GENITEC

全自動分板機
Automatic PCB Separator

TAIWAN GENITEC

GENITEC
智茂電腦科技

PCBA分板製程完整解決方案
Complete Solution For PCBA Separation Manufacturing Process

■ 在線式（In-Line）

上板機
Loader

測試機
Test Equipment

迴焊爐
Reflow Solder

GAM660
自動載具收板機
PCB-Carrier Unloader

P.13

GAM320AT/330AT
自動PCB分板機
PCB Separator

P.10

GAM620R **GAM620A**
自動翻板機 自動收板機
PCB Turnover PCB Unloader

P.12

■ 離線式（Off-Line）

GAM330
- 標配自動換刀
- 銑刀斷刀、滑刀、放反，自動視覺檢測
- 採用精密螺桿、伺服馬達，速度快，精度高
- Auto tool-change in standard configuration.
- Auto vision detection of broken/dropped/reversed milling cutter.
- Equipped with precision leadscrew and high-speed, high-accuracy servomotor.

P.8

GAM320
- 高性價比
- 操作簡單，容易上手
- 切割穩定，速度快，精度高
- High performance-cost ratio. High competition in functions and price.
- Easy to operate and learn fast.
- Stable, high-speed, and high-accuracy in cutting.

P.6

GAM310
- 單工作台，佔地面積小
- 標配自動換刀
- 搭配上集塵機，吸塵效果好
- Single worktable requiring only small space.
- Auto tool-change in standard configuration.
- Equipped with powerful "upper dust collector" absorbing dust effectively.

P.4

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智茂電腦科技有限公司

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GAM310

全自動PCB分板機
Vision-Aided Automatic PCB Separator

產品特性 (FEATURES)

- 單工作台佔地面積小，運用性高。
- 配備高速CCD視覺自動校正系統，提升辨識效率。
- 採用進口高速主軸，切割應力小，精度高。
- 配備高吸力「上集塵機」，吸塵效果佳。
- 視窗介面，操作容易。

- Single worktable requiring only small space. High flexibility in use.
- Equipped with high-speed CCD auto vision calibration system to enhance effectiveness and efficiency in recognition capability.
- Adopt imported high-speed spindle with small cutting stress and high precision quality.
- Equipped with "upper duct collector". Has powerful capability of absorbing dust from the upper side.
- Easy to operate by window-based interface.

機台應用(APPLICATION)

- 適用高精度PCB分板作業。
- 適合手機、車載電子、穿戴設備、板卡等各種形狀之多連板分板。
- 可選擇專用治具或萬用治具做分板切割。
- Perform high-precision PCB separating work.
- Suitable for de-paneling PCB of any shape for the use of mobile device, wearable device, car electronics, board card, etc.
- Can choose either universal or customized fixture for cutting.

產品亮點 (HIGHLIGHTS)

操作畫面
Operation Panel

- 操作介面簡單，容易學習、快速上手。
- 功能項目清楚分類，銑刀/治具等參數設定簡單。
- 提供四級權限，依工作職別設定操作權限。
- 「歷史訊息視窗」可顯示及查詢操作記錄。
- Operation interface is clear, friendly, and simple. Easy to learn and start quickly.
- Functional items are clear and well categorized. Very easy to set the parameters for milling tool and fixture.
- Provide four levels of authorization control according to user's job rank.
- The "History Window" can display the historical records of operation.
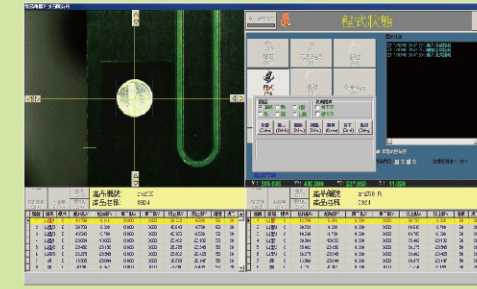
銑刀檢測
Milling Tool Detection

- 俱備斷刀、滑刀、銑刀放反之檢測功能。
- Provide capability of detecting broken/dropped/reversed milling tool for auto tool-change.

吸塵結構
### Dust Collection Mechanism

- 搭配高效能「上集塵機」。
- Equipped with high efficient "upper dust collector".

視覺對位校正
### Vision-Aided Position Calibration

- CCD自動對位mark點，提高切割精度。
- 可模擬切割路徑，協助編輯程式，確保切割路徑之準確性。
- Use computer vision with high-quality CCD to automatically position the mark points and enhance the accuracy of cutting.
- Can edit the path-planning program and simulate the cutting path to avoid wrong cutting.

主軸機構
Spindle
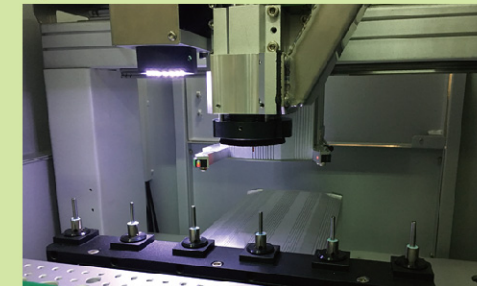
- 高速精密主軸60,000rpm。
- 浮動毛刷模組專利，可達成銑刀加深，進而延長銑刀使用壽命。
- High-speed precision spindle (60,000 RPM).
- Patented "flexible cleaning brush module" enables the milling tool to move to its deeper positions and prolong the life-cycle of the tool.

整板掃描PCB切割路徑編輯功能
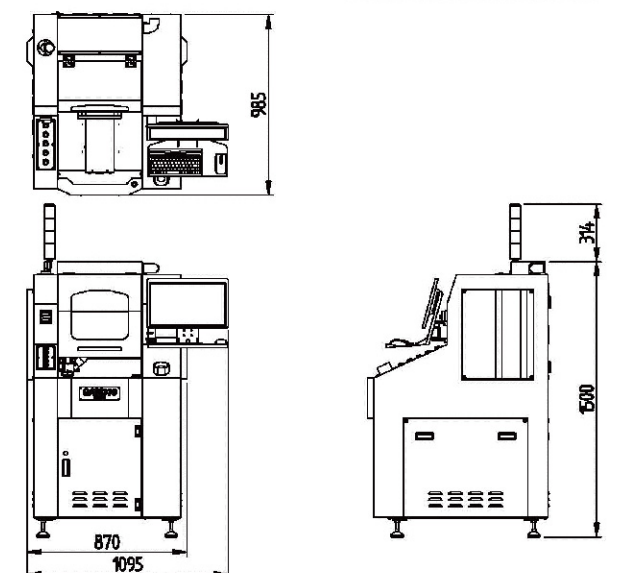### The Whole PCB Scanning Function For Editing the Cutter's Routing Path
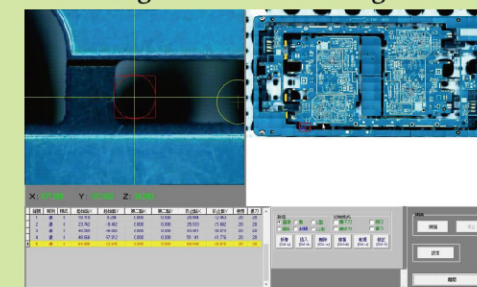
- PCB整板掃描後做編輯，可快速修改編輯切割路徑。
- The function of scanning the whole PCB allows the user to facilitate correcting and editing the cutter's routing path rapidly.

產品規格 (SPECIFICATIONS)

項目 ITEMS	GAM310
有双切割尺寸 Valid cutting size	350 x 300 mm
切割功能 Cutting function	直線、L型、U型、圓型、圓弧 Tweening to line,L shape,U shape,Circle,Arc
加工台面 Process table	單工作台Single table
機台重覆精度 Repeat precision	±0.0l mm
切割精度 Cutting precision	≦±0.1mm
最高移動速度 Max moving speed	XY：1000mm/sec ,Z：500mm/sec
最大移動行程 Max moving trip	X：450mm ,Y：480mm ,Z：90mm
主軸轉速 Spindle's speed	MAX 60,000rpm (Adjustable)
主軸銑刀更換方式 Type of tool change	自動換刀 Auto tool change
安全防護 Safety protection	安全光柵防護 Safety light curtain
切割速度 Cutting speed	1 - 100mm/s (Adjustable)
作業系統 Operating system	Windows 10
程式教導方式 Program teaching mode	CCD彩色影像直覺式教導輸入 Intuitive teaching by CCD color image input
程式備份 Program backup	USB data transfer
控制方式 Control method	精密多軸控制系統 Precision multi-axis control system
XYZ軸驅動方式 XYZ axis driving mode	AC伺服馬達 AC Servo motor
適用銑刀尺寸 Size of milling tool	φ 0.8 - 3.0mm
主機電源規格 Voltage/Power requirement	AC220V 50/60HZ 3KW 單相 Single-Phase
切割主機尺寸 Machine dimensions	870(W)*985(D)*1500(H)mm
切割主機重量 Machine weight	310kg
標配集塵機 Dust collector	TS300

外觀尺寸 (DIMENSIONS)

GAM310

985
314
1500
870
1095

● 規格如有變更，恕不另行通知（Change without notice.）● 特殊規格，歡迎另行訂做（Welcome customized request.）

GAM320/320L

全自動PCB分板機
Vision-Aided Automatic PCB Separator

產品特性 (FEATURES)

- 全系列配置高速CCD視覺自動校正系統，大幅提高切割精度及操作效率。
- 採用高速主軸做PCB之切割分板，分割應力小、精度高，且適用任何形狀之電路板。
- 雙檯面運動，可同時執行分板切割及電路板置放，提高作業效率。
- 專利「集塵裝置」，低噪音、效率高，清潔及維護容易。
- 視窗系統，安全穩定、易學易用。
- Equipped with high-speed CCD vision alignment system in all series of products to enhance the precision in cutting and efficiency in operation.
- Use high-speed spindle with small cutting stress to precisely cut PCB of any shape.
- Provide dual worktables. While one is used for cutting, the other can be used for loading to enhance efficiency of production.
- Patented dust collector with low noise and high efficiency. Easy to clean and maintain.
- Windows OS and window-based interface panel. Safe, stable, easy to learn and operate.

機台應用(APPLICATION)

- 全系列配置高速CCD視覺對位補正裝置，特別適合高精密及高產能之PCB分板作業。
- 適合手機、數位相機、GPS、PDA及MODULE等各種小塊多連板之PCB分板。
- 可選用標準治具或專用治具做分板切割之輔助以提高產能。
- 利用雙工作平台，減少等待放置工件時間，增加產能。
- Equipped with high efficient vision-aided position alignment system with high-speed CCD camera in all product series. Especially designed for high-precision and high-production PCB cutting process.
- Suitable for de-paneling small-sized PCBs for cell phone, digital camera, GPS device, and PDA, etc.
- Can choose either standard fixture or customized fixture for PCB cutting to help increasing the production volume.
- Provide dual worktables so that placing and cutting PCB can be performed simultaneously to minimize the waiting time.


操作畫面
Operation Panel

- 操作介面簡單，學習容易快速上手。
- 功能項目清楚分類，銑刀/治具等參數設定簡單。
- 提供四級權限設置，依工作職別設定操作權限。
- 「歷史訊息視窗」可顯示及查詢操作記錄。
- Operation interface is clear, friendly, and simple. Easy to learn and start quickly.
- Functional items are clear and well categorized. Very easy to set the parameters for milling tool and fixture.
- Provide four levels of authorization control according to user's job rank.
- The "History Window" can display the historical records of operation.

雙工作台板
Dual Worktables
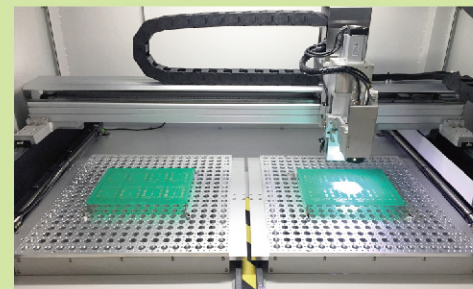
- 雙工作台板，可同時執行PCBA分板及置放，降低置放工件等待時間。
- 可合併為單工作板，加大可切割範圍，適用更大尺寸PCBA分板。
- 可加裝安全光柵（選配）。
- Provide dual worktables so that placing one PCB and cutting other PCB can be performed in parallel to minimize the waiting time.
- The dual worktables can be merged to form a single large worktable to extend the size of the cutting area. Suitable for cutting large-sized PCBA.
- Adding safety light curtain is available (optional).

吸塵結構
### Dust Collection Mechanism

- 標配「下集塵機」，可依需求選配「上集塵機」。
- The "lower dust collector" is included in standard configuration. The "upper dust collector" is available based on the need (optional).

視覺對位校正
### Vision-Aided Position Calibration

- CCD自動對位mark點，提高切割精度。
- 可模擬切割路徑，協助編輯程式，確保切割路徑之準確性。
- Use computer vision with high-quality CCD to automatically position the mark points and enhance the accuracy of cutting.
- Can edit the path-planning program and simulate the cutting path to avoid wrong cutting.

主軸機構
Spindle
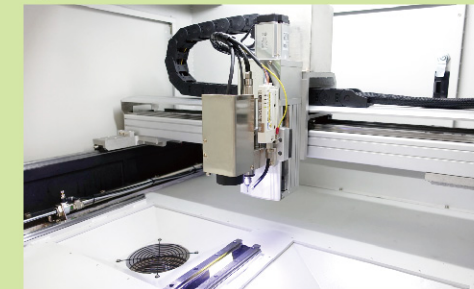
- 高速精密主軸60,000RPM。
- 切割應力小，板邊平滑。
- Z軸俱備自動補償設定，可自動調整銑刀深度，延長銑刀使用壽命。
- 可選配斷刀檢知裝置。
- High-speed precision spindle (60,000RPM).
- Low stress in cutting contact. Generate smooth edge for PCB.
- Automatic compensation function in Z-axis to adjust the cutting depth of milling tool and prolong the life-cycle of the tool.
- Mechanism of detecting broken milling tool is available. (optional)

整板掃描PCB切割路徑編輯功能
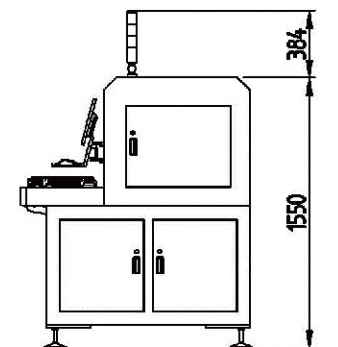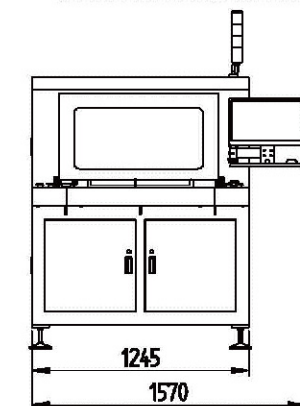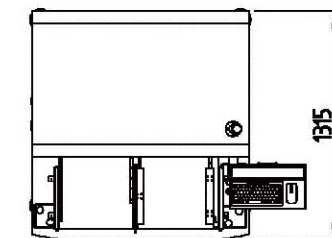### The Whole PCB Scanning Function For Editing the Cutter's Routing Path
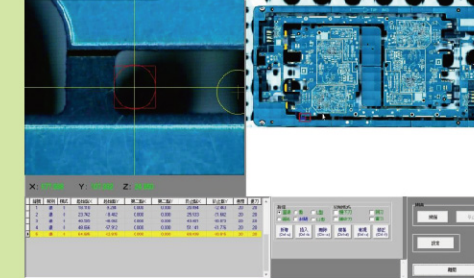
- PCB整板掃描後做編輯，可快速修改編輯切割路徑。
- The function of scanning the whole PCB allows the user to facilitate correcting and editing the cutter's routing path rapidly.

項目 ITEMS	GAM 320	GAM 320L
有效切割尺寸 Valid cutting size	350 x 300 mm	450 x 500 mm
切割功能 Cutting function	直線、L型、U型、圓型、圓弧 Tweening to line,L shape,U shape,Circle,Arc	
加工台面 Process table	雙工作台 Dual tables	
機台重覆精度 Repeat precision	±0.0l mm	
切割精度 Cutting precision	≦±0.1mm	
最高移動速度 Max moving speed	XY：800mm/sec ，Z：350mm/sec	
最大移動行程 Max moving trip	X：810mm,Y：370mm,Z：90mm	X：1010mm,Y：570mm,Z：90mm
主軸轉速 Spindle's Speed	MAX 60,000rpm (Adjustable)	
切割速度 Cutting speed	1 - 100mm/s可調 (Adjustable)	
作業系統 Operating system	Windows 10	
程式教導方式 Program teaching mode	CCD彩色影像直覺式教導輸入 Intuitive teaching by CCD color image input	
程式備份 Program backup	USB data transfer	
控制方式 Control method	精密多軸控制系統 Precision multi-axis control system	
XYZ軸驅動方式 XYZ axis driving mode	AC伺服馬達 AC Servo motor	
適用銑刀尺寸 Size of milling tool	φ0.8 - 3.0mm	
主機電源規格 Voltage/Power requirement	AC220V 50/60HZ 3KW 單相 Single-Phase	
切割主機尺寸 Machine dimensions	1245(W)x1315(D)xl740(H)mm	1760(W)x1260(D)xl740(H)mm
切割主機重量 Machine weight	500kg	610kg
標配集塵機 Dust collector	TS200	TS200L

外觀尺寸 (DIMENSIONS)

GAM320

GAM330/330L

全自動PCB分板機
Vision-Aided Automatic PCB Separator

GENITEC
GAM330

機台應用 (APPLICATION)
- 全系列配置高速CCD視覺對位補正裝置，特別適合高精密及高產能之PCB分板作業。
- 適合手機、車載電子、GPS、板卡等各種小塊多連板之PCB分板。
- 可選用標準治具或專用治具做分板切割之輔助以提高產能。
- 利用雙工作平台，減少放置工件等待時間、增加產能。
- Equipped with high efficient vision-aided position alignment system with high-speed CCD camera in all product series. Especially designed for high-precision and high-production PCB cutting process.
- Suitable for de-paneling small-sized PCBs for cell phone, car electronics, GPS device, PDA, and board card, etc.
- Can choose either standard fixture or customized fixture for PCB cutting to help increasing the production volume.
- Provide dual worktables so that placing and cutting PCB can be performed in parallel to minimize the waiting time.

產品亮點 (HIGHLIGHTS)

操作畫面
Operation Panel

- 操作介面簡單，學習容易快速上手。
- 功能項目清楚分類，銑刀/治具等參數設定簡單。
- 提供四級權限設置，依工作職別設定操作權限。
- 「歷史訊息視窗」可顯示及查詢操作記錄。
- Operation interface is clear, friendly, and simple. Easy to learn and start quickly.
- Functional items are clear and well categorized. Very easy to set the parameters for milling tool and fixture.
- Provide four levels of authorization control according to user's job rank.
- The "History Window" can display the historical records of operation.

銑刀檢測
Milling Tool Detection

- 俱備斷刀、滑刀、銑刀放反之檢測功能。
- Provide capability of detecting broken/dropped/reversed milling tool for auto tool-change.

雙工作台板
Dual Worktables

- 雙工作台板，可同時執行PCBA分板及置放，降低放置工件等待時間。
- 以精密螺桿帶動台板進出，速度快、精度更高。
- 可加裝安全光柵（選配）。
- Provide dual worktables so that placing and cutting PCB can be performed in parallel to minimize the waiting time and enhance the efficiency of operation.
- The moving in and out of worktables are driven by precision screws. Has high speed and high precision.
- Adding safety light curtain is available (optional).

視覺對位校正
Vision-Aided Position Calibration
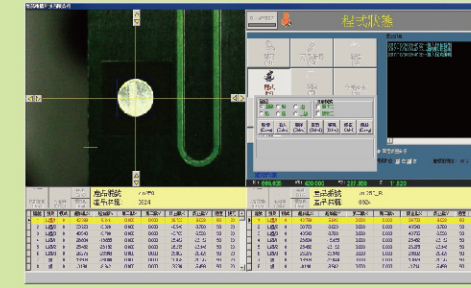
- CCD自動對位mark點，提高切割精度。
- 可模擬切割路徑，協助編輯程式，確保切割路徑之準確性。
- Use computer vision with high-quality CCD to automatically position the mark points and enhance the accuracy of cutting.
- Can edit the path-planning program and simulate the cutting path to avoid wrong cutting.

整板掃描PCB切割路徑編輯功能
The Whole PCB Scanning Function For Editing the Cutter's Routing Path
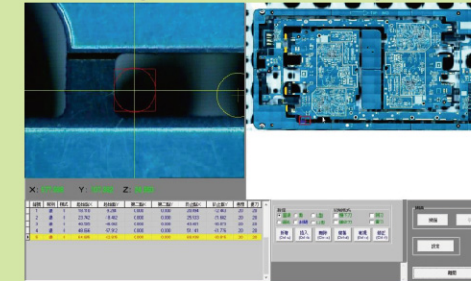
- PCB整板掃描後做編輯，可快速修改編輯切割路徑。
- The function of scanning the whole PCB allows the user to facilitate correcting and editing the cutter's routing path rapidly.

主軸機構
Spindle

- 高速精密主軸60,000RPM。
- 標配自動換刀機組，節省人工換刀時間。
- High-speed precision spindle (60,000 RPM).
- Include auto tool-change in standard configuration. Save labor and time costs for tool-change.

吸塵機構
Dust Collection Mechanism

- 標配「下集塵機」，可依需求選配「上集塵機」。
- "Lower dust collector"in standard configuration.- May change to "upper dust collector" based on customer's demand.

產品規格 (SPECIFICATIONS)

項目 ITEMS	GAM 330	GAM 330L
有效切割尺寸 Valid cutting size	300 x 350 mm	450×500mm
切割功能 Cutting function	直線、L型、U型、圓型、圓弧 Tweening to line,L shape,U shape,Circle,Arc	
加工台面 Process table	雙工作台 Dual tables	
機台重覆精度 Repeat precision	±0.0l mm	
切割精度 Cutting precision	≦±0.1mm	
最高移動速度 Max moving speed	XY：1000mm/sec ， Z：500mm/sec	
最大移動行程 Max moving trip	X：840mm,Y：510mm,Z：90mm	X：1105mm,Y：730mm,Z：90mm
主軸轉速 Spindle's Speed	MAX 60,000rpm可調 (Adjustable)	
主軸銑刀更換方式 Tool change type	氣壓自動換刀 Auto tool change	
銑刀偵測 Milling tool detection	俱備自動斷刀檢知功能 Automatic router bit detector	
切割速度 Cutting speed	1 - 100mm/s 可調 (Adjustable)	
作業系統 Operating system	Windows 10	
程式教導方式 Program teaching mode	CCD彩色影像直覺式教導輸入 Intuitive teaching by CCD color image input	
程式備份 Program backup	USB data transfer	
控制方式 Control method	精密多軸控制系統 Precision multi-axis control system	
XYZ軸驅動方式 XYZ axis driving mode	AC伺服馬達 AC Servo motor	
適用銑刀尺寸 Size of milling tool	φ0.8 - 3.0mm	
主機電源規格 Voltage/Power requirement	AC220V 50/60HZ 3KW 單相 Single-Phase	
切割主機尺寸 Machine dimensions	1220(W)x1010(D)xl473(H)mm	1500(W)*1385(D)*1473(H)mm
切割主機重量 Machine weight	480kg	600kg
標配集塵機 Dust collector	TS200	TS200L

外觀尺寸 (DIMENSIONS)

GAM330L

1385
386
1473
1500
1825
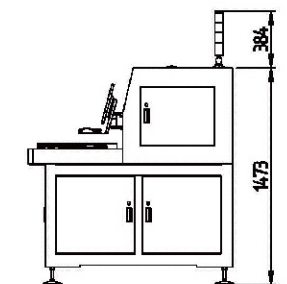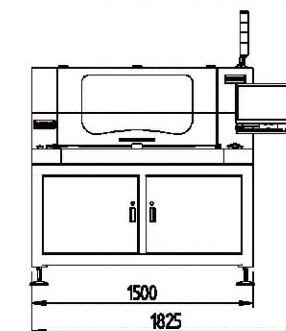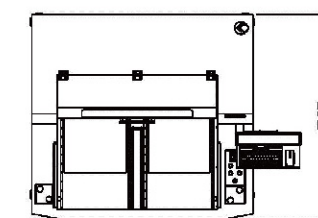
GAM320AT/330AT

在線全自動PCB分板機
In-line Automatic PCB Separator

GAM320AT

產品特性 (FEATURES)

- 在線式全自動PCB分板機，自進料、切割到出料，皆符合自動化廠房需求。
- 自動調整板寬以接收PCB板，切割完成後自動分類成品及廢料，節省人力成本。
- 雙檯面連動，可同時執行分板切割及電路板置放，提高作業效率。
- 系統設置自動調整焦距，無需人工對焦。
- 採用高速主軸切割，搭配自動換刀模組，節省手動換刀時間。
- 俱備斷刀、滑刀、銑刀放反檢測功能。
- 搭載MES聯機功能，提供上層管理系統整合生產數據，隨時監測設備狀況。
- 「上吸塵結構」配備浮動毛刷模組，可做銑刀加深(GAM330AT)。
- 配備壓板自動閉合模組(GAM330AT)。
- In-line automatic PCB separator can load, cut, and un-load PCBs automatically to meet the needs of automatic factory.
- Can automatically adjust width to adapt to the size of PCB. Can automatically differentiate finished PC board from waste-material after cutting for saving labor costs.
- Provide dual worktables for placing and cutting PCB in parallel to enhance the efficiency of operation.
- The system has auto-focusing function and requires no manual operation to adjust focus.
- Use high-speed spindle for cutting with auto tool-change function. Save a lot of time in tool change by hand.
- Automatic detection of broken/dropped/reversed milling tool in auto tool-change.
- The MES central control system can be linked to upper information management system and provide integrated production data to monitor the status of equipment at any time.
- The "upper dust collector" incorporated with "flexible cleaning brush module" enables deepening the milling tool to prolong the life-cycle of the tool's usage. (GAM 330AT)
- Provide automatic open/close switching module for clamp plate.

機台應用 (APPLICATION)

- 在線式一貫作業，自動入料、切割、廢板及成品板分類出料，大量節省作業人力。
- 適合手機、數位相機、GPS及MODULE等各種小塊多連板之PCB分板。
- 可選用各種收板方案，達到全自動化人力節省之目的。
- Perform a sequence of in-line operations including loading PCBA panel, cutting PCBA panel, differentiating finished PCBA from waste material, unloading PCBs. separately. Save tremendous labor cost.
- Suitable for cutting small-sized PCBA panel used in cell phone, digital camera, and GPS device.
- Different options of unloading PCBs. Achieve full automation and save labor cost.

操作畫面
Operation Panel

- 功能項目清楚分類，銑刀/治具等參數設定簡單。
- 提供四級權限設置，依工作職別設定操作權限。
- 「歷史訊息視窗」可顯示及查詢操作記錄。
- Functional items are clear and well categorized. Very easy to set the parameters for milling tool and fixture.
- Provide four levels of authorization control according to user's job rank.
- The "History Window" can display the historical records of operation.

功能參數畫面
### Function Parameter Interface

- 人性化操作介面，設置參數容易。
- User-friendly operation interface makes setting of parameters extremely easy.

雙吸盤移載模組
### Dual Vacuum Suction Cups Module for Transferring

- 依不同作業需求，可將吸盤模組更換為夾爪模組（選配）。
- 可加購吸盤模組，換線容易。
- May change suction cups module to gripper module based on user's demand. (optional)
- May purchase additional suction cups module with extra charge. Easy to change the production line.

入料機構
The Loading Mechanism
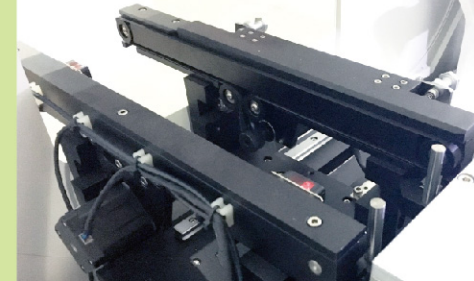
- 入料採用防靜電皮帶輸送，軌道俱備自動調整板寬功能。
- 進料移載模組將PCB吸取至治具上切割。
- The loading system uses anti-static conveying belt. The rail can be automatically adjusted to fit the width of the loaded board.
- The loading and transferring module can suck PCB and put PCB on fixture for cutting.

出料機構
Unloading Mechanism
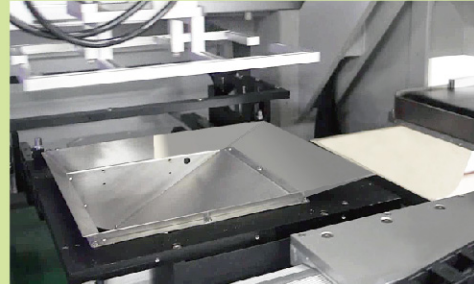
- 真空吸取治具上切割完成的板邊及成品，分別置放於廢料桶及出料輸送帶上。
- 出料方式可選配（1）人工取板 （2）對接輸送帶 （3）對接測試機……等多種選擇。
- Pick up the fixture containing finished product and board edge by vacuum absorber. Unload finished product on conveyor and put board edge in wastage tank.
- Three options of unloading boards (some require additional charge):
  (1)Manual pickup,
  (2)Unload to the connected conveyor,
 (3)Unload to the connected test machine.

銑刀檢測
Milling Tool Detection

- 俱備斷刀、滑刀、銑刀放反之檢測功能。
- Provide capability of detecting broken/dropped/reversed milling tool for auto tool-change.

項目 ITEMS	GAM 320AT	GAM 330AT
有效切割尺寸 Valid cutting size	350 x 300 mm	
入料方式 Loading Method	軌道輸送 Track Delivery	
出料方式 Unloading Method	軌道輸送或分區輸送 Track Delivery or Partition Delivery	
移載方式 Transfer Method	真空吸嘴吸附移載 Vacuum Nozzle Absorption	
流向 Movement Direction	左至右 或 右至左 Left to Right or Right to Left	
切割功能 Cutting function	直線、圓型及圓弧補間 Tweening to Straight line,Circle,and Arc	
加工台面 Process table	雙工作台 Dual tables	
機台重覆精度 Repeat precision	±0.01 mm	
切割精度 Cutting precision	≦±0.1mm	
最高移動速度 Max moving speed	XY：800mm/sec , Z：350mm/sec	
最大移動行程 Max moving trip	X：810mm , Y：370mm , Z：90mm	
主軸轉速 Spindle's Speed	MAX 60,000rpm (Adjustable)	
切割速度 Cutting speed	1 - 100mm/s (Adjustable)	
作業系統 Operating system	Windows 10	
程式教導方式 Program teaching mode	CCD彩色影像直覺式教導輸入 Intuitive teaching by CCD color image input	
程式備份 Program backup	USB data transfer	
控制方式 Control method	精密多軸控制系統 Precision multi-axis control system	
XYZ軸驅動方式 XYZ axis driving mode	AC伺服馬達 AC Servo motor	
適用銑刀尺寸 Size of milling tool	φ0.8 - 3.0mm	
主機電源規格 Voltage/Power requirement	AC220V 50/60HZ 4KW 單相 Single-Phase	
切割主機尺寸 Machine dimensions	1580(W) x 1200(D) x 1740(H)mm	1760(W)*1260(D)*1740(H)mm
切割主機重量 Machine weight	800kg	800kg
標配集塵機 Dust collector	TS200L	TS300L

外觀尺寸 (DIMENSIONS)

GAM330AT
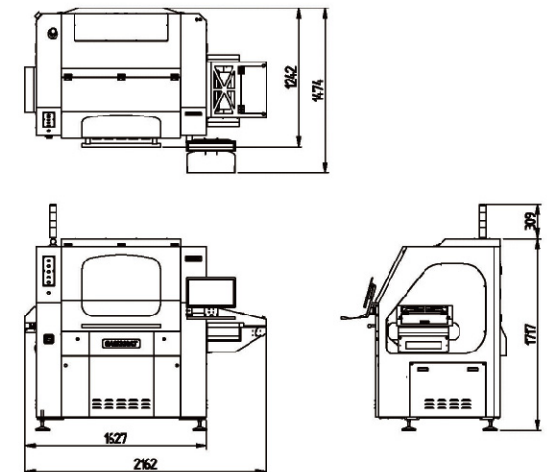
GAM620A / 620R

GAM620A 自動收板機 (Auto Unloader)

- 於GAM320AT/330AT在線分板機切割完成後，將PCBA放入料盤。
- GAM620A automatically unloads PCBAs in tray after the cutting process of in-line separator GAM320AT/330AT.

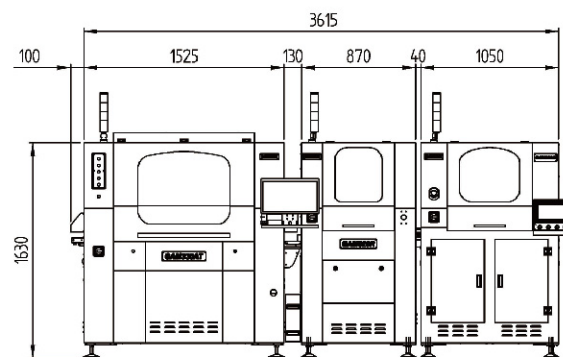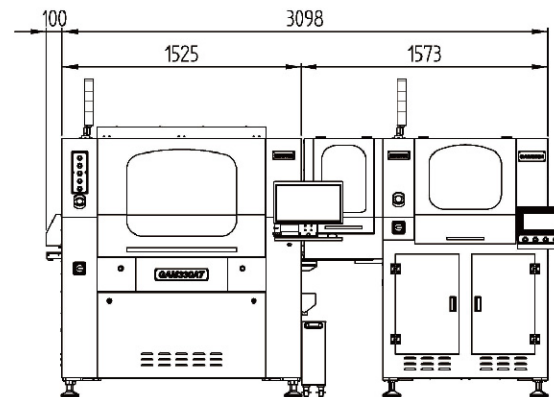GAM330AT   GAM620A

GAM620R自動翻板機 (Auto Turnover)

- 將PCBA放入料盤前如需先翻轉，可於GAM620A前加裝翻板機。
- If PCBA needs to be flipped over before unloading, GAM620R (auto turnover) can be connected between GAM330AT (auto separator) and GAM620A (auto unloader) for full automation.

GAM330AT   GAM620R   GAM620A

100 3098
1525   1573
1630

100 1525 130 870 40 1050
3615

產品規格 (SPECIFICATIONS)

項目 ITEMS	GAM620R
翻板尺寸 Suitable board size	350*300mm
進板流向 Direction of entering board	左至右 Left to right
入出料方式 Input/output method	真空吸盤 吸附移載 Vacuum absorption and transfer
吸盤模組數 Number of absorption mold	1 組 1 mold
吸附掉板檢知 Detection of missed absorption	真空量可調 Editable vacuum value
入出料移載方式 Input/output drive	伺服馬達 Servo motor
最高移載速度 Maximal transferring speed	800mm/min
移載重複精度 Repeated precision of transferring	±0.05mm
PCBA移載功能 PCBA transferring direction	上下翻轉 Turnover up and down
PCBA及料盤座標位置 Coordinate position of PCBA and tray	可編程 Editable
連線功能 In-line connection capability	連結自動收板機 Connecting to auto unloader
電源需求 Power requirement	AC220V 50/60HZ 3KW Single-phase
氣源需求 Air-supply requirement	5-6kg-cm^2 40L/min
翻板機尺寸 Machine dimension	W990*D1115*H1650mm
翻板機重量 Machine weight	330kg

項目 ITEMS	GAM620A
收板尺寸 Suitable board size	350*300mm
適用料盤尺寸 Tray size	180*250mm(min)-280*370mm(max)
料盤堆疊高度 Tray stacking height	400mm
收板流向 Unloading direction	左至右 Left to right
入出料方式 Input/output method	真空吸盤 吸附移載 Vacuum absorption and transfer
吸盤模組數 Number of absorption mold	4 組 4 molds
吸附掉板檢知 Detection of missed absorption	具備 Available
入出料移載方式 Input/output drive	伺服馬達 Servo motor
最高移載速度 Maximal transferring speed	800mm/min
移載重複精度 Repeated precision of transferring	±0.05mm
PCBA移載方向 PCBA transferring direction	平移、90°、180°角度旋轉 Horizontal vertical 90°&180° rotation
PCBA及料盤座標位置 Coordinate position of PCBA and tray	可編程 Editable
連線功能 In-line connection capability	連結自動分板機、自動翻板機 Connecting to auto separator and auto turnover
操作介面 Operation screen	觸控式操作介面 Touch panel interface
電源需求 Power requirement	AC220V 50/60HZ 3KW Single-phase
氣源需求 Air-supply requirement	5-6kg-cm^2 40L/min
收板機尺寸 Machine dimension	W1552*D1115*H1650mm
收板機重量 Machine weight	500kg

GAM660

載具收板機 (PCB Carrier Unloader)

- 在SMT自動化製程中，於PCBA分板前，將載具自動回收疊放。
- In SMT manufacturing process, GAM660 can be used to receive and return the PCB carrier to the stack before beginning the process of PCBA separation.

GAM660

產品規格 (SPECIFICATIONS)

項目 ITEMS	GAM660
適用載具尺寸 Suitable tray size	100*100(min)~250*200(max)* T5mm
載具堆疊高度 Tray stacking height	400mm
載具流向 Tray moving direction	左至右 Left to right
入出料方式 Input/output method	雙向軌道+吸盤模組 Double rails plus absorbing mold
吸附掉板檢知 Detection of missed absorption	具備 Available
連線功能 In-line connection capability	連結在線分板機 Connecting to In-line separator
電源需求 Power requirement	AC220V 50/60HZ 1.5KVA Single phase
氣源需求 Air supply requirement	5-6kg-cm^2 40L/min
收板機尺寸 Machine dimension	597(W)*792(D)*1147(H)mm

741
1148
600
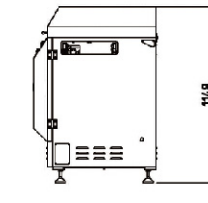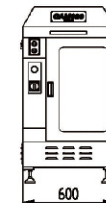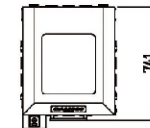
TS200/TS200L

下集塵機 (Lower Dust Collector)

Collecting dust from lower side

TS200

產品規格 (SPECIFICATIONS)

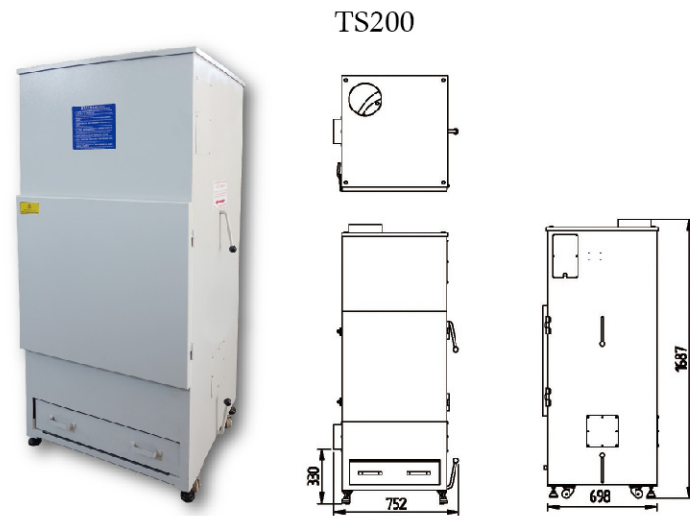| 項目 ITEMS	TS200	TS200L
電源規格 Power supply	AC 380V/(220V) 50/60 Hz Three-phase	
輸出功率 Output power	2.2KW (3HP)	3.7KW (5HP)
入口風量 Air-intake flow volume	24m³/min	32m³/min
入口風速 Air-intake speed	45m/s	62m/s
入口靜壓 Air-intake static pressure	220mmAg	295mmAg
入口口徑 Air-intake caliber	D 150 mm	
出口口徑 Air-vent caliber	D 200 mm	
過濾布管材質 Filter tube's material	Polyester + PTFE	
過濾布管透氣度 Filter tube's permeability	8m³/m²* min	
過濾布管尺寸 Filter tube's size	D120*L600mm	
集塵布管數量 Filter tube's quantity	16	20
收集桶容量 Collector's capacity	W540*D600*H140mm	W790*D650*H140mm
防護等級 Dynamo protection grade	IP54	
噪音 Noise	<78db	<79db
重量 Weight	180kg	220kg
外觀尺寸 Dimension	W690*D698*H1702mm	W840*D738*H1752mm

TS300/TS300L

上集塵機 (Upper Dust Collector)

Collecting dust from upper side
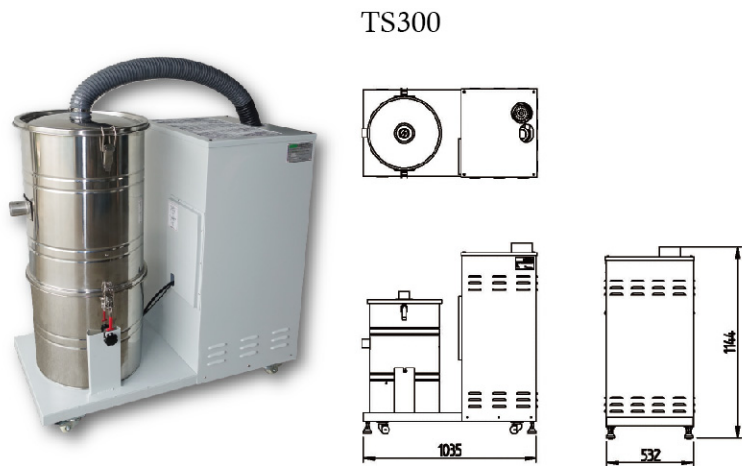
TS300

產品規格 (SPECIFICATIONS)

項目 ITEMS	TS300	TS300L
電源規格 Power supply	AC 380V/(220V) 50/60 Hz Three-phase	
輸出功率 Output power	3KW (4HP)	4.5KW (6HP)
入口風速 Air-intake's speed	20m/s	29m/s
真空值 Vacuum	260mbar	310mbar
入口直徑 Air-intake caliber	D 50 mm	
出口直徑 Air-vent caliber	D 125 mm	
過濾袋材質 Filter bag's material	Polyester	
過濾袋等級 Filter bag's grade	HEPA	
過濾袋尺寸 Filter bag's size	W610*L750mm	
收集袋容量 Collector's capacity	D400*H600mm	
電機防護等級 Dynamo protection grade	IP54	
噪音 Noise	<76db	<78db
重量 Weight	115kg	130kg
外觀尺寸 Dimension	W1050*D530*H1200mm	

GENITEC TECHNOLOGY

Professional maker of SMT equipment and PCBA separator

零件計數器 GAM 12N
SMD Chip Counter

- 全自動方式計算零件數量，方便點料、發料、盤點作業。
- 獨特設計，有效解決運轉中料帶防脫裝置。
- 體積小、重量輕，攜帶方便，高性價比。
- 繪圖型LCD多功能顯示螢幕，清楚易判讀。
- 零件數量設定功能簡單，操作更輕鬆精準。

- Automatically count the quantity of chips (components). Easy to operate for receiving material, checking inventory, and releasing material.
- Small size, light weight, easy to carry. High performance-cost ratio.
- Has special design for preventing derailment.
- Multi-purpose graphical LCD screen can clearly display the quantity of chips measured and the desired amount of chips in setting. Easy to operate. Count chips accurately.
- Suitable for reels of width 8~56mm.

鋼板孔壁清洗機 GAM 40
Stencil Hole Cleaning Machine

- 線上即時鋼板清潔，確保連續印刷製程品質。
- 徹底解決FINE PITCH鋼板孔壁容易塞孔問題。
- 徹底解決印刷不足或過量之處。
- 外型輕巧，操作簡單。

- On-line cleaning stencil holes instantly to ensure quality of continuous solder-printing.
- Thoroughly solve the hole congestion problem frequently occurred in fine-pitch stencil.
- Completely solve "insufficiency" and "excessiveness" problems in solder-printing.
- Very compact and delicate. Easy to carry and operate.

錫膏攪拌機 GAM 60
Cream Solder Mixer

- 錫膏優良印刷品質最佳功臣。
- 非接觸式作業，能將錫膏攪拌均勻，
- 快速完成打錫製程。
- 電子式計時器及LED顯示，準確操作時間控制。
- 運轉中掀蓋保護系統(INTER LOCK)，確保作業人員安全 。
- 萬用夾具功能，適用性廣。
- 適用夾具最大尺寸 φ 60mm, L: 90mm.

- Excellent tool contributor to help keeping the best quality of solder-printing.
- Mix solder evenly without external air exposure by non-contact operation.
- Help speeding the process of solder-printing.
- Equipped with digital counter and LED display to ensure accurate timing control.
- Provide interlock device for flipping-cover during machine's operation to ensure operator's safety.
- Fixture is adjustable to fit all containers. max size φ :60mm, L:90mm.

爐溫測定器 GAM 200A
Reflow Temperature Checker

- 採用Windows作業環境系統，軟體支援相容性高。
- 操作簡易，單鍵按鈕即可做IN/OUT溫度量測及資料下載。
- 先進完整軟體功能可做溫度、時間、斜率、平均值等多樣分析。
- 報表圖示迴焊爐爐區/長/溫度設定，PCB量測點位置。
- USB傳輸/充電，方便快捷。採鋰電池充電，連續使用可達60小時。
- FLASH晶片記憶體容量1Mb，可重複紀錄超過100萬次。

- Use Windows Operating System with high compatibility in all kinds of software support.
- Easy to operate. Only one button-hit to complete IN/OUT temperature measurement or data downloading.
- Provide advanced software functions for various analyses of temperature, timing, slope, average, etc.
- Use graphical display to show the reflow oven zones/lengths/temperatures and indicate the solder points at PCB for temperature measurement.
- Use USB for data transfer and battery charge. Very fast and convenient.
- Provide re-chargeable lithium battery which can last continuously for 60 hours.
- 1 Mb FLASH memory for repeated recording over 1,000,000 times.

非接觸式錫膏測厚機 GAM 70
Solder Paste Measurement Machine

- 測量錫膏厚度最佳工具。
- 可計算面積、體積、截面積。
- 提供各式統計分析圖表，如厚度分佈統計圖、x̄-R管制圖，製程能力指標Cp、Cpm、Cpk。
- 亦可用來量測錫膏之外其它材料物件的長度及厚度。

- An ideal non-contact tool for measuring the thickness of solder paste.
- Can measure the area, volume, and cross-section of the solder paste.
- Generate various kinds of statistical charts and data reports including thickness distribution chart, x̄-R control chart, process capability indices (Cp, Cpm, Cpk).
- Can measure the length and thickness of other material objects.

PCB分板機 GAM 30
PCB v-cut Separator

- 可快速完成SMT加工後之連板分離。
- 減少分板應力，防止不當外力破壞。
- 特殊圓刀材料設計，確保PCB分割面之平滑度。
- 加強安全裝置，避免人為疏失的傷害。

- Perform PCB v-cut separation quickly after the SMT process.
- Effectively reduce stress to prevent solder chap or component damage.
- Use blade of high quality to ensure smooth cutting.
- Safety design is enforced to prevent possible operator's harm due to improper operation.

公司簡介

智茂電腦科技有限公司成立於1993年，具有多年自動化設備研究開發專業技術，榮獲ISO9001國際品質認證，於台灣、大陸均設有現代化廠房及維修服務中心，並致力建構全球化服務體系，提供顧客最即時的服務與需求。在邁入21世紀的高科技時代，智茂電腦科技公司將以更專業化、更國際化的宏觀視野，與國際脈動接軌，以顧客滿意為使命，不斷培育本公司優秀人才，引進高科技技術，努力成為貴事業團隊的最佳理想夥伴。

Company Profile

GENITEC Technology, founded in 1993 and certified to IOS 9001 in 2001, has excellent experience in developing high-tech intelligent equipment for SMT and PCB assembly automation industry.
Having established modern factories and maintenance service centers in both Taiwan and China, now we are actively setting up a global service network to provide the best service for our customers world-wide. Facing the keen competition in 21st century, GENITEC Technology continues to spend more efforts on innovation and developing new leading-edge technologies with professional and international macro-views. The company continues to cultivate talented engineers by offering state-of-the-art training programs and introducing new technologies to keep their professional knowledge always updated. Maximizing customer satisfaction is GENITEC's commitment. GENITEC Technology is the best partner of your business.

公司沿革

1993 ● 公司設立。
1995 ● 全力投入電子廠之機械設備開發。
1997 ● 正式量產供應電子廠所需之機械設備。
　　　　延伸經營觸角，投入開發PCB市場生產設備。
1998 ● 投入大量研發人力，轉型為高科技機械設計製造廠。
2001 ● 榮獲經濟部「創新技術研發輔導」獎勵及經費補助。
　　　　榮獲ISO 9001 國際品質認證。
2002 ● 擴大營運，總公司辦公大樓及新廠房正式啟用。
　　　　成立大陸華東地區現代化廠房及華南地區各經銷據點。
2004 ● 接受經濟部中小企業處「創新研發績優中小企業」褒揚。
2010 ● 設立「財團法人智茂科技社會福利基金會」善盡企業之社會責任與服務層面。
2015 ● 擬定公司遠程目標，因應「國際分工」趨勢，邁向「永續經營」之路。
2017 ● 研發上市「PCBA分板製程」所需之自動化設備，提供在線或離線完整解決方案。

Company Chronicle

1993 ● GENITEC TECHNOLOGY CO, LTD was established.
1995 ● Focused on developing machinery equipment for electronics industry.
1997 ● Started mass production of machinery equipment for electronic industry.
　　　　Extended business scale to cover the development of PCB machinery equipment for the production line.
1998 ● Spent tremendous efforts on R&D, GENITEC successfully transformed to became a high-tech designer and manufacturer of machinery equipment.
2001 ● Received grant of "Outstanding Research and Development in innovative technologies" awarded by Ministry of Economic Affairs.
　　　　ISO 9001 was certificated.
2002 ● Expanded business operation. Grand opening of new head office and plant.
　　　　Built a modern plant in East China. Set up distribution points in South China.
2004 ● Received "Outstanding Innovation Award in R&D of SME" from Small and Medium Enterprise Administration, Ministry of Economic Affairs.
2010 ● Set up "GENITEC Social Welfare Foundation" to fulfill corporate's social responsibility and humanitarian concerns.
2015 ● Set long-term plan to cope with the trend of "International Division of Labor". Moved towards the goal of "sustainable development and operation".
2017 ● Provided in-line and off-line total solution for PCBA separation manufacturing process. Launched a series of automated equipment for PCBA separation manufacturing process in the market.

智茂電腦科技有限公司
GENITEC TECHNOLOGY CO.,LTD.

台灣總公司 Head Office
412 台灣台中市大里區國中二路11號
No.11, Guozhong 2nd Rd., Dali Dist.,
Taichung City 412, Taiwan
TEL：886-4-24065816
FAX：886-4-24065688
Email：gtc@genitec.com.tw

浙江中茂科技有限公司
浙江省桐鄉市經濟開發區慶豐南路960號
No.960, Qingfeng South Road, Tongxiang Economic Development Zone,Zhejiang
TEL：86-573-88265888
FAX：86-573-88275888

代理商Agent