

CASE STUDY

DRAMATIC TRANSFORMATION of Production Capabilities



"The new plant means we can produce an innovative range of pre-mixed ingredients, many of which will be fresh to the UK"

Mr Paul Morrow, Managing Director

THE POWDER HANDLING EXPERTS

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Discover how British Bakels were able to develop a more agile system to cope with small batch runs and high recipe variety whilst also handling allergens safely.



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CASE STUDY

DRAMATIC TRANSFORMATION of Production Capabilities

The Need

Creating a more agile system to cope with small batch runs and handle recipe variety, some of which include allergens.



Founded over 100 years ago, the Bakels group of companies manufactures and supplies specialist, high quality ingredients to the global commercial baking market. Their customers range from individual craft bakers, high street and supermarket chains to international food service chains.

In 2012, British Bakels (UK) began the first phase of a £2.5m investment to improve their production flexibility in order to accommodate their ever broadening portfolio of bakery ingredient premixes. They looked to Matcon to help provide the right solution - a more agile system to cope with small batch runs and handle recipe variety, some of which include Allergens.

The original powder blending facilities at British Bakels are centred on two vertical conical fixed Mixers with capacities of 2,000kg and

1,500kg, which are fed via a conveyor system from silos holding bulk flour and sugar. Other ingredients are added from big bags and sacks via mechanical conveyors. These Mixers are then directly coupled to the packing lines, which pack off bags of bakery pre-mixes for use within the bakery sector.

As their R&D programme expanded the product portfolio, British Bakels recognised that there was no spare production capacity, even with 24/7 operation. In addition, the in-line production process was not flexible enough to cope with smaller batch runs. Each Mixer was taking 4 operators around 3 hours to clean, resulting in a 22% downtime for cleaning alone. This led them to Campaign Manufacture to cope with the demand, which subsequently created expensive inventory as completed batches were stored in the warehouse.

The right solution

The small footprint of the Matcon equipment means it fits perfectly into the existing production area, where it runs alongside the existing fixed Mixers, which are dedicated to the high-volume product lines.

Being based on 'Lean' Philosophy, the Matcon System separates out the processes of Filling, Blending and Packing by using Intermediate Bulk Containers (IBCs) to transport material throughout the manufacturing process, which allows each procedure to take place simultaneously.

No more waiting at the packing line whilst the mixer is loaded, mixed and cleaned; and no more waiting at mixing for the packing lines to complete the batch.

The Matcon System is used to process the small batch runs where there is a variety of recipes to be handled, and particularly where Allergens are involved.

The installation is situated in the same space as the fixed mixer system and comprises:

- Sack tipping for filling the IBCs
- IBC Blending & Intensifier
- Feeding to single FFS packing
- 2000L stainless steel IBCs



The benefits

IMPROVED PRODUCT SECURITY

IBCs are prepared off-line in readiness for the Blending process. The 3-in-1 Sack Tip Unit provides a closed transfer of material from sack to IBC, thus improving housekeeping and reducing the risk of cross-contamination. All ingredients are sieved and passed over a permanent magnet during the filling operation giving further Quality Assurance.

NO NEED TO CLEAN THE BLENDER

Blending takes place within the IBC itself. The IBC is loaded onto the Blender which tumbles it on an asymmetrical 360° axis to create a homogenous mix. Because the ingredients are blended within the IBC itself, there is no need to clean the Blender between recipes; even when using Allergens.

This provides a truly flexible and agile production capability and has enabled British Bakels to really develop their gluten-free ranges.

BLENDING TIMES SLASHED

A further benefit of the Matcon Blending System is the reduction in the overall mixing time required for recipes that have both liquid and solid fat additions.

The previous fixed Mixers took an hour for the process; as the fat needed to be whipped together with sugar before the other ingredients could be added.

By using the supplementary Intensifier on the Matcon Blender, this can now be achieved in a single stage process, taking just 12 minutes per batch, significantly improving the productivity and process efficiency.

PACKING EFFICIENCY

The bakery pre-mixes are packed off into bags using an existing Auger Vertical Form Fill Seal Packer. The IBCs are loaded onto a Matcon Discharge Station where they feed directly into the Packer, without the need for additional equipment to regulate the flow.

The unique action of the Matcon Cone Valve within the IBC, and the operation of the Matcon Discharge Station safeguards against product segregation and helps the more 'sticky' recipes to flow, thereby optimising the efficiency of the packing line, ensuring that the final product is of the consistent high quality that British Bakels' customers have come to expect.

THE RESULTS at a glance

Reduced cleaning times

Increased capacity

Reduced inventory

Improved OEE rates

Reduced labour costs

Lean working

The results - the key to a bright future

The agile production system has generated an instant return on investment.

Cleaning times were reduced from 480 hours to just 70 man hours due to the design of the system, primarily from the blender not needing to be cleaned as product is contained within the IBC and does not touch the blender. This helped to vastly improve the equipment availability from 68% to 88%, which is exceptional considering how much product variety there is on the line.

As cleaning times reduced, it released increased capacity, which enabled new product lines to be introduced to meet the changing consumer tastes. At the same time, because the fats could be added at the beginning and only single stage mixing now needed (instead of multi-stage), a 55%

reduction in Manufacturing time was realised further improving capacity.

Savings were made through significantly reducing Inventory, which released £175,000 of cash back into the business, with an additional 25% reduction in labour costs as fewer operators are required to manage the Matcon system. Further savings were made by changing the packing format which reduced packaging tonnage by 45%.





"We can now offer an enhanced product range, better flexibility of pack sizes, along with significantly enhanced quality assurance and customer service."

Mr Simon Dawson,
Operations & Engineering
Manager.



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WHY CHOOSE MATCON

We understand the challenges faced by manufacturers of bakery products.

YOUR CHALLENGES

Increasing product variety is difficult to handle on traditional in-line fixed mixer systems due to the need for full clean-down at each recipe change.

Smaller order sizes & shorter lead times can be hard to achieve if the production schedule isn't flexible.

New product lines increasingly contain allergens or are gluten-free which places more demand on hygiene standards.

HOW WE CAN HELP

We specialise in supplying efficient production systems that give a good ROI on high variety production schedules & enable make to order not to campaign.

In-bin blending eliminates cleaning downtime on recipe changeovers at the mixing stage.

Simply switch IBCs in & out without worrying about allergen cross-contamination.

