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Fig. 1 The Gericke.Indus Big Bag Pallet Unloader

Gericke.Indus Big Bag Pallet Unloader; compact and efficient

Based on the Indus Neva big bag stacking and handling system, Gericke has developed a big bag discharger with a very low construction height. The compact Gericke.Indus Big Bag Pallet Unloader is ideally suited for fast and efficient emptying of big bags loaded with poor flowable powders. The installation is only suitable for Indus Neva-systems.

BULK / Process technology

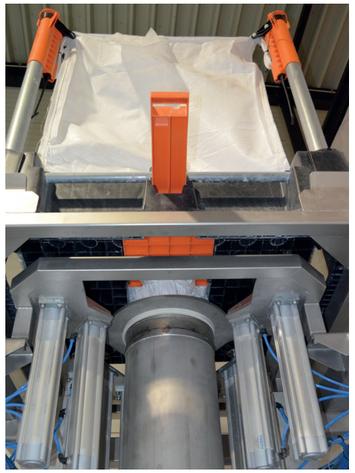

Fig. 2 The cylinders that activate the big bag in the Indus Neva-unit

In 2010 Indus Integrated Bulk Logistics BV in Zegveld (near Utrecht, The Netherlands) introduced the Indus Neva system for the safe and efficient filling, stacking and transportation of big bags. The basis of the system is a sturdy, plastic bottom deck on which the big bag rests. In the corners of the bowl-shaped deck, four steel pipes are placed vertically. Their length depends on the size of the big bag. The big bags lifting loops are attached to orange, plastic mechanism at the top of each pipe. The big bag is than stable and can optimally be filled. The big bag outlet spout fits into a recess in the deck, directly above an integrated, plastic gate valve.

Stackable

After filling the big bag, the Indus Neva-unit can be stacked on another already filled other unit using a forklift truck. The units (with a maximum weight of 1.5 tons per unit) are stackable up to a weight of 6 tons or a height of 7 meter. The Indus Neva system is suitable for big bags of 85x85 to 105x105 mm (length x width) and heights of 40 to 230 cm (when empty). The floor area of the bottom deck is 120 x 120 cm.

Return transport

After emptying the big bags, the Indus Neva-unit can be easily dismantled without tools. The stackable bottom decks and pipes take up minimal volume during return transport. Over the past decade the Indus Neva system has found its way into numerous industrial sectors in more than 50 countries around the world. The system is constantly being expanded and innovated, for example through new emptying mechanisms and additional discharging frames.

Cooperation

It was at a trade fair that Indus Integrated Bulk Logistics came into contact with Gericke BV in Hoevelaken (near Utrecht, The Netherlands). The subject of discussion was the limitation of the Indus Neva-system for applications with difficult flowing powders. It does not have a facility to get stuck product flowing again. Gericke, on the other hand, has a lot of experience in getting compacted bulk goods into motion again. This has led to a collaboration in which Gericke has developed a big bag discharger capable of extracting cohesive, clumping powders from Indus Neva-units without problems.

Ten cylinders

A particularly striking feature of the Gericke.Indus Big Bag Pallet Unloader is the series of ten double-acting pneumatic cylinders to activate stuck product in the big bag from below. Gericke normally uses massage plates for this purpose, which also act on the sides of the big bag. The choice of cylinders for the Indus Neva-system is due to the fact that the bottom deck has openings through which the cylinders can ingeniously do their work. Moreover, this solution reduces the construction height of the big bag discharger, which is crucial for many companies.

The ten cylinders form an inner ring and an outer ring. The outer ring consists of six cylinders, the inner ring of four. The order in which the cylinders are activated is very decisive for the effect on product flow. Thus care must be taken to ensure that the cylinders move the product from the outer edges to the center of the big bag, and not in the opposite direction. For this reason Gericke has developed an optimal sequence for the engagement of the cylinders.

Compact and fast

The Gericke.Indus Big Bag Pallet Unloader not only requires little height, but is also characterized by a small footprint. There is no hoist with lifting cross, requiring floor space. Furthermore, the discharger has a short unloading cycle. A big bag with a difficult flowing powder can be completely emptied within three minutes, after which another Indus Neva-unit can immediately be placed on the Gericke.Indus Big Bag Pallet Unloader. **BULK**

Fig. 3 The Indus Neva-system for storing big bags