

PRESS RELEASE

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New SE-EV Advanced All-Electric Redefines Precision, Energy Efficiency and Molding Stability

[Booth 2103, NPE 2012, Orlando, FL]... Sumitomo (SHI) Demag introduced the SE-EV advanced all electric (55 to 198 U.S. tons) to the North American market today with two high-speed, high-precision demonstrations.



An SE180EV (198 U.S. tons) is molding a return-drain type pour spout made of HDPE (TOTAL #BDM210 15) weighing 9.1 grams. The demonstration is running a StackTeck Systems Limited (NPE Booth 4889) 4-cavity mold with Ritemp Technologies Pty evaporative cooling technology. According to Ritemp, the process extracts heat from the mold by converting it to vapor, which rises to the top of the mold where it gets condensed by simple heat exchangers. The technology uses a fraction of the normal water needed, boosts cooling efficiency and reduces cycle times.



The StackTeck mold has both a Ritemp hot-half and cold-half, and is running the pour spout at 7.5 seconds, a significant cycle time improvement over conventional mold cooling. The hot runner and the Ritemp technology were both provided through Mold-Masters (NPE Booth 4463) which recently formalized an agreement for exclusive use of the technology in hot runner applications.

Sumitomo (SHI) Demag is also demonstrating an SE100EV (110 US

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tons) with a 32-cavity, hot-runner Tanner Formenbau AG mold for 200 µl medical pipettes running on a 6.5 second cycle.

The thin-wall pipettes weigh only 0.266 grams and are made with PP (TOTAL #M6832 MZ).

The Machine

The SE-EV advanced all-electric redefines precision, energy efficiency and molding stability with a variety of innovative features supplied as standard.



One such standard feature of the SE-EV (as well as the company's SE-DUZ, SE-HDZ and SE-HSZ models) is its Z-molding capabilities. Z-molding provides exceptional molding precision with low-pressure filling and reduced clamp force. Designed to help molders achieve zero-defect molding and optimum machine performance, Z-molding combines three unique systems:

- Flow Front Control (FFC) System: optimizes the flow front, further allowing control of low internal pressures inside the cavities. FFC: allows complete filling without flash; provides precision control of screw position to ensure consistent filling; and avoids overfilling, allowing gases to be released and preventing short shots.
- Minimum Clamping Molding (MCM) System: Precision clamp force detection and feedback control capabilities determine the minimum force required at mold touch. MCM also works together with the Clamp Force Correcting System to compensate for thermal expansion of the mold. Benefits include: avoidance of burn spots and short shots, and less mold maintenance, plus lower clamp force can also reduce power consumption and improve cycle time.
- Simple Process Setting (SPS) System: Allows easy setup and operation while helping the operator avoid oversights and mistakes.

The SE-EV has also achieved up to a 20% reduction in energy use over previous all-electric models due to:

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- Sumitomo-built motors with exceptionally low rotational resistance
- Decreased friction in the linear guidance system
- Decreased friction through the use of bush-less tie bars
- A new barrel design with improved heat efficiency
- And a new toggle linkage lock-up mechanism that uses no electricity to hold the clamp closed

Ensuring application flexibility, the SE-EV Series was designed with wider tie bar spacing and an improved platen support system (linear guidance) for large, complex and heavier molds. The SE180EV also has a standard 4 x 16 inch ejector pattern.

Other new features of the SE-EV include:

- Standard injection speeds up to 500 mm/s, plus an HP model offering speeds up to 1000 mm/s
- 50% reduction in grease consumption
- High-capability, intuitive and easy-to-use controller available in 15 languages
- Standard high nozzle contact with selectable force setting
- 10% smaller footprint

Additionally, the new SL screw assembly is selectable as standard on the SE-EV Series. This innovative plasticizing system reduces shear heat, improves molding stability, prevents burn spots and stagnation of the melt in the barrel, and allows exceptionally fast color and/or resin change-out. (See press release titled *Sumitomo (SHI) Demag Demos New SL Screw Assembly in Medical Micromolding Application* in this press kit for more information.)

Sumitomo (SHI) Demag is a worldwide group of companies 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 spans from 8 to 606 US tons, including micro to mid-sized, high-speed, high-duty, vertical, insert, high-speed multi-shot and disc molding machine series.

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Ultra-high-speed hybrid machines are offered for packaging and other thin-wall applications, plus high-performance hydraulic and toggle machines, including configurable multi-component models, are offered up to 2248 US 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.

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