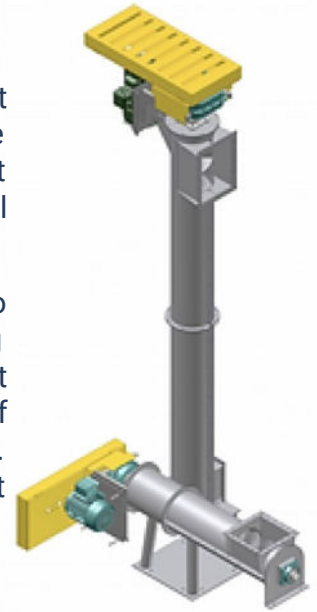


Screw Conveyor Cable Conveyors

Flexibility

Because the screw is pushing product within the tube, and the product is in constant motion relative to the screw, friction is a limiting factor of conveyor length. Moving the product over long distances requires a large amount of torque, which in turn can affect the screw depending on its design and materials of construction. Longer screws will also sag or buckle without support bearings, which can interfere with flow.

At steeper angles, the particles roll up and over the screw flights backward relative to the direction of the conveyor, reducing the capacity of the conveyor. Increasing rotational speed or reducing the pitch of the flights will allow vertical conveyance, but the possibility of vertical conveyance depends upon the product. Reducing the pitch of the conveyor improves conveyor performance but increases the weight of the screw. Screws can only convey in a straight line. In order to change directions, one screw must feed another conveyor.



Energy

In order to convey the same amount of product in a screw conveyor, more power is required to overcome the friction between the product and the screw. If used on an incline, increased speed and/or a reduced pitch is required. Both require more energy. To achieve the path of conveyance attainable with the use of a Cablevey, more screws and motors would be required.

Cleaning

In a screw conveyor, there are no components or attachments to maintain cleanliness while the conveyor is in operation. A level of cleaning can be accomplished by flooding the screw conveyor with water and detergents and blowing air to dry it out, and the conveyor must be taken offline to do so. However, this is insufficient to achieve the level of cleanliness required in today's food, chemical, and pharmaceutical industries. To clean a screw conveyor to this level generally requires that the screw be completely removed, the trough or tube and the screws washed and wiped down, dried, and reassembled. Cablevey users can use a wiper or a scraper and a brush box during normal operations to remove buildup and maintain a level of cleanliness for a longer time in between full thorough cleanings. Brushes, sponges, and wipers are used during a wet-clean, improving confidence in cleanliness while reducing the time and labor.

Product Damage

Screws can convey a wide variety of products with changes in the design and loading. Given a variety of products and a single screw, certain products will move better than others, and for a wide variety of reasons. Common issues with screw conveyors include product damage due to grinding and product compaction and hardening due to building up on the trough or shaft. To prevent damage from grinding, the conveyor must run more slowly, requiring a larger conveyor to move the same amount of product. On inclines, the speed must be increased, causing the potential for further damage.

Downtime

The amount of downtime depends a lot on the products being moved and the construction of the screw conveyor. Shaftless screws do not have the problems with bending and support bearings that screws with shafts do, while center-shaft screws do not wear the trough lining and do not stretch or compress as shaftless screws do. Support bearings require inspection and maintenance, and can cause product blockages that in turn can damage the screw. With a Cablevey, there is nothing in the tube but the product and the cable to inhibit the flow.