

A highly reliable printing system that is simple to learn, easy to use, and configurable for virtually any production environment.



# MPM

## Momentum® Dual Lane Series Stencil Printer

Speed, Flexibility and Space Efficiency.....

# MPM

## Momentum Dual Lane Series

The Momentum Dual Lane offers maximum flexibility and configurability while providing all the benefits of dual lane production.

## Momentum Series Patented Technology

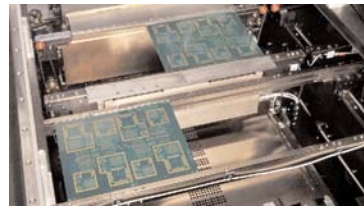
- Dual lane transport system
- Squeegee compliance routine\*
- Closed-loop print head\*
- Solvent delivery method
- Texture based inspection
  - BridgeVision®
  - StencilVision™

\* Patent-pending technology

## Accurate, Repeatable Performance

Alignment is the heart of the printing process and the Momentum series printer delivers best in class performance resulting in fewer potential defects. Momentum's  $\pm 12.5$  micron at 6 sigma accuracy is the result of a precision engineered and integrated system. CANopen motion control architecture (originally developed for the award-winning Accela® printer platform) yields exceptional performance in signal communication and high speed motion control while reducing design complexity. The state-of-the-art digital camera, which includes telecentric lenses, advanced optics and lighting techniques, results in unmatched vision performance in both alignment and post-print inspection. Patented designs maximize reliability and uptime while reducing your cost of ownership.

## Improve Profitability with Momentum Dual Lane

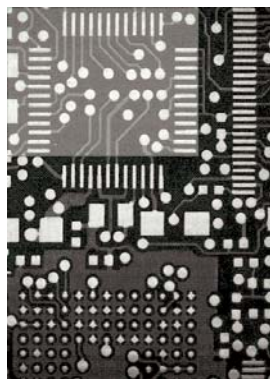
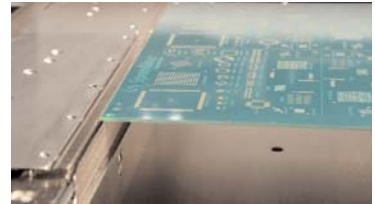


### Dual Track Stencil System

Momentum is designed to deliver maximum, *measurable* value. No other printer has the flexibility to convert from dual lane to 24" x 20" single lane production. This software-controlled feature easily adapts the printer to either dual or single lane applications as needed. The Momentum Dual Lane can also be configured with both lanes near the front of the machine for better compatibility with placement equipment when running small boards. This unique capability maximizes production throughput and eliminates the need for shuttle conveyors, saving floor space and capital costs. This patented technology enables movement of three or more rails under software control and supports lane requirements of varying production needs, which maximizes value.

### EdgeLoc™ Board Clamping

MPM's EdgeLoc board clamping system takes board handling to the next level. The EdgeLoc system uses software-controlled pressure to provide optimal board holding force, and automatically adjusts for programmed board thickness. This unique solution holds the board firmly without the use of top clamps. Optimal stencil-to-board gasketing is achieved, which yields higher paste release efficiency and reduces the need for under-stencil wiping. This capability is particularly important when small components are located close to the edge of the board.



### RapidView™ Inspection System

The RapidView Inspection system enables post-print inspection at a rate of up to 3.5 times faster than standard SpeedVision™ Inspection. Process time to 100% inspect a typical cell phone board drops from 71 seconds to 21 seconds (70% improvement) with RapidView Inspection. With RapidView Inspection, 100% inspection now becomes a viable option for a variety of board types and sizes before the board leaves the printer.

### Traceability and Verification

Process control is the cornerstone of quality production. Among the Momentum's many process control tools is barcode reading capability for product traceability and process verification. A machine mounted barcode scanner reads and stores board barcode data from anywhere on the substrate to provide traceability for SPC. A handheld barcode reader is offered to scan stencils, paste, blades, tooling, boards, and pump to provide process verification and prevent entry into production if incorrect materials are scanned.



### Paste Dispenser

Industry-standard sealed cartridges release precise amounts of solder paste, adhesives, or flux, as a clean bead across the stencil.

### Underside Stencil Wiper

Designed to prevent defects before they happen, this paper over plenum design, with venturi vacuum, patented roller solvent bar delivery system, and full software control, provides precise wet-dry wipe transition and exceptional cleaning results. Unlimited wipe configurations, profile capability, and event driven functionality ensure process reliability. The ability to refill solvent without stopping production maximizes uptime.

### Programmable Squeegee\*

Independent, direct motor-driven lead screws for front/rear axes and an integrated compliance routine ensure accurate application of desired force, regardless of variations in squeegee type, length or thickness.



### Dual Lane Mode - Even Lane Sizing (Flexibility exists consult factory for your specific needs)

	Maximum Board Width in Y	Minimum Board Width in Y
Front/Rear Dual Lane Pairs (First and Third Rails Fixed in SW) Front Printer (Rear Passive) Rear Printer (Front Passive)	215.9 mm (8.5") 215.9 mm (8.5")	50.8 mm (2") 50.8 mm (2")
Front/Rear Dual Lane Shifted Pairs (First and Third Rails Fixed in SW) Front Printer (Rear Passive) Rear Printer (Front Passive)	279.4 mm (11") 279.4 mm (11")	50.8 mm (2") 50.8 mm (2")
Front/Front Shifted and Rotated Pairs (First and Fourth Rails Fixed in SW)	304.8 mm (12")	50.8 mm (2")
Minimum Center Edge Clearance Between Boards	76.2 mm (3")	

#### WORLD HEADQUARTERS

16 Forge Park, Franklin, MA 02038  
Tel: +1 (508) 520-0083  
Fax: +1 (508) 520-2288

www.speedlinetech.com

#### MANUFACTURING AND CUSTOMER SUPPORT FACILITIES

ACCEL/ELECTROVERT  
Highway 5 South, Camdenton, MO 65020  
Tel: +1 (573) 346-3341  
Fax: +1 (573) 346-5554

CAMALOT/MPM  
16 Forge Park, Franklin, MA 02038  
Tel: +1 (508) 520-0083  
Fax: +1 (508) 520-2288

#### SALES AND CUSTOMER SUPPORT OFFICES MEXICO

Carretera Base Aerea #5850  
Km. 5, Edificio 11  
Zapopan, Jalisco, Mexico  
Tel: +52 (3) 818-9017  
Fax: +52 (3) 818-9816

EUROPE  
Speedline Technologies GmbH  
Im Gefierth 14  
D-63303 Dreieich, Germany  
Tel: +49 (0) 6103-8320  
Fax: +49 (0) 6103-832-299

ASIA/PACIFIC  
Speedline Technologies Asia Pte Ltd  
132 Joo Seng Road  
#03-01 Uniplas Building  
Singapore 368358  
Tel: +65-6286 6635  
Fax: +65-6289 9411

© 2010 Speedline Technologies  
Speedline, Accel, Camalot, Electrovert, MPM, Momentum, BridgeVision, Accela and Protect are trademarks of Speedline Technologies or its subsidiaries and affiliated companies. Windows is a registered trademark of Microsoft Corporation. All other brands may be trademarks of their respective holders.

4/10

## MOMENTUM® DUAL LANE SPECIFICATIONS

### BOARD HANDLING

Maximum Board Size (X x Y)	609.6 mm x 508 mm (24" x 20")
Minimum Board Size (X x Y)	50.8 mm x 50.8 mm (2" x 2")
Board Thickness	0.2mm (0.008") to 5.0mm (0.20")
Maximum Board Weight	
Printing Lane	4.5 kg (9.92 lbs)
Passive Lane	2.5 kg (up to 5.51 lbs) 2.5 kg to 4.5 kg (5.51 lbs to 9.92 lbs) Up to 508 mm/s (20 in/s)
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	Centernest vacuum, Standard EdgeLoc
Board Support Options	H-towers, dedicated tooling plates, magnetic pins, support blocks, Gel- Flex, Quik-tool, Red-E-Set, and Grid-Lok

### 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/sec to 304.8 mm/sec (0.025"/sec to 12.0"/sec)
Print Force	0 kg to 22.7 kg (0 lbs to 50 lbs)
Stencil Frame Size	737 mm x 737 mm (29" x 29") Optional Adjustable Stencil Shelves or Adapters available for smaller sizes

### VISION

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	±12.5 microns
Accuracy and Repeatability	(±0.0005") at 6 sigma, Cpk of greater than or equal to 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	±25 microns
Accuracy and Repeatability	(±0.001") at 6 sigma, Cpk of greater than or equal to 2.0*
Based upon actual wet printing with positional accuracy and repeatability verified by a 3rd party measurement system.	
Cycle Time	
HiE (single rail)	7.5 sec
Elite (triple track)	6 sec

### FACILITIES

Power Requirements	200 to 240 VAC (±10%) single phase @ 50/60Hz, 15 A
Air Supply Requirements	100 psi at 4 cfm (standard run mode) to 18 cfm (vacuum wipe) (6.89 bar @ 1.9 L/s to 8.5L/s), 12.7 mm (0.5") diameter line
Height (excluding light tower)	1638.4 mm (64.5") at 940 mm (37.0") transport height
Machine Depth	1593.1 mm (62.72")
Machine Width	
HiE (single rail)	1202.7 mm (47.35")
Elite (triple track)	1418.6 mm (55.85")
Minimum Front Clearance	508 mm (20.0")
Minimum Rear Clearance	609.6 mm (24.0")
Machine Weight	
HiE (single rail)	1002 kg (2209 lbs)
Elite (triple track)	1039 kg(2291 lbs)
Crated Weight	
HiE (single rail)	1295 kg (2855 lbs)
Elite (triple track)	1332 kg (2937 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.

## ABOUT SPEEDLINE TECHNOLOGIES

Speedline Technologies is the global leader in process knowledge and expertise for the PCB assembly and semiconductor industries. Based in Franklin, Massachusetts, U.S.A., the company markets five best-in-class brands – Accel microelectronics cleaning equipment; Camalot dispensing systems; Electrovert wave soldering, reflow soldering, and cleaning equipment; MPM stencil and screen printing systems; and PROTECT global services, support, and training solutions. For more information, visit us at [www.speedlinetech.com](http://www.speedlinetech.com).

Speedline Technologies 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.



Knowledge in Process