MPM

Electronic Assembly Equipment

ITW EAE

Paste Management and Control

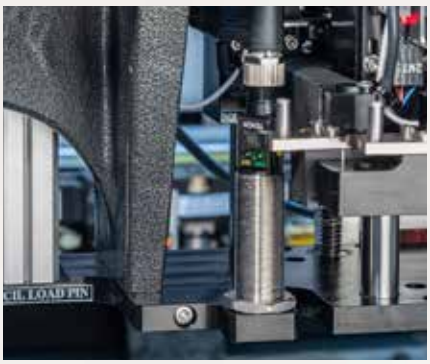
Paste is a critical printing factor that significantly affects print quality. Managing paste temperature and volume will improve yield by eliminating excessive and inadequate paste deposition caused by out-of-range paste temperature, or too much or too little paste volume on the stencil. Customers in high-cost-of-failure applications, such as automotive, medical, defense, and aerospace, are increasingly demanding traceability to ensure product quality and reliability.

MPM's new paste management system provides innovative tools to improve yield and enable Industry 4.0 traceability. The system includes an industry-first paste temperature monitor, measured for proper paste viscosity and a roll height monitor that now measures both upper and lower limits. All data can be recorded for board traceability.

Paste Temperature Monitor

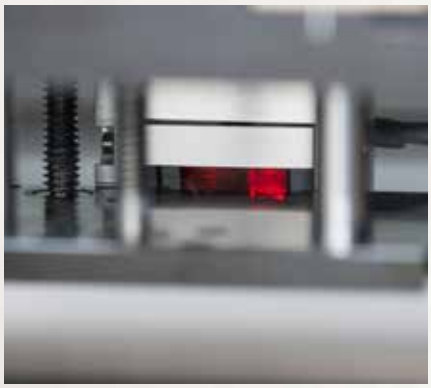
MPM's patent-pending paste temperature monitor is a non-contact solution that measures both the actual paste temperature in the cartridge and/or on the paste bead on the stencil surface during production. Advanced sensors can read the temperature of the paste cartridge when the automatic paste dispenser is used to ensure the material is at the correct temperature before it is dispensed. A separate sensor can then be employed to measure the temperature of the working paste bead on the stencil surface.

As paste viscosity is directly affected by temperature, continuously monitoring the paste during production ensures the paste stays within the temperature limits for optimum performance. Software provides the user with upper and lower limits to be set as recommended by the paste manufacturers. If the limits are exceeded, the software will halt production and notify the operator. This option can prevent paste from being used that has not reached ambient temperature prior to use. The result is an effective solution to ensure the paste is at its peak level of performance for best printing results.



Paste Height Monitor

The paste height monitor is a non-contact solution that enables the user to monitor the paste roll diameter on the front squeegee blade during a print stroke. It is designed with upper and lower limit roll-height monitoring to prevent defects caused by insufficient or excess paste volumes on the stencil. The Paste Height Monitor combines advanced software and sensor technology to accurately monitor the paste bead for volume consistency. When used with the automatic paste dispenser the system will automatically control paste volume on the stencil.



FAQs - Paste Management and Control

Paste Temperature Monitor

Q: What is the temperature range?
A: Full range - 0°C - 40°C (32°F - 104°F)

Q: When and how often does it check the temperature?
A: The Cartridge temperature gauge on the display is continuously updated. The cartridge temperature range limits are checked prior to each dispense and immediately following a cartridge change.

The Paste Bead temperature gauge is updated and range limits are checked after every squeegee stroke. (The Cartridge Temp Monitor is not available for Jar or Rear Mounted Dispensers)

Q: Can I use this option to control a TCU?
A: No, neither the Cartridge or Paste Bead Temperature Monitors control or interact with the TCU. They can, however be installed on the machine together to function independently of each other.

Q: Are the Cartridge and Paste Bead temperatures displayed on the SPC screens and recorded in the SPC Database?
A: Both Cartridge and Paste Bead temperatures are displayed on the screens, however, only the Paste Bead temperature is recorded in the SPC database.

Q: What MPM printers is this option available for?
A: Currently the Momentum II Elite, Momentum II HiE, Momentum II BTB and Momentum II 100. It is not available for Edison printers.

Q: Can this option be upgraded on MPM printers?
A: Yes, upgrades are available for all current MPM printers except for Edison. Upgrades will require Benchmark 5.0 software and Win10 OS.

Q: What version of software do I need on the MPM printer?
A: Benchmark for Printers Version 5.0 or later and Win 10 OS

Paste Height Monitor

Q: Can I control the bead size I want to print with?
A: You can control the minimum bead size via the low level trigger point parameter setting.

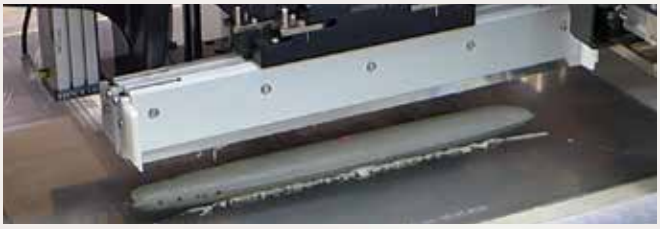
Q: Does the sensor indicate if there is too much paste in the roll?
A: Yes, it is designed to detect the lower and upper level conditions.

Q: Where is the reading for paste height taken?
A: The reading is taken at a single point central to the bead on top of the stencil. Also, it is taken on the front blade only when a Front to Rear stroke is executing.

Q: What MPM printers is this option available for?
A: With the enhancements of high limit and SPC data recording included - currently the Momentum II Elite, Momentum II HiE, Momentum II BTB and Momentum II 100. It is available on Edison, however, there is no SPC database.

Q: Can this option be upgraded on MPM printers?
A: Yes, upgrades are available for all current MPM printers. Momentum series printer upgrades will require Benchmark 5.0 software and Win10 OS.

Q: What version of software do I need on the MPM printer?
A: While the Paste Height Monitor with low limit has been available on Benchmark for Printers Version 3.4 or later, it should be noted that in order to have the latest enhancements of high limit and SPC data recording – Benchmark for Printer Version 5.0 or later running on Win10 OS is required on Momentum series printers. For Edison, there is no SPC database, and Intueri Version 1.0.2.319 or later is required.



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 (Speedline), Vitronics Soltec and Despatch.

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