

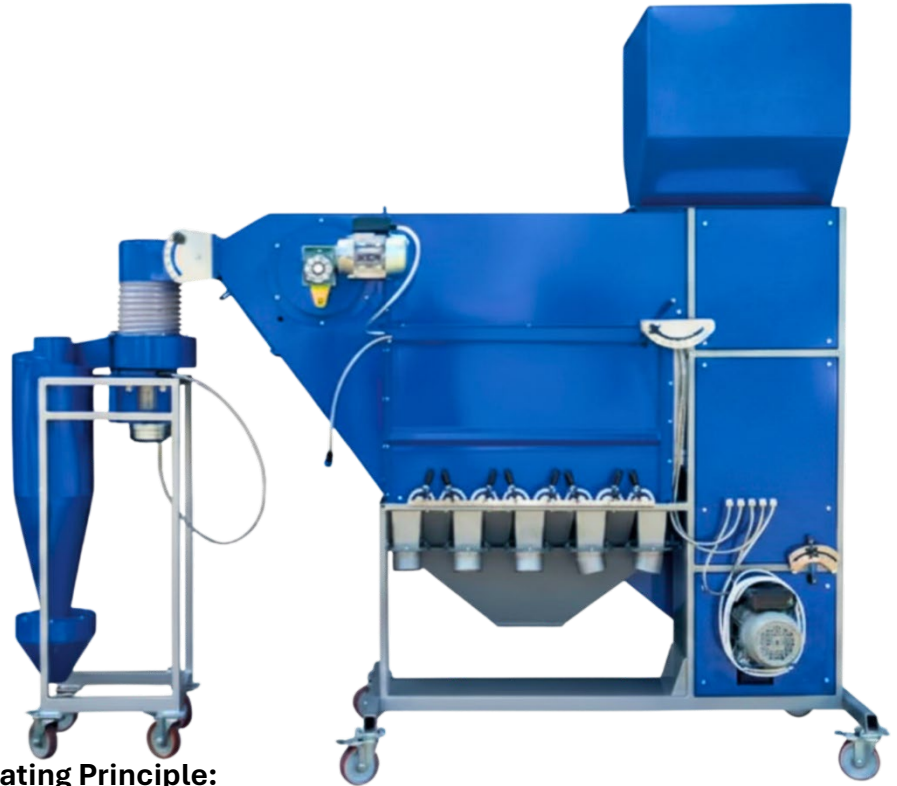
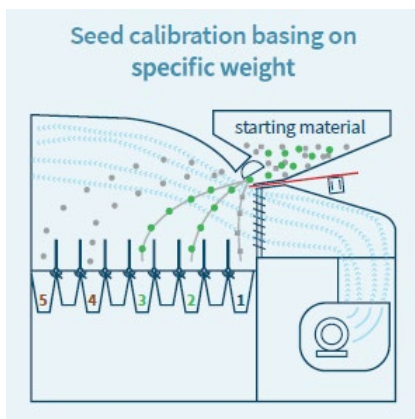
AERODYNAMIC SEPARATORS



The Aerodynamic Separation Principle

Precision Classification by Density and Mass

Aerodynamic separation works on the physics of particle behaviour within a controlled airstream. Unlike mechanical screening, which sorts product primarily by size or shape, this method classifies material based on its specific weight, aerodynamic drag, and mass.



The Operating Principle:

- **Uniform Presentation:** The raw product is fed into the machine and spread into a thin, consistent curtain. This ensures that every individual particle is exposed to the air stream without interference from surrounding material.
- **The Airflow Interaction:** As the product curtain falls through the chamber, it is intercepted by a precisely calibrated, horizontal current of air.
- **Differential Trajectory:** The airstream exerts a force on each particle proportional to its aerodynamic drag. Particles with a large surface area or low density (chaff, dust, husks, or immature seeds) are pushed by the air into a secondary discharge zone. Particles with higher density and greater mass maintain their original trajectory into the primary product bin.
- **Grading and Cleaning:** By adjusting the velocity and volume of the airflow, the system can isolate contaminants that are physically identical in size to the good product but lighter in weight.

The Engineering Benefit: This process provides highly accurate cleaning and grading without the use of vibrating screens or rotating cylinders. Because the separation occurs mid-air, there is zero risk of mechanical crushing or damage to the product. It is the most effective method for cleaning bulk materials that require high-purity standards for milling, sowing, or long-term storage.