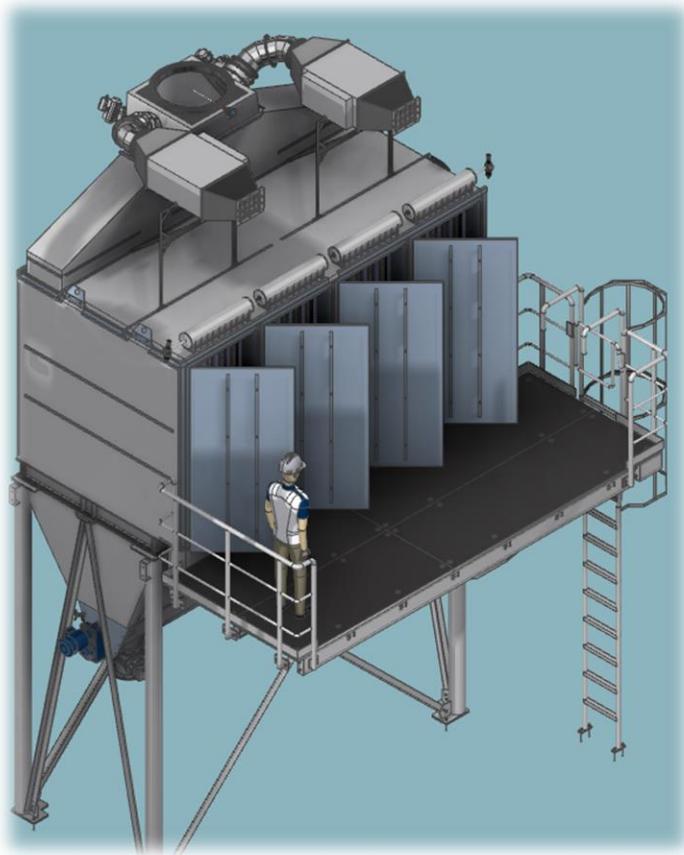




**AML Anlagentechnik GmbH**  
**Dedusting Technology Slavkali Project**

# Compact filter SKH-445



Air volume:	30,000 m <sup>3</sup> /h up to 36,000 m <sup>3</sup> /h possible
Filter area:	456 m <sup>2</sup>
Filter area load:	65.8 m <sup>3</sup> /m <sup>2</sup> h $\hat{=}$ 1.1 m <sup>3</sup> /m <sup>2</sup> min max. 80 m <sup>3</sup> /m <sup>2</sup> h
Filter material:	Polyester needle felt with microporous coating

- All parts of the filter in contact with the product stainless steel 1.4301
- Differential pressure control
- Heating system for filter housing
- Filter cone with insulation and trace heating

# Insulation & heating

- For strongly fluctuating ambient temperatures +45 to -27°C
- The raw gas is kept dry by heating the filter system
- Prevents clogging of the filter elements and thus the entire system

The following surfaces are insulated

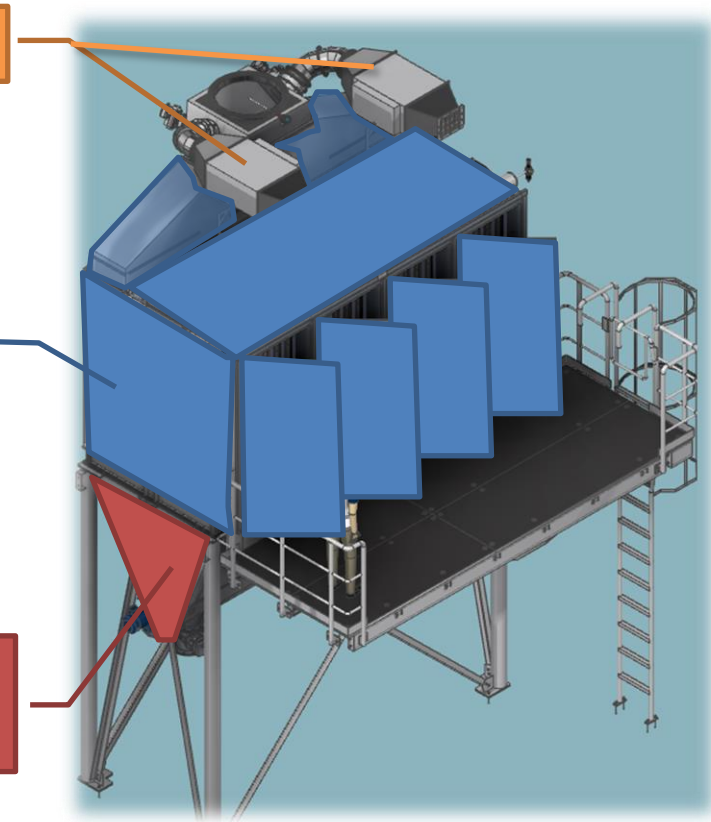
- Raw gas duct
- Filter housing
- Cone
- Trough screw conveyor
- Rotary valve
- chutes

Heated by spiral heaters

insulation

Heated by trace heating

Insulation and trace heating





# Insulation of the filters



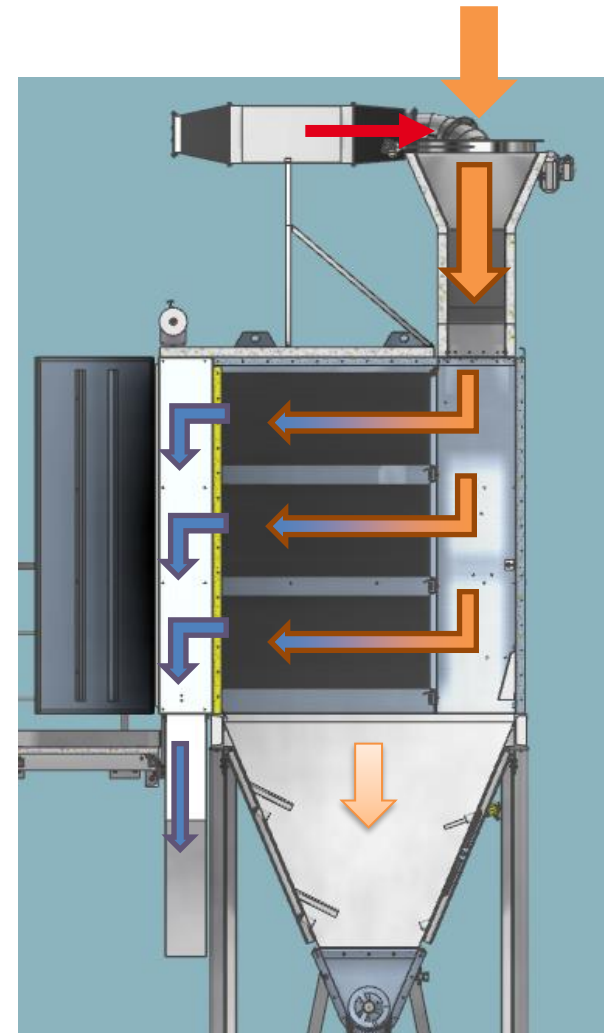
Before sheet metal cladding



Cladded insulation

# /// Filtration principle

1. Cold raw gas is sucked in
2. heating of the raw gas by hot air
3. hot raw gas flows into pre-separator
4. Agglomeration of fine dust particles on the filter elements.
5. The compact filter elements are cleaned by compressed air blasts during operation.
6. Dust collects in the cone and can be discharged.
7. Cleaned air is released into the environment via the external fan.



# Comparison of filter areas

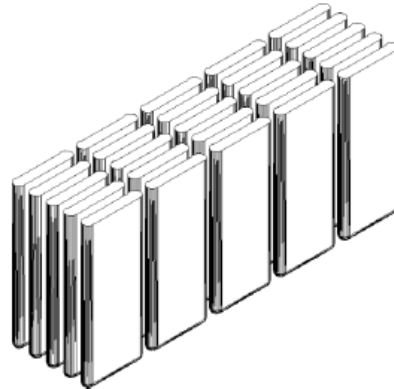
Graphical representation of enclosed space for 30m<sup>2</sup> filter area

## Compact filter elements



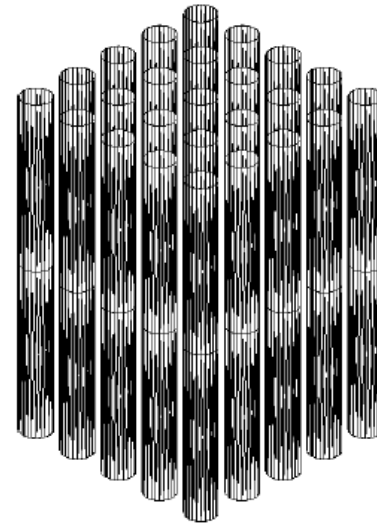
Length: 1.250 mm  
Width: 500 mm  
5 pieces

## Pocket filter elements



Length: 1.250 mm  
Width: 500 mm  
25 pieces

## filter bags



Length: 2.500 mm  
Diameter: 150 mm  
25 pieces

# Comparison of filter sizes

SSV-123 with filter bags



Filter area: 360 m<sup>2</sup>

SKH-140 with compact filter elements



Filter area: 455 m<sup>2</sup>

The use of compact filter elements and the down flow principle allows very small filter dimensions.

# Why use a compact filter?

## Advantages due to compact design:

### 1. Less room and space needed

**SKH 455** incl. raw gas chamber, cone, lower chamber, platform  
LxWxH: 4011x4361x6361mm approx. 5100Kg

**SSV 360** incl. raw gas chamber, cone, lower chamber, platform  
LxWxH: 5936x5434x11214mm approx. 10400Kg

Significant savings in material as well as steel construction and foundations.

### 2. Smaller fan

8-10mbar less differential pressure in the filter → less energy consumption by fan

**SKH 455** -> 45kW stat. Druckerhöhung 3800Pa

**SSV 360** -> 55kW stat. Druckerhöhung 4400Pa

### 3. Lower compressed air consumption for cleaning the filter elements

**SKH 455** -> ca. 13,6 Nm<sup>3</sup>/h

**SSV 360** -> ca. 22,4 Nm<sup>3</sup>/h





# Why use a compact filter?

## Advantages due to compact design:

### 4. Occupational safety improved

**SKH 455** - Residual dust content  $<5 \text{ mg/Nm}^3$

**SSV 360** - Residual dust content  $<10 \text{ mg/Nm}^3$

→ MAK value is maintained

### 5. Less maintenance and spare parts costs

2-4 times longer service life than hoses when operating conditions are maintained

**SKH 455:** >5 years

duration of filter change 2 men approx. 4 h

Changing the filter elements horizontally (to the front)

-> no additional space above necessary

**SSV 360:** 1-2 years

duration of filter change 2 men approx. 8 h

Changing the filter elements vertically (upwards)

-> additional space of at least 3 m above the filter required



# Why use a compact filter?

## Advantages due to compact design:

### 6. Low installation effort and installation costs

**SKH 455** can be supplied pre-assembled due to its dimensions.

- This means that the filter can be installed within 2-3 days.
- Smaller lifting gear is also required.

**SSV 360** is supplied in individual parts due to its dimensions.

- more personnel needed (3-4 men) for assembly
- more time needed (6-8 days) for assembly.
- Larger lifting gear is also required.



# Areas of application?

Moisture content of the dust-air mixture:  $\leq 0.5\%$   
 Bulk density:  $0.4$  to  $1.6 \text{ t/m}^3$   
 Dust content in the raw gas:  $\text{max. } 100\text{g/m}^3$  (with filter surface load  $\leq 60\text{m}^3/\text{h}$ )



## Filters for building materials

- Cement
- Lime
- Gypsum
- Sand



## Filters for explosive materials

- Coal
- Sulphur
- Grain
- Plastics



## Filters for sticky & caking dusts

- Salts
- Fertilisers
- Paints & varnishes
- Chalk



**Vielen Dank für Ihre Aufmerksamkeit**