Press Release

# Accurate Box Adds First-of-its-kind Pre-feeder Robot from Rigorous Tech to its Koenig & Bauer Omega Allpro 130 Folder Gluer

Leading consumer litho-label corrugated manufacturer gains enhanced speed and increased production with custom-built robotics system

* Eighteen-month research and development collaboration between the two firms yields innovative robotic system
* Robot reduces the burden of folder gluer operators by lifting more than 7,000 pounds of boxes per hour
* Robotic system also sweeps waste off of the pallet and stacks the pallet on an outbound conveyor
* Omega Allpro 130 has increased its throughput, from 13,500 with two manual loaders, to one robotic operator that looks at product, manages touchscreen computer and operates at 15,000 cartons

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As the president and CEO of Accurate Box Company, Lisa Hirsh is always seeking new and innovative ways to help her firm increase production while maintaining its above-industry quality standard. It was this mission that led her to collaborate with Rigorous Tech, a Williston, VT robotics company, to unlock additional value and enhance its Koenig & Bauer Omega Allpro 130 folder gluer at its Paterson, NJ facility.

“Our Koenig & Bauer Omega Allpro 130 folder gluer is one of nine in our bindery that is an essential component that we rely on heavily,” says Hirsh. “When we decided to try robotics to increase the speed of throughput by automating the backend on two of our high speed folder gluer systems, we worked with a different robotics integrator for a load former at the end of the Allpro 130’s line. But this left us with two operators per line lifting 7,000 to 9,000 pounds of cartons per hour just to keep up with this new threshold of speed. We found that we couldn’t put employees on a full shift for 20 hours so we had to transition people out of those roles every two hours. These positions were the hardest to retain and, with the labor shortage, and spatial constraints, we needed a new solution. That’s when we approached Rigorous Tech to see what they could do.”

“Over the course of 18 months, we worked with Accurate Box to design a robotic system for its Koenig & Bauer Omega Allpro 130 folder gluer that would provide more consistent speeds, reduce the burden of heavy lifting by its team, and free up feeder operators,” says Diane Abruzzini, COO and co-founder of Rigorous Tech.

In one year of operating at Accurate, Rigorous has formed a solid partnership with Accurate. The entire robotic system picks up more than 7,000 pounds of boxes per hour and loads them onto the hopper of the Omega Allpro folder-gluer machine. After all of the boxes are picked up, the robot sweeps waste off of the pallet and stacks the pallet on an outbound conveyor. After the boxes exit the folder-gluer, another robot palletizes the boxes by bundles.

Quality control was top of Accurate’s list for the robotic system. Hirsh and her team print the highest quality cartons and none of the edges can be nicked. The Rigorous Tech team spent lots of time designing the splitter assembly at the end of the tool to lift heavy stacks of cartons without damaging them.

“We’ve made their Omega Allpro system more robust,” says Abruzzini. “Our design incorporates four different vision systems on the Allpro. One system sits over the pick station, reads the stacks, and tells the robot where to pick. Another system is located over the hopper measuring maximum hopper height and auto ejecting the pallets at their desired height. One of the more really interesting vision systems is located on the end of the tool for fault detection. If a robot picks up a stack of cartons and one is picked by one fork but not the other, there will be a hanging flap. This can cause the system to get jammed. Rather than that happen, our system places the stack on an unload wrap in the corner and goes back to pick and place, keeping the system moving.”

What has been the consensus among the executives and employees at Accurate for the new robotic system? Hirsh says that the robotic system has consistently increased throughput, from 13,500 cartons with two human loaders to only one robotic operator that looks at the product, manages the touchscreen computer, and allows operation to increase to 15,000 cartons. During Accurate’s regular lunch-and-learn events with employees, leadership found that its employees were excited and positive about the new technology. One operator came up and thanked the team from Rigorous, saying he no longer has back problems. “Robotics and automation are very aligned with our corporate vision,” says Hirsh. “We see it as a way to increase the efficiency of our employees not to replace them. It’s a tool that can help us stay competitive as a business and increase throughput.”

Interesting website: [www.rigorous.co](http://www.rigorous.co), www.accuratebox.com

#### Photo

(left to right) The Accurate Box team: Pedro Pacheco, Senior Director of Manufacturing; Samara Ronkowitz, Director of Sales and Marketing; and Lisa Hirsh, CEO and President; are proud of their

first-of-its-kind pre-feeder robot from Rigorous Tech that enhances their Koenig & Bauer Omega Allpro 130 folder gluer.

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