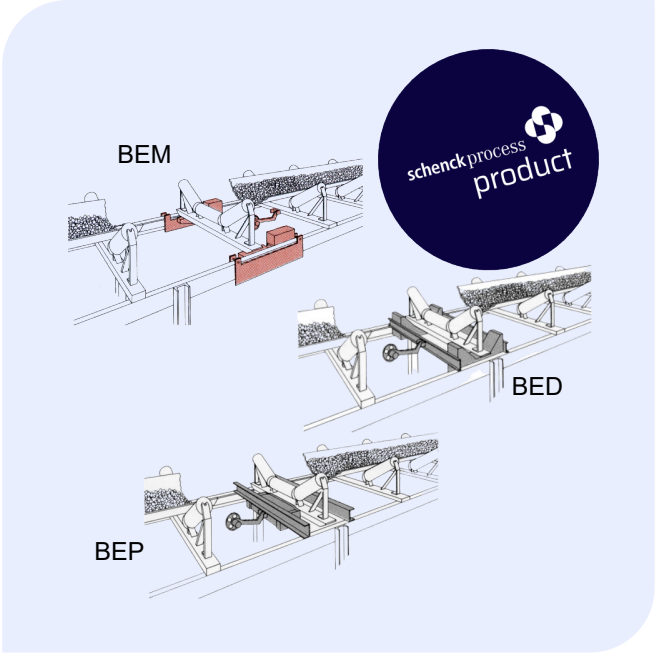
Single-idler belt weigher
MULTIBELT

- **Proven robust design**
- **For feed rates up to 15,000 t/h**
- **Accuracies up to ±0.5 %**
- **Verifiable variants also available**
- **Suitable for use in ATEX explosion zones**



Application

Single-idler belt weighers are used for continuous measurement of conveying capacity and feed rates.
They are designed for installation in continuously operating belt conveyor systems and achieve accuracies of up to ±0.5%. Their range of tasks is wide:

- Throughput and consumption measurement in production plants
- Balancing of amounts fed in and out
- Reporting of load limits
- Batching in load-out stations
- Legal-for-trade weighing
- Prefeeder control

The sturdy design of the system ensures a high degree of operating safety and availability.
We also have the right belt weigher for your specific application. For the highest accuracy requirements, please refer to the separate BV-D2050 data sheet.

Construction

The standard scope of delivery of single-idler belt weighers includes:

- Weighing modules or weighing platform for accommodation of user's idler station
- Overload protected load cell(s) with a high degree of protection
- Cable junction box for connection of sensors
- All fastening elements required for installation

For speed measurement, various speed transducers, e.g. frequency generators with friction wheel, are available as options.

Function

Belt weighers can detect continuous material flows of varying intensity.

The system measures the weight of the material over a defined belt section using load cells. The belt speed is measured using a speed sensor.

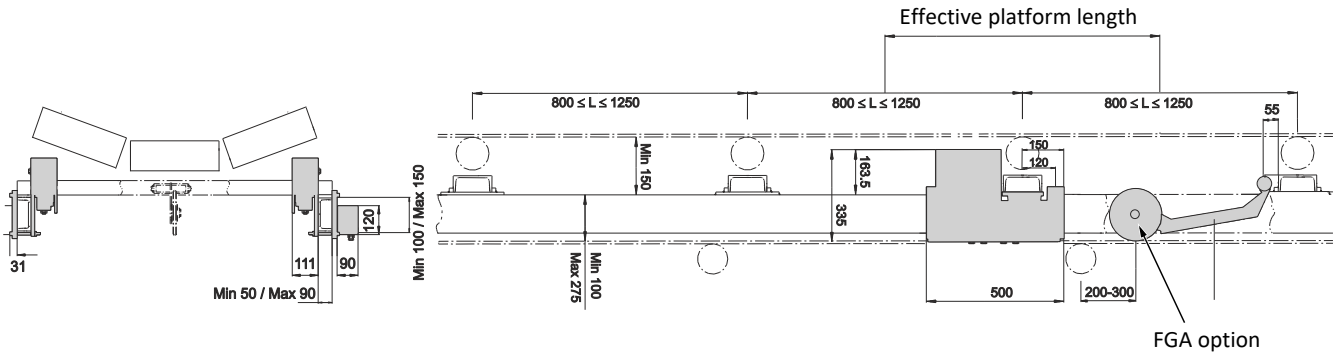
The current feed rate is the product of the two measured variables. The totalized amount of material is calculated by integrating the feed rate.

For belt weighers without a speed measuring device, belt speed is not recorded. In such cases, a constant speed must be entered into the evaluation electronics as a parameter.

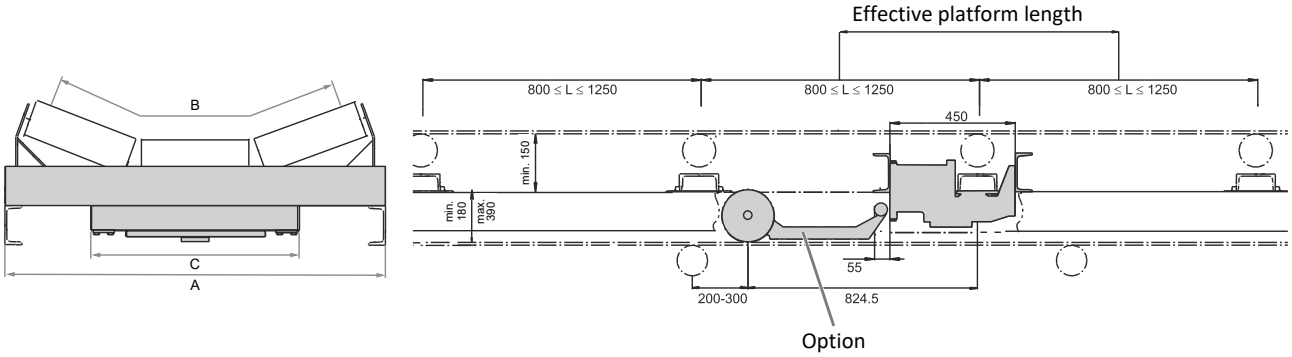
However, this method may negatively affect the accuracy.

Dimension

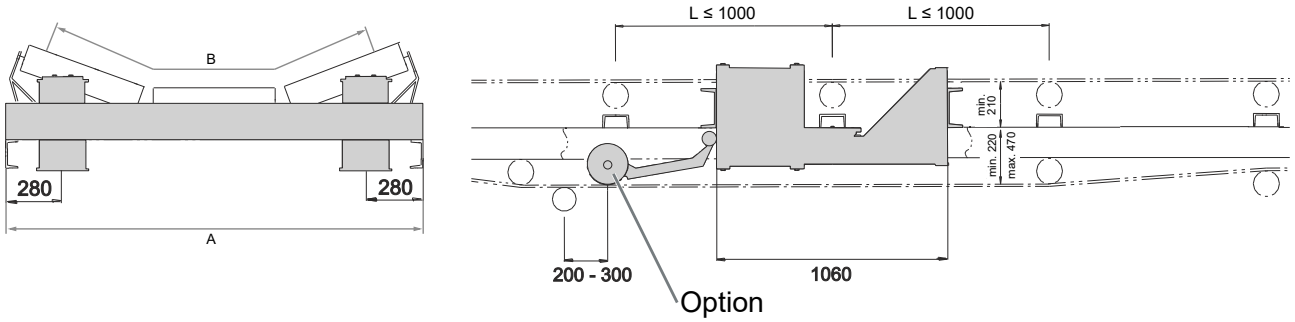
Single-idler belt weigher BEM



Single-idler belt weigher BEP



Single-idler belt weigher BED



MULTIBELT		Dimensions [mm]									
BEM	Measurement B Belt width	400	500	650	800	1000	1200	1400			
BEP	Measurement A	700	800	950	1150	1350	1600	1800			
	Measurement B Belt width	400	500	650	800	1000	1200	1400			
	Measurement C	440	440	440	740	740	740	740			
BED	Measurement A								2050	2250	2500
	Measurement B Belt width								1600	1800	2000

Technical Data

MULTIBELT single-idler belt weigher	Accuracies[1)]	Feedrates	Weight	Belt speed	Belt gradient
BEM	±1.0 % of the nominal feed rate	to approx. 4,000 t/h	approx. 60 kg		
BEP	±0.5 % of the nominal feed rate ±1.0 % of the nominal feed rate	to approx. 6,000 t/h	approx. 100 kg		
BED	±0.5 % of the nominal feed rate ±1.0 % of the nominal feed rate	to approx. 15,000 t/h	approx. 300 kg	to approx. 6 m/s	~ 20° (no relative movement of the material)

[1)] can only be achieved without a speed measurement device if the belt speed is constant

Accuracy

The specified accuracies refer to either the nominal feed rate (maximum capacity) or the respective actual feed rate within a range of 20–100%.
The stated accuracies apply to installation in a suitable belt conveyor subject to the condition that the measuring station is assembled and adjusted according to our assembly and adjustment documentation.
For optimal planning please refer to the data sheet for belt weighers BV-R2220 “Planning guidelines for proper functionality and high accuracy”.

Additional requirements

Please specify the requirements in your enquiry, such as

- verified versions suitable for legal-for-trade
- Belt speeds outside the specified range
- Inclinometers for variable belt angles
- Prefeeder control
- Flow rates higher than 15 000 t/h
- Higher accuracies
- Special belt widths
- Special conveyor belts

Order data

In order to process your request quickly and smoothly we require the following order data:

- Belt width (mm)
- Feed rate [t/h]
- Belt gradient [°]
- Belt speed [m/s]
- Accuracy [%]
- Rated feed rate ( )
- Actual feed rate ( )

Design single-idler belt weighers

BEM 400 – 1400
Modular belt weigher, belt widths 400 – 1400 mm

BEP 400 – 1400
Belt weigher with weighbridge, IEC belt widths 400 – 1400 mm

BED 1600 – 2000
Belt weigher with weighbridge, IEC belt widths 1600 – 2000 mm

Options

FGA 24 A
Speed measurement device Namur switch with perforated disc

FGA 20 RSLE
Speed measurement device for belt speeds up to 3.5 m/s; friction wheel with pivot arm and bracket

FGA 30 R2
Speed measurement device for belt speeds up to 3.5 m/s; friction wheel, closed casing, pivot arm and bracket

FGA 30 R2 K
Speed measurement device for belt speeds above 3.5 m/s with coupling for mounting on a shaft end

FGA 53 K
Speed measurement device for belt speeds above 0.1 m/s with coupling for mounting on a shaft end