DURABOTICS™
MAKING ROBOTICS MAKE SENSE

Palletizing Robotic Work Cell

Scope

Provide a fully automated system that will pick product off of the customer's fabrication line and palletize the product accordingly. Every other part needed to be flipped for a more compact and stable pallet of product. The system needed to be able to accommodate a wide variety of parts. Also, the customer wanted to be able to manually remove and insert pallets without stopping the system.

Solution

Durabotics integrated a Kawasaki ZZD130S 4-axis palletizing robot using a custom, manually adjustable end effector to handle a variety of part sizes. The infeed conveyor with a crowding mechanism was able to accommodate the part sizes with minimal changeover. A dampening mechanism was implemented to help mitigate any damage or shock to the parts while being flipped by the robot. A zoned safety configuration using light curtains with muting functionality along with sensors and a safety PLC allowed the operator to safety insert and remove pallets from the work cell without stopping the system.

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System Components

Kawasaki ZZD130S 4-axis palletizing robot, robot base, custom end effector, infeed mechanism with crowders, dampening mechanism, zoned light curtain set-up with sensor and safety PLC, electrical controls.

Result

Successful implementation of robotics to drive down labor and manufacturing costs as well as eliminate work place injuries due to heavy lifting.