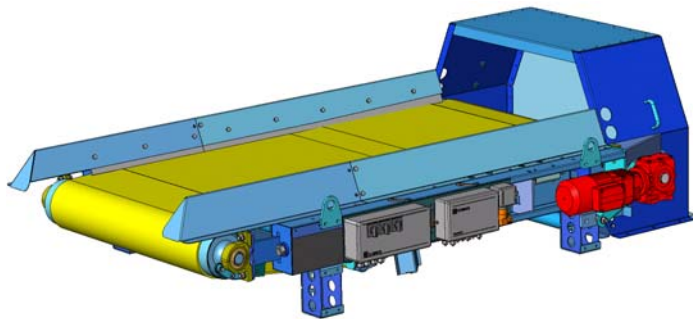# MULTIDOS® MTD-E Weighfeeder

- **Weighfeeder for bulk solids of most diverse properties**

- **Wide performance range**

- **Large, flexible kit-system with versatile options**

- **Spindle spacings of up to 10m in steps of in 0.5m**

- **MechaTronic design with compact drive**

- **Safe belt run monitoring and tracking**

- **Easy belt change without auxiliaries**

Application

Schenck Process weighfeeders are used for continuous gravimetric feeding of bulk solids.

Their rugged design makes them suitable for the harsh demands of industrial operation in the rock, sand and gravel, metal and basic material, chemical and animals feed industries.

Application oriented types and the high quality standard of the Schenck Process weighfeeders ensure economical solutions even to highly sophisticated feeding tasks.

The first-class measuring, control and supervisory electronics enables comprehensive monitoring of weighfeeders.

The MechaTronic variant permits easy integration into plant control at a very reasonable price.

This results in:

- Minimal investment and sequential costs (operating and maintenance costs) thanks to a particularly easy-to-maintain construction
- little installation effort and low space requirements
- Improved accuracy and quality of the final product.

Construction

The weighfeeder standard equipment comprises:

- Rugged feeder mechanics
- Automatic belt tracking
- Plough scraper for cleaning inner belt and tail pulley
- Belt outside scraper
- Static belt tension through take-up screws integrated in frame
- Gravity take-ups for constant belt tension
- Belt influence compensation (BIC).

Variants

The modular construction of the MULTIDOS®MTD-E allows a great degree of flexibility in the configuration of a weighfeeder which bests fulfils requirements.

The following components are available:

- The belt widths: 650, 800, 1000, 1200, 1400 (mm) with
- Spindle spacings of: 1500, 2000, 2500, 3000, 3500, 4000 (mm) Special lengths of 4000 mm upwards are available in steps of 500 mm up to a length of 10 000 mm. The modular frame construction means the longest single element would have a length of 2500 mm.
- The diameter of the head pulley is 190 mm. It may also be supplied with Ø 320mm. The pulley may be located either on the right or left side. The tail pulley diameter is 190mm.
- The diameter of the carrying idlers is 63.5mm. For special loads carrying idlers with a diameter of 108 mm can be used beneath the feeding hopper.
- The conveyor belts are suitable for bulk material temperatures of 80°C standard, with an option of conveying materials of up to 170°C. The conveyor belt may be supplied with rim heights of max. 60mm – but only in conjunction with a drive pulley diameter of 190mm (optional)
- Casings of different scopes for dust protection:
  - Discharge hood
  - Belt cover
  - Rear enclosure
  - Side covering
- Also available:
- Dustproof housing for MTD-E 1220 and MTD-E 1420 (0.1 bar rated pressure)
- An integral chain conveyor for cleaning of mounting surface.
- Further options available on request: design in high-grade steel 1.4310 and ATEX certification.

Operation

Designed for continuous feeding as well as for the batching of bulk solids, the MULTIDOS weighfeeder consists of:

- Belt conveyor
- Drive with speed transducer for belt speed acquisition
- Material prefeeder, e.g. hopper with bed depth setter
- Integrated belt scale, and
- Measuring and control electronics.

The electronic measuring and control system is designed to determine feed rate m (kg/hr) by multiplication of belt load q (kg/m) and belt speed v (m/s), and to keep the preset feed rate value constant with the use of a closed-loop control.

For weighfeeder function and accuracy, the belt scale assembly is of central importance.

The Schenck Process weighfeeders use electronic single-idler belt scales. This system holds a conveyor belt reel of the belt conveyor between two hermetically sealed high-grade steel DMS load cells such that it moves vertically.

The weighing electronics measures the resulting force G of the material located on the above belt section between the two opposed carrying idler. Belt load q results from the quotient from force G and the distance between the two idlers, i.e. weigh span L.

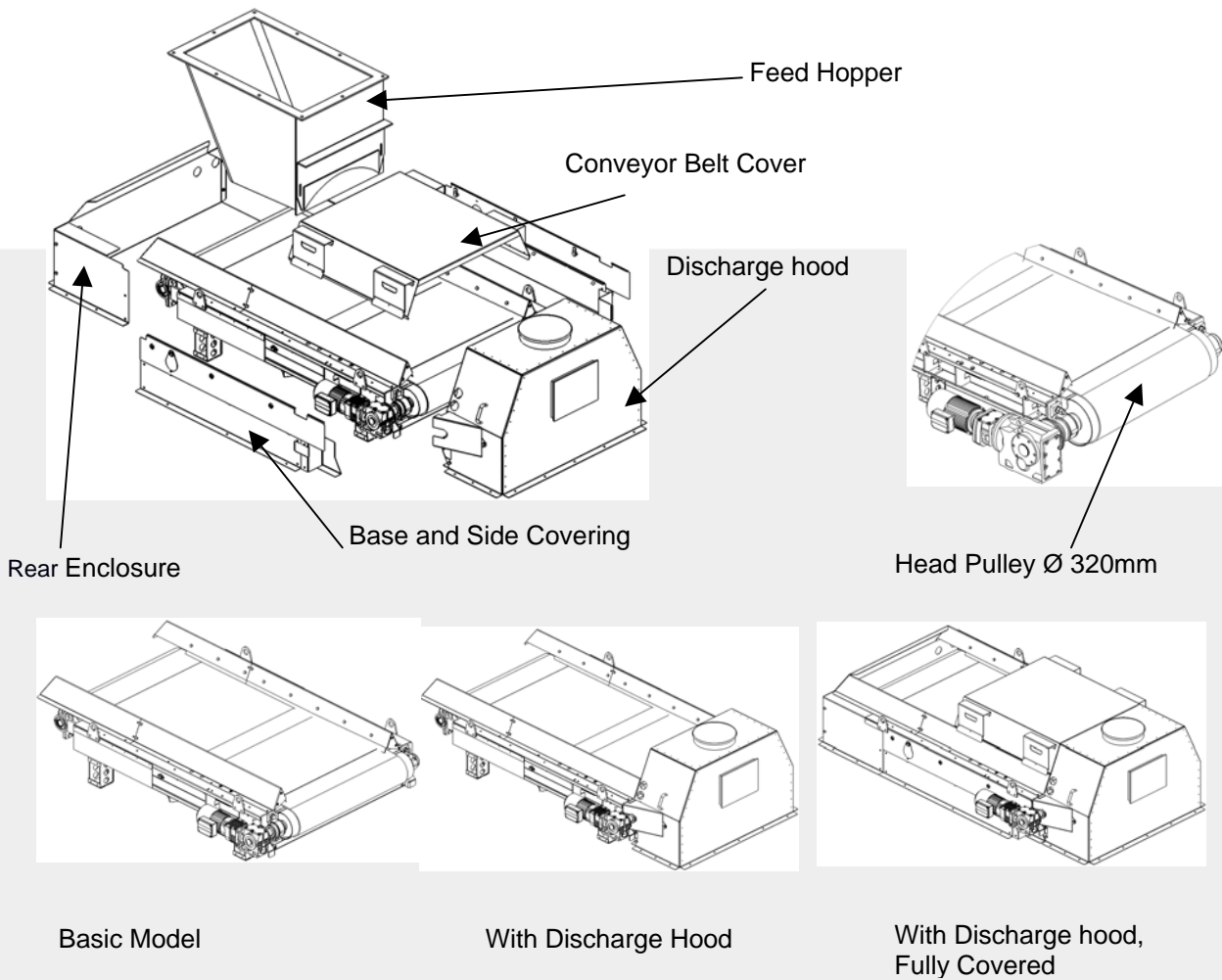Feed rate is computed from value q multiplied by the belt speed.

Feed rate totalization over the time finally supplies the amount fed out.

The belt influence is compensated for by the belt-influence compensator (BIC).

The infeed hopper is an essential prerequisite for the reliable operation of the weighfeeder. Various types can be selected in accordance with material properties:

- Feed hoppers mechanically designed for specific materials
- Vibration feed hoppers for bridging materials
- Settling chambers for fluidizable material.

Equipment / Attachments / Optional Extras

Feed Hopper

Conveyor Belt Cover

Discharge hood

Base and Side Covering

Rear Enclosure

Head Pulley Ø 320mm

Basic Model

With Discharge Hood

With Discharge hood,
Fully Covered

Technical Data

Accuracy (related to actual value)			± 0.25 to 0.5 % application-dependant system-dependant better than ± 0.25 %		
Conveying speed			max. 0.5 m/s, dependant on material feed		
Material temperature			80°C with standard, 130°C and 170°C with special variants		
		Belt width (mm)			
Feed rate max.	650	800	1000	1200	1400
Volumetric / m³/h	70	150	250	350	450
Gravimetric / t/h (with = 1,5 t/m³)	100	220	350	500	700
Max. hopper length for drum Ø 190mm (with 1.4t/m³)	1200	1500	1800	1600	1200
Max. hopper length for drum Ø 320mm (with 1.4t/m³)	1200	1500	1800	2400	2200

Dimensions *
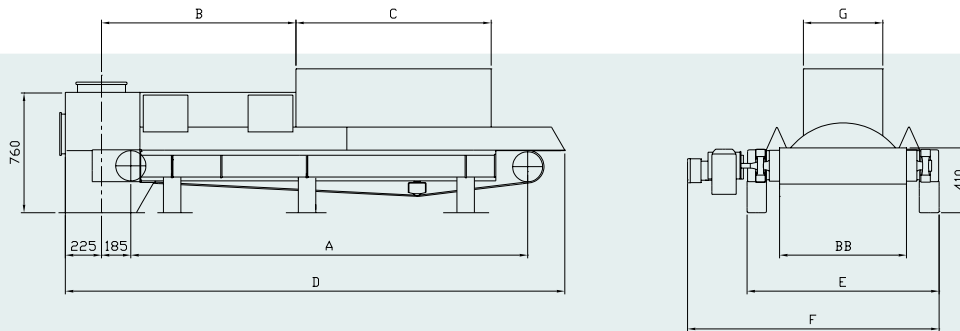
MULTIDOS® MTD-E

Di-men-sion	Distance pulley to pulley A [mm]										Belt width BB [mm]				
	1500	2000	2500	3000	3500	4000	5000	6000	7000	8000	650	800	1000	1200	1400
B	1225	1225	1225	1225	1225	1725	2725	3725	4725	5713					
C	230	730	1230	1730	2230	2230	2230	2230	2230	2230					
D	2152	2652	3152	3652	4152	4652	5652	6652	7652	8652					
E											1010	1210	1410	1610	1810
F											1385	1585	1785	1985	2185
G											350	500	600	800	1000

See planning-in drawings for further dimensions
Other model designs available on request
* Non-binding specifications, we reserve the right to make alterations