



Loss-in-Weight Feeder

Manufacturer – 3Sigma

Product – Titanium Dioxide

Case History #115

Background:

A Southeastern manufacturer of high grade titanium requires the addition of a very small amount of titanium dioxide into each and every batch produced. As titanium dioxide is extremely cohesive and adhesive it presents a myriad of dry material handling problems. Our local rep firm, Carolina Material Technologies, was asked us to review the existing Best Equipment installation and offer a solution.

Existing Problem:

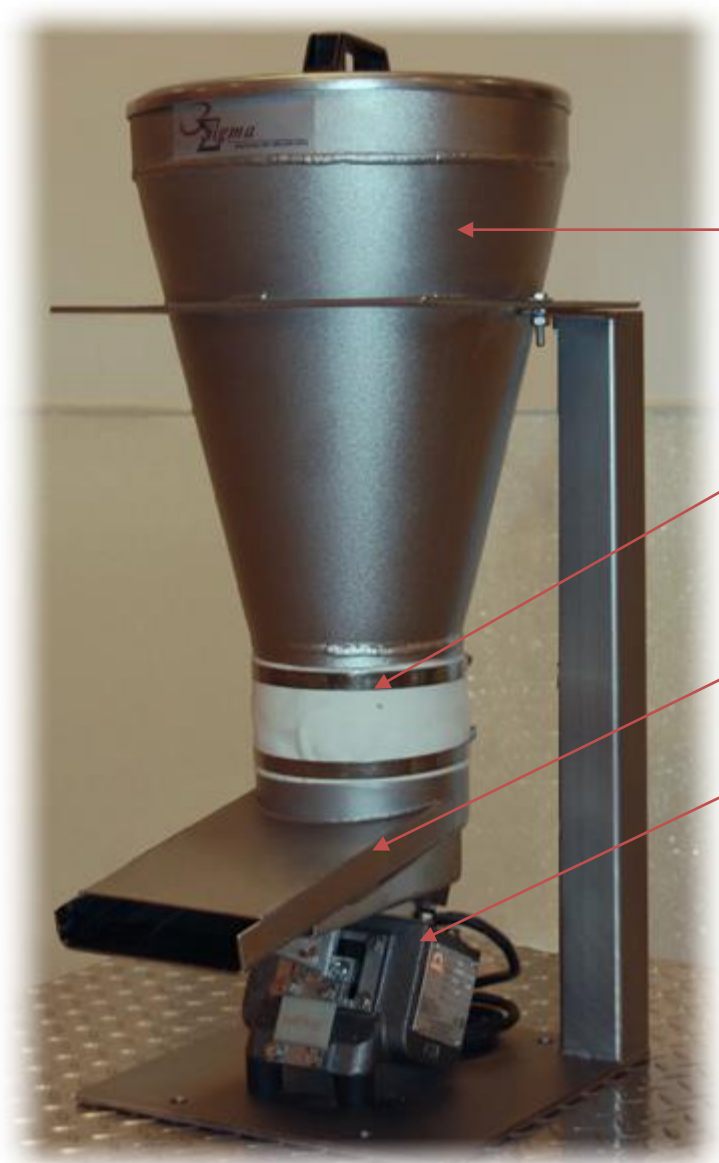
- **Reliability Issues.** The customer had been using a Best Equipment brand screw feeder for a number of years. As the screw rotates the friction created causes buildup between the screw and the discharge tube. Over time this hardens. A loud screeching noise could be heard every time the feeder started. Eventually the screw would break or twist up like pretzel inside the feeder.
- **Inaccuracy.** With every single batch an operator needed to adjust the amount added as the feeder was incapable of meeting their stringent batch accuracy requirements.

Customer Need:

- An accurate and reliable batching feeder to work with their existing Gain-in-Weight scale and control system.
- A feeder that batches the precise amount without operator interface.
- A feeder that operates reliably with minimal maintenance issues.
- A batch range of 0.10 to 1.5 lbs within 30 seconds.

Solution:

- A 6" GeoMate™ dry material feeder with a 0.5 CF hopper. The unit is manually refilled.
- The MassMate™ hopper has been designed for mass flow with the sized larger than the material's arching dimension to eliminate flow problems.
- The feeder and hopper have both been electro-polished to provide for best flow conditions.
- A local control to interface with our client's existing control system.



GeoMate™ Dry Material Feeder
Exterior –Glass Bead Finish
Interior – Electropolished

MassMate™
Mass Flow Hopper
To be Manually Refilled

Seal Skirt to Isolate the Hopper from the FeedTray

GeoTray™
Dry Material Feed Tray

Electromagnetic Drive



[Watch Presentation Video](#)

[Watch Feeding Video](#)

**Mass Flow Design + No Moving Parts =
Highest Reliability, Period**



Results:

- The first GeoMate™ Dry Material Feeder was installed in 2012.
- The second GeoMate™ Dry Material Feeder is awaiting installation.
- The dry material feeder operates within the customer’s accuracy requirements freeing the operator from constant rework.
- No more squealing. No more “pretzeled screws”. No more maintenance.
- To date the system has met all requirements without any downtime.

Experience the 3Sigma Difference



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