



White Paper

Similar Materials - Easily Broken: Tubular Drag Cable Conveyors for Sensitive Materials

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Tubular drag cable conveyors are somewhat unconventional – not speedy or particularly high-volume. However, this extremely flexible conveyor system has the big advantage that it doesn't cause much breakage, even if very friable materials are conveyed.

Not everybody active in bulk materials handling is necessarily familiar with the tubular drag cable conveyor. They are unconventional; not speedy or particularly high-volume. And they are typically used to convey talc or food materials like almonds, pistachios, peanuts, roasted coffee and breakfast cereal. Their big advantage is that they cause minimal breakage.

Admittedly, they wouldn't come to mind immediately for conveying lime or reclaimed cement. There are however a number of reasons to consider the use of a tubular drag cable conveyor.

First, they have been used successfully under the most stringent international standards by the top ten food, cereal, nut and coffee companies in the world.

Second, and most important, they have a place in every industry where breakage may occur. This includes between two pieces of equipment that make material more friable such as an oven or extruder; or any kind of metering device

conveyed into packaging.

A tubular drag conveyor can feed and pick up materials from virtually any place within a facility. From bag dumps and mezzanines, through walls, at waist-height or 90 degrees from the inlet hopper or silo, simply because they are extremely flexible.

One might not ordinarily think of tubular drag cable conveyors when specifying a solution for a process or project. But they are particularly valuable for processing friable materials, because in this case breakage rates become more critical as the cost of raw materials rise. In other words, the processing method can affect the bottom line.

Different Conveyor

Cablevey Conveyors started out by getting requests to replace other types of conveyors – but those conveyors obviously have a place in many processing environments, so the company started to ask customers why they were buying this equipment.

The answers received by Cablevey typically was one of the following: □

- Need for a customized solution.
- Materials are getting sheared going into the inlet of the down stream process.
- Materials are accumulating in the elbows.
- Clean-up is taking too long.
- Existing open systems are attracting critters.
- Breakage rates are over specifications, something in the process needs to be changed.

Better in Certain Situations

The feedback received – and what the answer from a process engineer or quality assurance person talking about this type of conveyor might be:

- Low cost solution.
- Low power consumption.
- The low velocity of the tubular drag system also reduces wear of the various components in the system.
- Tubular drag systems are very effective at shorter distances of 100 to 200 feet (approx. 30 to 60 metres.)

- A system like the the tubular drag cable and disc system is self-cleaning because of the wipers that constantly clean the tube.
- Dust collection is not required with a system like a tubular drag cable conveyor since it is a closed loop system and it does not use air to move the material. These types of systems move the material at low velocities to help prevent degradation of the product.
- The control system is not complicated on this system. All you need is the stop/ start control for the main motor. Variable Frequency Controls are simple to set up and use.
- The range of products that a tubular drag cable system can convey, are very similar to products that a pneumatic conveying system can transport. Maintenance on a tubular drag cable system is very minimal.

Other Considerations

- The tubular drag cable conveyor is more expensive than most augers.
- This type of system is suitable for conveying at capacities of up to 1240 cubic feet per hour (approx. 35 cubic metre per hour.)

Finally...

The cable and disc system enclosed in a tube, doesn't use air for conveying. The tubular drag cable conveyor offers many advantages especially for conveying friable material. It should be considered when breaking expensive materials needs to be avoided.