

Higher efficiency and longer lifetime with nanofiber filters

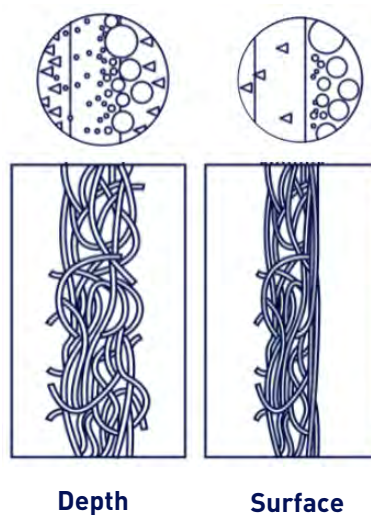
Why nano fiber media?

The nano fiber layer is being applied on the surface of the carrier material utilizing the electrospinning process; thereby it is a fine and a continuous fiber structure looking like a fine mesh that will be able to capture even the very fine smoke and fume particles.

In contrast to the traditional filter medias, the nano layer will enhance the media's filtration properties, capturing the dust on the surface of the media and remove it almost entirely with compressed air cleaning.

Depth vs. surface dust loading

- **Less accumulation of dust** - the nano layer won't allow the dust to penetrate the media surface, leading to an easier and faster cleaning process.
- **Lower operating costs** - a better cleanability means also a lower pressure drop, increased air flow, therefore less cleaning cycles and reduced energy costs.
- **Longer filter lifetime** - with less cleaning cycles, the filters will last longer, therefore the filters will be changed less often, and the maintenance costs will be lower.



Filter lifetime
Up to 72% longer life



Energy cost
Up to 2/3 reduced energy costs



Pressure drop
Up to 30-40% reduction in pressure drop



Maintenance
Extended maintenance intervals

UXNANO HP FR

media performance

Specification	
Initial efficiency	ISO ePM ₁ 85%
Initial pressure drop	194 Pa @ 1400 m ³ /h
Initial efficiency	85.9% @ ePM ₁
Average efficiency	86.0% @ ePM ₁
Max. continuous operating temp. °C/°F	80 / 175

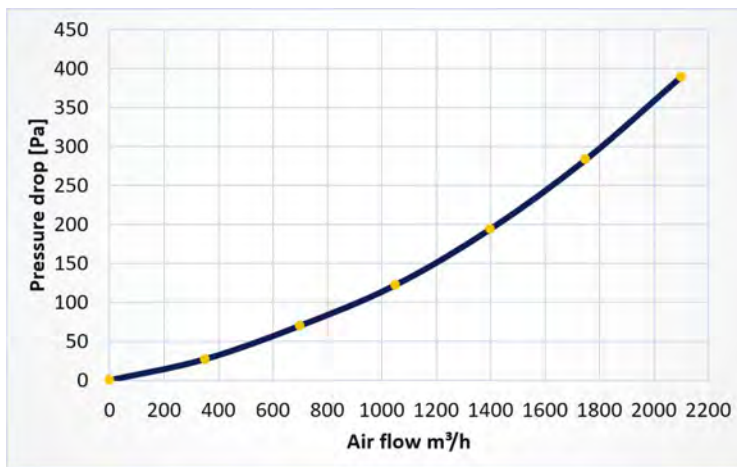


Fig.1 Pressure drop vs. Air flow

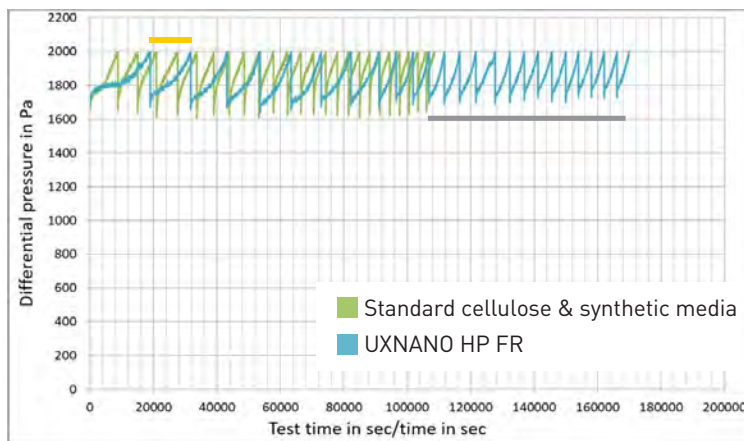


Fig.2 Comparison of media performance with and without nano coating

High Performance Flame Retardant Media

Consisting of a blend base carrier with flame retardant properties equipped with nano layer the UXNANO HP FR handles extreme fine dust and fume applications such as metal welding, thermal spraying, laser and plasma cutting.

Fig.1 Filtration Efficiency

UXNANO HP FR proves to be a superior media capturing the finest dust particles, and reaching the filter class **ePM₁ 85%** in accordance with ISO 16890.

Media test carried through on the oval cartridge type, equipped with 17 m² at an air flow of 1400 m³/h and an initial pressure drop of 194 Pa.

Due to surface filtration, the cartridges are getting extended longevity and enhanced pulse cleaning.

Fig.2 Media performance with and without nano coating

The comparison of the UXNANO HP FR with the well known blend media 138 FH shows an exceeded performance in regards to the filter lifetime.

- 2/3 reduced pulse cleaning cycles resulting in less compressed air and lower energy consumption.
- +72% more lifetime of the cartridges equipped with UXNANO media vs. 138FH.



UXNANO HP FR

Applications recommended

Laser and plasma cutting

Improving air quality should be a high priority in today's manufacturing environment. Dust can be very harmful to workers' health and can threaten a company's regulatory compliance. Therefore, when utilizing a laser dust collector, the nano layer of the UXNANO HP FR media will improve the collector's overall performance, thereby reduce worker exposure to fume and help to protect the machinery.



Welding

Welding fumes contain health-hazardous particles generated during welding processes. Although today any substances generated during welding operations and released into the air are considered as being hazardous, in the strict sense this term refers specifically to particles smaller than 1µm. The UXNANO HP FR with its unique structure will reduce the health hazard and keep your operations compliant towards current and future emission standards.



Metal flame spray

Thermal spray is a process where different metal types are melted and sprayed to produce a protective coating against corrosion. Ultrafine particle emissions produced by these processes are very high and dangerous, therefore, the protection equipment requires careful consideration. The UXNANO HP FR media is a great example of how you can create a safe environment for your employees while improving your dust collector efficiency.



You are more than welcome to sign-in for our newsletters or contact our sales team for more information at sales@nordic-air-filtration.com

