Filtration Group application example – Air filtration

Filtration Group dust collector in foundries

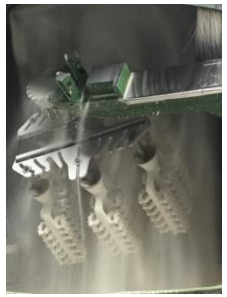
Factory Equipment

Initial situation

Our customer is one of the most modern customer investment foundries in Europe and supplies castings from an extraordinarily wide range. The finished investment castings are produced using the lost wax process described above, which releases high concentrations of fine dust, especially during sanding and final fettling. An existing ventilation system no longer meets the current requirements for air performance, filter service life and economic efficiency. Filtration Group has designed a **plant optimization** for this application for the customer. In addition to tips for modernization and adaptation to the pipe system, the core components consisted of a new cartridge filter system adapted to the limited space available by means of a dust drawer.

Solution statement

- Conical filter elements with open pleats, together with the rotating wing used, ensure a satisfactory cleaning result
- Compact design of the filter system with dust drawer to meet limited space available



Customer value

- The use of the FG Quick Lock System enables the customer to change elements quickly and without tools, thus reducing the duration of system downtimes for maintenance
- Reliable separation of the cermamic dusts by the filter material Ti 56 equipped with a PTFE membrane, ensuring effective surface filtration and a very long service life
- Highly effective compressed air cleaning of the filter elements by concical FG rotating wings
- Variable and energy-saving system control through integrated frequency converter

Challenge

Info

The lost wax process is a standard process in investment casting. To produce the wax patterns, special waxes are poured into silicone moulds using the vacuum casting method. With increasing complexity of the components, the wax patterns are preferably made in several parts and assembled to the finished wax pattern. The individual models are then combined to form a model cluster. The inverted mould shell is then produced by dipping the models into a mass of fine-grained ceramic material and liquid binder which later dries out. The "sanding" is then carried out in a partially lined manipulation plant - the dry ceramic moulding sand is applied to the moist wax core surface, where it forms a growing layer. This process is repeated until a sufficient layer thickness is available. During this process there is a strong dust formation due to the fine components in the moulding sand. The spread of these airborne dusts into production rooms is usually prevented by ventilation measures.

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