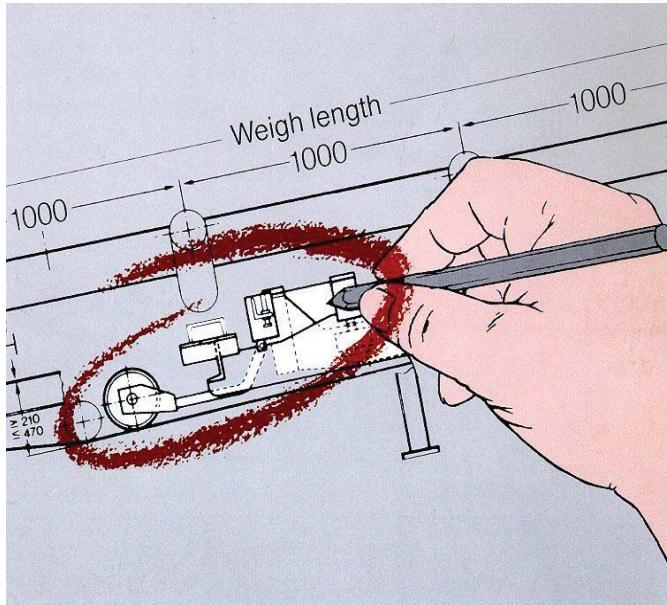


## Recommendations for the Installation Planning of Belt Weighers



### 10 rules to ensure proper functioning and high accuracy

Strict observation of the following rules is essential with a view to minimizing factors which might adversely affect the functioning and measuring accuracy of the belt weigher, and which originate from the weigher environment.

For maximum accuracy (related to the actual value), rules 4, 5 and 9 are of particular importance. The measuring stations themselves are of rugged design, and resistant to torsion.

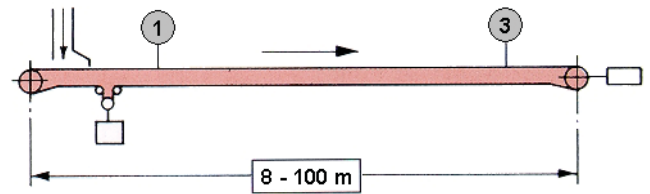
Detailed instructions for installation and alignment are given in our installation, calibration and commissioning instructions

# 1

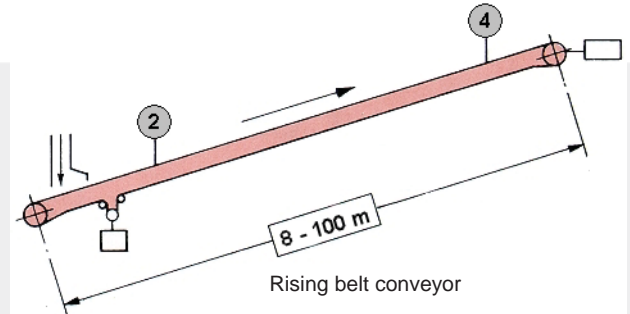
## Install the belt weigher in a straight belt section

The adjacent illustrations show a number of typical locations of belt weighers for different conveyor belt arrangements.

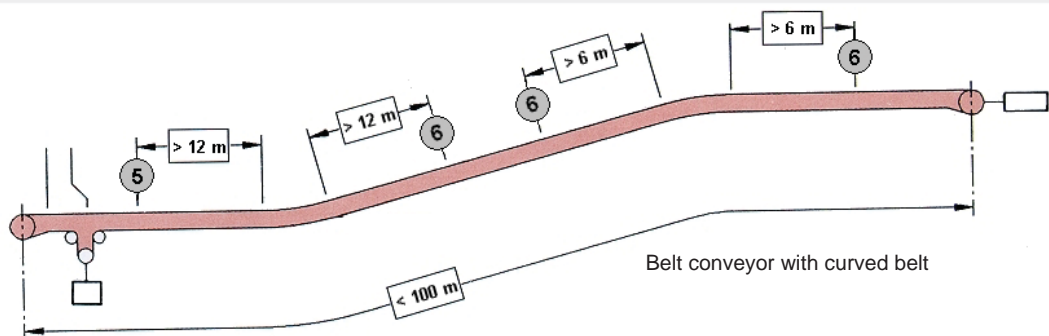
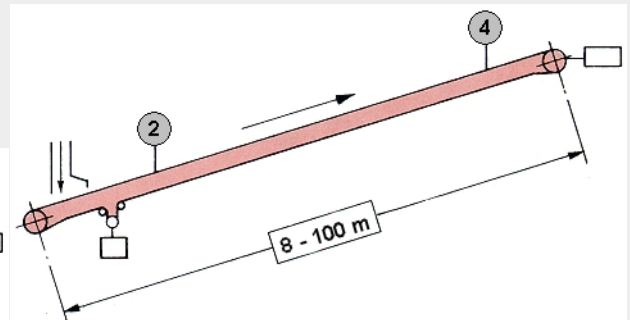
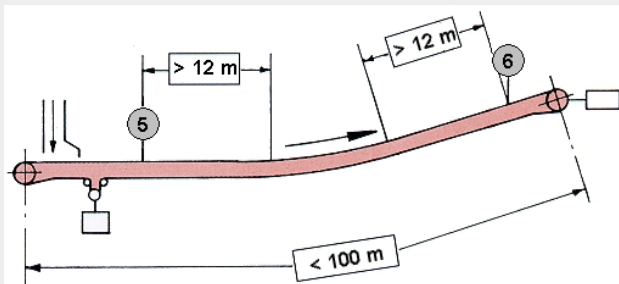
The numbers in the circles represent a rating scale (from 1 = to be preferred to 6 = unfavourable), characterizing the influence of the place of installation on the accuracy of the belt weigher.



Horizontal belt conveyor



Rising belt conveyor



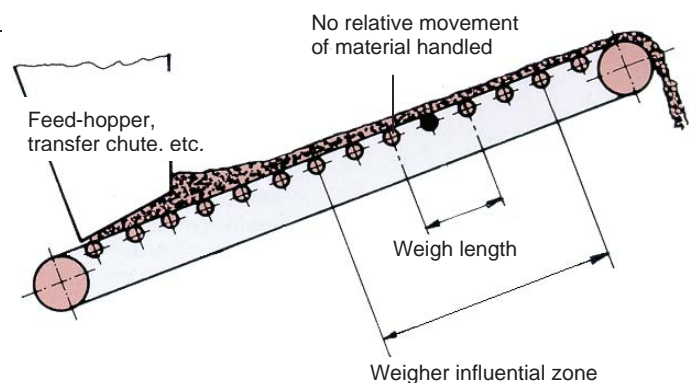
Belt conveyor with curved belt

# 2

The angle of inclination of the belt must be such that there is **no relative movement of the material handled**.

# 3

Install the belt weigher sufficiently far away from the hopper to ensure that the bulk solids flow has settled and there is no relative movement of the material.



4

Observe minimum distance of the belt weigher from the belt drum in the troughed belt.

$L_Y$  = troughing or flattening-out

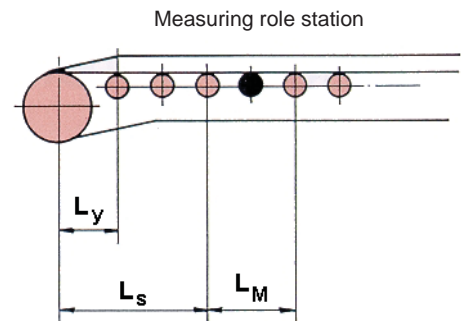
$L_S$  = safety distance

$L_M$  = weigh length

Rules:

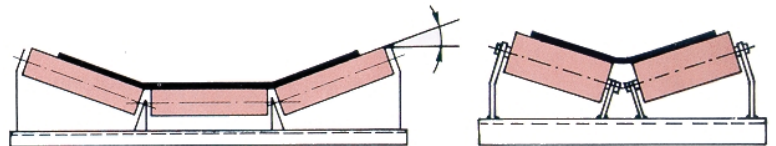
For 3-section idler sets  $L_S = 2.5 \times L_Y$

for V-shaped conveyors  $L_S = 4 \times L_Y$



5

Accuracy is influenced by troughing.



6

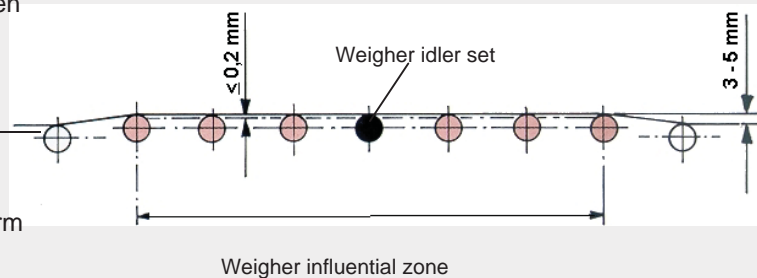
Ensure that the weigher is fully and constantly troughed in the weigher influential zone (3 approach and 3 retreat idlers)..

0 bis 20° GOOD  
up to 30° ADEQUATE  
up to 45° SUITABLE for measuring accuracies of ±1 % and ±2 % relative to the nominal feed rate

SUITABLE for measuring accuracies of ± 1 % und ± 2 % relative to the nominal feed rate

7

Accurately align all idler sets the weigher influential zone. Idler sets with offset idlers (as seen from above) may affect measuring accuracy. Carrying idlers out-of-round is max. 0.2 mm..

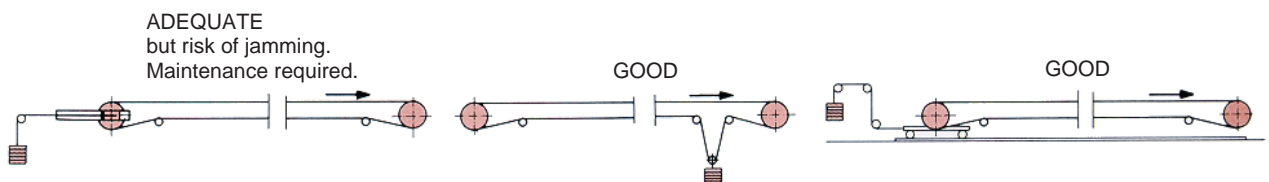


8

Belt stringers in the weigher influential zone must be stable, and the foundation must be firm and safe from sinking.

9

A weight take-up unit must be provided.



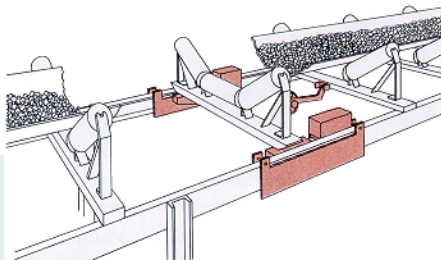
10

Take suitable precautions to protect the equipment against wind, moisture and extreme variations of temperature.

#### Please note:

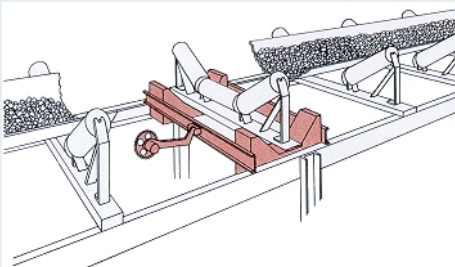
- The accuracies specified by us are only valid if the weighers are serviced, maintained, and calibrated as instructed, and installed in accordance with these recommendations for the installation planning of belt weighers.
- In the case of legal-for-trade belt weighers, the pertinent local weights and measures regulations must also be observed.
- The accuracy of belt weighers without speed transducer (without v-measurement) varies as a function of the fluctuation in belt speed.
- Proof of accuracy is obtained by performing check measurements with material.
- The quantity used in the measurement must be at least 10 % of the hourly totalized quantity at nominal feed rate ( $I_{nom}$ ), and one belt circuit must have been completed.
- Before installation of belt weighers, check to see that site can easily be accessed.

## The Right Belt Weigher for Every Belt Conveyor



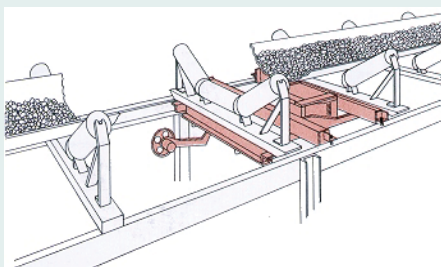
### Single-idler belt weigher type BEM

Achievable accuracy:  $\pm 1 \%$   
 Maximum feed rate: approx. 4.000 t/h  
 Range of belt widths: 400 – 1.400 mm



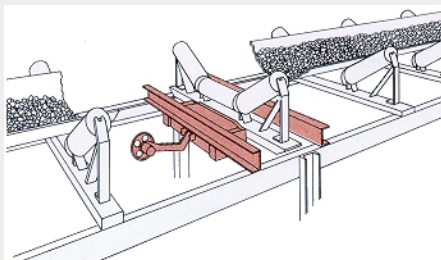
### Single-idler belt weigher type BED

Achievable accuracy:  $\pm 0,5 \%$   
 Maximum feed rate: approx. 15.000 t/h  
 Range of belt widths: 1.600 – 2.000 mm



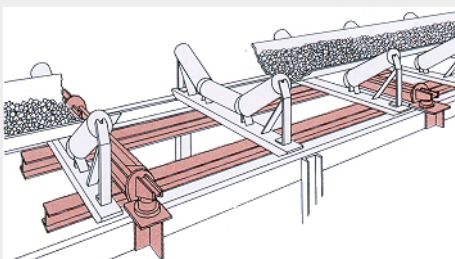
### Multi-idler belt weigher type BMP

Achievable accuracy:  $\pm 0,25 \%$   
 Maximum feed rate: approx. 15.000 t/h  
 Range of belt widths: 500 – 2.000 mm



### Single-idler belt weigher type BEP

Achievable accuracy:  $\pm 0,5 \%$   
 Maximum feed rate: approx. 6.000 t/h  
 Range of belt widths: 400 – 1.400 mm



### Multi-idler belt weigher type BMC

Achievable accuracy:  $\pm 0,25 \%$   
 Maximum feed rate: approx. 20.000 t/h  
 Range of belt widths: 500 – 2.000 mm

Higher belt widths available upon request