

VDP-C Apron Weighfeeder

- Apron weighfeeder for difficult-to-remove or hot bulk solids
- Compact design
- Smallest axle spacing 2400 mm
- Timetested weighing equipment installed
- Highly robust chains with HARDOX® straps
- Highly robust optional HARDOX® plates
- Full cladding is the standard equipment, open design optional
- Suspension possible without additional frame



Application

The VDP-C Apron Weighfeeder is for small to medium feed rates. It is particularly suitable for use in the cement and steel industry for the direct extraction of bulk solids such as marl, clay, plaster, trass and ore, but also for dry, hot bulk solids such as clinker.

Wherever weighfeeders meet their limits in respect of the load capacity of the rubber belt – whether because of abrasion or impact wear or because of the very hot bulk solids – the VDP-C Apron Weighfeeder is the appropriate alternative. The VDP-C is characterized here by a fantastically compact design and low construction length with a minimal axle spacing of 2400 mm, in order to remain very close to the weighfeeder also in terms of the main dimensions.

Equipment

The VDP-C Apron Weighfeeder comprises the robust machine frame, drive and reversing shafts with easily accessible pedestal bearings. The drive chains, driven over hardened gear wheels, with HARDOX® cover plates have small rollers and grease filling for the articulations. The drive chains

are designed for the best possible robustness and reliability. They are able to transfer five-times the drive torque. The plates on the drive chain carry the load over hardened carrying idlers on hardened drive rails.

Ascending and descending curves for the rails are curved in an innovative design that allows a particularly gentle ascent and descent of the carrying idlers. The scale rails are divided into 4 scale parts, which is easily accessible for inspection and calibration procedures.

All the bearings of the VDP-C Apron Weighfeeder are designed for use in a temperature range of -50 ... +150 °C. Optional hot goods carrying idlers are used for operation with hot clinker.

For high-temperature applications with bulk solids temperature up to 300 °C there are optional equipment components for cooling the load cells.

There are **2 plate types** available:

- **Buckled plates** for:
 - Dry bulk solids with small grain size such as limestone
 - Hot, dry bulk solids with small grain size such as clinker brick
- **HD plates** for damp bulk solids with a larger grain size.

The HD plate is highly robust and wear-resistant. The HD plate, including the flanged wheels, is made from HARDOX®. A 3-layer rubber scraper can be used in conjunction with the HD plate.

The VDP-C Apron Weighfeeder is designed either fully cladded or partly cladded. The fully cladded design (at no extra cost) allows dust emissions resulting from the use of the apron weighfeeder with hot and dry bulk solids to be reduced considerably. The cladding elements here are simultaneously readily removable and effectively seal with cavity rubber profiles.

The VDP-C Apron Weighfeeder is installed on the floor or on a cleaning drag chain conveyor. A suspension is also possible; to this end the VDP-C Apron Weighfeeder has optional side fixing points for the supporting structure.

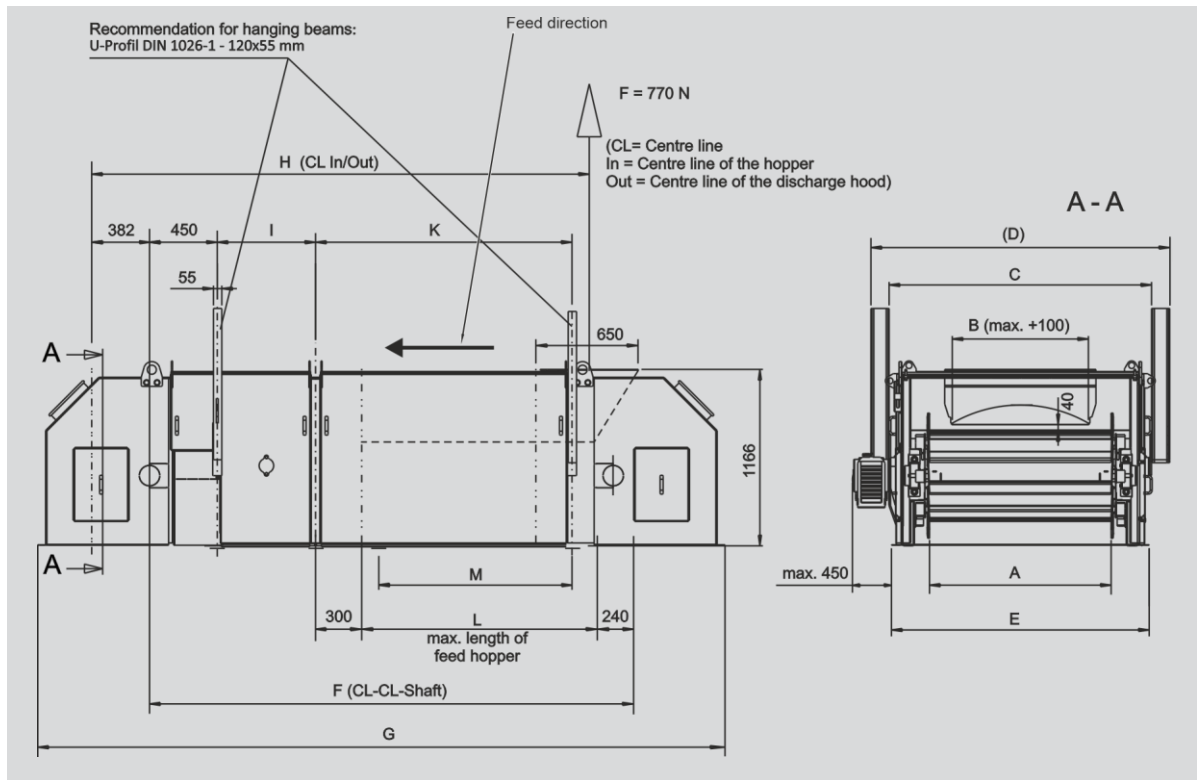
Function

The VDP-C Apron Weighfeeder is a speed-controlled extractor apron feeder with integrated weighing equipment for recording the weight of the belt load. The speed of the circulating plates is recorded by a frequency generator. The actual feed rate is calculated from these two factors. Depending on the control differential, the plate speed is regulated such that exactly the feed rate setpoint is achieved.

The design of the extraction plates and the realizable cross section of the feed hopper ensure the smooth direct extraction of the bulk solids. The feed hopper is fastened to the on-site silo and is a defined distance from the plate surface. With a maximum height of bulk solids of 300 mm with the buckled plate and a maximum of 350 mm with the HD plates, bulk solids with grain sizes up to 120 mm can also be directly extracted.

The plates are connected with the drive chains and are supported with carrying idlers on rails, the selected plate geometry creates a self-cleaning effect in the reversal area. In combination with the optional scraper, the best possible constant tare value can be achieved in terms of feeding accuracy even with heavy-load HD plates.

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Dimensions [mm]

Plate width (A) dependent dimensions

A	800	1000	1200	1400
B	500	700	900	1100
C	1335	1535	1735	1935
D	1575	1775	1975	2175
E	1305	1505	1705	1905

Axle spacing (F) dependent dimensions

S	2400	2720	3040	3200	3680		4160		4640		5120	
G	3750	4070	4390	4550	5030		5510		5990		6470	
H	2490	2810	3130	3290	3770		4250		4730		5210	
I	650	650	650	650	650	970	650	970	650	970	650	970
K	895	1215	1535	1695	2175	1855	1555	1235	2035	1715	2515	2195
L max.	760	1080	1400	1560	2040	1720	2520	2200	3000	2680	3480	3160
M / 4. foot	—	—	—	—	—		1100		1100		1100	

Technical Data

Axle spacing [mm]	2400, 2720, 3040, 3200, 3680, 4160, 4640, 5120			
Plate width [mm]	800	1000	1200	1400
Volumetric feed rate [m³/h] max. v = 0.3 m/s	135	195	250	300
Gravimetric feed rate max. [t/h] for γ =1.4 t/m³	195	275	355	425
Maximum grain size [mm]	80	100	120	120
Maximum plate speed [m/s]	0.3			
Bulk solids temperature [°C]	Standard: -50 ... +150		Hot solids: -20 ... +300	
Accuracy in relation to actual value [%]	+/-0.5 ... 1.0 depending on the application, System accuracy: +/-0.5			
Plate type	Buckled plate		HD plate	
Maximum height of bulk solids [mm]	300		350	
Bulk solids-appropriate	free flowing, fine-grained, dry		sticky, oversize, moist	
Maximum feed hopper w x l max. [mm x mm] for γ =1.4 t/m³	1200 x 1400 for plate width 1400			

Options

Plates	Buckled plates for hot solids	HD plate made from HARDOX® for heavy loads
Bulk solids-appropriate	free flowing, undersize, dry	sticky, oversize, moist
Scraper	Buckled plate without scraper	HD plate, optional three-layer rubber scraper
Design of the cladding	Completely enclosed or open or open with a covered conveyor route	
Design of the installation	Floor-mounted or mounted on cleaning chain scrapers or hung	
Model suitable for hot material	Bulk solids temperature up to 300 °C (in connection with the cladding model: open or open with covered conveyor route)	

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