

■ Process: Production of luminescent substances



Picture 1: Jet air mill



Picture 2: Rotary air lock



Picture 3: Filter unit

■ The Task:

In the production of luminescent substances the individual constituents have to be ground to certain specific grain sizes. This is done with a jet air mill. In some cases the average grain sizes can be $\ll 5 \mu\text{m}$.

The filter system which is located downstream of the mill was to be an absolute separator. The pocket filter which was originally envisaged was completely unable to cope with the extreme conditions of

- ⇒ very fine particles
- ⇒ high volumes of dust

The needed felt pockets very quickly filled with deposits and had to be removed and cleaned at frequent intervals. Large amounts of residual dust also resulted, partly because of escaping dust as well, which also meant that the safety filters also had to be replaced.

■ The Solution:

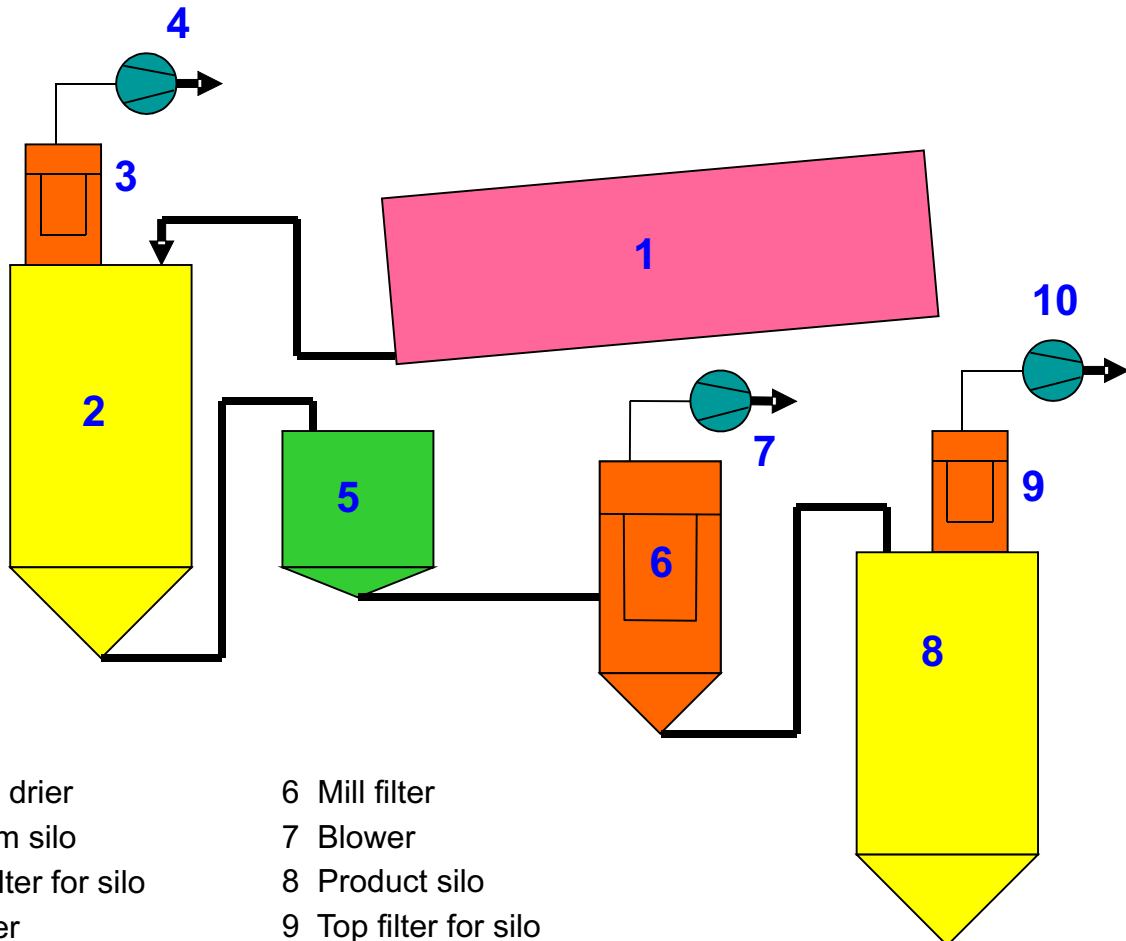
Herding® Filter Unit HSL 900-6(12)/18GT

**Air volume: 900 m³/h
Product volume: Up to 400 gr/m³**

- ⇒ Reliable and cost-effective separation of dust with Herding® sintered plate filters
- ⇒ Very long lasting filter medium as a result of consistent surface filtration
- ⇒ Residual dust concentration $< 1 \text{mg/m}^3$, meaning very long lasting safety filters
- ⇒ Rucksack pre-separator and wider filter spacing because of the high product volumes
- ⇒ The dust is discharged by a rotary air-lock feeder with a connection for a pneumatic conveyor
- ⇒ Filter unit low in height, with filters changed at a raw gas side because of a very restricted space

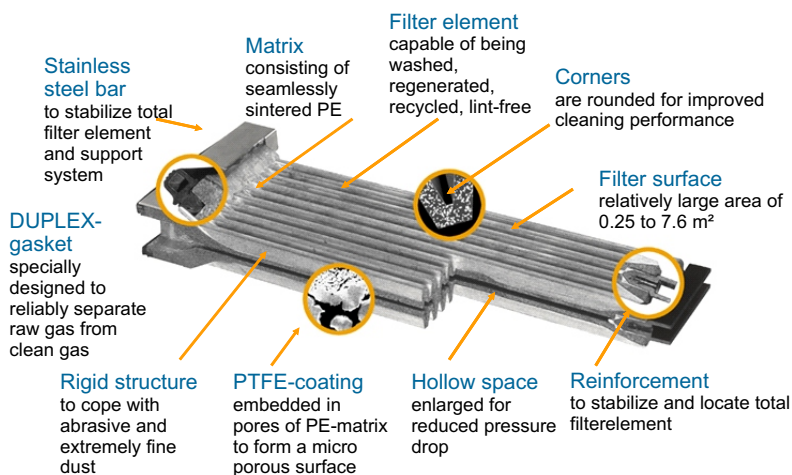
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Schematic diagram: The dust is transported away to the product silo by pneumatic conveyor



Key:

- | | |
|-----------------------|-----------------------|
| 1 Drum drier | 6 Mill filter |
| 2 Interim silo | 7 Blower |
| 3 Top filter for silo | 8 Product silo |
| 4 Blower | 9 Top filter for silo |
| 5 Jet air mill | 10 Blower |



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