

Taking The Lean Journey Inventory Reduction with In-Bin Blending



A leading provider of specialty powders for the medical industry needed to respond to changing client requirements and wanted to implement Lean Manufacturing practices. They called upon Matcon to bridge the gap between theory and practical powder processing.

Their existing process utilized twelve ribbon blenders ranging from 3,000 lb. to 10,000 lb. (1,360 to 4,530 kg) capacity. As their product portfolio increased, the monthly order requirements for each product moved toward smaller volume order sizes.

It was becoming common to have a monthly order requirement for a given product to be 1,500 lbs. (680 kg) or less. With large existing blenders, they were building up an excessive amount of finished goods inventory.

Other issues they had to overcome included:

- Blender Loading - time consuming and labor intensive (averaged 120 minutes of labor)
- Quality Assurance - blenders sat idle with material while quality checks (60 to 90 minutes) were performed
- Packing Directly from Blenders - blenders sat idle (150 minutes of labor) when material was packaged.
- Blender Cleaning - time consuming and labor intensive (180 minutes of labor)

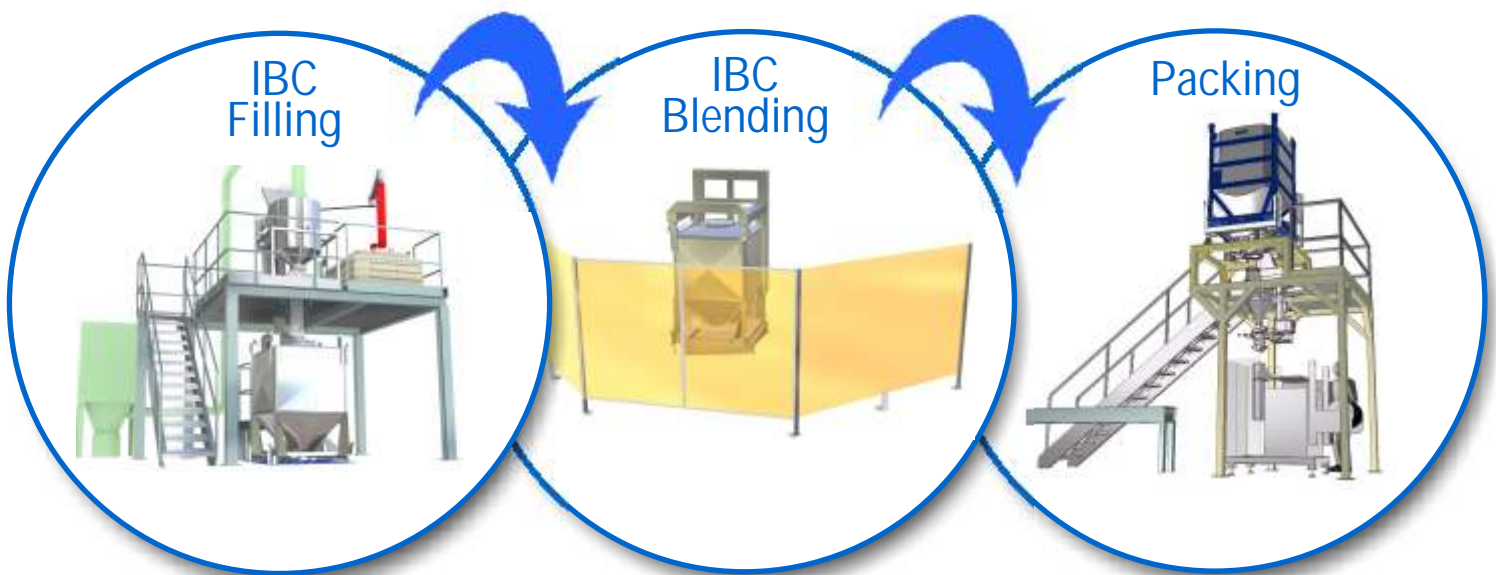
Valve technology provides automatic and controlled material discharge without the risks of bridging, rat holing, flushing or segregation of blends.

In addition to using the Matcon system for mixing to packing transfer, they looked to further improve their processes with in-bin blending. With this approach, a Matcon IBC becomes a detachable blending vessel when used with a Matcon IBC Tumble Blender.



IBC Batch Blender

Matcon was contacted based upon their use of our IBC technology (Cone Valve discharge) in other areas of the facility for transferring powders from mixing to packing. Cone



CASE STUDY

A Matcon IBC Tumble Blender has **no** product contact points. What this means is that formulation (filling), emptying and cleaning of the blending vessel is done separately from the actual blender, minimizing blender down time. This allows process steps to be performed simultaneously instead of sequentially.

The process benefits were substantial:

- Blender (IBC) loading time decreased
- Quality Assurance and Packing was done offline of the blender (within the IBC) to reduce idle time
- Actual blending time was quicker
- One IBC Tumble Blender replaced six 3,000 lbs. (1,360 kg) ribbon blenders and eliminated the need for a proposed building expansion
- Removal of 2nd operating shift for this area of the plant and reallocation of five operators to other tasks.

The single biggest benefit in their Lean Journey with Matcon,

however, was the reduction of in-process finished goods by over forty five percent.

We have helped them to reach closer to the most basic fundamental of Lean Manufacturing - **Only Produce What Has Been Sold**. The increase in inventory turnover has improved the company's cash flow so they could reinvest in other process improvements. All of the other benefits directly result from reducing the excess inventory - efficiency, better utilization of labor, increased throughput capability, no need for a building expansion, etc.

The Operation Manager sums up their Lean Journey with Matcon: **“We had a great relationship with Matcon based upon their reliable equipment and top-notch support. The relationship has only strengthened since we implemented their lean mixing solutions. They have truly helped us to reduce costs, achieve better profit margins and increase the level of customer satisfaction and confidence with our company.”**

At the end of their journey, a half million (USD) dollar investment immediately resulted in inventory savings closer to a million (USD) dollars. Return on Investment (ROI), therefore, was days instead of years.



Typical Packing System



THE PROBLEM

Excess Inventory In-Process and Finished Goods

- Caused by an inability to Make-to-Order
- Cash is tied up longer in inventory
- Lead Times are Longer
- Quality Problems are Less Visible

Throw Money at the Problems

- Produce Extra to Compensate
- Campaign Manufacture to Keep Equipment Running
- Work Extra Shifts
- Increase Production and Warehouse Space
- Add more Production Lines

THE SOLUTION

The Matcon Philosophy Lean Powder Processing

- Turnover Inventory Faster / Free up 'Locked' Money
- Make to Order Production
- Reduce Lead Time
- Less Space, Equipment and Utility Costs

Matcon Solutions Equals No Waste

- Quick Recipe Changeover (SMED)
- Easy to Clean Equipment (Shorter Takt time)
- Simpler Equipment Configurations (No Over-Processing)
- Dust Containment (No Product Waste)
- Material Handling Expertise (No Defects)