

PRESS RELEASE

April 2, 2012

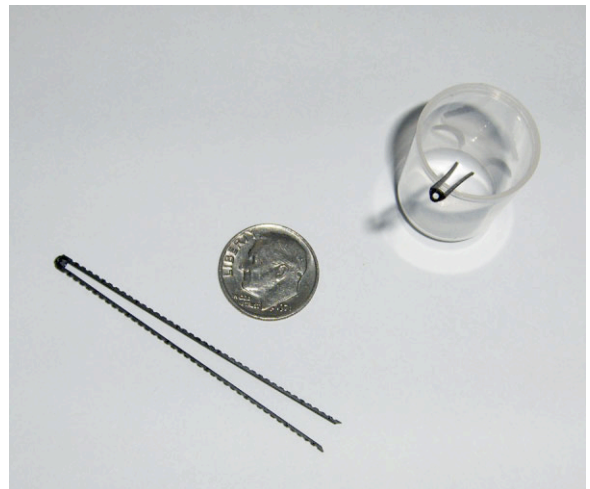
Sumitomo (SHI) Demag Demos New SL Screw Assembly in Medical Micromolding Application

- **Micromolded Ultem barb stop is used in US Endoscopy's iSnare[®] system for the removal of gastrointestinal polyps**

[NPE 2012, Orlando, FL]... Sumitomo (SHI) Demag introduced the SL screw assembly to the North American market today with a high-precision medical micromolding demonstration.

An SE50DUZ direct-drive all-electric equipped with the SL screw assembly is molding a 0.0772-gram barb stop used in US Endoscopy's iSnare[®] system. The Ultem part is being molded in a Sansyu FineTool two-cavity cold runner mold on loan from micromolder Makuta Technics of Shelbyville, Indiana.

US Endoscopy's iSnare[®] system is used by medical doctors who specialize in removing polyps and/or lesions that lie within the gastrointestinal tract of humans. As seen in the photo, the barb stop has two, finely barbed legs and a small hole at the top. It is used to control the projection of the needle that is used for injection of media (drugs, dye, cleansing solution) into the polyp.



According to U.S. Endoscopy's iSnare[®] clinician instruction manual, "The iSnare[®] system is a 3.0mm dual lumen device providing both needle injection and monopolar electrocautery polypectomy snare capability within a single catheter device."

Sumitomo (SHI) Plastics Machinery (America), LLC

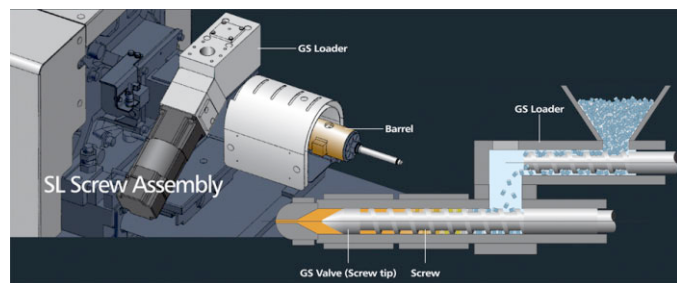
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The system combines two “tubes” within the 3 mm catheter: one is used to inject (through the needle); the other grabs or snares the polyp. One of the advantages of this system is that the doctor can perform multiple tasks (injection and polyp removal) without having to remove one catheter and insert another.

The SL Screw Assembly

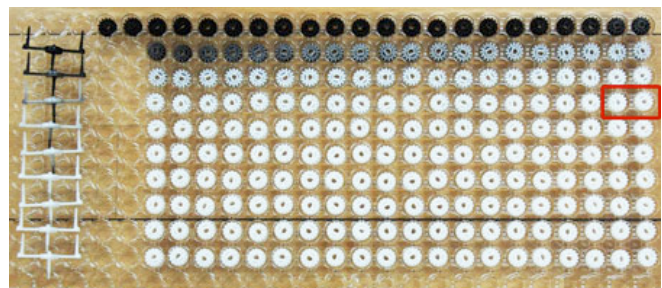
In traditional molding, shear heat develops due to dragging resistance of the resin between the screw flights and the barrel. This causes fluctuation of the molten resin density and various other problems. The SL (Spiral Logic) screw assembly avoids these problems by eliminating shear heating instability.



Benefits of the SL screw assembly include:

- A Uni-Layer Melting Model that eliminates the compression zone of the screw and prevents burn spots and stagnation of the melt in the barrel
- Improved resin pressure stability and elimination of random short shots
- Significantly decreased screw and barrel wear caused by the formation of super critical water
- Elimination of product surface blistering due to incomplete material melting

The SL screw assembly also allows exceptionally fast color and/or resin change out. In the two-cavity mold example shown here, the 40th shot shows complete changeover from black to white.



The SL screw assembly is selectable as

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Assembly...continued...]

a standard option on Sumitomo (SHI) Demag's new SE-EV Series advanced all-electric machines and as an option on the SE-DUZ direct-drive all-electrics.

The SE50DUZ

Special features of the SE-DUZ Series that contribute to the precision of this micromolding demonstration include:

- Z-molding: Flow Front Control (FFC) system that ensures complete and consistent filling while maintaining low internal pressure inside the cavities. In this difficult-to-mold application, the FFC System eliminates short shots, burns at the weld line and weak weld lines.
- Advanced direct-drive motors that provide high speeds, pressures and torque for the most demanding applications and ensure superior energy efficiency, precision and repeatability
- Unique clamp force correcting system that compensates for thermal expansion of the mold. Working together with a control device and high precision rotary encoder, this patent pending system keeps clamping force stable.



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 U.S. tons, including micro to mid-sized, high-speed, high-duty, vertical, insert, high-speed multi-shot and disc molding machine series. 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 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.

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