

EMIDE



Rigid - but still flexible!

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It is under this heading that tried and trusted EMDE screws are supplied for use, even in most difficult conditions.

Being rigid gives a high degree of durability, even in abrasive and corrosive environments as well as extreme temperatures.

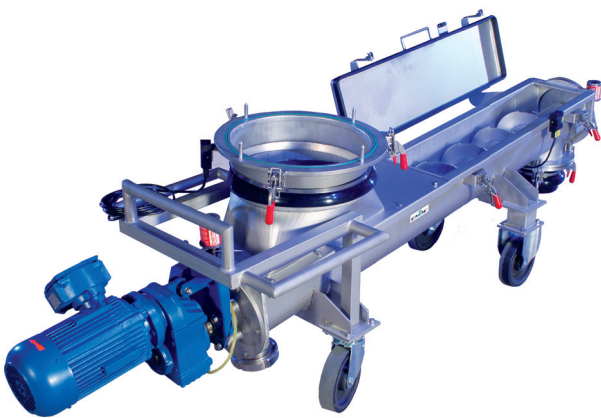
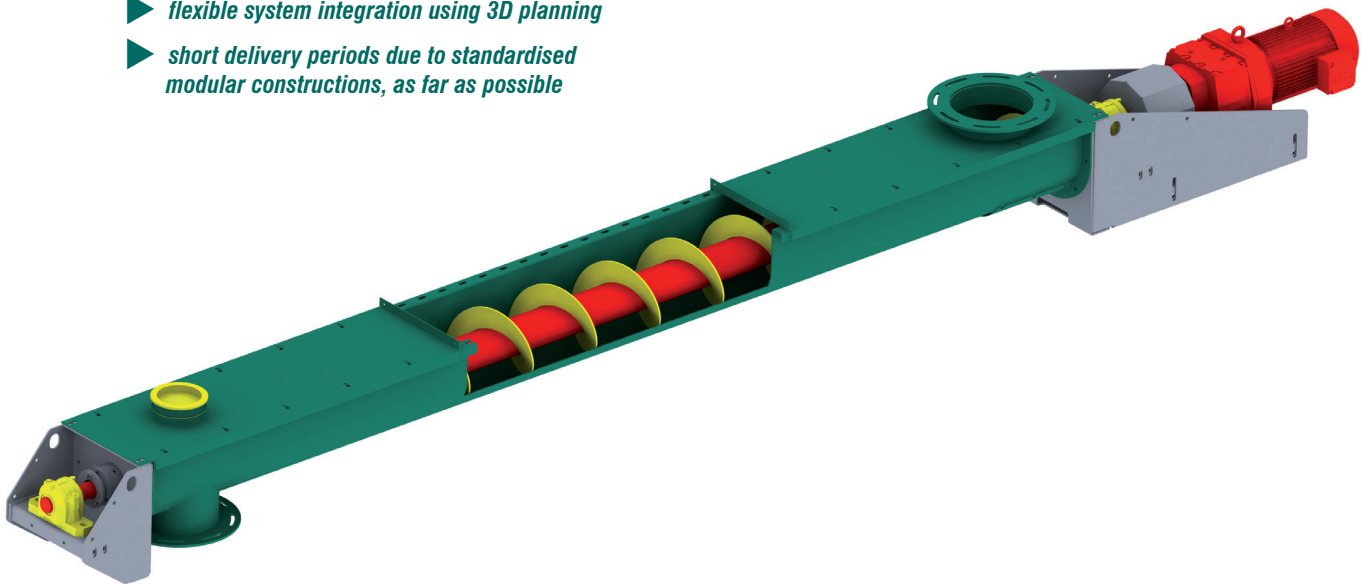
Flexibility means the great diversity and modular construction of the conveyors.

- ▶ *robust construction to withstand the heaviest loads over long periods of time*
- ▶ *individual, tried and tested design programmes*
- ▶ *flexible system integration using 3D planning*
- ▶ *short delivery periods due to standardised modular constructions, as far as possible*

A tried and tested design programme for all applications, developed in house, provides a basis for a secure project-related configuration of

Trough and Tubular Screw conveyors

A test facility using circular conveyors confirms the theoretical calculation results. It could be determined as well if problematic bulk materials can be handled basically.



Trough and pipe diameter:

80 - 1,250 mm

Conveying:

0,1 - 500 m³/h

Operating temperature:

-150 to + 1,000° C

Designs:

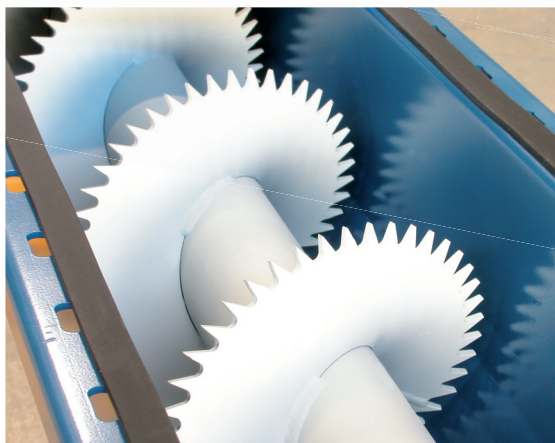
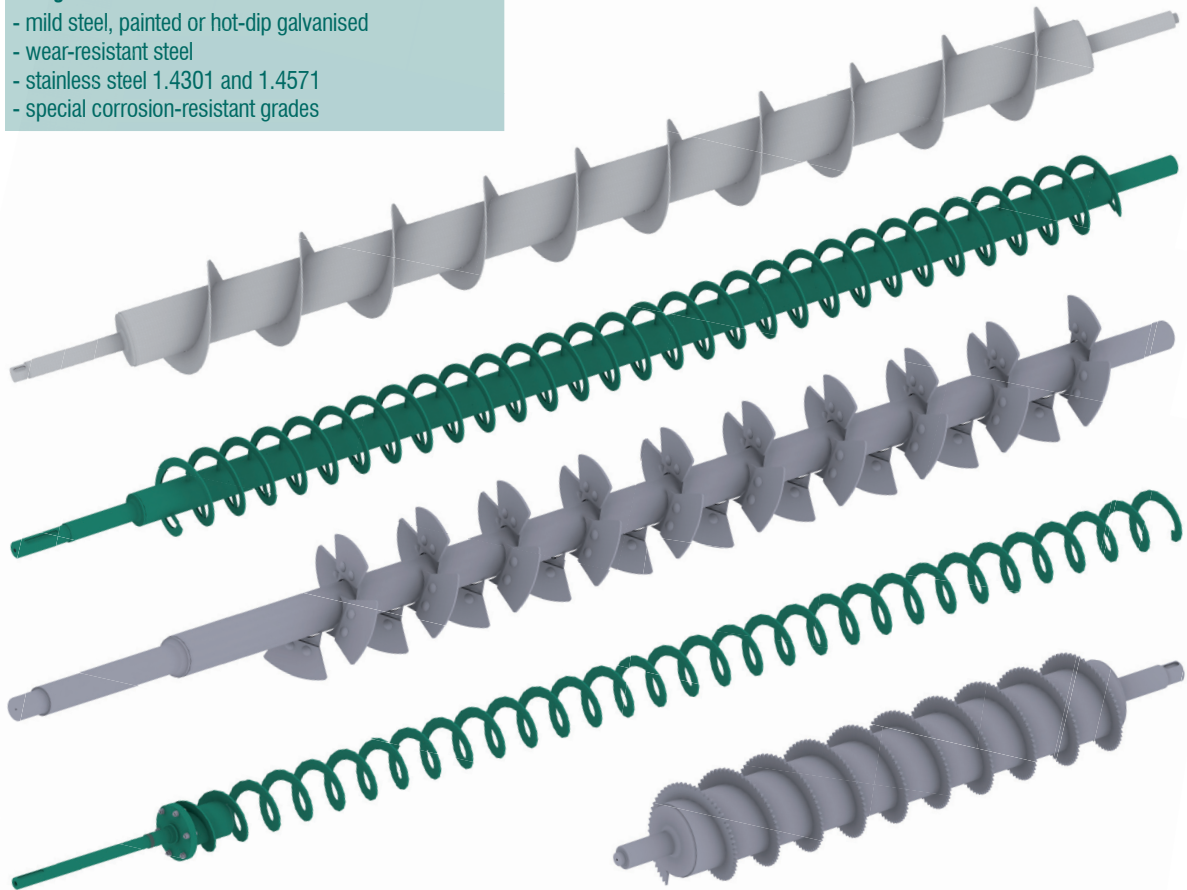
- mild steel, painted or hot-dip galvanised
- wear-resistant steel
- stainless steel 1.4301 and 1.4571
- special corrosion-resistant grades

Length:

- without intermediate bearing max. 12 m
- with intermediate bearings up to 80 m

Blades:

- Full, paddle and ribbon blades
- Shaftless screws
- Increasing and decreasing pitches
- Toothed/armoured blades
- single, double and multiple screws



For decades, EMDE screw conveyors have been used to transport the widest range of bulk materials under the hardest environmental conditions. EMDE screw conveyors are designed as a modular system with many variants to suit the task in hand, planned, produced and assembled for the purpose.

Individual system solutions

- ▶ *closed and dust-tight transportation*
- ▶ *highly robust conveying system*
- ▶ *built for 24 hour operation*

Applications for:

- Transporting any bulk materials
- Transporting sludge and sediments
- Humidification and drying
- Mixing
- Heating and cooling

EMDE screw conveyors are assembled, commissioned and maintained worldwide by trained expert personnel. Long years of experience with a variety of products ensure that the system is quickly and safely serviced.

Cleaning:

- Cleaning lid at the trough bottom
- Trough cover with fasteners
- Self-cleaning double screws
- Quick extraction for the shaft
- Washing jets for CIP cleaning

Sealing:

- Adjustable stuffing boxes
- Air and grease purge seals
- Sealing system with shaft seal rings
- Mechanical shaft seal
- Pressure and vacuum tight systems
- High temperature sealings

Drives:

- Helical gear motors
- Foot mounted gear motors with flexible coupling
- Drive with chain drive or gear wheels
- Hydraulic motor

- ▶ *Optimal drive dimensioning*
- ▶ *Product and application specific seal configuration for any assembly position*
- ▶ *Rapid cleaning using large and easily accessible inspection openings*
- ▶  *Protection according to directive 94/9/EC*



Consistently exact feed and mixing of bulk materials is a pre-condition of the highest product quality.

Dosing, weighing, mixing...

- ▶ **High dosing accuracy**
- ▶ **Low pulsation of product flow through dosing star and double-threaded screw flights**
- ▶ **Quick-cleaning system for frequent product change**
- ▶ **Reproducible mixing qualities**
- ▶ **Double paddle screw mixers for continuous and non-continuous operation**

Dosing capacities:

0,1 - 400 m³/h

Dosing/weighing accuracy:

Better than 2% possible

Accessories:

- Dosing star for low pulsation
- End closure to avoid product run-out
- Weighing system for continuous operation

Single and double screws with paddles or shaftless screws are used for continuous or non-continuous mixing operations. Paddle mixing screws create the best mixing performance and the most homogenous result.

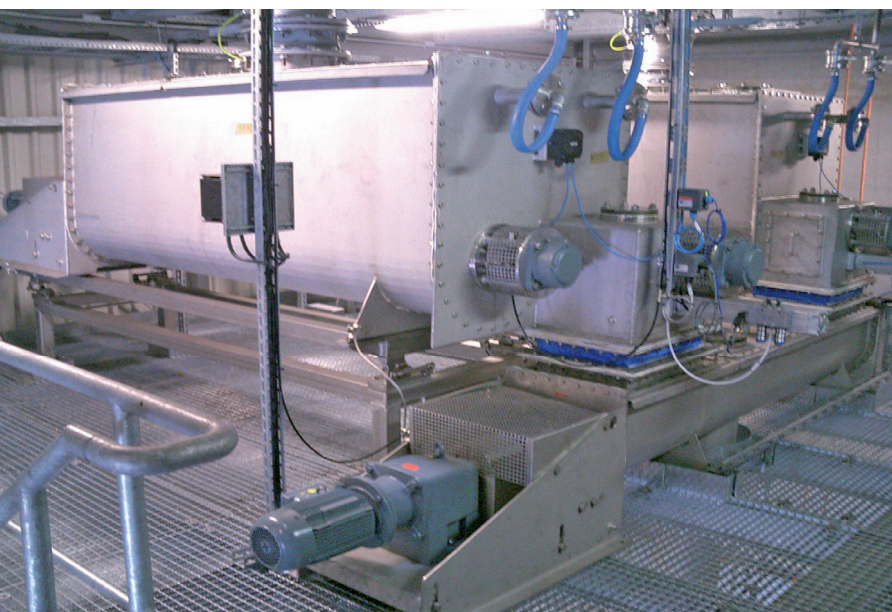
Mixture shaft:

- Paddle screw
- Shaftless Screws
- Single or double screw

Fields of application:

- Continuous mixing of powders, granulates, fibres
- Humidification and dust-binding
- Homogenising of products or batches

- ▶ **High mixing qualities**
- ▶ **Gentle mixing**
- ▶ **Continuous mixing process**
- ▶ **Defined retention periods**



Discharge screw conveyors ensure that difficult bulk materials flow continuously from silos and hoppers. The screw shafts are particularly robust to withstand the pressure of the materials. Activating large cross-sections means that bridge formation can effectively be avoided in silos.

Performance data:

- Inclined conveying height up to 20 m
- Screw speed up to 500 min⁻¹

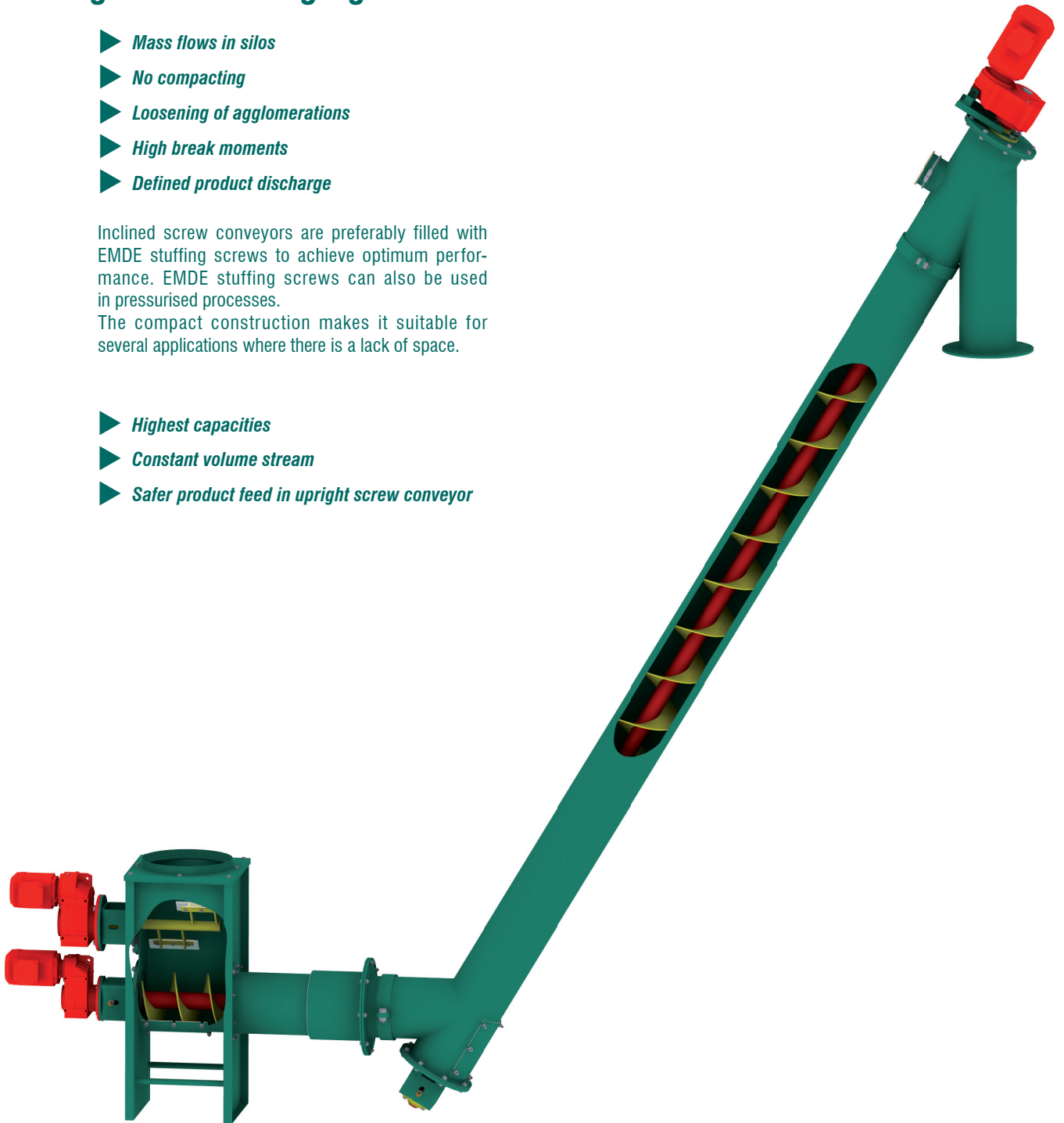
Feeding and discharging

- ▶ *Mass flows in silos*
- ▶ *No compacting*
- ▶ *Loosening of agglomerations*
- ▶ *High break moments*
- ▶ *Defined product discharge*

Inclined screw conveyors are preferably filled with EMDE stuffing screws to achieve optimum performance. EMDE stuffing screws can also be used in pressurised processes.

The compact construction makes it suitable for several applications where there is a lack of space.

- ▶ *Highest capacities*
- ▶ *Constant volume stream*
- ▶ *Safer product feed in upright screw conveyor*



A screw conveyor may be used for several associated process steps joined together to form one system.

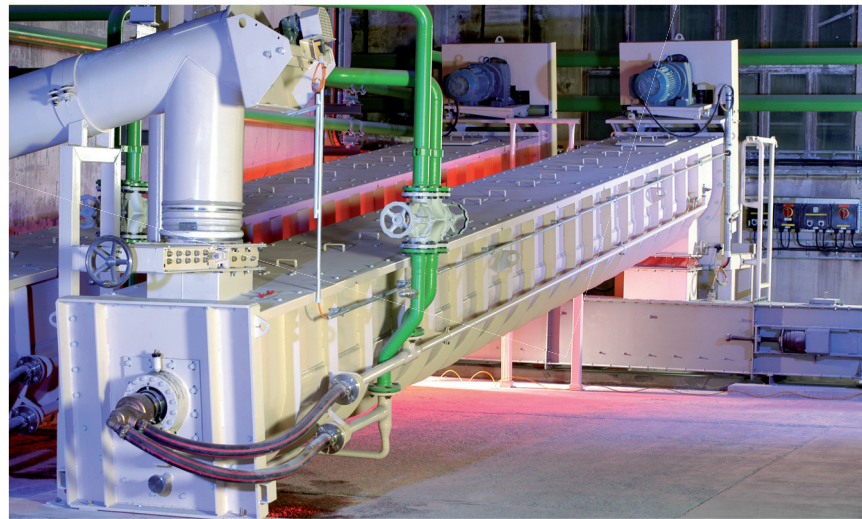
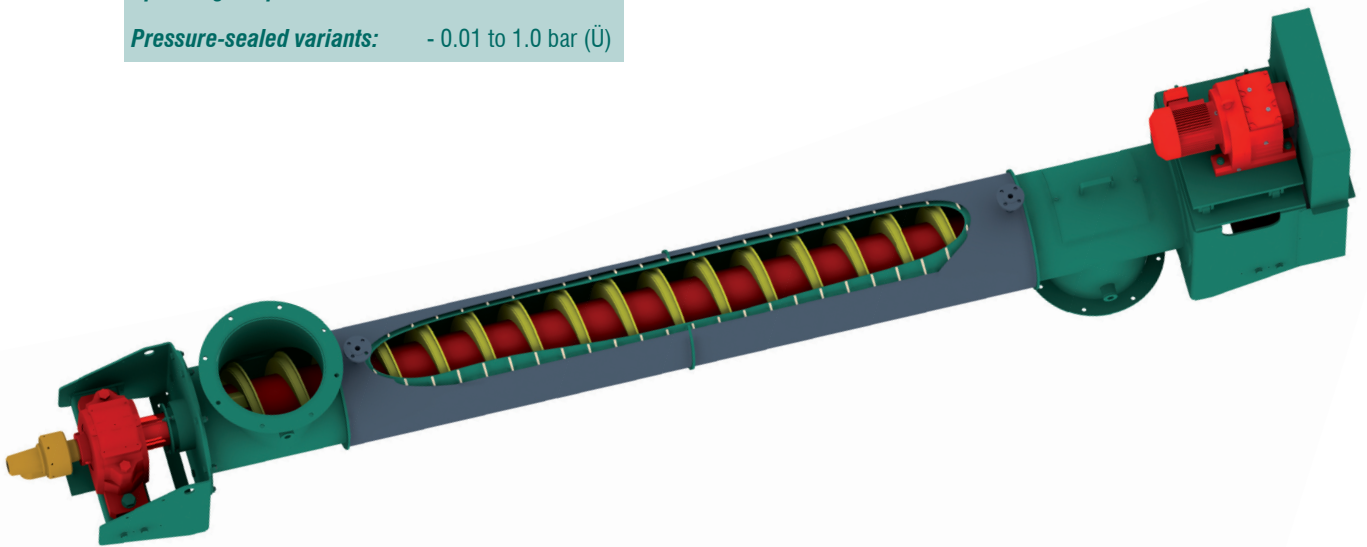
Conveying and other process steps in one system

- ▶ *Dosing*
- ▶ *Mixing*
- ▶ *Cooling and heating*
- ▶ *Separating and sieving*
- ▶ *Stuffing*
- ▶ *Discharging*
- ▶ *Washing*

Operating temperature: - 150 to + 1.000 °C
Pressure-sealed variants: - 0.01 to 1.0 bar (Ü)

There are many possible configurations and variations to ensure that the required process phases can be implemented. The guaranteed process parameters can be set partially using the corresponding preliminary tests.

- ▶ *Tempering of trough, shafts and flights*
- ▶ *Separate media cycles possible,*
- ▶ *Cooling with water or gas*
- ▶ *Heating using hot water, hot oil, steam or electricity*
- ▶ *Drying and thickening using hot air or vacuum*





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- ▶ Conveying
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 - Big Bag handling systems
 - Sack emptying systems
 - Lifting and tipping equipment
- ▶ Dosing / Mixing
 - Dosing screw feeders
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