

DSH adds Tardis model to range

While DSH Systems has been winning awards for its dust suppression hopper since 2006, the company has recently added a new model called the Tardis.

The standard DSH system, it will be remembered, is a low dust discharge system for bulk solids delivery.

It continuously discharges product through free air as a solid column. The material column has a minimized surface area and entrains less free air than material discharged directly from the outlet of a conveying system. These features make the hopper less prone to releasing dust into the surrounding environment.

The system consists of a hopper with a central plug and uses mechanical means to control the clearance between the hopper and the plug. Material



Tardis unit loading salt at Compass Minerals in Utah.



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Tardis hopper, sitting on custom-made stand, at Napier Port in New Zealand.

is conveyed into the top of the hopper and is contained until the weight forces the hopper to move away from the plug, releasing the material through the cavity between the plug and the hopper at the bottom of the device.

The "head" of material maintained in the hopper squeezes the trapped air and allows it to disperse; the product then flows in parallel entry and exit.

After installation of hundreds of standard hoppers, DSH and its team felt they had got a fix on dust emanating from their hopper.

"We have eliminated or greatly reduced the dust issues of our customers in all corners of the globe and in all types of industries," said Ian Walton, commercial sales manager, DSH Systems.

However, Walton felt that DSH had little or no control over the delivery system.

"We often come up against dust issues caused by the product falling off a conveyor belt and taking trapped air with it. Or perhaps the product is free-falling from a height and the final velocity causes large amounts of dust discharge as it enters the open top hopper due to the lack of a grain brake."

With installations reaching capacities of over 1,000tphr, DSH felt that the amount of dust generated prior to the hopper taking control was as important as the correct working of the hopper itself.

It was at this stage that DSH says an intensive research and development effort delivered the Tardis.

This unit basically works as an interface between the standard DSH hopper and the customer's existing feed system. It consists of a steel cover which fits over the standard DSH hopper. This then comes with a flange specific to the customer's requirements.

Also added to the Tardis are spigots for the fitting of dust socks. The quantity, size and type of sock are specific to the size of the hopper and the product being handled, however, as standard, DSH uses Filtercorp quick release dust socks.

A number of recent installations of the Tardis emphasise its capabilities.

The first, for Compass Minerals in Utah, was for truck loading of salt. This meant Compass' prime requirements were for 316 stainless steel construction and inspection hatches for dust filtering and sampling needs. The units had to be fully enclosed with a flange fitting directly onto their existing loading spout.

"This meant we ended up with an integrated unit with hatches for the air to escape but with all the dust contained," said Walton. "The salt now looks like milk flowing from the hopper."

The second example, at Tereos Syral in France, was for loading a variety of corn-based products, with low cost a priority for DSH's customer.

"In this instance we supplied a standard hopper manufactured from polyethylene, our most economic unit, coupled with a mild steel Tardis cover and flange," explained Walton.

"Add a couple of dust socks to the cover and you have a fully functioning enclosed dust control unit at a minimum outlay."

At the third installation, at Napier Port in New Zealand, robustness and strength were the customer's main requirements.

"We were required to supply a unit for large scale ship-loading of wood pellets," said Walton. "The amount of dust and the operational pummelling of the equipment was extreme.

"The result was a totally encased Tardis hopper made from Hardox 450 steel. It was made to be easily removed from the ship loader, due to multiple products being loaded by the one unit, and we supplied it with a custom-made stand, for when the unit was not in use."

Contact: www.dshsystems.com

DEM Solutions releases EDEM BulkSim

DEM Solutions, a software company specialising in discrete element method (DEM) simulation, has released the EDEM BulkSim suite of design engineering software developed specifically to address the bulk materials handling challenges of the global mining industry.

Developed with input from major EPCM firms, BulkSim enables simulation-based design of bulk materials handling equipment such as chutes and transfer points, with the goal of better performance and reliability.

"EDEM BulkSim software provides an unparalleled capability for transfer point design engineers to virtually test and troubleshoot the performance of conveyor transfer equipment before it is actually manufactured and commissioned," said Dr John Favier, CEO and founder of DEM Solutions. "This capability not only reduces front-end design costs and shortens development time, but it also results in better performing and more reliable equipment with less down time.

"Also, mine operators now have a tool for quantifying the effect of changes in production capacity or ore body characteristics on the performance and maintenance scheduling for transfer equipment. All of these benefits are particularly important as the mining industry increases its focus on user safety, optimizing operational efficiencies and adopting a total product life cycle management approach to mine operations."

Contact: <http://www.dem-solutions.com>