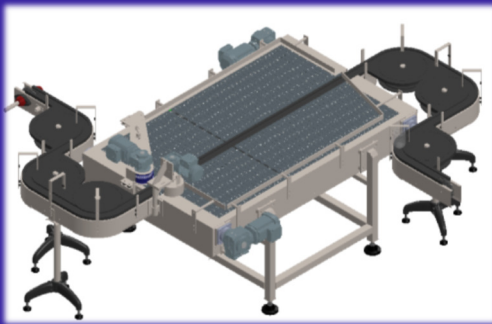


Accumulation Table Manufactured for Rowse Honey Ltd

Summary

The project team at Rowse Honey, part of the Valeo Foods Group, identified a requirement for replacing a production accumulation buffer, between the capping and labelling of their 340g hexagonal honey jar.

Project manager Jason Rose called Foodmek in February '18 to invite the design team to the Rowse factory in Oxfordshire, to evaluate their production.



"We had seen that Foodmek had previous knowledge of handling difficult shaped jars, this made them the obvious choice to talk to when this project came up"
Jason Rose, Project Manager

Initial consultation established that Foodmek would design, manufacture and install a large accumulation table fitted with a powered roller and infeed guide.

Specifications were discussed over the next 2 months to ensure the most efficient solution.

Once specification and design were finalised, production began on the 3rd April.

In order to avoid disrupting production, Rowse required installation to take place during their annual shut down in late June.

Need Recognition and Evaluation

A requirement to increase labelling throughput had led Rowse Honey to replace their rotary labeller with a larger machine.

The increase in labelling capacity meant that the existing accumulation solution prior to the labelling process would no longer be viable.

The proposed new equipment would need to allow for sufficient accumulation to provide time for label changeovers and allowing for minor line maintenance

One of the key limitations for the design of a new solution was the restricted space available for installation between the capper and labeller.

Solution

In order to provide a solution which optimised the limited available space for accumulation, Foodmek designed a contraflow conveyor system utilising parallel conveyor chains.



"Foodmek were given a tight deadline for installation and this they achieved with minimum fuss"

After exiting the capper, jars transition on to the Foodmek accumulation table via its central low-friction conveyor chain, made from 880 tab chain.

When label changeovers or maintenance activities prevent normal operation of the labeller, jars begin to back-up around the outfeed. These jars make contact with a continuously rotating powered roller.

The roller diverts the jars unable to pass through the table outfeed onto parallel conveyer chains, running in the opposite direction to the production flow.

The addition of a fixed guide, redirecting the returned jars back towards the centre of the table, displaces infeed jars onto parallel chains travelling back towards the outfeed.

A powered guide returns them to the discharge area, into the transverse roller, and so, back through the accumulation cycle.

By this continuous contraflow of jars, the accumulation table gradually fills with circulating jars.

Results

For this project, the key to a successful solution was to provide enough controlled accumulation of jars within the physical constraints of the existing production line, with minimum human input required.

The specified dimensions for the new equipment (2m long x 1.5m wide) allows for 3 minutes or 300 jars of accumulation, based on the output rate of the capper.

To achieve this much accumulation in a typical linear fashion, even by using 180° switchback conveyors, would have required considerably more floor space than was available in the factory.

The Design team at Foodmek were able to utilise modular tight-radius conveyor chain for infeed and outfeed to / from the new accumulation table to minimise the footprint of the equipment.



"The powered infeed and roller is a real winner, we are now looking for Foodmek to add this to another accumulation table on another line."

The continuous operation of the transverse rollers and adjacent contraflow conveyor chains, allows the accumulation function to lay dormant until the interruption of the downstream labelling process results in a build-up of jars at the table outfeed.

In this manner, the activation of the accumulation table requires no intervention by the operator or the control system; but automatically comes into effect immediately when production demands.