



Case Study

Custom Solution for Large Volume Powder Sizing and Transfer

Requirement

The Customer: ATI Engineering NZ

A pharmaceutical client of ATI Engineering was expanding and experiencing high demand for their product – a medical and surgical product for the healing of complex wounds and soft tissue reconstruction.

The client needed a solution designed and built for transferring and storing large amounts of dry pharmaceutical ingredients into 10,000 litre holding vessels efficiently and quickly. As some of the product was hard and lumpy, it also needed to be suitably sized into powder before being transferred to the storage tanks.

- All-in-one solution for material grinding and transferring to storage tanks.
- Remove manual handling from the process and increase productivity.
- Hygienic equipment suitable for use in the pharmaceutical industry.
- Dust-tight transfer of material that limits airborne dust and reduces material loss.
- Easy integration with other process machinery.
- Spare parts readily available.

Solution

As part of the client's facility upgrade, the project team at ATI Engineering explored several technologies for the efficient and contamination-free handling of dry pharmaceutical ingredients. Various mechanical conveying and vacuum transfer systems were assessed; however, none offered the same level of integration and performance as the Hanningfield solution, which combined sizing and transfer within a single, contained setup – ensuring compliance with strict GMP requirements.



The installed solution now features a fully automated process in which material bags are lifted and positioned over a Hanningfield Sack Tip Station. Each bag is cut open and its contents are processed through a Hanningfield Shredder into a fine powder. The product is then conveyed via a hard-piped vacuum transfer line – rising three metres vertically – into a vacuum vessel, from where it is discharged into one of four stainless-steel tanks. The system includes two Hanningfield Uni-Vac vacuum conveyors mounted on a rotating arm. This mechanism allows the vessels to pivot between two tanks each, enabling precise, on-demand transfer with high containment and operational efficiency.

Results

The client previously relied on a fully manual process, where staff were required to lift heavy bags of ingredients and manually break apart hard, lumpy materials using hammers. These ingredients were then emptied into 1,000 litre drums and mixed using pumps until the desired consistency was achieved. This approach was not only labour intensive and inefficient but also created significant storage and handling issues due to the use of multiple small capacity drums.

The upgraded system has significantly improved operational efficiency by transitioning to an automated setup where powder is transferred to a group of four storage tanks capable of holding a single 30,000 litre batch of product.

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I would 100% use any of the Hanningfield equipment off-the-shelf and custom applications and would happily recommend them to anyone who requires efficient, hygienic, and delicate handling of their products.

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The Equipment



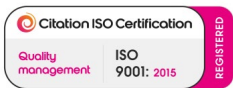
Sack Tip Station with Vacuum Adaptors



Shredder (12")



Uni-Vac VC20



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