

## ■ Process: Production of detergents at Henkel Genthin GmbH



### ■ The Task

Henkel Genthin granulates semi-finished products from detergent solutions. The granules are produced for the washing powder and cleaning detergent industry.

Subsequent to the granulating process dust is generated within various process steps like transporting, screening, grading and filling. The dust components - explosive mixtures of zeolites, bleaching agents, surfactants, enzymes, dyestuffs and filler particles - must be extracted and recovered by a filter unit and are then returned into the production process.

For safety reasons preventative explosion protection is necessary for the total equipment in the process. Furthermore, the customer's demand on consistently good production results requires constant exhaust air flow over the whole production period of time.

The minimum floor space available for the filter unit at the planned location requires a compact construction of the filter system with a small footprint.

### ■ The Solution

#### **Herding® filter system Type HSL with explosion protection**

#### **Technical Features:**

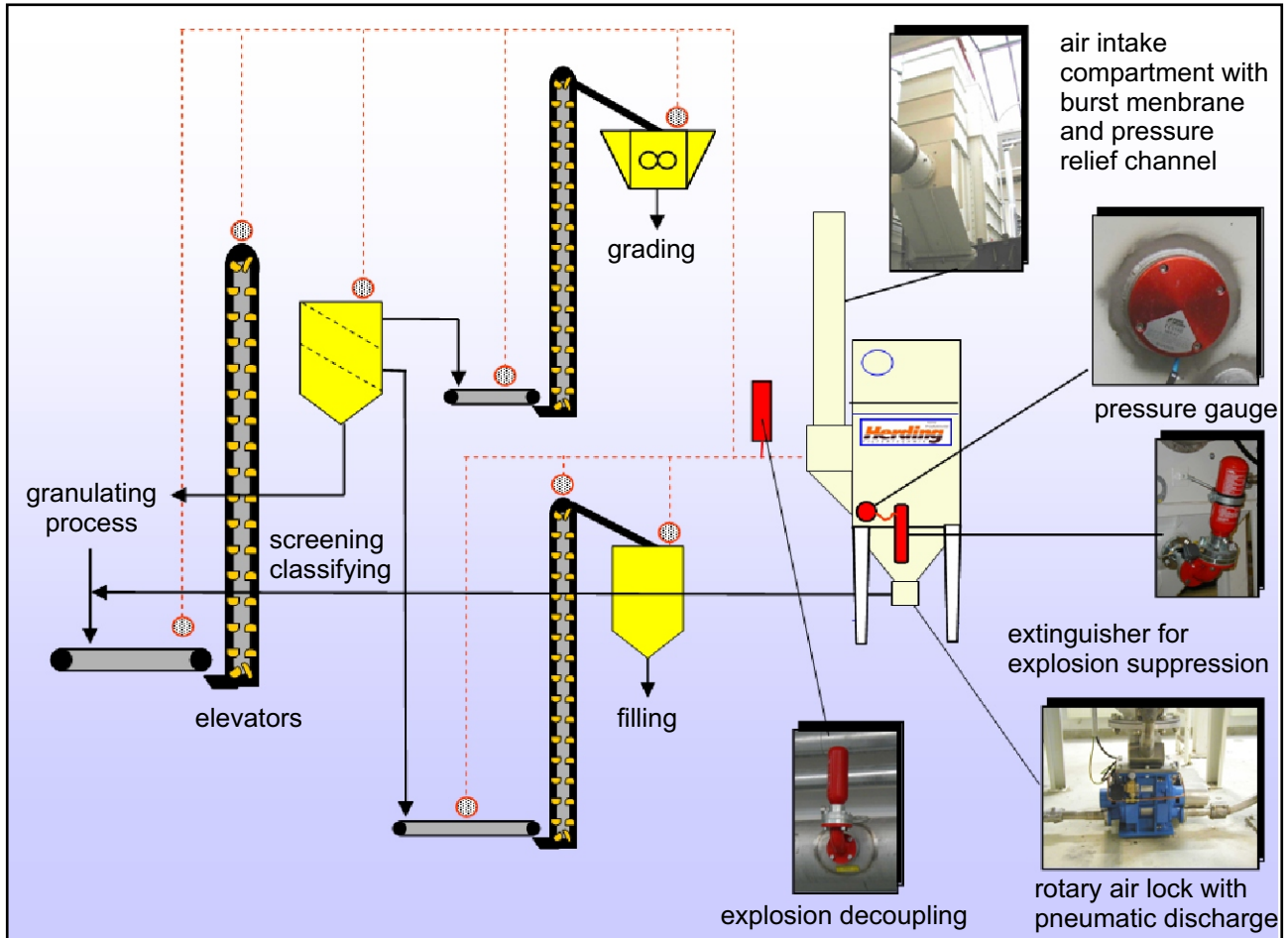
- ⇒ exhaust air flow:
  - a) 6,000 Nm<sup>3</sup>/h; b) 7,380 Nm<sup>3</sup>/h
- ⇒ pressure drop:
  - a) air flow 6,000 m<sup>3</sup>/h; P = 1,000 Pa;
  - b) air flow 7,380 m<sup>3</sup>/h; p = 1,300 Pa
- ⇒ pneumatic dust discharge after rotary air lock
- ⇒ floor space requirements depending on the construction starting from 1,582 mm x 1,525 mm

#### **Explosion Protection:**

- ⇒ integration of highly reliable explosion suppression systems of well-known manufacturer
- ⇒ structural explosion protection by means of an air intake compartment with burst membrane for pressure relief
- ⇒ explosion decoupling by extinguishing powder barrier at the raw gas inlet
- ⇒ reinforced construction of the filter housing, resistant to pressure burst of up to 0.7 bar

## Production of detergents ...

... and the solution of the dust problem



### The Herding® Sinter Plate Filter Advantages for Applications in the Production of Detergents

- ⇒ long life time of the sinterplate filter elements due to a consistent surface filtration
- ⇒ low maintenance
- ⇒ minimization of production downtime
- ⇒ constant pressure drop on a very low level
- ⇒ constant air flow and thus constant process conditions
- ⇒ consistency of  $< 1 \text{ mg/m}^3$ , rated as HEPA filter class R (E12)
- ⇒ maximum collecting efficiency even with dust particles  $< 1 \text{ }\mu\text{m}$
- ⇒ harmonized safety concept in cooperation with well-known manufacturers

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