

Development History





Manual

Many burrs
 Break the electronic parts
 Used on PCBA can bear
 high cutting strain and panel
 without SMD components

V-Cut

 Cutting PCBA with hobbing cutter
 Low cutting stress and

(2) LOW cutting stress t

③ Cut straight lines only

price

Punch

 Cutting PCBA with mould
 It has fast production speed and high cutting stress.
 Need to make cutting mould in advance, which takes a long time.

Routing

High-speed spindle to cut
 PCBA

 $\ensuremath{\textcircled{}}$ $\ensuremath{\textcircled{}}$ With lower cutting stress,

high precision and smooth

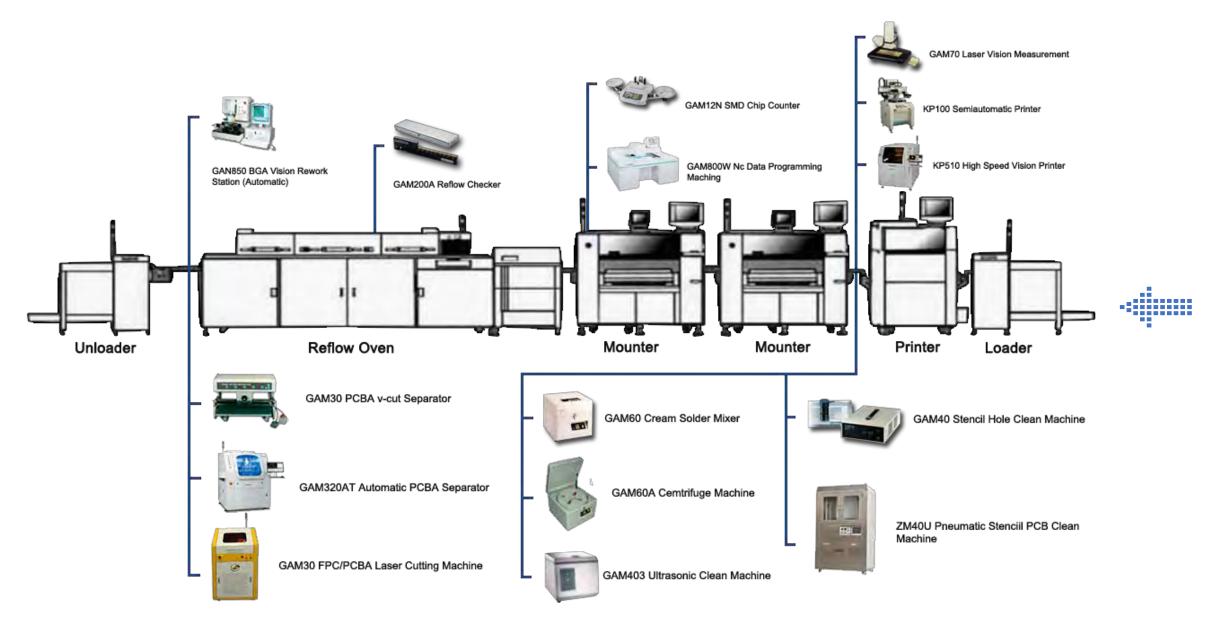
edge.

③ can cut various PCBAs

Laser

 No cutting stress
 can cut various PCBAs
 Micron-level high-precision cutting with automatic positioning, focusing, etc.

















GAM310 Single Worktable PCBA Separator

GAM320/320L

Off-line PCBA Separator

GAM320A

Vision-Aided Automatic PCBA Separator

GAM330/330L

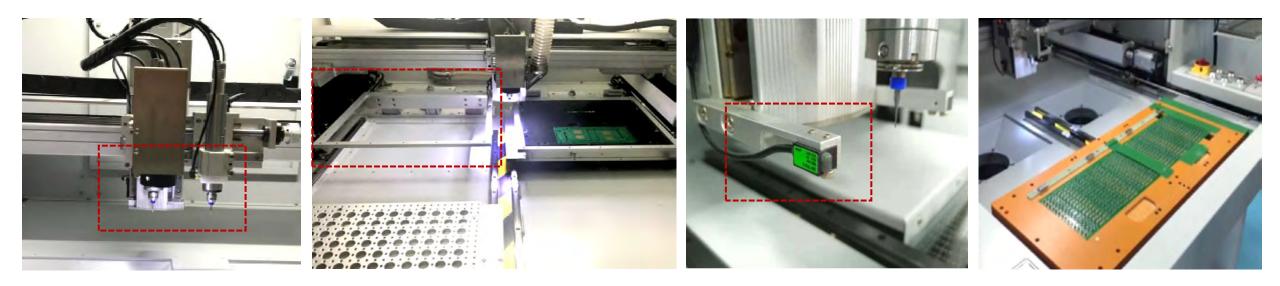
Vision-Aided Automatic PCBA Separator

GAM330X

Vision-Aided Automatic PCBA Separator

Technical Characteristics





1. Optional dual-spindle structure can double the production capacity.

2. The upper dust collector can be equipped with an automatic capping module to automatic capping the cover plate.

3. Optional automatic detecting broken milling tool function to alarm when milling tool broken.

4. Intergrates two worktables into one for larger size PCBA cutting to reduce machinary cost.













GAM300AT

Double-layer track online PCBA splitting machine

GAM310AT In-line Automatic PCBA Separator

GAM320AT In-line Automatic

PCBA Separator

GAM330AT In-line Automatic PCBA Separator

GAM336AT

In-line Automatic PCBA Separator













GAM340AT In-line Automatic PCBA Separator

GAM360AT In-line Automatic PCBA Separator

GAM380AT In-line Automatic PCBA Separator

ZMLS6000PII FPC/PCBA UV Laser Cutting Machine

ZMLS5000DP FPC/PCBA Laser Cutting Machine





GAM620L Automatic PCBA Unloarder

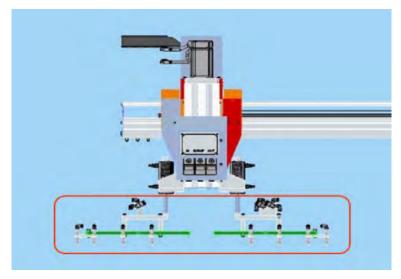
GAM660 PCBA-Carrier Unloader

ZM10T/15T FPC/PCBA Punch Cutting Machine **ZM30P** PCBA V-CUT Separtaor

ZM30 FPC/PCBA Laser Cutting Machine

Features









1. The feeding arm is modular design, which can helps fast line changing and improve line changing efficiency up to 50%. Compared with the single gripper, the dual grippers can let the loading and unloading

grippers can let the loading and unloading machine work separately, which reduces the transferring movement distance about 50%, and prolongs the transferring's service life. 2、Floating Brush

Reduce milling tool loss and improve dust collection effect;

When the milling tool is used for segmented cutting, the resistance of the Z axis during tool can be reduced, and the milling tool can be used more effectively.

3、Spindle imported from Germany

High-speed precision spindle maximum speed 80,000rpm/min

Double life, lubricate the bearing system.

Pneumatic automatic tool change system, sealed air for the best protection of the electric spindle to prevent external dirt from being brought into by the medium.

The taper automatic cleaning system ensures power.

Features







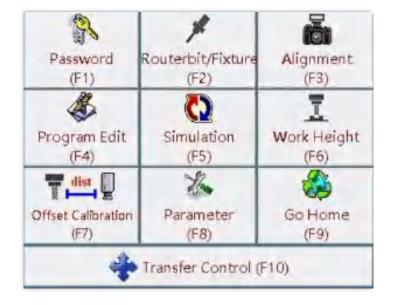
4、Barcode camera can dynamically capture and identify QR codes at any position. Pratical application QR code: min2.5*2.5mm(Optional)

5、Laser height detecting module can prevent PCBA from the improper placement. (Optional)



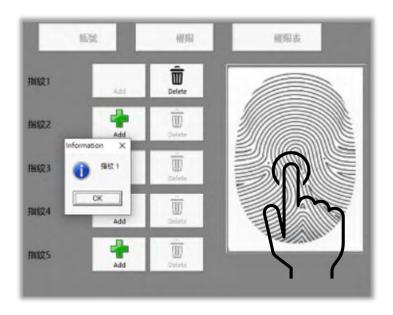
6. Gripper module is suitable for no edge cutting technology, fixture in and out and pick up large and heavy PCBA (Optinal)





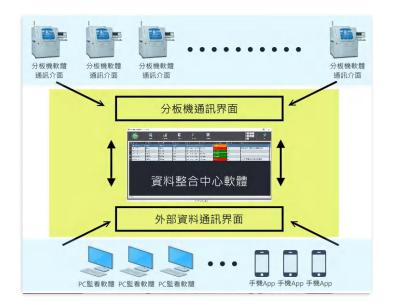
Nine Functions

- F1: Password- User's authority
- F2: Router bit and Fixture
- F3: Alignment and Fixed-point Correction
- F4: Cutting Program Edit
- F5: Simulation of Cutting Route
- F6: Working Height
- F7: Offset Calibration of Router Bit
- F8: Parameter of Environment, Worl and Authority
- F9: Go Home



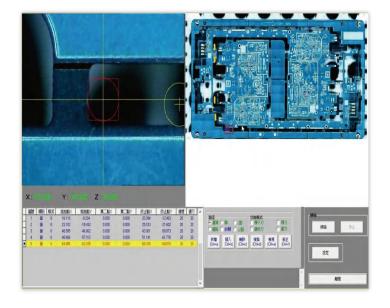
Four-level password authority management

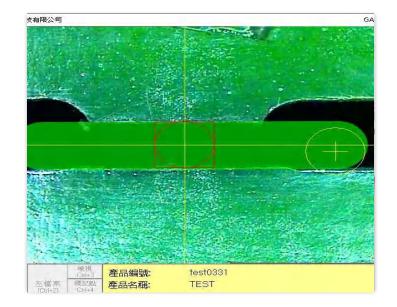
Administrator can set permissions for different operators fingerprint login.



Central control system management Optional central control system: real-time monitoring through network IP. Remote devices management: Android APP remote monitoring.







Whole panel scanning function Can using different colors for cutting line to identification different color PCBs. Offline programming for fast line changing Automatic programming, simple, userfriendly, automatically recognizes the cutting path.



Visual inspection after cutting

Our machine has cutting detection function to prevent copper leakage and burrs PCBs to the market



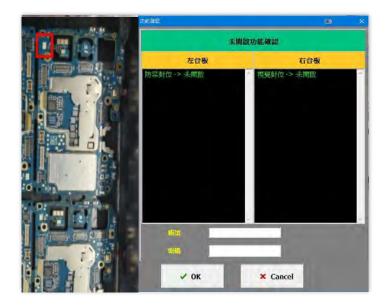
	作葉設定	軟體設定	硬體設定	台板控制	權限設定	MES	定	維護程式
1.X像素解析度: 2.Y像素解析度:	解析度計算	0.01887 mm	264	東塵清理(累計切割距	離) Zero	6000.00	m	
3.光學相似度	(60~100) :	70 %	27 🛔	東塵清理(累計啟動時	間)	0	hour	
4.中心×值:		-75.3150C mm	₩ 2	28.基板防呆靶標記錄	續測			
5.中心丫值:		-3.47500 mm						
6.X軸復歸原點補值	促巨角槍	-1.0 mm	₩ 3	30.銑刀位置檢測偏差	計值(0~1.0) 0.60)mm 把機	設定	
7-1.Y1軸復歸原點补	制質距离離	-1.0 mm						
7-2.Y2軸復歸原點補	制賞記詞離	-15.0 mm		32.PCB雷射测高偏差		0.5	mm	
8.乙酮復歸原點補償	(BEA)	-4.0 mm	33.0	CD中心點與雷射偏	差值 × -27.85	Y -45.66	mm	
9. 虛圓比例值×:		1.000 mm			-	100	ms	
10. 虛圖比例值 Y:		1.000 mm	35.0	CD視覺對位穩定時	間(0~500)	1100	ms	確定
☑ 11.軟體結束鍵			37 <i>.</i> #	远邊Mark點偏差值」	<u>_</u> 阳 : (0.1~1	1.0): 0.35	mm	
								取消
16.Mark點偏差值	⊢BR: (0	1.1~1.0): 0.10	_	10.外部連線模式				
16.Mark點備差值 17.基板履愿讓i	and the second s	1.1~1.0): 0.10	mm C4	10. 外部運線模式				
	and the second s	1.1~1.0): 0.10	mm	10.外部連線機式 待機登出時間	0 Sec			
17.基板履歷讓	and the second s	1.1~1.0): 0.10	mm		0 Sec 誤差容許值			
17.基板履愿演 修碼掃描模式 KEYENCE	SU,	1.1~1.0): 0.10	mm					
 17.基板隔壁鎮(修碼掃描模式) ・ KEYENCE □ 18.光源調整 	C CCD	0.1~1.0): 0.10	42.1					
修碼掃描模式			42.:					





The software sets the offset value range. When detected offset happen, machine will alarm and stop cutting, so as to avoid the quality problems caused. Third Mark point

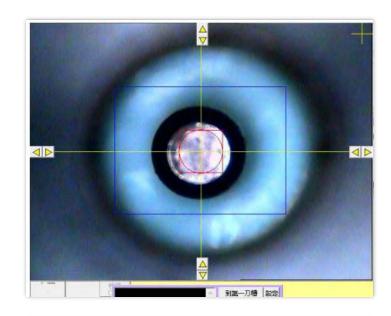
Set the third Mark point to avoid PCBs reverse and wrong placement



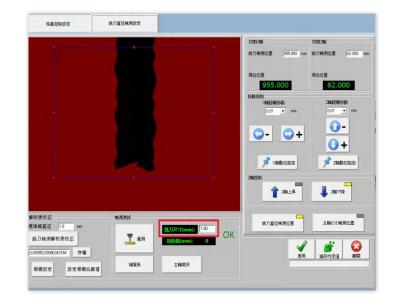
The software will detect the customer's special setting, such as PCBs positioning reminder function, when the system detects that function is not turned on, it will alarm and must enter the password can continue to start, avoid wrong cutting.



。達位置(mm) 0.000	0	銑刀檢查偏差高度範圍(0.5~2.5)	2
▶ 寸行運動+	◀ 寸行運動-		0
		銑刀斷針檢查點高度	16.020
0.01 -		下點安全極限位置	98
▶ 相對運動+	◀ 相對運動-	自動換刀下刀位置	73
1		自動換刀抓針位置	94.300
▲點位設定	▶ 前進點位	主軸銑刀丟棄高度	18.020
管軸覆歸			0
		檢測銑刀點高度	14.020
_		銑刀斷針檢測點補償(1~5)	2
切割Z軸伺服警示			
□ 洗刀醫針檢知 □ 切割Z軸 近原點			
切割乙軸下限			



Automatic milling tool changing function A.Detecting wrong positioned milling tool, avoid damage the spindle B.Detecting reverse positioned milling tool.



Router bit diameter detection

automatically detect whether the diameter of the milling cutter meets the setting, to avoid the wrong milling tool cutting.

Milling tool detection

- A.Detecting broken/dropped/reversed milling tool
- B.Can adjust the router bit height to keep the cutting depth.





Simple functional device, by adjusting the position of the sensor on the nozzle rod to match the buffer nozzle, when the PCB panel is placed, it will trigger the sensor alarm when there are foreign objects or the higher parts on the back touch the fixture. To Protect the substrate..

檢測到不正常關機,系統參數異 常,自動讀取回上一次自動備份的 系統參數,請重新檢查各項參數, 並確認切割檔案及分板效果。

確認

Software parameter automatic backup function

The system will automatically back up the parameters, if power failure or other abnormalities,

the parameter will keeps the same as last setting.

編號	提醒開啟	提醒項目主旨	^	Item	Value
1	M	工作台板及治具		唯一碼	20200831165602
2	지	清潔吸嘴		提醒開啟	ON
3		電氣箱		提醒項目主旨	感應器清潔
4		滾珠導螺桿		執行動作	擦拭
5		滑軌滑塊		循環模式	月
6	R	吸塵毛刷(上焦塵)		事件捕發時間	08:00:00
7	M	浮動毛刷定位銷(上集塵)		事件開始日期	2020/08/31
8		主軸夾頭		事件間隔	1
9		主軸ESD量測		事件觸發日(週)	00000000
10		威應器清潔		事件觸發日(月)	1
11	R	集塵風管		事件觸發月日(年)	08/31
12	R	焦塵箱(下焦塵)		上次事件觸發日	2020/11/06
13	R	焦塵袋(上焦塵)		事件觸發旗標	0
14	7	集塵布袋(下集塵)			
15		集塵布袋(下集塵)			
16	N	集塵穩減芯			
17	R	進氣過濾關			
18	M	真空產生器過濾器			
19		檢查各軸聯軸器的鬆緊度及調整			

Machine maintenance reminder

According to the maintenance table, will reminded to maintain the machine, and the maintenance personnel's account number is recorded for management.