

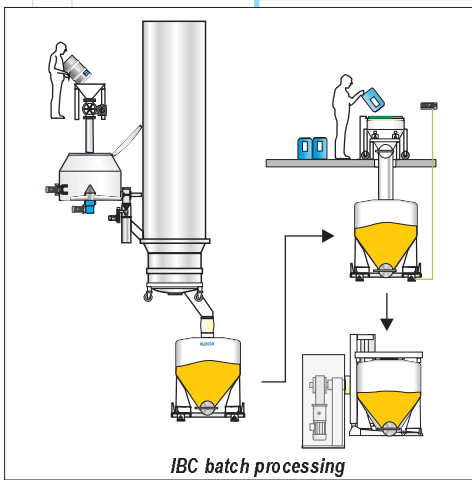
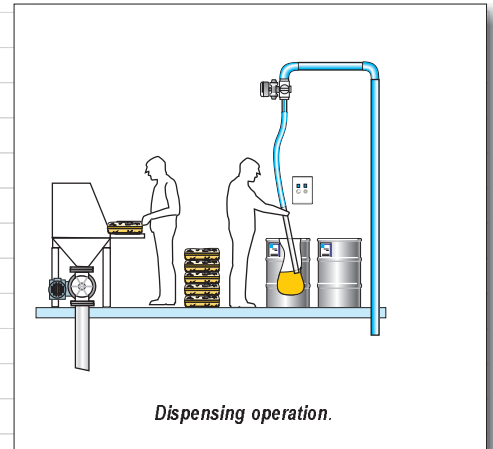
# TECHNICAL BULLETIN: Solid Dosage - IBC Systems

## Traditional Solids Handling

When preparing solids material for the formulations used in the production of tablets, capsules and granules the Pharmaceutical industry has traditionally used basic, manually-oriented methods of solids transfer from process to process.

Dispensing, whether for direct compression or granulation often involves small containers, drums and polyethylene bags being manually "poured" as an open transfer to the process hopper inlet or using a vacuum transfer system (with hand-held 'wand') to elevate the material to the process inlet.

Apart from being labour intensive, these "open" transfers are dusty, operator reliant, and make products vulnerable to cross contamination.



## Introduction of IBC Technology - After Granulation

Closed transfers using Intermediate Bulk Containers (IBCs) were first introduced to transport single batches from the granulation process to compression. Transfer from the IBCs was either by vacuum or later by gravity.

A major breakthrough in the use of IBCs came with the discharge of 2 or 3 batches of dried granulate into one larger IBC. Lubricant was added and the IBC rotated in an IBC Blender to homogenise the batches and lubricant. This enabled one IBC to discharge 2 or 3 sub-batches to the tablet press in one operation, with subsequent savings in product quality, cleaning, IBC movement, labour and validation.

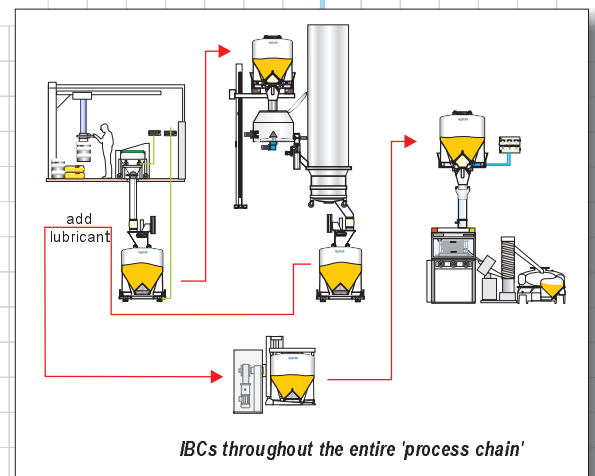
At this period of IBC development, butterfly valves were used as the outlet valve on the IBC. This was due to solids usually being granulated, free flowing and therefore able to discharge by gravity alone where segregation was not an issue.

## Pre-Granulation use of IBCs

Increasing need for improved containment, batch integrity/ traceability and plant automation, saw the introduction of IBCs earlier in the process chain e.g. from the dispensary.

This and the growing use of direct compression blends meant that IBCs now had to cope with poor flowing, cohesive solids, highlighting the limitations of butterfly valve IBC technology.

The introduction of MATCON 'Cone Valve' technology provides IBCs with the ability to promote and control discharge of cohesive and free flowing solids at any process step without segregation or degradation of product and whilst maintaining a high degree of containment and batch integrity/traceability throughout the entire process chain.



*'See also the Technical Bulletin on Cone Valve Technology'*