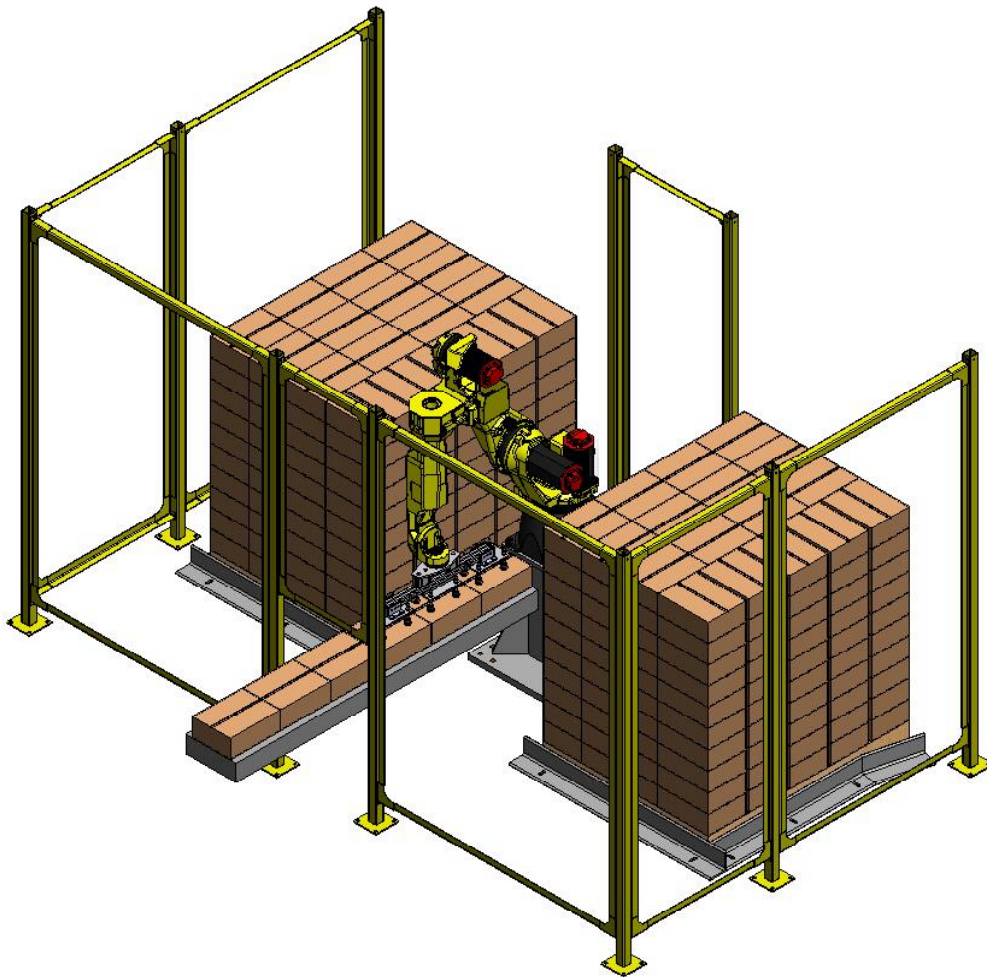


Case Study –Palletizing Cases of Hair Care Products

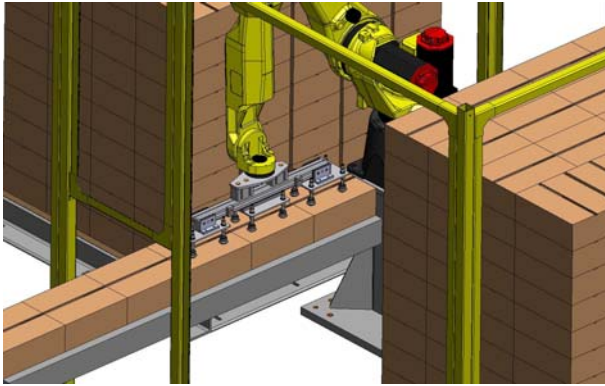
TEC designed and built a custom mini-palletizing solution for this leading manufacturer of hair care products.

The system handles six different sizes of glued cases. The cell has a FANUC M20 six-axis robot, a 3 zone vacuum tool, powered roller infeed conveyor, two pallet floor details, Lexan safety guarding, and light curtains guarding the pallet load/unload areas.

The robot's teach pendant is mounted on the guarding at the front of the work cell. The teach pendant contains a custom operator GUI for the selection of product format. A manual push button station initiates the start of the processes.



Isometric view of mini-palletizer



Pick up station



3-zone end of arm tool

The operator uses a pallet truck to load one of two floor details with an empty pallet. The safety scheme is setup to allow the operator to remove a finished pallet while the robot is still palletizing the other side of the cell, without stopping the process. This is accomplished with the use of light curtains and safety mats tied into the logic of the robot program.

The infeed conveyor is equipped with a pneumatic pop up end stop. While cases accumulate the end stop is in the "up" position. When the robot picks up cases the end stop retracts, relieving the backpressure on the cases.

The robot was programmed to maximize the efficiency of the pallet patterns by always picking up either two or three cases at a time. The robot can execute a palletizing cycle in less than 5 seconds, allowing the cell to be able to process up to 38 cases per minute.



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