



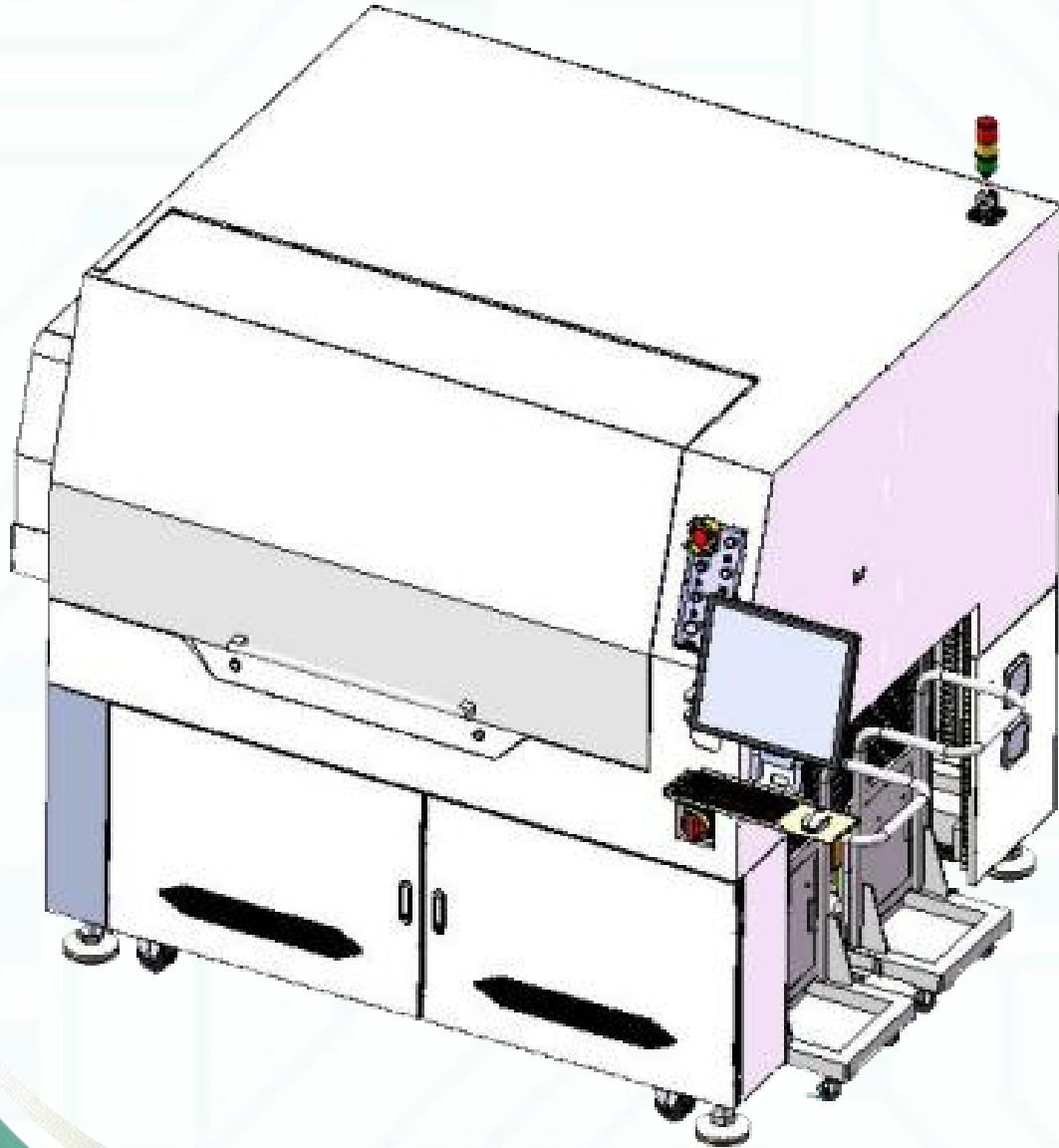
**SOUTHERN
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Full Automatic online PCB Separator with Pallet Storage machine



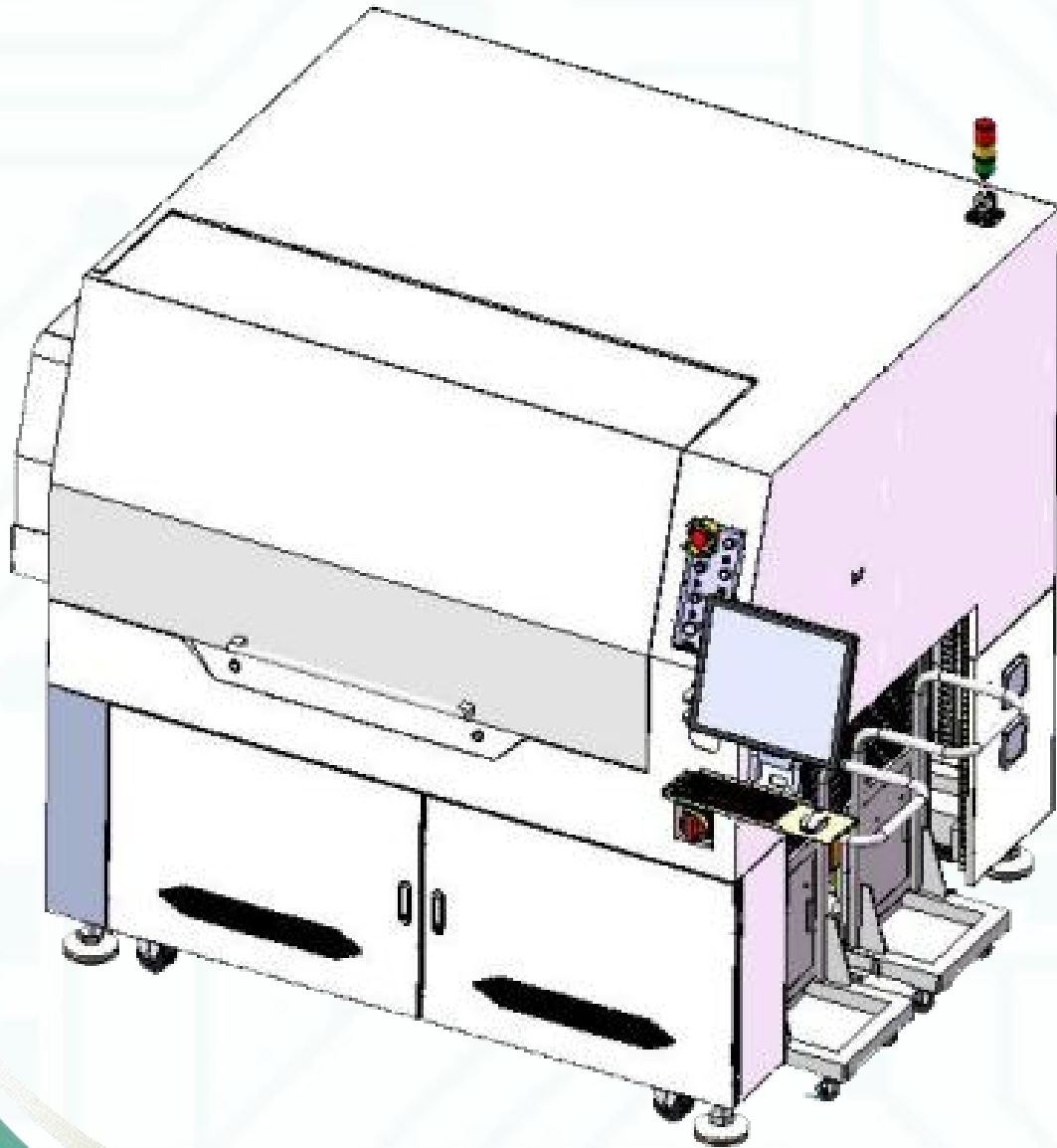
SMTHELP PRODUCT
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S660S

Full Automatic online PCB
Separator with Pallet Storage machine

PCBA In-Line Depaneling Solution

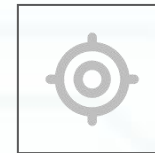


Main Features



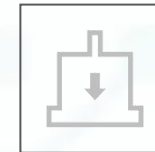
One-stop automatic plate separating and plate setting machine

It can be docked with MES production line and upstream and downstream equipments, automatic manipulator and suction cups work together with inlet and outlet track and pallet and board dividing mechanism, one-stop to complete the automatic loading, loading board, board dividing, discharging, de-waste and discharging.



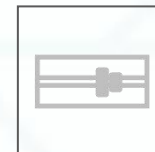
Programming-assisted cutting with visual positioning

CCD vision system supports PCB whole board scanning and MARK point positioning, automatic edge searching to quickly set up the cutting path; automatic correction of deviation adjustment alignment in the sub-panel;



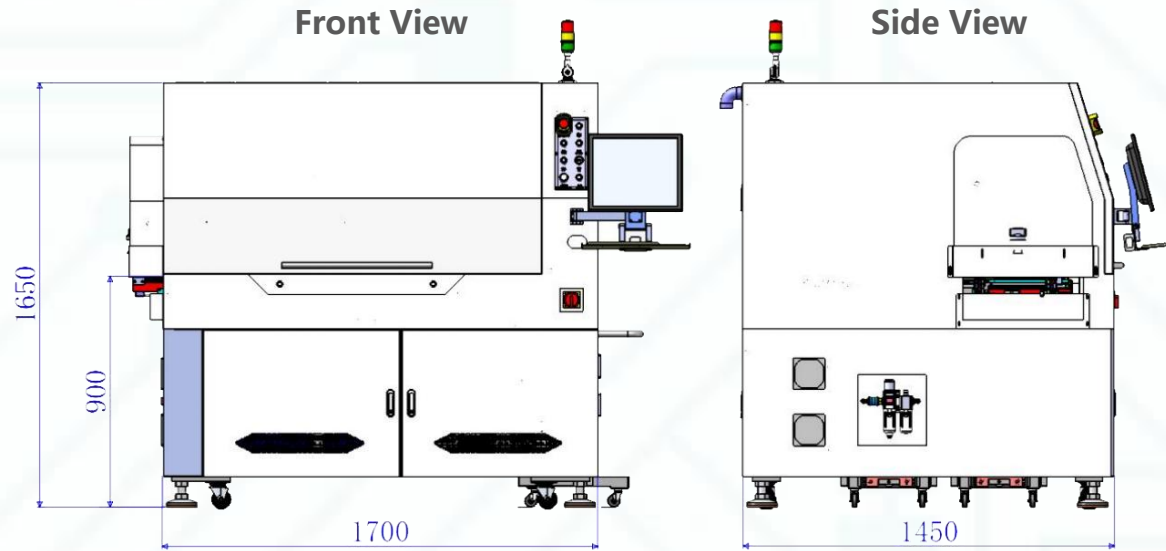
Automatic loading and unloading

PCB arrives at the loading position, the loading suction cup automatically places the PCB on the pallet fixture; when the PCB finishes cutting, the loading suction cup automatically places the PCB on the outfeeding conveyor for appearance inspection + palletizing.

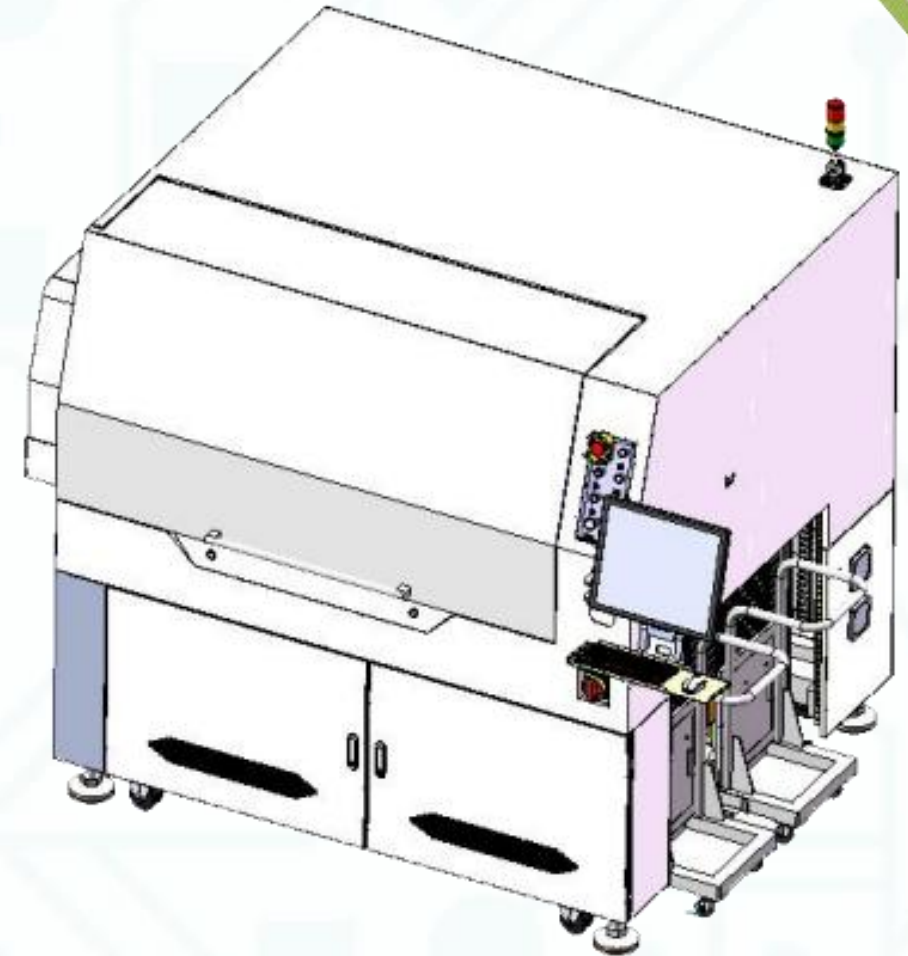


Automatic track width adjustment

Facing different specifications of PCB, the roller feeding track can be adjusted in the system to adjust the width and support manual adjustment.

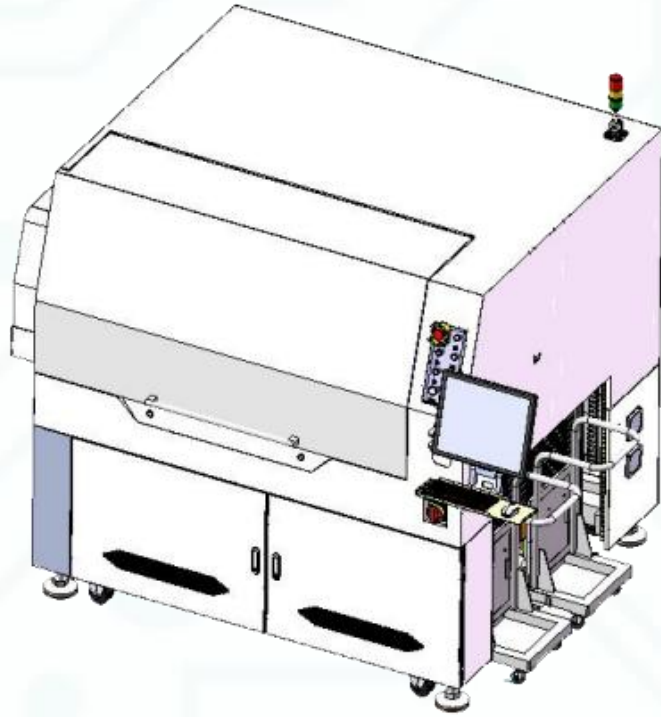


S660S Appearance and size



Model	S660S Full Automatic online PCB Separator with Pallet Storage machine
Size	1700x1450x1650mm (L *W*H)
Main Parts	Machine body + dividing Separator box + Infeed track + outfeed track + PCBA cutting vision control system + external vacuum cleaner + inspection + Tray system
Applicable industry fields	Suitable for automotive electronics, consumer electronics, household appliances, computers, communications industry and other batch processing and manufacturing industries
Tray Size	220*220mm
Separator Size	200*200mm

Equipment structure and main parameters



S/N	Parameters	Equipment Parameters	
1	PCB Thickness	0.5-4mm	
2	Separator Size	50x50mm (L*W)	200x200mm (L*W)
3	Support PCB weight	≤3kg	
4	pneumatic	4~6Kg/cm ²	
5	input voltage	AC220V 50/60Hz	
6	Total power of separator	3KW	
7	Machine weight	1200Kg	
8	Matching Dust Extractor	Standard: down suction 4~6P	
9	Total power of vacuum cleaner	3KW	



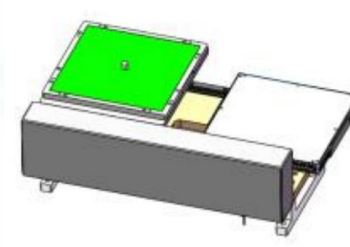
Split Separator Boxes



Separator System



Entry Conveyor



Unloading Module



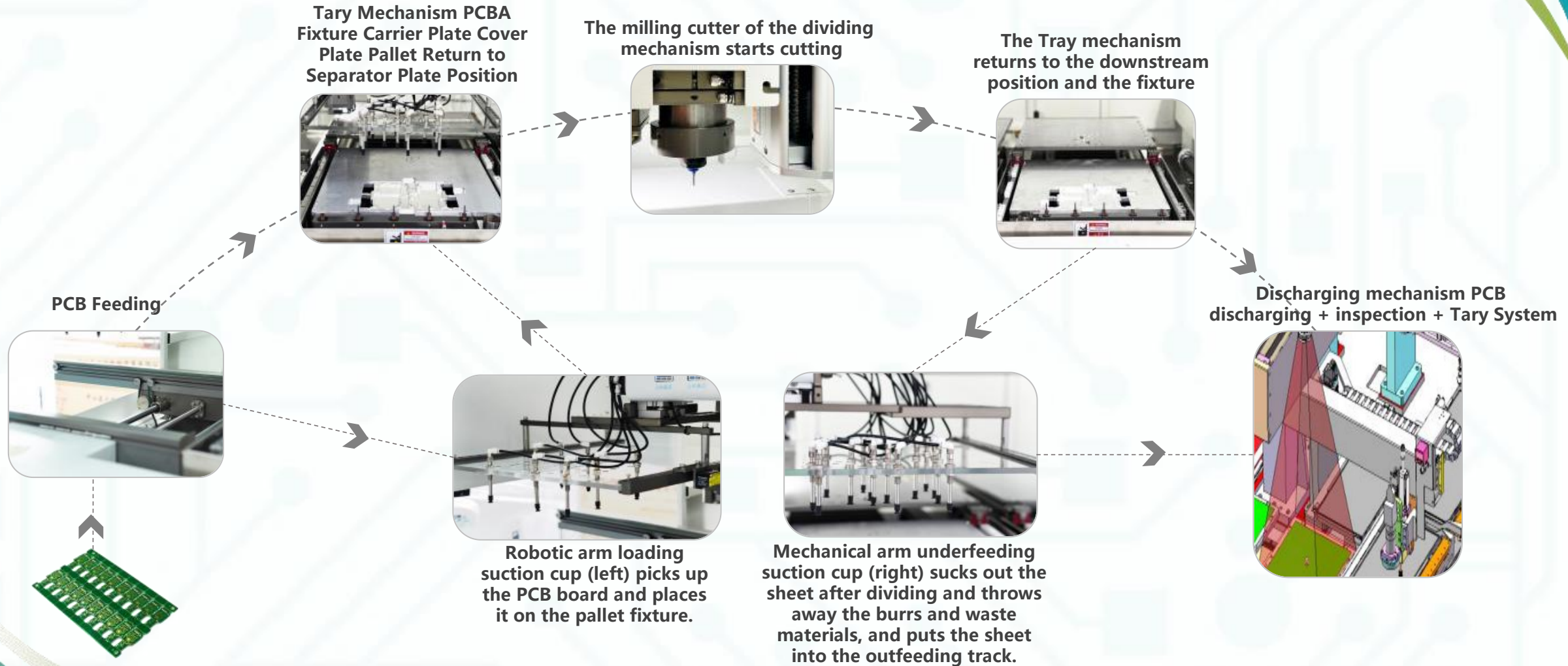
Body



External Dust Extractor

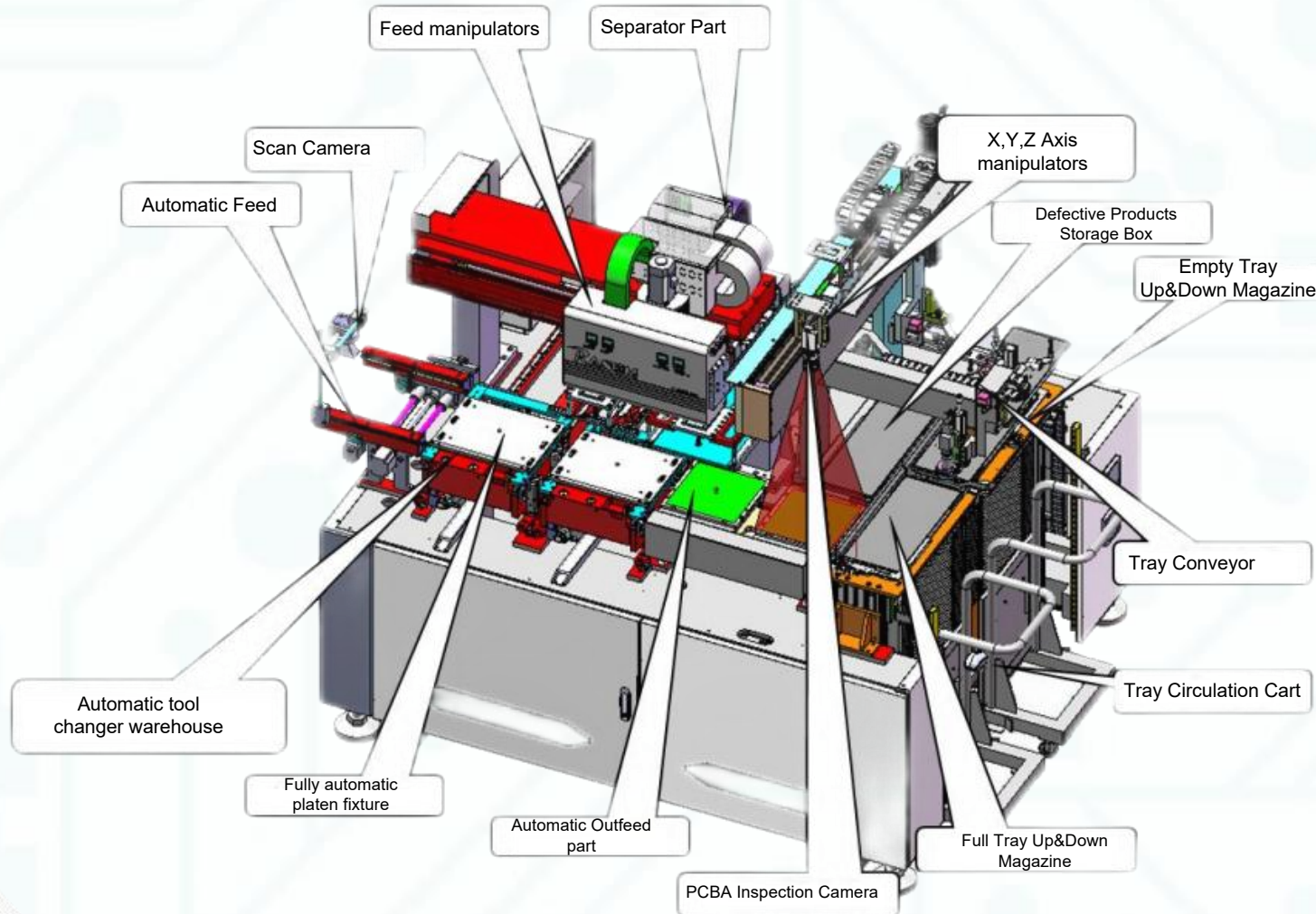


Separator Process





Main structure of the equipment



Automatic Incoming Rail

Motor-driven feeding buffer conveyor feeding configuration incoming sensor sensor PCB in place can be equipped with two-dimensional code scanning gun, synchronized MES system product information

Loading and unloading Parts

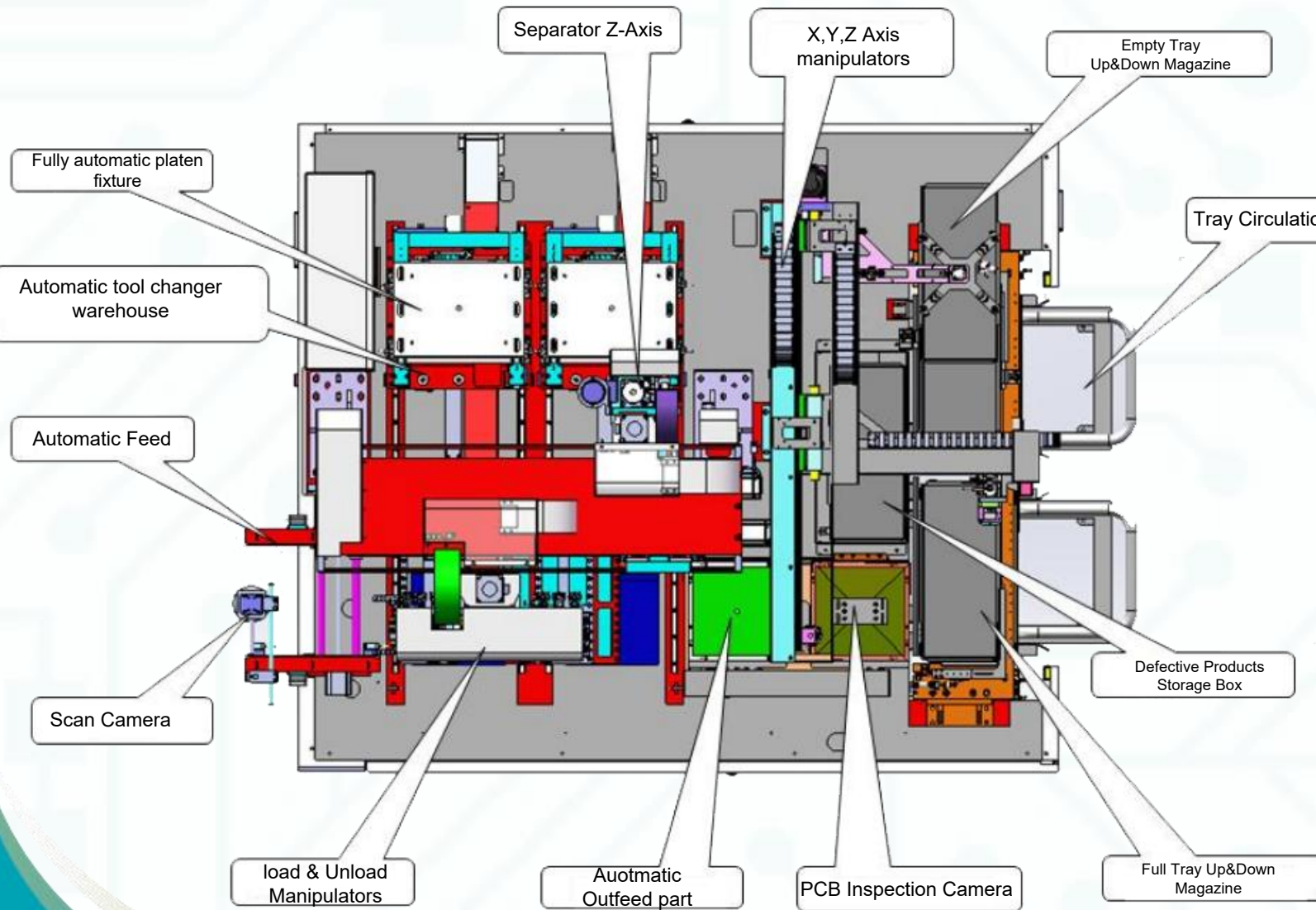
Double manipulator alternating loading and unloading using straight air suction cups to suck PCB loading and unloading can be customized according to the needs of the suction cups fixtures and equipped with negative pressure alarm and negative pressure display.

Duplex Tray

Dual-pallet model with Tango sensor to efficiently coordinate board loading, depaneling and unloading.



Description of the internal structure of the equipment (top view)



De-static brushes

The spindle is equipped with anti-static brushes to instantly remove dust and static electricity generated during depaneling.



High Definition CCD Camera

CCD camera can automatically adjust the height to ensure different types of PCB fast focus clear imaging; floating de-static brush to remove dust.



Automatic milling cutter change system

Equipped with broken tool slipping detection function milling cutter life monitoring and automatic tool change magazine



Diversified External Connectors

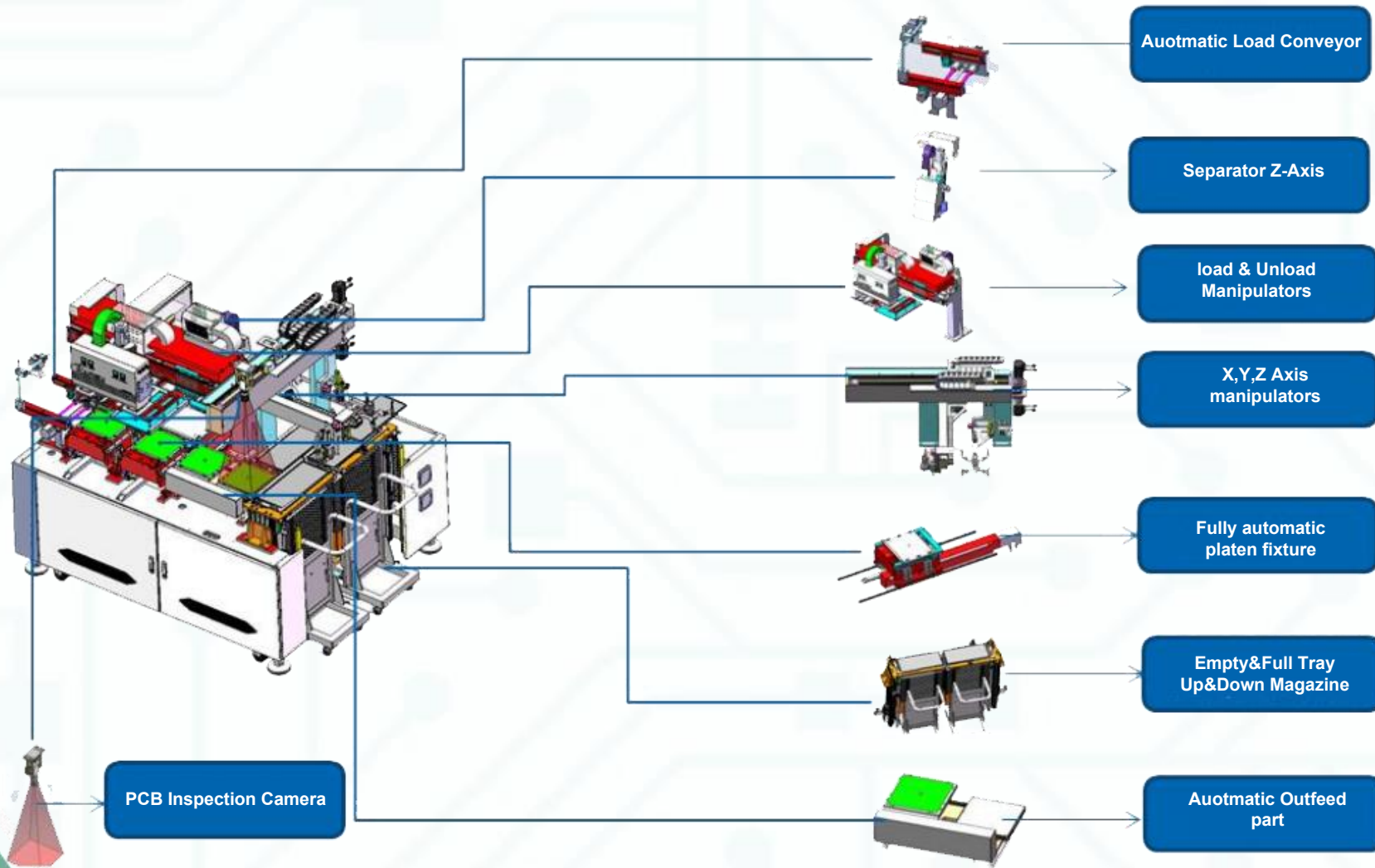
It can be equipped with broken knife detection, ion air gun, PCB height detection, coaxial light source, floating brush and other devices.

Structural characteristics:

1. Automatic widening track, can adapt to different board width, with automatic positioning, into the board buffer function.
2. robotic loading and unloading mechanism using dual robots for loading and unloading; double pallet mode, alternating time when the board, fast and efficient.
3. sub-panel completion of the external dimensions of the test + swinging tray



Description of the internal structure of the equipment



Automatic Cover Fixture

The fixture mechanism has a full-automatic cover function, which prevents the product from shifting when dividing, reduces the defects of dividing boards, and effectively improves the yield rate of the product.



64 hours without changing knives

The pallet Y-axis mechanism is equipped with an automatic tool changer, and the dual pallet of 6 tools allows 64 hours without changing milling cutters.



Raw edges are automatically discarded

Waste basket is equipped under the pallet, the suction cup sucks up the PCB after depaneling and automatically throws the burrs into the waste basket.

Equipment Performance Parameters

No.	Projects	Descriptive
1	Work Model	Online
2	worktop	two-topped table
3	Cover type	automatic cover
4	visual system	High Resolution CCD
5	drive motor	High Inertia Servo Motors
6	Effective cutting size	MAX: 200x200mm(L*W)
7	Maximum PCB thickness	5mm
8	Cutting function	Straight line, circular line, arc, oblique line
9	Machine Repeatability	±0.01mm
10	Cutting precision	±0.05mm
11	Maximum movement speed	XY:1000mm/s、 Z:500mm/s
12	Maximum travel stroke	X axis: 880mm, Y1/Y2 axis: 730mm, Z axis: 100mm

No.	Project	Descriptive
13	Feeding method	Conveyor feed
14	Track conveyor/belt discharging/slide discharging	Track conveyor/belt discharging/slide discharging
15	Transfer method	Vacuum suction nozzle transfer
16	Working height	900±20mm
17	Flow direction	Left-right or right-left
18	Robot moving stroke	X-Axis:980mm, Z-Axis:100mmX
19	Spindle speed	MAX:80000RPM
20	Milling cutter replacement method	Automatic tool change
21	Cutting speed	1~100mm/s
22	User Interface	Window10 system operation interface
23	Programming teaching method	Color CCD image visual teaching input
24	Program backup	USB interface
25	Dust collection method	Vacuuming 3~5P



Function Module Display

All-round security

Both sides of the box door and the feed slide are equipped with safety grating, and the door of the equipment is equipped with access control sensor to avoid illegal operation during the operation of the equipment and to protect the personal safety of the operators.



software programming

With the whole board scanning, MARK point adding, cutting path setting, offline programming and other sub-panel programming functions. Through the software to set the robot arm and suction cup stroke action, accurate and coordinated work of the board dividing mechanism and the feeding and discharging mechanism.



power-on self-test

Power on to detect whether the feeding mechanism, pallet, robotic arm returns to the home position, detect whether there are products on the feeding track, whether the IO signal status is normal.



Unmanned fully automatic production function

Automatic track width adjustment, automatic feeding and discharging, automatic loading and unloading, automatic board dividing, milling cutter self-checking, broken cutter sliding cutter self-checking and automatic replacement, MES automatic feedback information.

MES Functions

Docking MES production management system, real-time feedback of production information, to achieve the monitoring, tracking, management and optimization of the whole process from raw materials to finished products.



High-power downstream dust collector

Connect the high power and strong suction dust collector underneath to effectively remove the dust from the dividing process. The airflow is detected by negative pressure display to detect the dust suction.



Anti-static brushes

With liftable anti-static brushes, the magnetic suction device is easy to dismantle and install, easily removes large particles of dust from the PCB surface and eliminates some of the static electricity in cutting.



CCD vision for fast positioning

Equipped with a high-precision vision camera, it has a wide range of recognition of PCBA boards and high imaging accuracy with fast focusing speed, thus ensuring accuracy when cutting.

Best After-sales service

- **7x24 Worldwide Support**
- **Free Installation/ Training**
- **1 day lead-time (spare parts)**
- **1 Month customize solution**



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