

VIBRO-AIR™ Size/Density Separator



Removes oversize, undersize and underweight materials from grains, plastics, rubber, glass, wood and more

Kason's new VIBRO-AIR™ Size/Density Separator employs vibratory screening to remove oversize and undersize particles, and air separation to simultaneously remove low bulk density materials.

The combination of the air separator and vibratory screener removes a greater portion of fines and low-density materials from on-size particles than possible with screening alone, and does so with greater efficiency.

Principle of Operation

Material entering the separator through a port on the hood, cascades over a series of strategically placed internal trays, and ultimately onto a vibrating, fine mesh screen that fluidizes the material and moves it in controlled flow patterns toward and through a discharge port at the screen's periphery. Heavier fines and a portion of the lighter fines pass through the screen onto a chute leading to a lower discharge spout.

Simultaneously, air drawn into the base of the air-tight chamber flows upward, drawing the balance of low density fines, along with airborne dust, fibers, films and strands, into an air stream that increases in velocity (as the hood tapers) before venting to a dust collection system.



The VIBRO-AIR separator is available in 24 to 100 in. (610 to 2540 mm) diameters, in carbon steel or stainless steel, and is offered as a stand-alone unit or a complete system (shown) integrated with a dust collection system and exhaust fan (remote-mount control panel not shown) on a mobile frame, ready for connections to material infeed and discharge ports, and a power source.

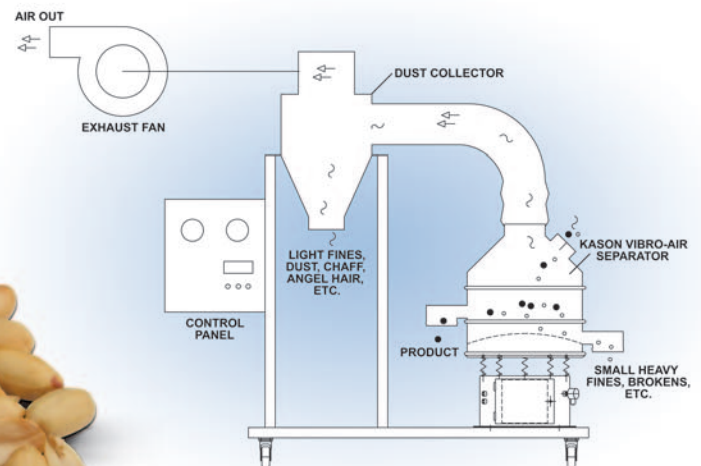
The VIBRO-AIR separator can additionally scalp oversize particles from on-size material using an optional scalping deck fitted with a coarse screen mesh (not shown), positioned above the fine mesh screen.

The screening assembly is suspended on springs that allow it to vibrate freely while minimizing power

consumption and preventing vibration transmission to the floor. Beneath the assembly is an imbalanced-weight, gyratory motor that creates multi-plane inertial vibration for the purpose of controlling the flow path of fluidized material on screen surfaces and maximizing the rate at which material passes through the screen.



Mixture of whole peanut kernels (lobes), broken peanut kernels, skins (seed coats) and shells (hulls/pods) shown mixed, and as separated by size and density using the VIBRO-AIR™ Size/Density Separator.



OPTIONS:

- Additional scalping deck with coarse screen mesh
- High strength bar magnet to remove ferrous materials
- "Air-Lift" quick screen change system
- Clean-In-Place (CIP) design, construction and finish
- Kleen Screen anti-blinding device
- Ball Tray anti-blinding device
- Auto-Lube Automatic Lubrication System for gyratory motors

FEATURES:

- Capacities to 50 tons/h (depending on application)
- Compact size
- Self-contained systems ready to plug in and run, or stand alone units to integrate with your process
- All stainless steel construction
- Abrasion resistant
- Air-tight

BENEFITS:

- Greater and more efficient removal of low-density materials, fines and/ or oversize material from on-size particles than with screening alone
- Improves end product quality
- Reduces or eliminates waste
- Dust-free operation
- Energy efficient
- High reliability, low maintenance



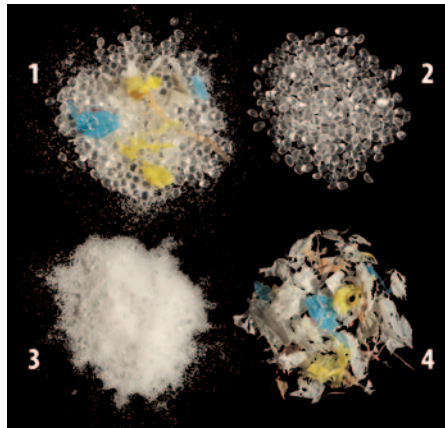
Available to food, pharmaceutical and industrial standards.



Vibrating internal trays and a screen mesh, together with airflow, separate fines and low-density materials from on-size products. Oversize particles can also be removed with an optional coarse screening deck positioned above the fine-mesh screen. Stand-alone units (shown) can be integrated into new or existing processes with connections to a power source, a bag house line, and material infeed and discharge ports.



Rice: 1) mixture of on-size grains, undersize grains, and chaff, 2) on-size grains, 3) low bulk density chaff, and 4) undersize grains — as separated by screen vibration and airflow.



Plastics: 1) mixture of on-size pellets, undersize powder and low bulk density film/streamers/ fluff, 2) on-size pellets, 3) undersize fines, and 4) low bulk density film/streamers/fluff — as separated by screen vibration and airflow.



Wood: 1) mixture of undersize chips and powder, 2) on-size chips, and 3) low bulk density fines — as separated by screen vibration and airflow.

TYPICAL APPLICATIONS

| | ON-SIZE | UNDER SIZE | OVER SIZE (OPTIONAL) | LOW BULK DENSITY |
|--|----------------------------|--|---|--|
| GRAINS (rice, wheat, peanuts, soy beans, cocoa beans, etc) | WHOLE GRAIN | GRAIN PIECES, SMALL DEBRIS PARTICLES, HEAVIER DUST | SHELLS, ROOTS, STEMS, TWIGS, DEBRIS | CHAFF, SKIN, LIGHTER DUST |
| RECYCLED GLASS | BROKEN GLASS | FINE PARTICLES, HEAVIER GLASS DUST | UNBROKEN GLASS, LARGE PIECES, DEBRIS | LABELS, LIGHTER DUST |
| WOOD (for particle board, MDF, plastic wood, engineered lumber, etc.) | ON-SIZE CHIPS AND SHAVINGS | HEAVIER SAWDUST, SMALL CHIPS/SHAVINGS, WOOD FLOUR | LARGE PIECES, DEBRIS | LIGHTER SAWDUST, WOOD FLOUR |
| PELLETIZED PLASTICS | ON-SIZE PELLETS | UNDERSIZE PARTICLES, HEAVIER FINES | LARGE EXTRUDATE, LONGS, STRANDS | FINES, LIGHT ANGEL HAIR, FILM SCRAP, LIGHTER FINES |
| REGRIND AND POST-CONSUMER RECYCLED PLASTICS | ON-SIZE PARTICLES | UNDERSIZE PARTICLES, HEAVIER FINES | LARGE PARTICLES, DEBRIS | LABELS, FILM, LIGHTER FINES |
| TIRE RECYCLING | ON-SIZE GROUND RUBBER | UNDERSIZE GROUND RUBBER, SMALL FIBERS | COARSE RUBBER, HEAVIER FIBER, STEEL REINFORCEMENT (SEE MAGNET OPTION) | LIGHTER FIBERS, LIGHTER FINES |

Note: The meshes of the undersize screen and optional oversize screen are specified according to the dimensions of the "on-size," "undersize" and "over size" particles desired. Air flow is adjusted to float particles having a sufficiently low bulk density, into the conical hood of the separator where air speed increases, carrying the low bulk density material to a dust collection system.



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