

AstroCel® III Nuclear Size 8

HEPA FILTERS FOR NUCLEAR ENVIRONMENTS



Benefits

- Reduced footprint and housing costs
- Fewer changeouts and longer life compared to Size 7 filters and others
- Longer life for heavy contamination applications
- Reduced number of spent filters requiring rad-waste disposal

Designed, Manufactured, and Tested to Nuclear Standards

- Manufactured and tested under **ASME NQA-1 Nuclear Quality Assurance Program** standards
- Individually tested at both **20% and 100%** of rated airflow to validate performance
- Qualified to:
 - **ASME AG-1**
 - **ASME N509-1989**
 - **UL 586** for HEPA filtration safety standards

Decades of Nuclear Filtration Experience

For nearly 60 years, AAF has delivered proven nuclear filtration and cooling solutions, including both safety-related and non-safety-related systems. Our engineering, manufacturing, and testing capabilities serve a global customer base, including the U.S. Department of Energy, the U.S. Department of Defense, and commercial and government-owned nuclear facilities across North America, Europe, and Asia.

Proven HEPA Filtration for Nuclear Reliability

The AstroCel III Nuclear Size 8 delivers trusted, high-capacity HEPA performance built specifically for the demands of nuclear material processing and power plant operations. Engineered for durability and regulatory compliance, it supports critical air handling systems to minimize risk and maximize reliability. Its qualified construction and performance, and long service life help reduce downtime, protect sensitive processes, and support safe, efficient plant performance where contamination control is non-negotiable.

Performance You Can Count On

Engineered for the demands of nuclear facilities, the AstroCel® III Nuclear Size 8 combines rugged construction, high airflow capacity, and versatile sealing options to deliver dependable performance in critical applications.

- Available in **304 or 409 stainless steel** with 14-gauge cell sides and rigid flanges for strength and durability
- **Either galvanized or stainless steel faceguards** protect filter media from damage
- **Solid urethane sealant** secures media and eliminates bypass
- Standard **24" x 24" x 11.5" dimensions** for full compatibility with existing housings
- **Airflow capacity:** 2,000 CFM at maximum 1.3 in. w.g. for high efficiency and low resistance
- **Two sealing options:**
 - ¾-inch gelatinous seal track for knife-edge to gel-seal housing systems
 - Gasket seal model for traditional compression systems
- **Optional extractor clips** for easy removal and maintenance in gel-seal configurations, especially multi-filter housings

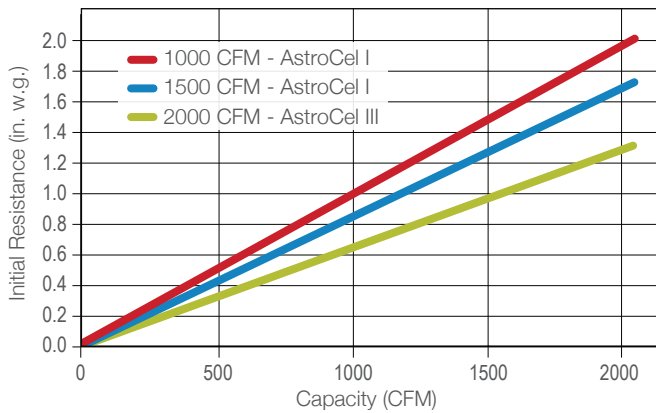
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High Efficiency Media for Maximum Particle Capture

The AstroCel III Nuclear Size 8 is equipped with sub-micron glass fiber media that meets the stringent requirements of Article FC-1000 of the American Society of Mechanical Engineers, ASME AG-1. Designed for high-efficiency particle capture, the media is tightly pleated and arranged in a multi-V bank configuration, providing a minimum of 400 square feet (37 m²) of effective filtration surface.

Air velocity through the filter face of up to 500 feet per minute, while the media velocity is less than or equal to 5 feet per minute, ensuring high capture efficiency with minimal resistance. Fiberglass string separators are used to hold pleats open, improving airflow and eliminating the need for aluminum spacers.

Comparative Airflow / Resistance



Product Information – Standard Sizes

Seal Method	Nominal Size (inches)	Rated Airflow Capacity (CFM)	Rated Initial Resistance (w.g.)	Media Area (sq. ft.)
Gasket	24 x 24 x 11½	2000	1.3	400
Gel	24 x 24 x 11½	2000	1.3	400

Efficiency for all models is 99.97% @ 0.3 micron

Performance Data

Flow Capacity:

- 2000 CFM at 1.3 in. w.g. initial pressure drop (3400 m³/hr at 0.30 kPa)

Efficiency:

- 99.97% on 0.3 micron particles

Resistance at Rated Flow:

- Initial resistance of 1.3 in. w.g. (0.32 kPa)
- Recommended final resistance of 2 to 3 in. w.g. (0.5 to 0.75 kPa)
- Design maximum 10 in. w.g. (2.5 kPa)

Max. Temperature Limit:

- 250°F (121°C) continuous service

Filter Size and Weight:

- 24" W x 24" H x 11.5" D, 75 lbs. (610 mm x 610 mm x 290 mm D: 34.02 kg)

Media Surface Area:

- 400 ft² (37 m²)

Production Tests:

- Pressure drop at rated flow
- Penetration test at 100% and 20% rated flow. Each filter is tested and labeled with certified test results and serial number.

Qualification Standards:

- Media: MIL-F-51079 & ASME AG-1 Section FN (2019, 2023) & Mandatory App. FC-1 (2012)
- Filter: UL 586 & ASME AG-1 Section FC



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AAF International has a policy of continuous product research and improvement. We reserve the right to change design and specifications without notice.

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ISO Certified Firm

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