MATCON®
POWDERS, HANDLED

CASE STUDY

INCREASE PLANT VOLUME

by solving powder handling issues

"Our ability to press tablets has increased. Speeds have improved by 15-20% using a Matcon System, compared to butterfly bins and vacuum transfer system".

Mr Bhaskar Reddy P R

THE POWDER HANDLING EXPERTS

www.matconibc.com

Discover how this India based world leading manufacturer of Antiretrovirals (ARVs) increased plant volume thanks to Matcon.

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The comments from this Case Study are from a Senior Executive from one of the leading Pharmaceutical Formulation companies in India. They are one of the largest manufacturers of ARV's in the world, catering to nearly 40% of the Global ARV requirement.

The need

The manufacturer first contacted Matcon in 2010 during this period they were looking to increase capacity and throughput but were experiencing issues with powder flow, downtime and waste.

The existing process being used relied upon powders being moved between processing stages using vacuum transfer and then discharged using a butterfly valve from containers to a tablet compression machine.

When using a butterfly valve to discharge the powders, the product would regularly bridge in the container, resulting in operators having to hammer the bins to stimulate the powders and promote discharge. This led to the equipment being damaged and the blended product being segregated. As the powders were bridging within the IBC, the butterfly valve method for discharging was leading to intermittent flow of powder to the tablet compression. The powder flow would also regularly choke the butterfly valve, resulting in further hammering on the bins to re-instigate powder flow.

Whilst the use of vacuum transfer system moved the powder between stages, it did require regular cleaning following each batch. This resulted in large amounts of downtime, as the pipes were decoupled, cleaned and re-assembled. Operators were also diverted from core tasks onto cleaning duties.

The solution

Following conversations between the manufacturer and Matcon's team during a review of powder handling process, it was clear that the following key areas needed to be addressed:

- Enable mass flow of powders during discharge from IBCs to ensure a consistent flow of powders to feed the tablet press
- Reduce manual handling so that operators time is well used
- Solve the powder segregation issues that were leading to product waste
- Stop the powder recipe from bridging in the container to remove the need for hammering
- Reduce the cleaning time in between batches
- Implement a system to increase the speed of tablet production

Efficient Powder Handling

To stimulate consistent flow of powder to the Tablet Press & to ease the handling process, the new decoupled solution used Matcon Intermediate Bulk Containers (IBCs) with Cone Valve technology. This approach meant that as the cone lifted within the IBC a small vibration created a disturbance in the powders promoting Mass Flow.

Matcon's Technology allows the free flow of powder by its QBD system of Bins & Discharge stations.

Consistent & free flow of powder was the specific area the manufacturer wanted to improve, therefore this was the measure used for sucess. These pain areas which they set out to correct / improve, were addressed by the Matcon system.

Thanks to consistent flow of powder feeding the tablet compression machine, the line can now work at full capacity. The consistent high quality of tablets is achieved, with waste being significantly reduced.

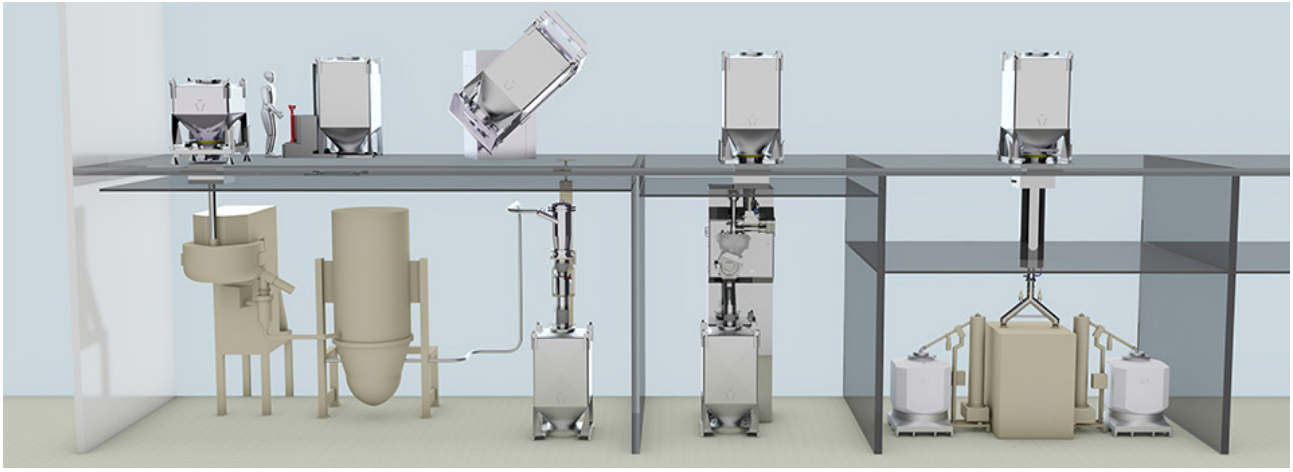
The results

Increased plant volume

Matcon equipment has been in operation since 2013. The manufacturer now produces about 40 plus products of different dosage combinations. Out of this, about 10 or so products, are created using a Matcon system. Therefore, over 25% of the plant volume is manufactured using the Matcon System.

The current system now collects the mixed powder recipe in an Matcon IBC from a fixed blender, which is then used to feed a Tablet Press from a floor above. A typical through the Floor design application.

Equipment is also more efficient and no longer needs to be replaced because of the damage caused by bin hammering/bin rash.



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"Matcon has solved our pain area of 'Ensuring free flow of 'Powder' with ease of handling. Cleaning is now performed offline, eliminating the downtime associated with taking apart the vacuum system, cleaning, validation and then re-assembly."

"The Matcon system has meant that we can guarantee a consistent flow of product to the tablet compression machine, resulting in a higher throughput and reduced scrappage of tablets".

"Ultimately we are now producing more batches per day, leading to larger annual output and return on investment".

Mr Bhaskar Reddy P R

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WHY CHOOSE MATCON

We understand the challenges faced by manufacturers of specialist pharmaceutical products.

YOUR CHALLENGES

How to improve productivity and quality to meet the competitive marketplace demands whilst adhering to strict regulations.

Overcoming materials handling issues such as powder flow problems and blend segregation.

HOW WE CAN HELP

We size the IBCs to match throughput demands & with automation, handling of IBCs is reduced to a minimum.

We optimise your materials handling system to meet the needs of the process and facility throughput objectives.

IDEX