

Extraction and separation of graphite dusts



Extraction of a High-Speed-Cutting-Center with VARIO T 1.0 dry separator

Task

The treatment of graphite materials in metalworking processes generates fine dust inside the work area. This dust can permeate machinery, the workplace and the surrounding environment. High efficiency dust separation systems are required to prevent potential health risks and to adhere to regulatory guidelines in the management of graphite dust. Dust build-up concerns affecting the efficiency of machining processes and the safety of the machinery itself must also be addressed.



Connection ductwork to machine tool

Solution

Keller relies on its long-standing expertise in the areas of extraction and separation processes, especially in this particular application.

With extensive on-site studies, Keller is able to offer appropriate solutions for a variety of applications.

Applications

Machining processes:
Turning, drilling, milling, grinding

Extraction and separation of graphite dusts



Advantages

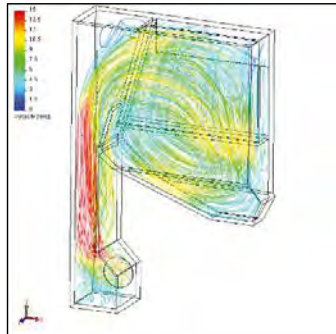
- The capture elements are optimally adapted to the function of the machine tool and to the travel path of the axes.
- Models create simulations of air flow inside the capturing elements and in the work environment.
- Special openings provide an auxiliary air supply to the machinery that is adjustable to the requirements of the entire workplace.
- Technical know-how and long-standing experience ensure excellent results with the greatest possible efficiency.



L-Cut 1

Air flow simulation

Keller has used CFD (computational fluid dynamics) flow simulations in its product development over the years. Because the complex air currents in work environments or in capturing elements can only be analyzed with specialized testing procedures, this process has provided excellent solutions.



Relevant laws and regulations

TRGS 900 (Exhaust-particulate limits in the workplace/list of MAK values)
ATEX regulations (for explosive dust categories)



DMG L-Cut



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