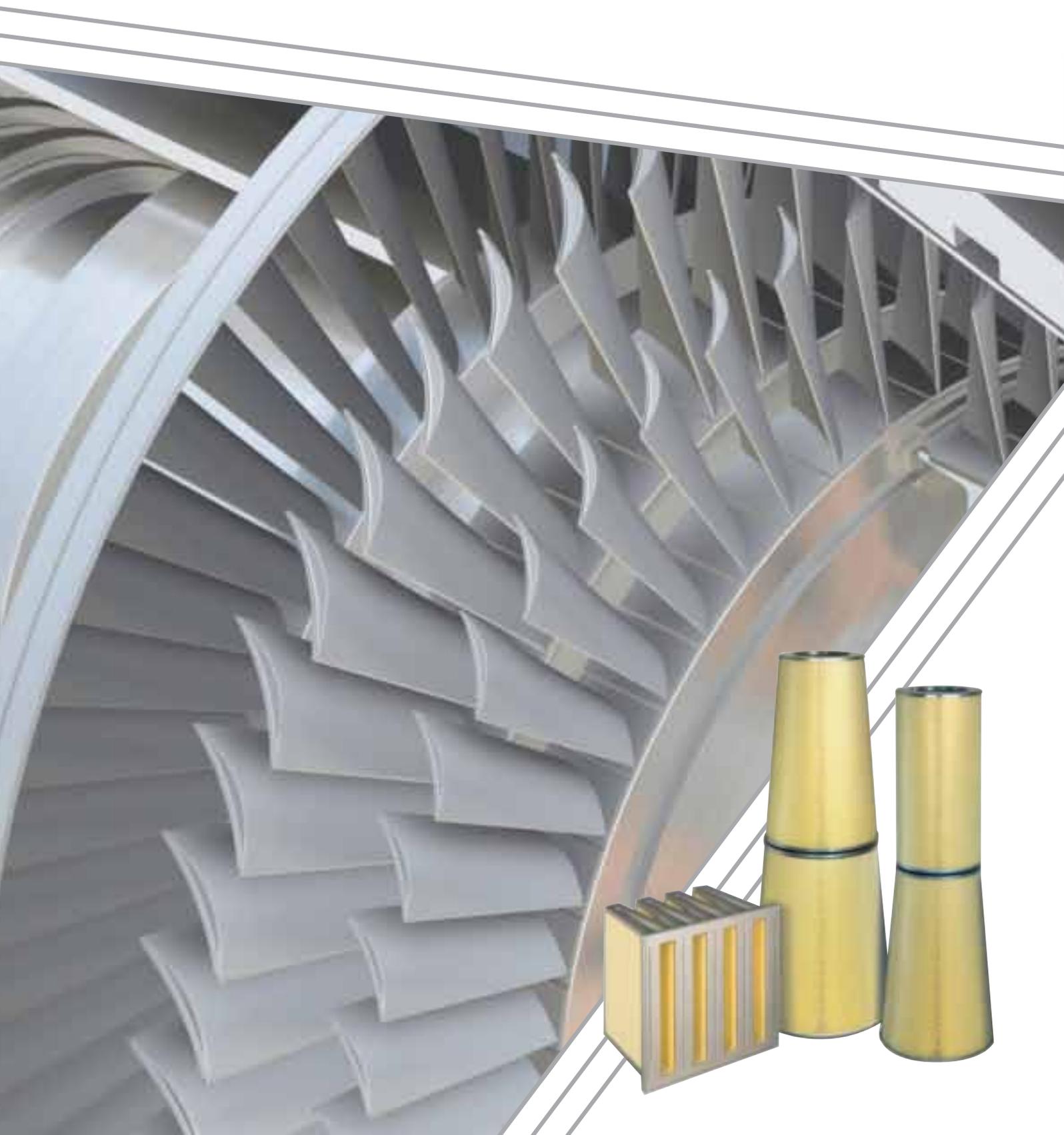




GORE® Turbine Filters

More Power, Less Wear

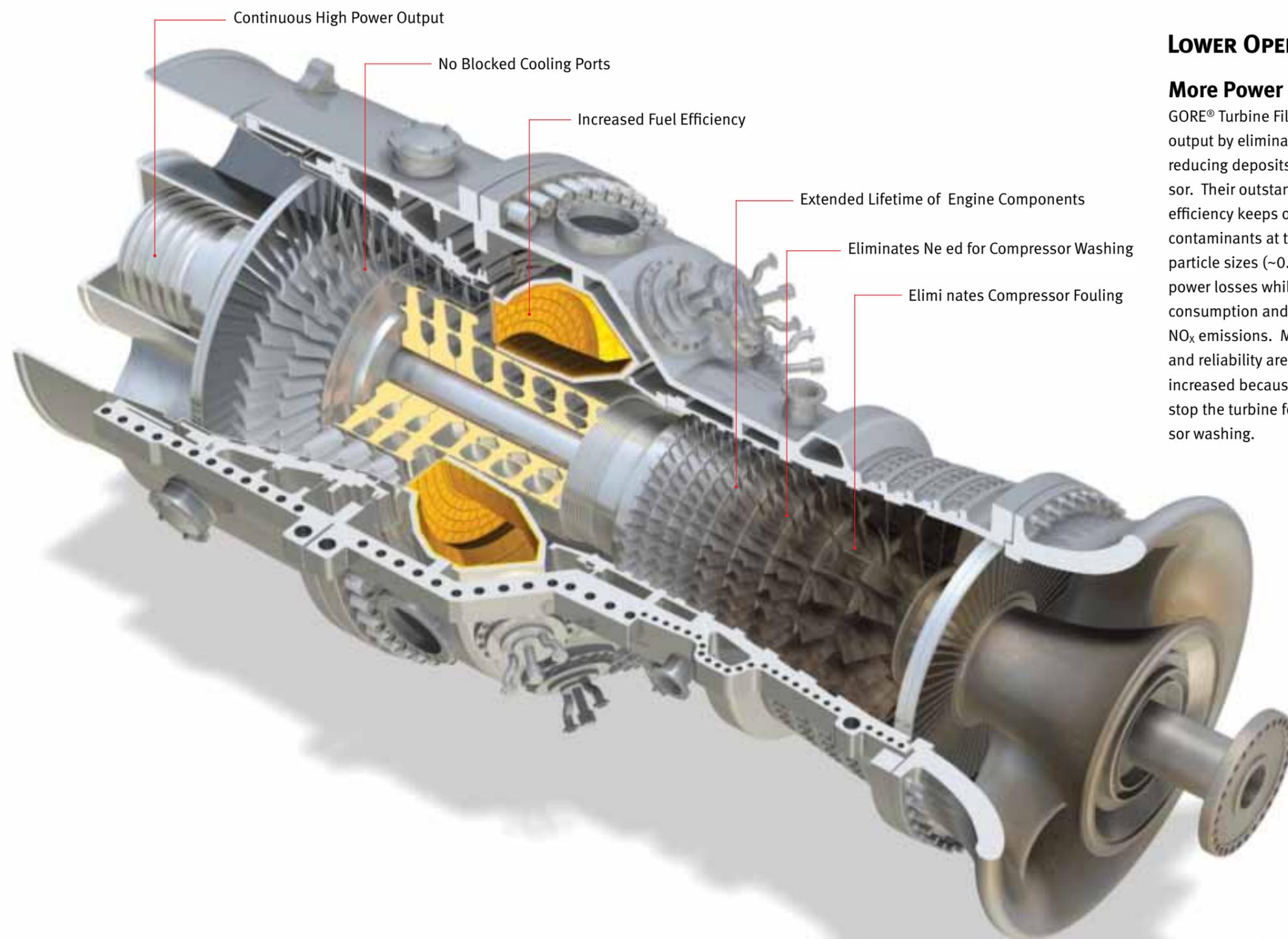




GORE® Turbine Filters

More Power, Less Wear

Increase power output by eliminating dirt and other contaminants from the turbine



LOWER OPERATING COSTS WHILE MAXIMIZING TURBINE RELIABILITY

More Power

GORE® Turbine Filters optimize power output by eliminating performance reducing deposits in your compressor. Their outstanding H12 filtration efficiency keeps out at least 99.5% of contaminants at the most penetrating particle sizes (~0.1 micron). This stops power losses while reducing your fuel consumption and associated CO₂ and NO_x emissions. Machine availability and reliability are also significantly increased because there is no need to stop the turbine for off-line compressor washing.

Less Wear

GORE® Turbine Filters significantly reduce your maintenance costs while increasing compressor and turbine lifetimes. Unlike current air intake filters, they capture at least 99.5% of atmospheric particles, and have a unique patented filter media that is waterproof and provides reliable protection from corrosive salts. This reduces unexpected failures and major outages by preventing both fine and corrosive particulates from reaching the engine. GORE® Turbine Filters also directly replace your existing filters with no modifications required to filter housing.

ECONOMIC BENEFITS

- Higher Power Output
- Increased Turbine Availability
- Less Fuel Costs
- Less Maintenance Costs
- No Filter Housing Modifications Required





GORE® Turbine Filters

More Power, Less Wear

The Difference is Black & White!

Patented 3-Layer Construction Provides H12 Filtration Efficiency at Low Pressure Drops

Prefilter Layer Removes Bulk of Larger Particles

High Efficiency Membrane Removes Submicron Dust, Water and Salt

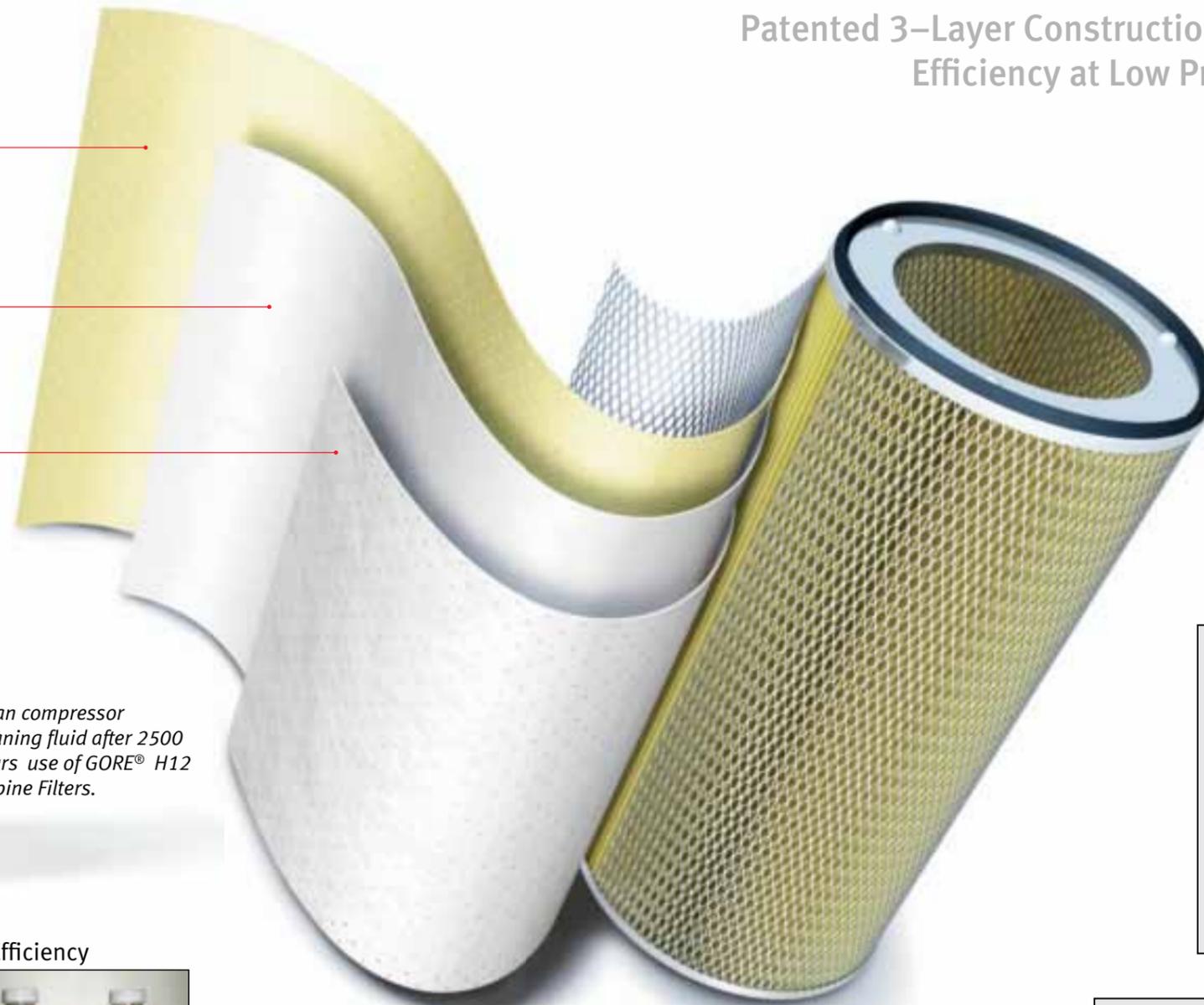
High Strength Backer Provides Burst Strength



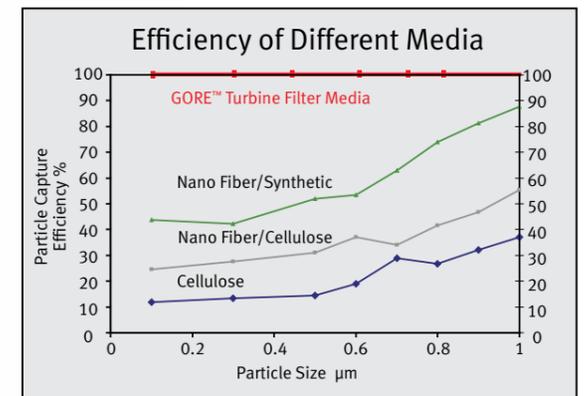
Actual compressor cleaning fluid after just 1450 hours use of conventional F9 filters.



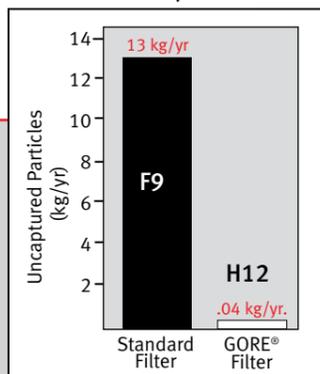
Clean compressor cleaning fluid after 2500 hours use of GORE® H12 Turbine Filters.



While conventional filter media shows poor efficiency at small particle sizes, unique GORE® H12 media provides at least 99.5% efficiency at most penetrating particle size



Impact of Filtration Efficiency



A Black & White Difference

Unit 1 - Compressor Cleaning Fluid after 1450 hours of operation with standard filter

Unit 2 - Compressor Cleaning Fluid after 2500 hours using GORE® Turbine Filters

0.04 kilogram vs. 13 kilograms per year
In a 25 MW turbine with approximately 8200 hours run time per year fitted with F9 filters, almost 13 kgs of atmospheric contaminants pass through the filters. Fitted with GORE® H12 Turbine Filters, the amount of unaptured contaminants is only 0.04 kg per year!

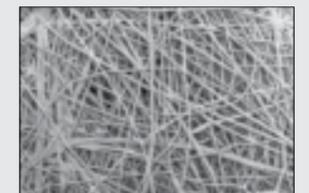
Waterproof GORE™ filter media captures salt particles and dissolved salt preventing downstream contamination such as hot gas corrosion.

Protection from Salt & Water

SEM showing salt penetration on clean side of F9 filter



SEM showing no salt on clean side of GORE® Turbine Filters





GORE® Turbine Filters

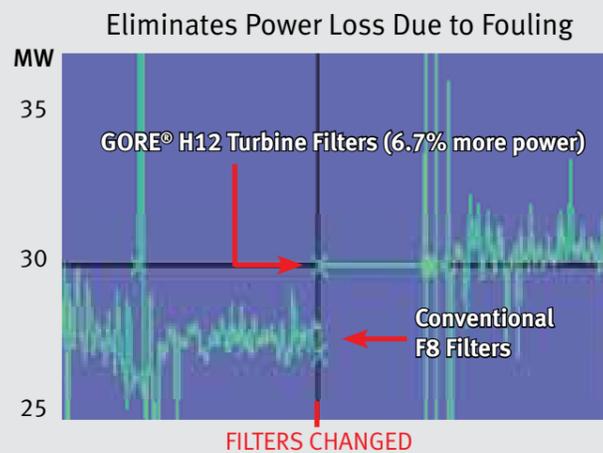
More Power, Less Wear

Applications Experience

Multi-Turbine Power Plant Value: Eliminated Power Loss

A power supplier with multiple gas turbines experienced significant power loss due to compressor fouling on virtually all machines. One of their 30 MW turbines had undergone a total overhaul prior to start up in October 2007 when conventional F8 filters were installed. Over the following months, the power output fell from 30 MW to ~28 MW as the compressor fouled. In February 2008 the turbine was shut down and underwent a thorough offline compressor wash. The intake filters were exchanged with GORE® Turbine Filters. Since then the power output is holding steady at the maximum level. No compressor washings have been required, when previously four cycles were carried out per year.

30 MW Turbine	Power Loss From Fouling
Standard Filters	6.7%
GORE® Turbine Filters	0



Heavy Dust and Fog Environment Value: Eliminated Cleaning Shutdowns

A ceramics plant was situated in an area with heavy fog. An incredible amount of dust was generated by the manufacturing process and continuous heavy truck traffic in the plant. The turbine had to be shut down weekly to perform offline compressor cleaning. Following installation of GORE® Turbine Filters (H12) the machine could be left running at maximum performance without any shutdowns for offline cleaning. Despite the high fog environment the GORE® Turbine Filters achieved a similar lifetime as the previously installed F8 filters.

5 MW Turbine	Cleaning Interval
Standard Filter	Weekly
GORE® Turbine Filters	Eliminated

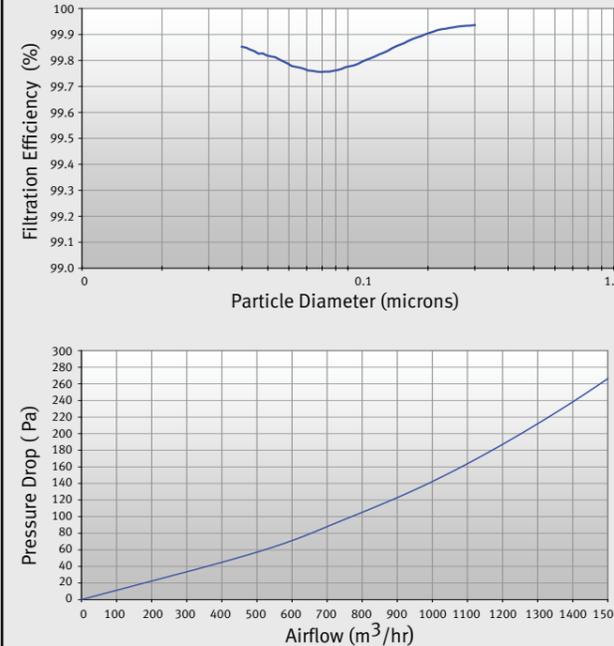


Technical Information

HEPA Filtration Without Filter House Modification

Turbine operators can now benefit from superior HEPA filtration without the need to modify the filter house. While other HEPA solutions require multiple filter stages and more filters in parallel to achieve an acceptable life of the fine filter, GORE® Turbine Filters provide both high filtration efficiency (H12) and low pressure drop without additional prefiltration stages. This enables a direct replacement of existing filters with no modifications required to the filter housing. GORE® Turbine Filters are also available in various standard dimensions.

Highest Efficiency at Lowest Pressure Drop
(Single Cartridge - 660 mm)



Company Background

Best known for products like GORE-TEX® Fabric and GORE-TEX® Medical Devices, Gore is a leading manufacturer of thousands of advanced technology products for the electronics, industrial, fabrics and medical markets. The company is headquartered in Newark, Delaware, and employs over 8,000 associates at 45 facilities throughout the world including Asia Pacific, Australia, Europe, North America, and South America.

Since its inception in 1958, Gore has advanced the science of fluoropolymer technology. In 1969 Bob Gore invented expanded Polytetrafluoroethylene (ePTFE) launching hundreds of new products and three new divisions. Gore has repeatedly been named among the "100 Best Companies to Work For," and our culture is a model for contemporary organizations seeking growth by unleashing creativity and fostering teamwork.





GORE® Turbine Filters



Worldwide Sales and Support

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