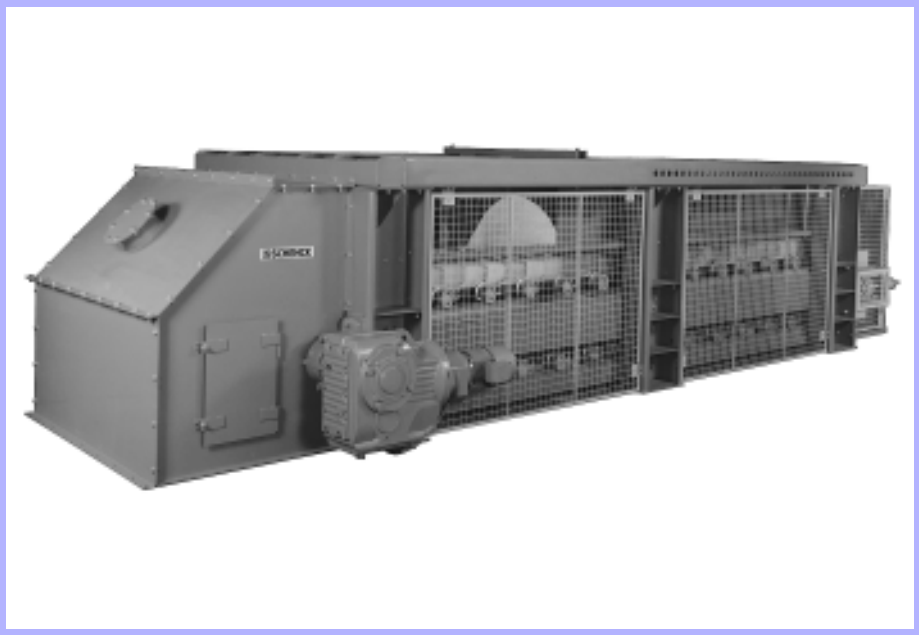
Apron Weighfeeder MULTIDOS-VDP

- **Apron weighfeeder for difficult-to-extract bulk solids**
- **Combination of bin extraction and feeding ensures low investment cost**
- **High-tech direct-weighing technology ensures high feeding accuracy**
- **Self-cleaning extraction plates**
- **Pin gate can be integrated into frame**
- **Particular suitability for applications in the cement and steel industries**



Application

Particularly in the cement and steel industries, the need often occurs to discharge bulk solids which are difficult to extract, e.g. marl, clay, gypsum, trass or sludge from bins, and to feed them into production processes in a controlled manner.

Until now, apron conveyors were used for the purpose, either as a prefeeder for a weighfeeder, or in purely volumetric mode.

Schenck apron weighfeeders combine the two functions of extraction and gravimetric feeding, thus providing the following advantages:

- Minimal investment and follow-up cost (i.e. operation and maintenance cost)
- Easy installation and low space requirements
- Improved accuracy and higher quality of the end product compared to volumetrically operating extraction apron conveyors.

Construction

The standard equipment of the apron weighfeeder comprises:

- sturdy mechanical equipment
- feed hopper with high-adjustable slide gate
- transport belt
- direct-weighing equipment
- AC geared motor
- frequency transducer
- precabling for easy connection to electronics

The transport belt consists of overlapping sheet-metal plates. This shape ensures smooth extraction of sticky and moist bulk solids.

The following accessories are available for different applications:

- pins for the pin gate integrated into the apron weighfeeder, for shutting off the feed hopper
- discharge aid roller for homogenising the material discharge
- scraper conveyor for removing dropped material

Working principle

The apron weighfeeder is designed as a speed-controlled apron conveyor with integral direct-weighing equipment for the determination of the weight of the belt load. The speed of the circulating belt is measured with the help of a frequency transducer.

From these two measured variables, the actual feed rate is determined. The belt speed is then controlled as a function of the control difference (difference between set point and actual value), so that the exact feed rate set point is maintained.

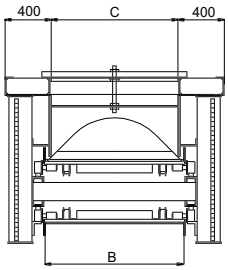
Smooth direct extraction of the bulk solid is ensured by the buckle plate design of the transport belt and the optimum feeding cross section of the feed hopper. The buckle plate belt is guided along a rail over rollers connected to each other by means of a chain. This transport rail includes a weighing rail for determining the belt load.

At the discharge point, the pockets of the buckle plates increase thus releasing any material that has stuck. This self-cleaning method ensures excellent extraction from the storage bin, and reduces material losses underneath the apron feeder to a minimum.

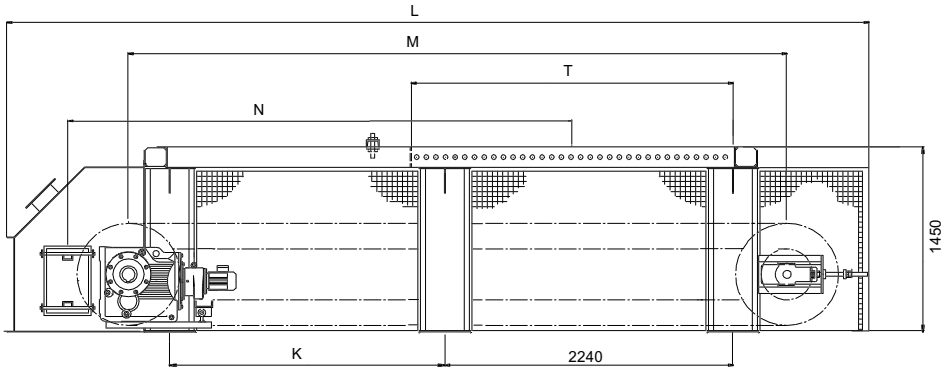
Dimensions (mm)

Apron weighfeeder

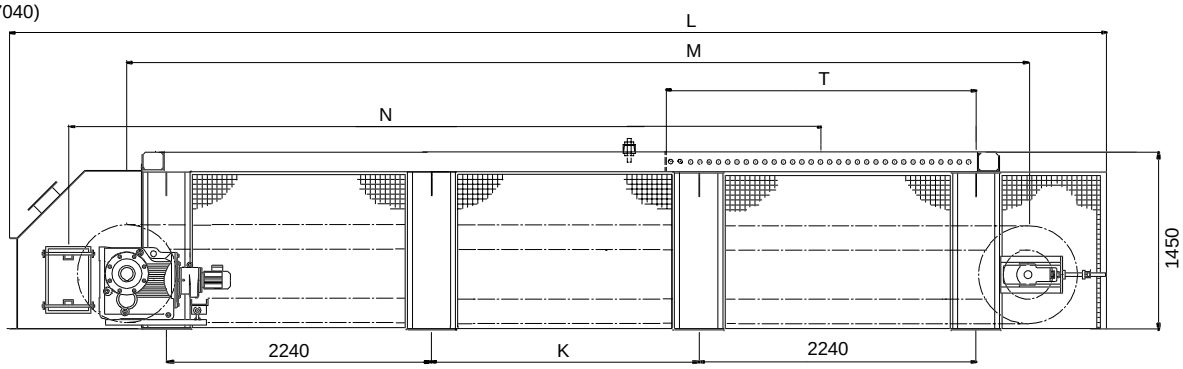
Front view



Side view
(Pulley centres **up to** 6560)



Side view
(Pulley centres **over** 7040)



Dimensions	Plate width (B) dependent dimensions [mm]			
	1000	**1200**	**1400**	**1600**
C	900	1100	1300	1500
T	2250	2500	2500	2500

Dimensions	Pulley centre (M) dependent dimensions [mm]						
	5120	**5600**	**6080**	**6560**	**7040**	**7520**	**8000**
K	2140	2620	3100	3580	1820	2300	2780
L	6698	7128	7658	8138	8618	9098	9578
N	3785	4265	4745	5225	5705	6185	6665

Technical Data

	Apron weighfeeder MULTIDOS-VDP
Gravimetric feed rate	up to max. 650 t/h
Volumetric feed rate	up to max. 475 m^3/h
Accuracy (related to actual value)	± 1% in a range of 10 : 1
Belt speed	max. 0.3 m/s
Material temperature	max. 80° Celsius
Min. belt load	230 kg/m
Plate width	1000 mm, 1200 mm, 1400 mm, 1600 mm
Weight	6.2 t to 14.9 t

The following is a list of pre-defined standard types, chosen mainly for optimum conditions of extraction. These standard variants are suitable for a wide range of applications.

Standard variant MULTIDOS	**Plate width [mm]**	**Pulley centre [mm]**	**Bulk density [t/m^3]**	**Feed rate [t/h]**	**Weight [t]**
VDP 1051	1000	5120	1.4	max. 300 t/h	6.2
VDP 1251	1200	5120	1.4	max. 400 t/h	7.3
VDP 1451	1400	5120	1.4	max. 500 t/h	8.5
VDP 1651	1600	5120	1.4	max. 650 t/h	9.7

Options

Beyond the standard scope of supply, a wide range of useful options are available:

- Special dimensions available upon request;
- Pins for the pin gate for shutting-off the feed hopper;
- Scraper conveyor as a collecting belt for material residues underneath apron feeder;
- Discharge aid roller for homogenising the material discharged.

Ordering information:

For smooth and speedy processing of your order, please let us have the following information:

- Bulk solid .....
- Bulk density ..... [t/m^3]
- Material temperature..... [°C]
- Feed rate ..... [t/h]
- Pulley centres ..... [mm]

Notes:

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