



Best Solution & Service for you

High Performance **VISION SCREEN PRINTER**



SJ INNO TECH
(주) 에 스 제 이 이 노 테 크



ISO9001
ISO14001



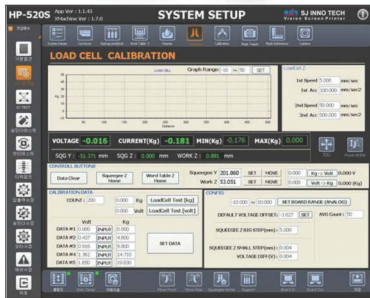
Global Small Giants
INNO-BIZ Corporation
Venture Business

Daegu City Star Company
Promising Export Company
Leading Medium Business

HP-520SPI

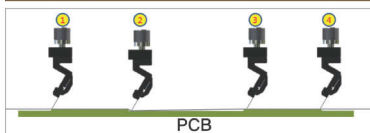
HP-850SPI

Load-Cell Control



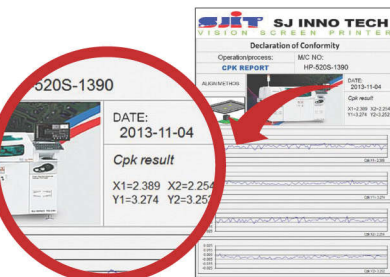
- Squeegee motion of precise pressure control technology
- Real-time Pressure Monitoring
- Difficult pressure verification method unnecessary
- Actual Load Cell Pressure Monitoring Function

Squeegee Auto Control by PCB Shape



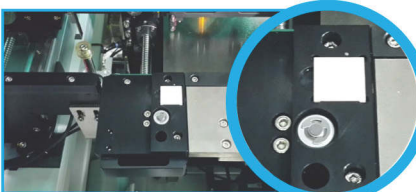
Machine CPK Measure program STD

- Machine CPK Measure (2.0 CPK@±12.5μm, 6-Sigma)
- X, Y-axis Alignment measure
- CPK data acquire after repeated 100 times

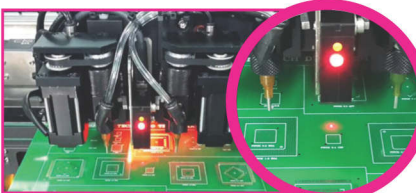


Dot Dispenser

Purge Area DP Nozzle Touch Sensor



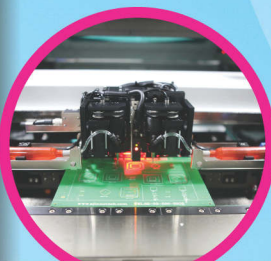
Laser Height Sensor



0402 chip

0.3 pitch QFP

Ø 0.2 MBGA



New Technology High Performance 3D VISION SCREEN PRINTER

Dual Projection Multiple Inspection with 3D Color Image

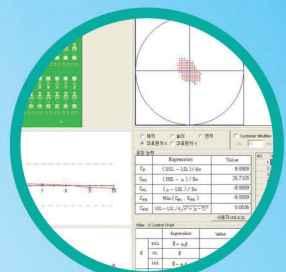
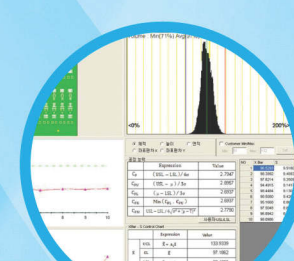
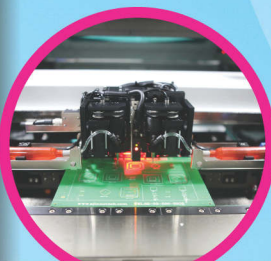
Screen Printer ↔ SPI

Closed-Loop Control

Patent registration : 10-1165747

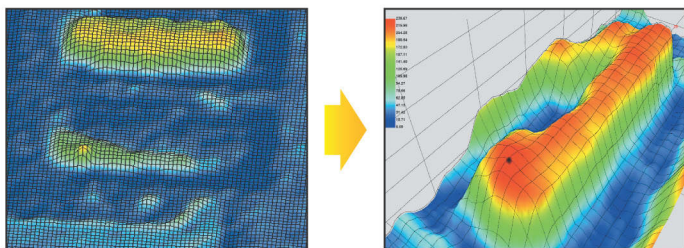
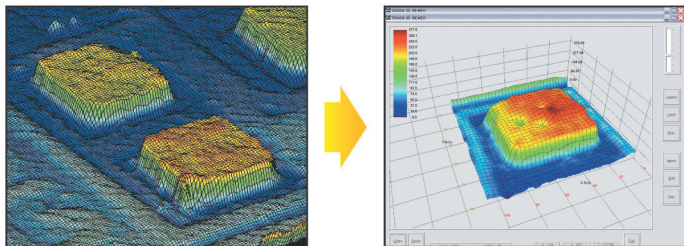


3D Inspection Vision Screen Printer HP-520SPI



3D Inspection Vision Screen Printer

3D Inspection Vision Screen Printer can reduce the defective products of excessive, shape defects etc. and Inspect for No Good, Bridge, Shift and etc. during Solder Paste Printing



Vision Screen Printer

This allows the user to monitor the performance of the printing process and correct problems before placement and soldering and thus substantially increasing "first pass yield" and saving production time and cost

Customers demand better printing control for

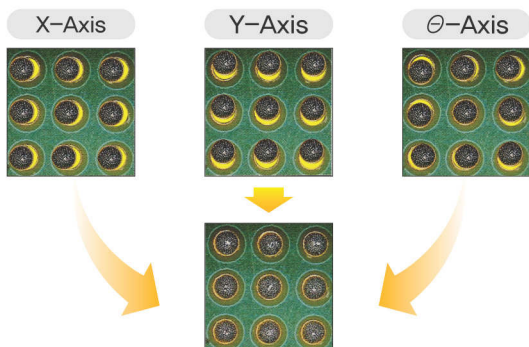
Real-time feedback and control of screen printer system through the Solder Paste 3D total inspection to develop best quality & productivity

Closed-Loop Control function

3D Inspection Screen Printer
HP-520SPI

Screen Printer ⇔ SPI communication control – Offset

Screen Printer and SPI Data communication Solution Axis Offset control



Benefits

Increase productivity Minimizing rework of defective board Reduction in build cost

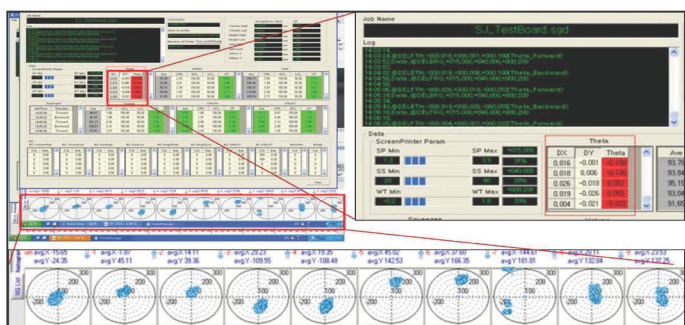
Optimum In-Line total inspection solution

Realization of Solder paste total inspection by high speed Data progressing

3D Solder Paste Inspection

Perform size, height, volume and location of all solder paste deposits with high speed 3D

Screen Printer ⇔ SPI DATA



Mask Correction including the existing Theta values that include warped Offset

Screen Printer ⇔ SPI (Closed-Loop Control)

Auto offset

Auto Cleaning

NG Option

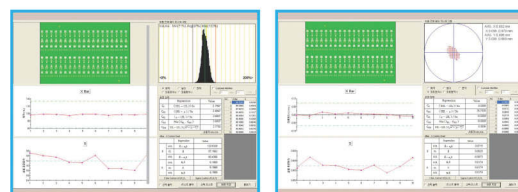
Cycle Stop

Squeegee Pressure control

Squeegee Speed Up/Down

Work Up/Down

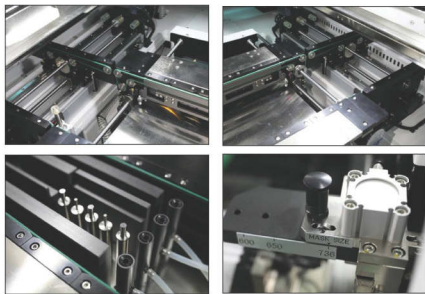
By-Pass Function



HP-520S
HP-680S
HP-850S
HP-1000S

Convenience for operator

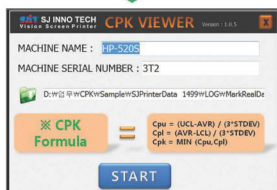
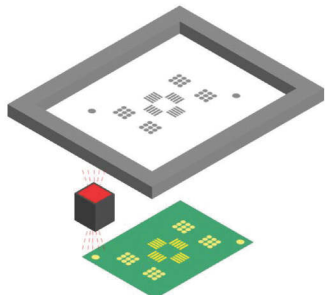
- Easily Model Change
- Auto Width adjust for Conveyor
- Various PCB Back up unit
- Table Up/Down regardless of PCB 't' size change



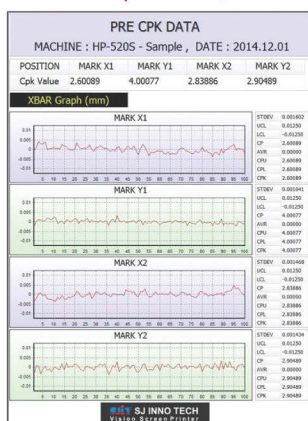
Machine Cpk

STD built in Machine CPK measure

- X, Y-axis Alignment measure
- CPK data acquire after repeated measure
- Total System Alignment Cpk (Pre-Print Cpk)
- Printing Alignment Cpk (Post-Print Cpk)



Total System Alignment
2.0Cpk@±12.5μm



High Performance
Vision Screen Printer

HP-520S



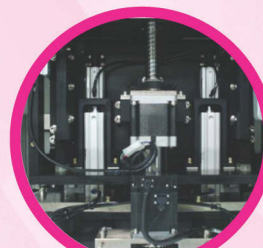
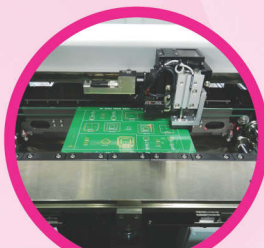
0402 chip

0.3 pitch QFP

Ø 0.2 MBGA

High Performance
Vision Screen Printer

HP-850S



Mobile High Precision Screen Printer



High Performance
Vision Screen Printer

HP-350M

Dual Rail Screen Printer



High Performance
Vision Screen Printer

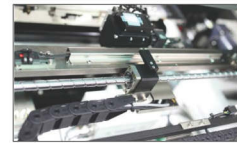
HP-350MD

HP-350M

HP-350MD

HP-620MD

Vision System(Work Programming)



[Mouse Click Method]
Register Fiducial Position and
Coordinate by Camera X, Y
with Moving of Mouse Click
on PCB Image

Auto Cleaning System(Performance)

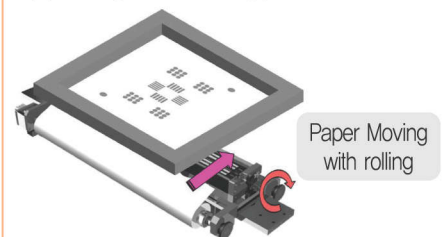


- 4 row squeegee structure
- IPA fixed volume discharge (Motion Type)
- IPA tank improvement (3.5 Liter)
- Special (Winding Cleaning)



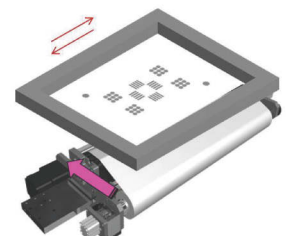
USC Winding Cleaning

Forehead moving of Cleaning unit with winding of Cleaning paper so improvement cleaning performance (selection)



Stencil Waver(Shake) Cleaning

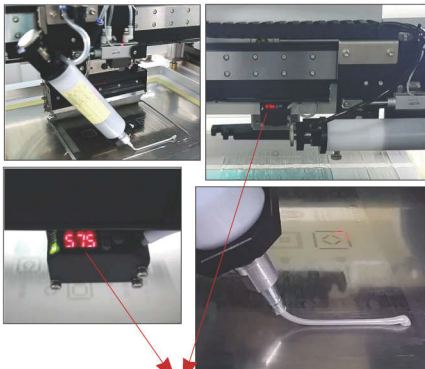
Forehead moving of Cleaning Unit and Stencil Frame wave Left to Right at the same time (selection)



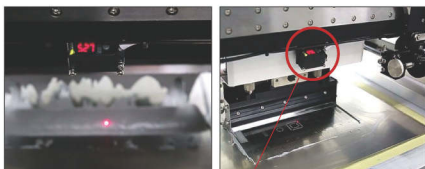
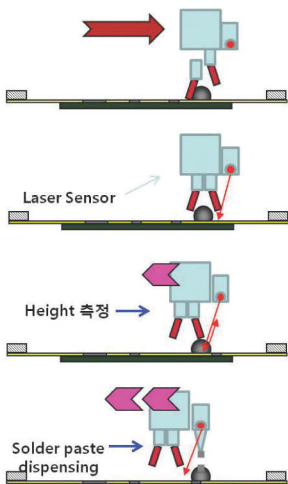
HP-880L HPX-1300S

Large LED Bar & BLU Screen Printer

Auto Solder Dispenser

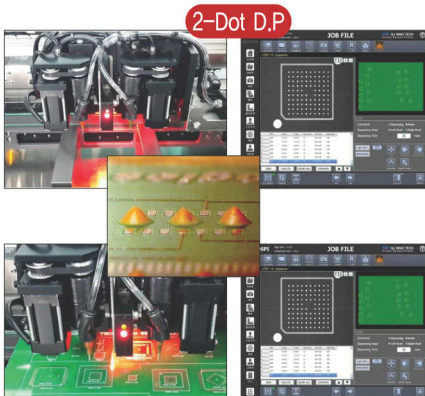


Paster Solder Height Measure
Laser Sensor



Laser Sensor

Dot Dispenser



2-Dot D.P.



High Performance
Vision Screen Printer

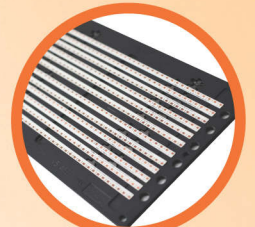
HP-880L

Patent registration : 10-1166789



High Performance
Vision Screen Printer

HPX-1300S



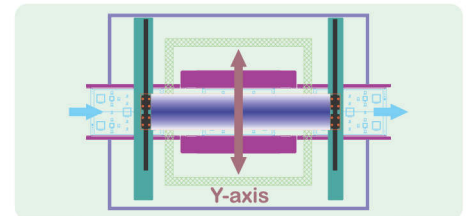
○ Squeegee Direction

STD M/C Squeegee Direction

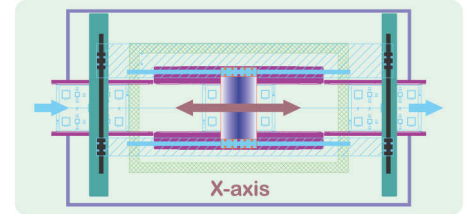
HP-520S
HP-680S
HP-850S
HP-880L

HP-350M
HP-350MD
HP-620MD

HP-520SPI
HP-850SPI



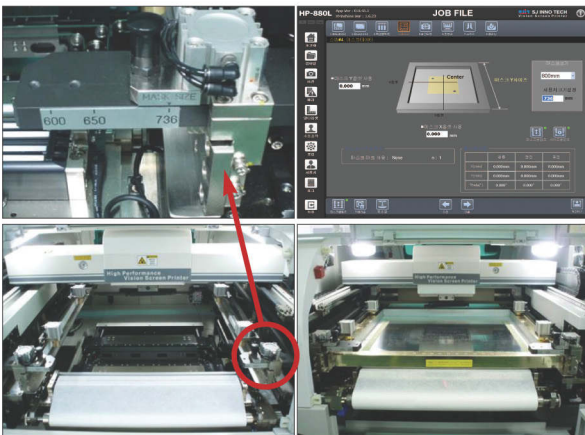
Squeegee Moving



Special M/C Squeegee Direction

HPX-1300S
(Patent registration : 10-1166789)

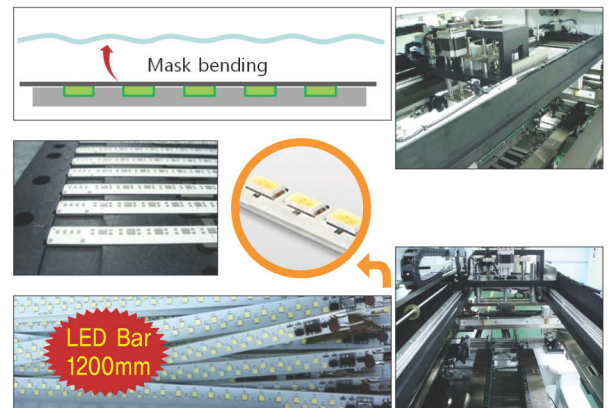
○ Free Size Stencil Change



■ Stencil Align Structure

■ Auto Stencil Position

○ Application

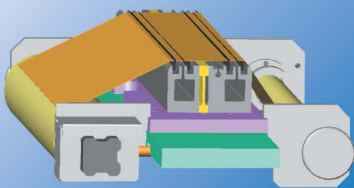


○ Auto Under Stencil Cleaning

Patent registration : 10-0631156

2-VACUUM UNIT & Paper Rolling Unit

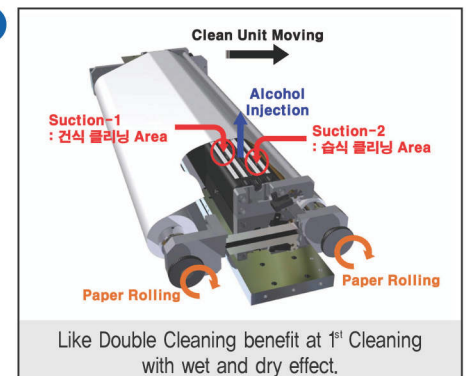
During Mask Cleaning, Quality improvement with same moving Roll Paper so can remove solder rest at Mask hole



1st return working is same benefit like 4th Cleaning

High efficiency improvement for Cleaning

- Double structure Vacuum and Cleaning Unit
- Select for Alcohol, Vacuum and Below
- Human Cleaning point
- Select for Cleaning times
- Strong Vacuum(Vacuum Motor capacity : 1,100mmH₂O)
- 4 row Cleaning Squeegee Structure
- IPA fixed volume discharge(Motion type)
- Large volume of IPA tank
- Special (Winding Cleaning)
- Special (Wave Cleaning)



Like Double Cleaning benefit at 1st Cleaning with wet and dry effect.

○ Paper Winding Cleaning

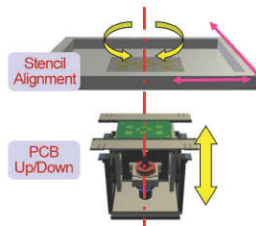
Patent registration : 10-0843782



Alignment System

Alignment (Stencil Align Mode)
Stencil Align & PCB Up/Down Mode

- Stencil Align & PCB Up/Down
- One Click, All-axis Auto Align
- Paste falling down enhancement
- During Front-Rear printing, small difference Lead thickness
- Table LM Guide Up/Down Method



Patent registration : 10-1244228

User Interface

Temperature, Pressure Display on Monitor(Apply Load Cell)
Easy Operation
Various Info Display



Speed/Pressure Control each section of Printing

Patent registration : 10-0505314

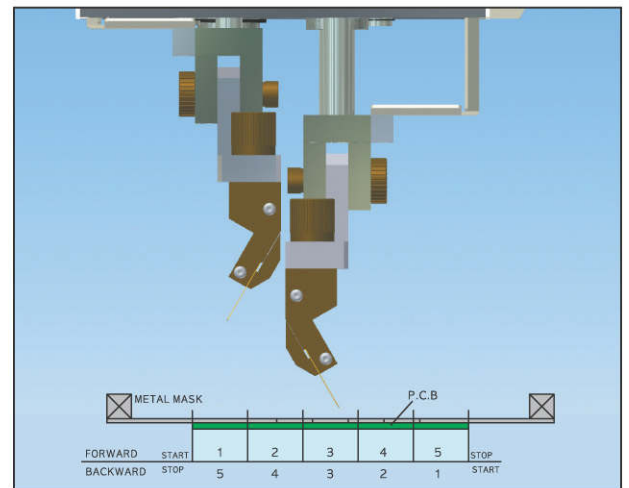
HP-880L App Ver : 0.9.45.1
Machine Ver : 1.6.23

JOB FILE

전진 (Forward) 후진 (Reverse)

위치 (Position)	압력 (Pressure)	속도 (Speed)
120,000	5,000	10,000
90,000	4,000	10,000
60,000	5,000	10,000
30,000	6,000	10,000

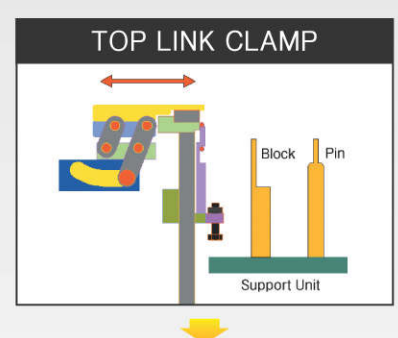
Max. 5 section for control of speed and pressure by S/W
High Productivity and High Printing quality



PCB Clamping

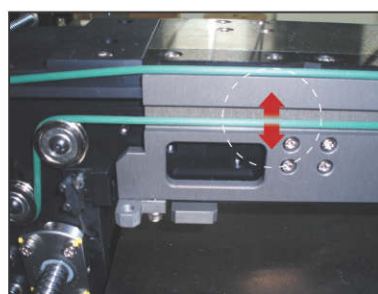
Patent registration : 10-0505315

TOP LINK CLAMP

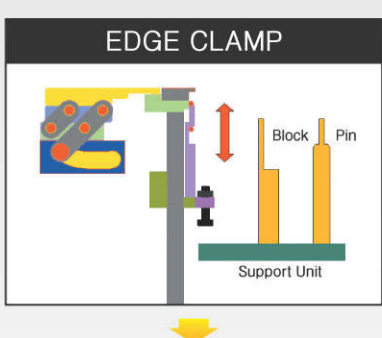


Support Unit

Over PCB thickness 0.8t, Prevent damage for EDGE GUIDE BLADE



EDGE CLAMP

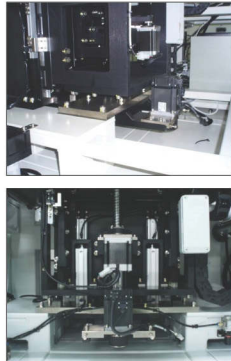
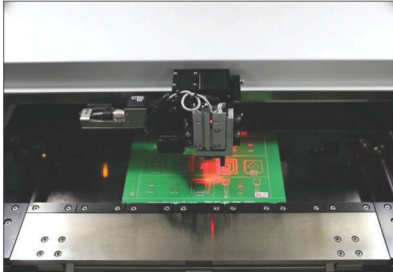


Support Unit

Under PCB thickness 0.8t, PCB prevent derailed during Clamp at Y axis

Work Table Unit

- Precision Control by Servo Motor
- 8ea LM Guide and 1ea Lead Screw
- Z1, Z2 Moving Screw, One Unit
- Z1, Z2 Up/Down Air Cushion Unit



Vision System (Work Programming)

[Mask Teaching for User friendly]



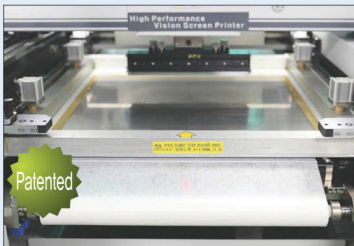
[Mouse Click Method]

Camera X, Y moving by
Mouse click on PCB image.
Register coordinate and
confirm Fiducial position by
Vision



Auto Stencil Cleaning

Improved cleaning efficiency



- 2 step Vacuum and Cleaning Unit
- Function selection for IPA, Vacuum, Blower
- Human Cleaning Function
- Cleaning time selection

Machine Wait Time Over 0.0 min

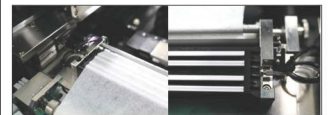
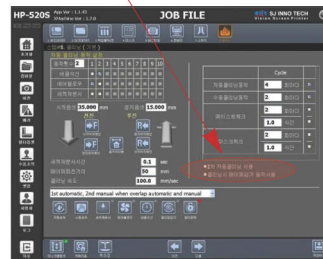
Automatically back to stand by status after cleaning when the machine is stop over designated time at Auto run status



Auto Cleaning System (Performance)

Strong Vacuum (Vacuum Motor)

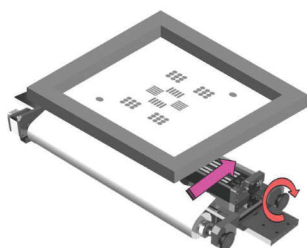
- 4 row Squeeze
- Positive amount spray of IPA (Motion type)
- Improved IPA tank (3.5 Liter)
- Special (Winding Cleaning)



Auto Cleaning System (Performance)

USC Winding Cleaning

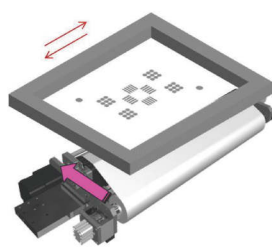
Cleaning Unit moving forehead and same time rolling with Cleaning Paper and moving Moving Improve cleaning ability (Selection)



Paper Moving with rolling

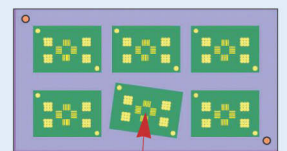
Stencil Waver(Shake) Cleaning

Cleaning Unit moving forehead and same time stencil frame moving Left/Right, Improve cleaning performance (Selection)

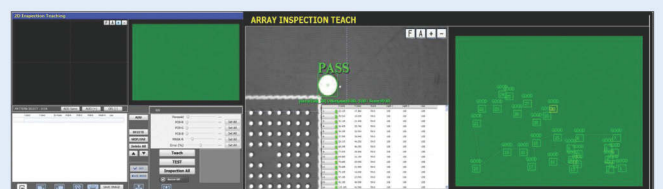


Array PCB Inspection

1. Inspect individual mark of FPCB on the JIG and detect the wrongly mounted FPCB by alarm
2. Minimize the cleaning process lose when the FPCB is mounted on the JIG by operator



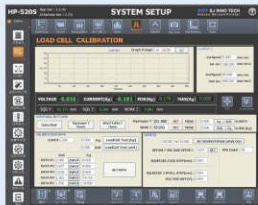
Detect the wrongly mounted PCB



Squeegee Pressure Close-loop

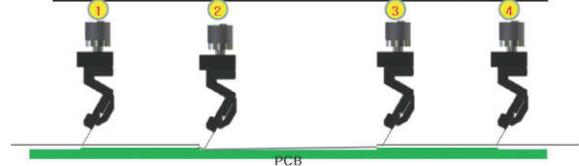
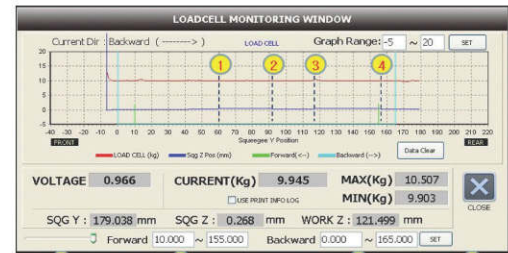
Squeegee Assembly

- Application of Load cell
- Real-time control of pressure
- Pressure monitoring
- Pressure Calibration
- Real time saving the Graph



Squeegee Pressure Close-loop

Squeegee auto pressure control by PCB shape



Easy Control by Operator

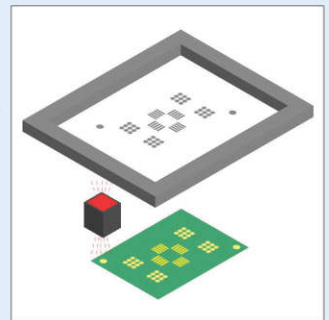
- Easy Model Change
- Automatic width adjustment of Conveyor
 - 3 Stage Conveyor
- Various PCB Back Up Unit
 - Block, Pin, Vacuum Pin
- Table Up/Down not effecting by PCB 't' Size



Machine Cpk

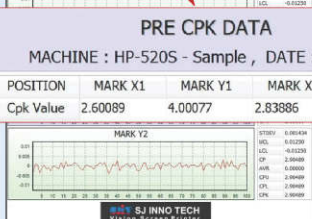
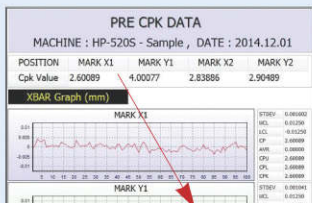
Machine Cpk measurement Software standard installation

- X, Y-axis Alignment measurement
- After repeated measurement, Cpk calculation
- Total system alignment Cpk (Pre-Print Cpk)
- Printing alignment Cpk (Post-Print Cpk)

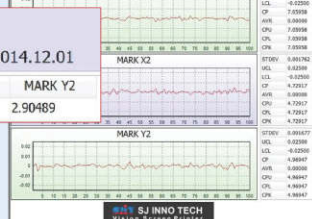
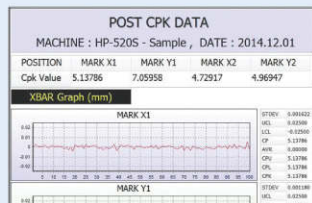


Machine Cpk

Total System Alignment 2.0Cpk@±12.5μm



Printing Alignment 2.0Cpk@±25μm

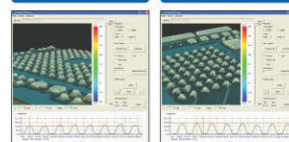


Screen Printer & 3D Inspection

HP-520SPI

HP-520SPI

SP & SPI Data Close-loop

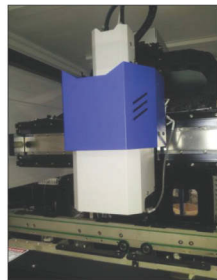
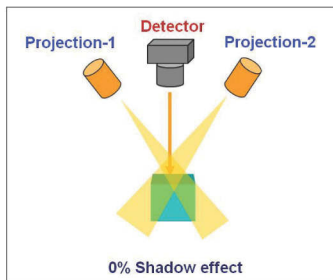


- Screen printer real time control
- Solder paste 3D inspection
- Lot test



SPI Dual Projection Camera

SPI-Dual Projection CAMERA

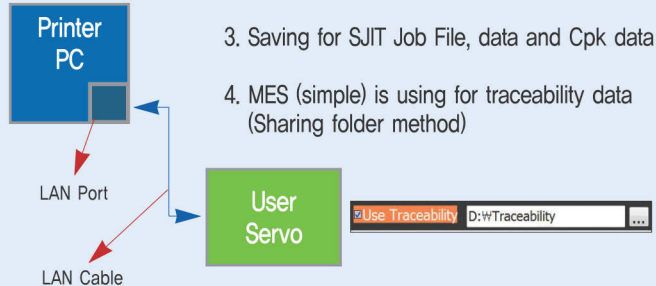


Spec	Camera	FOV(mm)	Speed	Inspect Time (PCB200x200)	Remark
New Type	4M(15um)	30x30	29.5cm ² /sec	13.5sec	Dual Projection

Traceability (MES)–Screen Printer



1. Saving function of production history
2. Using for processing the server file with saving Text file (CSV) at directly take by user server (Using for required part)
3. Saving for SJIT Job File, data and Cpk data
4. MES (simple) is using for traceability data (Sharing folder method)



Traceability (MES)–Screen Printer

Screen Printer : Traceability(Sub Option-1)

■ Hand Barcode Reader

- Stencil Mask ID
- Stencil Paste ID
- Squeegee Assembly ID

Traceability

Above 3 features, Simple saving features

☒ Use Traceability
☒ Use Paste, Squeegee, Mask ID

DS4208
MOTOROLA



TRACEABILITY

Paste ID

Squeegee ID

Mask ID

ID input

Keyboard input (STD)
Barcode reader (Option)

Traceability (MES)–Screen Printer

Screen Printer : Traceability(Sub Option-2)

■ Hand Barcode Reader

- Stencil Mask ID
- Stencil Paste ID
- Squeegee Assembly ID

☒ Use Traceability
☒ Use Paste, Squeegee, Mask ID

Barcode Confirm Feature

Above 3 kind ID, simple saving feature & Decision working after compare to registered ID



Barcode Confirm

Paste ID

Squeegee ID

Mask ID

☒ Set ☐ Close

TRACEABILITY

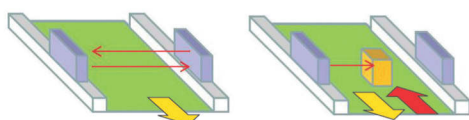
Paste ID

Squeegee ID

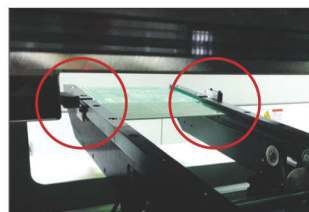
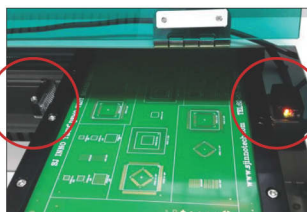
Mask ID

After compare to registered ID whether works or not

Component Detector on the PCB



In case of part on PCB, Sensor detection,
Back PCB and alarming



2D Barcode Reading

1. Screen printer : On PCB, 2D Barcode recognition (reading)



- ※ Screen printer camera recognition
- ※ Metrics Code Reading
- ※ In 7 x 7 mm Size

⇒ 2D barcode reading and CSV file saving ⇒ Traceability

2. SPI : On PCB, 2D Barcode recognition (reading)

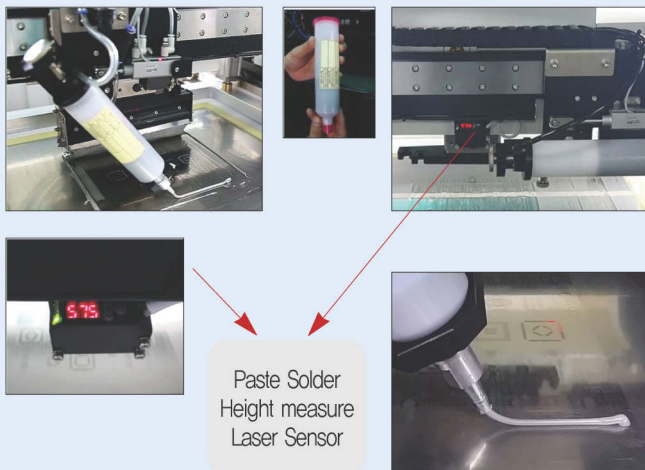


- ※ SPI camera recognition
- ※ Metrics Code Reading
- ※ In 15 x 15 mm Size

⇒ 2D barcode reading and CSV / SPC DATA saving ⇒ Traceability / SPC Data

Auto Solder Dispenser

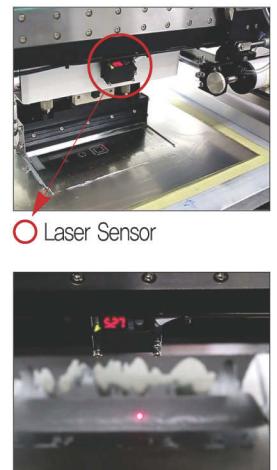
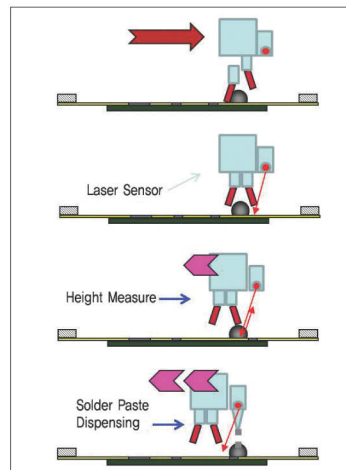
OPTION



Paste Solder
Height measure
Laser Sensor

Auto Solder Dispenser

OPTION



Laser Sensor

Auto Solder Dispenser

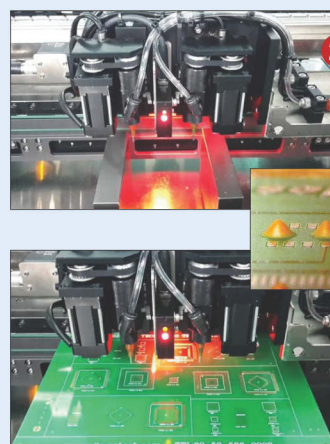
■ Solder Height measure Option & Auto Solder Dispenser Option

- Every time measure at Squeegee front position with Laser sensor
- Solder Height set up (manual set up at Sensor)
- Sensor Sensing location set up (Setup mode)
- 2 times in a row detection of Height: Alarm: sensing Count set up possible
 - Solder Height measure feature only use
- 2 times in a row Height detection: Dispenser Solder check: sensing Count set up possible
 - When application Auto Paste Dispenser Option
 - Solder Cartridge change (Solder short, recognition by changing)
 - Monitor Alarm Pop UP

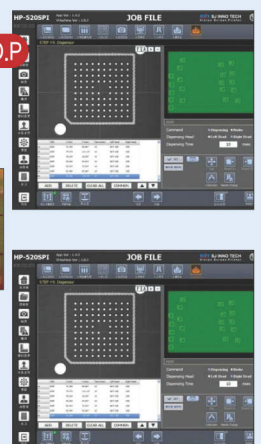
- ※ Solder Height Measure Option: Only application if don't have Auto DP
- ※ Auto Solder Dispenser Option: Included Solder Height measure

Dot Dispenser

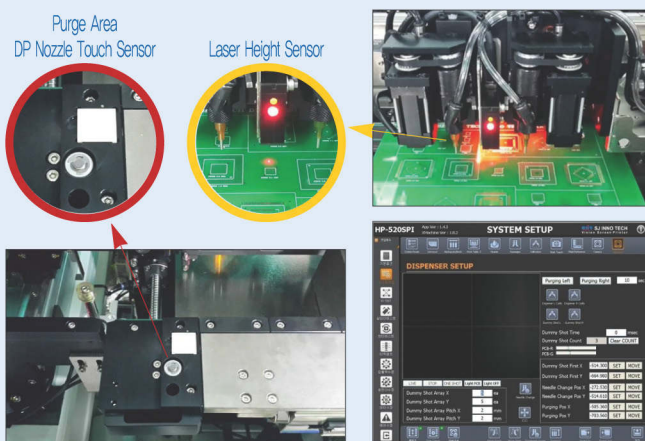
OPTION



2-Dot D.P.



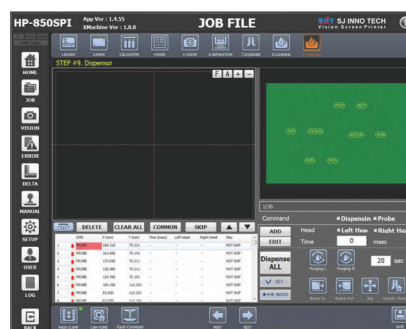
Dot Dispenser



Purge Area
DP Nozzle Touch Sensor

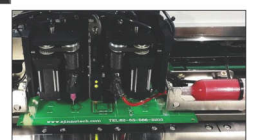
Laser Height Sensor

Coordinate Teaching



[Mouse Click Method]

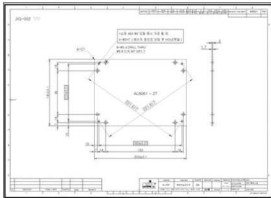
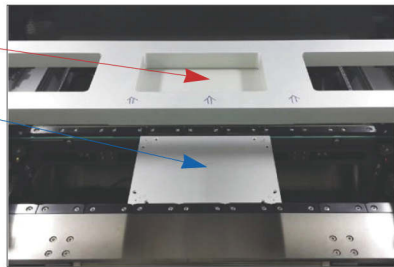
Moving camera X,Y with
vision of fiducial position and
coordinate by mouse click on
PCB image.



CPK Measure Tooling

Mask Tool

PCB Tool



Temperature Control Unit

OPTION

Model : HTC-1380

■ Temperature Control Unit

- Non Air Circulation System
- Cooling Capability : 2,500 kcal/h
- PTC Heater 1.6Kw
- Setting Temperature : 20°C~30°C
- Operating Range : 2.0°C~30°C, 40%~60%
- 220VAC, 60Hz, 15Amp
- Dimension : 500x600x990(H)

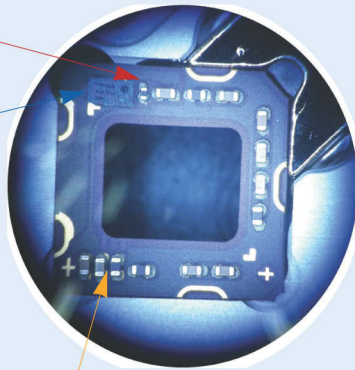


Printing Quality

Smart Phone Camera Module

0402 chip

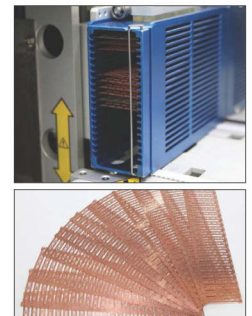
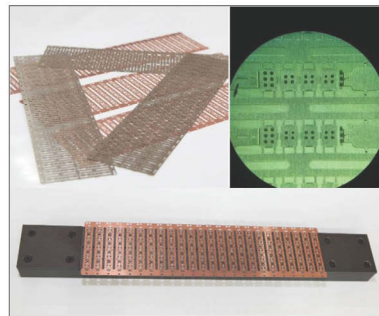
0.25 csp



0603 chip

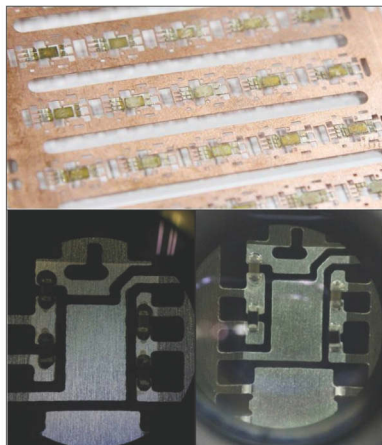
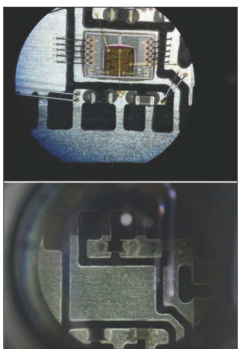
Printing Quality

Lead Frame Printing



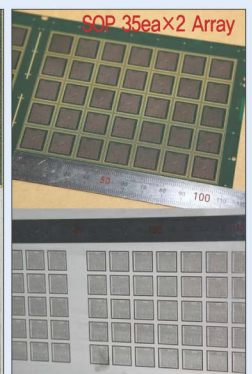
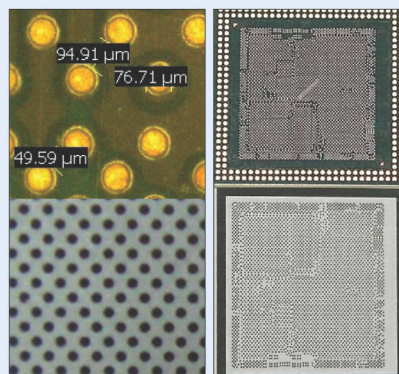
Printing Quality

Lead Frame Printing

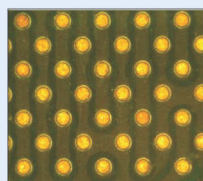


Printing Quality

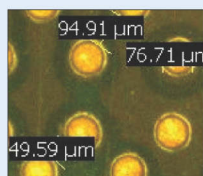
S.O.P (Ultra Fine Pitch)



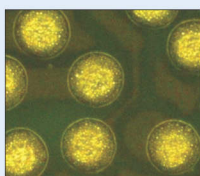
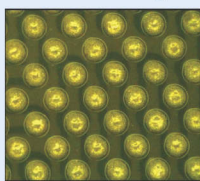
Printing Quality



- ※ Ball Distance : 80μm
- ※ Ball Size : $\phi 120\mu\text{m}$
- ※ Solder Particle Size : 1~20μm

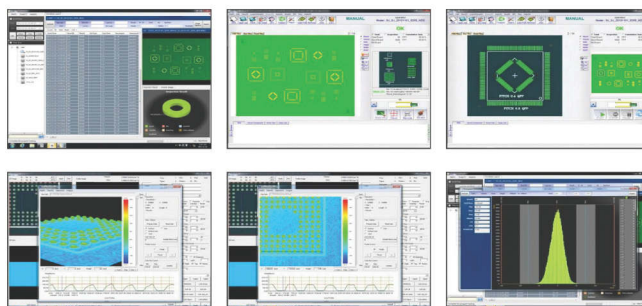


After Printing



Printing Quality

HP-520SPI - SJIT Test Board



Stencil Chassis

- Mask Align Structure
- Stencil Application 650×550, 736×736 etc.
- Easy Mask Change
- Grease input System



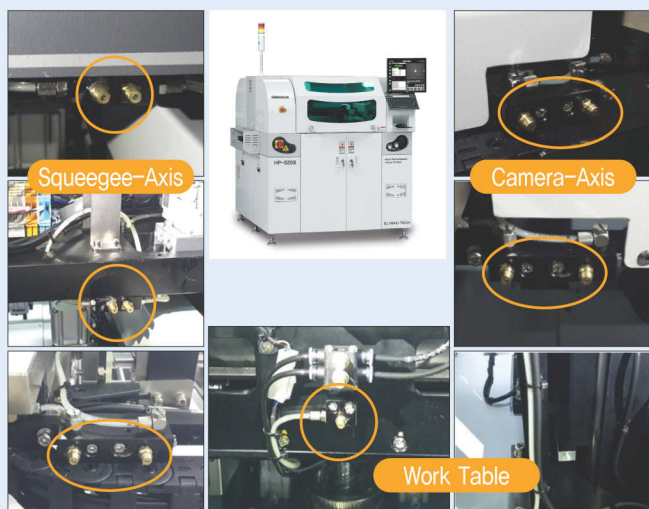
Heavy PCB Loading



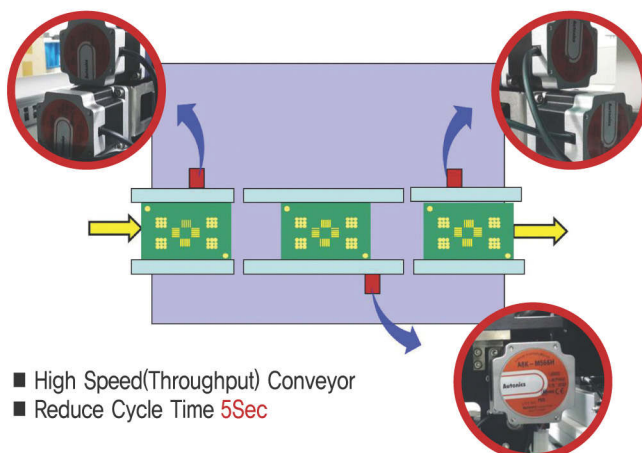
- Conveyor Belt Structure for Heavy PCB
- O-Ring 4mm : 8Kg
- Flat Belt : Over 8Kg



Grease input System



High Speed Conveyor



SJ INNOTECH

Mode

Specification



ITEM	HP-350M	HP-350MD	HP-620MD
Total System Alignment Accuracy and Repeatability	2.0Cpk@±12.5μm, 6-Sigma (±0.0125)		
Printing Alignment Accuracy and Repeatability	2.0Cpk@±25μm, 6-Sigma (±0.025)		
Cycle Time (203×145mm PCB)	Excluding Printing : 6sec *Real Time about 11sec	Excluding Printing : 6sec *Real Time about 11sec → Single	6sec(Real Time 15sec) → Single
Stencil Frame Size	STD : 650×550mm (L×W)	STD : 650×550mm (L×W) Only	STD : 650×550mm, 736×736mm (L×W)
PCB Size	50×50 ~ 350mm×250mm (L×W)	50×50 ~ 350mm×250mm (L×W)	50×50 ~ 620mm×300mm (L×W)
PCB Thickness	0.3mm ~ 6.5mm		
PCB Weight	2.0Kg	2.0Kg	5.0Kg
Conveyor Width Adjustment	Programmable(Automatic) / In/Work/Out 3-Stage Conveyor		
Squeegee Speed	1 ~ 150mm/s (Inc 0.01mm/s)		
Squeegee Pressure	Load-Cell Application 0.1 ~ 50Kg/f (Software Programmable)	Load-Cell Application 0.1 ~ 50Kg/f (Software Programmable)	Load-Cell Application 0.1 ~ 50Kg/f
Vision Camera	Interlaced Scan CCD. *F.O.V 11mm×8mm		
2D Inspection	Paste On Pad - Detection of Insufficient Solder (Standard)		
Cleaning System	IPA + Paper + Vacuum Control in Software Parameter		
Dimension(mm)	1490(L) × 1492(W) × 1445(H)	1310(L) × 2275(W) × 1447(H)	1690(L) × 2600(W) × 1477(H)
Weight	1,130Kg	2,050Kg	2,400Kg
Power	AC220V, 50/60HZ, 6.0Kw	AC220V, 50/60HZ, 6.0Kw(single)×2대 total:12.0Kw	AC220V, 50/60HZ, 6.0Kw(single)×2대 total:12.0Kw
Pneumatic(AIR)	0.5MPa, 40NL/min	0.5MPa, 40NL/min×2	0.5MPa, 40NL/min×2
OS Program	Industrial PC, Microsoft Windows / LCD Monitor 17"		

ITEM	HP-880L	HPX-1300S
Accuracy & Repeatability	2.0Cpk@±25μm, 6-Sigma	
Stencil Frame Size	736×736~1050×800	1100,1200,1300,1400,1500,1580mm(L)×650,736,800(W)
PCB Size	100×80 ~ 850mm×480mm (L×W)	200×150 ~ 1240mm×450mm (L×W)
PCB Thickness	0.3mm ~ 6.5mm	
PCB Weight	8Kg	8Kg
Conveyor Width Adjustment	Programmable(Automatic) / One Stage Conveyor System	Programmable(Automatic) / In/Work/Out 3 Stage Conveyor
Squeegee Speed	1 ~ 150mm/s (Inc 0.01mm/s)	
Squeegee Pressure	Load-Cell Application, 0.1 ~ 50Kg/f (Software Programmable)	
Vision Camera	Interlaced Scan CCD. *F.O.V 11mm×8mm	
2D Inspection	Paste On Pad - Detection of Insufficient Solder (Standard)	
Cleaning System	IPA + Paper + Vacuum Control in Software Parameter	
Dimension(mm)	1530(L) × 1840(W) × 1480(H)	2580(L) × 1700(W) × 1445(H)
Weight	1,300Kg	2,000Kg
Power	AC220V, 50/60HZ, 6.0Kw	AC220V, 50/60HZ, 6.0Kw
Pneumatic(AIR)	0.5MPa, 40NL/min	
OS Program	Industrial PC, Microsoft Windows / LCD Monitor 17"	

SJ INNOTECH Mode Specification



ITEM	HP-520S	HP-680S	HP-850S	HP-1000S
Total System Alignment Accuracy and Repeatability	2.0Cpk@±12.5μm, 6-Sigma (±0.0125)			
Total System Alignment Accuracy and Repeatability	2.0Cpk@±25μm, 6-Sigma (±0.025)			
Cycle Time (203×145mm PCB)	Excluding Printing : 7sec *Real Time about 13sec	Excluding Printing : 10sec *Real Time about 16sec	Excluding Printing : 12sec *Real Time about 18sec	Excluding Printing : 20sec *Real Time about 28sec
Stencil Frame Size	STD : 600×550mm (L×W) 650×550, 736×736mm	STD : 650,736,800,860(L)mm ×550,736,800(W)mm	STD : 736,800,860,920,1000,1050(L)mm ×736,800,850(W)mm	STD : 920,1000,1100,1200(L)mm ×800,900(W)mm
PCB Size	50×50 ~ 520mm×420mm (L×W)	50×50 ~ 680mm×510mm (L×W)	70×70 ~ 850mm×510mm (L×W)	200×150 ~ 940mm×610mm (L×W)
Print Area	50×50 ~ 520mm×420mm (L×W)	50×50 ~ 680mm×510mm (L×W)	70×70 ~ 850mm×510mm (L×W)	200×150 ~ 940mm×610mm (L×W)
PCB Thickness	0.3mm ~ 6.5mm			
PCB Weight	2Kg	5Kg	8Kg	10Kg
PCB Warpage	0 ~ 4mm (Inc. Thickness)			
PCB Stopper	Camera moves by Program automatically and stop Board at correct position			
PCB Support	· Magnetic Support Pin or Block · Auto adjustment of height according to PCB "t" · Support Pin Height : 73.9mm · Vacuum Type Support(Option)			
PCB Clamping(Fixed)	· Top Link Clamping (0.8 ~ 6t) · Top Knife Edge Clamping (0.2 ~ 0.8t) · Vacuum Type(Option)			
PCB Under Clearance	30mm			
Board Side(Edge)Permissible Range	· Top Link Clamping : Limitlessness · Top Knife Edge Clamping : 3mm · Vacuum Type : Limitlessness			
Conveyor Width Adjustment	· Programmable (Automatic) · In/Work/Out 3 Stage Conveyor			
PCB Direction	Left ⇒ Right, Right ⇒ Left, Front Fixed (STD)			
Squeegee Type	· Metal (Stainless Alloy Steel) 0.2t, 0.3t, Etching Blade · User selective			
Squeegee Level Method	Self Balancing			
Squeegee Speed	1 ~ 150mm/s (Inc 0.01mm/s)			
Squeegee Pressure	Load-Cell Application 0.1 ~ 50Kg/f (Programmable)	Load-Cell Application 0.1 ~ 50Kg/f (Programmable)	Load-Cell Application 0.1 ~ 50Kg/f (Programmable)	Load-Cell Application 0.1 ~ 50Kg/f (Programmable)
Snap-off	· Distance : 0 ~ 5.0mm (Inc 0.01mm) · Speed : 1 ~ 150mm/sec (Inc 0.01mm/sec)			
Vision Camera	Interlaced Scan CCD. *F.O.V 11mm×8mm			
Vision Board	EURESYS LIBRARY Application			
2D Inspection	Paste On Pad - Detection of Insufficient Solder (Standard)			
Fiducials	Registered Figure Matching, Pattern Matching			
Fiducials Size	0.4 ~ 5mm			
Cleaning System	IPA + Paper + Vacuum Control을 Software Parameter에서 Programmable			
Dimension (mm)	1530(L) × 1635(W) × 1457(H)	1750(L) × 1735(W) × 1457(H)	1910(L) × 1750(W) × 1457(H)	1950(L) × 1945(W) × 1457(H)
Weight	1,360Kg	1,500Kg	1,650Kg	1,800Kg
Power	AC220V, 50/60HZ, 6.0Kw	AC220V, 50/60HZ, 6.0Kw	AC220V, 50/60HZ, 6.0Kw	AC220V, 50/60HZ, 6.0Kw
Pneumatic (AIR)	0.5MPa, 40NL/min			
OS Program	Industrial PC, Microsoft Windows / LCD Monitor 17"			
Host Communication	· SEMEMA Interface (STD) · TCP/IP (Option)			

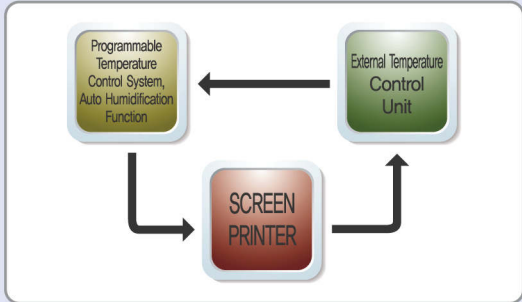
SJ INNOTECH Mode Specification



ITEM	HP-520SPI	HP-850SPI	SPI(3D)Part Specification (Commonness)
Total System Alignment Accuracy and Repeatability	2.0Cpk@±12.5μm, 6-Sigma (±0.0125)		1. 2D/3D Vision Algorithm · 2D : Vision Inspection Algorithm · 3D : PMP (Phase Measuring Profilometry) Algorithm 2. Camera · IOI 4M180MCL 3. X/Y Pixel Resolution · 15μm (FOV : 30×30mm) 4. Inspection Speed · 0.29sec/1(F.O.V) 5. Solder Paste Height Range · 0 ~ 450μm 6. Height Resolution · 0.4μm 7. Height Repeatability (Standard) · ±0.5% (3σ)* 8. Height Repeatability (Rear PCB) · ±2% (3σ)* 9. Height Accuracy · 2μm* 10. Max. PCB Warp · ±5mm 11. Gage R&R · < 10%*(6σ)* 12. Dual Projection Application
Total System Alignment Accuracy and Repeatability	2.0Cpk@±25μm, 6-Sigma (±0.025)		
Cycle Time (203×145mm PCB)	Excluding Printing : 7 sec *Real Time about 13 sec	Excluding Printing : 12 sec *Real Time about 18 sec (Just Printing)	
Stencil Frame Size	기본 : 600×550mm (L×W) 650×550, 736×736mm	L : 736, 800, 860, 920, 1000, 1050mm W : 736, 800mm	
PCB Size	50×50 ~ 520mm×420mm (L×W)	70×70 ~ 850mm×450mm	
PCB Size	50×50 ~ 520mm×420mm (L×W)	70×70 ~ 850mm×450mm	
PCB Thickness	0.4mm ~ 6mm		
PCB Weight	2Kg	8Kg	
PCB Warpage	0 ~ 8mm (Inc. Thickness)		
PCB Stopper	Camera moves by Program automatically and stop Board at correct position		
PCB Support	· Magnetic Support Pin or Block · Auto adjustment of height according to PCB "t" · Support Pin Height : 73.9mm · Vacuum Type Support(Optional)		
PCB Clamping(Fixed)	· Top Link Clamping (0.8 ~ 6t) · Top Knife Edge Clamping (0.2 ~ 0.8t) · Vacuum Type(Optional)		
PCB Under Clearance	30mm		
Board side(Edge) Permissible range	· Top Link Clamping : Limitlessness · Top Knife Edge Clamping : 3mm · Vacuum Type : Limitlessness		
Conveyor Width Adjustment	· Programmable (Automatic) · In/Work/Out 3Stage Conveyor		
Squeegee Type	· Metal (Stainless Alloy Steel) 0.2t, 0.3t, Etching Blade · User selective		
Squeegee Level Method	Self Balancing		
Squeegee Speed	1 ~ 150mm/s (Inc 0.01mm/s)		
Squeegee Pressure	Load-Cell Application 0.1 ~ 50Kg/f (Software Programmable)	Load-Cell Application 0.1 ~ 50Kg/f (Software Programmable)	
PCB Sepatation	· Distance : 0 ~ 5.0mm (Inc 0.01mm) · Speed : 1 ~ 150mm/sec (Inc 0.01mm/sec)		
Vision Camera	Interlaced Scan CCD. *F.O.V 11mm×8mm		
Vision Board	EURESYS LIBRARY Application		
Fiducials	Registered Figure Matching, Pattern Matching		
Fiducials Size	0.4 ~ 5mm		
Cleaning System	IPA + Paper + Vacuum Control in Software Parameter		
Dimension (mm)	2115(L) × 1625(W) × 1457(H)	2550(L) × 1915(W) × 1485(H)	
Weight	1,500Kg	2,700Kg	
Power	AC220V, 50/60HZ, 6.0Kw	AC220V, 50/60HZ, 8.0Kw	
Pneumatic(AIR)	0.5MPa, 40NL/min		
OS Program	Industrial PC, Microsoft Windows / LCD Monitor 17"		
Host Communication	· SEMEMA Interface (STD) · TCP/IP (Option)		

Programmable Temperature Control System





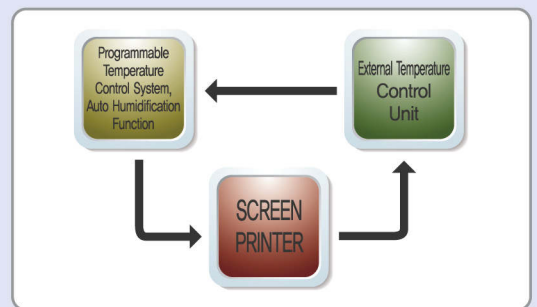
HTC-1380



Programmable Temperature Control System

Programmable Temperature Control System

J.S. JAESUNG



HTC-1380



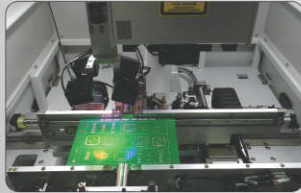
Programmable
Temperature
Control System



LASER MARKING SYSTEM

- EO Technics CO₂ Laser Marking application
- Accuracy Marking Position setting with Vision Camera
- Based application for IONIZER
- Based application for both up and down marking by 180° Turning
- Various word and symbol marking for 2D QR code
- X, Y Table Moving System
- PCB Size SLM-350T : 80×80~250×330
SLM-520T : 80×80~420×520

SLM-330T/SLM-520T



SEMICONDUCTOR LEAD FRAME SCREEN PRINTER

HP-350S

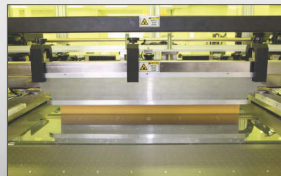
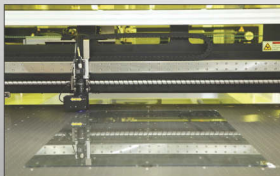


LARGE TOUCH GLASS & FILM SCREEN PRINTER

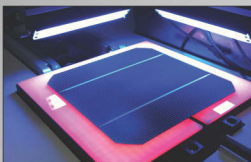
Glass Max Size : 1100×1300

- Mask Tilting Function
- Squeegee Swing feature for protected INK drop

GP-1300



SOLAR R/D LINE



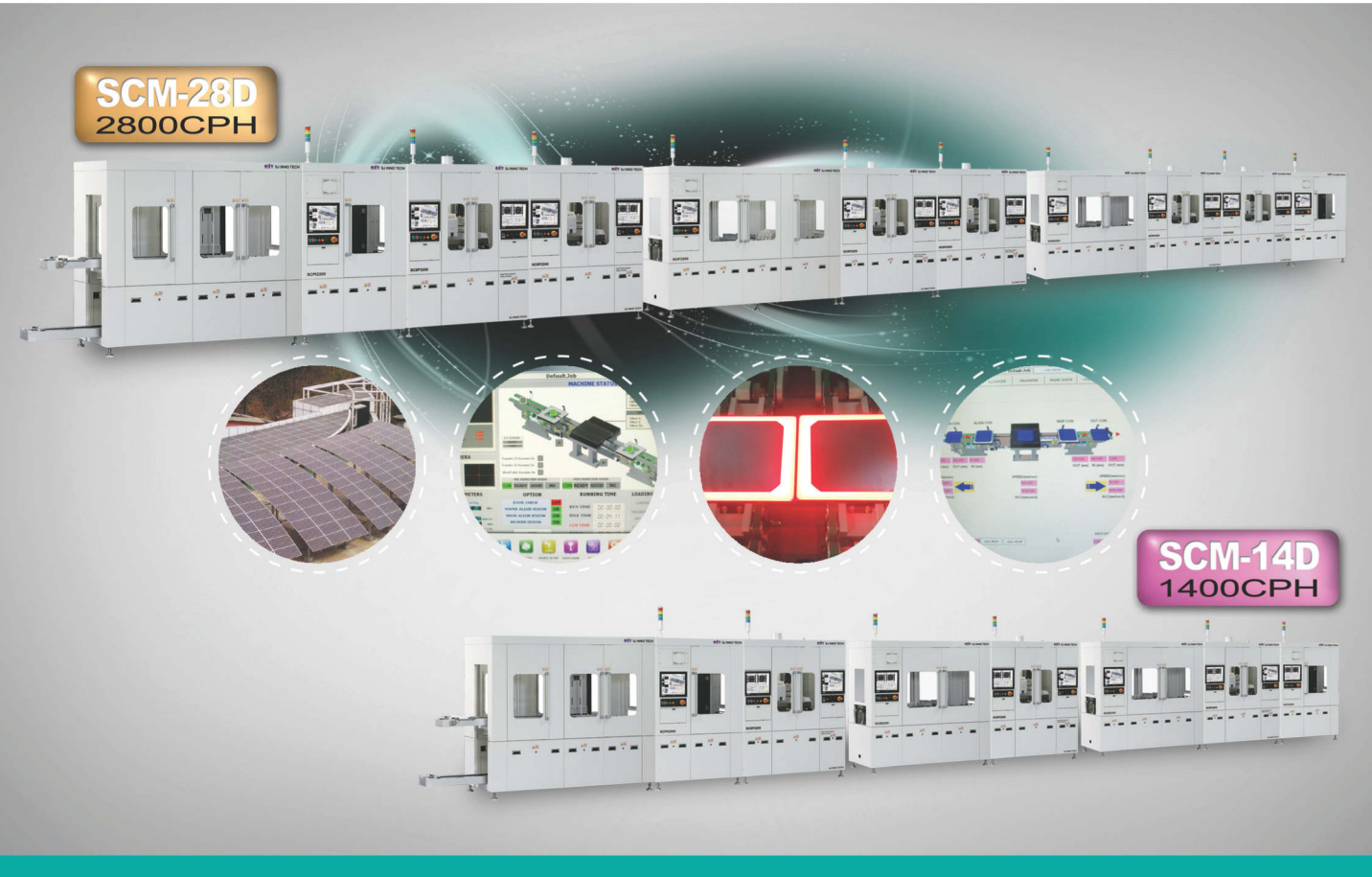
Loader

Screen
Printer

Dryer

Unloader

SOLAR METALLIZATION INLINE SYSTEM



THICK FILM RESISTOR VISION SCREEN PRINTER



TOUCH GLASS VISION SCREEN PRINTER

Glass Size : Min 4" ~ Max 15.6"

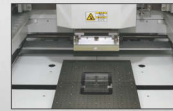
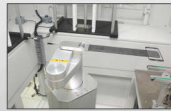
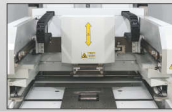
GL-300 > GP-300 > DRY > GU-300

- Cyclotime : 6sec
- Accuracy : $\pm 12.5\mu\text{m}$
- Mask Auto Alignment
- Mask Tilting Function
- Squeegee Swing feature for protected INK drop

BM Printing

IR Printing

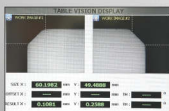
ROGO Printing



LASER SCRIBER / MARKING

- Moving speed : 400mm/sec
- Repeated degree : $\pm 2\mu\text{m}$
- X.Y Table Cleaning System
- Laser Scriber for 0402 and 0603

SLS-400 / SLM-400





Challenge & Execution Communication & Cooperation Creative & Innovation

PATENT



Patent 10-0419460



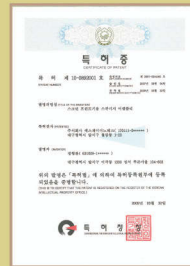
Patent 10-0505314



Patent 10-0505315



Patent 10-0843782



Patent 10-0892001



Patent 10-1000902



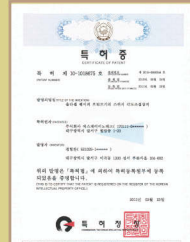
Patent 10-1100773



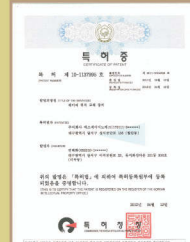
Patent 10-0994199



Patent 10-1165747



Patent 10-1018675



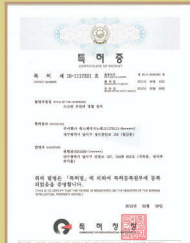
Patent 10-1137995



Patent 10-1075252



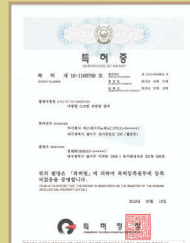
Patent 10-1092990



Patent 10-1117321



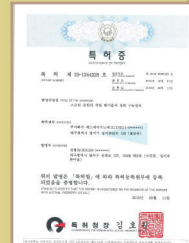
Patent 10-1137995



Patent 10-1166789



Patent 10-1244226



Patent 10-1244228

CERTIFICATE



INNO-BIZ Certificate



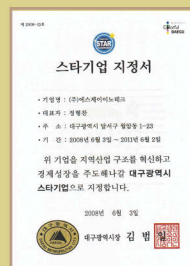
Trade Promotion Citation



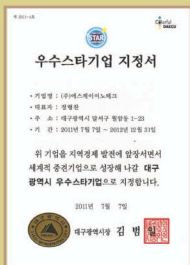
Global Small Giants



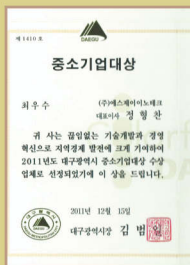
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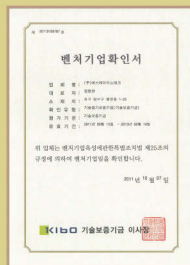
Daegu STAR Company



Excellent STAR Company



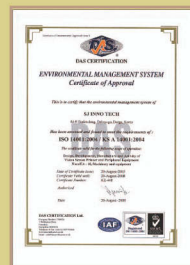
Small and Medium-sized businesses excellence award



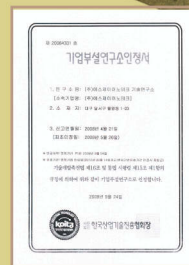
Venture Company Certificate



ISO9001



ISO14001



R&D Center Certificate

이원하페스체아

Better Advanced Technology and Convenience in Use for Customers

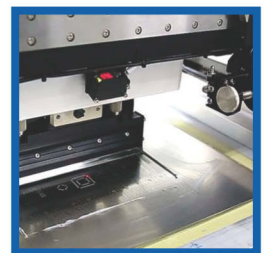
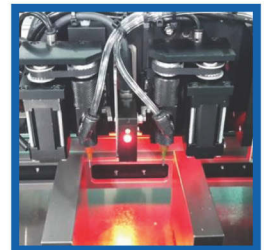
New Technology

High Performance

VISION SCREEN PRINTER

HP-520S

- 0402 Chip, 0.3Pitch QFP, ϕ 0.2MBGA
- Squeegee Precision Control for Pressure (Load-Cell Control)
- Machine Cpk Measure Software STD
- Closed-Loop Control Function (Screen Printer $\Leftrightarrow$ SPI $\Leftrightarrow$ Offset)
- 3 Stage Auto Width Control
- Registered Mark Position and Coordinate with Mouth Click
- 4 Stage Squeegee Structure
- Stencil Waiver Feature During Cleaning
- Free Size Stencil Change
- Stencil Align & Work Table UP/DOWN System
- Improve Processing for FPCB Due to Based Equipped with ARRAY PCB INSPECTION S/W
- Saved all Data of Job File and CPK Data by MES(Traceability)
- Solder 2D Inspection System
- AUTO SOLDER DISPENSER(Height Measure by Laser Sensor) (Option)
- Dot Dispenser Feature (Option)
- Mask, Paste and Squeegee Assembly ID Can Compare Each Other by Hand Barcode Reader System (Option)
- 2D Barcode Reading System (Option)
- Part Recognition Sensor on Top of PCB (Option)
- High Speed Conveyor System 5sec (Option)
- Paper Winding Feature During Cleaning (Patent Registration : 10-0843782)
- PCB X-axis Moving System for LED Line (Patent Registration : 10-1166789)
- Printing Speed and Pressure Control at Each Section of Printing (Patent Registration : 10-0505314)
- Perfect PCB Clamping with Top Link and Edge Guide (Patent Registration : 10-0505315)



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Head Office & 1 Factory



2 Factory

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