MPM

Electronic Assembly Equipment

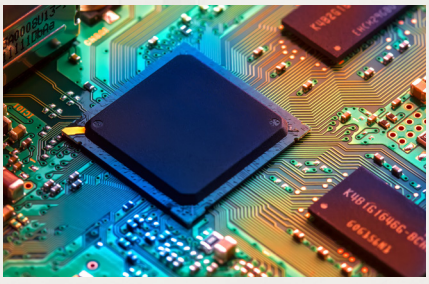
ITW EAE

Momentum® II 100

Printing System

Momentum II Fresh look and innovative new features for further enhancement in ease of use, yield, quality, productivity, and versatility.

A value-priced high-performance printing solution designed to meet the demands of high-volume production.



MPM

Momentum® II 100

Meeting the Challenges

The Momentum II 100 is designed to meet the ever-growing challenges of today's electronics manufacturing world: high performance, user-friendly, flexible, space and operational efficient.

Momentum's Patented Technology

- Paste Management System
- RapidClean™
- StencilVision™
- Closed-loop SPI Print Optimizer
- Benchmark™ 5.0

EXCEPTIONAL VALUE

The Momentum® II 100 delivers performance that one would expect to find only in higher-priced printing machines. This hard-working printer utilizes the robust, reliable Momentum® series platform that has been proven to be at the top of its class in facilities around the world, yet its value pricing makes the Momentum® II 100 an incredible bargain.

Cost-efficient and featuring a modest footprint, it grows with the user; innovative patented features can be added on or retrofitted as needed as the user's throughput demands grow.

The Momentum® II 100 can accommodate a wide range of PCB sizes from 609.6 mm x 508 mm (24" x 20") down to is 50.8 mm x 50.8 mm (2" x 2"). Momentum's alignment repeatability is ±11 microns @ 6 sigma, Cpk ≥2 with a wet print accuracy of ±17 microns @ 6 Sigma, Cpk ≥2.0. Tighter performance tolerances mean higher repeatability with fewer defects. Plus, a cycle time of 11 seconds ensures moderate to high throughput for its size. Programmable and closed-loop squeegee systems ensure accurate and repeatable squeegee force with every print stroke; the system auto-compensates for squeegee deflection, and no force adjustment is needed for squeegee variations. For basic, repeatable printing quality with high yields and true affordability, the Momentum® II 100 has no equal.

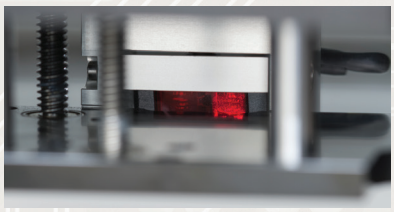
Momentum® II 100 New Features

- Newly designed cover set with larger window and wider access inside the printer.
- Quick release squeegee for faster changeover.
- Adjustable stencil shelf for flexibility handling board varieties.
- New jar paste dispenser for increased productivity.
- Solder paste roll height and paste temperature monitoring for yield improvement and traceability.
- Upgraded Benchmark GUI with customizable production page and Quickstart program.
- Windows 10 operating system.

Momentum® II 100

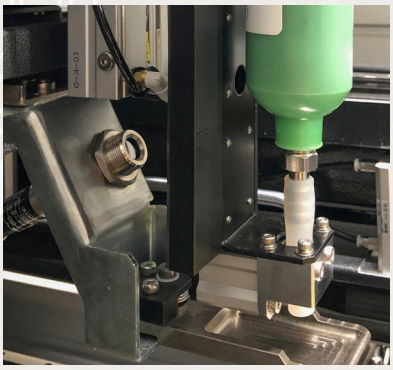
Options that add Capability and Value to your Process

NEW Paste Height Monitor



The Paste Height Monitor is designed to prevent defects caused by inadequate volumes of paste on the stencil. It combines advanced software and sensor technology to accurately monitor the paste bead for volume consistency. Upper and lower limit roll-height monitoring eliminates insufficient or excess paste volumes. It is a non-contact solution that can automatically add more paste to the stencil as it is needed.

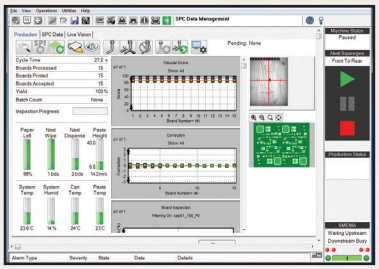
NEW Paste Temperature Monitor



Temperature monitoring ensures proper paste viscosity to avoid bridging and voiding. MPM patent-pending paste temperature monitor allows paste to be measured in the cartridge or on the stencil.

Updated Benchmark™ User Interface

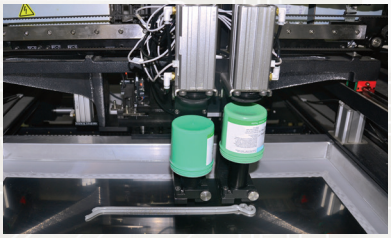
Easy to learn and use for the average operator, MPM's Benchmark software is powerful yet intuitive, and facilitates rapid setup, assists with operational tasks, and makes changeover quick and easy. The software has been upgraded to Windows 10 and new production tools and new Quickstart programming to make it even easier to use.



OpenApps™

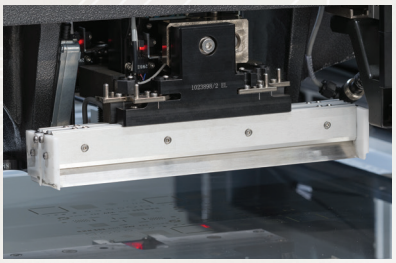
MPM's OpenApps is an open architecture source code which provides the capability of developing custom interfaces in support of Industry 4.0 initiatives and communication with Manufacturing Execution Systems (MES). ITW EAE is the first SMT company to offer open software architecture.

NEW Automatic Paste Dispensing System



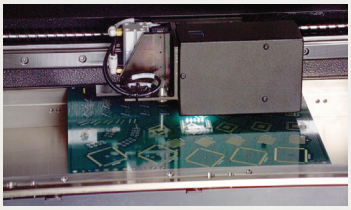
Dispense for standard cartridges or choose the new patent-pending jar dispenser. Paste is released in precise, measured amounts across the stencil in a clean, uniform bead. Deposition volumes, frequency and placement are user programmable.

NEW Quick Release Squeegee



New quick release squeegee blades makes changing blades quick and easy with no tools required. It takes less than 30 seconds to change the blade.

MPM Vision System & Inspection



MPM's patented printer-based Vision and Inspection system is a cost-effective way to verify print and paste deposit results. It is flexible enough to handle the complete range of today's most challenging components. This system measures the amount of paste covering the target pad and compares it with the required coverage. 2D inspection is integrated directly into the stencil printer to provide an immediate source of data.

NEW Adjustable Stencil Shelf

Provides the flexibility to handle all stencil sizes with a simple adjustment of the shelf. The robust design provides better stability on all stencil sizes.

RapidClean

RapidClean is a high-speed stencil solvent cleaning innovation that slashes cycle time and improves stencil cleaning performance. RapidClean can save up to $10K USD per annum in paper savings per printer.

Momentum II 100 SPECIFICATIONS

BOARD HANDLING	
Maximum Board Size (X x Y)	609.6 mm x 508 mm (24″ x 20″)
A dedicated workholder is required for boards with an X size greater than 20″	
Minimum Board Size (X x Y)	50.8 mm x 50.8 mm (2″ x 2″)
Board Thickness	0.2 mm to 5.0 mm (0.008″ to 0.20″)
Maximum Board Weight	4.5 kg (10 lbs)
Board Edge Clearance	3.0 mm (0.118")
Underside Clearance	12.7 mm (0.5") standard. Configurable for 25.4 mm (1.0″)
Board Hold-Down	Fixed top clamps, centernest vacuum
Board Support Methods	Magnetic pins Optional: Vacuum side dams, vacuum pins, support blocks, dedicated fixtures, patented auto tooling, Quik-Tool

PRINT PARAMETERS	
Maximum Print Area (X x Y)	609.6 mm x 508 mm (24″ x 20")
Print Gap (Snap-off)	0 mm to 6.35 mm (0" to 0.25")
Print Speed	0.635 mm/s - 304.8 mm/s (0.025 in/s - 12 in/s)
Print Force	0 to 22.7 kg (0 lb to 50 lbs)
Stencil Frame Size	737 mm x 737 mm (29" x 29") Adapters available for smaller sizes

VISION	
Vision Field-of-View (FOV)	10.6 mm x 8.0 mm (0.417″ x 0.315″)
Fiducial Types	Standard shape fiducials (see SMEMA standards), pad/aperture
Camera System	Single digital camera - MPM patented look up/down vision

PERFORMANCE	
Total System Alignment Accuracy and Repeatability	±11 microns (±0.0004″) at 6 sigma, Cpk ≥2.0*
Qualification is performed using production environment process variables; print speed, table lift and camera movement are included in the capability figure.	
Wet Print Deposit Accuracy and Repeatability	±17 microns (±0.0007″) at 6 sigma, Cpk ≥2.0*
Based upon actual wet printing with positional accuracy and repeatability verified by a 3rd party measurement system.	
Cycle Time	11 seconds standard

FACILITIES	
Power Requirements	200 to 240 VAC (±10%) single phase @ 50/60Hz, 15A
Air Supply Requirements	100 psi at 4 cfm (standard run mode) to 18 cfm (vacuum wipe) (7 bar @ 5 L/s to 12 L/s), 12.7 mm (0.5″) OD x 9.5 mm (3/8″) ID line
Height (excluding light tower)	1494.10 mm (58.82″) at 940 mm (37.0″) transport height
Machine Depth	1423.5 mm (56.04")
Machine Width	1196.0 mm (47.09″)
Minimum Front Clearance	508 mm (20.0″)
Minimum Rear Clearance	508 mm (20.0″)
Machine Weight	797 kg (1757 lbs)
Crated Weight	1090.5 kg (2404 lbs)

* The higher the Cpk, the lower the variability with respect to the process specification limits. In a process qualified as a 6 sigma process (i.e., one that allows plus or minus 6 standard deviations within the specification limits), the Cpk is greater than or equal to 2.0.

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.

MPM Printers – Built on a Solid Foundation.

Strength and stability are prerequisites for accuracy and precision when system parts are in motion and moving about at high speed. The Momentum® II 100's major assemblies are driven by precision ball screws, not belts, which eliminate the need for calibrations. The worknest and camera gantry are designed for optimum motion stability, shorter settling time, and faster board and stencil alignment. Momentum® II 100's rigid frame is welded for low vibrations. This allows for higher repeatability and great reliability over time. Alignment is achieved with minimum motion; thus the PCB travels to the stencil more quickly.

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.

www.itweae.com

MPM

Electronic Assembly Printers ITW EAE