

MPM

Electronic Assembly Equipment

TW EAE

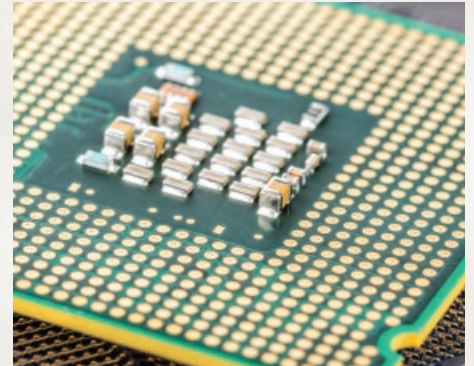
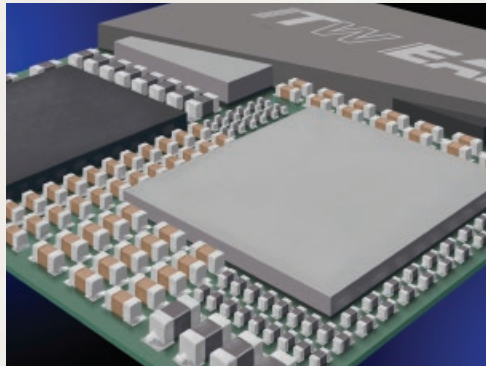
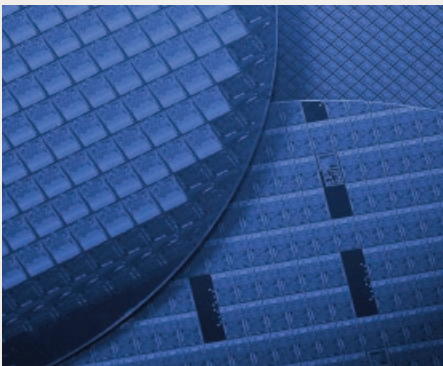
MPM[®] Printing Solutions for Semiconductor

Designed to enhance yield and quality!



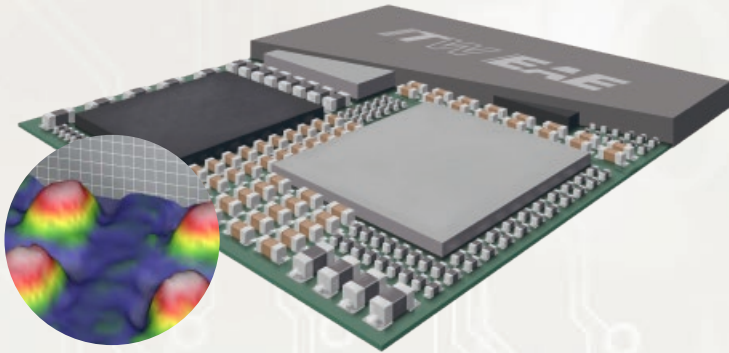
Proven print process
capability smaller than
0201M pad size

Semiconductor



MPM Printing Solution for Semiconductor

The most accurate printers in the market, with advanced technology needed for ultra fine pad and pitch printing applications



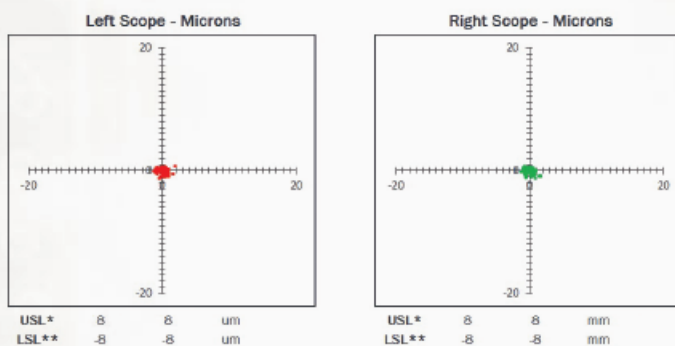
SEMI back-end packaging industry requires more functionality and capabilities in a smaller package and requires optimized electrical and thermal performance. OSATs and IDMs are increasingly demanding high yield, consistent quality, and printing process integrity control.

MPM has industry tailored solution's for the major trends and pain points, such as increasing miniaturization, double-sided substrate, 3D cavity printing and more.

Leading Machine Performance

Industry Leading Accuracy

Edison II ± 8 micron and the Momentum II ± 11 micron machine alignment at ≥ 2 Cpk @ 6 sigma.



Edison alignment accuracy shown

Optimized Coplanarity

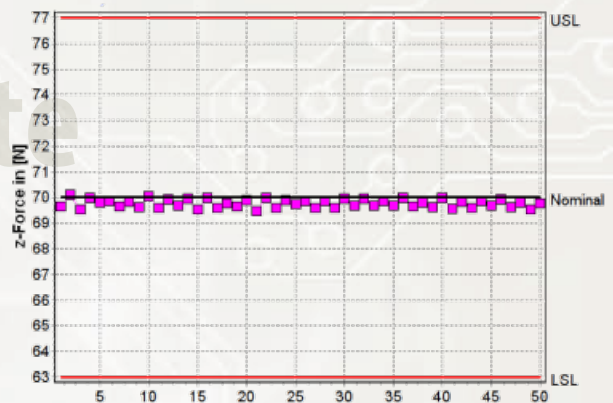
Innovative machine design achieves ultra-tight coplanarity between stencil and substrate enabling yield improvement for ultra-thin stencil printing.

High Resolution Camera (Edison II)

Designed to enable precise board alignment and board stretch compensation.

Best Performance Closed-loop Squeegee

High precision load-cell with motor driven closed-loop control ensures print force accuracy and consistency across the complete print stroke.



Highly Effective Wipe System

A patented wipe system design ensures enhanced wipe effectiveness for super fine aperture applications. Industry largest paper roll on Edison lasts more than one shift without the need of paper replenishment.

Ultra fine pitch printing

MPM Printing Solution for Semiconductor

Process Integrity Control Solutions

Paste Management Control

Paste Temperature Monitoring – Error proof solution to ensure printing process is conducted within the required paste temperature range.

Paste Height Monitoring – with the program upper and lower limit, the paste roll is maintained in optimized range.



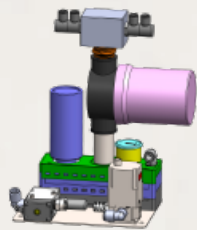
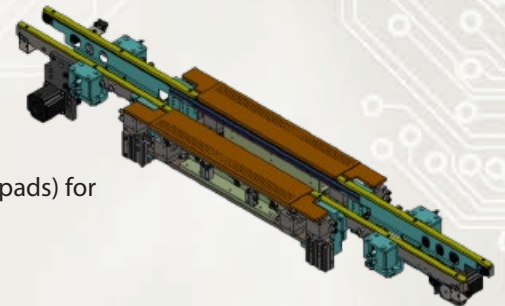
Solvent Condition Monitoring

Multiple sensors in solvent management system ensures secured solvent application to paper for consistent stencil cleaning effectiveness.

Solutions for Increasing Miniaturization

Stencil Vacuum Hold-Down & Optimized Board Separation

This patent pending option is designed for ultra fine pad and spacing (<0201M pads) for optimized printing process stability and paste deposit release performance.

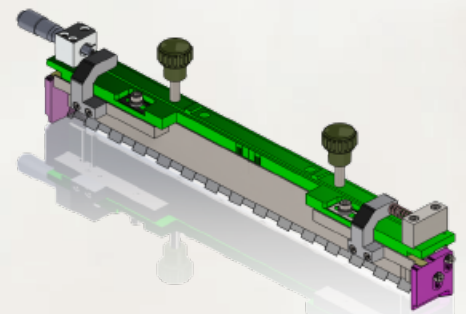


High Flow Closed-loop Venturi

High flow venturi with programmable closed-loop monitoring is designed to enhance robust substrate support and warpage correction.

Revolutionizing 3D Printing (Momentum II)

Patent pending 3D printing squeegees and coordinated motion control enables complex 3D cavity printing with high yield.



Industry 4.0 Connectivity

OpenApps Interface

SECS/GEM as a SEMI industry standard is available on both Edison and Momentum. MPM unique OpenApp programming tool allows users to develop their own programs for other applications.

MPM Printer Specifications, Features and Customer Benefit

Complete Range of Solutions		Top Performance	Versatility & Flexibility		High Value	
Product Models		EDISON II ACT NEW!	MOMENTUM II Elite	MOMENTUM II HiE	MOMENTUM II BTB	MOMENTUM II 100
Accuracy & Repeatability @ 6 sigma, Cpk ≥2.0 (Certified by CeTaq)						
±8 microns (Alignment) ±15 microns (Print)		●				
±11 microns (Alignment) ±17 microns (Print)			●	●	●	●
Core Cycle Time						
15 seconds (including print and wipe)*		●				
6 seconds			●			
7.5 seconds				●		
9 seconds					●	
11 seconds						●
Maximum Print Area						
450 mm x 350 mm (17.7" x 13.8")		●				
610 mm x 508 mm (24" x 20")			●	●	●	●
Printer Dimensions	Width	1282 mm (50.5")	1675 mm (66.0")	1202mm (47.3")	1195 mm (47.1")	1195 mm (47.1")
	Depth	1442 mm (56.8")	1593 mm (62.7")	1593 mm (62.7")	1394 mm (54.9")	1394 mm (54.9")
	Height	1580 mm (62.2")	1638 mm (64.5")	1638 mm (64.5")	1589 mm (62.6")	1589 mm (62.6")
B2B Line Configuration		●			●	●
Features and Customer Benefit						
Productivity and Throughput Improvement						
NEW!	Automated Changeover - Stencil, Squeegee, Paste, Tooling	○				
	Integrated Automatic Verification Capability	○				
	Paste Shields	○				
Triple Track		○	●			
Auto Paste Dispenser		○	○	○	○	○
Quick Release Squeegee		●	●	●	●	○
RapidClean			○	○	○	○
Quality and Yield Improvement						
NEW! Tailored Features for SEMICON Applications	Closed-loop High Flow Venturi	○	○	○	○	○
	Stencil Vacuum Hold-down	○	○	○	○	○
	Board Separation Customized Control	○	★	★	★	★
	Solvent Condition Monitoring	○	○	○	○	○
	3D Cavity Printing	○	○	○	○	○
	Paste Temperature Monitoring	○	○	○	○	○
Paste Height Monitoring (upper & lower)		○	○	○	○	○
SPI Print Optimizer		○	○	○	○	○
2D Inspection			○	○	○	○
Versatility and Flexibility						
EdgeLoc+ Board Clamping (top and side)		○	○	○	○	
EdgeLoc II (Edge Clamping only, no foils)		●	○	○	○	
Tooling Pin Automatic Placement			○	○	○	
Camalot Inside Built-in Dispenser			○	○		
EnclosedFlow Printhead		★	○	○	○	
Adjustable Stencil Shelf		●	●	●	○	○
Industry 4.0 Connectivity						
SECS/GEM		○	○	○	○	○
CFX		★	★	★	★	★
Custom MES		★	★	★	★	★
PrinTrack - Verification and Traceability		○	○	○	○	○
OpenApps 4.0		○	○	○	○	○

Specification is subject to change without notice. Please consult factory for specifics.

ITW EAE maintains an ongoing program of product improvement that may affect design and/or price. We reserve the right to make these changes without prior notice or liability.

○ = Optional; ● = Standard; ★ = Upon request

ITW EAE is a division of Illinois Tool Works, Inc. It is a consolidation of all of its Electronic Assembly Equipment and Thermal Processing Technology. The group includes world-class products from MPM, Camalot, Electrovert, Vitronics Soltec and Despatch.