

Meeting the demands for tailor-made dust-free loading chute solutions

Cimbria Moduflex, Sunds, Denmark

The recurrent problem of dust creation is a key issue when handling bulk materials, as it constitutes a severe risk on health, safety and environment. Increased focus on these matters, combined with strengthened regulations, has resulted in enhanced need for dust handling equipment.

With more than 10,000 units installed in more than 50 countries, Cimbria Moduflex holds the position as the world's leading and biggest manufacturer of dust-free loading chutes to the bulk handling industry. An extensive and continuously developed product line, consisting of loading chutes for all types of dry bulk materials and a comprehensive range of accessories for all applications, enables the company to meet market demands for dust-free outloading solutions.

The product programme consists of standard loading chutes, divided into three series, dependent on the abrasive characteristics of the product, as well as throughput capacity.

The chutes can be supplied for open loading into flat bed trucks, rail wagons, open ships or warehousing, or for closed loading into tanker trucks, containers, closed rail wagons or tanker ships.

Flexible construction

A clear advantage of the Moduflex loading chute is its modular construction, which makes it possible to use standard stocked components and supply chutes that precisely match customer needs. Besides customisation of the chutes, the modular construction contributes further benefits. In case of accidental damage or for reasons of wear, it is only necessary to replace the affected section rather than the entire chute assembly. Besides obvious savings in direct costs, there is a second cost benefit in the form of reduced downtime. Standardisation also means replacements are always readily available for worn or damaged parts directly from Cimbria sales partners or from the factory.

Accessories

The product programme also contains a wide range of accessories. These include, amongst others: the FlexClose, a closing cone that prevents spillage when the chute is being retracted and which furthermore ensures that foreign objects cannot get into the chute when it is not in use; the FlexFill, a disperser designed for optimised filling of tanker trucks by ensuring even material distribution and which additionally functions as a closing cone; the FlexSeal, a tanker truck outlet covered with a 2 mm vulcanised rubber layer that can be inflated and in that way actively seal the chute outlet to the tanker truck inlet during the loading process; the FlexPositioner, a positioning unit for electrical manoeuvring of the chute; and the FlexControl series, which includes cable-suspended controls for all types of loading chutes.

In addition to the many solutions within the standard product programme, Cimbria Moduflex is also an experienced supplier of specialised, customisable customer solutions. These solutions are either, constructed and delivered as a one of a kind products, or they are regular supplies for customers with specific requirements in regards to application and installation.



The F300 Moduflex loading chute is foodstuff approved and provided with explosion proof components in accordance with the ATEX directives.

Hamon – France

Recently, Cimbria Moduflex was chosen to supply eight loading chutes for loading dust from a fuel and gas boiler into containers. The order was placed by the project company Hamon and delivered in co-operation with Cimbria Moduflex's French partner Tripette & Renaud. The loading chutes are from the C300 series with four modules. The loading specifications consisted of handling a highly aggressive product with adhering, corrosive and flammable characteristics. Due to the product's high adherence, the chute was equipped with internal supporting rings, which advantageously can be used when handling products with an increased risk of build-up of residue on the inner side of the guide cone. In order to meet customer's requirements, the chute was also equipped with a special flange on the outlet, enabling loading into containers with various hatch sizes. Likewise, a special temperature indicator was necessary due to a product temperature of 165°C.

Shell – Holland

In co-operation with their Dutch partner TBMA, Cimbria Moduflex have recently delivered two loading chutes to Shell in Holland for loading plastic granulates into tanker trucks. The supplied loading chutes are series type T250. As standard, the T250 is equipped with telescopic tubes, making it very easy to keep clean. An easy connection system at its inlet and outlet ensures quick mounting and dismounting of the tube set, in case

of damage or a need to modify the chute. As a standard, the chute is manufactured in AISI 316, making it foodstuff approved and suitable for acidifying products.

The customer has specifically chosen the T250 loading chute, as it is immensely important that no material build-up remains in the chute modules when changing from unloading one colour to another. In agreement with the customer's requirements, the chute is equipped with a specially designed inlet as well as a special fitting for indicating, mounted in the outlet. The order follows previous deliveries where similar loading solutions have been supplied.

Loading cement in China

At the Port of Rizhay, 300 km from Beijing, Cimbria Moduflex recently won an order for a ship-loading chute to a Chinese cement plant. The order was supplied in co-operation with the company's Dutch partner TBMA. It was found that there was a pressing need for a system that worked around the clock loading Portland cement into both open and closed tanker ships ranging in capacity from 5,000 to 50,000 tonnes.

The order consists of a V650F loading chute, specially customised to meet capacity, durability and flexibility demands. The chute is equipped with 40 modules in NPG. As the NPG modules have a working range of up to 130°, they can easily handle the required 95°. In order to fulfil the requirements of both open and closed unloading, the chute is specially constructed with replaceable outlets i.e. a T-outlet containing a cone with supporting legs for loading through openings in closed hatch covers, and an F-outlet with dust skirt for loading into open ships. Moreover, the T-outlet is equipped with a built-in wave compensating system, allowing the chute to follow the movements of the ship. Equipped with a T-outlet for closed unloading, the chute has a min. length less than 6,000 mm and a total extended length of more than 28,000 mm. When the chute is mounted with the F-outlet for unloading into open tanker trucks, the length ranges from a min. length of approximately 7,000 mm to a total extended length of 28,500 mm. Due to the length of the chute, it is furthermore equipped with two external aspiration hoses for connection to a central filter. The chute weighs approximately 3,000 kg and has a loading capacity of 1,200 t/h, loading cement powder with a specific gravity of 0.9-1.0.

Roquette Benheim – France

The company Roquette Benheim, which is a market leader within the sugar industry, has chosen Cimbria Moduflex as their preferred supplier of dust-free loading chutes. The loading chutes have been delivered in co-operation with Cimbria Moduflex's dealer in France, Tripette & Renaud. Recent chute supplies were specially constructed, series type F300, used for loading sugar into tanker trucks. The F300 unit chute comes complete with integrated filter module. The filter module is retractable, thus providing a very compact construction. As a result, the loading chute only requires a small installation height. The filter intake is equipped with its own fan with regulating valve and pressure tank, ensuring that the filter is continuously kept clean.

Due to the nature of the product, the loading chutes are foodstuff approved and provided with explosion proof components in accordance with the ATEX directives. Among other features,



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the specially constructed loading chutes are equipped with a non-standard fan, a special amplifier for the indicator, and a separate delivery of FlexControl, with all cable entries placed on the lower part of the cabinet. The chutes are a part of a regular supply of specially constructed loading chutes recurrently delivered as a result of specific internal customer demands.

The main constituent of all customised solutions is constructed using standard components.

Using standard components means that the systems can be produced extremely quickly – shipping is typically as little as two weeks from date of order placed. Even if certain components have to be specially engineered, the lead-time is unlikely to be longer than six weeks. The modular-build equipment allows 95 per cent of all customer requirements to be met from standardised stock components and sub-assemblies. The chief exceptions are stockpiling and ship loading systems where high throughput tonnages are involved. Even here, use is made of stock items wherever possible.

ABOUT THE COMPANY

Cimbria Moduflex, a member of the Cimbria Group of companies, supplies dust-free chute systems through a network of agents in over 30 countries around the world.

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