



**CASE STUDY**

**VENTILATION/FILTRATION SYSTEM MAIN HEAT SOURCE**



*K.S. Smede og Montage*

**THE CHALLENGE**

K.S. Smede og Montage, a smith's working-place, was about to expand their business and move to new premises. As they were expanding, K.S. Smede og Montage took this opportunity to purchase a new ventilation/filtration system to extract welding fumes and grinding dust more effectively.

One of the main requirements was that the primary heat source in the workshop must become this new ventilation/filtration system. The second requirement was flexibility. Therefore, K.S. Smede og Montage chose the most effective solution: at source extraction. Seven extraction arms were spread throughout the workshop connected to a ductwork system. K.S. Smede og Montage insisted on several other - very acceptable - requirements; the extraction arms needed to be easy to operate and should have a good quality-to-cost ratio. K.S. Smede og Montage installed the system themselves with instructions of the supplier.

K.S. Smede og Montage based in Taastrup, Denmark supplies all kinds of forging and assembly work. Blacksmith K.S. specialises in steel constructions, repairs, railings, spiral staircases, handrails, platforms, etc.

[www.kssmedeogmontage.dk](http://www.kssmedeogmontage.dk)



Advice and sales have been accomplished by our authorised Plymovent distributor:

Dansk  
**Proces ventilation**

[www.dansk-procesventilation.dk](http://www.dansk-procesventilation.dk)

## THE SOLUTION

The choice was crystal clear: a MultiDust® Bank filtration system, combined with extraction arms, type FlexMax. The system contains: 7 KUA extraction arms, extended with FlexMax extension cranes. FlexMax is the perfect extractor for welding high objects. For example objects (at height) either close to or far from the mounting point of the arm. This extraction arm can be positioned in one simple movement, anywhere within a radius of approx. 9 m width up to 8 m high.

The cleaned indoor air is being redirected into the workshop, functioning as a primary heat source. Often, valuable, extracted air is channeled outside. Heat recovery was the ultimate goal of K.S. Smede og.

The extraction system is controlled on demand via three frequency converters and a joint PLC board, saving energy.

Dansk Procesventilation gave advice and finally designed the extraction system. The distributor prepared the necessary drawings for the installation.



## MAIN BENEFITS

- Heat recovery (primary heat source)
- Efficient filtration of grinding dust and welding fumes
- Differential pressure controlled filter cleaning
- Flexible positioning of inlet and outlet
- Modular design, makes expanding in the future easy
- Filter unit placed on the roof, saving expensive floor space
- Low cost of ownership

## SYSTEM FACTS

### Products

- KUA extraction arms, including FlexMax extension cranes
- MultiDust® Bank type MDB-6 (central filter)
- CONT-C24 filter cleaning control
- Frequency inverter

### Year of installation

- 2009

### Application

- Welding activities (welding fumes)
- Grinding activities (grinding dust)
- Filtration in general

DK-02



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