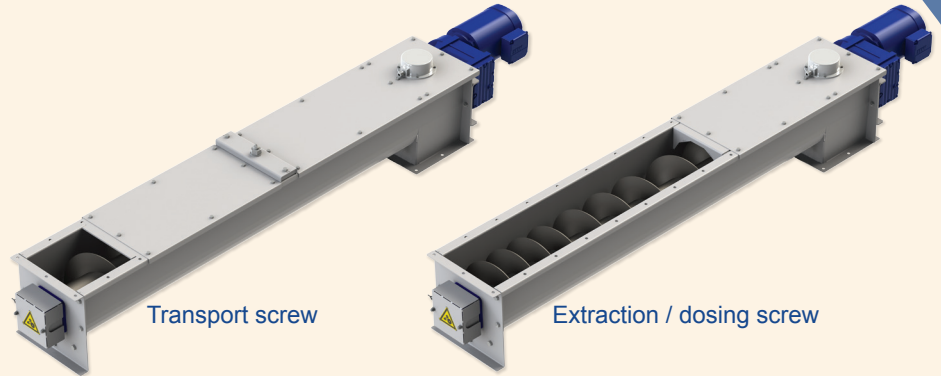


Screw Conveyor

Process

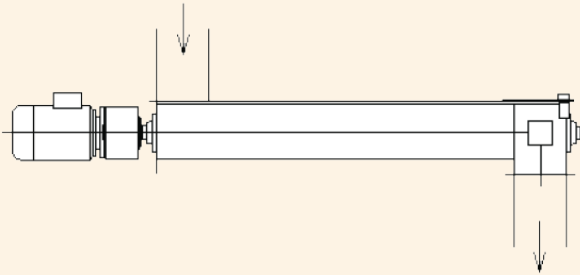
Screw conveyors, ducts and all other means of transportation provide the connecting elements within the production process. A screw conveyor moves product from A to B. The van Aarsen screw conveyors are used for the horizontal and slightly inclined transportation of different customary products in the compound feed industry. The maximal angle of inclination is 15 degrees.



A screw conveyor can be applied in the production process as **transport screw** or as **dosing screw**:

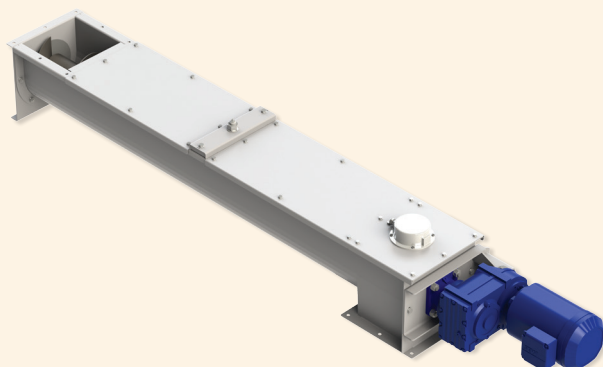
Transport screw

A transport screw is fed through a pipe and transports the product until it leaves via the outlet:



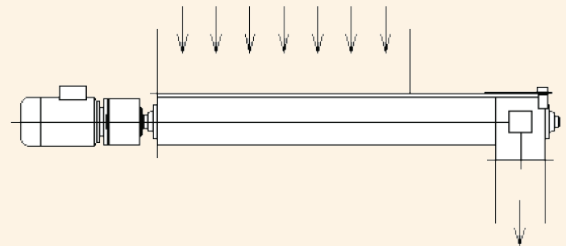
Characteristics transport screw (in general):

- ▶ Transport function
- ▶ Constant speed (rpm)
- ▶ Equal pitch over the whole length
- ▶ Supply capacity determines the filling degree and the outflow capacity
- ▶ Filling degree at nominal capacity: 0.3 – 0.7 (full U-trough is 1.2)
- ▶ With application of intermediate bearings and/or larger tube diameters, lengths > 3 meter can be achieved



Extraction screw / dosing screw

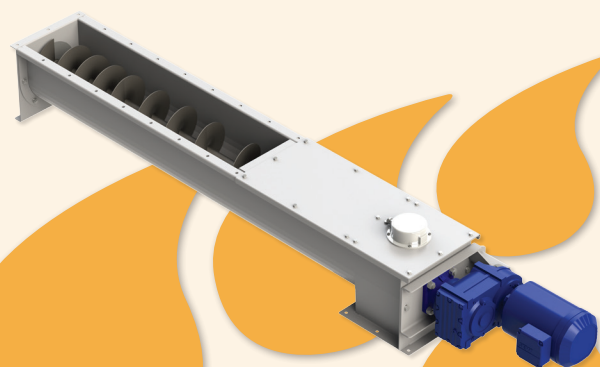
An extraction/dosing screw pulls the product out of the silo/hopper and transports it, until it leaves via the outlet:

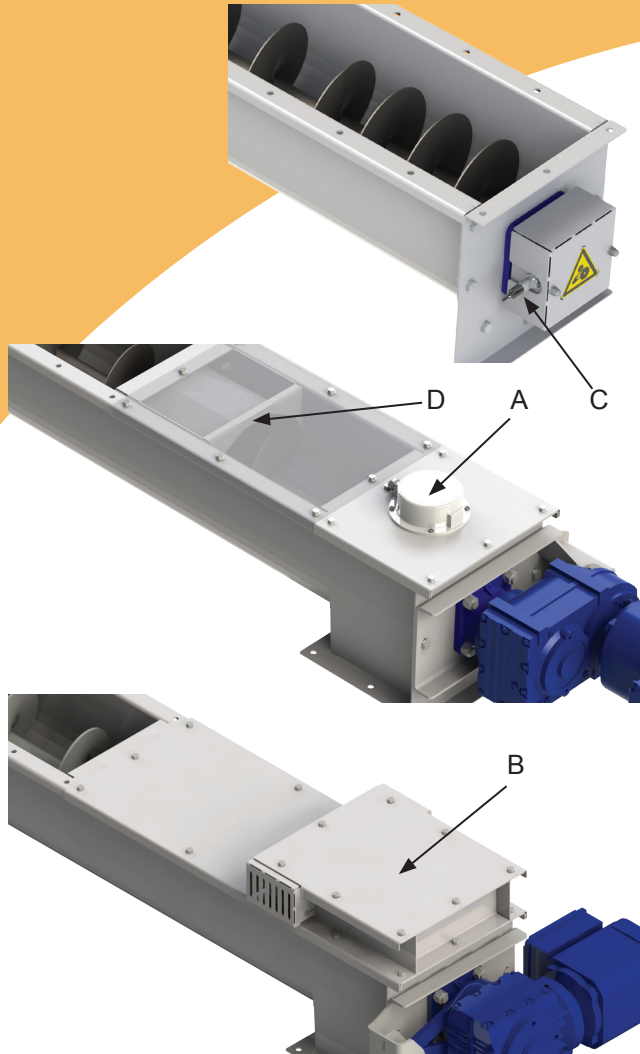


An extraction/dosing screw can also be used for controlled supply to the next process step (dosing).

Characteristics extraction/dosing screw:

- ▶ Extraction- and/or dosing function
- ▶ Variable speed (for dosing function)
- ▶ Ascending pitch in the inlet section
- ▶ Rpm determines the outflow capacity
- ▶ Filling degree at nominal capacity: 1 – 1.2 (full U-trough is 1.2), depending on the presence of a tunnel
- ▶ Intermediate bearing not recommended (because of filling degree)
- ▶ Without intermediate bearing, maximum lengths depending on the actual situation are approximately 4 meter





Options

- ▶ Overflow detector (A); detects a product jam in the outlet
- ▶ Product detector (B); detects product flow just before it enters the outlet
- ▶ Rotation detector (C); detects if the screw shaft is turning
- ▶ Tunnel (D); levels off the product above the screw shaft
- ▶ V-inlet; prevents product from getting stuck above the screw (only applicable for screw type 150)
- ▶ Intermediate bearing, prevents deflection of the shaft

Screw shaft

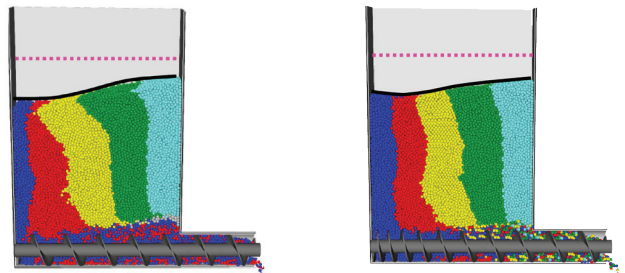
Transport screw

The screw shaft of a standard transport screw is provided with an equal pitch for the screw blades over the total length.

Extraction/dosing screw

To facilitate an even subsiding of the product over the whole length of the inlet (mass flow), the screw shaft of the extraction/dosing screw is provided with screw blades with an increasing pitch.

Refer to the figures below:



Straight pipe with equal pitch Straight pipe with increasing pitch

Flexible production

- ▶ Both pellets and meal can be transported with a screw conveyor
- ▶ For transport of corrosive materials, such as salt or premix, it is advisable to use a stainless steel screw conveyor

Customized specials

Non-standard versions for special applications can be provided on request.

		Type* screw conveyor			
		Type 150	Type 250	Type 250-2	Type 350
Capacity**	m ³ /h	5-20	20-100	40-200	75-300
Power -specific weight 0,5 T/m ³ -length 3 m -pull-out length 1 m	Kw	0.7	2.2	2 x 2.2	5.6
Weight	kg	± 200 kg	± 400 kg	± 500 kg	± 650 kg
Height	mm	260	365	365	465
Alternating pitch	mm	80, 100, 120, 140	100, 150, 200, 250	100, 150, 200, 250	150, 200, 250, 300, 350

* The type-designation is derived from the diameter of the screw blades.

** Because of the large amount of variables for a screw conveyor, the above mentioned capacities are only an indicator and calculated at a filling degree of 1.15 and a conventional pitch.