

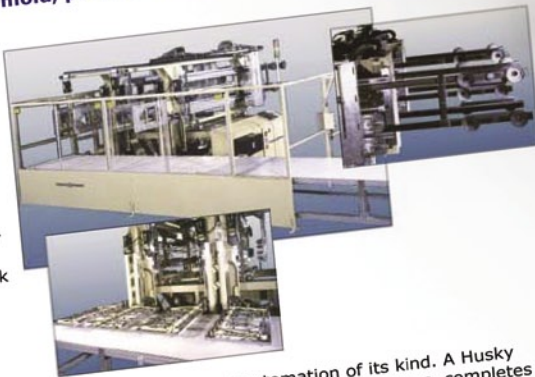
# StackTeck In The Press

**PLASTICS**  
Machinery & Auxiliaries

**In Process: Automation, mold, press team handles four-level stack mold**

## Automation, mold, press team handles four-level stack mold

CBW Automation (Ft. Collins, CO) is building four customized automation systems for four-level stack molds, used by a major housewares molder to retrieve lids and shallow containers. According to the executives of the moldmaker, StackTeck (Brampton, ON), and CBW, this is the first four-level automation of its kind. A Husky (Bolton, ON) Hylelectric 1000, a 1000-ton hybrid electric and hydraulic press, completes the automation/mold/press team.



The first system was shipped in December 2002 and was installed and capturing parts within 72 hours of arrival at the molder's factory. According to CBW, several other molders are interested in this particular robot/automation system.

The 14-servo robot is called a Retrieval Transfer Stacking System (RTS). It's a side-entry that uses carbon-fiber-reinforced arms that move into the open mold horizontally and remove parts from all four levels of the mold simultaneously. High-flow, low-pressure vacuum and vacuum sensors are used to capture the parts and sense their presence before exiting the mold. From there, a linear transfer takes the parts over to a stacker, which places parts on a conveyor in four arrays for transport to the packing area. The conveyor is also part of the automation.

The retrieval and transfer functions run on the x-axis, and the stacking function runs on the y-axis with a rotating motion from vertical to horizontal. The stacker is a two-axis cam robot.

The four-level automation system can change from one product to another in 30 minutes or less, and is also capable of variable stack count by product. The automation and press run a 7.5-second cycle, and mold-open time is .9 second.

The carbon-fiber arms that form the initial, Retrieval part of the RTS system include receivers built for a particular part. The receiver is PTFE-coated or made of HDPE, depending on the part. The arms can also change with different molds or receptacles. The carbon arms shoot into the mold at 18G, but can reach 28G.

The second part of the system, dubbed Transfer, uses an array of suction cups on a compressor. The end-of-arm tooling (EOAT) consists of suction cups on a transfer plate, which shortens like an accordion to fit the conveyor. The linear transfer does a double pick—it waits for two cycles of the carbon arms, and then moves to the stacker. The tooling is programmed to automatically adjust to different molds.

A four-level stack mold yields increased capacity, as compared to a one- or two-level mold, with a given machine tonnage. This allows the Husky Hylelectric 1000-ton press to produce as much as two to four machines with standard molds—saving overhead costs and floor space. A 96-cavity, 4x24 lid mold, the largest to date, produces 75,000 parts/hr.

"StackTeck is the only company that manufactures complete four-level molds. We built the first in 1991, and throughout the '90s built five per year," says Jordan Robertson, general sales manager at StackTeck Systems Ltd. The company increased production to 10 molds in 2002. The growth in the industry is partly attributable to the newly available four-level robotic system. Prior to 2002, the molds were limited to a free-drop part release. Among the systems built last year, 60 percent were configured to run with a robot.

CBW Automation, StackTeck, and Husky worked together to integrate the robot, mold, and machine and continue to stay involved with the system. Service technicians are on call and phone support is available 24 hours a day. For more information, contact CBW Automation at (970) 229-9500, [www.cbwautomation.com](http://www.cbwautomation.com); or StackTeck Systems Ltd. at (416) 749-1698, [www.stackteck.com](http://www.stackteck.com).

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