

CASE STUDY

HOW TO INSTANTLY IMPROVE quality and flexibility



"Matcon will help us to ensure the highest product quality, whilst giving us full flexibility to produce our growing range of products for years to come"

Mehmet Aiguel, Chief Technical Manager

THE POWDER HANDLING EXPERTS

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Find out how BOH Plantations installed a system that provides exemplary hygienic manufacturing and superior product quality. Increased capacity and flexibility were also achieved.



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CASE STUDY

HOW TO INSTANTLY IMPROVE quality and flexibility

The Need

A high quality system provided exemplary hygienic manufacturing & superior product quality standards. The results of which offer the ability to increase capacity and flexibility.



Established in 1929 BOH Plantations Sdn Bhd is the market leading tea grower in Malaysia and accounts for 70% of all tea produced there. As a vertically integrated company, they have operations spanning the entire spectrum of tea manufacture – from cultivation and processing, to the packing and marketing of its wide range of black teas and instant tea mixes.

BOH Plantations was the first tea company to be awarded ISO 22000 Certification for complying to the worldwide food safety standard.

In order to maintain their prime position in the domestic retail market and expand into overseas niche markets, BOH realised that they needed to further invest in their manufacturing processes.

They were looking to improve:

- Product quality – the processing systems needed to be state-of-the-art, with exemplary hygienic manufacturing and quality standards of homogeneity and product safety.
- Flexibility – the design of the system should allow multiple recipes to be produced simultaneously, with rapid recipe changeover and fast, simple clean-down.
- Space utilisation – the system needed to fit into the existing floor space, but allow for future expansion in terms of both capacity and number of recipes that could be manufactured.



The right solution

Matcon were commissioned to deliver a Lean manufacturing system which could accommodate short runs and high variety portfolios.

With only a small footprint and minimum equipment investment, the Matcon system provides modules for the key process steps of filling, blending and packing. Intermediate Bulk Containers (IBCs) are used to transport material throughout the production line.

Dosing of the four major ingredients is automated using a compact formulation system. Four ingredient IBCs are placed on a platform, where they automatically dispense into a receiving batch IBC below, on a gain-in-weight basis.

Meanwhile the minor ingredients are pre-weighed and added by hand

into the batch IBC. Keeping this task manual retains a very high level of flexibility as there are so many variations to the recipes.

The installation provided to Boh includes:

- Filling the IBCs
- IBC Blending
- Feeding to a packing line
- 2000L+ IBCs

The benefits

OPTIMUM EFFICIENCY

The OEE rates (Overall Equipment Effectiveness) are optimised for all the equipment as there is no more time wasted in waiting for each step to conclude. IBCs keep product flowing around the system. In addition, with a reduction in waste, the cost/kg of final product is significantly improved.

SIMPLE ACCURACY

The Matcon Discharge Station is able to provide an accurate dosed amount of powder without the use of secondary feeding equipment, which means that recipe changeover can be done with the minimum amount of down-time as cleaning is quick and easy.

FAST MIXING

BOH selected a Matcon IBC Blender as it is proven to achieve a homogenous blend for their wide

range of recipes. Because blending takes place within the IBC itself, there is no need to clean between recipe changes as there is no risk of cross-contamination.

This offers the ability to 'mix any recipe, any time' and has given BOH the full flexibility they need to fulfil orders on demand.

The small footprint of the blender means that it can fit easily into the space allocated.

PRODUCT QUALITY EVERY TIME

BOH had been hand-feeding low speed packing lines, but with the advent of the Matcon IBC system, they were able to purchase high speed lines. This was made possible because not only could the IBCs supply this higher volume demanded by the packing equipment, but also the single blender was able to supply enough batches to feed a series of packing lines.

A Matcon Discharge Station feeds directly to each packing line providing an automatic, controlled flow of product. The unique Cone Valve within each of the Matcon IBCs ensures that product is discharged without any risk of segregation.

Because the refilling of the infeed hopper is reliable and steady, the accuracy and speed of the packing machine is optimised whilst achieving a quality product in the final pack and reducing the risk of waste.

THE RESULTS
at a glance

Improved hygiene

Faster production

Reduced cleaning times

Agile capability to
manufacture to order

High product quality

Reduced cost of product

Ability to grow

The results - The key to a bright future

Having wholly adopted the Lean manufacturing philosophy, the desired throughput rates and superior product quality are realised.

BOH have a fully flexible manufacturing facility that has reduced their cost per kg of finished product and given them the ability to respond to customer demand.

A flexible production system allows them to create multiple recipes on the one system. They are able to execute rapid changeovers with easy, fast clean-down, but still meet exemplary hygiene standards.

Due to the unique Cone Valve technology within each of the IBCs, the blend homogeneity is protected throughout the discharge/transfer

process, resulting in a quality finished product every time. This has reduced the need for scrappage or waste and has contributed to the overall reduction in the cost per kg of the final product, thereby improving profitability.

The improvements in production capability have meant that BOH plantations were able to grow their portfolio.





"We chose Matcon as our powder processing partner because their Lean powder handling solutions and unique Cone Valve technology will help us to ensure the highest product quality, whilst giving us full flexibility to produce our growing range of products for years to come"

**Mehmet Aiguel,
Chief Technical Manager.**



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WHY CHOOSE MATCON

We understand the challenges faced by manufacturers of beverages and mixes.

YOUR CHALLENGES

Increasingly large portfolios mean many changeovers which significantly impacts on production time.

Segregation of the mix is a risk, particularly with beverage mixes, due to the different particle characteristics.

Problems with dust create cross-contamination risks.

HOW WE CAN HELP

A system designed to improve production flow is what we do. All manufacturing steps take place simultaneously for optimum efficiency.

The Cone Valve ensures ease of handling of even the most difficult flowing powders.

Dry/Air-washing is available to remove the risk of waterborne contamination.

