

Coating Inline AOI

VC5000/VC5300 Series

Conformal Coating AOI



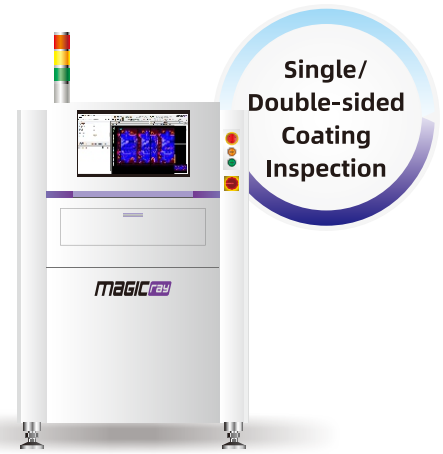
Conformal Coating AOI

Conformal Coating Quality Defender

MagicRay Conformal Coating AOI-VC5000/VC5300 series are suitable for inline single/double-sided automatic inspection of conformal coating.

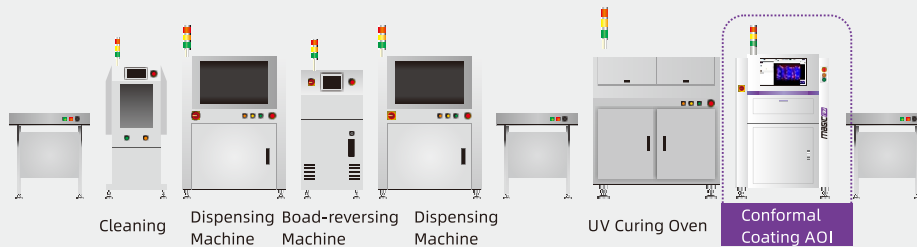
「Product Features」

- Proprietary Polygon Window Programming software allows for fast and intelligent identification of detection areas.
- As a multi-functional machine it can be used to simply perform standard AOI functions or be used for Conformal Coating Inspection.
- Optional Laser Thickness Measurement of Conformal Coating is available.

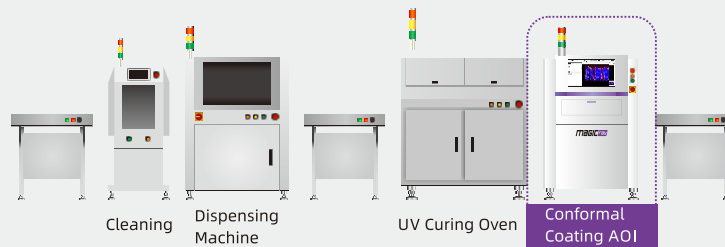


「Production Line Solution」

「Double-sided Coating」



「Single-side Coating」



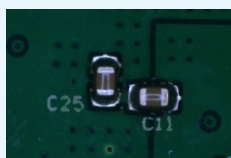
「Large FOV Coating」



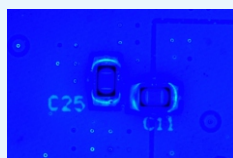
*Contact us for product information of Large FOV CCI.

「Optical Imaging Principle and Defects」

■ Pictures of MagicRay's Conformal Coating Inspections with UV Lighting.



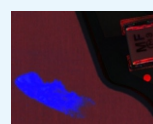
▲ Natural light



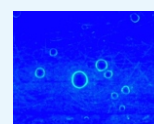
▲ UV lighting effect



▲ Excess Coating



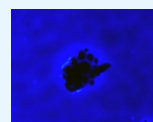
▲ Excess Coating



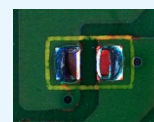
▲ Bubble



▲ Missing Coating



▲ Missing Coating

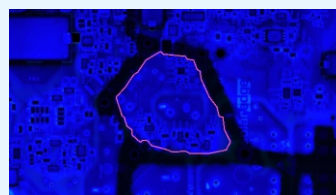


▲ Damages

「Core Technology and Advantages」

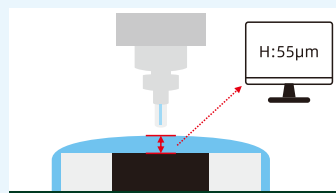
■ Support Polygon Window Programming

Fast programming to generate polygon detection window, and quickly identify irregular coating areas.



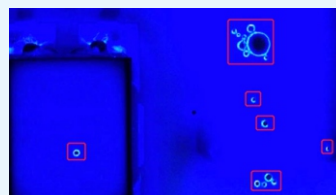
■ Real-time Coating Thickness Measurement

Support thickness measurement on various coatings, without damage to the coating.



■ AI Inspection on Bubble

It supports automatic detection of bubbles based on the AI database trained by massive real production photos. The AI algorithm keep learning and optimizing the bubble inspection results.



「Features & Functions」

■ Centralized Management

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

■ Powerful SPC

Intuitive and rich data charts can meet the needs of data statistics and quality analysis improvement of production lines.

■ 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.

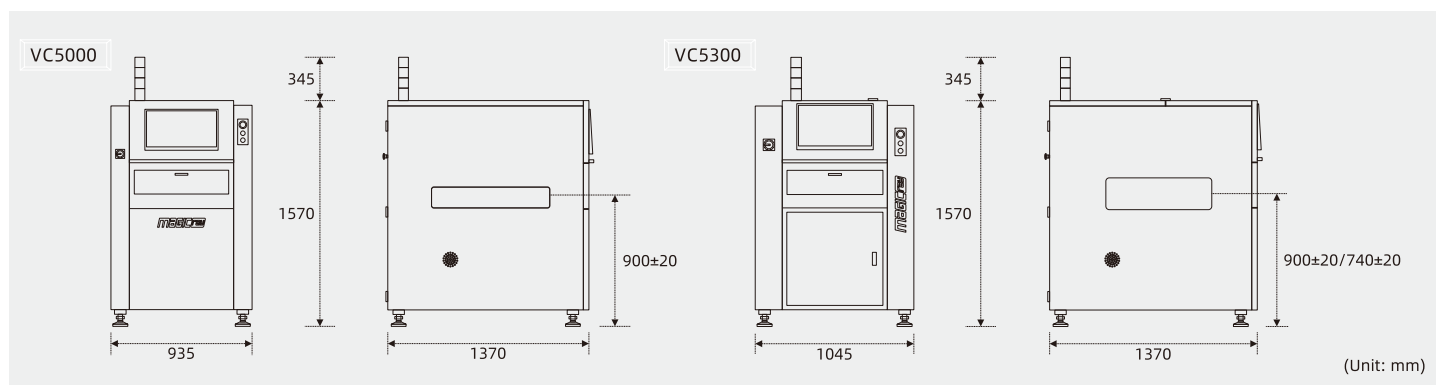
■ Close-loop Feedback

Conformal Coating, AOI and Dispensing machines can easily exchange data realizing a closed-loop feedback system.

Product Specification

Equipment Model	VC5000	VC5000XL	VC5300	VC5300XL	
Image System	Camera	5MP/12MP industrial camera			
	Resolution	5MP Camera: 24μm, 15μm, 10μm; 12MP Camera: 15μm, 10μm		5MP Camera: 24μm, 15μm; 12MP Camera: 15μm, 10μm	
	FOV	37*30mm (5MP 15μm); 60*45mm (12MP 15μm)			
	Lens	Telecentric lens			
	Lighting	UV light+RGBW (Conformal coating and components inspection) or UV light+RW (Only conformal coating inspection), Select at point of order			
Movement Structure	X/Y Movement	AC Servo			
	Width Adjustment	Automatic			
	Transport Type	Belt (Roller chain optional)		Belt (Roller pulley optional)	
	Board Loading Direction	Left to right or right to left (Select at point of order)			
	Fixed Rail	First Rail			
Hardware Configuration	Operating System	Win 10			
	Communication	Ethernet, SMTA			
	Sensor	EMS epoxy thickness sensor			
	Power Requirement	Single phase 220V, 50/60Hz, 5A			
	Air Requirement	0.4-0.6Mpa			
	Conveyor Height	900±20mm		900±20mm (740±20mm optional)	
	Equipment Dimensions	L935*D1360*H1570mm (Without tower light)	L1125*D1360*H1570mm (Without tower light)	L1045*D1370*H1570mm (Without tower light)	L1200*D1370*H1570mm (Without tower light)
	Equipment Weight	850kg	900kg	900kg	950kg
PCB Size	Size	50*60-510*610mm	50*80-675*610mm	50*50-510*510mm	50*50-650*610mm
	PCB Weight	≤10kg (Belt), ≤20kg (Roller chain)		≤10kg (Belt), ≤30kg (Roller pulley)	
	Thickness	0.6-6mm (Roller chain optional: ≤6.0mm)		0.6-6mm (Roller pulley optional: ≤6.0mm)	
	Clearance	Top clearance 25-55mm adjustable, Bottom clearance 25-40mm adjustable (Belt)		Top clearance 25-90mm adjustable, Bottom clearance 25-80mm adjustable (Belt)	
		Top clearance 25-55mm adjustable, Bottom clearance 25-50mm adjustable (Roller chain)		Top clearance 25-120mm adjustable, Bottom clearance 25-50mm adjustable (Roller pulley)	
	Clamping Edge	3.0mm (Belt), 5.0mm (Roller chain)		3.0mm	
Inspection Categories	Conformal Coating Inspection Thickness	45-600μm			
	Conformal Coating Inspection Accuracy	±2μm			
	Coating	No coating, Insufficient coating, Excess coating, Bubbles, Splashes, Orange peel, Pinholing, etc.			
	Component	Bump, Damage, Missing, etc.			
	Inspection Speed	200-250ms/FOV			

Equipment Dimensions



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