

Application

The New Herbold series cascade sifter is utilized for the separation of various types of materials for example; materials that must be separated for environmental reasons, separation for better quality or separation for further processing.

Necessary requirements for effective separation are:

- Specific density
- Material form.
- Material surface characteristics
- Material size

Function

Material separation with the cascade sifter function is as follows:

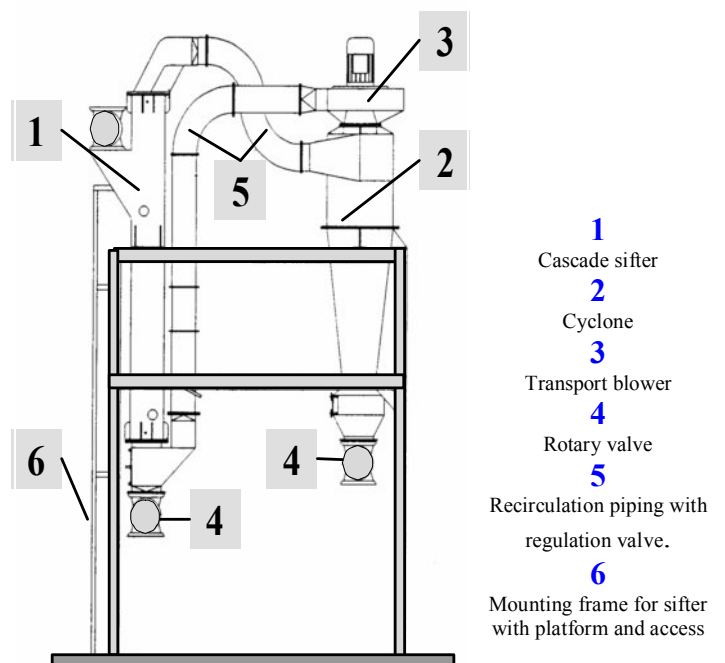
The input material is “agitated“ through its own weight on the angled walls in a upward direction. At each individual bend on the sifter wall the material must pass through the air current for it to reach the next level.

The input material moves in a vertical direction to the air current which created a diagonal air flow. This causes the heavy material which has a lower air floatation factor, to separate itself from the lighter fraction and flow with the air current in a upward direction.

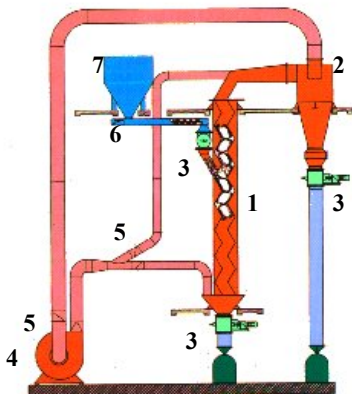
The degree of separation is dependent upon the amount the stages that are utilized in the complete unit. This is relevant of the type of material to be separated.



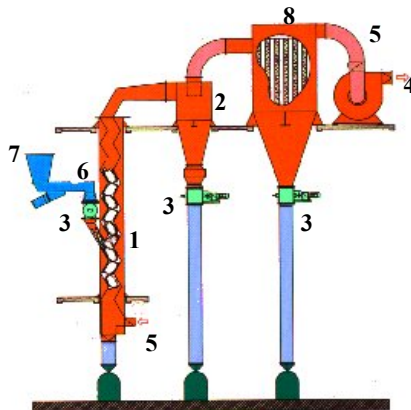
Example of a typical sifter system:



Skizze 1



Skizze 2



Drawing 1

Sifter system with blower recirculation. Equipped with bypass for air flow metering and pneumatic transport.

Advantages:

System operates without air filter and utilized a smaller blower.

Drawing 2

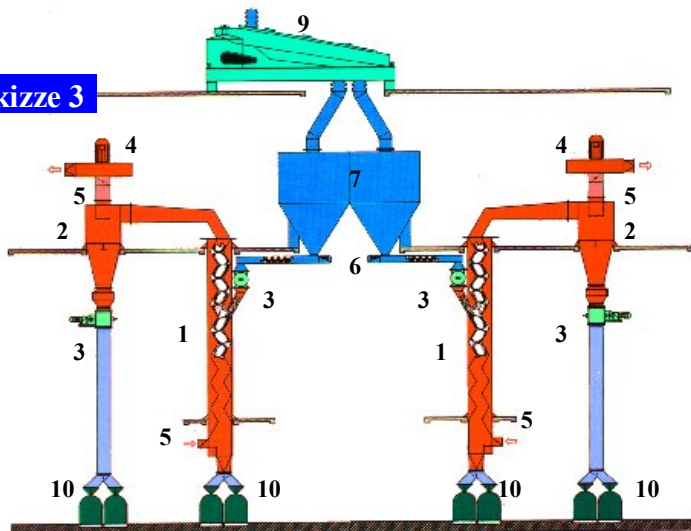
Sifter system with negative blower. Fresh air intake, material blower is located behind the sifter.

(negative discharge). The main material input is located in the lower stage area. (application: best possible yield of light fraction). System with air filter.

Advantage:

rotary valve is not necessary at sifter base.

Skizze 3



Drawing 3

Sifter system with upstream machine used for fractioning the input material to increase the separation capabilities of the sifter when working with materials that have a relatively similar material weight. sifter with negative blower, blower is located behind the sifter. (Application: best yield of heavy fraction.) the main material input is located in the upper stage area.. through the use of a cyclone, the degree of separation air/material is very high and eliminated the need of a air filter.

- 1 Cascade Sifter 2 Cyclone 3 Rotary valve
4 transport blower 5 regulator valve 6 Feed direction
7 buffer silo 8 air filter 9 screening machine
10 Material discharge with weigh station.