# Pizza Control

- To transport product from the lidding machines through a metal detector, checkweigher and proceed onto a packing station conveyor prior to cartoning

The project required receiving frozen pizza bases from the outfeed of an inline freezer, then to stack them into groups to be fed into a flow wrap machine.

The challenges were increased by the variety of bases, product thickness, diameter and angle at which rows were fed into the freezer.

The stacking also had its challenges as the frozen bases were very brittle and easily broken, also the stack number count varied from product to product.

The pizza bases varied in thickness from 2mm up to 8mm, in diameter from 90mm to 350mm and the row count from 2 up to 6.

CROWN conveyors

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Designed and manufactured in the UK

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# Project Solutions

The first challenge was to bring the angled rows into a square format to enable counting and stacking, this was achieved by using a variable speed mitre conveyor which automatically brought the rows to the tapered transfer point to produce square and even rows.

The stacking was achieved by producing a rotary tray unit that would receive the bases from the end of an acceleration conveyor and index down each time a row was received.

To enable unloading to take place at the same time as loading the tray unit was made up of 6 trays running on the same axis but powered by 2 separate servo drives 3 trays to each, This enabled every other tray to move independently to its neighbour so as one tray was parked for unloading at the lower level the tray above was able to index down as base rows arrived.

The system needed a product selection method to enable the stack count, index distance and feed conveyor speeds to be adjusted for each base type.

The Stacking units and flow wrap machines were duplicated to enable automatic change over in the event of a wrapper failure or product change.

The system was controlled by an Allan Bradley Compact Logix PLC and Panel View H.M.I. the stacking servos were supplied by Baldor and the base counting was achieved using a Balluff laser fibre optic.

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