

Case Study: Vacuum Conveying

Introduction

A major pharmaceutical company was having difficulty feeding powder into a tablet press. The manual loading of the tablet press was highly inefficient and was also dangerous for the operators. The customer approached Hanningfield to help solve the problems they were having with the transfer of powder – our solution was vacuum conveying.

Our Solution

Vacuum conveying is an efficient, total containment solution for the transfer of powder. By loading the tablet press from a hopper, the powder can be automatically fed into the machine, minimising contamination and maximising productivity. The hopper is fed using a vacuum wand, which sucks powder into the hopper via a flexible hose.

In this instance it was necessary to integrate the vacuum hopper with the Hanningfield Uni-Hoist, to enable the positioning of the system above the tablet press for in-line feeding. The hoist also allows the hopper to be lowered for maintenance and cleaning.

The system was manufactured from 316L stainless steel to comply with GMP Standards, and preserve the hygiene of the immediate working environment. This is a common and recommended feature for processes where maintaining the integrity of the product is vital, such as in pharmaceutical, food or chemical processing.

Results and Conclusions

This system allowed powder to be automatically fed into the hopper, improving productivity and minimising manual operator handling. The new system, with its increased efficiency and reliability, enabled the company's process engineers to concentrate on more important aspects of their job, no longer having to worry about the organisation and trouble-shooting of loading the tablet press.

Further to the success of this project, the customer installed a further 2 Hanningfield vacuum conveying systems.

Installation Photograph



Key Facts

Contained Powder Transfer: Vacuum conveying uses smooth bore pipe work to transfer powder hygienically, with no exposure.

Increased Productivity: The automated loading of powder into the tablet press speeds up the process, maximising throughput.

Minimal Operator Handling: The handling of powders can be extremely dangerous, jeopardising operator health. In this case, climbing a ladder to manually feed the tablet press was a severe health and safety concern which the vacuum conveying system eliminated.

Hygienic Design: Manufactured from 316L stainless steel, with a crevice free finish, the system meets stringent sanitary requirements. The system also has an easy clean design, as can be fully dismantled for cleaning without the need for tools.

Reliability: The Hanningfield vacuum conveying system can be regulated from a control panel, automating the feeding of powder to suit your process. This reliable system means you can enter the settings once and leave it, safe in the knowledge your process is under control.