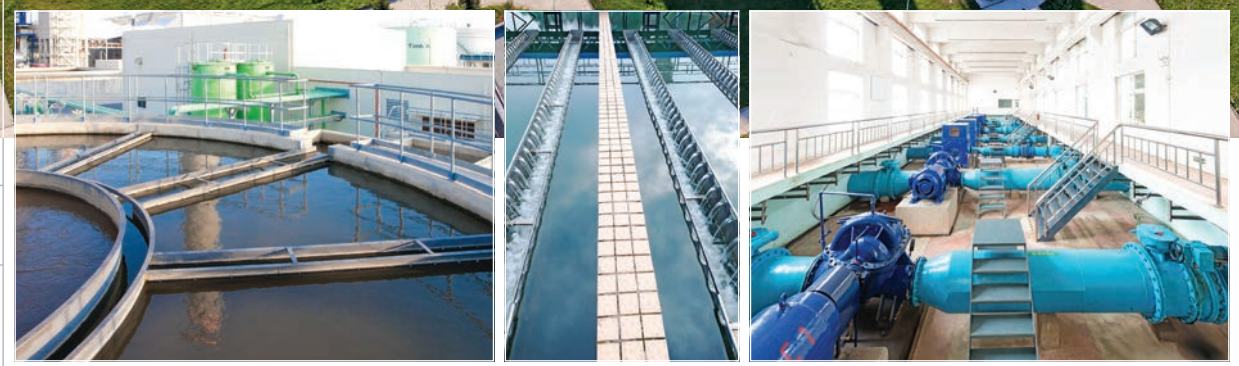


THE WORLD LEADER IN CLEAN AIR SOLUTIONS



Wastewater Treatment Plants Clean Air Solutions

PARTICULATE AND GASEOUS FILTRATION

AAF[®]
INTERNATIONAL

BETTER AIR IS OUR BUSINESS[®]

Airborne Particulate and Gaseous Contaminant Solutions

Industry Experts

AAF International is committed to providing clean air — period. Our team of highly skilled gas-phase professionals combined with extensive particulate filtration experience, makes AAF uniquely qualified to design total air filtration solutions for your wastewater treatment facility. We specialize in the elimination of malodorous gases; protection of electronics from corrosion and particulates to prevent failures and downtime; and protection of air compressors from corrosion and particulates to ensure proper functioning.

Treating Wastewater Applications

Odor Control

Industrial wastewater treatment generates odors that can be strong, persistent, and a nuisance to employees, residents, businesses, and industries located near the wastewater treatment plant. Because of the increasing intricacy and massive amount of chemicals used by industries worldwide, we find that odor control is constantly evolving. Each plant has its own particular problem areas, all of which can be remedied with AAF air filtration solutions.



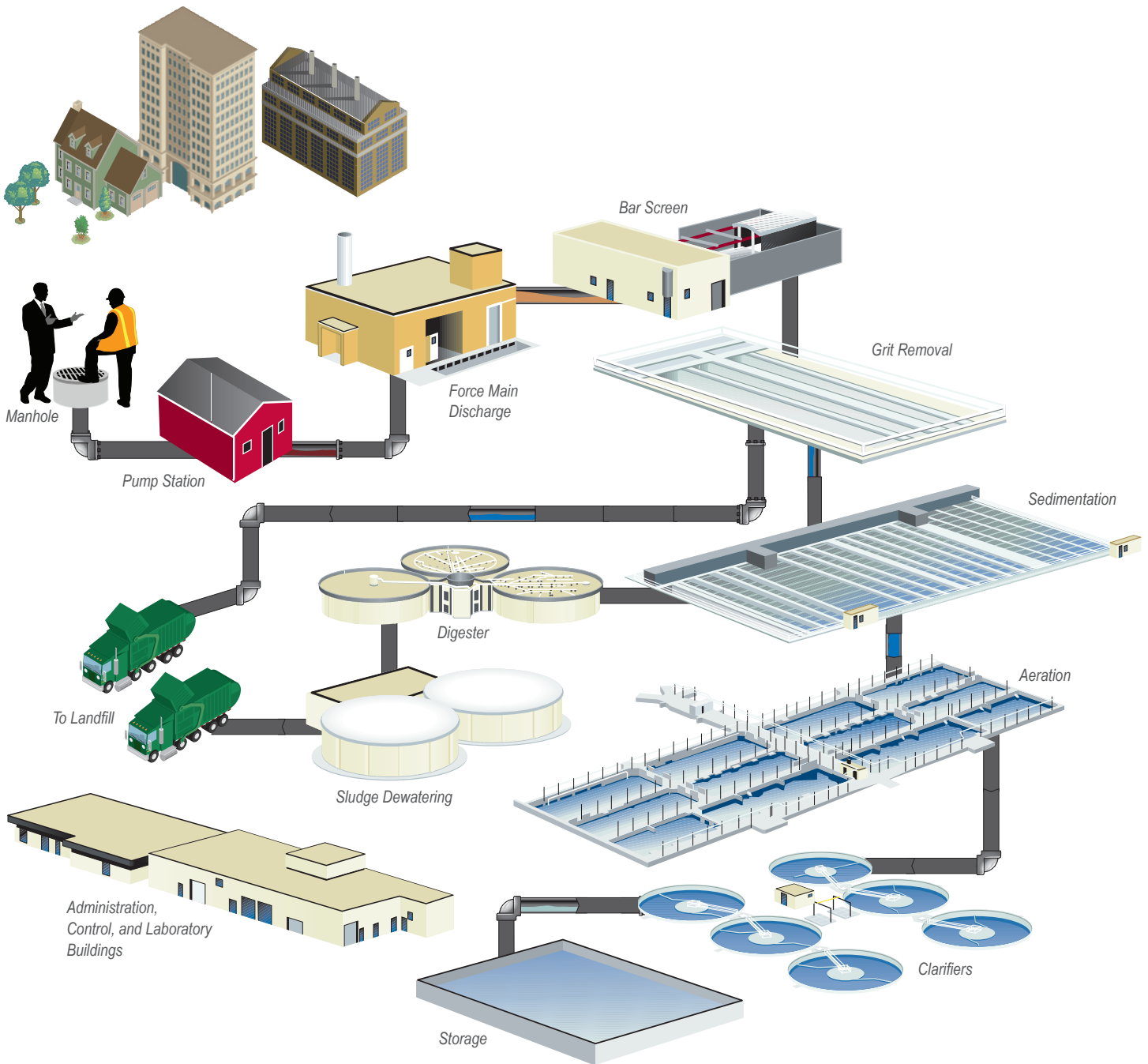
Strong odors develop at several phases within a wastewater treatment facility such as headworks, primary clarifiers, pump stations, and sewage sludge areas. Nuisance odors often emerge from the following sources: combined sewer overflow (BTEX, TCE, and other VOCs), industrial sewage (benzene, industrial chemical effluents such as amines, and other VOCs), and residential sewage (ammonia, hydrogen sulfide, and mercaptans).

Corrosion Control

Not only is hydrogen sulfide potentially dangerous at high concentrations, but electronic corrosion can occur when corrosive, acidic gases, including hydrogen sulfide, attack sensitive computer controls and other critical electronics that effect the reliability of plant processes. Corrosive gases attack edge connectors, pin connectors, IC plug-in sockets, wire-wrap connections, and other metal components. If not controlled, corrosion leads to blocked currents, brittle connection points, and overheated systems. Corrosion can result in costly repairs, failed boards, as well as plant downtime.

In addition, corrosive gases from the atmosphere can wreak havoc on compressed air systems — meaning compressors and machinery intake filters are at risk of damage. The most vulnerable components in an air compressor are usually the coolers. Corrosive gases in a compressed air system reduce production efficiency and increase maintenance costs. Removing corrosive gases from these systems help ensure that they run properly and efficiently.

Contaminants Typically Found in Wastewater Treatment Applications



Potential Contaminants	Manhole	Pump/ Lift	Force Main Discharge	Bar Screen	Sedimentation	Sludge Dewatering	Administration, Control, and Laboratory Buildings
Ammonia	✓	✓	✓	✓	✓	✓	✓
Hydrogen Sulfide	✓	✓	✓	✓	✓		✓
Organics	✓	✓	✓	✓	✓	✓	

Gas-Phase Equipment Application Solutions

SAAF™ Solution	SAAF™ Vent	SAAF™ Sewer	PORTA-Scrubber	PORTA-Scrubber	Side Access Housing	PRU/RU	DBS/DBA	Cassettes in AHU	AAF Pre-Filters	AAF Final Filters
Airflow CFM	Passive	Passive	Non-powered	< 500	1,000 - 40,000	500 - 4,000	500 - 30,000	> 500		
Treatable Concentrations	Low - High	Low - High	Low - High	Low - High	Low - Med	Low	Med - High	Low		

Odor Control

Administrative Buildings									✓	✓
Aeration								✓	✓	
Bar Screen									✓	
Force Main Discharge									✓	
Pump/Lift Station									✓	✓
Manhole										
Sedimentation									✓	✓
Sludge Dewatering								✓	✓	

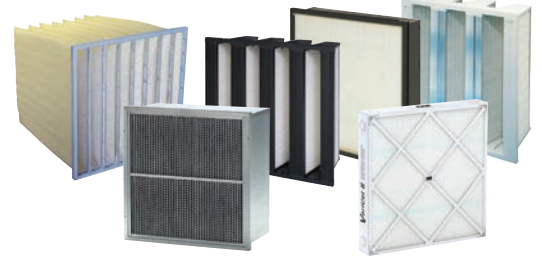
Corrosion Control

Control Room									✓	✓
Laboratory									✓	✓
Scada Control Areas									✓	✓

Gas-Phase (Chemical/Odor Contaminants)

Prefilter (MERV 6-8)

Final Filter (MERV 10-16)



AAF offers several solution options. Contact your local sales representative for the latest product offerings.

SAAF™ Airborne Molecular Contaminant (AMC) Chemical Media and Catalysts

SAAF Chemical Media and Catalysts provide high efficiency filtration for effective removal of odors found in wastewater treatment facilities. Media are available as SAAF Custom Blends and SAAF Gas Specific Solutions. Media are designed to safely deliver superior gas removal effectiveness on a variety of target gases. Media can be analyzed for precise remaining life analysis calculations. A variety of AAF energy efficient delivery mechanisms are available to easily incorporate media into the airflow. Powerful enough to remove heavy odors and corrosive gases, SAAF gas-phase media and catalysts are designed for easy, cost-effective disposal solutions.

Brochure GPF-1-103



SAAF™ Media for Wastewater Treatment Applications

	H ₂ S (Rotten Egg)	NH ₃ (Ammonia/Pungent)	Indoles (Biological Waste)	Mercaptans (Rotten Cabbage)	Organics	Skatoles (Biological Waste)
SAAFBlend™	✓		✓	✓	✓	✓
SAAFCarb™			✓	✓	✓	✓
SAAFCarb™ MA	✓			✓		
SAAFCarb™ MA.HT	✓			✓	✓	✓
SAAFCarb™ MB		✓				
SAAFOxidant™	✓					

SAAF™ Gas Specific Solutions

Ideal for systems that have been designed for a narrow spectrum of targeted gas removal, SAAF Gas Specific Solutions also serve as enhanced value replacements for existing and older chemical filtration systems.

SAAFCarb™ MA.HT —The Gold Standard

- Exceptionally high H₂S loading capacity
- Non-impregnated, safe to handle, load-up, use
- High ignition temperature (UL Class 1)
- Longer bed life means fewer service interruptions
- Extremely low operating and maintenance costs
- No dangerous PH problems at disposal
- Low pressure drop
- Backed by strong AAF Analytical Services

Brochure GPF-1-119

SAAF™ Custom Blends

Each SAAF custom blend is a propriety blend designed for air quality treatment within specific applications. SAAF custom blends contain different compositions of SAAF media which when utilized in the intended application, provide a comprehensive environmental air quality solution.

Chemical Media Cassettes

SAAF Chemical Media Cassettes can help prevent corrosion from occurring on the motor controls. SAAF Recirculation Unit and SAAF Pressurization Unit are designed to hold SAAF chemical media cassette filters, available in Medium Duty, Cleanroom Grade, and Heavy Duty. SAAF Recirculation Unit is typically configured for SAAF Heavy Duty Cassettes.

Brochure GPF-1-108, GPF-1-109, and GPF-1-111



SAAF™ Cassettes

SAAF™ Pressurization and Recirculation Unit

SAAF Pressurization (PRU) and Recirculation (RU) Systems are uniquely designed to hold and securely seal SAAF Cassettes. Patent-pending SAAF Seal. Accommodates airflow from 500 - 4,000 CFM.

Common Applications: Surrounding Office Buildings

Brochure GPF-1-107

SAAF™ Side Access Housings

SAAF Side Access Housings are designed to support SAAF chemical media cassette filters, prefilters, after-filters, and high efficiency particulate filters all in one self-contained unit. Available in many different combinations and sizes to meet a wide range of applications. Accommodates air volumes ranging from 1000 to 40,000 CFM.

Common Applications: Large Pump Stations - Wet Wells, Secondary Treatment, Laboratory

Brochure GPF-1-106

SAAF™ Deep Bed Systems

SAAF Deep Bed Systems are suitable for the most challenging applications. These workhorses provide the largest media volume holding capacity and air-to-media ratios. Accommodates high air volumes from 1,000 - 17,000 CFM. Deep Bed Adsorbers and Deep Bed Scrubbers also available.

Common Applications:

Secondary Treatment, Solids Processing, Solids Dewatering

Brochure GPF-1-105

SAAF™ PORTA-Scrubber

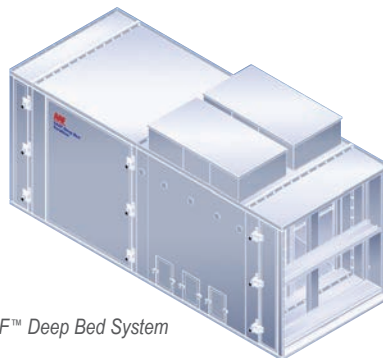
SAAF PORTA-Scrubber is an economical, yet heavy-duty, quick fix for removal of high concentrations of gaseous contaminants from low volume airflow. Effective within a wide variety of municipal odor control, industrial, and commercial gas removal applications, its compact size and quick-connect portable design make SAAF PORTA-Scrubber an easy solution in high PPM gas applications.

Common Applications: Pump Stations, Primary Treatment, Secondary Treatment, Solids Processing, Solids Dewatering

Brochure GPF-1-120



SAAF™ Air Purification Systems
SAAF™ Side Access Housing



SAAF™ Deep Bed System



SAAF™ Front Access Housings



SAAF™ PORTA-Scrubber

SAAF™ Machine Intake Filter Systems

SAAF Machine Intake Filter Systems provide the lowest possible operating pressure drop in air intake filtration options, while simultaneously combining high efficiency, high capacity filtration with fail-safe design.

Common Applications

Compressor Corrosion and Particulate Control

Brochure GPF-1-117

SAAF™ Front Access Housings

SAAF Front Access Housings combine particulate filters and chemical media cassettes to remove both airborne particulate and gaseous contaminants from ventilation air. Excellent for quick retrofit solutions. Patent-pending SAAF Seal. Energy efficient design reduces operating costs allowing the maximum recirculation of tempered air.

Common Applications

Laboratory, Office, Secondary Treatment Buildings

Brochure GPF-1-115

SAAF™ Vent

SAAF Vent removes odors emanating from stacks found at municipal and industrial wastewater facilities, restaurants, and various commercial and industrial operations. Positive pressure generated inside the vent line pushes contaminated air through media bed. Available in a variety of diameters from 4" to 10". Delivered filled with 10 pounds of media selected specifically for your application. Completely refillable.

SAAF™ Sewer

SAAF Sewer controls nuisance odors in sewer manholes. Positive pressure generated inside the sewer line pushes contaminated air through media bed. Available in a variety of diameters from 16" to 37". Holds 20 pounds of media selected specifically for H₂S and other sewer gases. SAAF Sewer is inserted into the manhole and remains completely out of sight when the manhole cover is replaced.

Particulate Filtration Solutions

MEGApleat®

MEGApleat® M8 - Strongest and longest-lasting MERV 8 pleated filter. Uniform size virgin fibers assembled in closely controlled blends create media that is consistent in performance and maximizes airflow and dust holding capacity (DHC). Filters load at a slower rate increasing the life of the filter. Lower pressure drop and higher DHC means reductions in energy consumption and operating costs. Totally unitized, die cut box frame is made from the highest wet-strength beverage carrier board available. Heavy-duty, galvanized expanded metal support grid is laminated to the media pack. Media pack is bonded to the frame at all points of contact using moisture-resistant adhesive. Patent-pending filter design. Withstands significant abuse. Recommended for high dust loading and high moisture applications. Available in 1", 2", and 4" models. MERV 8.

Brochure AFP-1-200



MEGApleat® M8



PerfectPleat® HC M8, models available in 1", 2", and 4".

PerfectPleat®

PerfectPleat® ULTRA (MERV 8), PerfectPleat® HC M8 (MERV 8), and PerfectPleat® SC M8 filters are ideal prefilters used to prevent the buildup of lint and dust on the face of the SAAF cassettes and high efficiency filters.

Brochure AFP-1-203, AFP-1-202, AFP-1-241

VariCel® M-Pak

Extended surface pleated filters are the perfect choice for high efficiency particulate removal. VariCel M-Pak filters boast a compact 6"-deep filter design while maintaining the same media area and performance as 12"-deep filters. MERV 14, MERV 13, and MERV 11 efficiencies.

Brochure AFP-1-161

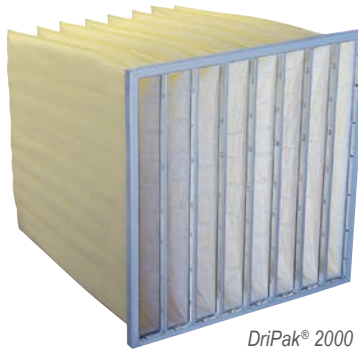


VariCel® M-Pak

DriPak®

DriPak® 2000 - IAQ engineered, extended surface, non-supported pocket filter. Synthetic media is available with antimicrobial. Wide range of sizes fits all types of air filtration systems. Outstanding dust holding capacity for longer service life in each efficiency category. Choose from four efficiencies: MERV 15, MERV 14, MERV 11, and MERV 8. UL Classified.

Brochure AFP-1-114



DriPak® 2000

Roll-O-Mat®

Used in automatic renewable media air filters. Roll-O-Mat® media are available in roll widths to fit all filter sizes and all manufacturers' filters. Contact your local AAF representative for more information.

Brochure AFP-1-112



BioCel I® XXL



Roll-O-Mat®

BioCel®

BioCel I® - Provides significantly higher efficiency filtration than other extended surface filters – 95% on 0.3 µm particles, MERV 16. It offers an alternative for critical applications, such as hospitals and other installations, where HEPA filters are not required. Ultra-fine glass fiber media.

Brochure AFP-1-116

BioCel® M-Pak - 6"-deep filter with the same media area and performance as the 12"-deep BioCel filter. Space-saving design; reduces freight, storage, and handling costs. Sturdy high-impact polystyrene cell sides enclose a fixed media pack. Fully incinerable. MERV 16 efficiency.

Brochure AFP-1-117

BioCel® VXL

8-panel high efficiency filter. Excellent performance in difficult operating conditions. Lightweight and easy to install. Fully incinerable. MERV 16 efficiency. Available with antimicrobial.

Brochure AFP-1-118

Wastewater Treatment Plants Clean Air Solutions

SAAFShield™

AAF SAAFShield Reactivity Monitor Technology allows users to take immediate action to protect expensive electronics and priceless works of art by monitoring corrosion in real time or on a periodic basis to determine equipment or material vulnerability to corrosion. The SAAFShield Detecting Unit works together with the SAAFShield Reading Unit to display and trend corrosion data over time, which allows users to evaluate operational procedures, environmental factors, or other items that occur at specific times for their impact on sensitive materials.

Brochure GPF-1-140



SAAFShield™ Detecting Unit with
SAAFShield™ Reading Unit

SAAF™ Tech Tools

AAF's exclusive SAAF Tech Tools is the filtration industry's most sophisticated and complete decision-sciences software for configuring clean air products to remove airborne gaseous contaminants. Extremely flexible, SAAF Tech Tools provides extensive customization and multiple solutions.

SAAF Tech Tools makes detailed information on contaminants, adsorbers, oxidants, and links to industry information relevant to specific applications available at your fingertips.

SAAF™ Media Life Analysis

As a service to its customers and its sales representatives, AAF offers testing services to determine the remaining life or capacity of chemical filtration media in installed filter systems. This information can be used to determine the characteristics of an existing filter system, the system adequacy, filter replacement schedules, replacement filter ordering schedules, and filter inventory requirements.

Life Cycle Valuation Program

AAF Sales Representatives use an exclusive web-based software tool, Life Cycle Valuation (LCV), to tailor AAF solutions to your unique circumstances and create an optimized filtration maintenance schedule for your system. The LCV program puts your costs into perspective by considering all aspects of your facility and assessing a broad range of variables. Easily customized and adapted to create unique solutions.

In addition to budgetary information, your Sales Representative uses this tool to provide solutions for multiple systems showing you the cost comparison in a clear and concise summary. Some of the variables included in the query are: current cost of electricity; inflation rates associated with power, filters, and labor; filter flow capacity, face velocity, and even MERV rating.



SAAF™ Technical Services

The SAAF Technical Services Group has the instrumentation and training to perform comprehensive evaluations and environmental assessments. All tests are carried out and correlated to applicable industry standards. Evaluations are performed to target specific contaminants and provide recommendations and product solutions.



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

ISO Certified Firm
AAF-1-203B 07/15

©2015 AAF International