

# CHARGING SOLIDS FROM DIFFERENT SOURCE CONTAINERS: PROVIDING FLEXIBILITY & EFFICIENCY FOR A MULTIPURPOSE PROCESS

## THE CLIENT'S NEEDS

A leading global supplier of specialty chemicals to paint, printing and packaging industries was experiencing difficulties with their existing solids conveying system and were looking for a solution to provide trouble-free operation. The most critical issue to be addressed was the need to achieve consistent feed rates. Additionally, they wanted the ability to charge solids from both FIBCs (bulk bags) and smaller sacks in a more contained manner using one integrated system. The installation area had extremely limited overhead and floor space clearances.



Dual modules: small bag discharge and bulk bag (FIBC) discharge

## OUR SOLUTION

To address the limited floor space, DDPS proposed a system with two (2) interchangeable modules that could be mounted onto a common base frame. One module was for discharging FIBCs (bulk bags) and the second was for emptying small bags. The modules could be exchanged quickly by use of a fork truck.

To address the headroom limitations, the bulk bags had to be loaded onto the upper module prior to installation on the base frame. The base frame included a PLC based control system, access platform and a common solids / gas mixing system that supplied a DDPS Powder Pump conveying system on the reactor.



Screenshot samples of PLC & HMI controls display.

## RESULTS & BENEFITS

Fugitive dust from the solids charging operation was reduced significantly due to a new containment chamber for sealing bulk bag outlet spouts onto the unit and a filtered ventilation system on the bag dump station. Ergonomics and safety were improved by providing a platform that allowed small bags to be more easily handled and emptied without opening the reactor man-way. Finally, the Powder Pump transfer system's reliability resulted in reduced batch times by eliminating line plugging.