

Triple/S Dynamics



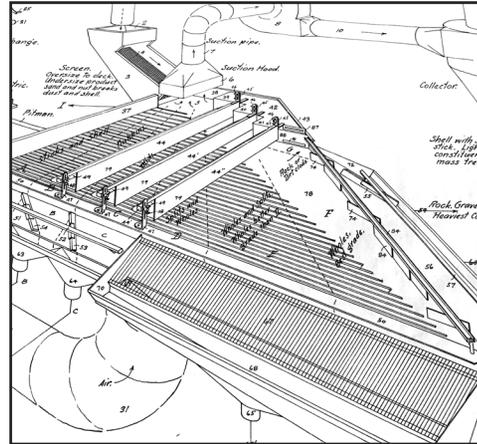
Gravity Separation Systems



Basics

Innovation distinguishes between a leader and a follower.

– Steve Jobs



While most engineers in industries that process dry materials know what a gravity separator does, its work is difficult to define with precision. The statement “a separator classifies dry, free-flowing, granular mixtures by weight or bulk density or specific gravity” is accurate. But a more precise definition would add the qualification “if all the particles in the mixture are the same size and shape.” With equal accuracy, the statement could be turned upside down to read “if all the particles are the same shape and specific gravity, the separator will classify them according to size”. For over 130 years, Triple/S Dynamics has specialized in dry separation equipment for the process industries. Two of our founders, Edwin Steele and Henry Sutton, invented the Specific Gravity Separator (now called density separator or air table) and contributed to the development of the Stoner – two designs which have been imitated but never equaled.



Basic Operation

The gravity separator makes a highly sensitive dry separation based on one of three particle characteristics – density, size or shape. When two of these characteristics are controlled within certain limits, the gravity separator is unmatched in its ability to separate a complex mixture into a continuous gradation across the range of differentiating characteristics, light to heavy, fine to coarse, or platy to granular, while permitting the isolation of many intermediate fractions between the two extremes.



The Stoner and the difference

Strictly, a two-way separator, the Stoner typically removes a small amount of heavy material from large amounts of light, producing a clean, heavy concentrate without product loss. The Stoner differs from the Gravity Separator in that it cannot produce both a clean, heavy product and clean light discharge, if particles of intermediate characteristics with respect to size, shape, or density are present. Whereas the Gravity Separator will classify these intermediates in a middling fraction, the Stoner does not have this capability.



What makes it work

The Gravity Separator's ability to produce intermediate or 'middling' fractions distinguishes it from other kinds of dry separation apparatus. This property, and this property alone, permits the development of the high purity concentrations without loss of efficiency in recovery.

Design Facts



- Adjustable cutting fingers, positioned manually to make the final selection between separated fractions direct each fraction to a separate discharge spout.
- Fluidized bed separators are available in two basic designs: rectangular-deck models and the more flexible triangular-deck models.
- Electronic controls - for fingertip adjustment of fluidizing air flow and speed of vibration.
- Aluminum exhaust hood - for high temperature applications.
- Accessible discharge face cover - to seal unit when processing delicate food products, high temperature or dusty materials.
- Slide-Out Deck Construction - Allows quick, easy removal for cleaning or inspection
- Air and Speed Controls - Precise adjustment for positive, sensitive control of air flow and eccentric speed. Free of drift.
- Deck Slope Adjustment - Hand wheel controls deck slope in two planes. Adjusts easily. Slope is infinitely variable within the adjustment range.
- Wide-Span Toggle Plate Deck Suspension - Precisely controls the motion track of all points on the stoner deck.

Applications



Triangular-deck separators are recommended for light-end separations where the objective is to separate a clean, light tailing from a larger amount of heavy material, like removing trash or sticks from grains or seeds. Other separation objectives are available with triangular decks. A key difference is the middling fraction for further processing. Conversely, rectangular-deck separators are recommended for heavy-end separations, requiring the removal of a relatively small amount of heavy material, such as removing small rocks in a material stream.



- Chemical
- Food
- Grains, Beans and Nuts
- Glass and Sand
- Minerals
- Pulp and Paper
- Secondary Metal Reclamation
- Seed and Oilseed Processing
- Stone and Metals
- Wood Products

Relationship

Profit in business comes from repeat customers, customers that boast about your product or service, and that bring friends with them.

– W. Edwards Deming



The key to success for our company has long been the ability to turn customers' needs into solutions. Whether you need to convey it, screen it or separate it, we can help you meet your objectives. Our primary goal is to offer the best processing equipment, engineered and manufactured to be rugged, reliable, and safe.

Family



Texas Shaker® Vibrating Screens

Triple/S Dynamics manufactures a complete line of vibrating screening machines. Used in conjunction with our density separation equipment, these machines enable us to supply complete separation systems for a wide variety of agricultural and industrial processes.



Sanitary Slipstick

The Slipstick Sanitary Conveyor, the first horizontal motion conveyor, is the food industry standard, recognized for its gentle, non-impact conveying motion and enviable record of low maintenance, high reliability and performance.



Industrial Slipstick

Some of the benefits of the Slipstick in industrial applications include the conveyors ability to handle massive impact loads and carrying capacities, conveys bulk materials of many type and sizes, can be choke fed and can have widths and depths to match surge requirements – with lengths over 200’.

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