



Heavy-duty Bulk Bag Massagers installed on the Side of the Bulk Bags



Spiroflow Bulk Bag Unloader with Flexible Screw Conveyor Leading Off to the Left

Customer Requirements

Multisol, part of Brenntag UK & Ireland, is a market leader in the formulation and distribution of high-value specialty chemicals on behalf of global technology leaders.

From their Irlam site in Manchester, UK Multisol supplies highly specialized performance fluids and functional additives to major lubricant blenders. Multisol's products are used in everything from premium motor oil packages to face creams.

The company is divided into three areas:

1. Performance Fluids
2. Oil Products
3. Toll Manufacturing & Contract Packing

Multisol invested in a new Aqueous Solutions Facility specifically to manufacture a urea solution commonly referred to as 'Adblue'. This is required by Euro 4 & 5 trucks fitted with Selective Catalytic Reduction equipment, where it's used to reduce NOx levels from truck exhaust.

- 'Adblue' is manufactured by the dissolution of urea prills into a pre-heated, high-purity water source.
- The urea prills are delivered to Multisol in bulk bags and so need an effective discharging system.
- Multisol had to be in production within a couple of months .

Spiroflow Solution

Their Operations Manager, Richard Hands, had a working knowledge of solids handling and identified three potential bulk bag discharge manufacturers. After discussions which included technical evaluations, lead time agreements and quotations, Spiroflow was identified as the preferred supplier.



Flexible Screw Conveyor Feeding into Mixing Tank



Operator Untying a Bulk Bag



Bulk Bag being hoisted into the Spiroflow Bulk Bag Unloader

Spiroflow Solution Continued

Successful product testing at Spiroflow's Test Center in Clitheroe, Lancashire confirmed the decision that the combination of a Spiroflow Bulk Bag Unloader and Flexible Screw Conveyor was the correct choice.

"There were some teething problems associated with the inlet to the Flexible Screw Conveyor largely attributed to the variance in the flow characteristics of the urea prills," Richard Hands reflects. "Those we tested were extremely free flowing but occasionally they arrive in an agglomerated condition. Working with Spiroflow, we resolved this issue by installing a heavier gauge spiral and having an adjustable inlet to the conveyor with predetermined settings for each type of prill that we use."

- The Bulk Bag Unloader supplied to Multisol is a Type 6 model with an integral lifting hoist.
- 14 bags of urea prills are used per batch taking approximately ten minutes per bag to discharge into the chute.
- The prills are then conveyed to the top of the process vessel by a 56' (17m) long Spiroflow Flexible Screw Conveyor inclined at 45°.
- The outlet of the conveyor is furnished with an integral slide valve and fan arrangement that prevents ingress of moisture into the conveyor from the warm water in the process vessel.
- Every batch of 'Adblue' is rigorously analyzed by qualified laboratory technicians to ensure that it conforms to stringent ISO 22241 specifications.
- Even the smallest traces of metal in the solution can 'poison' a catalytic converter, so all metallic contact parts of the system had to be manufactured in stainless steel.

The Results

Richard Hands commented:

"We are pleased with the performance of the Spiroflow Bulk Bag Unloader and Flexible Screw Conveyor, and also the after-sales support offered by Spiroflow. As with all projects, during commissioning and initial start-up there are issues that arise, some more serious than others, and it is the response to these challenges that identifies if you have made a good decision with respect to your provider.

Spiroflow worked alongside us to resolve these issues and handed over a fully capable unit. It was this partnership which gave me confidence to sign a Maintenance Contract with Spiroflow to ensure that our equipment is always in good working order through preventative maintenance."

Mr. Hands, who has subsequently been promoted to the position of Operations Director, concludes; "The significant reasons that I chose to use a Flexible Screw Conveyor as opposed to any other type are its simplicity and reliability."

How Can Spiroflow Help Your Business?

Contact us today to discuss your specific applications and needs.