

# Filter Unit

## General

In the filter unit, dust is separated from the air in several steps.

- the cyclone will separate particles down to a size of 1/100 mm.
- the filter will separate particles which go through the cyclone.

The dust laden air is introduced into the cyclone at a high velocity. Through centrifugal force the dust particles, with higher relative mass than the air molecules, are forced outward toward the wall of the cyclone and fall toward the bottom. The air flows toward the centre of the cyclone and through the filter

## Filter

Dustcontrol uses cylindrical pleated filters in the filter units. A pleated filter has a very large filter area relative to

its physical size and the filter units can therefore be more compact.

The filter is cleaned with air pulse against the flow of extracted air. This arrangement provides for very effective cleaning while at the same time giving long filter life.

## Filter Loading

Permissible air-flow determines the air velocity through the filter material, known as filter loading. Consider also inlet/outlet velocities. Permissible filter loading varies with dust type.

Dust Type	Permissible filter loading (m <sup>3</sup> /h)m <sup>2</sup>
stone	120
concrete	120
wood	160
cement	120
plastic	120

graphite	60
carbon black	60
welding fume	60
fiberglass	60

### Example:

For the extraction of welding fume, the maximum permissible flow in the S 34000 will be:

$$60(\text{m}^3/\text{h})/\text{m}^2 \times 34 \text{ m}^2 \text{ filterarea} = 2040 \text{ m}^3/\text{h}$$

The velocity of the air through the inlet and outlet should not exceed 30 m/s. When one filter unit does not have sufficient capacity, several units can be connected in parallel.

## Dust Type

stone, concrete, cement, wood, plastic, metal

## Air Flow

<= 1000 m<sup>3</sup>/h\*)  
 1000-2000 m<sup>3</sup>/h\*)  
 2000-4000 m<sup>3</sup>/h\*)  
 4000-5000 m<sup>3</sup>/h\*)

## Select Filter Unit

S 11000  
 S 32000/2 x S 11000  
 S 34000  
 S 34000X

graphite, carbon black, welding, fume, fiberglass

<= 700 m<sup>3</sup>/h  
 700-1400 m<sup>3</sup>/h  
 700-2000 m<sup>3</sup>/h  
 2000-2900 m<sup>3</sup>/h

S 11000X  
 2 x S 11000X  
 S 34000  
 S 34000X

\*) in applications with a large percentage of finer particulate, the above values should be reduced 20 %.

# Central Units

For smaller systems, the filter unit and vacuum producer can be delivered unitized on a common chassis.

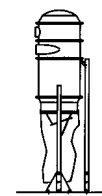
## Air Flow\*) Pressure Demand

<= 200 m<sup>3</sup>/h normal  
 200-400 m<sup>3</sup>/h normal  
 200-400 m<sup>3</sup>/h large  
 400-800 m<sup>3</sup>/h normal  
 400-800 m<sup>3</sup>/h large

## Select Filter Unit

DC 3800 Stationary  
 DC 11000 5.5/7,5 kW  
 DC 11000 9.2/11 kW S  
 DC 11000 9.2/11 kW P  
 DC 11000 2x5.5/2x7.5 kW  
 DC 11000 2x9.2 kW S

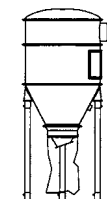
\*) always consider dust type and filter loading as above



S 11000  
 S 11000X  
 S 11000E

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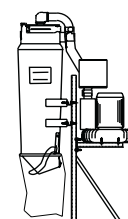
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S 32000  
 S 34000  
 S 34000X

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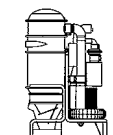
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DC 3800  
 Stationary

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DC 11000

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