High-Speed, Heavy Layer Stacking

Robotic Palletizing | PALLETIZE |

This highly safety-conscious soda syrup manufacturer was needing to replace their aging mechanical palletizing equipment to maintain compliance with their corporate safety requirements. Their aging mechanical palletizers were increasingly inefficient, and accessing them for part replacement and other maintenance work required hoists and similar equipment to reach elevated pallet build stations, elevated conveyors, etc.

The manufacturer was in need of a solution requiring less frequent pallet restocking and with a low-level infeed that would be more ergonomic for operators. They knew robotic palletizer replacements would be much safer and also more flexible compared to their mechanical equipment, and they returned to work with Pearson again after a robotic palletizing project years earlier proved hugely successful.

Cases:

- Heavy RSCs, each weighing up to 50lbs

Required Rates:

- High speed application up to 40cpm

Objectives:

- Achieve high stack rates with improved safety for operators and maintenance technicians when working on machines
- Keep manual intervention - especially pallet loading requirements - to a minimum

Phone: 509.838.6226

PEARSON
PACKAGING SYSTEMS

Web: PearsonPkg.com

PEARSON
PACKAGING SYSTEMS

Solution:

In order to reduce manual labor requirements for the cell, a high capacity pallet dispenser holding up to 45 pallets increases run time before pallet restocking is needed. A pallet is released and transported to the pallet build station as cases convey into the cell.

The layer pattern is pre-built using an activated roller belt sorter. Sensors detect cases at the infeed and trigger pop-up rollers that bump cases sideways into lanes at the pallet forming station. Side clamps deploy to square the cases prior to the robot pick.

A high-payload FANUC robot is configured with a foam vacuum pad tool to pick and place a complete layer of 10 cases at a time. in order to achieve the necessary rates.

This robotic solution has far fewer maintenance requirements and less frequent part replacement compared to the customer's previous mechanical palletizers. The new palletizers bring nearly all maintenance tasks to ground level - from tooling access to clearing out conveyors, etc. - providing a far safer environment for operators and maintenance technicians.

In addition to standard locked fencing, the cell interior has eight area scanners to sense unrecognized objects or motion within the cell, triggering an immediate robot shutdown.

Achievements

Improved safety

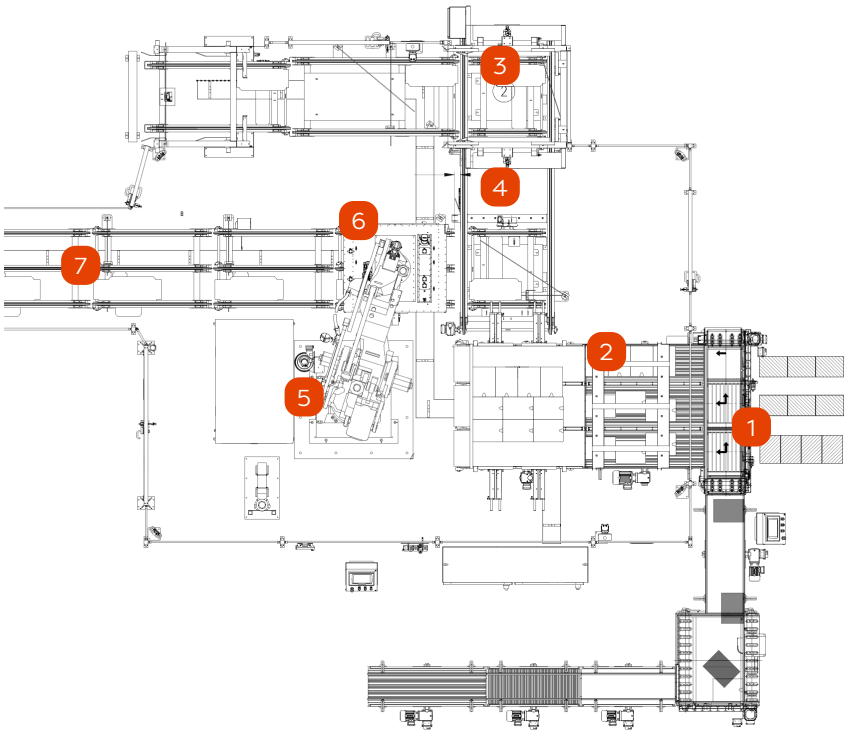
Robotic palletizers minimize the frequency of part replacement and bring maintenance tasks to ground level.

In-cell scanners trigger robot shutdown for added safety.

Fast rates with minimal manual intervention

With layer pre-forming and high payloads up to 620lbs+, stack rates reach 40cpm. And, the large pallet dispenser capacity reduces the frequency of manual restocking.

1. CASE INFEED CONVEYOR
2. LAYER FORMING STATION
3. HIGH-CAPACITY STACK TRANSFER & DISPENSER
4. AUTOMATIC PALLET INFEED SYSTEM
5. PALLETIZING ROBOT
6. PALLET LOADING STATION
7. TAKEAWAY CONVEYOR



Phone: 509.838.6226

PEARSON
PACKAGING SYSTEMS

Web: PearsonPkg.com