

可長期使用的微纖維-納米纖維組合過濾器 Micro-Nano Combo Filter - For Long Term Use

減少過濾器上導致高壓降的緻密沉積層的形成

Reduce formation of a dense deposit layer at upstream end of filter resulting in high pressure drop across filter

專利編號: US Patent 8,303,693

納米纖維過濾器在長期使用時會快速堆積過濾固體，在過濾器的上游端形成了一個緻密沉積層，它的產生導致過濾器壓降上升。

在納米纖維過濾器的上游側由具有微纖維過濾器的“組合過濾器”取代納米纖維過濾器，能有效減少緻密沉積層的形成，從而減少壓降，實現長期使用。

Combo has lower pressure drop than single-layer nanofiber filter	
Nanofiber filter	225 Pa
Micro-nanofiber combofilter	85 Pa
Combo has best utilize filter for particle loading reducing dense layer	
Nanofiber filter	95% in upstream dense layer
Micro-nanofiber combo filter	Micro:Nano 50%:50% deposit

納米纖維與微纖維-納米纖維在加速負載，過濾面積1克/平方米，過濾物大小由50至500納米的粒子組成的條件下的比較
Nanofiber filter vs. micro-nano combo filter, 50-500 nm particles under accelerated loading totaled 1 gm particles /m2 filter area



納米纖維過濾器除可用於交通工具的客艙及室內空間外，還有許多其他應用範疇
Nanofiber Filter can be used for cabins, indoor spaces, and many other application areas

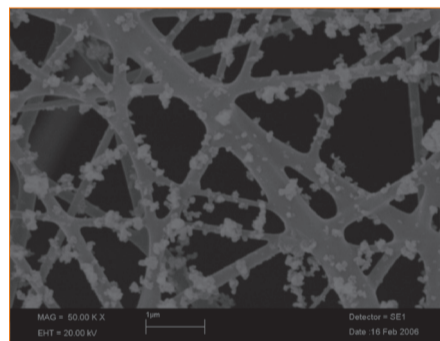
Nanofiber filter under long-term use can be quickly packed with filtered solids forming a dense skin layer at the upstream end of filter, which incurs a high pressure drop across the filter. By replacing nanofiber filter with “combo filter” having a microfiber filter upstream of nanofiber filter, the formation of the dense deposit layer can be reduced.

特色與優點

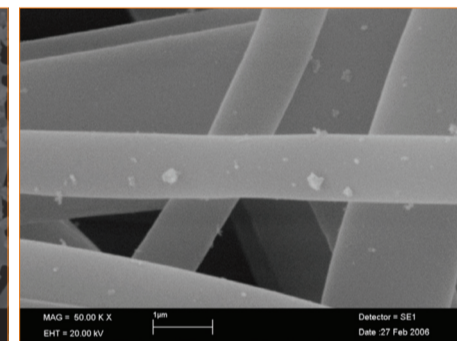
- 微纖維-納米纖維組合過濾器具較低的壓降、高過濾效能以作長期使用
- 於上游的微纖維過濾器能：
 - 減少會阻擋空氣流量的緻密沉積層的形成
 - 除去較大的微粒，較細少的微粒會由下游的納米纖維過濾器吸附

應用

- 適用於飛機、汽車、火車和輪船的客艙過濾器
- 劇院、禮堂、無塵室等公共設施的過濾器



納米纖維過濾器能有效地吸附燃油微粒
Nanofibre filter effectively trapping diesel dust



微纖維過濾器吸附燃油微粒的效果欠佳
Microfibre filter poorly trapping diesel dust

Patent No: US Patent 8,303,693

Special Features and Advantages

- Low pressure drop, high efficiency for long-term use
- Microfiber filter upstream can:
 - reduce formation of the dense particle layer which blocks the flow
 - remove larger particles leaving finer uncaptured particles for downstream nanofiber filter
 - promote cake filtration that can be removed by backpulsing

Applications

- Cabin filters for airplanes, vehicles, trains, and ships
- Filters for public facilities (theatres, auditoriums, clean rooms, etc.)

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