

direct discharge vibrating screen for the food industry

Direct discharge vibrating screen is a kind of efficient screening equipment integrating screening and conveying, designed with low profile structure, customized for continuous and high capacity industrial production line.

Direct Discharge Vibrating Screen

The Direct Discharge Vibrating Screen features a straight-through discharge, allowing screened materials to fall directly into subsequent process stages without unnecessary transit. This design maximizes production efficiency and is ideal for rapid pre-screening, debris removal, and feeding of free-flowing powders or granular materials. It is widely used as primary separation equipment before or between pulverizers, mixers, and packaging machines, ensuring clean and uniform material transition.



Core Features

1. **Compact structure, small footprint:** Low height and lightweight design for easy installation in multi-layer or narrow spaces.
2. **High throughput design:** Bottom discharge port enables vertical, rapid material flow, delivering processing capacity much higher than traditional screening machines.

3. **Modular screen structure:** Quick replacement of mesh screens to meet diverse process requirements.
4. **Multi-frequency vibration adjustment:** Flexible motor eccentric block angle adjustment for customizable vibration force and material trajectory.
5. **Full sealing design:** Prevents dust and cross-contamination, compliant with food, pharmaceutical, and other hygiene standards.
6. **Low energy consumption, low noise:** High-quality vibrating motor ensures energy-saving, stable, and quiet operation.

Operation Principle

Powered by a dual-motor asynchronous self-synchronous vibration system, the screen generates equal amplitude and reverse excitation forces, producing composite spatial vibration. The centrifugal force from rotating eccentric blocks drives high-frequency vibration, causing material to jump, roll, and move centrifugally on the sieve mesh. Larger particles/impurities remain on top and are discharged, while qualified material drops straight down through the bottom port. Vibration direction and material trajectory are easily adjusted via the motor eccentric block phase angle.

Application Areas

1. Food processing industry: Screening flour, starch, milk powder, seasoning powder, powdered sugar, and more to remove impurities before packaging.
2. Chemical materials: Pre-screening and grading of rubber additives, plastic particles, chemical powders, ink powders, etc.
3. Medicine and pharmaceuticals: Drug powder impurity removal and particle grading to ensure product quality.
4. Metallurgy and metal powder: Initial sieving of aluminum, copper, tungsten, and other fine metal powders to prevent agglomeration.
5. Building materials and non-metallic minerals: Screening talcum powder, bentonite, silica, mica powder, and other mineral products.
6. New materials industry: High-purity screening of graphite, lithium battery electrode materials, conductive carbon powder, and more.