

## X-ray SMT component counter (fully-automatic)

Product Type: WLYT-XAT500-02

### Device Principle

The equipment requires one operator to handle the loading and unloading of the fixtures. For this equipment, it is only necessary to place the fixtures into a handcart or the transfer station of an AGV, which will then transport them to the equipment's access point. The fixtures are categorized into three types: the large tray rod-loading fixture, the large tray unloading perimeter positioning fixture, and the 7-inch tray loading/unloading perimeter positioning fixture. The equipment will automatically transport the fixtures in and out, automatically lift the material trays, and perform automatic loading, material counting, labeling, and unloading, thereby improving work efficiency.



### Functional Features

- Supports 7-15 inch materials with a height range of 8mm-55mm, Weight  $\leq 2.8$  kg.
- Compatible with various WMS (Warehouse Management System), ERP (Enterprise Resource Planning), MES (Manufacturing Execution System) software for seamless integration.
- The system supports two loading modes: 1. For 7-inch trays: Capacity of 2 trays; 2. For trays larger than 7 inches: Capacity of 1 tray
- Fully compatible with online counting function, capable of connecting to a printer for offline printing.
- High counting accuracy of up to 99.99%, ensuring precise material inventory control.
- Simple operation, requiring only one operator.

### Application Range

Suitable for electronic components, SMT factories, and line-side warehouses.

### Workflow

The equipment is compatible with trays ranging from 7 to 15 inches in size. It supports dual-tray loading for 7-inch trays (2 trays simultaneously) and single-tray operation for larger trays (>7 inches).

- The operator places the trays into the buffer storage.
- The equipment automatically picks and places the trays into the front-end conveyor zone, with a capacity of 2 trays for 7-inch size and 1 tray for sizes above 7 inches.
- The equipment sends the tray to the X-ray counting area.



- Simultaneously, the previous tray with completed counting is sent out, and upon successful counting, the printer will generate customer labels. The receiving mechanism will automatically collect the counted tray from the buffer storage, label it, and perform a verification check.
- The process continues in a loop.
- The operator retrieves the trays from the buffer storage.

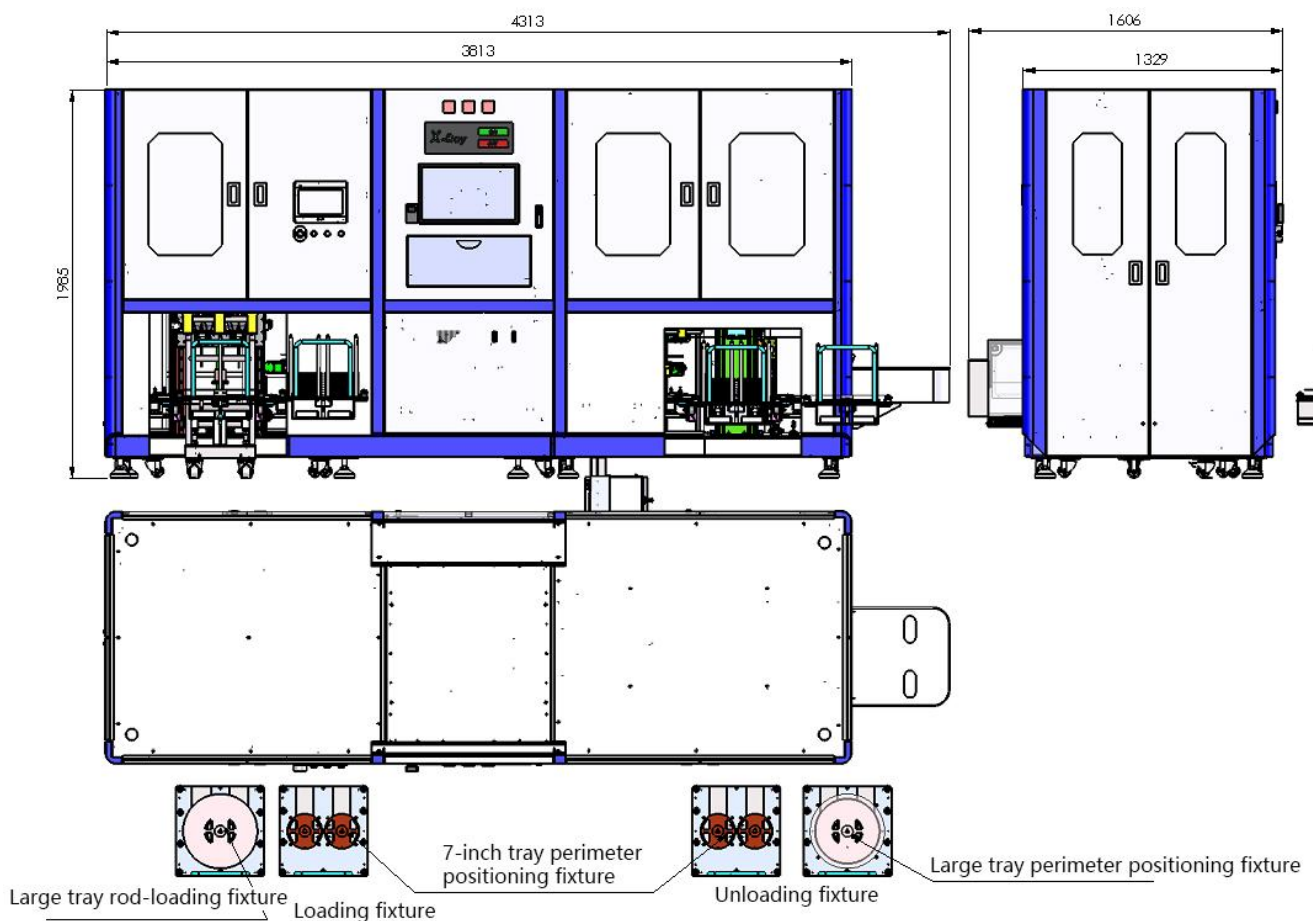
## Technical Specifications

	Equipment Model	Parameters
<b>Basic Parameters</b>	Power Supply Voltage	Single-phase, 220V (Can be customized based on local power supply voltage for overseas users)
	Frequency	50HZ
	Compressed Air	Air pressure of 0.5-0.7Mpa, flow rate of 45L/min
	Dimensions (Length x Width x Height)	4313mm x 1606mm x 1985mm
	Counting Efficiency	200 reels/hour (mixed loading mode)
	Applicable Tray Sizes	7-15 inches (excluding soft and paper trays)
	Interface	Compatible with various WMS, ERP, MES systems
	Weight	2465kg
	Total Power	3000w
	X-ray Source	Tube Voltage of 30-80KV, maximum power of 80W
	Detector	Effective size: 427mm × 427mm, Resolution: 3072 × 3072; Accuracy: 140 μm
	Compatible Materials	Diameter: 7-15 inches or equivalent flat materials, Height: 8mm-60mm
	Safety	Radiation leakage < 1 μSv/Hour, equipped with safety doors
	Camera	Hikvision
Lens	Hikvision	
Industrial Computer	Advantech (Customer-provided acceptable)	

<b>List of purchased parts</b>	PLC	Inovance
	Coupling	YIHEDA
	Servo Motor	Inovance
	Timing Belt & Pulley	YIHEDA
	Sensor	OMRON, Panasonic
	Push Button	Schneider Electric
	Lead Screw	HIWIN, YIHEDA
	Lead Screw Fixed End	HIWIN, YIHEDA
	Lead Screw Support End	HIWIN, YIHEDA
	Low-Voltage Power Distribution	Schneider Electric
	Touch Display	CHENZHAN
	X-Ray Generator	YINGTAN
	Flat Panel Detector	YIRUI
	<b>Other</b>	Strong Electrical Components
Equipment Control Components		Includes electronic control system, human-machine interface, and visual software system.
Electronic control system		Implements control functions for various functional mechanisms of the equipment.
Human-machine interface		Enables interaction between humans and the machine.
Visual software system		Records tray information, detects labels, and traces various statuses of products produced by the machine. Interacts with WMS data.
Environmental Requirements		Measurement should be 500mm away from the operating position or the equipment's outer wall.

	Safety Requirements	The equipment complies with relevant national safety standards for electromechanical equipment and CCC standards.
	Equipment Appearance	Color Scheme (RAL Standard): Upper/Lower Frame: Signal White (RAL 9003) Accent Color: Signal Blue (RAL 5005)

### \*External Dimensions



### \*Placement Accuracy

Component	Dimensions	Accuracy	Component	Dimensions	Accuracy	Component	Dimensions	Accuracy
Resistor	01005	99.9%	Tantalum Capacitor	4525	99.9%	MOS	2N7000	99.9%
	0201	99.9%		6640	99.9%		2N7002	99.9%
	0402	100%		7343	99.9%	IC	BGA	100%
	0603	100%	SMD Inductor	CD32	99.9%		QFN	100%
	0805	100%		CD43	99.9%		QFP	100%
	1206	100%		CD52	99.9%	Crystal Oscillator	4025B	99.9%
	1210	99.9%		CD54	99.9%		2016B	99.9%
	1812	99.9%	CD73	99.9%	1612B		99.9%	
	2010	99.9%		CD75	99.9%		HC-49	99.9%
	2512	99.9%		CD104	99.9%			
	Jumper	99.9%		CD105	99.9%			
Capacitor	0201	99.9%	Diode	M1	99.9%			
	0402	100%		M2	99.9%			
	0603	100%		M4	99.9%			
	0805	100%		M5	99.9%			
	1206	100%		4148	99.9%			
	1210	100%	SOT-23	99.9%				
	1608	99.9%	Transistor	SOT-89	99.9%			
	3612	99.9%		SOT-323	99.9%			

### \*Equipment Safety Requirements

- 1、Compliance with the current FUTUREATT standards or stricter local regulations. Specific requirements will be clarified during equipment design review.
- 2、The appearance and structural methods of equipment protective devices need to be checked one by one during design review. Subsequent processing and installation should not cause mechanical interference, hinder maintenance, or pose safety concerns.

### \*Randomly Equipped Items

Item	Quantity	Remarks
Tool Bag	1 set	
Electric Screwdriver	1 piece	
Small Adjustable Wrench	1 piece	

Hex Key Set	1 set	
Micro Screwdriver Set	1 piece	

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FUTUREATT reserves the right of final interpretation for the cards.