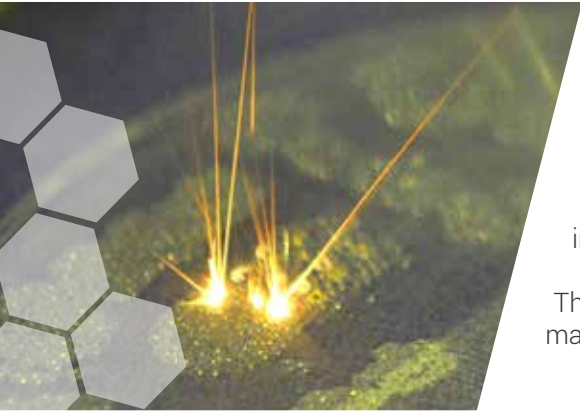


## SAFE FILTRATION IN ADDITIVE MANUFACTURING



The raw materials of Additive Manufacturing bear a risk to human and machine. Metal powder and reactive microparticles shall not escape into the atmosphere of the production facility due to a considerable danger to health. Powder and dust, however, should also not remain in the construction space. For almost all additive manufacturing processes the quality of a construction job directly depends on the degree of deposited contamination and foreign particles. However, accumulations of these substances lead to an increased fire and explosion hazard in traditional filter systems.

This results in the need for reliable and efficient filtration technology, which will make the additive manufacturing processes safer in a sustainable way.

- » The entire process chain of the Additive Manufacturing from the powder production to the final surface finishing is covered
- » Only gastight filter systems offer the best precondition for secure inert gas cycles
- » Increase of efficiency and sustainability due to pure surface filtration
- » Passivation of reactive materials during laser beam melting in the powder bed, during cladding and during hybrid processes

### Herding® FILTER SYSTEMS

Herding® Filtertechnik offers customised and specially developed solutions which increase productivity and reliability of all areas of Additive Manufacturing

- » High separation performance due to surface filtration
- » Minimizing of cross-contamination when changing the material
- » Reduction of operating costs with minimal maintenance requirements
- » Customer-specific unit design and configuration from prototype to series production



## PURE PRODUCTIVITY AND SAFETY



## Herding® SINTER-PLATE FILTER

- » Sintered rigid-body filter elements made of polyethylene with microporous coating
- » Constant differential pressure due to the pure surface filtration provides optimum laminar flow in the process chambers of Additive Manufacturing processes
- » Even in case of the finest dusts, very low clean gas values of  $< 0.1 \text{ mg/m}^3$
- » Possible long service lives of 10 years or more ensure minimum operating costs

## PURE PRODUCTIVITY

- » Safety concepts specifically designed for the individual operation purpose
- » There are several systems for the safe dust removal to choose from
- » Optimum protection of downstream aggregates and prevention of contaminating the process chamber during laser beam melting
- » Centralised filtration concepts for manual work station and automatic post-processing station



## SAFETY BY PASSIVATION

- » By passivation the automatic addition of inert material significantly reduces the reactivity of smoke and metal powder rests not only when the dust is discharged but also when the filter elements are changed

Herding® is a registered trade mark/V1.2

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