

# Moduflex



# Moduflex

## Safety and a clean environment in one product

The outloading of bulk products is intrinsically linked with the risk of creating waste and dust, as well as the danger of explosion. These risks can have a detrimental effect on both the environment, safety and company finance.

Cimbria Moduflex designs, manufactures and markets solutions that allow the dust-free outloading of bulk products. Having over 30 years of bulk handling experience and having provided over 10,000 systems to various industries worldwide, this has given us a firm foundation of knowledge which is of constant benefit to customers around the world who invest in bulk outloading equipment.



### Modular structure – a Moduflex characteristic

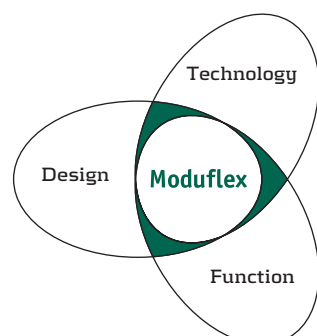
The modular structure of our machinery is a unique feature of Moduflex. This means that the user receives precisely the solution that matches his application, as well as a level of flexibility that enables modifications and repairs of the loading chute to be undertaken to give minimum “downtime”. This reduces not just maintenance costs, but also the knock-on effect in lost production time.

### Support and service

Moduflex places great emphasis on giving customers the right advice, so that the best solution to suit both technical and financial terms can be offered. Our customers can always be certain that the product has been thoroughly tested and documented. In addition, we keep all standard components in stock, which means that we can provide quick and efficient service for all our customers.

### Moduflex solutions mean:

- Reliable and experienced supplier
- Stocked modular standard components
- Extensive product range
- Easy servicing and sturdy construction
- Leading design, technology and function
- Fully documented equipment, inclusive of ATEX



# Inlets



**Moduflex Type V** can be supplied with inlets from  $\varnothing 300$  to  $\varnothing 1000$  with respective capacities ranging from 250 m<sup>3</sup>/h to 3000 m<sup>3</sup>/h. The inlets are designed and constructed to be both compact and robust and can be provided in mild steel, stainless steel, wear-resistant steel or ceramic inserts for highly abrasive products. On the Moduflex loading chutes without the integral filter system, which is a part of the outlet type FF, two connections for ducting to an extraction system by others are provided on the inlet. These two connections ensure an extraction volume which is determined by the product characteristics and the loading capacity.

# Chute modules



## Standard

The standard module for Moduflex loading chute is in PVC-clad polyamide with the designation PA700, in a yellow colour code. This module may be utilised with many different products, provided that the product temperature does not exceed 70°C.

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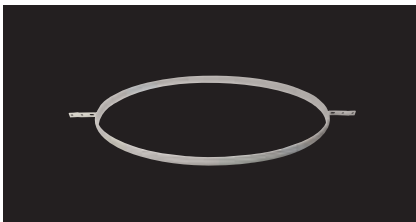
outloading solutions can be supplied with various chute module types to match different types of outloaded products. The modules are assembled with a connecting ring in stainless steel giving a tight assembly. The connection rings are supplied with three heavy duty wire guides for the hoisting wires, fasteners for relief wires and rubber clips for electrical cables.



## Heavy Duty

For products with temperatures exceeding the parameters of the standard module, or which require good protection against UV light, a chloroprene rubber-clad polyamide with the designation NPG is used. The NPG modules have a working range of up to 130°C, have good wearing qualities, and are resistant towards many types of chemical influence.

# Guide cones



## Support ring

The support ring can be mounted where guide cones are not required or necessary. The support ring is utilised with products producing little or no dust, or with products for which there is a risk of a build-up of residue on the inner side of the product guide cones.

## Inside

the Moduflex outloading solution can be supplied with various guide cones to match various types of outloaded products, such as powder, granular or pellets. The guide cones are available in two different lengths in mild steel, stainless steel or in a wear-resistant version. The guide cones are supplied with an edge ring, onto which the modules are fastened with the help of the external connection ring. This means that in case of damage to the guide cone or in connection with normal wear the relevant cone or cones can be replaced without having to remove the entire chute.



## Standard steel cone

The standard guide cone is used on products with a medium dust characteristic, where need for complete separation of product and extraction air is not entirely necessary. The standard guide cone can be supplied in a 2 or 4 mm version, and in 4 mm Hardox 400.



## Overlapping steel cones

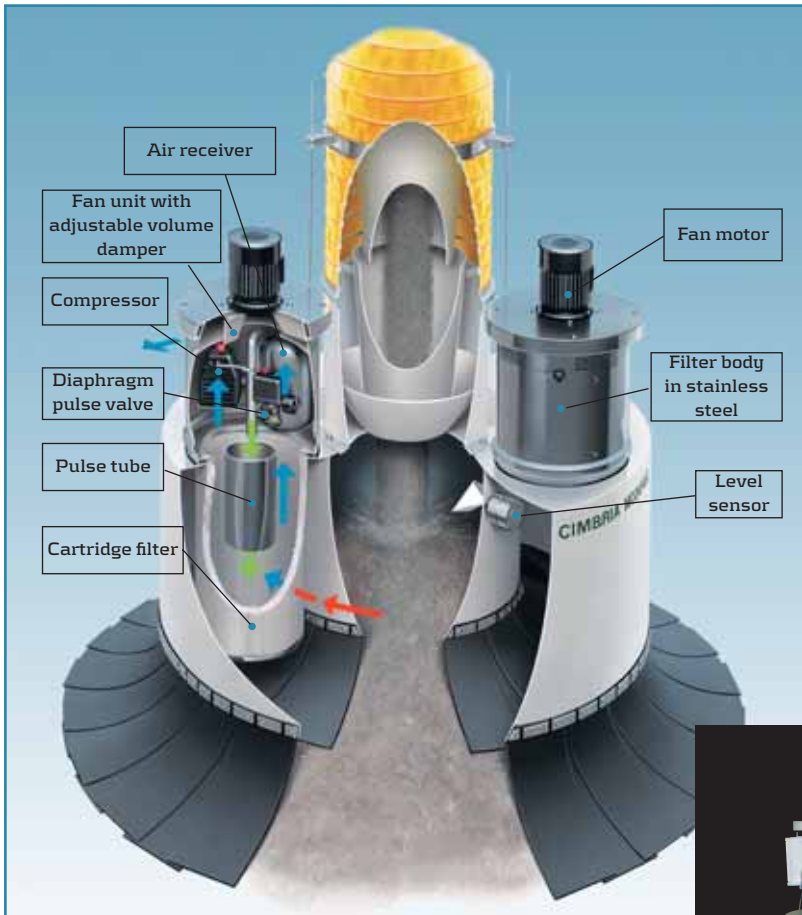
The overlapping steel cone is used on products with a high dust characteristic as separation of the dust and extraction air in this case is recommended, or with a particle size above 30 mm. The overlapping guide cone in steel can be supplied in a 2 or 4 mm version and in a 4 mm Hardox 400.

# Outlets



## F outlet

The F outlet is constructed with a heavy duty metal skirt on which hoisting- and security wires are mounted with wire locks. Furthermore, the F outlet is mounted with a heavy duty fingered dust skirt for open outloading. The outlet is specifically designed to encapsulate the dust that arises from the product falling onto the peak of the product pile during the outloading process. The signal from the indicator(s), mounted in the outlet, then automatically actuates the incremental raising of the chute during outloading so as to keep the outlet tracking the product feed.

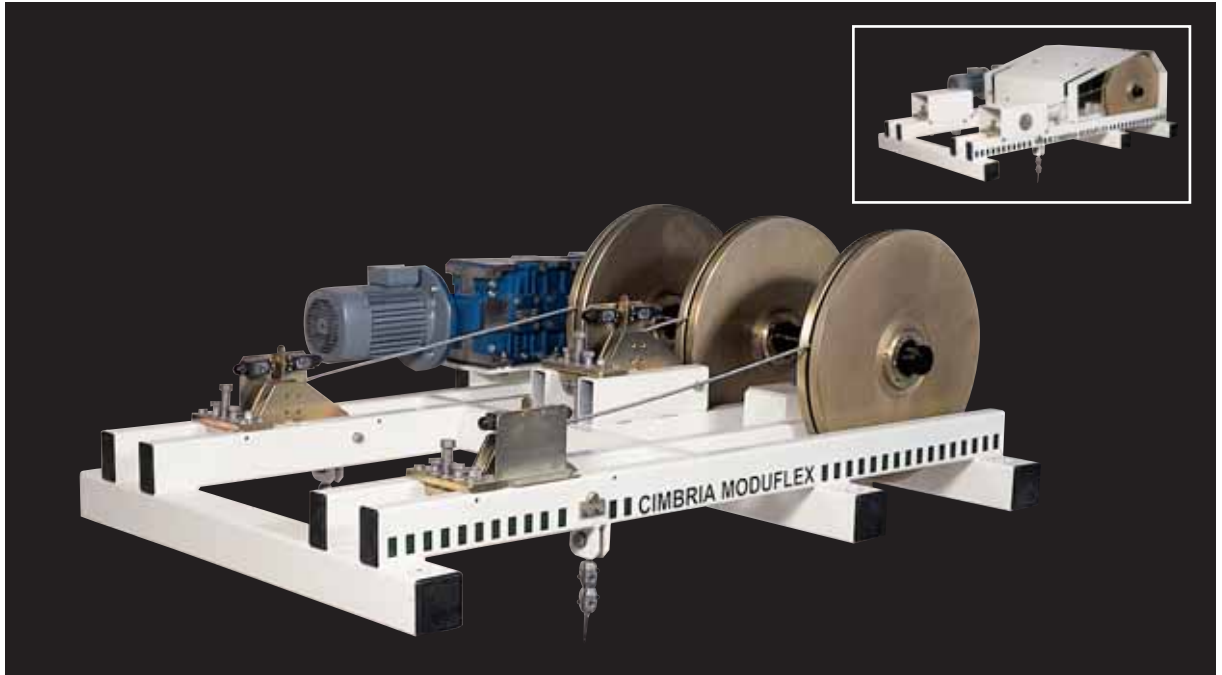


## FF outlet

In the design with the integral filter system, the outlet consists of two cylindrical metal skirts both equipped with a heavy duty dust skirt. To ensure a dust free outloading, the dust laden air is extracted through the annulus of the outer and the inner outlet by means of the built-in extraction. The number of filter modules is determined by the chutes loading capacity. Each module is fully self-contained with its own filter, compressor, pressure tank, fan and diaphragm pulse valve. A reverse air jet system returns all filtered dust back in the material stream between the two sections in the outlet.



# Motor winch



## Motor winch

The motor winch on a Moduflex loading chute is typically constructed throughout the range with three heavy duty winch drums supported by high-quality ball bearings. The 3-point hoisting wires ensure a well-balanced hoisting function. All three hoisting wires are supplied with tight/slack wire enhancing the safety during outloading and also saving excessive load occurring to the motor, wires and chute modules which ultimately extends their life. As an extra safety feature, Moduflex loading chutes are also equipped with two relief wires that carry the weight of the modules. Besides, this system ensures an easier and quicker access in connection with the replacement of wear parts.

## Motor frame

The motor frame is designed and manufactured as a sturdy steel construction which ensures optimum protection of the electrical and mechanical parts allowing quick and easy access for adjustment and maintenance. By installation of the loading chute, the three transverse steel beams are applied as fitting and connection points.

## Motor, gear and control

The main loading chute drive is typically a braked geared motor and is sized by taking in to consideration the specific requirements such as model, hoisting weight and chute length. The loading chutes can be supplied with a control cabinet in which all functions are integral, or with a terminal box which supports, for example, the customer's own PLC control.

# Accessories

**An extensive range of accessories ensures that Moduflex loading chutes can be constructed to meet the requirement of any customer.**

Amongst the many accessories we could mention are our range of various types of indicators which signal to automatically raise the chute outlet during the loading process on a varied selection of products ie:- rotating, capacitance or tuning fork .

The FlexControl program ensures a correct operation of the chute functions and at the same time it gives a signal in case of errors during the outloading situation.



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