



People

Air Filtration for Health

A Healthy Building = Healthier People

The Importance of Indoor Air Quality (IAQ)

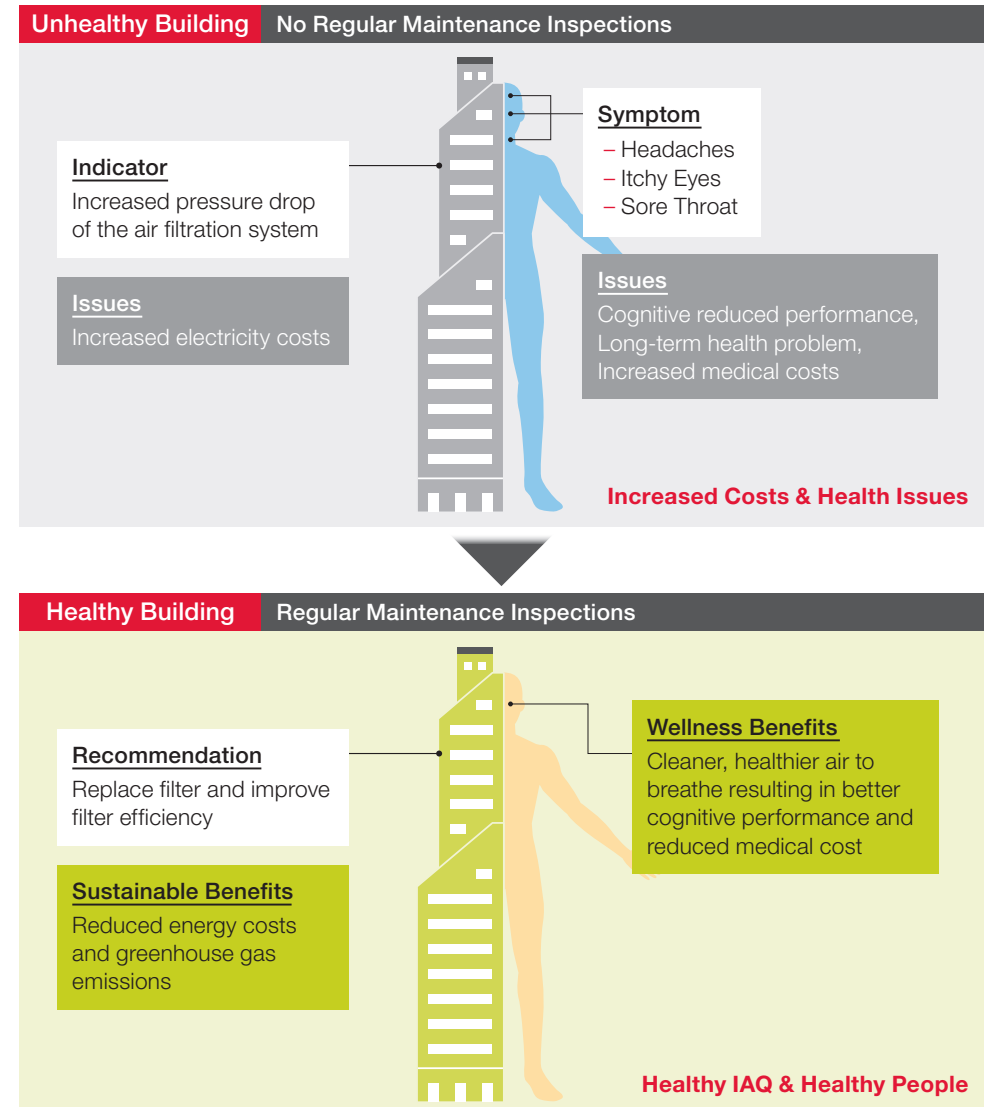
In today's world, where we spend the majority of our time indoors, the quality of our indoor air quality (IAQ) plays a critical role in protecting our health. Studies show that indoor air can be three to five times more polluted than outdoor air, potentially affecting our long-term health. Indoor air can harbor hundreds of species of viruses, bacteria, fungi, and molds, which may enter the human body and cause a wide range of negative health effects.

These microbial contaminants have been linked to symptoms such as rhinitis, coughing, breathing difficulties, as well as allergies and asthma. This is also accompanied by reduced cognitive performance. While there have been improvements over the years and a surge in awareness, particularly during the COVID-19 pandemic, unfortunately, society is gradually returning to its pre-pandemic IAQ habits.

IAQ and Preventive Management

Efficient IAQ management necessitates a proactive strategy. Regular inspections and management of a building, akin to routine health check-ups, can detect early signs of issues, leading to long-term benefits and cost savings. This method not only improves the well-being of both the building and its occupants but also enhances long-term value for owners and residents, while reducing facility operating costs. Ultimately, maintaining healthy buildings contributes to healthier people, fostering public health and sustainable living environments.

Impact of Preventive Measures on IAQ: Focusing on Air Filtration

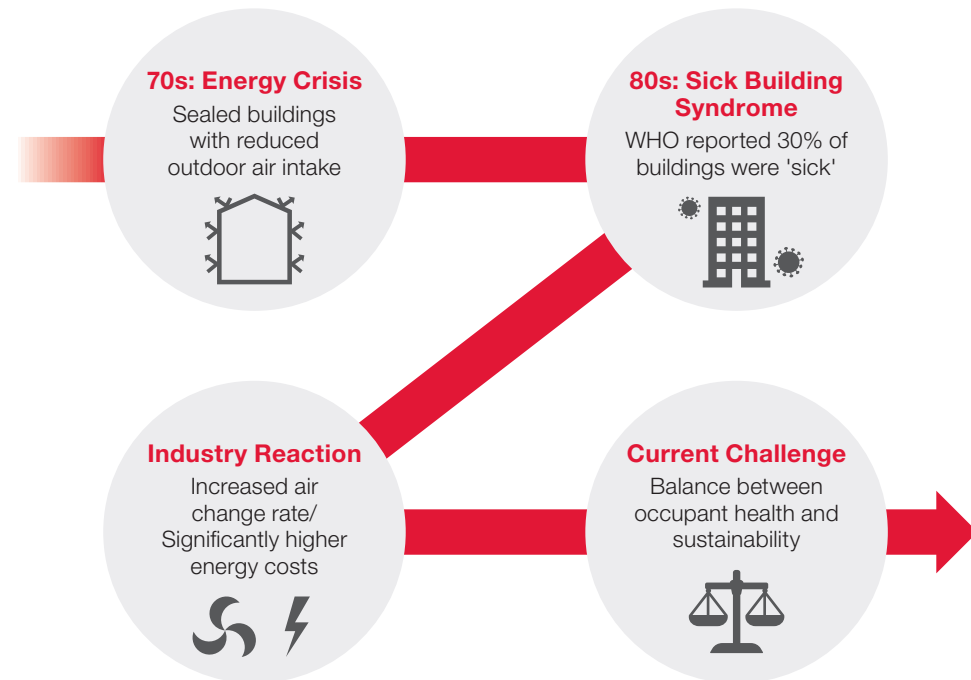


The Evolution of IAQ

During the energy crisis of the 1970s building designers tried to save energy by sealing buildings more tightly and reducing the amount of outdoor air brought indoors. This resulted in fewer air changes inside buildings. In the 1980s, the World Health Organization noted that about 30% of new and existing buildings were considered 'sick', giving rise to the term Sick Building Syndrome (SBS).

To address this, the industry increased outdoor air flow and air changes, but this raised energy costs significantly. Now, almost 50 years later, the challenge remains to strike a balance between protecting occupants' health and implementing sustainable practices.

Timeline of IAQ Evolution



New Standards and Guidelines

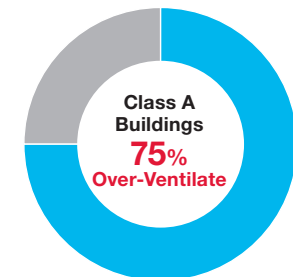
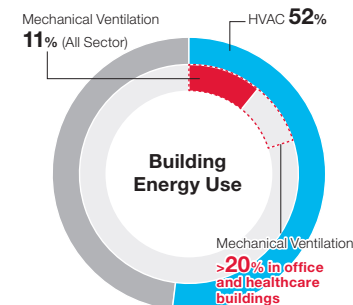
Fortunately, to address these ongoing challenges, many standards and guidelines have been developed over time. Notable ones include ASHRAE 62.1 and 62.2, and the newer ASHRAE 241. These frameworks establish minimum ventilation rates and other requirements to ensure acceptable indoor air quality (IAQ) while minimizing adverse health effects. ASHRAE 241 guides us on improving ventilation and filtration during flu seasons or pandemic-like situations. Eurovent Recommendation 4/23 establishes a guideline with which particle filters the desired IAQ level can be achieved under the respective ambient conditions.

Interestingly, HVAC systems, which include mechanical ventilation, account for a significant portion of a building's energy consumption—around 40-60%. Ventilation alone contributes to about 11% of total energy usage, and in office and healthcare buildings, this figure can exceed 20%. Remarkably, studies show that 75% of buildings are ventilated more than necessary, presenting a clear opportunity for optimization.

Today, AAF's technology allows building owners to optimize their indoor air quality while monitoring the performance of their ventilation systems, allowing them to save energy without compromising the health of the occupants.

Commercial Building Energy Consumption

Class A Building Over-Ventilation Ratio



*Class A buildings are a top-tier property classification in the US, characterized by new or well-maintained structures in prime locations with superior construction and modern infrastructure.

AAF's Utilization of Technology for IAQ Improvement

Learn more about how AAF's technology improves IAQ through our case study described below.

Case Study AAF Air Purifiers Transform IAQ in Slovakian School

Overview Children spend a significant amount of their time indoors during their school years, making IAQ essential for their health and well-being. In Bratislava, Slovakia, an initial assessment was conducted to determine the level of microbial contamination in school and preschool facilities. This evaluation highlighted the presence of bacteria, fungi, and molds, which could potentially trigger respiratory issues and allergies, underscoring the need for effective air purification.

Problem Initial analysis revealed high levels of bacteria and mold, some surpassing acceptable thresholds. Some bacteria species can occasionally become pathogens in the right conditions, such as when immunity is weakened. Mold spores, on the other hand, could penetrate deep into the respiratory system, increasing allergenic potential.

Solution AAF's high-performance air purifiers were deployed in classrooms, dining halls, and gymnasiums, actively filtering and improving air quality. Throughout the six months trial these purifiers reduced microbial presence, achieving noticeable decontamination. Regular sampling verified decreased levels of harmful microorganisms, confirming the purifiers' effectiveness in maintaining healthier school environments.



AstroPure 2000



Bacteria and Mold Samples

AAF's Product Solutions for Enhancing Industrial IAQ

Improving IAQ in industrial settings is critically important today. The initial focus on preventing air pollution has evolved with dust collection advancements that enhance product quality. AAF goes beyond regulations to improve the workplace environment itself. Creating a healthy air environment not only ensures worker health and product integrity but also tackles recruitment challenges by improving employee retention. AAF's innovative solutions are showcased in the following two case studies.

Case Study Air Quality Improvement in a Food Manufacturing Plant

Overview A leading food manufacturing company in Mexico was experiencing poor air quality in their fry coating mixing area due to chili dust. The existing system failed due to inadequate engineering design, resulting in discomfort among workers. The company chose AAF's turnkey solution to solve this issue.

Problem The existing ineffective air filtration system created an uncomfortable and unhealthy work setting, with continuous exposure to chili dust leading to respiratory challenges for employees.

Solution AAF delivered a comprehensive solution by implementing engineering improvements, supplying essential equipment like ducts, dust collectors, and ATEX*-compatible devices, along with a system start-up. The installation of WONDAIR™ successfully improved air quality, making the mixing area safe and a comfortable working place for employees.

*A European standard for explosive environments

Customer
“Now that the AAF system is installed, several people [...] are now requesting to be moved to the mixing area since there is now quality air in the area.”

WONDAIR™ at customer's plant



Case Study Oil Mist Filtration in a Thai Manufacturing Plant

Overview An advanced manufacturing company in Thailand faced challenges with oil mist produced by multiple CNC machines. In response, AAF's oil mist collector was adopted to address these issues.

Problem Traditional centrifugal oil mist collectors were inadequate for capturing fine oil droplets, resulting in higher maintenance needs and production downtime. In addition, the customer was looking for a solution to improve the working environment for employees. Oil droplets, 20 microns or smaller, pose health and safety risks, including skin irritation, respiratory problems, and slippery floors that increase the likelihood of falls.

Solution AAF introduced the Oil Hunter™, featuring multi-stage filtration to target oil mist contaminants effectively. After testing two units, the oil mist levels dropped from 999 µg/m³ to just 1 µg/m³, leading to customer satisfaction and the installation of an additional 107 units.

Oil Hunter™ at customer's plant



Diversity, Equity and Inclusion

Basic Principles

At AAF, we believe our competitive strength lies in our people. We recognize the importance of a diverse team that shares mutual values, enhances organizational strength, and pursues ambitious goals. Guided by the Daikin Group Human Rights Policy, we are dedicated to "Diversity and Inclusion", prohibiting discrimination and harassment. The Daikin Group Conduct Guidelines inspires us to embrace differences, collaborate, combine strengths, and work with passion while sharing our dreams. AAF promotes this spirit, valuing talent regardless of nationality, age, gender, sexual orientation, disability, or career background. Operating in over 170 countries with 90,000 employees, the Daikin Group's greatest strength lies in its ability to excel globally by effectively managing its growing workforce diversity and leveraging individual strengths. AAF, as part of this network, empowers over 5,100 employees from 40+ nationalities to transform personal strengths into organizational success, driving growth and innovation.



Promotion and Development of Diverse Talent

Diverse Leadership Allocation

At AAF, we drive growth by appointing diverse talent from the Daikin Group to leadership roles, fostering collaboration and development. Daikin managers also join AAF boards, enhancing unity and accelerating global growth.

Talent Development

The Daikin Executive Program (D-EP) is part of the Daikin Group's leadership strategy, developing senior management around the world. AAF executives join D-EP and advance diversity management suited to their regions.

Commitment in the Recruitment Process

In line with the Daikin Group Conduct Guidelines, AAF upholds individual human rights and prohibits discrimination based on nationality, race, ethnicity, religion, skin color, age, gender, sexual orientation, or disability. Our recruitment process respects diversity and includes measures to prevent discrimination worldwide.



Occupational Health and Safety

Basic Principles

AAF is committed to upholding the Daikin Group Human Rights Policy, aligning with international standards like the UN Guiding Principles on Business and Human Rights and the ILO Declaration on Fundamental Principles and Rights at Work. Furthermore, we aim to create a safe workplace for all. Following the Daikin Group Conduct Guidelines, every AAF officer and employee ensures operational safety through careful and responsible actions. We adhere to local and international labor safety and health regulations, striving for a zero incident workplace to protect our employees, contractors, and community.

Management Structure

AAF holds monthly safety committee meetings and participates in the Daikin Group's regional safety meetings to continuously improve practices. Results are reported at global safety meetings chaired by Daikin's safety officer, where support for each site sites and global safety strategies are discussed.

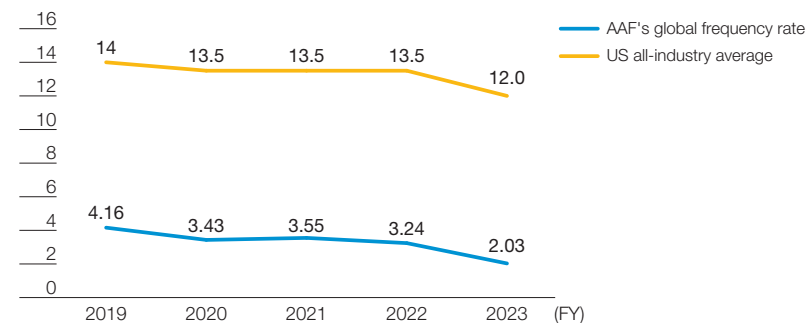
Risk Assessment

To prevent accidents, AAF conducts risk assessments at each site, identifying high-risk equipment and implementing safety measures. Monthly reports on incidents, causes, and countermeasures are submitted to Daikin's safety officer and discussed at global safety meetings. Recent accident trends include entanglement, cuts and material handling. We share these details and countermeasures, conducting risk reduction activities focused on "people," "people and equipment," and "equipment." We also provide protective gear, translate manuals, inspect equipment regularly, and use clear signage to enhance safety.

Goals and Performance

AAF aims for zero incidents as per the Daikin Group's policy, using lost-time incident frequency rates to measure safety. In fiscal year 2023, AAF's frequency rate was 2.03, compared to the US all-industry average of 12.0 in 2023.

Lost Time Incident Frequency Rate¹



¹ This shows the frequency of occupational accidents resulting in lost work time, expressed in number of casualties per 1,000,000 working hours. Frequency rate = Number of fatalities or injuries caused by occupational accidents resulting in lost work time / Total actual working hours x 1,000,000



Occupational Health and Safety Management System

With production sites around the world, AAF has established health and safety management systems at each global production site to ensure safe operations and employee safety. We conduct ongoing risk assessments, develop and execute action plans, track progress, and ensure compliance with relevant laws and regulations. We also perform annual internal and external audits, and conduct safety training and patrols to achieve zero workplace accidents. By the end of fiscal year 2024, over half of AAF's production sites had obtained ISO 45001 certification for occupational health and safety management.

Employee Education and Training

AAF offers various educational programs and training related to occupational health and safety for all individuals working at AAF, including employees, temporary staff, business partners, contractors, and subcontractors. We conduct experiential training to raise safety awareness by simulating hazards like entrapment and pinch points, combining hands-on experience with knowledge-based training. We also develop skills through training sessions in Japan and ongoing safety education and patrols, aiming for zero workplace accidents.

Every July, during Japan's National Safety Week, Daikin's President and COO, sends a message highlighting key safety initiatives to the entire group. Daikin's executive leadership, safety officers, and safety department visit sites to provide safety guidance annually. The safety department compiles and shares monthly accident reports with safety officers at each site to continuously promote safety awareness.

Empowering Action for Sustainability

Our employees are key to our sustainable strategies. We aim to improve the effectiveness of our sustainability initiatives by creating an environment where employees can actively engage in sustainable practices, supported by education and awareness activities. Below, we highlight some of these initiatives.

Promoting Workplace Sustainability

Our Bicycle Scheme for Employees is an active initiative in Finland, Germany, the UK, and the Netherlands. This program allows employees to receive either a standard or electric bicycle on favorable terms. Cycling to work not only offers excellent exercise but also serves as an eco-friendly mode of transportation. Employees can use the bicycles for commuting, work-related tasks, and personal leisure activities.

This initiative makes a significant contribution to our sustainability goals by reducing our carbon footprint, improving employee productivity and well-being, and encouraging sustainable mobility.

Raising Sustainability Awareness

In India, environmental sustainability awareness sessions were held during the Sales Boot Camp event, with 50 participants, to promote environmental sustainability. Additionally, similar sessions were conducted for all factory employees, engaging 118 participants, to reinforce sustainability practices.

Environment Day was also celebrated in India and Saudi Arabia, where plants were distributed to all employees to encourage home plantation initiatives.

In Malaysia, we collaborated with CEMACS (Centre for Marine and Coastal Studies) to organize beach cleanup campaigns focused on preserving coastal environments and promoting environmental awareness. These initiatives bring employees together to collect litter, reduce marine pollution, and learn about protecting marine ecosystems. Through this collaboration, we demonstrate our commitment to sustainability and environmental stewardship, contributing to a cleaner and healthier coastline.

Encouraging Sustainable Waste Practices

In Malaysia, we organized a collection of pre-loved clothes from AAF staff to help reduce textile waste and promote sustainability.



Electric Bicycle Scheme



Environment Day Celebration



Environmental Awareness Session at Sales Boot Camp



Pre-Loved Clothes Donation



Beach Cleanup Campaign

Community Connections

Community Engagement in Education

Supporting education and local students is a key part of our sustainability efforts. Through various initiatives, we have contributed to enhancing educational opportunities for those in need.

We organized two impactful initiatives to support local students. Through our school supply drive, we collected notebooks, pencils, backpacks, and other materials, which were delivered to Airdale Elementary School near the Louisville Cartridge Plant. In addition, the Washington Team participated in the "Stuff the Bus" fundraiser, donating supplies and \$600, which enabled us to sponsor 27 children and provide them with essential classroom items. Both efforts helped ensure that students were fully prepared for a successful school year.

Health and Wellness Contributions

Our commitment to improving health and wellness is reflected in our active involvement in initiatives that support vital health causes.

Blood Donation Initiative

In India, we organized a blood donation camp with the support of the Rotary Club and Narayana Hospital in Bangalore, where more than 50 employees participated.

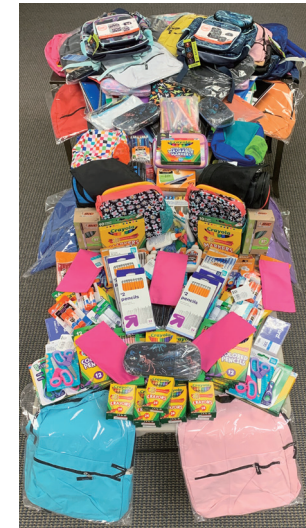
Supporting Children's Heart Health

In the UK, AAF employees took part in the Great North Run to support the Children's Heart Unit Fund (CHUF). We raised \$985 for this important cause, dedicated to improving children's heart health in the North East of England.

AAF Volunteer Efforts at Inclusive Park

At AAF, we are committed to promoting accessibility and inclusivity within our community. We recently partnered with the Parks and Recreation Department of Smithfield, North Carolina, to upkeep the appearance of the Partnership for Children Park. This park is an inclusive space designed for individuals of all abilities, featuring an accessible playground for children with physical and sensory challenges and multi-generational areas for families, including those with limited mobility.

AAF employees volunteered to trim shrubs and spread mulch to maintain the park's appearance. Through these efforts, we reinforced our dedication to creating sustainable spaces that benefit everyone in the community.



School Supplies Collection
for Local Students



Blood Donation Initiative in India



Charity Run for Children's
Health



Park Maintenance Volunteering