

# SOLIDS & BULK HANDLING



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Storage, Control, Movement and Processing of Loose Materials

# Producing profits

Plant size the same – output doubles with Flexicon screw conveyors

Flexicon's flexible screw conveyors are at the heart of a major transformation in production procedures at Dairy Industries Jamaica, specialist producers and contract-packagers of a range of milk-based products. The new equipment enabled the company to improve profitability despite a downturn in consumer demand for a major line in malted milk drinks. The totality of the Flexicon bulk handling system enabled the company to expand its product line without increasing floor area brought about a substantial reduction in production costs whilst doubling output.

A soft local economy decreased demand for Dairy Industries Jamaica's malted milk drink, consumers were turning more towards milk powder and milk substitutes. This was a double blow for the 'powder' department which had not been contributing sufficiently to company profits.

To counter this situation the decision was taken to add a new line of whole milk powder and a soy-based powder drink

alongside the established malted milk brand. The challenge for the powder line was to gain plant flexibility to run packages of all three products simultaneously or just one drink type.

The plant relied on a heavy stainless steel solid flight auger conveyor system, this presented the main hurdle to the new layout required, it was far too heavy to manoeuvre unless a crane was brought in and repositioning would necessitate reinforcing the floor. In addition cleaning and flushing of the auger between 'product' types would create an unacceptable downtime.

## Increased flexibility

The department gained the required flexibility by installing lightweight Flexicon flexible screw conveyors two Flexicon automated bag dump stations, two mixers, three surge bins (manufactured by Flexicon) and a second sachet packaging machine. Connecting all together are 11 flexible conveyors, lengths ranging from 4.5 to 10 metres.

There has also been a significant improvement in the working area where previous manual bag dumping has been replaced by a Flexicon bag dump station that collects dust via a high-velocity vacuum fan; the dump station connects directly to the flexible conveyors. The surge bins feed ingredients to the packaging



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and bottling lines for continuous production, cutting downtime by 30-40%.

In the powder department, the flexible conveyors move product from station to station in steep, space-saving inclines in a tight area. The material is moved through a 12mm diameter polyethylene outer tube enclosing the flexible stainless steel screw. The gentle rolling action of the screw prevents separation of blended products. Since the powder material is contained within the conveyor system the risk of product contamination is eliminated. Flexicon have designed their system with no cracks, crevices, filters or bearings which could trap particles or prevent thorough cleaning.

The conveyors' ease of cleaning and handling help attain high consistency of quality. Previously eight or nine extra workers cleaned the heavy stainless steel auger conveyors on a monthly cycle over a weekend, the malted milk product stuck



like 'glue' in corners and crevices. With the Flexicon flexible screw conveyors no sticky, gluey residue remains, production workers are able to wash the conveyors by merely removing the clean-out cap, reversing rotation, then flushing with water. Monday morning setups go faster says the powder line leader.

The new plant configuration, which has been kept within the confines of the original space of 15m x 22m, has brought about dramatic results, production has doubled from 6 metric tonnes/day to 12 metric tonnes/day, profits improved as the increased production decreases the cost per case plus there is improved consistency of quality. Also the new flexible layout has revitalized the powder department to become the fastest growing in the plant at a 10-12% increase per year.

For more information contact Flexicon on tel: 01227 374710 or visit: [www.flexicon.co.uk](http://www.flexicon.co.uk)

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