THE WORLD LEADER IN CLEAN AIR SOLUTIONS









Clean Air for Critical Healthcare Environments

PROTECTING PATIENTS. SUPPORTING FACILITIES. IMPROVING PERFORMANCE.

AAF® INTERNATIONAL
a member of DAIKIN group

Healthcare facilities place extraordinary demands on HVAC systems. Air filtration must support critical spaces and infection-control strategies while facility teams manage energy use, maintenance requirements, staffing constraints, aging infrastructure, and operating budgets.

AAF International helps healthcare organizations take a more strategic approach to air filtration, combining filtration technology, technical expertise, field support, testing capabilities, and local service to help facilities protect critical environments while improving HVAC operations.

1 IN 38 PATIENTS

Hospitalized patients had at least one healthcare-associated infection on any given day in 2023.



Source: www.cdc.gov



THE HEALTHCARE FACILITY CHALLENGE

More Demands. Fewer Resources. No Room for Compromise.

Healthcare facility teams are being asked to do more with the systems, people, and budgets already available. At the same time, HVAC and filtration programs must support everything from patient rooms and waiting areas to operating rooms, isolation spaces, laboratories, pharmacies, and other critical environments.

Facility managers must balance patient and staff safety, infection prevention, regulatory requirements, limited maintenance resources, and rising operating costs while keeping aging HVAC systems performing as intended.

The filter itself is only one part of that equation.

The right filtration strategy considers efficiency, pressure drop, service life, system capability, operating conditions, maintenance requirements, and the needs of each space



Every unnecessary filter change takes labor away from something else

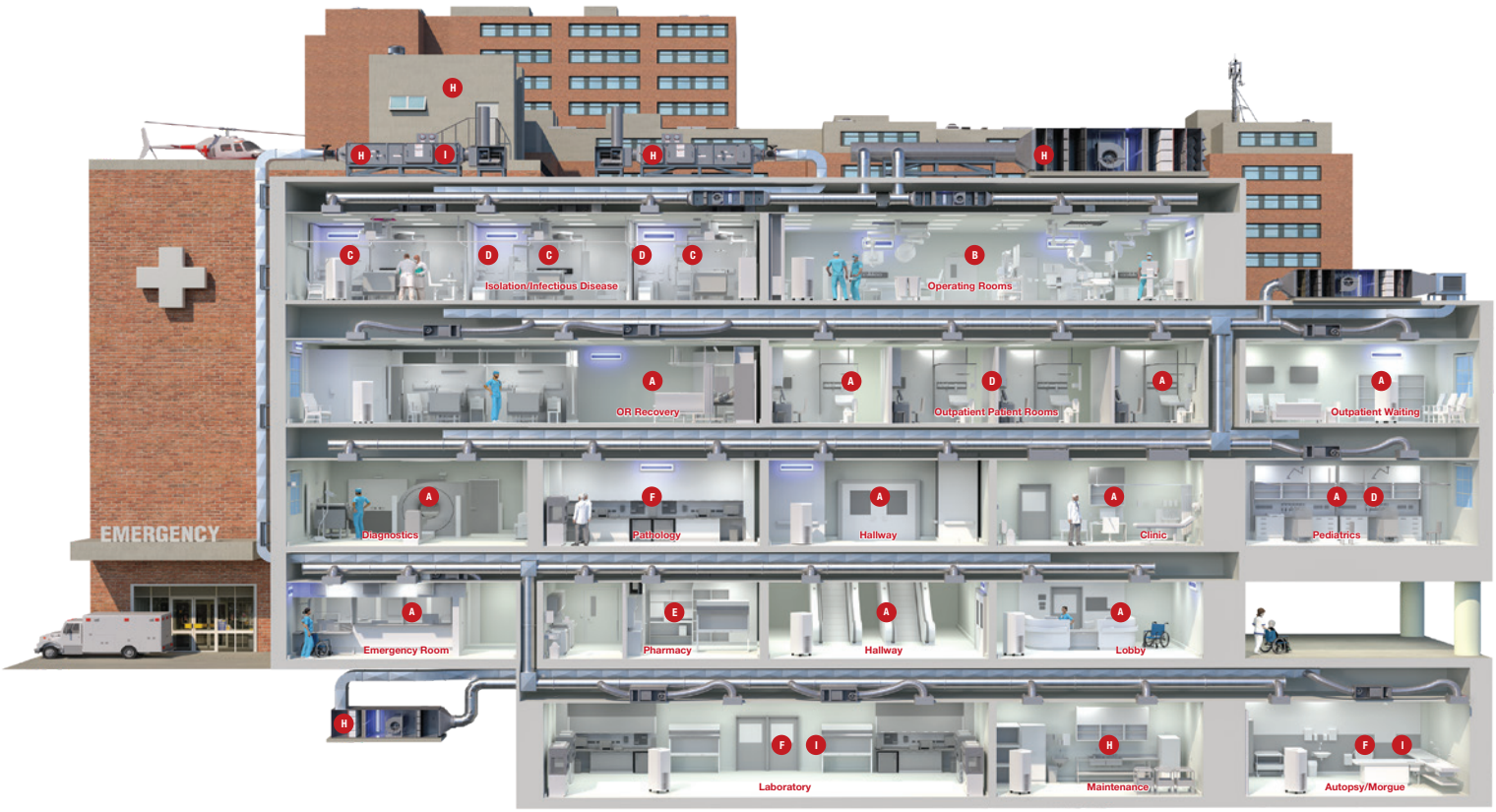
Longer filter service life can mean fewer trips to mechanical rooms and rooftops, less material handling and disposal, and more time for other facility priorities.

CLEAN AIR THROUGHOUT THE HEALTHCARE FACILITY

Different Spaces. Different Requirements.

A hospital is not a single air filtration application.

Different areas can require different combinations of ventilation, filtration, pressure relationships, airflow, temperature, humidity, and air-change rates.



A PATIENT CARE AREAS
Support indoor air quality for patient rooms, treatment areas, waiting spaces, corridors, and other occupied environments.

B OPERATING & PROCEDURE AREAS
High-efficiency filtration and carefully controlled airflow help support the environmental requirements of critical procedural spaces.

C AIRBORNE INFECTION ISOLATION AREAS
Ventilation, filtration, exhaust, pressure relationships, and system operation work together as part of an infection-control strategy.

D PROTECTIVE ENVIRONMENTS
High-efficiency filtration can help protect particularly vulnerable patient populations.

E PHARMACY & COMPOUNDING
HEPA filtration and controlled airflow play important roles in clean environments used for sterile preparation.

F LABORATORIES
Application-specific filtration and containment strategies help manage airborne contaminants and support controlled environments.

H GENERAL HVAC / OUTDOOR AIR
Efficient filtration can help protect HVAC equipment, maintain indoor air quality, and manage contaminants entering through outdoor air.

I ODOR & MOLECULAR CONTAMINANTS
Carbon media can supplement particulate filtration where odors and gaseous contaminants are a concern.

INFORMATIVE APPENDIX D

RECOMMENDED FILTER EFFICIENCIES BY SPACE TYPE

This table is provided for information to allow users to understand the intent of the filter assignments and make engineering judgments on spaces not specifically named in the standard.

TABLE D-1 RECOMMENDED FILTER EFFICIENCIES BY SPACE TYPE

Level	Space Category	Filter Efficiency Recommendations[a,b]
I	• Primarily exhausted space (e.g., restrooms, janitor's rooms) • Any human-occupied space • Any room inpatient or outpatient, where a patient stays less than six (6) hours, including waiting rooms • Laboratories • Resident rooms in assisted living: • Storage of packaged sterile material clean linen, or pharmaceutical • Treatment rooms. Endoscopy. Procedure room • Duty side of decontamination process	MERV 8 (equivalent to ASHRAE 62.I or Standard 62.2)
II	• Skilled nursing and hospice residential health facilities	MERV 13
III	• Inpatient spaces, including medical-surgical. airborne isolation • Special exam room for suspect airborne cases, emergency department exam rooms • Workroom for packing of sterile material~ • CT or MRI procedure. Interventional radiology (including biopsy), or bronchoscopy • ER procedure or trauma room	MERV 14
IV	• Operating room	MERV 16
V	• Operating room designated for orthopedic, transplants, neurosurgery, or dedicated burn unit procedures • Protective environments, including burn units	HEPA



PERFORMANCE THAT LASTS

Why the MERV Rating Alone Does Not Tell the Whole Story

Two filters carrying the same initial MERV rating do not necessarily provide the same performance throughout their service life.

Some filter media rely partly on electrostatic charge to achieve initial particle-removal efficiency. As that charge is reduced during actual use, filtration efficiency can decline.

That is why healthcare facilities should understand both MERV and MERV-A performance when evaluating filtration.

MERV

The Minimum Efficiency Reporting Value (MERV) is determined using the ASHRAE Standard 52.2 test procedure and provides a standardized measure of a filter's particle-removal efficiency.

MERV-A

MERV-A identifies performance after the filter undergoes the conditioning procedure described in ASHRAE 52.2 Appendix J.

What is Appendix J?

ASHRAE 52.2 Appendix J is an optional conditioning procedure used to evaluate how a filter's efficiency may change as electrostatic charge is reduced. Filters tested using Appendix J receive a MERV-A rating, providing a better indication of sustained filtration performance.

For healthcare teams, the distinction provides another way to evaluate whether a filter is expected to maintain the particle-removal performance needed throughout its use rather than relying only on its initial rating.

Ask More Than: What is the "MERV Rating?"

Filter selection should consider performance over time, not simply performance on day one.

Also ask:

- What is the filter's MERV-A rating?
- How does efficiency change after conditioning?
- What is the initial resistance?
- How quickly will resistance increase?
- What is the expected service life?
- How often will maintenance teams need to change it?
- How will it affect fan energy and system operation?

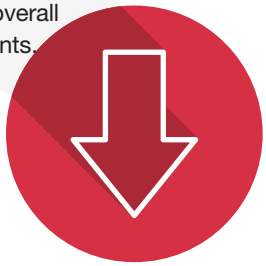


ASHRAE STANDARD 241
Preparing Buildings for Elevated Infectious-Aerosol Risk

1% PAYMENT REDUCTION

Hospitals in the worst-performing quartile under the CMS HAC Reduction Program can receive a 1 % reduction in overall Medicare fee-for-service payments.

Source: www.cdc.gov



BE PREPARED BEFORE CONDITIONS CHANGE.

Understanding system capabilities, filter performance, airflow limitations, and available upgrade paths in advance can help facilities develop a more practical response when elevated infectious-aerosol risk occurs.

ASHRAE Standard 241, ***Control of Infectious Aerosols***, establishes minimum requirements intended to reduce the risk of disease transmission through infectious aerosols in new buildings, existing buildings, and major renovations.

A central concept is Equivalent Clean Airflow, which recognizes multiple methods of providing cleaner air, including ventilation, filtration, and air-cleaning technologies.

The standard also introduces an Infection Risk Management Mode (IRMM) for periods when elevated infectious-disease transmission requires enhanced building operation.

Standard 241 addresses:

- Equivalent Clean Airflow requirements
- Filtration and air-cleaning effectiveness
- Building readiness planning
- HVAC assessment
- System operation and maintenance
- Verification of clean-air delivery
- Preparation for periods of elevated infection risk.

WHY MERV-A MATTERS

When ASHRAE Standard 52.2 is used to determine filtration effectiveness under Standard 241, MERV-A ratings using Appendix J are required after January 1, 2025. ISO 16890 is another permitted test path.

This puts greater emphasis on understanding filtration performance after conditioning rather than relying solely on an initial MERV rating.

HEALTHCARE VENTILATION STANDARDS

ANSI/ASHRAE/ASHE Standard 170 - Ventilation of Health Care Facilities

Healthcare environments have ventilation requirements that extend well beyond those of typical commercial buildings.

ANSI/ASHRAE/ASHE STANDARD 170 establishes healthcare-specific ventilation design requirements for patient care areas, resident care areas, and related support space.

Depending on the application, Standard 170 addresses factors including:

- Filtration
- Outdoor and total air-change rates
- Pressure relationships
- Air recirculation
- Exhaust
- Temperature
- Relative humidity

The requirements vary substantially by application, reinforcing why healthcare filtration should be evaluated at the system and space level rather than with a single facility-wide approach.

CANADIAN HEALTHCARE FACILITIES

Canadian healthcare facilities have their own healthcare-specific HVAC requirements.

CSA Z317.2, Special Requirements for Heating, Ventilation, and Air-Conditioning (HVAC) Systems in Health Care Facilities, addresses HVAC systems throughout their planning, design, construction, commissioning, operation, maintenance, and monitoring.

The standard addresses areas such as:

- Ventilation
- Filtration
- Airflow and pressure relationships
- Monitoring and controls
- Infection control
- Equipment operation and maintenance
- System continuity
- Energy management
- Healthcare facility classifications

U.S. OR CANADA, THE PRINCIPLE IS THE SAME

Healthcare filtration is an engineered system decision. Filter efficiency, airflow, pressure drop, system design, room use, applicable standards, and operating conditions should all be considered when developing the filtration strategy.

THE BEST FILTER IS ONE YOUR HVAC SYSTEM CAN SUCCESSFULLY OPERATE

Increasing filtration efficiency without evaluating the HVAC system can create unintended consequences.

Every filter adds resistance to airflow. Filter resistance and the way it changes throughout service life can affect fan energy, system operating pressure, and potentially airflow if the HVAC system does not have sufficient capacity.

The objective is not simply to install the highest-efficiency filter available.

The objective is to provide the appropriate filtration efficiency while balancing airflow, pressure drop, energy, maintenance, and service-life requirements.

FIVE QUESTIONS TO ASK

1. Will filtration efficiency be maintained throughout service life?

2. What pressure drop will the system experience?

3. How frequently will filters require replacement?

4. Can the existing HVAC system support the filtration strategy?

5. What is the total operational impact of the filter, not simply its purchase price?

LOWER THE MAINTENANCE BURDEN

Give Facility Teams Time Back

The cost of a filter change is not limited to the filter. Every changeout may require staff time for retrieving filters, transporting them through the facility, accessing an AHU or rooftop unit, removing and disposing of used filters, installing replacements, and documenting the work.

Across a large healthcare campus, those activities add up.

A filtration program designed around longer service life can help:

- Reduce filter changeout frequency
- Reduce trips to rooftops and mechanical rooms
- Reduce labor associated with material handling
- Reduce filter disposal
- Simplify inventory management
- Allow maintenance teams to focus on higher-value facility needs

YOUR FACILITY BENEFIT

Less time spent managing filters. More time available for higher-priority facility needs.

LOOK BEYOND THE FILTER PURCHASE PRICE

The filter purchase price is easy to see. The costs surrounding it, including labor, energy, replacement frequency, inventory, and disposal, are often less visible but can have a much greater impact over time.

LABOR
How frequently must the filters be transported, removed, replaced, and disposed of?

ENERGY
How much resistance must the fan overcome throughout the filter's service life?

SERVICE LIFE
How frequently will replacement filters need to be purchased and installed?

INVENTORY
How many different filter types must be purchased, stored, and managed?

DISPOSAL
How many used filters will enter the facility's waste stream?

SYSTEM PERFORMANCE
Will the filtration strategy support required airflow and operating conditions?

A LOWER-COST FILTER IS NOT NECESSARILY THE LOWEST-COST FILTRATION STRATEGY.
Evaluating lifecycle performance can reveal opportunities that are missed when filters are selected primarily on unit purchase price.

HEALTHCARE SERVICES & FACILITY SUPPORT

Support Beyond the Filter

Healthcare facilities need more than a supplier that delivers filters to the loading dock.
AAF can help facility teams better understand their existing filtration program, identify opportunities for improvement, simplify ongoing maintenance, and make more informed filtration decisions.

COMPLIMENTARY AAF SITE SURVEY

Know What's in Every AHU.

Healthcare filtration programs can become increasingly complex as equipment changes, filters are substituted, buildings are expanded, and maintenance practices evolve.

An AAF Site Survey provides a clearer picture of what is installed throughout the facility and where opportunities may exist to improve or simplify the filtration program.

WE WALK THE SYSTEM

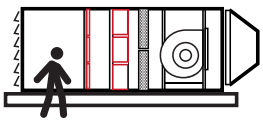
An AAF Site Survey can evaluate items such as:

- Existing filter types and configurations
- Filter sizes and installation conditions
- AHU conditions
- System pressure
- Opportunities to standardize filtration
- Potential longer-life filtration options
- Maintenance and changeout considerations

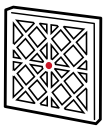
YOUR DELIVERABLE

A clearer understanding of the facility's existing filtration program and potential opportunities to improve performance,
simplify maintenance, or reduce unnecessary filter changes.

LESS GUESSWORK. BETTER FILTRATION DECISIONS.



WALK EVERY UNIT
Survey AHUs and RTUs throughout the facility and identify installation concerns, maintenance issues, and opportunities for improvement.



VERIFY EVERY FILTER
Confirm filter sizes, quantities, efficiencies, and filtration stages for each unit.

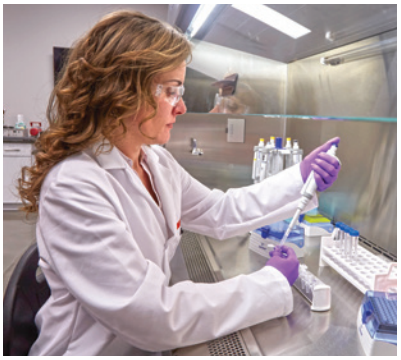


DOCUMENT THE DETAILS
Record unit locations, areas served, filtration configurations, and current replacement schedules.



IDENTIFY OPPORTUNITIES
Provide practical recommendations to help optimize filter selection, change cycles, maintenance practices, and overall filtration performance.

Scan the QR code to learn more about AAF Site Surveys and let us know you're interested in scheduling a complimentary assessment for your facility.







FILTER TESTING & PERFORMANCE EVALUATION

Find Out How Your Filters Are Actually Performing.

Scheduled changeout intervals do not always tell facility managers what is happening to a filter during actual use.

Through AAF's Clean Air Center in Jeffersonville, Indiana, qualifying filters removed from non-hazardous healthcare applications can be evaluated to provide greater insight into field performance.

Testing can help investigate questions such as:

- Is filtration efficiency changing during service?
- How quickly is the filter loading?
- How is resistance changing over time?
- Is the filter being replaced too early or too late?
- Could another filtration strategy provide longer service life?
- Is the facility receiving the filtration performance it expects?

YOUR FACILITY BENEFIT

Use actual performance data to help guide filtration decisions rather than relying only on calendar-based replacement schedules.

Filter samples must come from approved non-hazardous applications, such as qualifying outside-air or other suitable HVAC applications. Testing availability and sample acceptance are subject to application and safety review.

Scan the QR code to learn more about filter testing and submit your interest in having your filters evaluated.

FIELD, TECHNICAL & OPERATIONAL SUPPORT

Help Simplify the Work Behind Your Filtration Program

Managing filtration across a healthcare facility involves much more than selecting the right filter. AAF can support the ongoing logistics, maintenance, inventory, and technical needs that keep a filtration program running.

BAG & TAG

Filters can be labeled, sorted, and grouped by facility, building, floor, AHU, or changeout location, helping maintenance teams get the right filters to the right equipment.

LOCAL INVENTORY & DELIVERY

AAF branches can maintain inventory based on facility requirements and coordinate scheduled or next-day deliveries. Emergency and off-hour support may also be available based on location.

Your Benefit: The filters you need can be available when your team needs them without consuming valuable facility storage space.



FIELD SERVICES

Depending on the local market, field support may include:

- Filter replacement
- Duct cleaning
- Coil cleaning
- UV light replacement
- Other facility-specific field services

TECHNICAL SUPPORT

AAF Personnel can assist with:

- Product and filter selection
- Filtration program development
- System and application questions
- Troubleshooting
- Identifying opportunities to standardize or improve filtration

YOUR FACILITY BENEFIT

Spend less time managing filter logistics and routing filtration needs while gaining access to technical and field support when your team needs it. *Service and delivery capabilities vary by market.*

Learn More About AAF Healthcare Field Services
Scan the QR code to explore available services and support for your facility.

FILTRATION SOLUTIONS FOR HEALTHCARE FACILITIES

The Right Filter for the Right Application

AAF offers filtration solutions across the healthcare HVAC system, allowing filtration strategies to be developed around individual applications rather than applying the same filter everywhere.

GENERAL HVAC & PATIENT CARE

Filters can be labeled, sorted, and grouped by facility, building, floor, AHU, or changeout location, helping maintenance teams get the right filters to the right equipment.

PREpleat® MERV 13/11A

Designed to deliver sustained filtration performance, with a MERV 13 / MERV 11A rating that provides greater visibility into efficiency after conditioning.



BioCel VXL® MERV 16/16A

This MERV 16/16A V-bank filter delivers near-HEPA particle removal for critical HVAC applications while its low-resistance design helps reduce energy use and extend filter service life.



VariCel VXL RC® MERV 15/15A, 14/14A

This low-resistance V-bank filter can reduce initial resistance by up to 20%, helping lower energy use and extend filter service life, while its strengthened frame and recessed pleat packs support durability and airflow in close-coupled installations.



Applications may include:

Patient care areas, waiting areas, administrative spaces, and other general HVAC applications where sustained filtration performance is important.

EXTENDED SERVICE LIFE

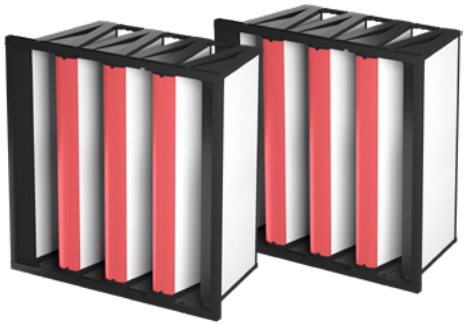
MEGApleat® MERV 9/9A

Designed with high dust-holding capacity to provide 3 to 4 times the service life of a standard filter in applicable installations while helping maintain lower pressure drop over its operating life.



BioCel® VXL RC | VariCel® VXL RC

Both V-bank filters are designed to help reduce resistance and extend filter service life in demanding HVAC applications.



Applications may include:

Air-handling systems where reducing filter changes, maintenance labor, and disposal is a priority.

FACILITY VALUE

Fewer filter changes can mean fewer trips to mechanical rooms and rooftops and more time for other maintenance priorities.

HIGH-EFFICIENCY FILTRATION

AstroCel® II

A high-efficiency fiberglass-media filter available in HEPA and ULPA efficiency options and designed for critical applications requiring dependable particulate control.



Applications may include:

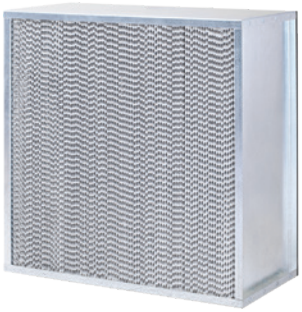
Operating and procedure areas, pharmacies, laboratories, controlled environments, and other applications requiring HEPA-level filtration.

HIGH-AIRFLOW HEPA

MEGAcel® I High Flow

High-flow membrane HEPA filtration capable of providing H14 efficiency at up to 2,400 CFM in a 24 × 24 × 11.5-inch configuration, while remaining fully scannable.

Its membrane media is hydrophobic, chemically inert, boron-free, and engineered for high mechanical durability.



Applications may include:

Critical environments requiring high-efficiency filtration, greater airflow capability, and full scanability.

MOLECULAR FILTRATION

AAF Carbon Filtration Solutions

Particulate filtration cannot address every airborne contaminant. Carbon media can supplement particulate filtration where odors and gaseous contaminants are a concern.

Applications may include:

Healthcare HVAC systems and specialty areas where particulate filtration alone does not address the contaminant of concern.



ONE FACILITY. MULTIPLE FILTRATION NEEDS.

Healthcare facilities contain a wide range of environments, each with different requirements for filtration efficiency, airflow, pressure relationships, system performance, and maintenance.

That means there is no single filter or approach that is right for every space.

AAF International brings together filtration technology, healthcare application expertise, testing capabilities, field support, and local service to help facility teams develop a filtration program that considers the entire facility.

From general HVAC systems to critical environments, the goal is the same: deliver the appropriate filtration performance while supporting the people responsible for keeping the facility operating.

CLEANER AIR. SMARTER FILTRATION. STRONGER FACILITY SUPPORT.

Find the right filtration strategy for every area of your facility.

aafintl.com

Proven Expertise of AAF International

AAF International offers the most comprehensive air filtration portfolio in the industry, including particulate, HEPA, ULPA, and gas-phase filters, to provide a customized clean air solution. Each product is carefully designed, manufactured, and tested in full compliance with all applicable standards to meet the most challenging demands with the lowest Total Cost of Ownership.

Contact your local AAF representative for a complete list of AAF Air Filtration Product Solutions.

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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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