

Coating AOI machine (UPKTECH-AOI450)

(1) Picture:



(internal structure)

(2) Device parameters:

Equipment dimensions L*W*H	L=1060mm, W=1600mm, H=1700mm
Equipment platform	T20mm steel plate ground and chrome plated
Control method	Industrial control computer + motion integrated control board
Running software	Independently developed control software + Windows system
Programmatically	Manual teaching (mouse and keyboard set)
Running program storage quantity	More than 1000
PCB transmission height	910±20mm
PCB edge space	≥5mm
Transport speed	The stepper motor independently controls the chain speed to achieve variable speed control and ensure no collision of the product.
Transmit motor power	DC24V 69W*2 stepper motors
Conveyor rail width	Amplitude modulation range: 50-450mm
PCB board size	MAX: L450*W450
Detection area	X450 Y450mm (depending on actual situation)
Maximum height of components	Conveyor chain top and bottom 120mm
Adjustment method	Intelligent electric adjustment
Adjust drive mode	Stepper motor + double precision screw drive
X.Y.Z 3 axis drive mode	Servo motor + precision screw module drive
X.Y.Z 3 axis max speed	800mm/s
X.Y.Z 3 axis repeat accuracy	±0.02mm
Gate port	SMEMA Connector
Camera and lens types	1 dedicated CMOS color camera, 5 million pixels, with

	16mm lens
Camera light source	2 sets of light sources (blue light and ultraviolet light)
Detection type	It can detect the boundary of the three-proof spraying effect, but cannot detect the thickness.
lighting part	The device comes with its own lighting source
Equipment total power supply	AC220V 50Hz
Total equipment power	1.8KW
Total equipment weight	About 600KG

(3) AOI Detection related instructions:

- AOI Automatic inspection equipment: The full name of AOI (Automatic Optic Inspection) is automatic optical inspection. It is an equipment based on optical principles to detect common defects encountered in welding production and conformal paint coating process. It uses high-speed and high-precision visual processing. Technically detect the spraying effect of batch glue applied on PCB board (with fluorescent agent for testing);
- Detection principle: AOI detection equipment scans the product through a CMOS color camera, captures the image, and then compares the actual detected measurement points with the qualified parameters of the pre-set reference points, and detects the presence of defects on the target product through image processing. Defects (whether there is a lack of glue or glue overflow in the flat spray area), and display the defects in the product spraying through the display or automatic signs;
- Automatic detection process: When the PCB board on the host computer flows into the detection equipment, it reaches the detection area and sends a signal to the computer through the photoelectric sensor. The three-axis drive camera moves to the area that needs to be detected to capture the image, and through image processing The technology judges whether the detection area is qualified and displays the detection results. At the same time, it gives an OK or NG signal to the computer. If OK, it will automatically flow into the next process; if NG, the equipment will alarm.

(4) Equipment function description: (The picture below shows the interface diagram of the detection equipment)



- X, Y, Z, three-axis motion accurately realizes boundary detection of various circuit board spraying processes;
- Detection area and alarm requirements can be set;
- System accuracy is ± 0.02 mm;
- The equipment has an intelligent electric width adjustment function (input the plate width (jig width) in the software to automatically adjust it in place);
- Programming method: manual teaching (mouse and keyboard set).
- Whole line docking: The device can be docked with signals from other devices.