

GP Series - Camera IR Filter Lamination System HP Series - Camera Module Lamination System



Accuray ▪ Reliable ▪ Stable



Foreword

With the rapid development of internet and mobile 4G, smart phone and portable intelligent devices has becomes popularize. Smart phones and wearable intelligent devices are almost becomes indispensable tools in human live. The develop of smart-phone digital camera also evolved from 0.3 Megapixels to 20 Megapixels since 15 years ago.

This years, high-precise mobile camera module lamination equipment has basically been monopolized by several foreign brands. So, 'AUTOTRONIK' has to planning our business develop from SMT industry equipment to CAM module precise lamination equipment of wearable intelligent devices. 'AUTOTRONIK' improve their technical ability continuously, research and manufacturing the professional CAM module mounting machine HP series. Also, we have GP series CAM IR Filter lamination machine use for fastest speed as 3000uph to laminate th IR filter to FPC holder, GP & HP series machine has adopted with precise adhesive glue writing system, which is dual controlling system to manage dual writing syringe to fulfilled the highly productivity requirement and fully automated process need.

The GP & HP series' high precision CAM module lamination machine can be equipped with automatic feeding system to reduce manpower demand and maintain the high capacity.

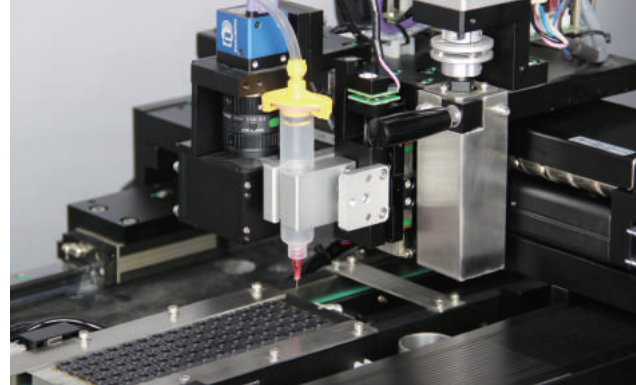
'AUTOTRONIK' understand the life of brand is supporting by our honest and technical power, so our power will be focus on the product innovation and constantly challenging new view of technology. In such result as our software operation system is most flexible and convenient to user a new feeling of interactive. We should be look forward to high-precise assembly equipment manufacturing as like as flipchip processing device, and even benefit to all customers by our mutual trust and reciprocity.

FZ Liu GM of SZ Borison Electronics Ltd. at March of 2017

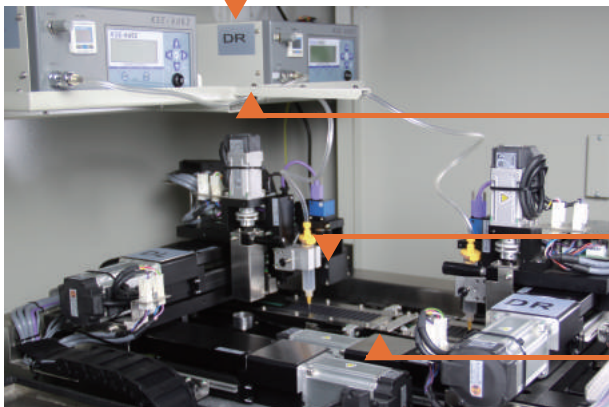


GP / HP series

Full-Auto Smart Phone IR Filter Lamination System
& Smart Phone Camera Module Lamination System



Precise Adhesive writing With Dual Writing Control System

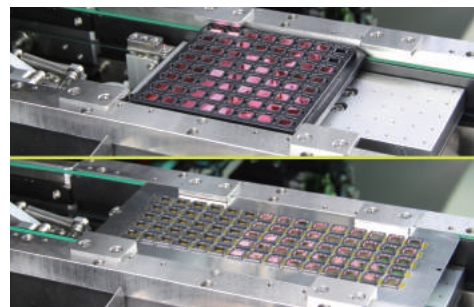


Standard adopted with 'Borison'
Precise Adhesive Writing Controller

Dual writing controller to increase
the productivity and writing precision

High-precise adhesive glue writing to
holder of IR-Filter and VCM/Cam module

Compatible to different size and shape of
holder tray of IR-Filter and VCM Modules

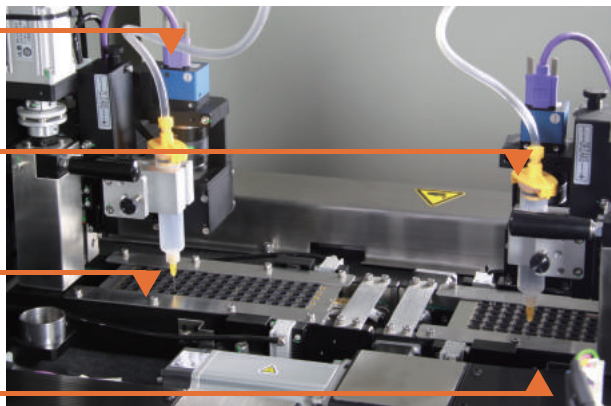


Borison 'Vision On Flying' system for
precise recognition of holder position

Dual writing head with dual controller
to increase the productivity as double

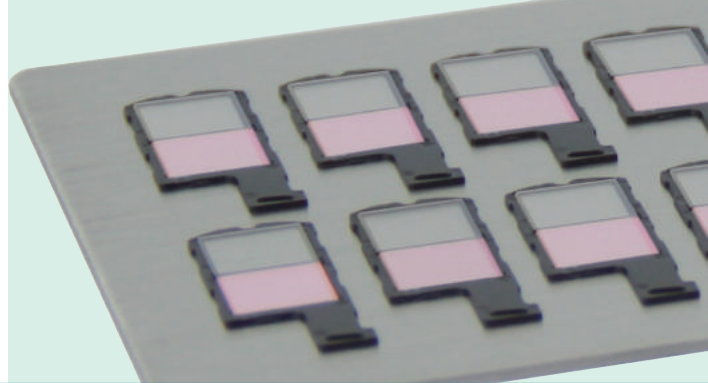
High-precise writing controller to fit
the glue wide as narrow as 0.3mm

Suitable to Dual VCM Camera module
and holders placement requirement

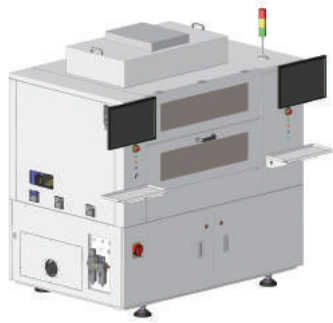


GP / HP series

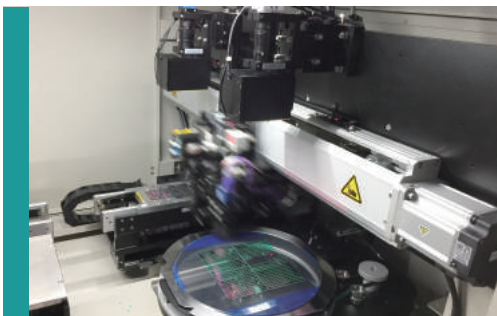
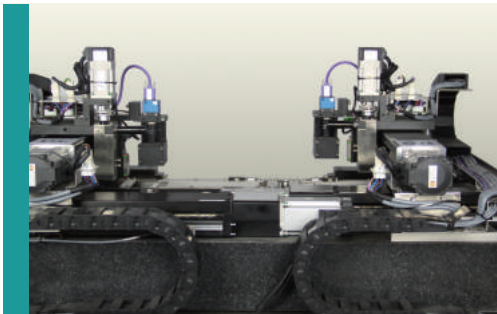
Full-Auto Smart Phone IR Filter Lamination System
& Smart Phone Camera Module Lamination System



GP series IR Filter High-Precise Lamination System



GP-02 is specially designed for
Twin IR-Filter Module Lamination

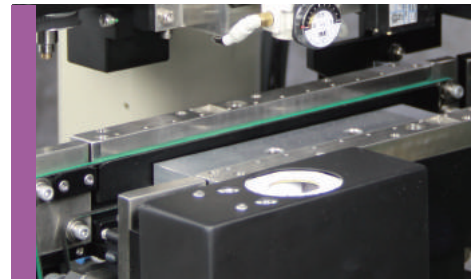
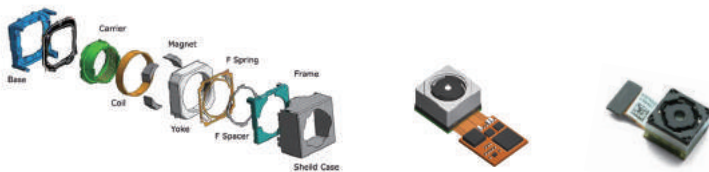


- For IR Filter / Cam module / CLCC Die lamination ● ● ● ●
- Adopted Marble to guarantee platform flatness
- IR film carrier smoothly transmitted by Servo motor ● ● ● ●
- Silent high-precise screw drive by closed loop Servo
- HD recognition to help placement accuracy in 28μm ● ● ● ●
- Compatible with different type of IR & Cam module
- Precise recognized die position by 'Vision On Flying' ● ● ● ●
- Multi-Light-Source suit for Glass or Resin of IR Filter
- Bad mark check at recognition simultaneously ● ● ● ●
- Carrier deliver accurated by Loader & Unloader(option)
- Loader & Unloader easy control with touch panel ● ● ● ●

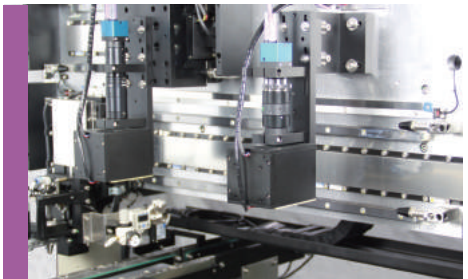
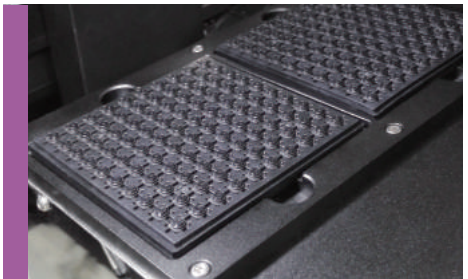
Remark : ■ GP characteristics ■ GP & HP common types

HP series Cam Module High-Precise Lamination System

HP-X1 is adaptable to both of IR Filter
IR Filter & Camera Module Lamination

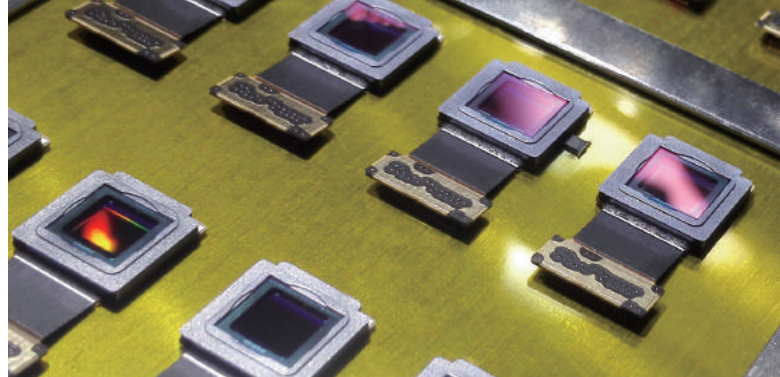


- • ■ **High Accuracy control and placement to make flexible**
HP-X1 high-precise CAM module lamination is upgraded from strong functions of GP
- • ■ **GP-02 & HP-X1 have adopted fixed camera & coaxial light**
Fixed HD Camera to help for objects positioning accuracy by image captured clearly and recognition precise
- • ■ **HP-X1 has highly resolution camera for precise recognition**
High-resolution camera to make accuracy in $25\mu\text{m}$
Marble platform has fine flatness to $XY\text{-DEV} \leq 15\mu\text{m}$
- • ■ **HP-X1 is adopted Precision Linear Servo Motor Driving**
X/Y/CH Axis adopted imported Linear Servo Motor and Precise Linear Decoder for movement accurate and silent
- • ■ **HP-X1 standard with Tray feeding platform ('O' type option)**
Horizontal Tray Feeding Platform to keep object position consistency, and adaptable different size of IR filter types
- • ■ **HP-X1 finishing with Mirror Stainless Steel, smart and clean**
Mirror stainless steel plates make machine outer finishing most shining and clean easily, such Loader same sharpness



GP / HP series

Periphery Accessories



Special Application Software



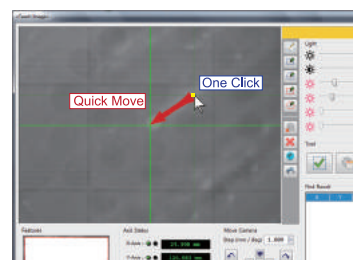
GP & HP series is use with Borison special Operation System by our own designed

Main Page ▶ Adhesive Writing & IR/VCM placing process is manage by two independent PC

Objects Imaging ▶ Image captured and recognition is based on the variable value of lighting, contrast, source color, axle post of vector data and PTMC function assisted.

Interactive ▶ The features of Borison OS is easily to monitor and adjustment on positioning and parameter, operator can read the real-time value and virtual-graphic, its help to controlling and preview the effective results.

PTMC ▶ The Position-Track with Mouse Clicking (PTMC) function designed was patented by Borison, mechanical positioning is becomes convenience and best controllability in objects image seeking. Borison developed the 'PTMC' function is help to get rid of the conventional four (or eight) orientation arrow keys pressed to moving '+' cursor step-by-step for position teaching its clumsy way. Now, you can click any point on the image screen by mouse, the cursor move rapidly to that point centre instantaneous.



Full-Auto Loader / Unloader (Optional Item)



Be a mature manufacturer, we have designed the fully automation solution to fit customer's required. Borison provided our Loader & Unloader adapted special to GP & HP series machine (option). The magazine can stored max. 25 sheets, with sheets auto-feeding become safely, stably, accurately and reliably to avoid any handling mistakes and pollution.





GP-series

GP02

ITEMS	SPECIFICATIONS
XY Placement Accuracy	± 28 μm
XY Analyzing Accuracy	0.005 mm (each pulse signal)
Grating-Rule Linear Encoder	Linear Encoder
R-axis Placement Accuracy	± 0.2°
Wafer Flange Feeding	4 / 5 / 6 / 8 inch (std. = 8" . 200mm)
Placement Area (XY)	max. 200 x 200 mm
Placement Pressure Sensor	Yes , Vacuum Pressure Sensor
Materials for Dispensing	Adhesive, Glue, Solder Paste, Conductive adhesive
Dispensing Method	Syringe + Adhesive Dispensing Controller x2
Dispensing Area (XY)	max. 200 x 155 mm
Conveyor Through	Left → Right
Size of Magazine (Option)	max. 190 x 80 x 142 mm (L x W x H)
Capacity of Magazine (Option)	max. 25 pieces of carrying sheets
Size of Carrying Sheet	50 x 50 to 200 x 155mm
Thickness of Carrying Sheet (Option)	0.2 to 8.0 mm (8.1 - 13.0 is optional)
Transmission Control of X/Y/CH	High-Precise Linear Motor Driver
IR Filter / Glass Size	0.8 x 0.8 to 8.0 x 8.0 mm
Objects of Placement	IR Filter (Glass or Resin) / CLCC Die (Holder is optional)
Camera for Image Recognitions	CCD x 5 sets
Fiducial Recognitions	Auto- positioning of Holder, Frame and Fiducial
Centering Recognitions	Fixed Camera on Top of Holder or IR Filter
Sequencing at Material Pick & Place	Matrix Form (Four Orientations Selectable)
Capacity of Gluing & Placement	2500 uph
PCB Layout Conversion Forms	CAD / Gerber
Operation System	Windows 7 * (Chinese / English)
Pressured-Air Requirement	80 psi (5.5 bar) @ 150 Litre/min
Power Supply Requirement	220VAC ± 10% , 50~60Hz , 1.5kW
Dimensions (Main Unit)	1735 x 1130 x 1820 mm (L x W x H)
Weight (Net)	1590 kg

* The specification of feeding tray must be explained before equipment ordered.

** We reserve the right to make changes without notice.

HP-X1

ITEMS	SPECIFICATIONS
XY Placement Accuracy	$\pm 25 \mu\text{m}$
XY Analyzing Accuracy	0.001 mm (each pulse signal)
R-Axis Accuracy	$\pm 0.1^\circ$
R-axis Analyzing Accuracy	0.01° (each pulse signal)
Feeding Form	Dual-Tray Driver (or Flange Driver)
Tray Feeding	Auto-Tray System (Option) for Dual-Tray
Placement Area (XY)	max. 200 x 200 mm
Placement Pressure Sensor	Yes , Vacuum Pressure Sensor
Materials for Dispensing	Adhesive, Glue, Solder Paste, Conductive adhesive
Dispensing Method	Syringe + Adhesive Dispensing Controller x2
Dispensing Area (XY)	max. 200 x 115 mm
Conveyor Through	Left --> Right
Size of Carrying Sheet	50 x 50 to 200 x 120mm
Size of Magazine (Option)	max. 190 x 80 x 142 mm (L x W x H)
Capacity of Magazine (Option)	max. 25 pieces of carrying sheets
Thickness of Component Tray	3.0 to 8.0 mm (8.1 to 10.0 is optional)
Thickness of Carrying Sheet (Option)	0.2 to 8.0 mm (Flange Driver is required)
Transmission Control of X/Y/CH	High-Precise Linear Motor Driver
Conveyor System	Multiple Segments with Independent Driver
Objects of Placement	Holder / IR Filter (Glass or Resin) / CLCC Die
IR Filter / Glass Size	0.8 x 0.8 to 8.0 x 8.0 mm
Holder Size	max. 8 x 8 x 6 (H) mm
Camera for Image Recognitions	CCD x 6 sets
Fiducial Recognitions	Auto- positioning of Holder, Frame and Fiducial
Centering Recognitions	Fixed Camera on Top of Holder or IR Filter
Sequencing at Material Pick & Place	Matrix Form (Four Orientations Selectable)
Capacity of Gluing & Placement	2500 uph
PCB Layout Conversion Forms	CAD / Gerber
Operation System	Windows 7 [®] (Chinese / English)
Pressured-Air Requirement	80 psi (5.5 bar) @ 150 Litre/min
Power Supply Requirement	220VAC $\pm 10\%$, 50~60Hz , 1.5kW
Dimensions (Main Unit)	1740 x 1250 x 1820 mm (L x W x H)
Weight (Net)	1850 kg

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