**PRESS RELEASE**

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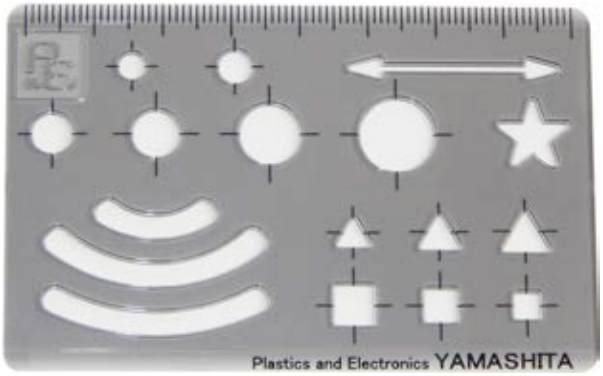
# SE-EV All-Electric Demonstrations of New Technologies Highlight Machines' Flexibility, Precision and Molding Stability

- **An SE50EV molds a stencil test part with Y-HeaT technology from Yamashita Electric Co., Ltd.**
- **An SE100EV molds 1000-µl medical pipettes using a dual-gated concept tool from Cavaform International, LLC**

**[ORLANDO, FL, NPE BOOTH W623 – March 23, 2015]...**Sumitomo (SHI) Demag's advanced SE-EV all-electric is being featured in two molding demonstrations in the company's NPE 2015 booth to demonstrate the exceptional flexibility, precision and molding stability of the machine series.

An SE50EV (56 U.S. tons) is molding a 4.46-gram PC drawing stencil in a single-cavity, 3-plate cold runner mold using Y-HeaT technology from Yamashita Electric Co., Ltd.




*The flat, clear part maintains excellent clarity and transcription of the mold surface without weld lines or warping.*

Y-HeaT technology prevents warping and weld lines by providing real-time temperature control of multiple independent channels near the mold cavity surface. This high-precision rapid heating and cooling technology is ideally suited

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for parts with high-gloss surfaces and applications requiring improved texture transcription of the mold surface, improved optics and/or elimination of weld, sink and flow marks.

The SE50EV with C110 injection unit and 25 mm screw that is being demonstrated comes standard with 19.69 in/s (500 mm/s) injection speed, 30,748 psi (2162 kg/cm$^2$) injection pressure and 15.0 in$^3$/s (245 cm$^3$) injection rate (all specifications provided are maximum).

Contributors to the SE50EV molding demonstration include:

- Mold, hot runner and Y-HeaT controller: Yamashita Electric Co., Ltd.
- Robot and conveyor: Star Automation, Inc.
- Resin: LioChem, Inc.
- Chiller and mold temperature controller: Advantage Engineering, Inc.
- Dryer and loader: Matsui America, Inc.
- Vision monitoring system: Comet Plastic Equipment, LLC

The second SE-EV molding demonstration is an SE100EV running an 8-cavity, direct-gated mold that is producing thin-wall, PP, 1000-µl medical disposable pipettes on a 7.8-second cycle.

*These narrow, thin-wall, 3-inch long, 0.9-gram pipettes are being molded on a 7.8-second cycle. SE-EV speeds, pressure and precision, combined with Cavaform International mold technology, ensure high-cycle molding of consistently straight parts.*

The mold for this demonstration is a concept tool using proprietary, patent pending technology from Cavaform International, LLC (NPE Booth W1522). The

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concept is to demonstrate that consistently straighter parts can be achieved with two gates, when the length-to-diameter warrants it, as compared with one gate for which core deflection can be a problem. The tool can also be serviced in the press with complete access to the cavities.

The SE100EV with C250 injection unit and 28 mm screw that is being demonstrated comes standard with 41,191 psi (2897 kg/cm$^2$) injection pressure and 13.2 in$^3$/s (216 cm$^3$) injection rate (all specifications provided are maximum).

Other contributors to the SE100EV molding demonstration include:

- Robot: Star Automation, Inc.
- Resin: Clariant
- Chiller and mold temperature controller: Advantage Engineering, Inc.
- Loader with color mixer: Plastrac Inc.
- Monitoring system: RJG, Inc.
- Vision monitoring system: Comet Plastic Equipment, LLC


*The SE-EV is available in model sizes from 56 to 202 U.S. tons. Additionally, the Series is offered in high-speed models with injection speeds up to 1000 mm/s, and the new high-duty SE-EV-HD high-duty models. An SE180EV-HD is also being demonstrated in the company's NPE booth.*

The SE-EV Series is available in model sizes from 56 to 202 U.S. tons. Advanced features of the SE-EV that contribute to both NPE demonstrations include:

- The SE-EV's wide choice of injection units, combined with the lower inertia/faster response design of the energy-efficient, direct-drive motors, provides higher injection power (torque) and velocity, unerring velocity control from .01 mm/sec to the maximum, and faster velocity response, unaffected by belt elasticity, for parts with extremely tight tolerances.
- Twin-cylinder high-contact force (nozzle touch) for high-precision control under high injection pressures
- Multi-toggle clamp force control, a standard feature that improves venting and can be used to reduce cycle time

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**SE-EV All-Electric Demonstrations of New Technologies...continued**

- Precise platen support system plus high rigidity frame for better mold linearity and parallelism
- Mold protection that is ensured with monitoring by precise optical encoders and full closed-loop control
- Clean molding environment due to plated, bush-less, grease-free tie bars, self-contained lubrication on linear rails and automatic grease supply through a valve-type distribution system
- Clamp open/close speeds to 1200 mm/sec and selectable auto-ramping modes that can be used to optimize clamp open/close profiles for fast cycling with shock-free movement
- Z-Molding's Flow Front Control (FFC) System that takes advantage of the energy in the flow front of the resin to complete filling in an even fashion as opposed to forcing material into open areas and thus flashing the areas that were already filled
- Z-Molding's Minimum Clamping Molding (MCM) System that allows the machine to automatically detect the minimum point at which the mold halves are completely parallel and defines the threshold where flash-free molding can occur and the optimum point at which the best cavity venting exists

Sumitomo (SHI) Demag's worldwide group of companies is dedicated to helping plastics processors compete more effectively in the global market. The company manufactures a wide range of high-precision IM machines for diverse applications. Its all-electric platform (SE and CL series) spans from 8 to 935 U.S. tons, including micro to mid-sized, high-speed, packaging, high-duty, vertical, insert and high-speed multi-shot machine series. Ultra-high-speed hybrid machines (El-Exis SP and Systec SP series) are offered in models from 165 to 825 U.S. tons for packaging and other thin-wall applications. Configurable, high-performance hydraulic and toggle machines (Systec Series), including multi-component models, are also provided for applications from 39 to 2248 U.S. tons. Equally important, Sumitomo (SHI) Demag has an extensive worldwide network, ensuring customers of sales, parts, training, service and processing support when and where it is needed.

Information on the North American operations of Sumitomo (SHI) Demag can be found at: www.sumitomo-shi-demag.us.

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