BS Vertriebsbüro GmbH

Silo-Anlagenbau - "Your specialist in silo components "

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Others

- **Screening machines**
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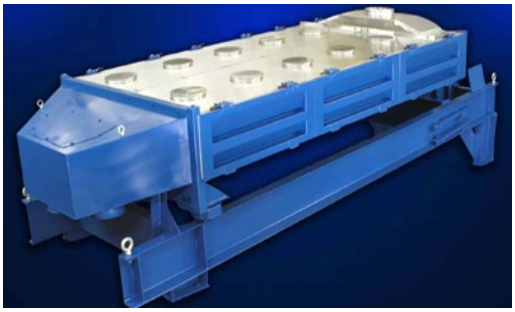
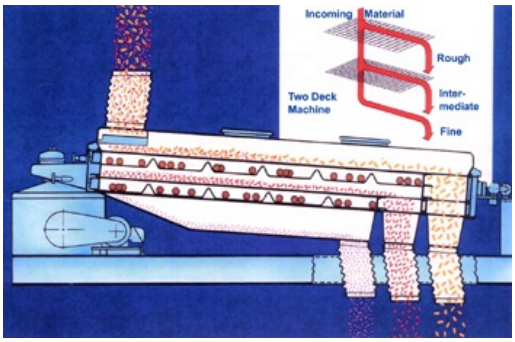
Screening Machines

Fast production screening of dry materials



Screeners are self-contained production screening machines for separating dry materials according to particle size. Through their unique gyratory motion of the near-horizontal screen surface, combined with a positive screen mesh cleaning system, the screener provides unusually high efficiency and capacity - all the result of continuing development for hundreds of applications throughout scores of industries.

The screeners utilize a unique screening action that provides accuracy of separation at high production rates. As shown in the illustration below, material enters at top left where it is distributed over the entire width of the screen surface and conveyed toward the discharge end.
Larger particles remain above the screen surface, while smaller particles pass through, as determined by the screen openings used for each particular application.



The model illustrated here is a typical two-surface machine, which separates material into three different grades. Other models have one to five screen surfaces, producing two to six separate grades.

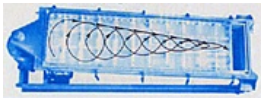
2 separate actions - gyratory motion and bouncing balls
For low-cost screening on a production basis, screening machines must perform two distinct functions:
1. Give undersize material maximum opportunity to pass through the mesh openings but without the loss of oversize material at the same time.
2. Prevent the material from lodging in the mesh openings.
The screeners perform these two functions by employing two distinct screening actions, thereby providing far more accurate separations and greater product yields at higher production rates.

1. The unique gyratory motion imparts a combination of actions to the material as it passes along the screen surface.
It begins with a horizontal circular motion at the feed end, gradually diminishing along the length of the machine to an elliptical path, and finally to an approximate straight-line motion at the discharge end. There ist no vertical component to this motion - thus keeping the material in constant contact with the screen surface.

Circular motion at feed end
The gyratory motion at the feed end of the machine immediately spreads the material across the full width of the screen surface to maximize screen utilization even though the feed is from a single point. At the same time, this motion stratifies the material, causing the fines to sink down against the screen surface.
The particles that are appreciably smaller than the openings quickly pass through at this part of the screen.

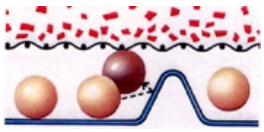
Changing to elliptical motion at center
As the circular motion diminishes into an elliptical path, the gentle near-horizontal motion causes the fine particles closer in size to the screen mesh - the near-size particles - to fall through the mesh openings.

Straight-line motion at discharge end



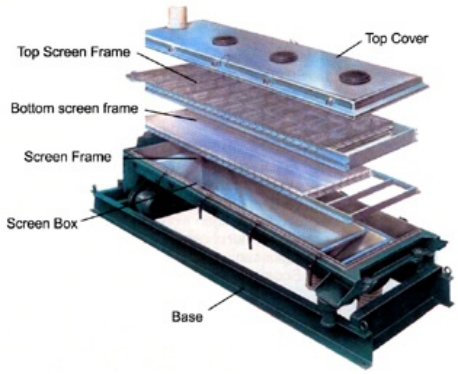
The nearly linear recipro-cating motion at the dis-charge end of the screener removes those particles closest in size to the mesh openings while gently conveying the oversize material off the screen. In addition the unique screener ability to advance or retard material flow at the discharge end allows further fine tuning to achieve the most efficient and accrate motion for the application.

2. Bouncing balls ... prevent binding



The second action is performed by resilient balls confined in beveled pockets under each screen surface.
The machine motion causes these balls to be deflected against the underside of the screen surface.
This action keeps the screen surface clear of lodging particles or binding.
Keeps the screen surface alive, providing agitation to aid particle stratification and to separate particles that may tend to stick together. This freedom from binding enables the screener user to choose screens with the exact openings required to achieve the desired sepa-ration, resulting in maximum yield of on-spec product.
This highly efficient combination of actions achieves the desired product deterioriation, so as to yield more usable clean material per amount screened.
The screen deck is inclined at 4°, thus the material is exposed to the full mesh openings, ensuring constantly sharp, well defined separations at high production rates.

Totally-enclosed design, positive sealing
The screen box is constructed so that the screen frames nest completely within the box, one on top of another, with the cover directly on top. Continuous sealing strips are incorporated between all sections of the machine, preventing cross contamination in the product fractions as well as leakage out of the machine. When the cover clamps are engaged, the entire unit is completely enclosed and secure.



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