

SHAKE & SORT WITH AIR



LONG STROKE DOUBLE KNIFE

FUNCTION

The DENSE-OUT® Vibratory AIR Separator integrates the advantages of vibratory technology and controlled air. Air density separation is a key system component for the separation of mixed materials based on differences in density and shape.

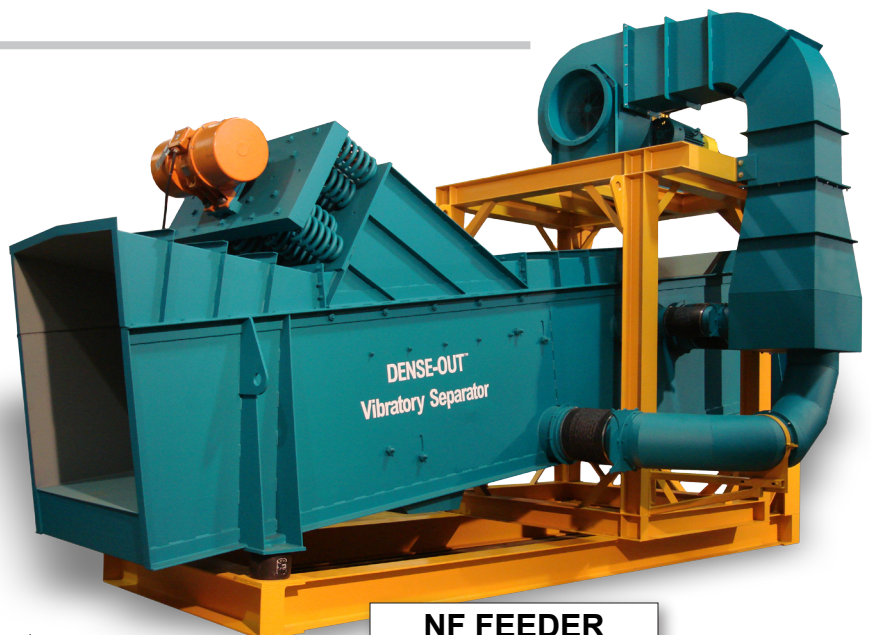
APPLICATIONS

The DENSE-OUT® is cost-effective and suitable for removing “heavies” such as rocks, bricks, metals, glass, ice lumps, nuts & bolts, etc., from less dense materials.

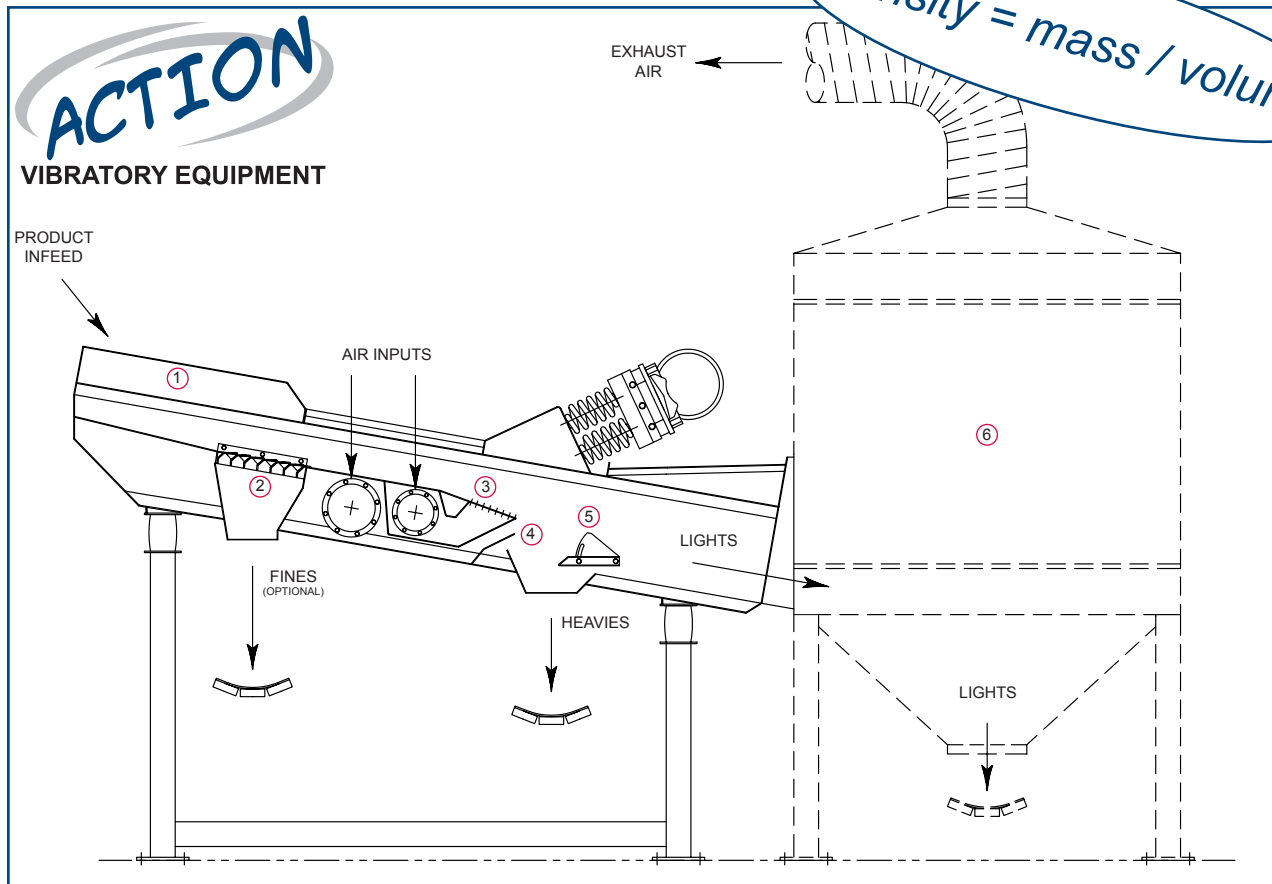
- C&D Debris (construction & demolition debris)
- Fuzzy (magnetized) iron from shredder fluff
- ASR - Recovery of both ferrous and nonferrous metals
- RDF (refuse-derived fuel)
- Shredded MSW (municipal solid waste)
- Compost cleaning
- Biomass fuel
- Aggregate cleaning
- Glass cleaning
- Multi-fraction separating for heavies, lights & super lights.
- Hog fuel clean-up by removing rocks and metals
- Removes dirt, stones, and other non-combustibles from wood chips
- Shredded household waste
- Recover broken glass from MRF materials
- UBC cleaning
- Recovery of processed wood for use as fuel
- Reduces material volume destined for the landfill
- Paper and plastic separation
- Removes unpickable lights (fines, foils, small paper, etc.)

BENEFITS

- Minimal capital costs & maintenance
- Compact design
- Dry system (replaces float tanks)
- Rugged construction for 24 hour industrial use
- Boosts commercial value of “lights” or “heavies”
- Dynamically balanced to minimize foundation requirements
- Adjustability provides flexibility for greater separation efficiency
- Vibratory motion conveys & fluidizes material
- High separation efficiency & capacity
- Automated separation replaces manual labor
- Can be retrofitted within an existing plant



**NF FEEDER
DOUBLE KNIFE**



OPERATING PRINCIPLES

- ① **LOAD**
Pre-screened material is uniformly deposited onto the load plate of the DENSE-OUT® and is transported forward via vibration. The vibratory action begins the material stratification process.
- ② **PRE-SCREEN** (optional)
A short section of TAPER-SLOT® Screen helps to remove fines prior to the introduction of air.
- ③ **FLUIDIZING ZONE**
Material fluidization is a critical component for effective separation. Stratification occurs by forcing air through the particle mixture so that the particles rise or fall according to density. High density particles settle to the bottom of the material bed and the low density particles float to the upper surface.
- ④ **AIR KNIFE**
An adjustable high velocity low pressure controlled air stream blows the lights over a gap with the higher density materials falling through a gap to a fixed discharge chute below.
- ⑤ **ADJUSTABLE TRAJECTORY PLATE**
Marginally dense material is separated from the lights via an adjustable baffle with the lights conveying downstream beyond the trajectory plate for an end discharge.
- ⑥ **DROP-OUT CONTAINMENT** (optional)
Depending upon the application requirements, a stationary air settling chamber or containment can be provided at the DENSE-OUT® discharge for the separation of light fractions and process air. The lights settle onto a takeaway conveyor and exhaust air can be cleaned or re-used.

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