



AERION

POWER DRIVEN BY CLEAN AIR



AAF[®]
INTERNATIONAL
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Introduction

POWER DRIVEN BY CLEAN AIR

For reciprocating diesel and gas engines, air quality defines performance. Dust, sand, salt, and humidity accelerate wear, increase pressure drop, and shorten filter life.

Aerion filtration systems, combining proven **DuraPak filter media** with engineered self-cleaning designs, deliver stable performance in environments where conventional cylindrical canisters fail.

The result:

- | Longer engine life
- | Reduced downtime
- | Lower operating costs

With over 600 global installations, Aerion has been proven in desert, coastal, and heavy industrial sites worldwide.



Product Range and Applications



Aerion PE

- | Incorporates **ASC (Augmented Secondary Circuit)** technology: a secondary extraction fan removes up to 75% of coarse particles before they reach the filter media.
- | Combined with pulse cleaning, this dual mechanism prevents blinding, stabilises differential pressure, and ensures up to 24 months of service life.
- | Ideal for sandstorm regions, high-humidity coastal plants, and severe dust loading environments.



Aerion P

- | Pulse cleaning system dislodges dust directly from DuraPak filter media.
- | Maintains performance in dusty and humid industrial environments, where uptime is critical.
- | Service life: typically, 18 months depending on site conditions.



Aerion S

- | Compact static barrier filter for space-constrained sites or areas with stable dust concentrations.
- | No moving parts; simple, dependable operation.

Suitable Applications

Power generation and small gas turbines.



Technical Performance and Comparison

Aerion Technical Performance:

- | **Rated Flow per DuraPak:** 2,550 m³/h.
- | **Airflow Capacity per Unit:** up to 61,200 m³/h (Size Aerion H4W6).
- | **Initial Differential Pressure:** 405 Pa.
- | **Final Recommended ΔP:** ≤1000 Pa.
- | **Service Life:** up to 24 months / 17,500 hrs (depending on environment).
- | **Filter Media:** cellulose + synthetic fibre blend, moisture-repellent coating.
- | **Construction:** pleated media with pre-galvanised steel mesh, factory-fitted gasket, tubular frame support.

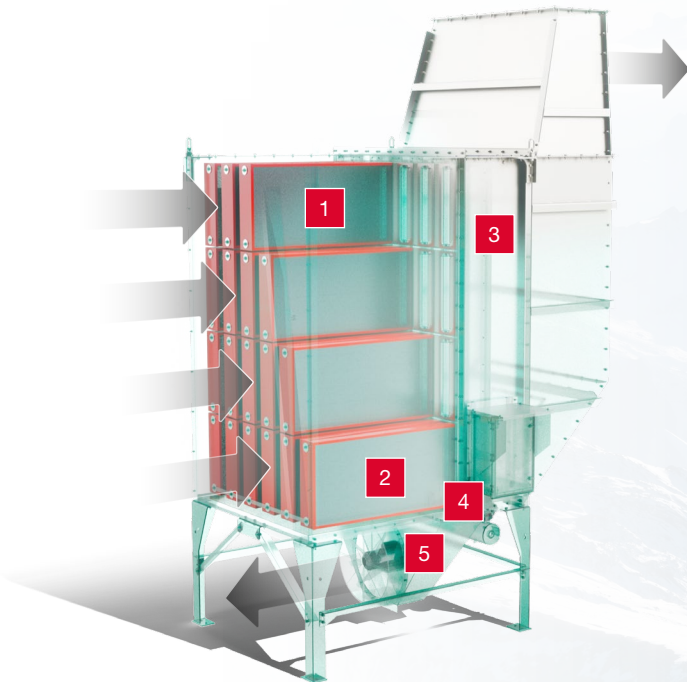
Model Comparison

Model	Cleaning Method	ASC	Sizes (H×W)	DuraPak Elements	Max Airflow (m³/h)	Service Life	ΔP Range
Aerion PE	Pulse + inertial extraction	✓	H4W4	16	40,800 /	24 months /	405 →
			H3W6	18	45,900 /	17,500 hrs	1000 Pa
			H4W6	24	61,200		
Aerion P	Pulse cleaning	X	H4W4	16	40,800 /	18 months	405 →
			H3W6	18	45,900 /		1000 Pa
			H4W6	24	61,200		
Aerion S	Static barrier	X	H4W4	16	40,800 /	12 months	405 →
			H3W6	18	45,900 /	typical	1000 Pa
			H4W6	24	61,200		

Augmented Secondary Circuit

Removes up to 75% of dust mass through inertial separation before it reaches the filters. The remaining 25% is captured by DuraPak media, preventing moisture-driven particle swelling and maintaining stable ΔP in extreme environments.

- 1 | Filter element
- 2 | High efficiency media
- 3 | Secondary air chamber
- 4 | Pulse system
- 5 | Dust evacuation fan



Proven in the Field

Case Study

Bahrain Power Plant

Challenge: Canister filters exposed to sea air, iron ore dust, and bentonite caused fouling, erosion, blocked cooling passages, and frequent shutdowns. Filters lasted only 8–9 months, and machines tripped during mist/fog events.

Solution: Retrofit with Aerion PE (ASC Pulse Extraction) + DuraPak F8 media.

Results:

- | 3 years continuous operation, zero trips.
- | Fouling and erosion eliminated.
- | Water washing reduced to OEM minimums.
- | Significant savings in lifecycle costs and downtime.

Why Aerion?

- | ASC Technology – Unique Augmented Secondary Circuit prevents coarse dust fouling, ensuring stable ΔP.
- | Extended Service Life – Up to 24 months.
- | Lower Operating Costs – Fewer change-outs, less downtime, improved efficiency.
- | Retrofit-Friendly – Compact, lighter structure integrates with existing housings.
- | Proven Worldwide – Over 600 installations in severe industrial environments.





AAF International

Filtration has been at the heart of our business since 1921 and thanks to the high calibre of our products and services, we are trusted by many of the world's leading power and industrial companies. We provide our customers with the expertise, the solutions and the best available filtration technology to increase operational performance. Bringing clean air to life, our products provide the highest levels of indoor air quality, the lowest environmental emissions and the optimum safety conditions for employees and the wider community.

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