

Horizontal Motion Conveying FAQ



Horizontal motion conveying is proving to be an alternative to vibratory conveying. Here are the answers to some frequently asked questions that come up when investigating conveying processes for the dry-bulk and food processing industries.

How does a horizontal motion vibrating conveyor work without any vertical motion?

In horizontal, zero-pitch, conveying, the translation comes from a differential or slower forward movement relative to the retraction, which is quick. The lack of vertical motion provides a much smoother and more gentle handling of the material being conveyed. When the material is not fragile or even hard and abrasive, this same motion reduces the wear on the pan.

What kind of capacities can be expected on a differential horizontal motion type conveyor?

Horizontal motion conveyors will generally handle more depth of material but at somewhat lower travel rates compared to other vibrating conveyors. The overall capacity is pretty close to screw conveyors as well in similar widths. Many belt conveyors can move more material because they can run faster. With horizontal motion, different materials with different shear strengths, friction coefficients, and densities will vary both the travel rate and the depth that can be carried. Different pan surfaces and more aggressive drives can move more material or material that is low in shear strength or sticky. For example: "Jello," or uncured rubber cubes, would be a challenge.

Can you do size screening on a horizontal motion conveyor?

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Screening is not a good characteristic on a conveyor that does not have any vertical acceleration. With gentle handling also comes reduced little energy to dislodge nearsize pieces that get caught in the openings. Some rough scalping is possible where occasional large oversize pieces are removed from the bulk of much smaller pieces.

What are the advantages of a horizontal motion conveyor vs. a vibratory conveyor?

The horizontal motion conveyor design offers a number of advantages over conventional vibrating conveyors, screw conveyors, and drag conveyors often used in bulk handling applications. Compared to conventional vibrating conveyors, which are usually powered by springs and convey material through the impact on the conveyed material, the horizontal motion conveyor provides gentle transportation. Fragile materials like food products, agglomerated powders, and extruded, flaked, or pelletized products are undamaged and remain intact during the conveying process using the horizontal motion conveyor.

Will the horizontal motion conveyor operation produce dust?

The horizontal motion conveyor can be enclosed to ensure a dust tight seal. But the quick forward, slow return settles dust.

Our vibratory conveyor tends to break too much of our product and causes some of the coating and seasoning to come off. What can we do?

Consider replacing vibratory conveyors with the horizontal motion conveyor. Fragile materials like food products, agglomerated powders, and extruded, flaked, or pelletized products are undamaged and remain intact during the conveying process. The key to horizontal motion conveying is the action of the conveyor upon the inertia of the conveyed materials. During the slow advance of the conveyor's cycle, material is at a relative rest on the conveying surface. The quick return segment of the cycle gently slides the conveying surface under the material bed. Repeating this cycle 200-300 times per minute serves to smoothly convey the material up to forty feet per minute along the length of the conveying surface.

I am conveying dusty material, can sealed inlet and outlets be placed within the conveyor?

Inlets and outlets may be installed anywhere along the length of the trough. They may be open or sealed with flexible boots. Dust pick-ups may be installed for extraction of any airborne dust created at material transfer points (the horizontal motion of the Slipstick itself does not create dusting).

For more information, head on over to www.sssdynamics.com [1].

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[1] <http://www.sssdynamics.com>