

Vertical reciprocating conveyor enables new levels of efficiency for assembly operation

Greater flexibility and space utilization lead to more throughput, operational efficiency



Congestion and inefficiency plagued the kitting process for a manufacturer that depended on manual processes to feed assembly. Operators carried full totes through the facility from kitting to picking and stacked them for picking until empty. This cluttered floor space, creating an unsafe, difficult-to-navigate work environment with empty totes waiting for employees to carry them back to the kitting area to repeat the cycle.

With goals to improve kitting process efficiency, capacity and space utilization without disrupting auxiliary processes, the company turned to an automated solution from USS, an Intelligrated company.

For greater efficiency, flexibility and space utilization, look up!

USS supplied a unique, intelligent vertical reciprocating conveyor system to supply kitting workstations with empty or full totes from overhead storage location to best utilize floor space. The VRC provides the necessary flexibility through C and Z configurations that allow product to enter and exit at different elevations and on opposite sides.

Empty totes travel on a 10-foot high conveyor line until they reach the first available kitting work station with necessary product. The VRC lowers the tote and discharges on either side for an operator to fill. After the operator finishes with the tote, they exchange it for the next tote via the VRC. For totes with remaining kitting components, the VRC returns them to the 10-foot high conveyor for transportation to each subsequent kitting station until completion. When a kit is complete, the same VRC moves full totes to a 12-foot high conveyor loop for transportation directly to the assembly area. Totes can also travel on the VRC to an 8-foot elevation for staging while they await backordered items.

Each VRC can sort product to four elevations, either 30-, 10-, 12- or 8-feet high, and offers entrances and exits on both sides of every height except for the 8-foot height, for a total of seven sort options. This configuration provides maximum process flexibility while occupying a minimal footprint.

Safety? Efficiency? Throughput? Decongestion? All the above

The new system enables the manufacturer to maximize existing floor space and decongest the kitting floor by utilizing previously unused overhead space. The automatic lifting and transport of totes enhances operational efficiency and improves overall throughput while reducing the risk of worker injury.