



Box Assembly Machine Design

Description

An automated machine for the assembly of two piece plastic boxes, comprising a collapsible collar for the sides and a base tray for the bottom, for the horticultural industry.

Assembly of the box was achieved utilising 18 pneumatic cylinders spread over four stations:

- Collar - grip & position
- Collar - unfold
- Tray - de-stack & position
- Tray - insertion into open collar

Products were manually loaded and the finished assembly automatically ejected onto a conveyor.

Three collar height variants are accommodated and the machine is capable of a cycle time of 45 units / min.

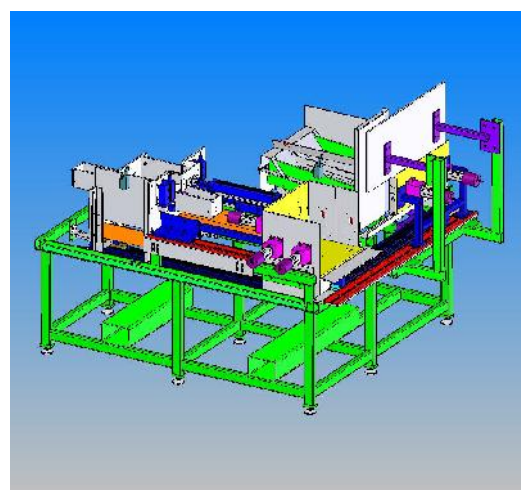
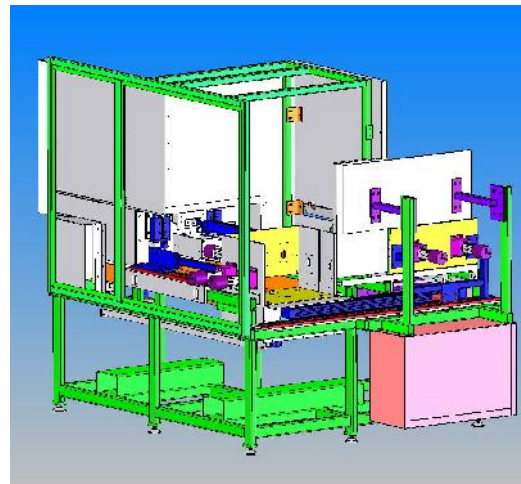
Operator ergonomics, speed and safety were a prime goal with the

Disciplines Used

- Conceptual, pneumatic & mechanical design
- Assembly project management

Specification Summary

- Low cost, small footprint solution
- Accommodate three box size variants
- One operator to batch load / unload.
- Cycle time 1.3 seconds
- Totally pneumatic system
- Steel fabricated machine frame
- PLC control



3D CAD Models