

Powder and Bulk Engineering

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Material Transfer

Case History

PATENTED MATERIAL MASTER™ BULK BAG CONDITIONER

The Application:

A leading manufacturer of micronutrients and bio-pesticides contacted Material Transfer looking for a solution to discharge various types of solidified products from



their bulk bags. Operators utilized baseball bats, pipes, and forklifts in an effort to discharge the agglomerated material into their mixing tanks, creating a safety concern and an operational bottleneck. The customer wanted to break up their hardened materials so that it would gravity flow from the bag discharge spout, and required that their products be tested to confirm feasibility prior to equipment investment.

The Solution Provider:

Material Transfer, located in Allegan, MI, specializes in custom designed material handling equipment. Their product line includes bulk bag conditioners, bulk bag dischargers, bulk bag fillers, container and drum discharging systems, and integrated systems. Material Transfer invented the industries first hydraulic bulk bag conditioner in 2001, and holds the only patent for this type of equipment. Material Transfer has been providing custom designed units for clients in the chemical, food, plastics, and pharmaceutical industries for over 25 years.

Custom Designed Solution:

Material Transfer discussed the customer's objectives, then provided an equipment proposal and concept drawing for review. Material Transfer tested sample bulk bags of the customer's product in its in-house Material Master™ Bulk Bag Conditioner. The test unit reduced the various agglomerated materials to a size which gravity flowed from the discharge spout of the bulk bag. A test report, equipment recommendation, photos, and a video of the testing were provided to the customer for review.

The customer ordered the patented equipment from Material Transfer, and now experiences efficient material discharge, and enhanced operator safety.

Material Transfer & Storage
PO Box 218, 1214 Lincoln Road
Allegan, MI 49010
800-836-7068
www.materialtransfer.com

MATERIAL TRANSFER
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Munson Machinery

Case History



Complete discharge and total interior access allow rapid sanitizing between product changeovers.

BULK NUTRITIONAL SUPPLEMENTS BLENDED IN PHARMACEUTICAL GRADE ROTARY MIXER

Daily Manufacturing produces 50+ high-quality nutritional products in batches from 33 to 440 lb (15 to 200 kg). "The 15 cu ft (0.425 cu m) ribbon blender that we formerly used was difficult to clean, especially the center shaft, which was difficult to reach," explains Jim Daily III, VP. We replaced it with a Munson Mini Rotary Batch Mixer in which the drum rotates on external twin pillow block roller bearing assemblies rather than having an internal shaft and bearings. It gently, but thoroughly, mixes ingredients having different bulk densities, generating much smaller amounts of fine powder than the ribbon blender." Mark Brown, Production Coordinator adds, "The Munson mixer is ideally suited for blending minute quantities of additives. The blender's rotating drum has internal mixing flights that provide a 4-way mixing action – continuous tumbling, turning, cutting and folding – to assure thorough and rapid inter-mixing of all ingredients, even trace amounts, with zero stratification and segregation." The mixer can achieve uniform blends in two to three minutes, is equally efficient down to 10% of rated capacity, and discharges fully with only an insignificant amount of residual dust. Sanitizing consists of rinsing with hot water containing surfactants, running the mixer for about ten minutes and then doing a plain hot water rinse. The company has never had a problem complying with FDA sanitation inspections, according to Daily.

Munson Machinery Co., Inc.
1-800-944-6644 or
1-315-797-0090
info@munsonmachinery.com
www.munsonmachinery.com

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