



GAM320/320L

Vision-Aided Automatic PCB Separator



0086-13929261892 Violet



violet@genitec.tw ; violet@separays.com



<https://www.seprays.com>; <https://www.genitec.tw>

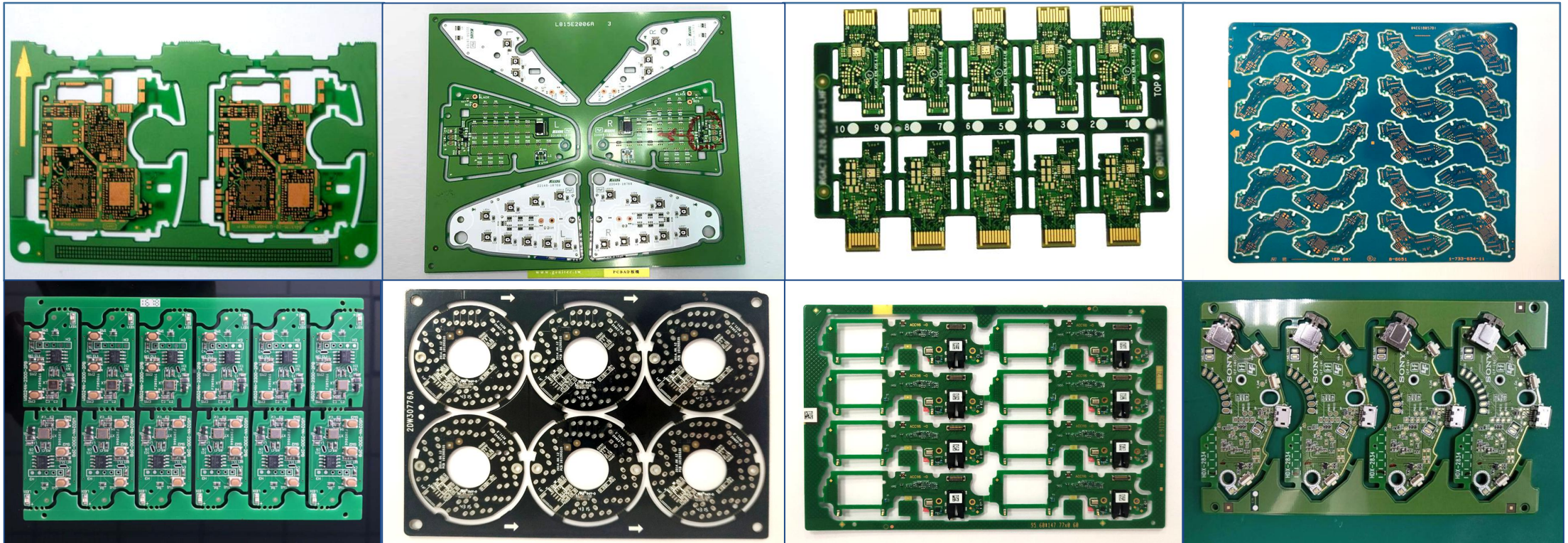
Machine Introduction

1. Equipped with high-speed CCD vision alignment system in all series of products to enhance the precision in cutting and efficiency in operation.
2. Use high speed spindle with small cutting stress to precisely cut any shape of PCBA.
3. Provide dual worktables for placing the cutting PCB in parallel to enhance the efficiency of operation.
4. Patented dust collector with low noise and high efficiency. easy to clean and maintain.
5. Operation system: adopts Lenovo+Windows10.
6. Software: Genitec independent research and development control system supports unlimited upgrade



Machine Application

1. Equipped with high efficient vision-aided position alignment system with high-speed CCD camera. Especially designed for high-precision and high-production PCB separation.
2. Suitable for de-paneling small-sized PCBs for cell phone, car electronics, GPS device, PDA, and board card, etc.
3. Optional special fixture or universal fixture for separating PCBs.
4. Provide dual worktables so that placing and cutting PCB can be performed simultaneously to minimize the waiting time



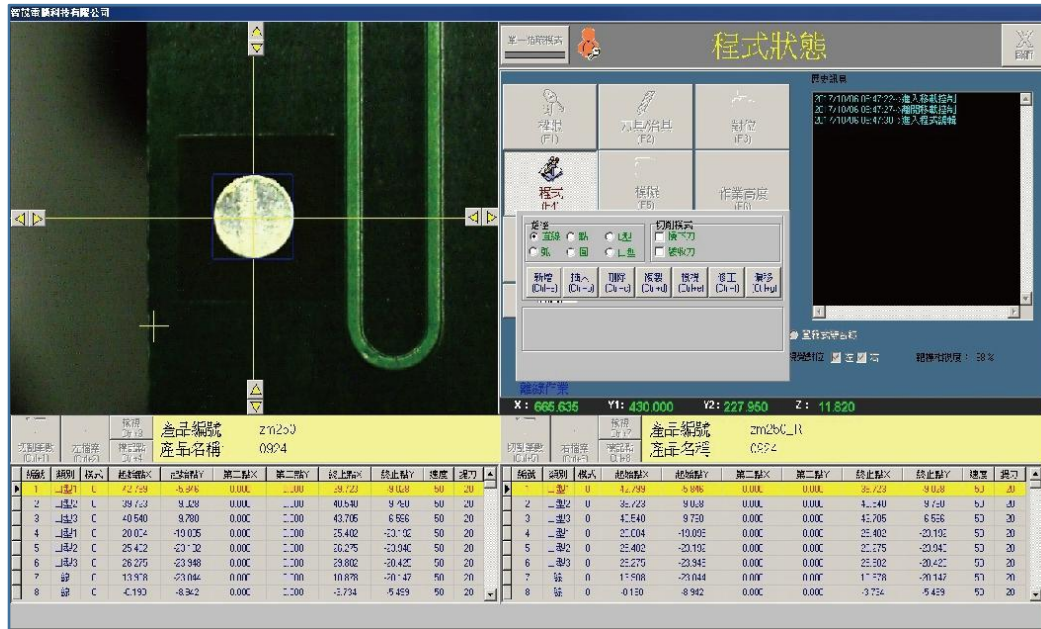
Operation Interface



Nine Functions:

- F1 : User Permission
- F2 : Setting board thickness、Milling bit specification and life cycle and fixture height.
- F3 : Mark setting and revising
- F4 : Cutting Program Edit
- F5 : the cutting path simulation
- F6 : Milling bit working height setting
- F7 : Milling bit drilling center correction
- F8 : Environment、Working、Permission Setting
- F9 : Reset

Software-Special Function



Vision-Aided Position Calibration

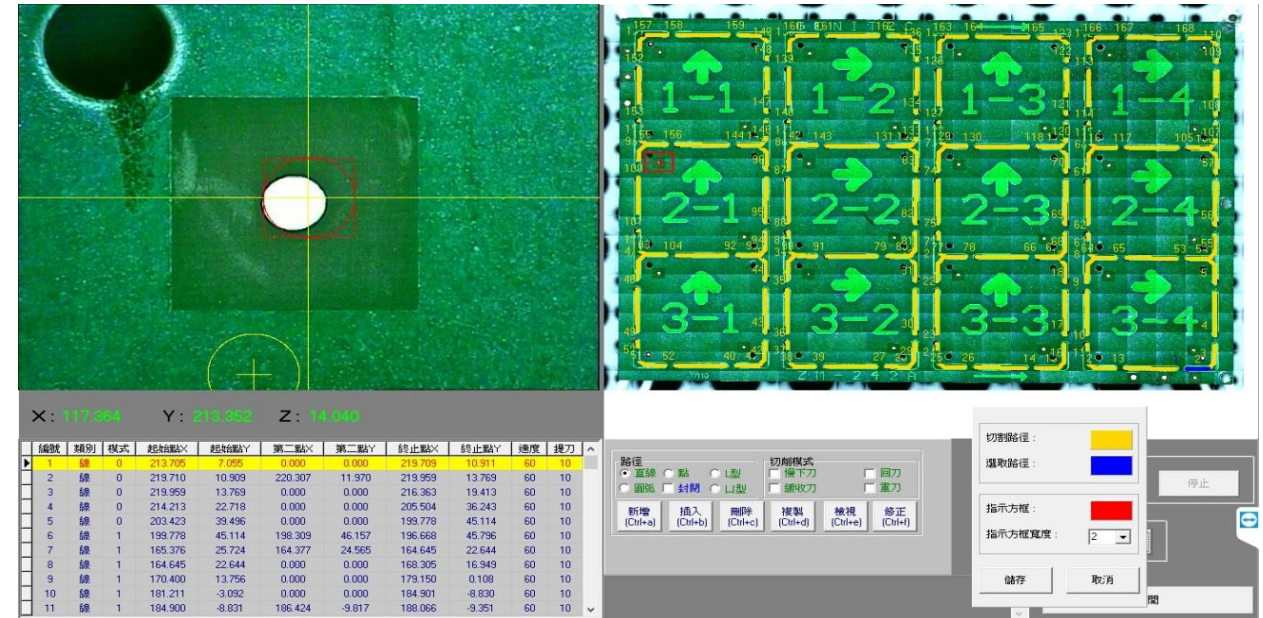
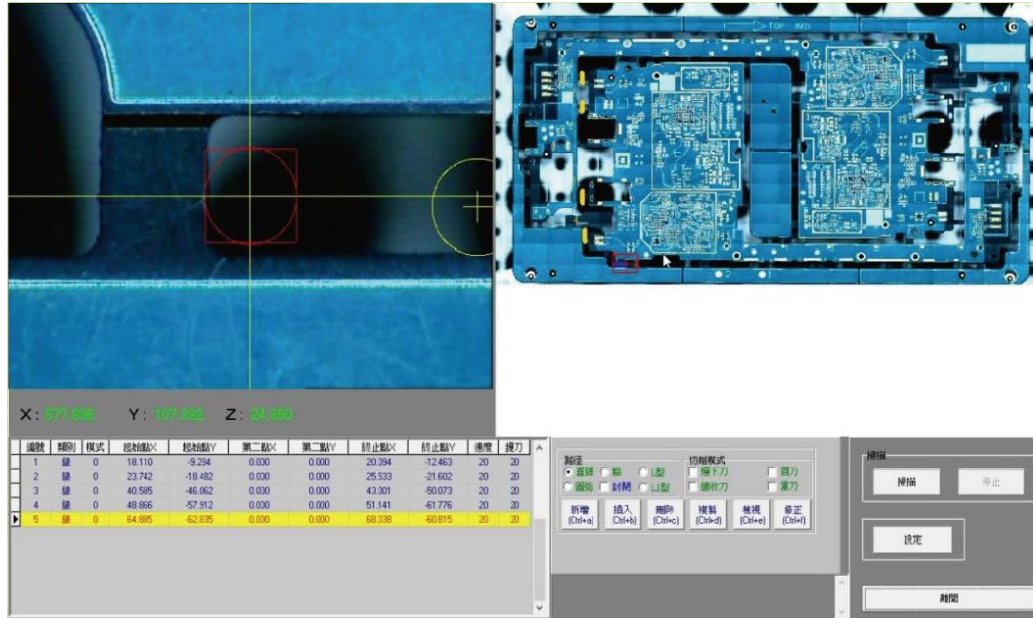
- a. Use computer vision with CCD to automatically position of the mark points and enhance the accuracy of cutting;
- b. Can edit the path-planning program and simulate the cutting path to avoid wrong cutting.



Milling Bit Detection(Optional)

Provide capability of detecting broken/dropped/reversed milling bit for auto tool-change..

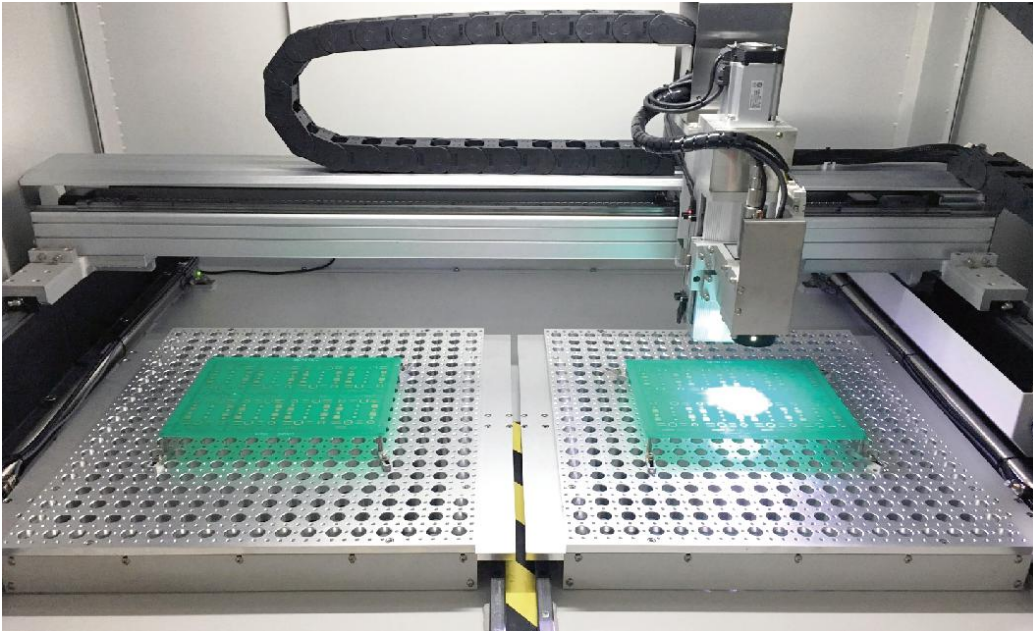
Software-Special Function



The whole PCB Scanning Function

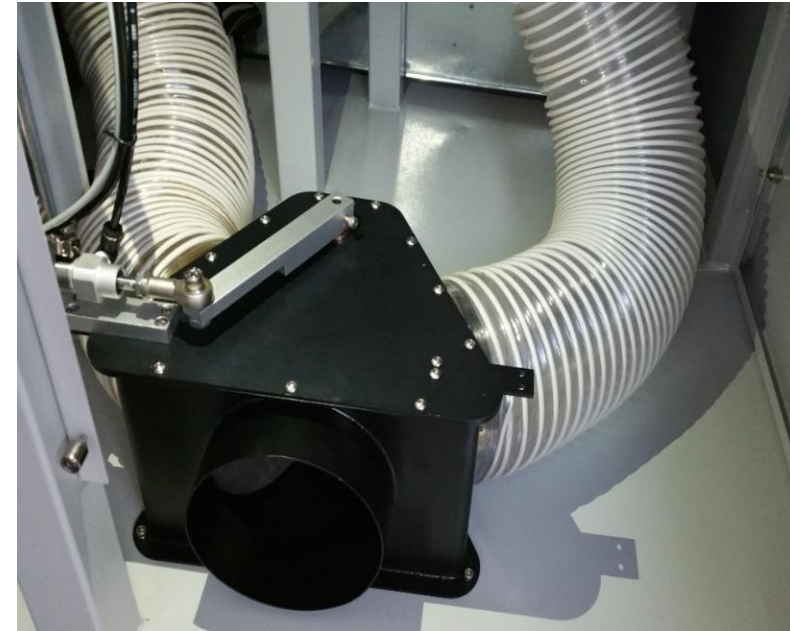
- a. Allows the user to facilitate correcting and editing the cutter's routing path rapidly.
- b. Cutting line color optional , easy to distinguish different color of PCB.

Machine Configuration



Offline automatic PCB Separator

1. Adopts NSK spindle, Panasonic Servo Controller, SMC pneumatic components, TBI screw, PMI Guide rail, Delta PLC control system, quality is guaranteed.
 2. It can be read by the handheld barcode machine and managed by the Central MES (Manufacturing Execution System) via Ethernet.
 3. Provide dual worktables so that placing and cutting PCB can be performed simultaneously to minimize the waiting time.
- the dual worktable can be merged to form a single large worktable to extend the size of the cutting area. suitable for cutting large-sized PCBA.



Vacuum damper integrated design

it adopts Japan SMC cylinder drive, stable and reliable. and it can switch quickly with the cutting single-sided platen, and the wind noise is small, which fully guarantees the dust-absorbing effect.

MES link system case

GENITEC - 分機管理中心 v1.0

智茂電腦科技 GENITEC

正常運行 報警 設定 設備設定 2017/12/27 14:17:24

L05 - 1F

AP01 AP05

設備數量: 8

樓層名稱: L05 - 1F

編號	設備名稱	IP
1	AP01	192.168.3.1
2	AP02	192.168.3.2
3	AP03	192.168.3.3
4	AP04	192.168.3.4
5	AP05	192.168.3.5
6	AP06	192.168.3.6
7	AP07	192.168.3.7
8	AP08	192.168.3.8

設備報警信息顯示

時間	設備編號
2017 - 12 - 27 00:00:00	L05 - 1F_ AP06

處理對策

請取出基板

雙擊欄位可進入編輯模式，輸入自訂的設備名稱。

雙擊欄位可進入編輯模式，輸入對應機台設備的IP。

GENITEC - 分機管理中心 v1.0

智茂電腦科技 GENITEC

正常運行 報警 閒置 設定 設備設定 2017/12/27 14:18:00

L05 - 1F

AP01 AP02 AP03 AP04

AP05 AP06 AP07 AP08

雙擊 L05-1F 方塊，會連接出樓層訊息視窗

單擊 UPH 或 機故障率欄位，會連接出統計圖表視窗(如下圖)。

設備報警信息

時間	設備名稱	機台直徑	切割速度	切割長度	鋸刀用量	產能	UPH	機故障率		
2017 - 12 - 27 00:00:00	AP02	閒置	ZM-242	1.50	20	86.042	1	207	0	0.0 %
	AP03	正常運行	ZM-242	1.60	20	153.069	1	1380	60	0.0 %
	AP04	正常運行	ZM-242	1.60	20	958.929	1	8640	360	0.0 %
	AP05	正常運行	ZM-242	1.60	20	958.929	1	8640	360	0.0 %
	AP06	故障	ZM-242	1.60	20	958.929	1	8640	360	0.0 %
	AP07	正常運行	ZM-242	1.60	20	153.069	1	1380	60	0.0 %
	AP08	正常運行	ZM-242	1.60	20	153.069	1	1380	60	0.0 %

處理對策

請取出基板

GENITEC - 分機管理中心 v1.0

智茂電腦科技 GENITEC

正常運行 報警 閒置 設定 設備設定 2017/12/27 14:17:02

L05 - 1F

AP01 AP02 AP03 AP04

AP05 AP06 AP07 AP08

設備報警信息顯示

時間	設備編號
2017 - 12 - 27 00:00:00	L05 - 1F_ AP06

處理對策

No.	報警原因	處理對策
2	移載X軸 碰擊左極限	確認執行復歸
3	移載X軸 碰擊右極限	確認執行復歸
4	靜電消除器故障	
5	左吸塵切換故障	
6	右吸塵切換故障	
7	移載Z軸 碰擊上極限	確認執行復歸
8	移載Z軸 碰擊下極限	確認執行復歸
9	入料調整軸 碰擊後極限	確認執行復歸
10	出料輸送台軸 碰擊後極限	確認執行復歸
11	出料輸送台軸 碰擊前極限	確認執行復歸
12	右台板 Y 軸碰擊到後極限	確認執行復歸

雙擊欄位可編輯該欄位的處理對策。

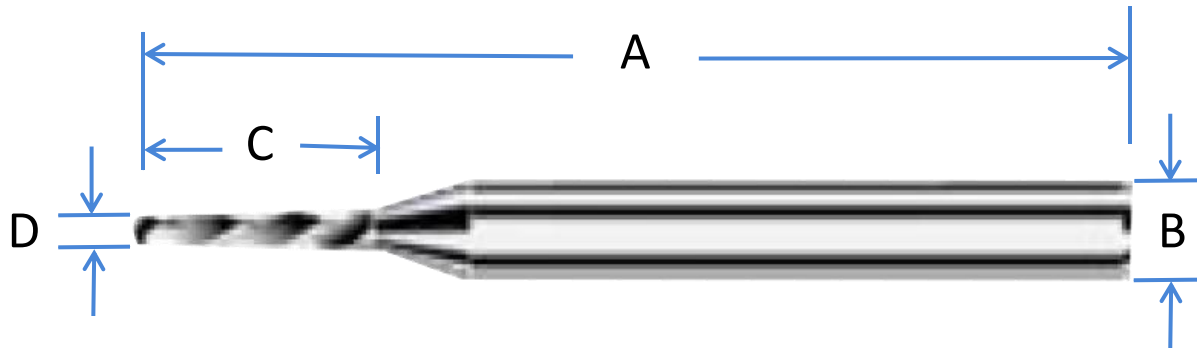
按下右上角的關閉視窗便會存檔。

F Factory Black Light Mangement

Special Milling Bit



Milling bit size
Ø 0.8 ~ Ø3.0 mm



Right and left rotation; Lower cut; Carbon alloy milling bit head

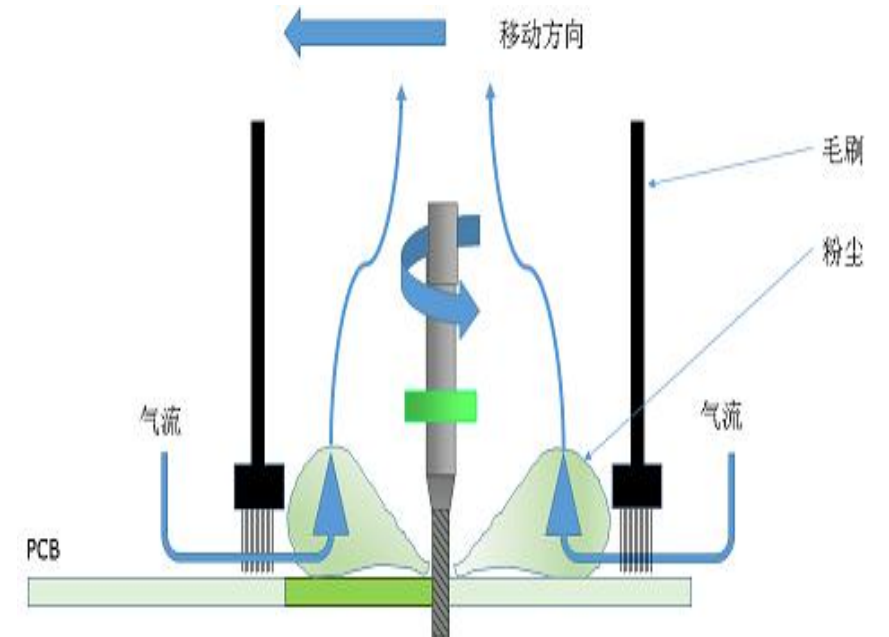
Total Length (A): 38.1 ± 0.30 mm

Diameter (B): 3.175 mm

Cutting Length (C): 6 ± 0.50 mm

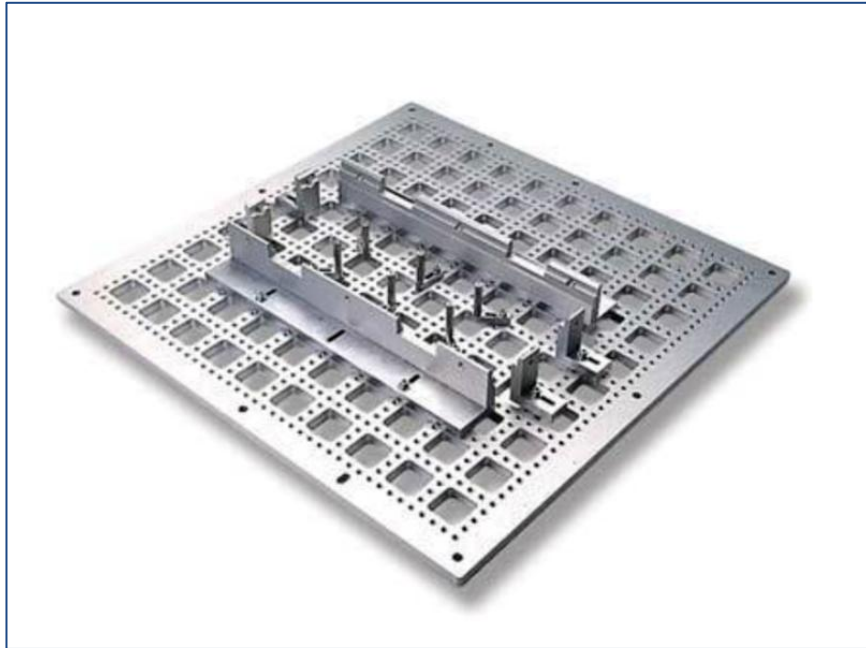
(Depending on the diameter of the milling bit, the length of the milling bit)

Cutting Dia. (D): 0.8、1.0、1.2、1.5、1.6、1.8、2.0、2.4、3.0 mm



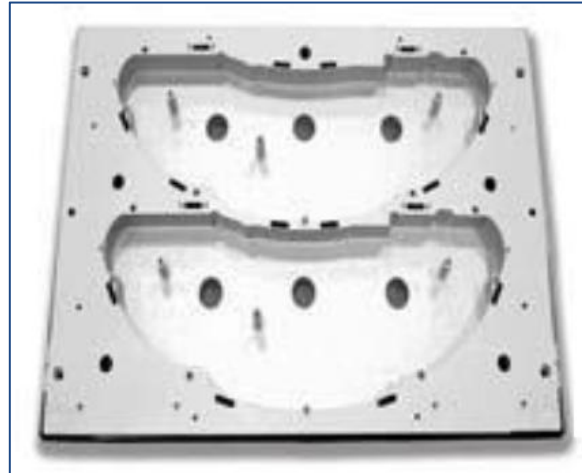
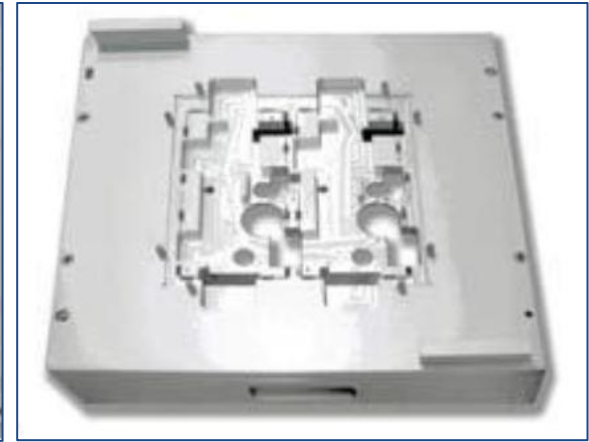
【Dust movement diagram】

Special&Customized Fixture



Universal Fixture

Used for various size and any shape of PCBs.



Customized Fixture

High precision cutting and stable.

Machine Specification

Item	GAM320	GAM320L
Valid cutting size	350*300mm	450*500mm
Cutting function	Tweening to line,Lshape,U shape,Circle,Arc	
Process table	Dual tables	
Repeat moving speed	$\pm 0.01\text{mm}$	
Cutting precision	$\leq \pm 0.05\text{mm}$	
Max moving speed	XY:1000mm/sec, Z:500mm/sec	
Max moving trip	X:810mm,Y:370mm,Z:90mm	X:1010mm,Y:570mm,Z:90mm
Spindle speed	MAX60,000rpm	
Voltage/Power requirement	AC220V 50/60HZ 3KW Single phase	
Cutting speed	1-100mm/s Adjustable	
Operation system	Windows10	
Program teaching mode	Intuitive teaching by CCD color image input	
Program backup	USB	
Control method	Precision multi-axis control systym	
XYZ axis driving mode	AC servo motor	
Size of milling bit	$\phi 0.8\text{-}3.0\text{mm}$	
Machine weight	1245w*1315w1550H(mm)	1445W*1670D*1550H (mm)
Weight	500KG	610KG
Dust collector	TS200	TS200L

Cooperative customers

FOXCONN®

仁寶電腦
COMPAL

LITEON®

oppo



HUAQIN

龍旗
LONGCHEER

WINGTEC
PROFESSIONAL SOLUTIONS
聞泰通訊

TRANSSION®
傳音控股

DIG
光弘科技

Blueway

SUNWODA
欣旺達

SCUD
飞毛腿



CATL
宁德时代

DESAY 德賽

海康威視®
HIKVISION™

LENS
蓝思科技

mindray 迈瑞
生命科技如此亲近

UNITED 联影
IMAGING

中国中车
CRRC



BOSCH
博世 科技成就生活之美

长城汽车

Valeo
法雷奥



Edifier
漫步者

faurecia
inspiring mobility

BOE

·film

HUAWEI

HSAE 航盛

HOT 和而泰
HAT INTELLIGENT CONTROL

Skyworth 创维

Hisense

TP-LINK®



Goertek®

GENVICT 金溢

AOC®
EYES VALUE

Customer Case

