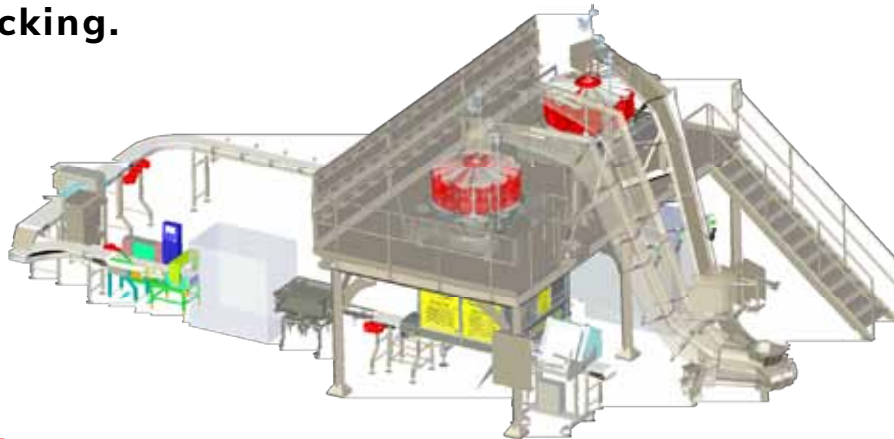


GREENHOUSE PROCESSING & PACKAGING LINE

Handle a variety of leafy greens produced in a greenhouse environment using a fully integrated line from the harvester to case packing.



REQUEST

To provide a fully integrated solution for producing retail clam shells and food service bags while using a single line solution.

DISCOVERY

The removal of fines post harvesting was needed to clean the product.

Continuous in-line product cooling for longer shelf life was necessary.

The client required multiple packaging formats to produce 300 kg/hr into a plastic clam shell as well as the ability to produce 600 kg/hr of food service bags.

Both formats required checkweighing and metal detection for compliance.

Both formats to be case packed, which required a highly flexible robotic case packer to load both clam shells and bags into a variety of case sizes and styles.

SOLUTION

Process Flow with Turatti Machinery

- Fines Removal Belt – C-Force
- Continuous Weighing Belt
- Continuous Cooling Tunnel - Artic Wind

Inspection

- Anritsu Combo System (Checkweigher & Metal Detector) for clam shells
- Cassel Metal Detector for food service bags

Primary Packaging

- Liftvrac Conveyor with pivoting feature to feed the scale in two locations
- Mobile Multipond Combination Weigher
- Multipond Tamping and Depositing System to load clam shells

Line Automation, End of Line Automation and Case Packing

- Common line control PLC/HMI with auto/manual/clean modes
- Conveying of the trays and/or bags to the warehouse
- Unicell Robotic Case Packing

SOLUTIONS USED IN THE PROJECT



EQUIPMENT

Turatti Solutions

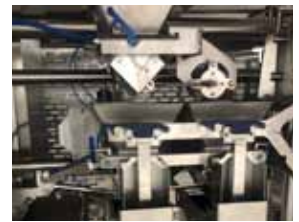
- C-Force is a perforated shaking belt to remove small fines from the product flow
- Reduce product temperature from 30+ degrees to 4 degrees continuously
- Arctic Wind Bi-Directional Belt is used to redirect the product flow to packaging or manual bulk pack off



Liftvrac incline conveyor allows for gentle handling of product using a flat belt design which forms a tube around the product to gently convey product to the Multipond weigher. The pivoting feature allowed for product to be delivered to two locations.



Multipond 14 head combination weigher with motorized rotary cone, patented stepped profile feed trays and the ARGUS 3D camera to provide hands-off consistent distribution of the product into all 14 hoppers resulting in optimum speed and weight accuracy. Integrated custom Multipond tamping and depositing system to transfer the product to the index clam shell line.



Anritsu combination, checkweigher and metal detector coupled with an integrated reject system on the clam shell line and **Cassel** metal detector solution was integrated on the SpanTech conveyor system to inspect the food service bags.



INTEGRATED MECHANICAL SOLUTIONS

- Sanitary mezzanine featuring sloped deck with drain trough complete with parts wash wall
- Custom track with rollers to move the Multipond weigher and Liftvrac between the two lines
- Complete automation of the line was provided through a PLC/main control panel
- SpanTech conveyor to interconnect equipment & convey the finished product to the warehouse & case packer



SERVICES

- Project management/automation protocol
- Installation of the entire system by our in-house engineering support team
- Synchronization, recipe development/testing & operator/maintenance training