

StrongPoint Automation Introduces High Capacity Palletizer for RSC Cases

April 10, 2009 - StrongPoint Automation introduces its new High Capacity Palletizer for RSC cases. The fully automated system incorporates a multiple product infeed configuration to stage and position incoming products for palletizing. At the heart of the system is a Fanuc M410iB-160 robot optimally positioned to place two products on two pallet locations in addition to handling multiple pallet styles.



The development of the StrongPoint End Of Arm Tool (EOAT) was initiated to specifically address the issue of dropped or misplaced RSC cases in robotic systems. The tool is fabricated entirely from extruded components and custom designed aluminum weldments to reduce and optimize tooling weight. The EOAT is controlled by a single plug and play DeviceNet node located on the tool that manages all pneumatic and I/O requirements. An optional diagnostic tool can be used to monitor and test all functions of the EOAT node unlike other hard wired tooling common in the packaging industry.

The EOAT is designed to handle a wide range of product weights and sizes without timely tooling adjustments or changeovers. The EOAT is able to handle multiple cases each exceeding 50lbs for a total pick weight of over 200 lbs. A high capacity vacuum pump is used to provide vacuum flows at the cup face that are not traditionally achievable with venturi style generators.

Due to the 50 lb + weight and height of the of the RSC cases, traditional vacuum based tools were unable to process the case placements at high speed due to the magnitude of the shear loads at the cup face. Without the use of clamp stabilization the loss of cup contact under high accelerations and case drops were inevitable. In order to combat these extremely high shear loads the EOAT utilizes pneumatically actuated side clamps operating on the principal of a 4 bar linkage. The actuating geometry of the side clamp assemblies allow them to automatically adjust for an infinite number of case widths while maintaining the primary clamping surface perpendicular to the case face at all times. Customized robotic motions were also needed to negate large product moments generated in traditional palletizing motions.

The porous nature of the recycled RSC material and high case weight mandated the need for a high capacity rotary lobe vacuum pump capable of drawing 117 cfm at -28.4 in of Hg. The use of traditional venturi style generators represented an enormous draw on plant process air and would represent a substantial operating cost to the facility. The high vacuum flow is delivered to the EOAT manifold by a large diameter flexible hose where cup groups are activated by pilot air actuated high capacity vacuum valves.

The EOAT is also capable of retrieving pallets from multiple static pallet magazines and placing them prior to palletizing. Optional tier and slip sheet handling is also available.

About StrongPoint Automation Inc.

StrongPoint Automation is a market leader in the design, development and manufacture of world-class robotic solutions and conveyor systems. Our strong technological leadership enables us to consistently streamline our customers operating costs through increased automation. StrongPoint Automation serves the food and beverage, pharmaceutical, packaging, coatings and consumer product sectors throughout North America. We continuously strive to exceed customer expectations by attracting people who share the company's high standards of excellence and accountability.