



Chipboard Partitions

Partition Inserting | PACK |



This southeastern US winery needed a robotic partition inserting solution for a new facility they were building. With installed Pearson case erectors and sealers at sister facilities, confidence in machine performance and OEM support was already established.

The mechanical partition inserters operating in their existing facilities were not optimal for running multiple partition styles and cases on the same line, as the changeover process was cumbersome and hugely time-consuming (as much as 30 minutes!). For this project, three different partition styles would need to run on a single machine, with the expectation that more partition styles would be added in the future. And, one partition style would need to be glued to the inside of it's cases.

On account of rising labor costs and shortages, the ideal solution would require minimal manual resources to oversee operation and restock consumables.

Products:

- Various chipboard partitions for varying sizes of glass bottles

Required Rates:

- 25-33 partitions per minute with the ability to reach 38ppm

Objectives:

- Ability to run a variety of partition types, including a glued-in style
- Quick changeovers for minimal downtime between product runs or for consumable restocking
- Minimal labor requirements
- Dependable OEM support

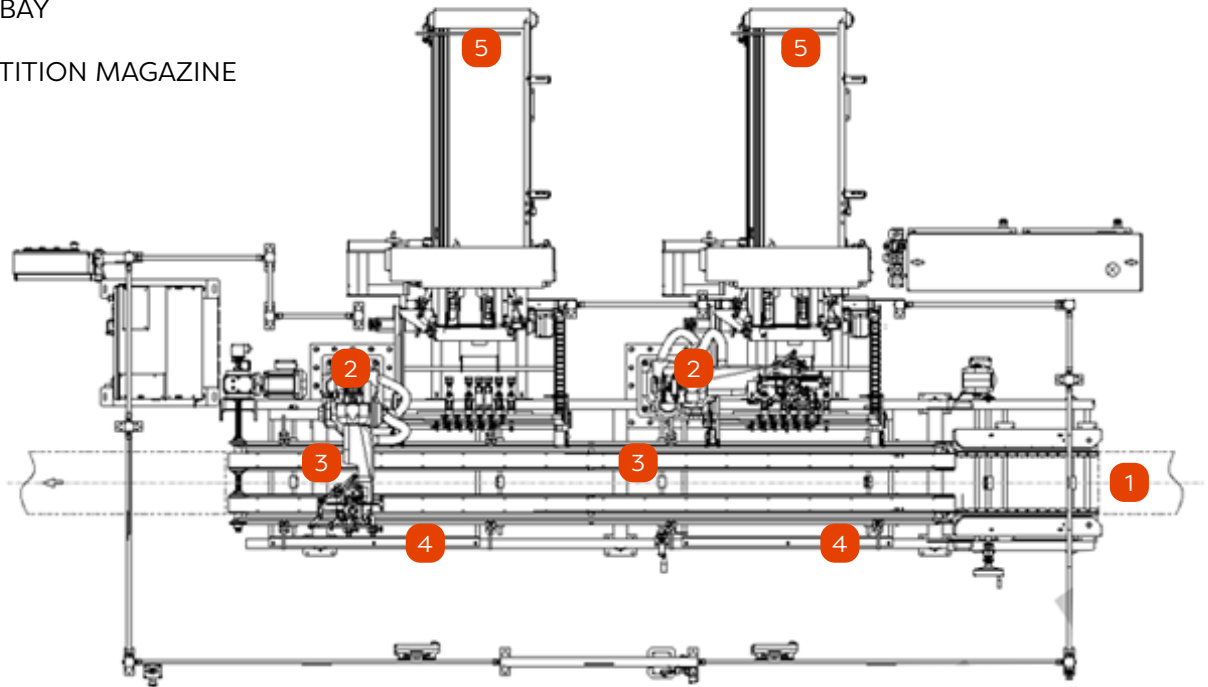


Solution:

Empty cases enter the cell via a continuous motion conveyor. Dual vacuum carriages singulate knockdown partitions from two extended magazines, then two FANUC M-10iA-16S robots with elongated finger + vacuum tooling opens the partitions. Partition styles requiring glue are transported to the appropriate position in front of the glue application units. The robot arm moves the partition vertically to receive the hot melt glue lines, then places the partitions directly into the cases. Filled cases exit the cell for downstream bottle packing.

With the push of a button on the HMI, automatic tool change is engaged and both robots simultaneously move to the tool release bay where they eject the current tool and attach the new end-of-arm tool associated with the selected recipe. In most instances, a tool change is complete in under one minute.

- 1 CASE CONVEYOR
- 2 ROBOTIC PARTITION INSERTER
- 3 GLUE APPLICATION STATION
- 4 TOOL RELEASE BAY
- 5 EXTENDED PARTITION MAGAZINE



Achievements



Flexibility to Handle Partition + Case Variations



Quick + Accurate Changeovers

Optional auto-tool change in under 1 min with mitigated risk for human error



Minimal Labor + Downtime

Resulting from infrequent consumable restocking and auto-changeovers