

Filtration Group application example – Air filtration (FE)

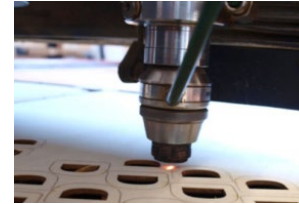
Filtration Group dedusting unit for sticky dusts



Factory Equipment

Initial situation

High-quality Filtration Group industrial filters ensure safe and economical operation of the laser system for one of our customers in Austria during manufacturing of individual and sophisticated punching tools. The punching tool manufacturer uses a **FG dedusting unit SFK-09** for a volume flow of 6,000 m³/h for the extraction of sticky dust from its laser system. Laser-assisted laminated wood processing for the production of cutting dies, produces dust which must be collected and extracted at the processing source. Depending on the kind of application of the cutting die, different carrier materials are used, e.g. wood, aluminium or plastics.



Challenge

Filtration Group dedusting unit with installed remote monitoring, a spark pre-separator and a spark extinguishing system for the extraction of sticky dust generated on a laser system. During the laser process, sticky wood dusts with a minimum ignition energy of > 10 mJ are produced, which must be extracted by suction.

Technical specifications

- Volume flow rate: 6,000 m³/h
- Dust type: sticky wood dusts with a minimum ignition energy > 10 mJ; spark entry cannot be completely excluded by the customer.
- Conical filter elements
- Filter material: Ti 15: polyester fleece
- Wood dust free-flowing due to filter aid
- Dosing device: SDG 100 for feeding the filter aid

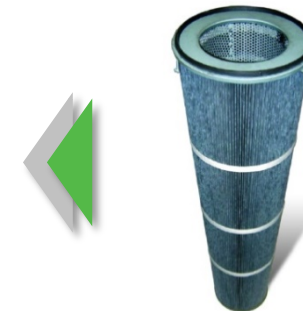
Solution statement

- Filtration Group has chosen **conical filter elements** for this application.
- The used filter material Ti 15 is a polyester fleece with an excellent separation efficiency and high air permeability.
- In order to prevent premature aging of the filter elements by stick dust, filter aids are fed via the **SDG100 dosing unit**. The filter aid forms a filter aid layer on the filter elements. This improves the cleaning behaviour of the sticky wood dust, extends the service life of the filter elements and ensures reliable operation of the plant.



Customer value

- Dedusting system with installed remote monitoring for continuous monitoring and diagnosis of all measured values and parameters to the FG service team.
- In addition, the dedusting system for this project was equipped with a spark pre-separator and a spark extinguishing system to completely eliminate the entry of glowing particles.
- Longer element service life due to the use of HI 26 filter aid.
- Optimum flow conditions in the filter chamber through the use of conical filter elements.



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