

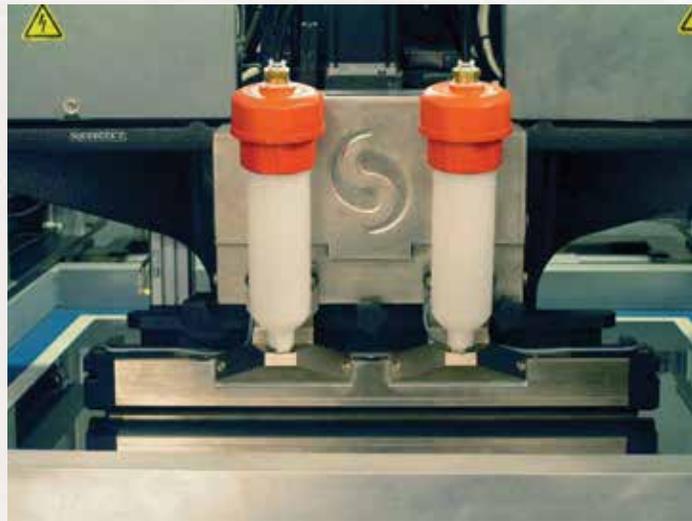
MPM

Electronic Assembly Equipment

TW EAE

EnclosedFlow™ Printing System

The latest generation printing system from MPM provides unparalleled process control, repeatability and reliability.



MPM's EnclosedFlow chamber printing system offers improved volume deposition and maintainability and at the same time reduces process cycle time, paste waste, and operator intervention. Offered on MPM Momentum® series and Accela® printers, EnclosedFlow provides unprecedented process control and reliability.

EnclosedFlow features an all new positive-displacement, servo-driven pressure system that controls paste pressures to within ± 0.1 psi, setting a new standard in the industry. This precise pressure control system enables printing fine pitch features such as 01005s and 0.3mm pitch CSPs, with up to 50% greater volume and 25% lower deviation over squeegee blades.

The system also benefits from a modular, detachable chamber. Changeover times from one size to another, or from one paste type to another take less than five minutes. This is especially beneficial in a high-mix environment where chambers full with paste can be stored in appropriate environments for weeks at a time, reducing paste waste and changeover time.

One of the goals during the development of the EnclosedFlow system was ease of cleaning over previous enclosed chamber printing systems. The system achieves that goal with a smaller number of simple parts to clean with no augers, gears, or perforated drums to clean as with other systems.

FAQs - EnclosedFlow

Q: Why would I choose the EnclosedFlow?

A: It delivers top-notch printing results, and it's easier to set up and use by the average operator than a blade system. It's more forgiving of varying stencil types and user-defined parameters. No extensive tweaking and process development is required. Almost 'Plug and Print', it prints well often from the first board. It saves significantly on material costs.

Q: How does it print with Fine Pitch?

A: EnclosedFlow delivers superb results with fine pitch because the paste inside the chamber is pressurized during the print stroke, and very precisely closed-loop controlled. This means excellent stencil aperture fill as well as consistently high paste transfer (release) efficiency.

Q: Is it also suitable, then, for through-hole?

A: Yes, in fact, EnclosedFlow is very effective in applications that use a very large amount of paste, such as through hole (often referred to as pin-in-paste and paste-in-hole). The EnclosedFlow delivers superior results equally across the full spectrum of paste consumption applications, because the EnclosedFlow's closed-loop pressure control enables it to deliver the most consistent, controllable paste penetration or protrusion results achievable. It ensures print consistency across the entire board regardless of paste consumption requirements (e.g., fine pitch and through hole on the same PCB).

Q: What's the difference between the EnclosedFlow and other 'pressurized' enclosed media systems?

A: EnclosedFlow mechanically and directly pressurizes the paste in the chamber (not pneumatically) and controls it very tightly via a sensitive closed-loop system. The result is very tight process control, pressure consistency, and superb printing results.

Q: You mentioned materials savings.

A: Paste inside the EnclosedFlow is protected from drying out, and each print is clean and without waste. Depending on your facility's paste management practices, you'll experience major media/materials savings 50% - and that adds up very fast nowadays with expensive fine-feature paste.

Q: Aperture fill with fine featured devices is a concern. Will this help?

A: EnclosedFlow will deliver print volumes over 50% for 150 μ apertures with a 0.375 Area Ratio, because its pressurized paste via mechanical force ensures complete aperture fill.

Q: Is it tough to clean?

A: It's easy to clean, with fewer parts than competitive enclosed media systems, so you'll throw away less paste. And you can swap print heads or blades to print head in less than 10 minutes, a nice advantage for a high-mix facility.

Q: Is it retrofittable? What about ROI?

A: Yes, it's retrofittable to Momentum Series and Accela printers and available on all new printers in those families. Estimated paste savings suggest a fast ROI of 3 - 6 months, highly dependent of course on paste type, throughput, etc.

Q: What sizes are available?

A: 8", 10", 12", 14", 16", and 18" (203mm, 254mm, 305mm, 356mm, 406mm, 457mm); available in 'green' tone for lead-free paste indication. Cost is 'package', i.e., it includes the closed-loop squeegee.