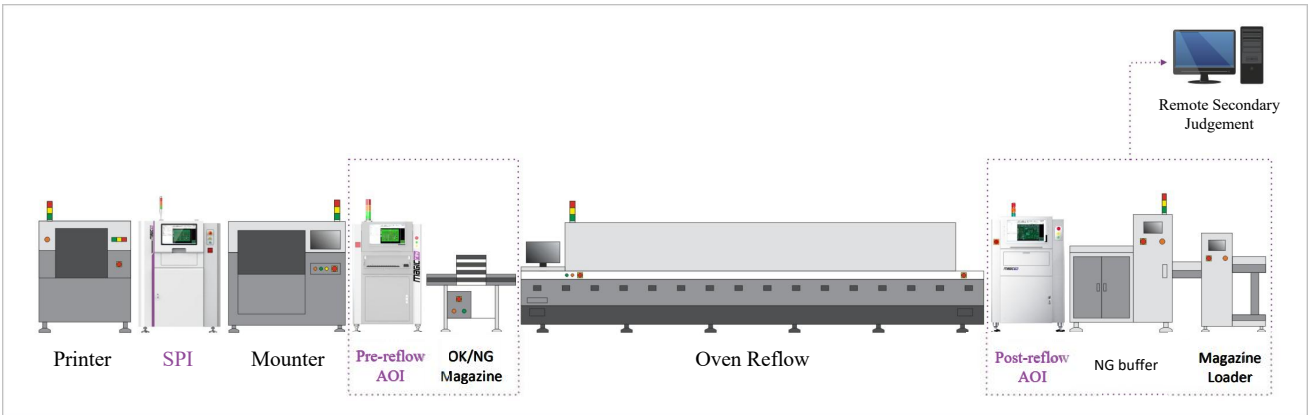


Magic Ray Light Source

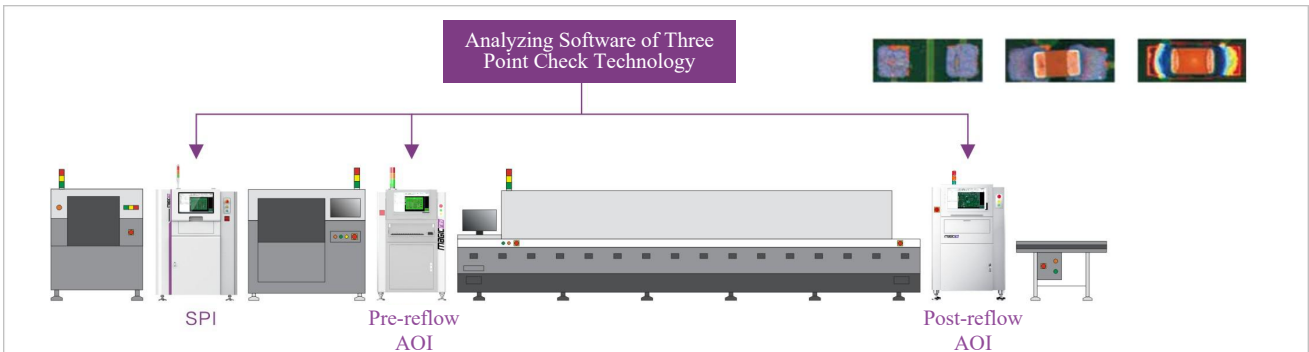


Core technology and advantages

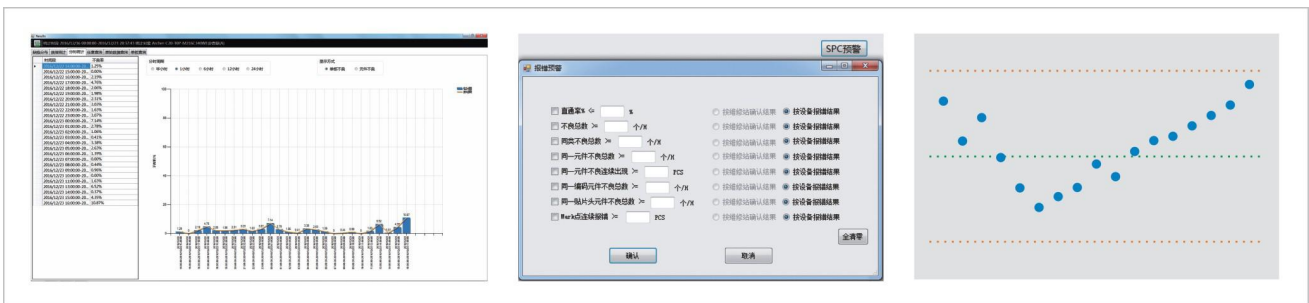
- **Unmanned Smart Factory Solution**——Data communication with upstream and downstream equipments (OK/NG magazine, NG Buffer and OK/NG magazine loader).



- **Three Point Check Technology**——The root cause of the defect can be easy to determine by connecting SPI, pre-reflow AOI and post-reflow AOI. Therefore, the production process will be improved.



- **SPC Alarm System for Production Line**——Alarm function for production line: Able to define warning message for high defect rate, low production yield, bad quality.



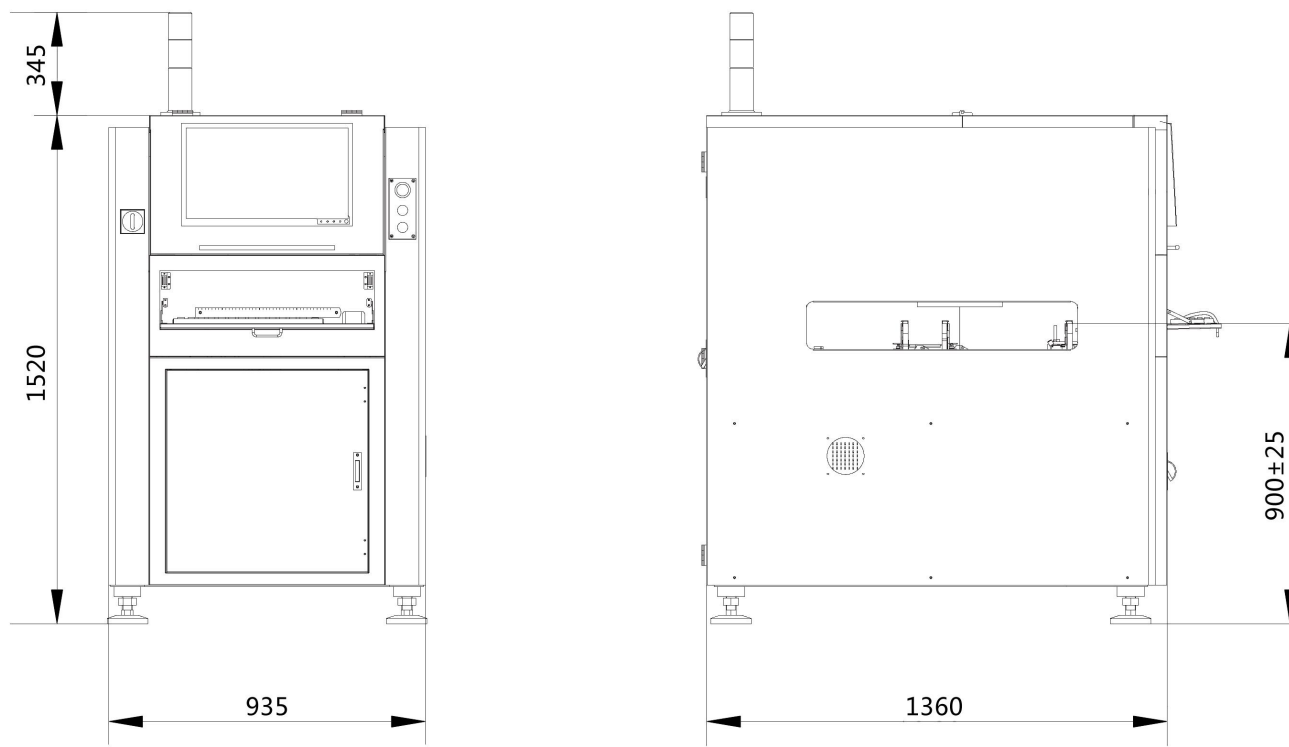
- **Other Advantages**——Intelligent programming (One click rectification, Add substitute, Sub-programming ,etc.); Offline programming and fine tuning in real time without stopping the production line; Remote technical support...

Product Specification

Equipment Model		V500	V500D
Image System	Camera	5M pixels industrial camera	
	Resolution(FOV)	15um (36*30mm) / 10um (24*20mm)(set before delivery)	
	Lens	Telecentric lens	
	Lighting	4 color ring shape LED (RGBW)	
Movement Structure	X/Y Movement	AC Servo Motor	
	Platform	Granite	
	Width Adjustment	Automatic	
	Board Loading Direction	Left to right or right to left (set before delivery)	
	Fixed Lane	Front lane	
Hardware Configuration	Operating System	WINDOWS 10/WINDOWS 7	
	Communication	Ethernet, SMEMA	
	Power Requirement	Single phase 200-240V, 50/60Hz, 5A	
	Air Requirement	0.4-0.6Mpa	
	Conveyor Height	900±25mm	
	System Dimensions	L935*W1360*H1520 (with tower light + 345)	
	Weight	750kg	800kg
PCB Size	Size	50*50-510*610mm	50*50-510*W(W1+W2≤640)mm /50*50-510*580mm
	Thickness	≤6.0mm	
	PCB Weight	≤3kg	
	Clearance	Top/Bottom: 25/45mm(Top Clearance 25-40mm adjustment)	
	Clamping Edge	3.0mm	
Inspection Categories	Types of Defects	Wrong component,Missing,Polarity,Misalignment,Tombstone,Overturn, Foreign material,Insufficient solder,Bridging,Overflow	
	Inspection Component	Chip: 03015 and above; LSI: 0.3mm pitch and above; Others: Odd shape component	
	Inspection Speed	180-200ms/FOV	

Disclaimer: MagicRay keeps on improving this product with continuous efforts in research,development and reengineering. Please contact us for the latest version of this specification sheet.

Equipment Size (Unit: mm)



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