

Outloading on a Budget!

Tanker Filling - Bulk Bag Filling - Sack Filling - Milling

Phase 1 - Tanker & Bulk Bag Filling

C J Waterhouse company limited were originally approached by a local pet food ingredient supplier to assist with a new venture to manufacture and supply blended products from their warehouse facility in Nottinghamshire.

The project brief was to design and supply a low budget system capable of dosing blended powders into both tankers and flexible intermediate bulk containers (FIBC's).

The solution comprised of a bulk storage hopper with integrated inclined screw feeder to elevate the material to a suitable height for tanker loading. Two quick release chute assemblies were supplied to permit dosing into both the tanker and the FIBC, one short for tanker loading and one long for FIBC loading.

The filling is conducted volumetrically and controlled from the local operators panel where the required filling type (tanker or bulk bag) can be selected and the required volume set. The dosing system will continue to run until the required volume has been delivered or the sensor probe high level is activated.



Phase 2 - Sack Filling

Further development of the clients business quickly resulted in their requirement to supply ingredient blends in 25Kg sacks as well as in bulk format.

The solution was to supply a standalone mobile system that can be moved into position below the bulk system discharge screw when a run of 25Kg sack packing is required. The system comprises of a small hopper with a variable speed screw feeder to dose material into a weighed bag clamp below. The operator panel provides automated control of the dosing and weighing system and incorporates an interface with the upstream bulk feeder to start / stop the hopper top up sequence.

Bags are manually loaded onto the bag clamp and the filling sequence is commenced via the HMI unit.

Filled bags are closed & sealed off-line using a Saxon Fischbein handheld stitching unit which is located upon the machine frame and powered via a plug in connection to the local control panel.

In order to meet the extremely tight delivery deadline it was decided to loan the client one of our test feeders and build the remainder of the system around this unit. This allowed the production of 25Kg sacks to commence within the 3 week deadline, meanwhile the new feeder would be designed and manufactured to allow direct replacement with the loan unit when ready.



Phase 3 - Throughput Increase

Before long the clients throughput requirements far exceeded their initial expectations and additional systems were required. Initially a second bulk hopper was supplied with identical capabilities to that of the first one.

This allowed the customer to utilise the existing machine to fill bulk tankers whilst the new system would be working on bulk bags or sacks. At this stage system one could fill tankers, bulk bags and sacks whilst system two could be used on bulk bags and sacks.

Continued growth meant that a third unit was supplied shortly after therefore allowing multiple filling operation to be conducted simultaneously. The addition of the third unit and its positioning within a separate warehouse space meant that two of stations were capable of filling tankers, bulk bags and sacks whilst the third system was dedicated to the sack and bulk bag filling operations.



Phase 4 / 5 - Sieving & Milling

The latest phase of the ongoing plant development works has been to assist our customers with the supply of a new product range which requires bulk and semi-bulk materials to be delivered to their customers with a guaranteed maximum particle size.

Initially the intention was to supply a small milling system to reduce the particle size of the bagged material however due to the long lead time of these machines it was decided to install a temporary sieving system to allow the customer to fulfil its current orders whilst the milling machine was in manufacture.

A mobile support structure was designed which would accommodate a circular vibratory sieve and discharge the sieved material directly into a bulk bag located below while oversize material is rejected and sent to a collection bag.

Upon completion of the mill the existing support structure was modified and a feed hopper and dosing screw were incorporated to ensure a controlled feed into the milling system was achieved. Milled product is discharged directly into the bulk bag below on a volumetric basis at a rate of up to 2000Kg per hour dependent upon the material being processed.

