



www.3SigmaSystems.com
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Massage-It™ Bulk Bag Unloader
Product – Titanium Dioxide, CaCO₃,
Phenolic Resin, Others
Case History 3S-1238

Background:

Major paint manufacturer came to us looking for an experienced bulk material solutions partner. On this particular project seven bulk bag unloaders were needed. As our client upgrades various plants, hygienic housekeeping and automation are paramount. After spending five months evaluating our capabilities, equipment, design issues and approach, we were chosen as their bulk material partner. Our main competitor was Spiroflow.

Customer Needs:

- Provide a system that will discharge this very difficult product without issues. They currently have many problems at numerous facilities, requiring “manual manipulation” of bags.
- Dust tight design – contain all spills. This is also a major problem at other facilities.
- Ability to modify the unloader, as required, to meet future changes – bulk bag dimensions, products, added features
- This was tested immediately. As soon as the units delivered the client asked us to add our Close-It™ valves and Lump Breakers to three of the seven systems.
- Heavy-duty design to ensure uptime and minimize maintenance.
- Ability to refill LIW feeder quickly and reliably.

Solution:

- 3Sigma spent months working on various projects, providing unique solutions, to meet our client’s needs. On this project:
- Provided our Massage-It™ bag massaging system, which consists of a heavy-duty pipe weldment, to properly massage and discharge this product. There is no chance of bending this robust design. In addition, the paddles rotate a full 90-degrees, forcing product into the critical flow path of the bulk bag.
- Our oversized Contain-It™ chamber was provided to ensure any and all spills stay contained, not discharging into the plant environment.



MESSAGE-IT™ BAG AGITATION



THE ORIGINAL CONTAIN-IT™ CHAMBER

Our oversized Contain-It™ Chamber contains all product spills. The heavy duty design is built for years of trouble-free operation.

Our automated dust valve was provided to connect to the dust collection system. This is located on the side of the access chamber. When the door is opened the valve opens, when the door is closed the valve closing, allowing for dust collection to be used only when needed, minimizing the total CFM required.



- The Tube-It™ was designed with an integrated surge hopper, with aeration, to properly store and discharge product to the LIW feeder below.
- In addition, the outlet tube was fitted with a seamless, integrated crusher and discharge valve. This is used to break lumps in the TiO₂ before entering the LIW feeder.
- Self-contained controls were provided which are integrated with the client's PLC system. When a refill is called for the butterfly valve opens and the Massage-It™ runs until a stop signal is received.
- Electrical and pneumatics are fully plumbed and wired upon shipment. Client provides one 110VAC source, one 80 psig air source and one 460VAC source, for the hoist and trolley.

TUBE-IT™ SEALING SYSTEM



BETTER BY DESIGN™

Made in
America