



VOKES AIR

Taking small steps together, always ahead, towards a better world



Synsafe Revo

The Air Filter Revolution





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APPLICATIONS



Clean Air



Power Generation



Clean Room



Industrial

KEY FACTS

- ▶ **Nanofyne Technology™**
Maximum efficiency with minimal pressure drop
- ▶ **Stiff pockets**
Eliminates particle loss from air flow variations
- ▶ **Specially designed polypropylene frame**
Guarantees the seal between filter media and frame
- ▶ **High dust holding capacity**
long life and low life-cycle costs
- ▶ **Recyclable or fully incinerable**
Easy, environmentally-friendly disposal
- ▶ **Stiff frame and durable filter media**
Simplifies filter replacement
- ▶ **Welded pockets**
100% air-tight seal
- ▶ **Mechanically bound fibres**
Prevent shedding and provide resistance to humidity and potentially harmful chemicals
- ▶ **Aerodynamic design**
Reduces pressure drop, saves energy and contributes to low life-cycle costs
- ▶ **High filtration efficiency**
Remains stable even under extreme conditions

Synsafe Revo represents a true revolution in filter design. A state-of-the-art synthetic media has been developed incorporating nanofibres to ensure the very best dust holding capacity, whilst maintaining an industry-leading pressure drop.

By changing over from conventional air-conditioning filters to Synsafe Revo, you will lower your energy consumption by thousands of kWh and at the same time, significantly reduce your CO₂ emissions.

Good for the environment and your budget.

Synsafe Revo™



▼ Synsafe Revo

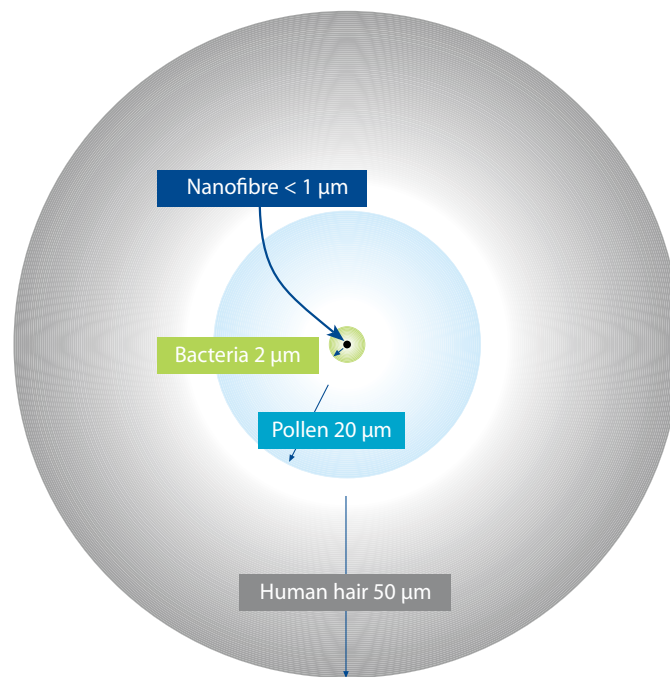


Nano Fibres

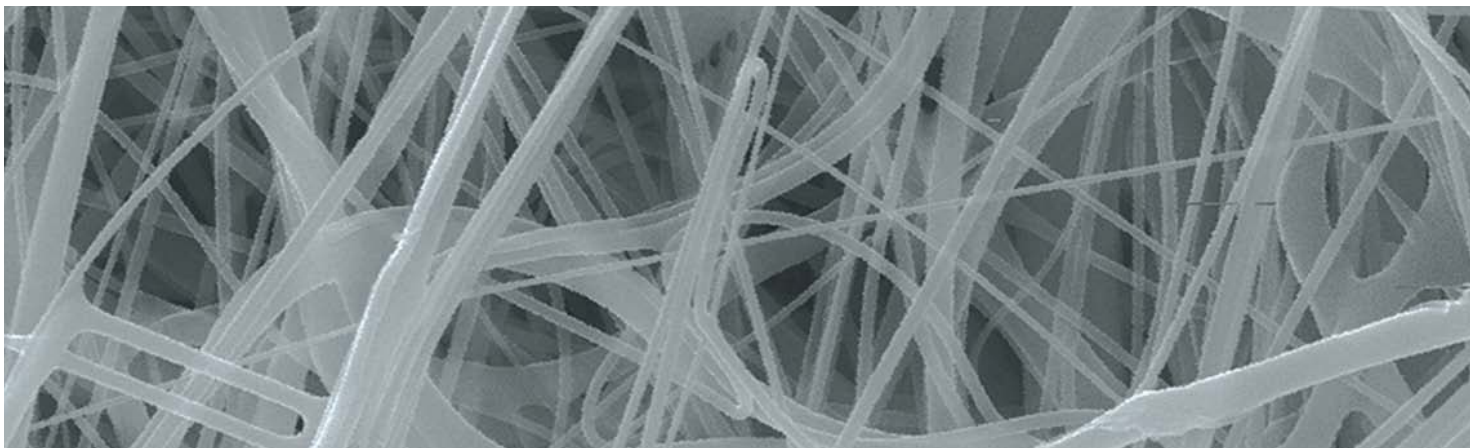
At Vokes Air, we have staked our reputation on Nanofyne Technology™ for the next generation of filter, because we believe it is the filter technology of the future.

With a diameter of less than 1 µm, these fibres provide reduced pressure drop without compromising filtration, giving you better performance than old-fashioned glass fibre.

When we combine the characteristics of Nanofyne Technology™ with the electrostatic charge of synthetic media, we get a filter with unique performance – high efficiency from the start and low pressure drop, which reduces the energy consumption of the fan.



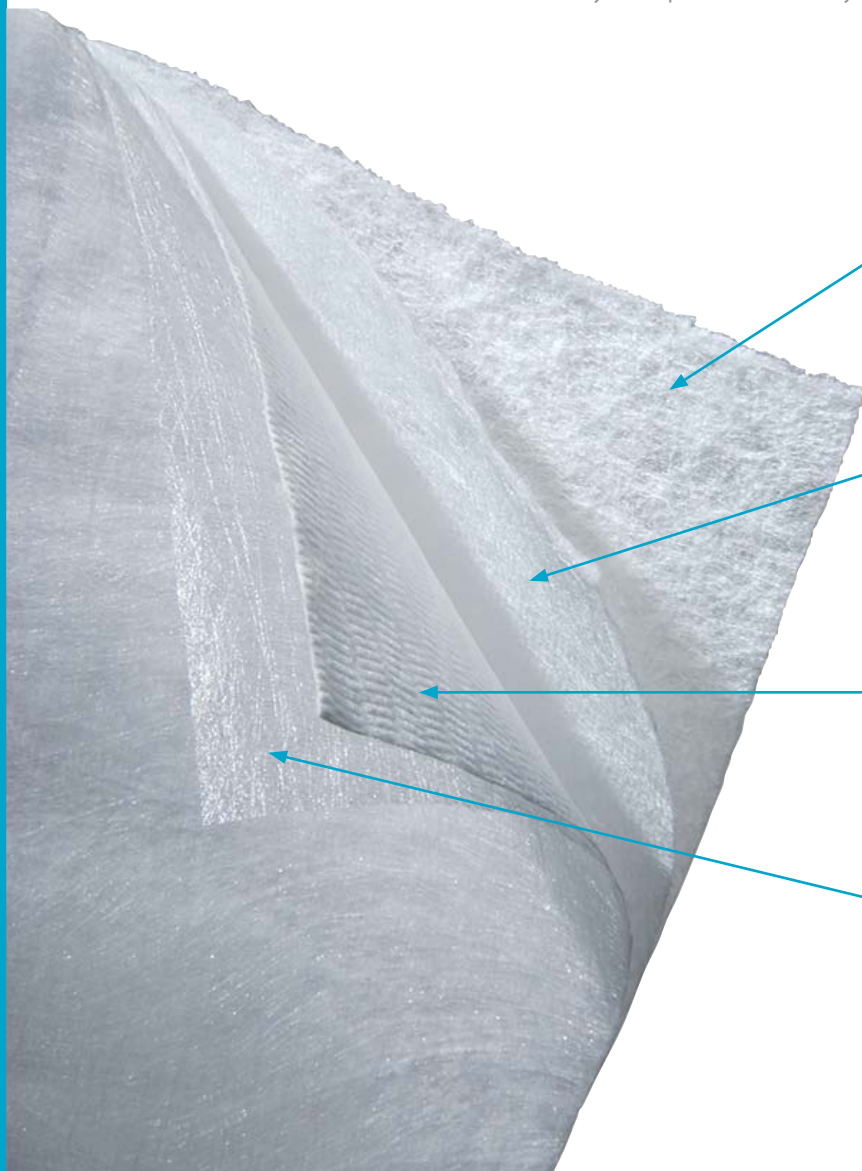
▼ Synsafe Revo filter media photographed with an electron microscope at 2500 times magnification





Progressive Filter Media

Synsafe Revo is constructed from several different filtration layers. The first layer has a coarse structure and filters the largest particles. The second layer removes somewhat smaller particles and the third layer, with Nanofyne Technology™, removes the smallest of particles. The outer layer comprises a stiff filter layer that gives the media its rigidity.



Layer 1

Pre-filter with a coarse structure to remove the largest particles

Layer 2

Primary fine filter removes the smaller particles

Layer 3

Secondary fine filter with Nanofyne Technology™ removes the smallest particles

Layer 4

Self-bearing outer layer that gives the media its rigidity

Life-Cycle Cost (LCC)

Lowering your operating costs!

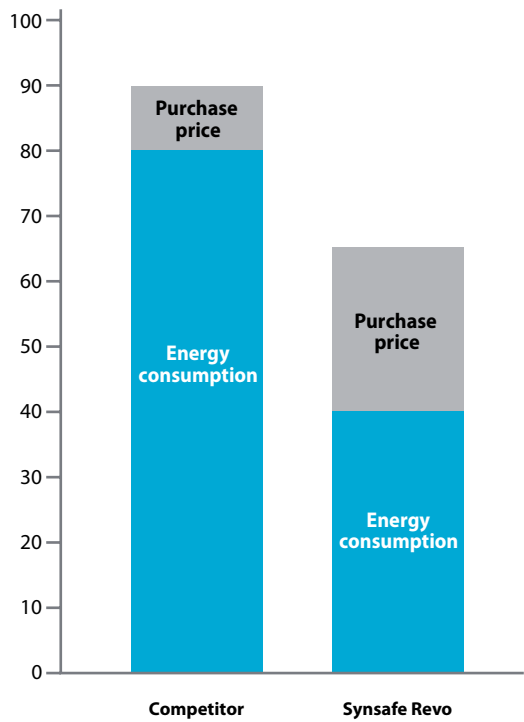
An LCC-analysis of air filters shows that approximately 80% of the costs*) are a result of the pressure drop across the filter. The purchase price does not represent such a large proportion of the total cost as many think, typically equalling just 20%.

In order to give our customers the best possible value, the focus of our development work on Synsafe Revo has been concentrated upon lowering life-cycle costs. This has given us a filter with a high dust holding capacity and low pressure drop.

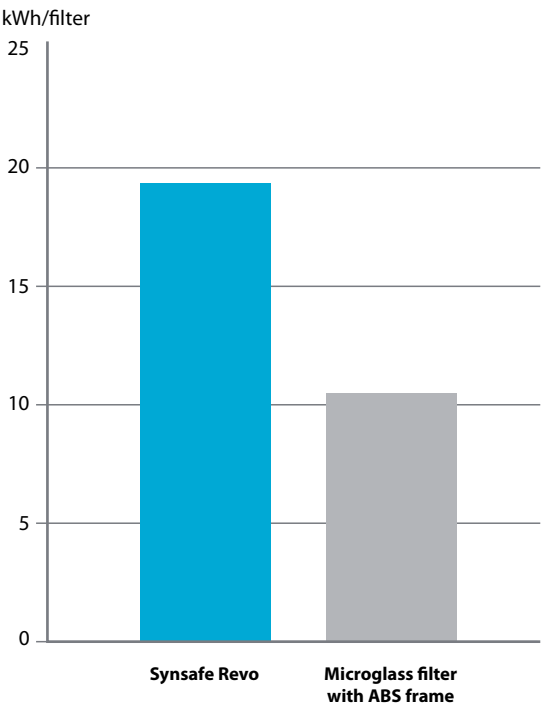
Synsafe Revo can lower your operational costs considerably.

We would be delighted to help you calculate how much you can save by changing to Synsafe Revo!

*) Filter class F7



Recovered energy with combustion



Energy Content with Combustion

Synthetic filters with plastic frames are a highly appreciated combustible waste product for waste-powered incineration plants. This is due to the high energy value emitted when the product is burned and the small amount of ash left after combustion.

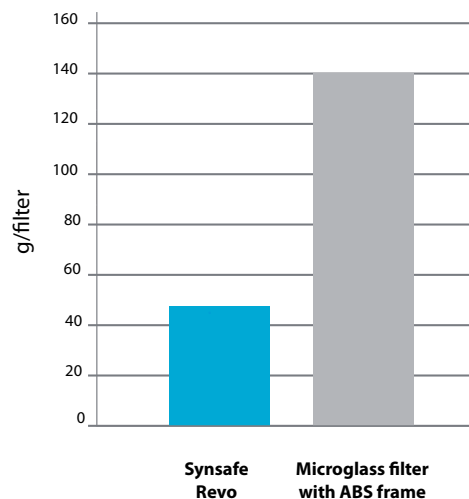
When one burns a new Synsafe Revo the energy emitted corresponds to 90% of the energy created from burning the same amount of heating oil.

What Happens In A Fire?

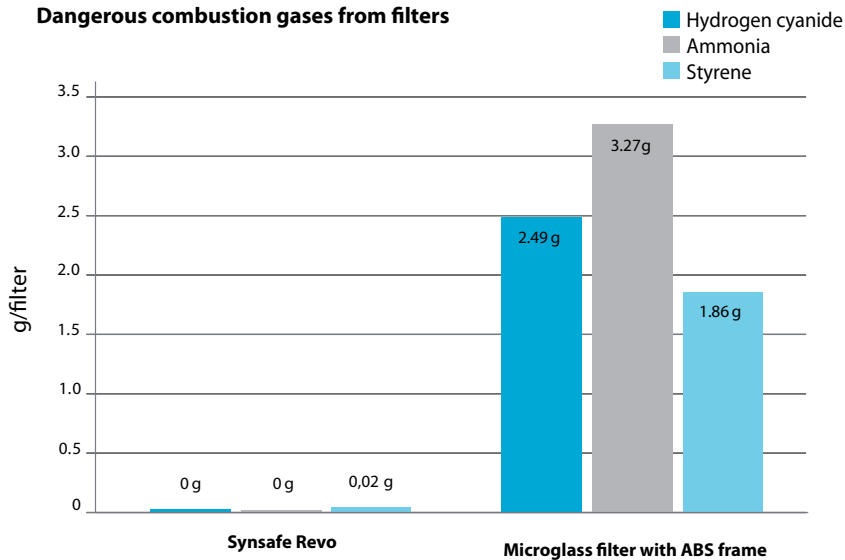
Synsafe Revo has been classified for fire protection in accordance with DIN 53 438 and achieved the highest classifications, F1 and K1. This means that the filter media did not ignite or self-extinguished after being exposed to an open flame. This flame-resistant material reduces the risk of fire in ventilation systems dramatically.

A report (F615084) from the Swedish Testing and Research Institute also shows that Synsafe Revo has low emissions of carbon monoxide during combustion. Other filter material tested even produced poisonous gases such as styrene, cyanide and ammonia, which were totally absent from the Synsafe Revo media.

Carbon monoxide emissions during combustion



Dangerous combustion gases from filters



Technical Data

Filter class*	Number of pockets	Average arrestance (gravimetical)	Average efficiency 0.4 µm particle size	Nominal air flow		Pressure drop clean filter (Pa)	Dimensions W x H x L (mm)	Fire class
				m³/h	m³/s			
F5	4	≥ 95%	≥ 40%	3400	0.94	60	592 x 592 x 635	F1
F6	8	≥ 96%	≥ 60%	3400	0.94	60	592 x 592 x 635	F1
F6	10	≥ 96%	≥ 60%	3400	0.94	55	592 x 592 x 635	F1
F7	8	≥ 98.5%	≥ 80%	3400	0.94	85	592 x 592 x 635	F1
F7	10	≥ 98.5%	≥ 80%	3400	0.94	75	592 x 592 x 635	F1
F8	10	≥ 99%	≥ 90%	3400	0.94	95	592 x 592 x 635	F1
F9	10	≥ 99%	≥ 95%	3400	0.94	123	592 x 592 x 635	F1

* Filter classification according to CEN EN 779:2002.

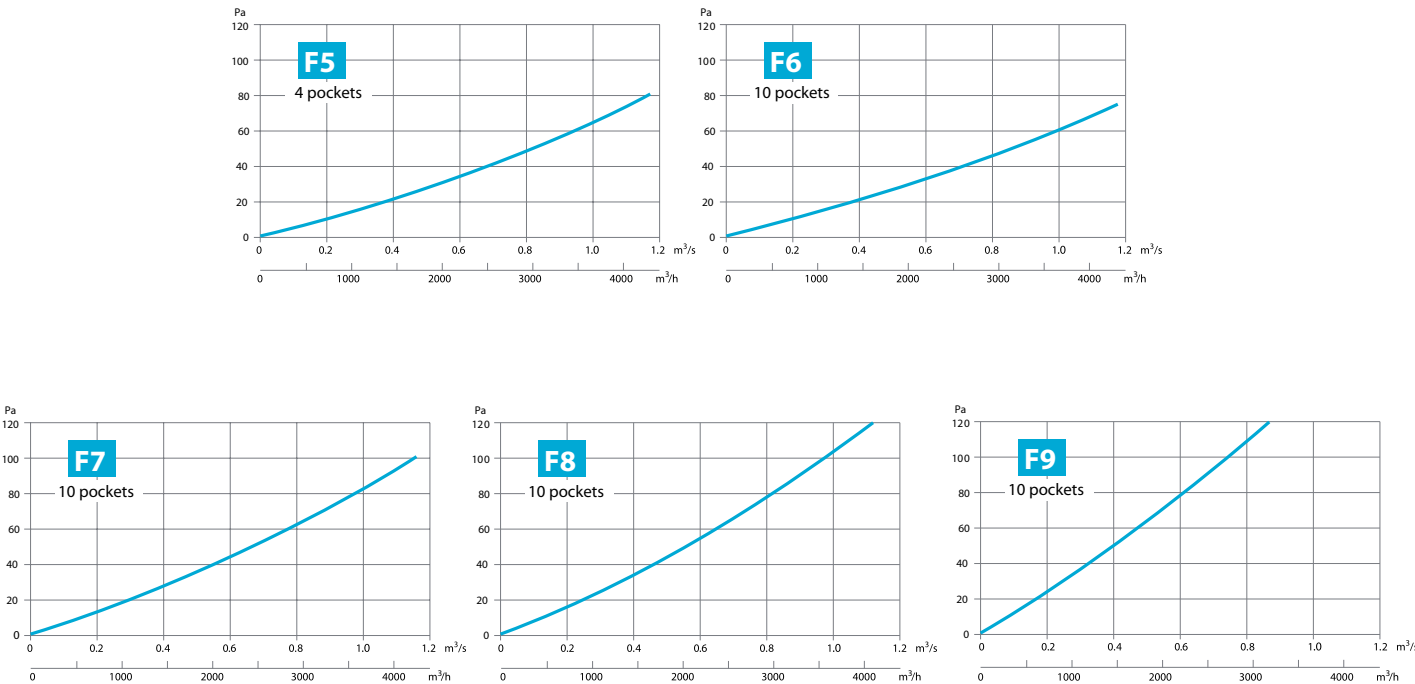
Maximum operating temperature 70°C.
Maximum relative humidity 100%

Recommended final pressure drop is 2 to 2.5 times initial pressure drop.

Synsafe Revo is manufactured in a number of sizes and variants. The data above applies to the most usual standard sizes.

Pressure Drop/Airflow

Synsafe Revo is manufactured in filter classes F5-F9. The diagram shows the pressure drop with a clean filter and 1/1-module.



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In view of continuous research and development we reserve the right to modify specifications and dimensions without prior notice. For quoted standards, the issue valid at the print date of this leaflet is relevant.
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