

A NAVCO Custom-Engineered Solution is a Bottleneck Breaker

Freight inefficiency was a persistent headache for this NAVCO customer, a manufacturer of a long, stringy, fibrous material.

To pack the airy material to a standard weight of 1400 KG, into a specific sized Intermediate Bulk Container (IBC) required densification of the feathery product. Existing vibrating tables were high maintenance and not successful in consolidating the product.

NAVCO was approached to help break this bottleneck in the manufacturing process. Our in-house engineering team worked with technical sales, our local technical field agent and the customer to design a vibratory table that would be a seamless fit into the existing manufacturing system.

Application considerations included:

- Integration with IBC conveyor and loading system
- Vibration characteristics to properly affect the material
- Low profile (17 inches) envelope requirement
- Capacity monitoring & control

To integrate with the conveyor and loading system, a powered roller conveyor was designed to work with the vibratory table and convey the IBC in and out of the loading station. The vibratory table was fitted with grids to extend between the conveyor rollers and lift the IBC while vibrating during fill.



Based on in house materials test, a high stroke, low frequency vibration forcing function was decided upon to consolidate this difficult material.

A major design challenge was the low profile envelope, requiring a top of roller height of 17 inches (the required industrial vibrator drive was 22 inches tall). A design with a custom table geometry and a top mounted vibratory drive overcame the challenge.

Load cells were included in the design to measure and automate the fill to a designated weight each time. Upon being filled to the appropriate weight, the design allowed for the container to be lowered back to the roller conveyor and conveyed to shipping.

As sister plants learned about the efficiency created by this custom engineered table the investment was repeated at four more locations throughout the network. The resulting partnership between NAVCO and the customer has created savings of time, manpower, equipment and freight throughout the customer's manufacturing network.