

IN ACTION

Discharging and Conveying Sugar



Customer requirements

Solutech Ltd of Winsford, Cheshire is a small company operating as a specialist food grade liquid blending contractor, currently despatching around 12,000 tonnes of blended liquids a year to the food and beverage industry.

Four years ago, whilst at their previous premises, they purchased a 'Spiroflow' Flexible Screw Conveyor in anticipation of a major sugar blending contract. However, at the last minute, the contract did not materialise. As Production Director, Alan Kidd, reflects, "We brought the 'Spiroflow' conveyor with us to this new factory in June 2002 still protected by the bubble-wrap in which it was delivered!". Their luck changed a year later when they won a large contract for several 15 tonne batches of sugar related blends a week. The 'mothballed' conveyor was the obvious choice to load one of the sugar elements of the blend into their cavernous heated mixer/dissolver vessel. However, to suit the contract and the layout at their new factory, the Flexible Screw Conveyor was to be fed from Bulk Bags (FIBC's) and the whole unit needed to be mounted on a mobile frame so that it could be moved and parked out of the way after use. To this end, Solutech approached Spiroflow for assistance in adapting the conveyor for its new task.

Spiroflow solutions

As Bulk Bag (FIBC) Dischargers are one of our key products - and as many of our Flexible Screw Conveyors are supplied as mobile units - there was no difficulty for us to accommodate Solutech's requirements.

The design of the 'Spiroflow' Bulk Bag Discharger is such that the sugar, readily discharges from the bulk bags. Even so, there is provision for bag massagers to be added at any time, should other, less readily flowing, products need to be discharged. Nevertheless, given that the inlet to the Flexible Screw Conveyor is a long narrow slot, a spiral agitator has been supplied within the collection hopper above the conveyor inlet to ensure a steady and reliable flow of product is delivered to the massive mixing vessel.

The Flexible Spiral Conveyor has a nominal diameter of 67 mm, is almost 6 metres long and delivers the sugar at 3 tonnes / hour. Solutech work two shifts per day and the 'Spiroflow' conveyor operates for 5 to 6 hours each shift, 5 days a week.

As the blending vessel is full of water at 75 degrees Celsius, vapour rises during the steady loading of the sugar. At an early stage, when production of the new contract first started, it was recognised that this vapour would cause an undesirable build up of sugar at the outlet of the conveyor. To overcome this, and to avoid the problems that this could cause, a low pressure blower is mounted at the conveyor outlet by way of a quick release band clamp.

Every 2 weeks the 'Spiroflow' conveyor is washed through with water and dried. The operatives who handle the cleaning confirm that it is an easy conveyor to clean. In conclusion Alan Kidd confirms, "We are pleased with the Spiroflow discharger and conveyor. They perform very well".