

# ISHIDA PROVES A GOOD SPORT FOR VARIETY CHOCOLATE PACK

Case Study  
**Ritter Sport**

## Facts and figures

- » A colour detecting sensor checks whether the delivered product actually matches the requested variety
- » For the product mixes containing three or four components, the system achieves a speed of 60 boxes per minute.
- » Despite the fluctuations in piece weights, overfilling is reduced to a minimum and product losses are kept to within close tolerances.

An Ishida packing system featuring a 24-head multihead weigher is providing speed and accuracy in the production of mixed packs of Ritter Sport cubes at leading food logistics and packer Nagel Group.

Based in Reichenbach/Fils near Stuttgart, the Nagel Group provides storage and further processing for Ritter Sport's complete stock of primary packaged goods.

## Challenge

The introduction of the brand's Choco Cube – small chocolate cubes with different flavours and fillings in flow packs – required a solution to pack mixed varieties of the chocolates into cube-shaped cardboard boxes - a small 176g size comprising 22 individual chocolates in three or four varieties, and a larger 240g box made up of 30 chocolates in six varieties. Extreme care had to be taken in the handling process to avoid damaging the chocolate, and to ensure that the ends of the flow packs are not created.

## Solution

The Choco Cubes are transported to a 24-head high-performance CCW-R multihead weigher from Ishida. To handle mixed products, the weigher is divided into six sections, with an ingenious vibration control system to ensure an even product flow to the pool hoppers and optimise weighing speed and accuracy.





“ The Ishida plant not only complies with our target specification, but is absolutely reliable too. ”

The Ishida solution comprises automatic product infeed system which requires minimal space despite the many product components involved, and which has been adapted to the ceiling height of just six metres. Each variety of Choco Cubes is placed in a mobile buffer container which transfers the products to one of six buffer conveyors. A colour detecting sensor checks whether the delivered product actually matches the requested variety. Special fixtures prevent any pressure damage to the sensitive chocolate confectionery. The system carries out a continuous check of the fill levels of each buffer conveyor and provides an early indication when a top up is required.

Each weighing section features four weigh hoppers and four booster hoppers to maximise the number of weight combinations available to match the target weight. The Choco Cube varieties are collated in the corresponding discharge chutes for each portion to create the final product mix for each pack.

Discharging the mix into the boxes is carried out by a double discharge chute system which fills two folding cartons in parallel. The empty boxes are conveyed under the weigher outlet on a dual-track conveyor and are briefly raised to receive the product in order to avoid product spillage

and achieve an optimum product transfer. At the same time, the boxes are gently shaken to ensure the chocolate cubes are securely placed within each box. The result is an attractive "brim-filled" box without any product projecting beyond the rim of the packaging which could inhibit subsequent lidding.

For the product mixes containing three or four components, the system achieves a speed of 60 boxes per minute. Despite the fluctuations in piece weights, overfilling is reduced to a minimum and product losses of these high-cost choco cubes are kept to within close tolerances. Three operators, who received on-site training from Ishida, are sufficient to run the complete line. The system is controlled using a touchscreen, and product changeovers are carried out by simply accessing the relevant pre-settings on the remote control unit (RCU).

The investment made by the Nagel-Group in this innovative new packaging technology has certainly paid off. There are plans to further increase capacity in the future. Additional space has been reserved alongside the multihead weigher for a second weigher working in parallel with the first. There is every chance that this expansion will go ahead, as Ritter Sport has practically doubled its sales of the popular Choco Cubes.

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