

Filtration Group Application example

Conical elements in powder coating processes



Factory Equipment

Initial situation

During powder coating electrically conductive materials are covered with powder paint. Our customer is one of the world's leading manufacturer of equipment and installations for surface treatment with powder, wet coatings as well as colors and other materials. For powder- and wet coating our customer is using a Filtration Group dedusting unit **SFK-09 009 016 x 16 S1S SL 80 KA** in rectangular design. The coating system is consisting of a surface treatment, interim dryer, electronically coating zone and a main dryer.

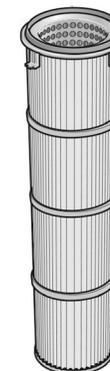


Challenge

The parts that need to be coated are guided with a conveying system during the treatment process. Typical undergrounds for the powder coating are steel, galvanized steel and aluminum. First the powder coating particles are fluidized. The powder needs to be cleaned up from fibers, coarse particles and dirt.

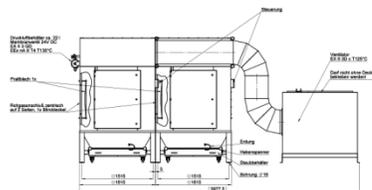
Technical data

- Volume: 12.000 m³/h
- Kind of dust: powder coating particles, fibers, rough particles and dirt
- Temperature: max. 40 °C
- Schedule in Zone 22 (ATEX)
- Housing of 0 to - 56 mbar applicable
- Dedusting depending on differential pressure using the MFS-07
- Elements: in conical design, Filter material Ti 15 polyester
Surface: 15 m², DM 337 mm, Length: 1.100 mm



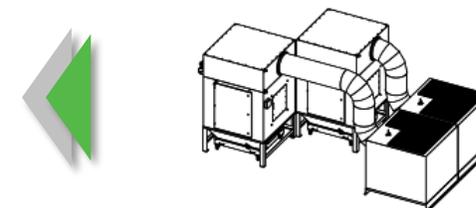
Solution statement

- For this application Filtration Group selected Quick Lock elements in conical shape with a filter surface of 15 m² and a length of 1.100 mm
- For the fine dust, the filter material Ti15 achieved a high separation rate
- The so-called "drawers" are used as dust collector to save construction high (Possibility increase of the clean gas space)
- Redesign of the sound covers for separate installation besides the filter unit
- Slanting outlet of the sound covers because of the requirement to blow out upwards preferably



Customer value

- Cost-effective, compact design thanks to the possibility of small distances between the cartridges
- Low overall height of the dedusting unit, by the use of Quick Lock mounting system
- Effective cleaning by constant upstream velocity and reduced inside capacity (operation of multi-jet nozzle MJD)
- Higher clean gas room for the connection of the clean gas pipeline
- Optimal adaption of the dedusting unit to the customers surroundings



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