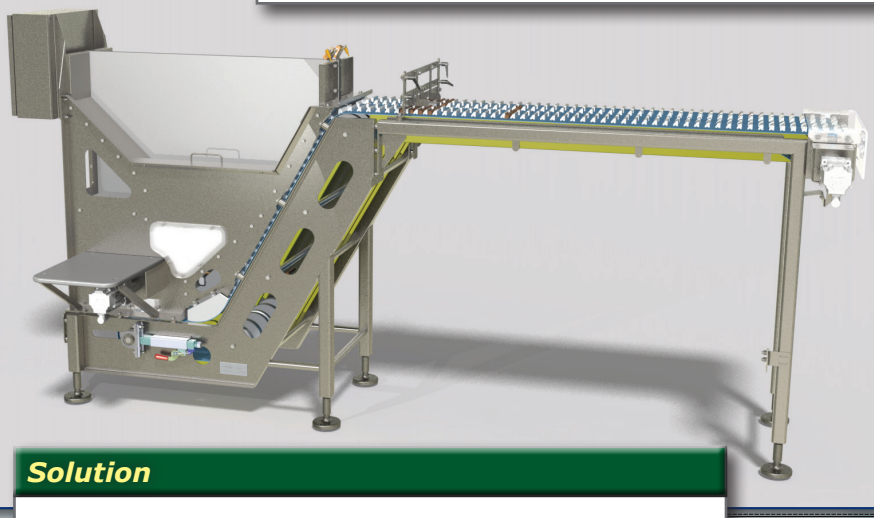
215.723.7284
WWW.CHLSYSTEMS.COM

Meat Stick Singulator

Issue

- Customer was working to upgrade their packaging of individual meat sticks.
- Customer had a robotic loading system to pick and place 360 pieces per minute but did not have a solution for arranging the bulk product into organized lanes to be indexed and picked.

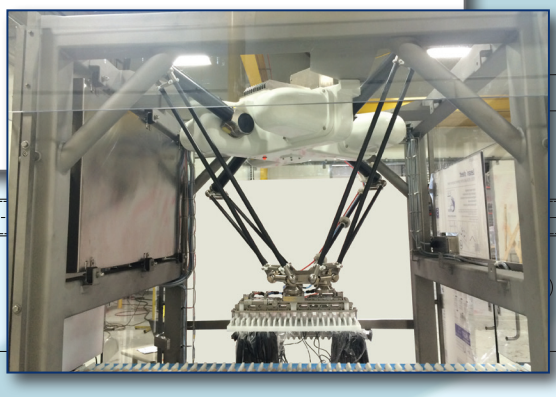


Analysis

- CHL brainstormed several ideas for loading the sticks from a bulk hopper to a flighted belt:
  - Belt pulling product directly from the hopper
  - Star wheel feeding product from the hopper
- Star wheel was the best solution.

Solution

- Based on initial testing, a machine was quoted that included a servo-driven star-wheel feeding a servo-driven timing belt with precise flight pockets to match the pick-and-place robot.
- Wooden dowels were used to simulate the product at first; then actual product was run to confirm findings.
- Once the star-wheel and hopper configuration was set, CHL's engineers developed this into a production machine for food application.
- A program was developed that coordinated the movement of the star-wheels with the movement of the belt.
- The program also detected unfilled pockets in the star-wheel and corrected for this to ensure total fill of the belt.



Result

- The final machine was able to feed 1-oz. (6.5" long) and 0.5-oz. (3.25" long) meat sticks at a rate of 360 pieces per minute.
- Indexed 24 at a time to a precise location for the pick-and-place robot.
- The hopper holds 10 minutes worth of product so the operator can fill the machine and tend to other tasks.
- It is a unique piece of equipment that allows the customer to run much more product than is possible with hand-loading.