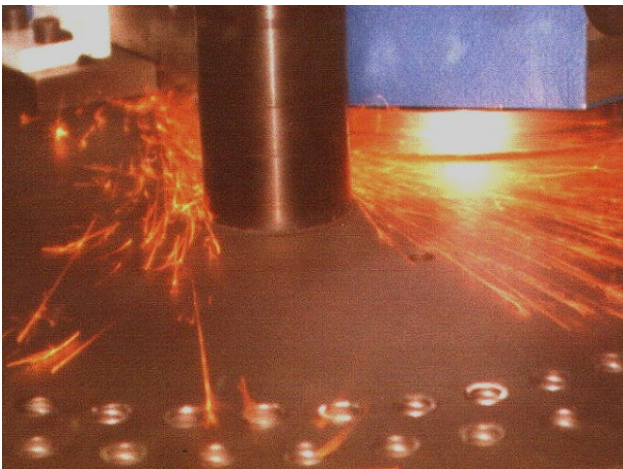


■ Process: Manufacturing of springs



■ The Task

In a spring production line, the wire material, which is pre-treated with drawing grease, is processed further by grinding and blasting after being processed in a spring winding machine.

In order to protect operating personnel and machinery, the generated dust components must be extracted by a filter unit. The above mentioned dust particles are a mixture of fine metallic and organic components. By chemical reaction of this mixture, heat is generated. Such a spontaneous heating can lead to further heat generation, to an auto-ignition and can cause fire.

Furthermore during the process of spring grinding, the grinding stones are exposed to strong thermal stress and have to be cooled down to avoid clogging with grinding dust.

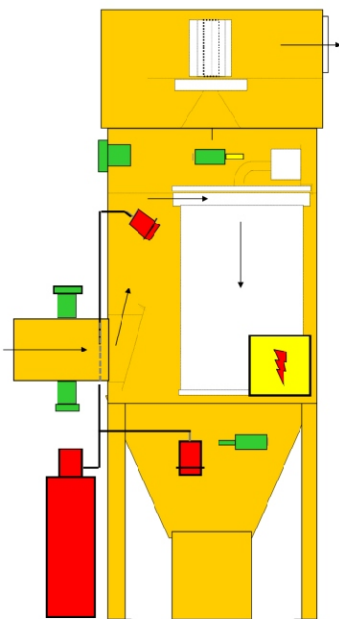
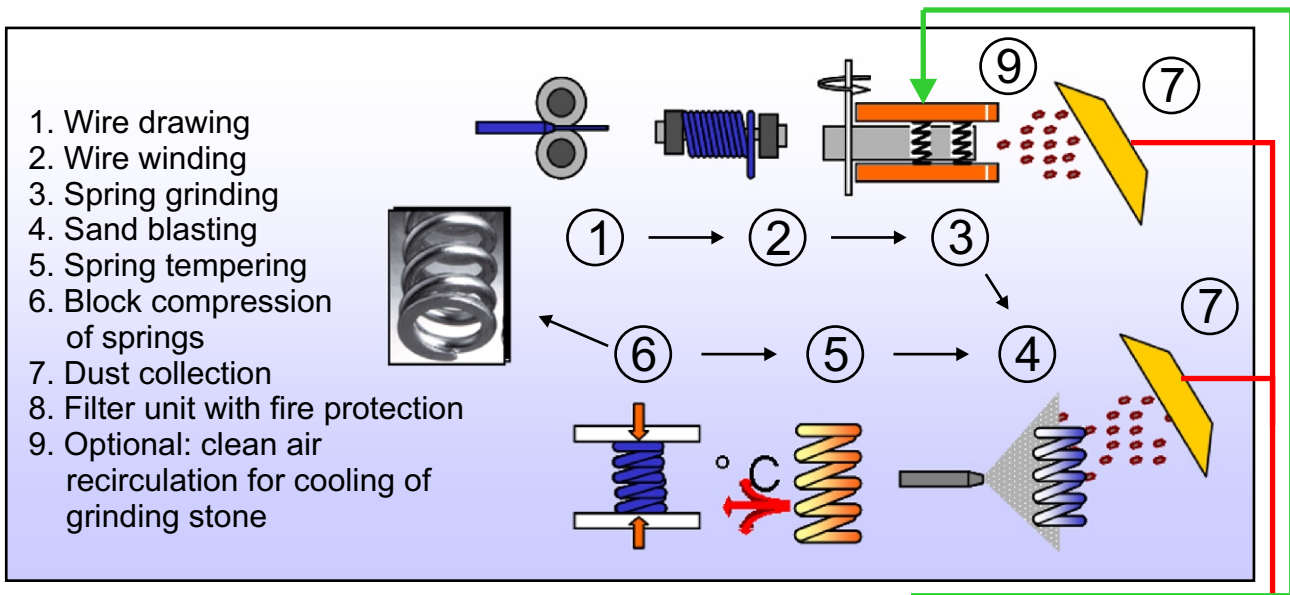
■ The Solution

Herding® filter technology with fire protection concept

Technical Features:

- ⇒ Air flow: up to 12.000 m³/h with integrated fan
- ⇒ Dust discharge with dust bin or optional with rotary air lock
- ⇒ Consistency of < 1 mg/m³
- ⇒ Reliable and economical dust removal by use of Herding Sinter Plate Filters
- ⇒ Operation safety by validated fire protection concept
- ⇒ Minimization of risk, damage and downtime due to early fire detection and remote alarm transmission
- ⇒ Possibility of clean gas recirculation for cooling of grinding stones

Production of springs ... and the Solution to the dust problem



Detection with spark detector, integrated in pipe work, heat detector in hopper plus heat and spark detectors in clean gas section

Control to monitor the complete fire protection unit, transmission of signal of detection for alarm and fire extinction. Monitoring of all components

Fire Extinguishing System with extinguisher, piping and extinguishing nozzles in the raw gas section and in the hopper



The Herding® Sinter Plate Filters The Advantages:

- ⇒ Consistency of $< 1 \text{ mg/m}^3$ classification as a HEPA filter class R (EU 12)
- ⇒ Large specific filter surface, hence low pressure drop
- ⇒ PTFE-coating, therefore pure surface filtration
- ⇒ Compact rigid body; therefore high mechanical strength, also against abrasive dust
- ⇒ Antistatic filter elements
- ⇒ Fiber-free and contamination-safe, therefore possibility of clean air recirculation for cooling of grinding stones

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