

# Cathode Air Filtration Solutions for Hydrogen Fuel Cell Applications



# Proven Filtration, Future Redefined

Donaldson's cathode air filter technology is engineered specifically for hydrogen PEM fuel cells, ensuring optimal airflow while removing harmful chemical pollutants and dust. Our filter elements go beyond particulate filtration and are capable of neutralizing acidic gases, base gases and volatile organic compounds. Designed specifically for heavy-duty on and off highway vehicles, Donaldson's filtration technology helps optimize fuel cell performance, ensuring longer system life and supporting sustainable energy solutions in even the most challenging environments.

Compact and designed with serviceability in mind, Donaldson offers 3 standard cathode air filter sizes with the option of customization.

- + Compact and designed to simplify serviceability
- + Additional filter sizes available
- + Able to fit custom housings

**FCB**  
FUEL CELL CONTAMINATION CONTROL





# Technical Specifications

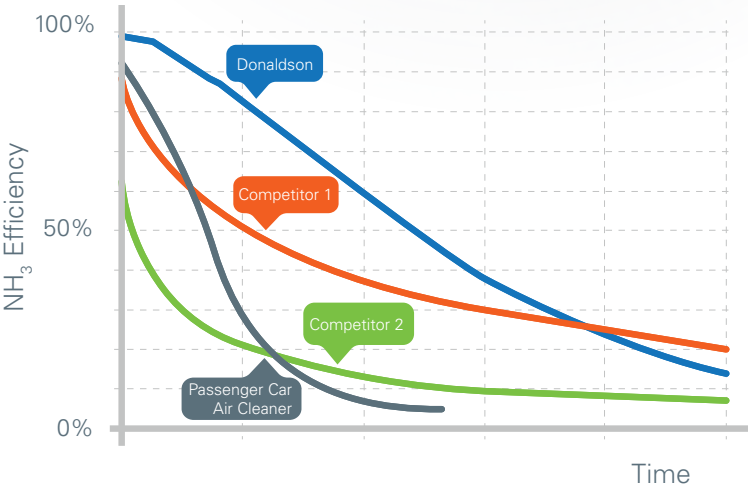
Model	FC3A08	FC3A09	FC3A13
Gross Power Fuel Cell	5 - 70 kW	60 -140 kW	130 -350 kW
Dimensions (D x L)	227 x 359 mm	267 x 433 mm	394 x 597 mm
Absorption of	Ammonia (NH <sub>3</sub> ), Sulfur (SO <sub>2</sub> ) Nitrogen Oxide (NOx), Toluene and more		

Donaldson’s advanced fuel cell filters enable commercial vehicles to drive up to 300,000 km before needing a change, ensuring superior engine protection and reduced maintenance costs.

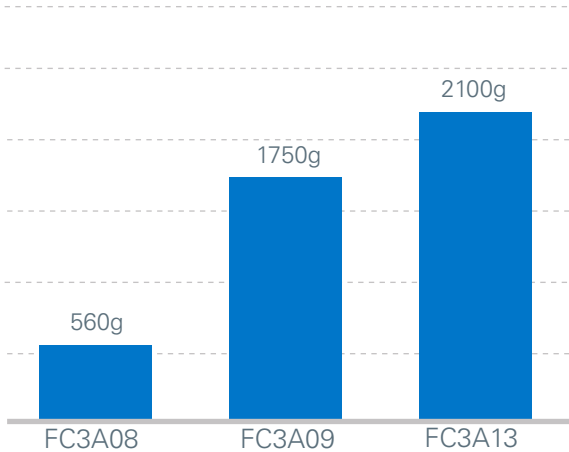
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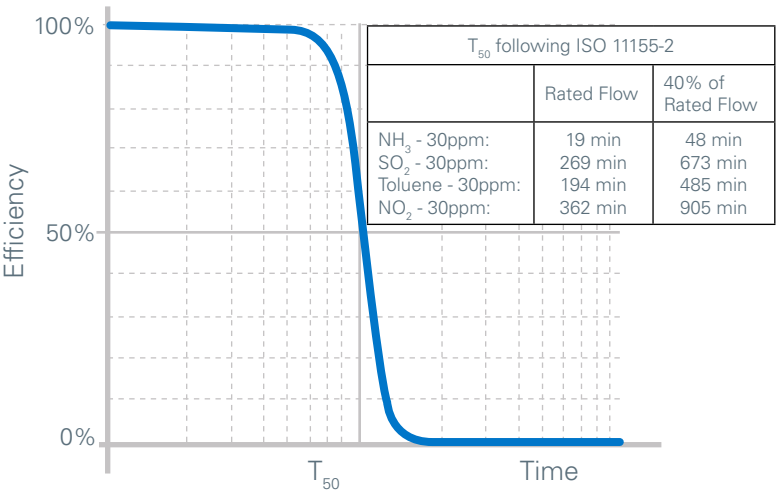
Ammonia Capture Efficiency



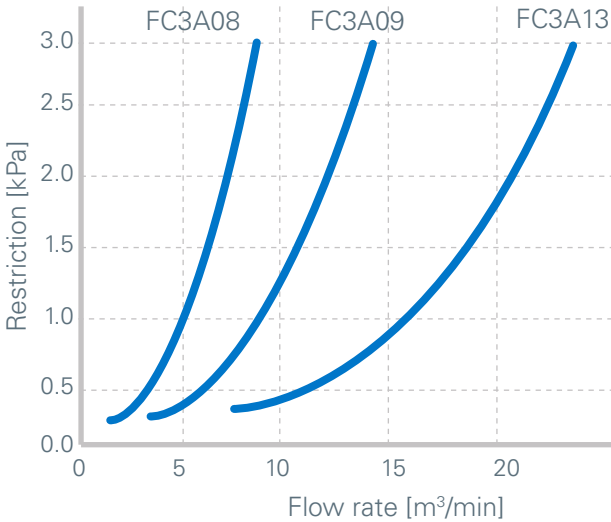
Dust Holding Capacity



Chemical Capture Efficiency

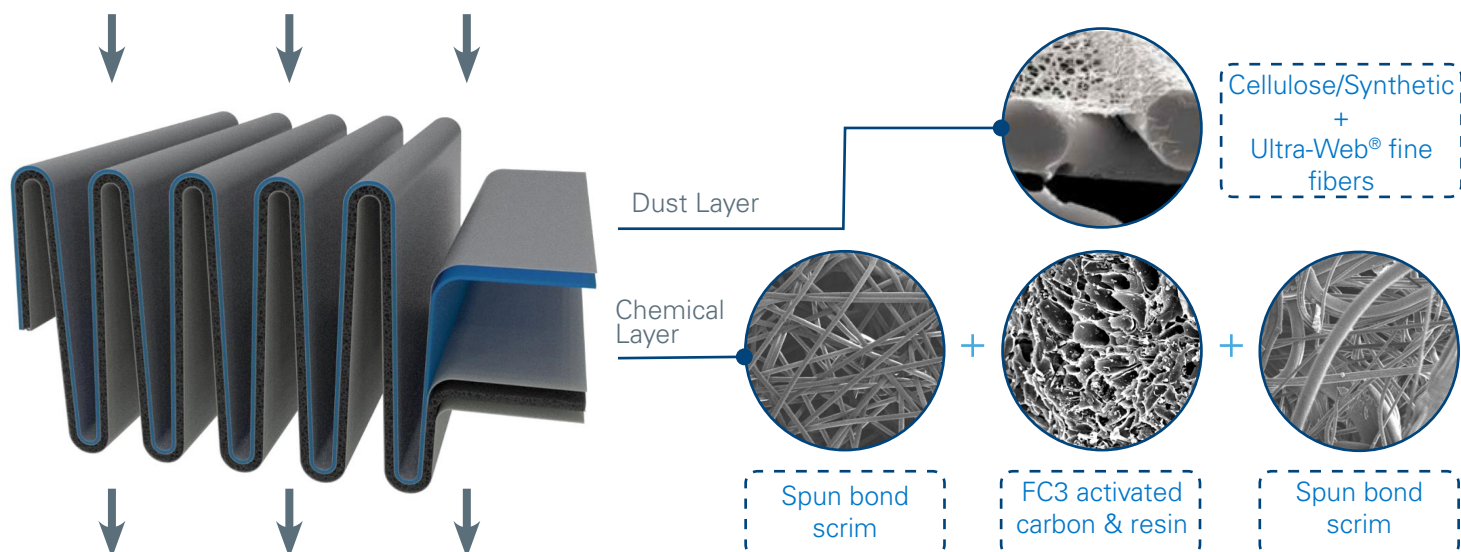


Restriction vs Flow Rate



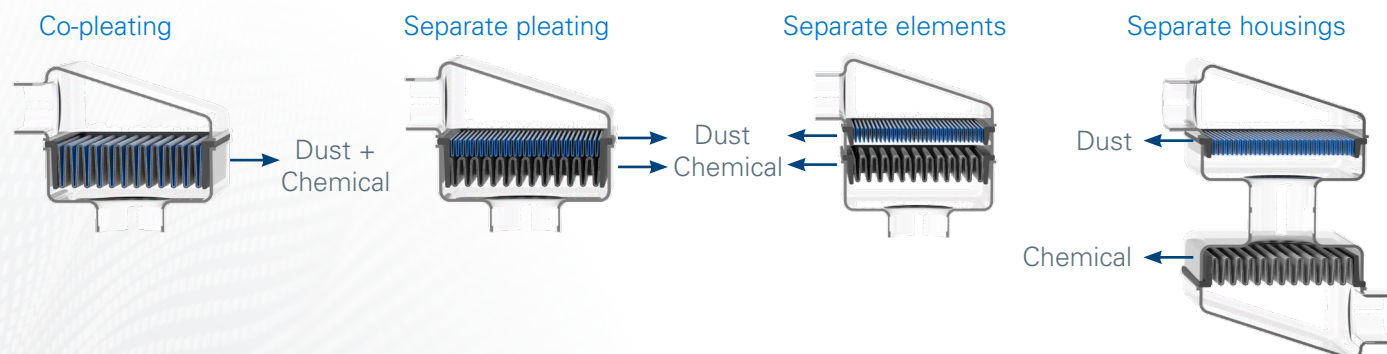
# Cathode Air Filter Media

The particle layer filters dust and particles. The second chemical layer consists of activated carbon and resins, encapsulated between two scrim layers. This proprietary mix of activated carbon and resins target acidic gases, basic gasses and volatile organic compounds.



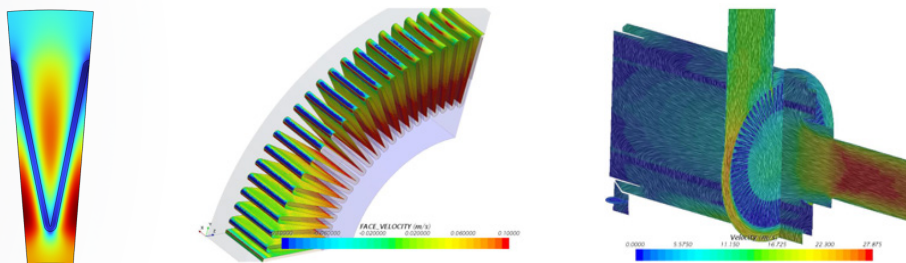
## Air Filter Media Configuration Options

We offer multiple ways to combine the dust filtration function and the chemical absorption function, customized to fit your specific application requirements.



## Optimization Tools

To optimize the geometry and configuration, we use chemical modelling and advanced CFD tools, together with input data from ambient pollution studies. By combining all these tools, we can arrive at the best possible solution.



[donaldson.com/fuel-cell](https://donaldson.com/fuel-cell)

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