



GORE® Turbine Filters

More Power, Less Wear

START YOUR ENGINES
AND LET THEM RUN

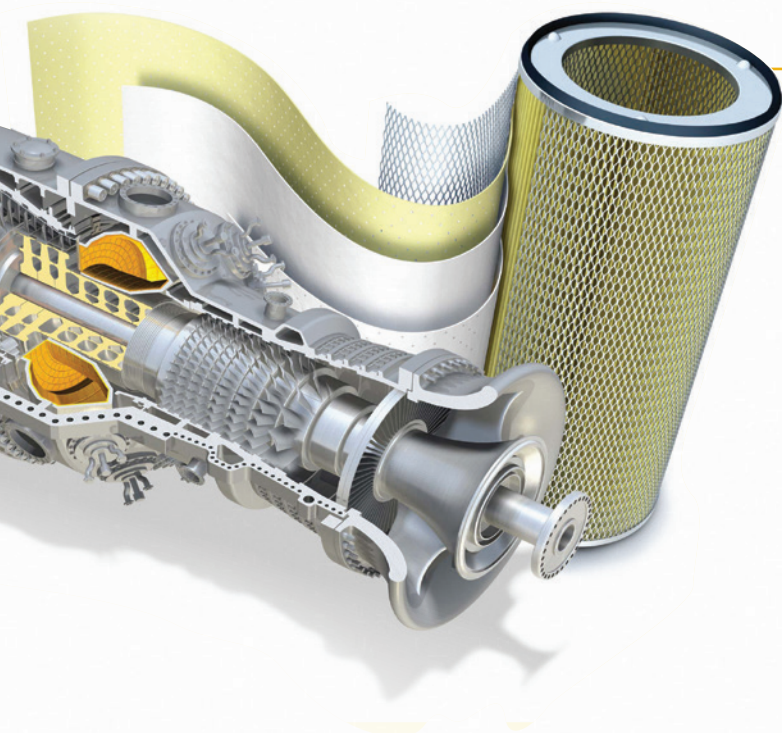
Defining Filter Lifetime

We know filter lifetime is critical for economic value and maintenance planning in your operation. This is your guide to answering the question, "How long will GORE® Filters last in my turbine?"

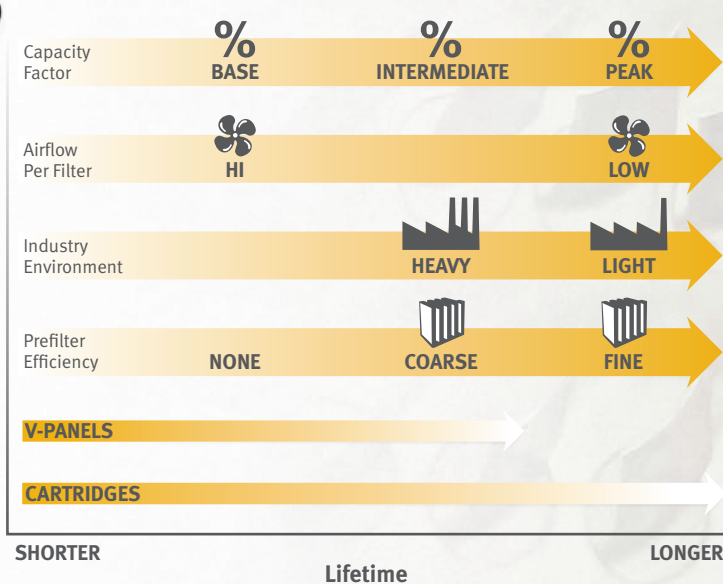
The Gore Advantage

Define Your Application

- What type of inlet filters are you currently using and how long do they last?
- What is the overall airflow and flow per filter element?
- How many hours does the system run per year? Is the unit considered peak, intermediate, or base loaded?
- Are there local environmental challenges, such as heavy pollution, fog, insects, or agricultural burning?



INFLUENCES AFFECTING FILTER LONGEVITY*



* Lifetime is subject to many variables. The cases and data presented are from our experiences in the market and are for guidance only. Typically, cartridge filters have longer service life compared to panels due to common designs of filter houses.

Benefits of GORE® Turbine Filters

Reduce Turbine Wear

- Prevent blocking of cooling ports and overheating of blades
- Prevent rotational imbalance from compressor fouling
- Avoid cyclical thermal stress due to turbine stops and restarts for cleaning

Optimize Power Output

- Eliminate power loss from compressor fouling
- Eliminate fouling-induced heat rate increases
- Prevent captured contaminants from rinsing through filters during periods of heavy rain or fog

Increase Turbine Availability

- Eliminate need for off-line compressor washing
- Avoid risk of startup and shutdown failures
- Operate continuously with clean compressor performance

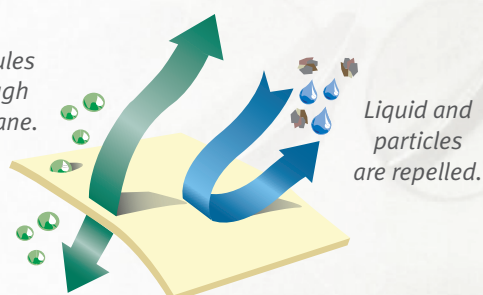
Reduce Corrosion

- Prevent liquid water ingress through filters
- Stop penetration of airborne and waterborne salts
- Reduce corrosion in compressor and hot section

















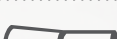






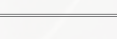

Hydrophobic HEPA Technology

- E12 efficiency with pressure drop (ΔP) comparable to lower efficiency filters
- Direct replacement for current filters
- Proven lifetime in challenging environments

Gas molecules pass through the membrane.



CASE STUDIES

TURBINE	FILTER CONFIG.	HOURS/YEAR	REGION	ENVIRONMENT	INDUSTRY	FILTER LIFE (YRS.)
GE-6B	 V-PANEL	8,000	US	 HEAVY COASTAL	Petrochemical	2.5
GE-7EA	 CYLINDRICAL	8,000	Southern CA	 HEAVY COASTAL	Refinery	3
GE-7EA	 V-PANEL	8,000	US	 HEAVY COASTAL	Petrochemical	2
GE-7EA	 CONICAL CYLINDRICAL	8,000	Canada	 ARCTIC INDUSTRIAL	Oil Extraction	2
GE-7FA	 CONICAL CYLINDRICAL	6,500	US	 LIGHT COASTAL	Power Gen.	3
GE-7FA	 CONICAL CYLINDRICAL	6,500	US Southwest	 RURAL ARID	Power Gen.	3
GE-7FA	 V-PANEL	6,500	US	 LIGHT COASTAL	Power Gen.	2+
GE-LM2500	 PULSE PANEL (ASC SYSTEM)	8,000	Middle East	 LIGHT OFFSHORE DESERT	Petrochemical	3
GE-LM2500	 CYLINDRICAL	8,000	Canada	 ARCTIC RURAL/FARM/FOREST	Pipeline	3+
GE-LM6000	 LM COMPOSITE STYLE	8,000	Canada	 HEAVY COASTAL	Refinery	1.5
MHI 501G	 CONICAL CYLINDRICAL	5,000	Pacific Northwest	 RURAL COASTAL	Power Gen.	4
MHI 501G	 CONICAL CYLINDRICAL	6,500	US	 LIGHT COASTAL	Power Gen.	3+
RR Avon	 PULSE PANEL (ASC SYSTEM)	8,000	Middle East	 LIGHT OFFSHORE DESERT	Petrochemical	2
RR RB211	 Z-PANEL	8,000	UK	 LIGHT COASTAL	Power Gen.	2+
Siemens SGT700	 CONICAL CYLINDRICAL	8,000	North Africa	 HEAVY COASTAL	Petrochemical	1.5
Siemens SGT800	 CONICAL CYLINDRICAL	6,000	Europe	 LIGHT COASTAL	Power Gen.	2+

+ Indicates filter is still in operation

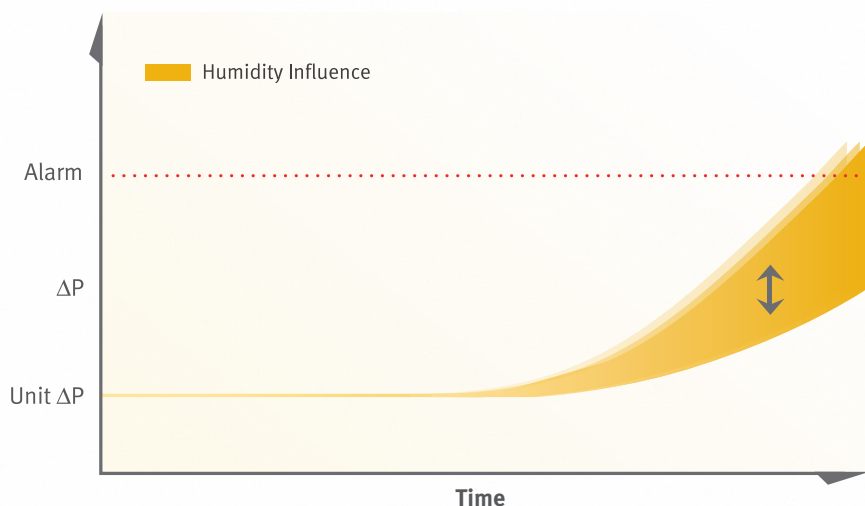
Understanding HEPA Filter End of Life

All filters are susceptible to high pressure drop (ΔP) spikes as they reach the end of their service lifetime. This is caused by swelling of particles in wet or humid conditions. The magnitude of this ΔP rise is influenced by the type and number of particles captured by the filter, filter media characteristics and construction, and filter design.

It is important to understand what to expect when your E12 hydrophobic HEPA filters from Gore near the end of their service life. HEPA filters are highly efficient and capture virtually all particles in an airstream over their lifetime. When the filters begin to approach end of life, ΔP trend monitoring will begin to show sensitivity to wet and humid conditions. The patented multi-layer construction of Gore's hydrophobic HEPA filters delays this effect, enabling long lifetime even in challenging conditions.

GORE® Turbine Filters have a proven lifetime of two years or longer in very challenging coastal and industrial environments. Relevant references are available upon request.

PRESSURE DROP TREND OVER FILTER LIFETIME

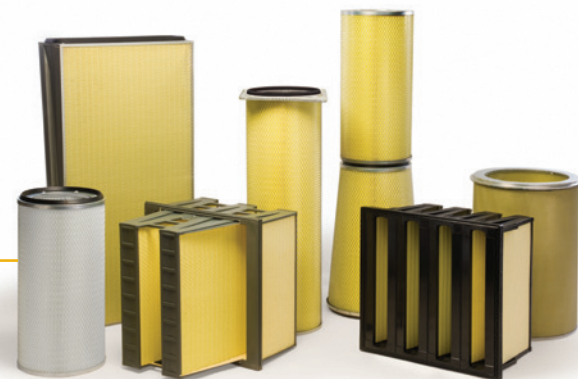


Trend monitoring of filter ΔP is the most reliable way to decide when to replace filters. The chart on the left depicts the typical ΔP profile over the service life of a GORE® Turbine Filter. When the ΔP trends upward and the influence of humidity grows, it is time to plan for filter replacement.

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Next Step

Let our technical team help you to quantify the benefits of using GORE® Turbine Filters.



www.gore.com/turbinefilters

E-Mail: turbinefilters@wlgore.com

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W. L. Gore & Associates

Americas

W. L. Gore & Associates, Inc.
101 Lewisville Road
Elkton, MD 21921
USA
Phone: +1 410 392 3300
Fax: +1 410 398 6624

Europe

W. L. Gore & Associates GmbH
Hermann-Oberth-Str. 26
D-85640 Putzbrunn
Germany
Phone: +49 89 4612-2211
Fax: +49 89 4612-2302

Middle East

W. L. Gore & Associates GmbH Middle East - Abu Dhabi
P. O. Box 11 44 70
Al Reem Island, Sky Tower, Office 609
Abu Dhabi
UAE
Tel: +971 2 5089444
Fax +971 2 5089445

