

Case Study

Cosmetic Powders



Potter Group Logistics is a UK firm providing high quality, freight, warehousing, distribution, and logistics services to clients in almost every type of business from five national distribution centres. Potter Group has a total of 1.6 million square feet of warehousing and 250 acres of external bulk storage across its five distribution centres.

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CUSTOMER

- Potter Group

INDUSTRY

- Logistics

MATERIAL

- Cosmetic Powders

EQUIPMENT

- M-100 Powderflight Conveyor

01 Challenges

Potter Group was asked by a client to move a fine sand-like material that was used in the pharmaceutical industry. During the conveying process, this product had to be transferred from bulk bags to tankers. Key requirements that Potter Group felt they had to achieve to successfully convey the product included the following:

- Any equipment solution had to be low maintenance
- The product had to be conveyed contamination free
- Conveying had to be secure, with no loss of product
- The conveying equipment had to be fast and easy to use
- The conveying solution had to be cost effective

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02 Customerization

Potter Group contacted UniTrak to investigate if the M-100 Powderflight aeromechanical conveyor could be a potential solution for their conveying challenge.

In every customer project, UniTrak undertakes an application review before proposing any solution to a customer's conveying needs. In this case, UniTrak representatives made an initial visit to Potter Group's Knowsley, UK facility, which offloads, handles, stores, and ships pharmaceuticals. The purpose of this visit was to assess the application and material, together with the operating environment and space in which any solution would be implemented.

During the application review, it was found that the product in question had a tendency to be easily blown about and to clog and stick to the workings of machinery. Due to this discovery, UniTrak decided to conduct a product test before recommending the M-100, or, indeed, any other equipment solutions.

The product test took place at UniTrak facility in the United Kingdom, with the General Manager of Potter Group Logistics, in attendance. A sample of the actual product to be conveyed was used in the test, which went successfully and validated that the M-100 Powderflight would service Potter Group's application.

“ The team at UniTrak were professional and knowledgeable, and they really put their machines through their paces at the testing facility. We were so confident that their M-100 was the machine we needed, we didn't hesitate in getting them to install it,”

- Bryan Mulvey, General Manager at Potter Group Logistics

03 Outcome

The M-100 Powderflight machine, which works by propelling product through a conveying tube, met all of the Potter Group's requirements:

It allows no separation of blended products. It keeps attrition of fragile particles to a minimum. Filters are not required on the receiving vessel. Self-emptying allows for dedicated batches of product to be conveyed. It provides dust-tight conveying, so there is no contamination or loss of product. It operates at any angle, so, if the specifications of tankers were to change, the machinery could be adjusted easily. Finally, it enables regulation of the feed of the product, which allows material to be moved from one-tonne bulk bags to a tanker in just four minutes.

The last attribute above was one of the most significant for Potter Group. During the product test, UniTrak engineers discovered that a key to achieving successfully conveying the fine, sand-like material was to optimize control of the material infeed rate, thus enabling the conveyor to operate at



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capacity.

The following features, which are standard to all UniTrak aeromechanical conveyors, were also important in fulfilling Potter Group's requirements:

- Outriggered bearings prolong bearing life.
- Twin tension screws ensure easy adjustment for maintenance.
- The geared motor drive allows for speed selection to optimize performance and prolong life.
- The optional pressurized double seal can be used if inert gas purging is required.
- The optional integral feed screw offers low headroom in-feed solutions, as well as consistent feeding of different materials, such as TiO₂.
- The bag dump hood (a dust containment option) conforms to all health and safety requirements.
- The inspection hatch provides easy access for cleanout and for adjusting rope tension.
- The top- or bottom-mounted drive can be positioned to suit the customers' site or process conditions.
- Construction is in mild steel or stainless steel.
- Standard or tailor-made in-feed arrangements optimize performance.
- The V-belt drive offers additional overload protection.

For Potter Group, the M-100 Powderflight was the optimal solution for their conveying challenge and application. UniTrak's thorough approach to testing, and customizing the product to satisfy all requirements, gave Potter Group Logistics the confidence to diversify its services for customers.