High Throughput

Unparalled Accuracy

Powerful Package

MPM® Momentum® Compact HiE

High Performance Printing System

MPM Momentum Compact HiE

Accurate, Repeatable Performance

The MPM Momentum Compact HiE printer delivers a big impact in a remarkably small package. Boasting the highest throughput for its footprint in the industry, and remarkable wet print accuracy of ±18 microns @ 6 sigma Cpk ≥ 2, the performance and features that have been neatly engineered into the Momentum Compact HiE will impress users, as will the throughput volume for this lean, efficient printer.

Built to meet the growing challenges of Smartphone and Automotive applications, the flexible and configurable Momentum Compact HiE is designed for easy setup in back-to-back configurations that maximize yields while minimizing floor space requirements. Its smaller footprint incorporates the best in MPM's 'forward thinking' based upon new stencil size requirements, and back-to-back configuration.

Ideal for Back-to-Back Configuration

Back-to-back configuration is the optimal approach to dual lane processing. With the Momentum Compact HiE, back-to-back capability minimizes line length, maximizing use of factory floor space, and gives the user greater flexibility in-line configuration. Available with optional shuttle conveyors.

Accessibility, Flexibility, Configurability

Thoughtful design for access to controls and stencil wiper solvent, especially for back-to-back configurations, makes the Momentum Compact HiE a printer that's 'thinking ahead'.
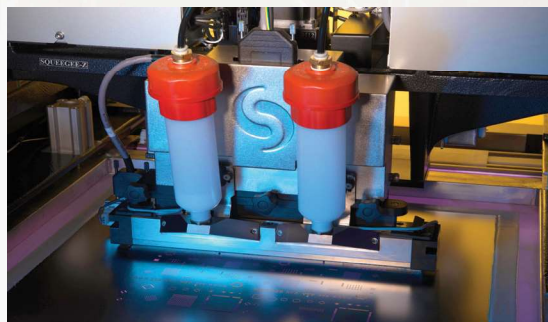
Print Head Technology

The Momentum Compact HiE's revolutionary EnclosedFlow™ print head delivers uniform printing performance across the spectrum of stencil aperture sizes and component densities, with each print stroke ending in a clean, 'green' finish that minimizes waste and stencil cleaning requirements. Designed to meet the toughest challenges of fine feature devices, the EnclosedFlow print heads' unique approach to uniform aperture fill delivers unmatched print results with volumes up to 50%!
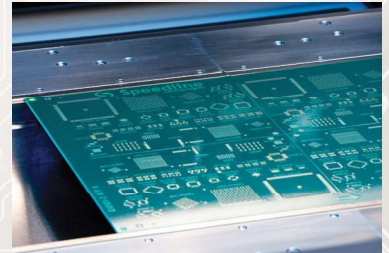
Momentum Compact HiE

Incomparable Value to Performance

Multiple standard features and options add value to superior performance - including the EnclosedFlow printing system, SPI Print Optimizer, EdgeLoc board snugging, RapdiClean, Paste Height Monitor, AccuCheck™ Print Capability Verification, Auto Paste Dispenser, 2D Contrast and Enhanced Inspection, and much more.

SPI Print Optimizer

The SP Interface feature communicates with the external Solder Paste Inspection (SPI) system to continuously monitor and auto-correct X,Y and theta registration 'on the fly' to stay on target and prevent print defects.

RapidClean™

A flexible, high speed stencil cleaning solution that improves stencil cleaning performance and reduces cycle time by as much as 12 seconds.
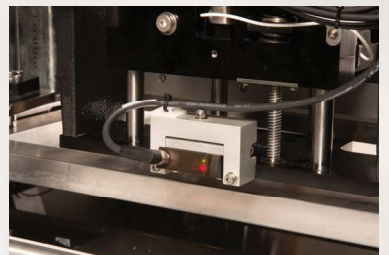
EdgeLoc™ Board Clamping

MPM's EdgeLoc board clamping system takes board handling to the next level. This unique solution, a standard feature on the Momentum Compact HiE, firmly holds the board without the use of top clamps; delivering optimal stencil to board gasketing which is proven to yield higher paste release efficiency and reduced need for under stencil wiping.

Paste Height Monitor

Effective solution designed to prevent defects caused by inadequate paste on the stencil.

Benchmark Software

Designed for ease of use, process flexibility and control, Benchmark features an intuitive interface and instructional wizards to assist with operational tasks. Step-by-step guides and templates facilitate rapid set-up and changeover.

MPM MOMENTUM COMPACT HiE SPECIFICATIONS

BOARD HANDLING

Maximum Board Size (X x Y)	457 mm x 330 mm (18" x 13")
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, EdgeLoc Snugging System
Board Support Methods	Magnetic pins Optional: Vacuum side dams, vacuum pins, support blocks, dedicated fixtures, Quik-Tool

PRINT PARAMETERS

Maximum Print Area (X x Y)	457 mm x 330 mm (18" x 13")
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	650 mm x 550 mm (26" x 22")

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	±12.5 microns (±0.0005") 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	±18 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	7.5 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) (6bar @ 5 L/s to 12 L/s), 12.7 mm (0.5") diameter line x 9.5 mm (3/8") ID line
Height (excluding light tower)	1562 mm (61.5") at 940 mm (37.0") transport height
Machine Depth	1200 mm (47.25")
Machine Width	1106 mm (43.5")
Minimum Front Clearance	508 mm (20.0")
Minimum Rear Clearance	508 mm (20.0")
Machine Weight	862 kg (1900 lbs)
Crated Weight	1155.5 kg (2547 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.

Speedline 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.

Speedline
Electronic Assembly Equipment ITW

ABOUT SPEEDLINE
Speedline is a member of ITW EAE, a division of Illinois Tools Works, Inc. (NYSE: ITW). They are the global leader in process knowledge, services and manufacturing of capital equipment used in the printed circuit board assembly and semiconductor industries. Speedline markets best-in-class brands including: CAMALOT dispensing systems; ELECTROVERT wave soldering, reflow soldering and curing, and cleaning equipment; and MPM stencil printing systems. For more information visit www.itweae.com.