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PRESS INFORMATION

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Sepro America Demo at Plastec West 2016 Highlights Opportunities in Cell Automation

A live demonstration simulating removal and transfer of injection-molded parts using two robots – a Sepro 6X-90L 6-axis articulated-arm robot and a Sepro 5X-15 5-axis Cartesian beam robot – is the main attraction in the Sepro-America booth (# 3871) at Plastec West 2016, taking place in Anaheim, CA, from February 9 – 11.

In the demonstration cell, the two robots take turns picking two parts from a simulated injection mold, placing them on a conveyor and then picking them off the other end of the conveyor and placing them back on the “mold” cores. It illustrates capabilities like insert pick-up and placement, part removal and accurate positioning for post-mold operations. The cell illustrates a recently launched program called “Solution by Sepro,” which is aimed at providing injection molders with the equipment, engineering expertise and additional services needed to bring new levels of efficiency and quality to the molding process.

“Solution by Sepro is a complete package including robots, peripheral equipment, automation system design and services,” explains Jean-Michel Renaudeau, CEO of Sepro Group. “For years we have been saying that robots should be expected to do much more than simply replacing a machine operator for part removal. And, recently, more and more of our customers are discovering that they can, in fact, improve productivity and make added-value parts, by harnessing the power of automation. That is why we have launched this new initiative.”

Solution by Sepro encompasses:

- The full range of 3-axis, 5-axis and 6-axis robots,
- The ergonomic and powerful Sepro Visual control platform that enables advanced automation management as standard.
- More than 20 years’ experience and know-how that delivers a wide range of proven, competitive automation solutions for insert placement, overmolding, post-mold assembly, simple or complex palletizing, and more.

(More)

- The ability to employ new or existing Sepro robots, integrate them into a manufacturing cell built around new or existing molding machines, regardless of brand.
- Guaranteed successful commissioning of the robot and its peripherals, and an attentive Customer Service team, ready to assist customers whenever they are needed.

Sepro maintains four automation design and production hubs: at company headquarters in La Roche sur Yon in France, in Pittsburgh, Pennsylvania in North America, Dietzenbach in Germany, and Shanghai, China. Here local teams are able to support almost any project. Robots come together with customized, multifunctional end-of-arm tooling, insert feeders and positioning systems, and post-mold inspection, assembly and packaging equipment. Specific solutions are available for:

- Control... vision; presence/absence of components; electrical continuity
- Parts handling... shuttle tables; vertical stackers
- Traceability... marking; labeling; separation by cavity
- Assembly... closing; clipping; screwing; gluing; welding
- Cutting... gate vestige removal; flash removal; routing

Once all the components are complete, complex cells can be set-up and tested before shipment to the customer's plant. Sepro automation technicians are available to carry out commissioning, start-up and handover the system, ready for full-scale production.

SOLUTION EXPERIENCE

Each year, Sepro commissions one hundred or so automated production cells all around the world. For instance, over the last five years, Sepro has installed several increasingly complex systems for a U.S. manufacturer of laboratory pipette tips. The precision tips are molded in tooling with up to 32 cavities. The end-of-arm tooling grips the parts as they are ejected from the mold, re-orientes them so that they drop tip-down and are cavity-separated into 96-well racks. Machine-vision inspects each tip for quality and rejects any that are faulty.

Another manufacturer, which makes consumer products, recently installed two Sepro automation cells that include Sepro 6X-60 articulated-arm robots working together with Sepro 3-axis Cartesian robots mounted axially on 550-ton molding machines. In each cell, the 6-axis robot picks inserts from a feeder bowl and stages them for pick-up by the Cartesian robot. Dual-purpose end-of-arm tooling (EOAT) picks up the arrayed inserts and, when the mold opens, the vertical arm descends and the EOAT picks finished parts from the moving half of the mold. Then the EOAT moves to the stationary side of the tool so that it can press-fit the inserts into the cavity half of the mold, before it returns to the clamp end of the molding machine to place finished parts on a conveyer and pick up another set of inserts.

Still another customer, which molds lenses and frames for LED lighting products first began using robots in a simple cell where LED lenses needed to be properly oriented and packaged for automatic feeding to their customer's assembly process. That success gave

them the confidence to add insert placement to another cell, increasing efficiency and productivity and allowing human operators to be reassigned for more challenging tasks. To date, the company has installed five cells, each more complex than the last, ensuring quality and productivity and allowing them to bring added value to their customers.

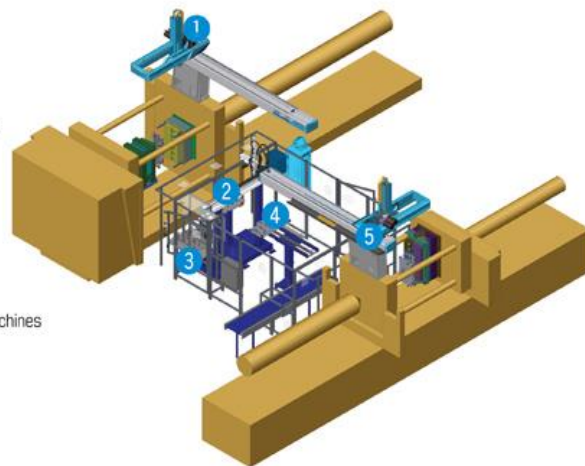
Sepro by Sepro answers the automation requirements of plastic injection-molding companies around the world. “We work together with the customer to support their projects from initial concept through engineering and manufacturing and, finally, to installation and production optimization,” concludes Jean-Michel Renaudeau. “Sepro is already a trusted supplier of robots for all kinds of injection-molding machines and we initiated the Solution by Sepro program to demonstrate that are also an ideal partner for automation projects.”

Sepro was one of the first companies in the world to develop Cartesian beam robots for injection-molding machines, introducing its first CNC controlled “manipulator” in 1981. Today, Sepro Group is one of the largest independent sellers of Cartesian robots. Customers around the world are supported by wholly-owned daughter companies in Germany, Spain, Benelux, the United Kingdom, Austria Hungary. the United States, Canada, Mexico, Brazil and China. Numerous direct sales and service offices as well as independent business partners, distributors and service hubs extend Sepro’s global network to over 50 other countries. To date, Sepro has equipped more than 30,000 injection-molding machines worldwide.

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Press-to-Press Transfer with Insert Loading Station

- 1 **Robot #1**
 - Picks over-molded parts and places inserts in mold #1
 - Controls vacuum system in mold
 - Delivers over-molded parts to transfer shuttle table
- 2 **Small Robot**
 - Picks inserts from stacks and places on queuing nest for Robot #1
 - Controls rotary indexing table
 - Integrated collision protection with Robot #1
- 3 **Insert loading station**
- 4 **Shuttle Table**
 - Simple pneumatic motion
 - Transfers over-molded parts from Robot #1 to Robot #2
 - Floating alignment plate compensates for misalignment of molding machines
- 5 **Robot #2**
 - Picks over-molded substrates from shuttle and places in mold #2
 - Controls vacuum system in mold
 - Picks finished parts and releases to conveyor



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