Laboratory-ZIG-ZAG-Separator

The ideal air separator for experimental classification and separation. Designed for colleges and institutes, for use in research and development applications or for a small scale production.

The product mixture is fed into the ZIG-ZAG-Separator and falls onto the angled wall of the separator channel, and continues falling downwards under gravity. At each elbow in the channel the product hat to pass through the air flow in order to fall onto the opposite wall. The product crosses the air flow at approximately right angles, and so at each elbow, a cross-flow separation takes place. A large number of the slower falling light particles are separated and carried upwards along the suspended wall of the channel. The nearly classified particles move in a horizontal vortex in each channel element. Fine and coarse particles move in opposite directions to each other, allowing a very high feed rate. Precise grading is achieved in that the whole mixture has to pass through several consecutive channel elements, each element representing a separate classification stage. ZIG-ZAG-Separators are suitable for separation sizes between 0.1 and 10 mm. Basic foundations for a separation are differences within the density and/or particle size and/or particle form.
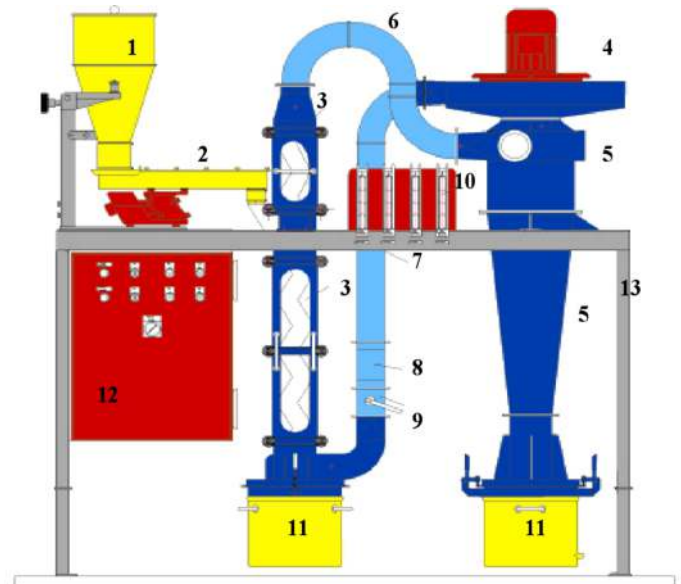

Application areas:

+ Processing of all scatter able products with a particle size of up to approx. 40mm such as plastics, minerals, metals, wood chips or cellulose, foodstuffs, spices, herbs, chemical products, recycling products etc.
+ Classification of products unsuitable for screen separation
+ Separation of products according to particle shape or thickness
+ Scrap tyre recycling
+ Shredder light materials
+ Refrigerator recycling
+ Separation of impurities of dried vegetables, herbs and spices
+ Aluminium, separation of aluminium and plastic
+ Processing of chipped wood for the chipboard industry
+ Plastic recycling

JŌST®

Performance in Motion

Principle of operation:

The product mixture is fed via a dispersal channel (2) from the feed funnel (1) into the separator (3). Here, using the multiple cross flow separation principle, the light particles are separated from the heavy ones.

The separation air flow is blown through the separation channel (3) from button to top. The light particles are carried upwards by the air current. The heavy coarse particles fall through the air stream and land in the product collection container (11). The fine particles are carried to the cyclone (5) and removed.

By gravity, the light particles fall into the product collection container (11). The required air flow and pressure are supplied by the centrifugal fan (4). Operation is carried out from the switch cabinet (12). Air flow rate and product throughput are also controlled from here using infinitely variable potentiometers.

Key features:

+ the entire separation can be viewed through large windows
+ the separation speed and throughput is infinitely variable by potentiometers at the switch cabinet
+ all important values are shown by u-tube manometers
+ to determine the separation speed, the iris hatch is fitted on the pure gas side
+ to allow a constant product feed rate, the feed funnel is height adjustable
+ the product collection containers can be quickly changed
+ cleaning hatches in the separator, cyclone and dispersing channel allow the plant to be thoroughly cleaned
+ with the base console removed, the separator will fit through almost any door
+ simple and uncomplicated operation

Technical data:

- Mass flow: 20 to 400 kg/h (1*)
- Max. air flow: 650 m³/h
- Separation cruise inside the separator: 0 to 22 m/s
- Max. particle dimension: < 20mm
- Inst. Electrical output: ca. 2,3 kW
- Material: mild steel
- Total weight: 700kg
- Dimension: 2,2 m x 0,9 m x 2,3 m

(1*) according to the bulk material and the
      quality of the material