

**MACHINERY  
FILTRATION  
AND ACOUSTIC  
SYSTEMS**



B E T T E R   A I R   I S   O U R   B U S I N E S S ®

**AAF**  
INTERNATIONAL

# MACHINERY FILTRATION AND ACOUSTIC SYSTEMS

## OUR QUALIFICATIONS

*AAF International is a name recognised globally for quality, expertise and innovation in the air filtration industry. As a world leader in the design and application of air filtration and noise control systems for gas turbines and other high performance rotating machinery, we realise that the proper operation of this equipment is absolutely essential to your business. What this means is you will be served by a company with an outstanding industry record.*

*The diversity and calibre of our existing customers enable us to provide total turnkey systems capabilities based on a broad industry perspective. Our understanding of the industry, and the maturity of our project management team, enable us to deliver value at a competitive cost and to get the job done with minimal disruption, regardless of the location.*

*Our goal is simple: to provide top quality air filtration and noise attenuation solutions in a manner that most efficiently meets your needs.*



*AAF supplied air intake and exhaust systems for a Solar Mars Turbine at Placer Dome, New Guinea.*



*AAF International  
is owned by the  
Hong Leong Group Malaysia*

## ABOUT AAF INTERNATIONAL

AAF International is the world's leading manufacturer and marketer of air filtration products and systems. Selling globally under the AmericanAirFilter and AAF brand names, our products include commercial, industrial and residential air filters; air pollution control products and systems; and gas turbine filtration and acoustical systems.

With operations in sixteen countries and more than 2700 employees worldwide, AAF places a heavy emphasis on research and development to meet the increasing demand for cleaner air.

As an OYL Industries Berhad and Hong Leong Group Malaysia affiliate, AAF is supported by the financial resources of a multi-national conglomerate involved in financial services, real estate investment, and the manufacture and distribution of industrial, consumer, and high technology products.

Many years ago, we adopted the slogan, Better Air is Our Business®, to simply state our purpose. Better Air is just as applicable today as it was in 1921, when an inventive entrepreneur operating an automobile paint shop discovered the solution to dirt settling on his freshly painted automobiles. His "filter" discovery, consisting of steel wool dipped in oil held in place by chicken wire in a frame, was so successful that he soon stopped painting automobiles and began selling filters.

The same pioneering spirit that led to the formation of the original American Air Filter Company over 70 years ago is still alive today at all levels of AAF.

COVER PHOTO: AAF supplied a total turbine system for two LM5000 turbines for EG7



## INDUSTRY OVERVIEW

Today's gas turbines and high performance rotating machinery demand maximum protection against environmental effects to ensure performance longevity, and minimum maintenance. This machinery depends on high quality air to prevent fouling, erosion, and corrosion regardless of site conditions.

From harsh deserts, to inner cities, to the most remote arctic regions, gas turbines and other rotating machinery must perform at optimum efficiency on demand 24 hours a day, seven days a week, year after year.

In addition, gas turbines and other high-performance rotating machinery generate intense noise levels that can be harmful to operating personnel, the general population, and the environment. Reducing noise pollution is a necessity for proper system operation, personnel safety, and compliance with environmental regulations.



*AAF supplied a Pulse Jet filter for Westinghouse W-251 turbines at Bali, Indonesia*



*Total turbine systems for offshore North Sea.*

## INDUSTRY COMPETENCE

For more than 60 years, we have been providing filter systems to clean intake air for machinery. We are unmatched in our ability to engineer and manufacture total air filtration and acoustic systems. In fact, AAF pioneered many of the techniques and processes used in the protection of gas turbines and other high-performance machines. Our total system, turnkey solutions for air filtration and acoustics are found in thousands of installations around the world.

## WORLDWIDE MANUFACTURING CAPABILITIES

With production facilities located worldwide, we offer the most comprehensive manufacturing capabilities in the industry. Our facilities are specifically designed for the manufacture of complex

industrial products. We fabricate in stainless steel, carbon steel, and aluminium. Each AAF location has a full range of capabilities and is able to meet customer specifications for a multitude of applications.

## OUR APPROACH

Our approach focuses on careful planning and design, state-of-the-art engineering and manufacturing, and a continuing dialogue between our project management team and our customers. These are the reasons why so many OEM's, end users, and system packagers have chosen us as their single source air filtration and noise attenuation experts for new installations and performance-enhancing retrofits.



*AAF uses state-of-the-art engineering to meet customer specifications.*

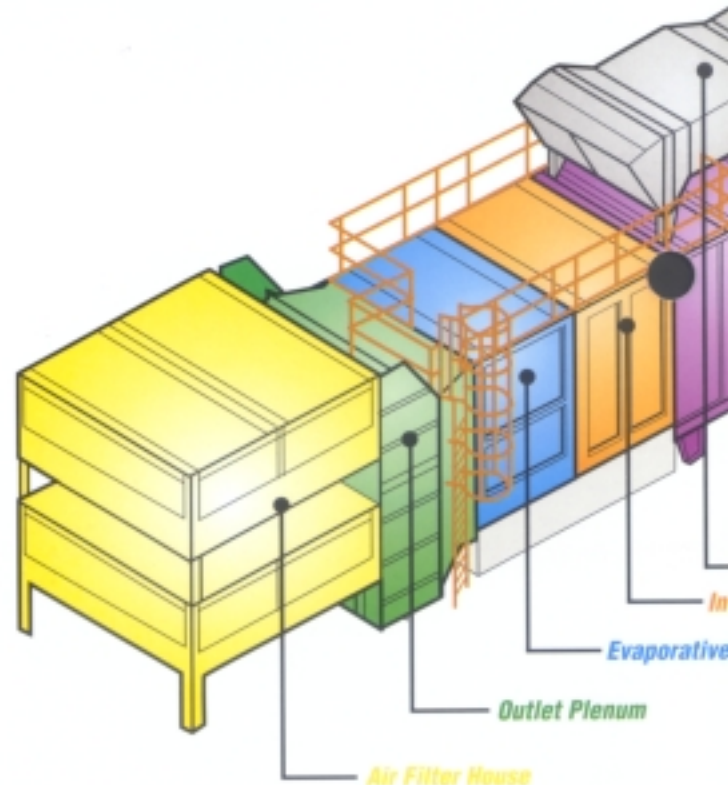
## OUR TOTAL SYSTEM CAPABILITY AND PRODUCTS

Extensive experience in the design and application of gas turbines and other high-performance rotating machinery, plus our global manufacturing capabilities, position us uniquely to deliver total systems and top-quality products including:

- Inlet Filtration
- Chilled Water Coils
- Anti-Icing Systems
- Evaporative Cooling Systems
- Inlet Ductwork
- Inlet Silencers
- Expansion Joints
- Acoustical Enclosures
- Exhaust Silencers
- Support Structure
- Ventilation Systems



*AAF built 21 exhaust systems for GE Frame 5 machines to be used on a Russian gas pipeline.*





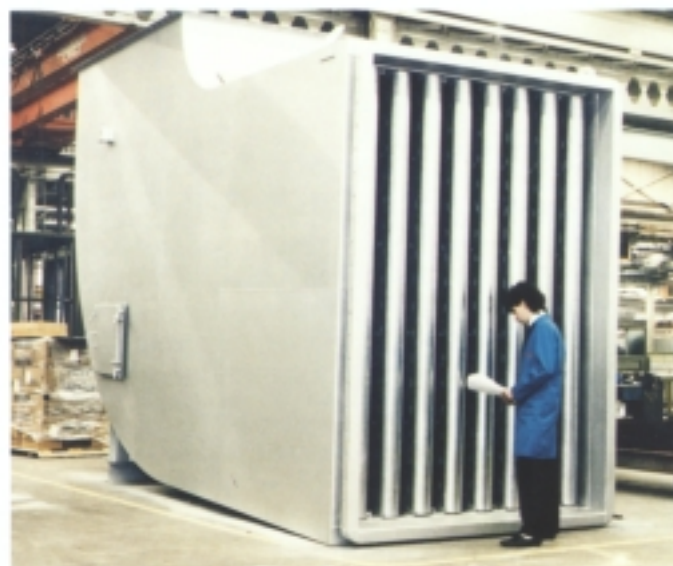
As a single source supplier, we are able to offer customised total solutions, from the most comprehensive product range in the industry for your air filtration and noise attenuation needs. We are able to execute engineering intensive projects. Working closely with your project

managers, our filtration, structural, and acoustical engineers ensure that all systems and products meet your specifications and arrive at the job site free of defects and on time. We can assist you with equipment arrangement and work with you to accommodate limitations in physical layout.

Expertise in structural design and manufacturing sets us

apart from our competition. We couple expert design with the highest quality manufacturing processes, overseen by the engineering design team, to ensure that the final product meets every requirement.

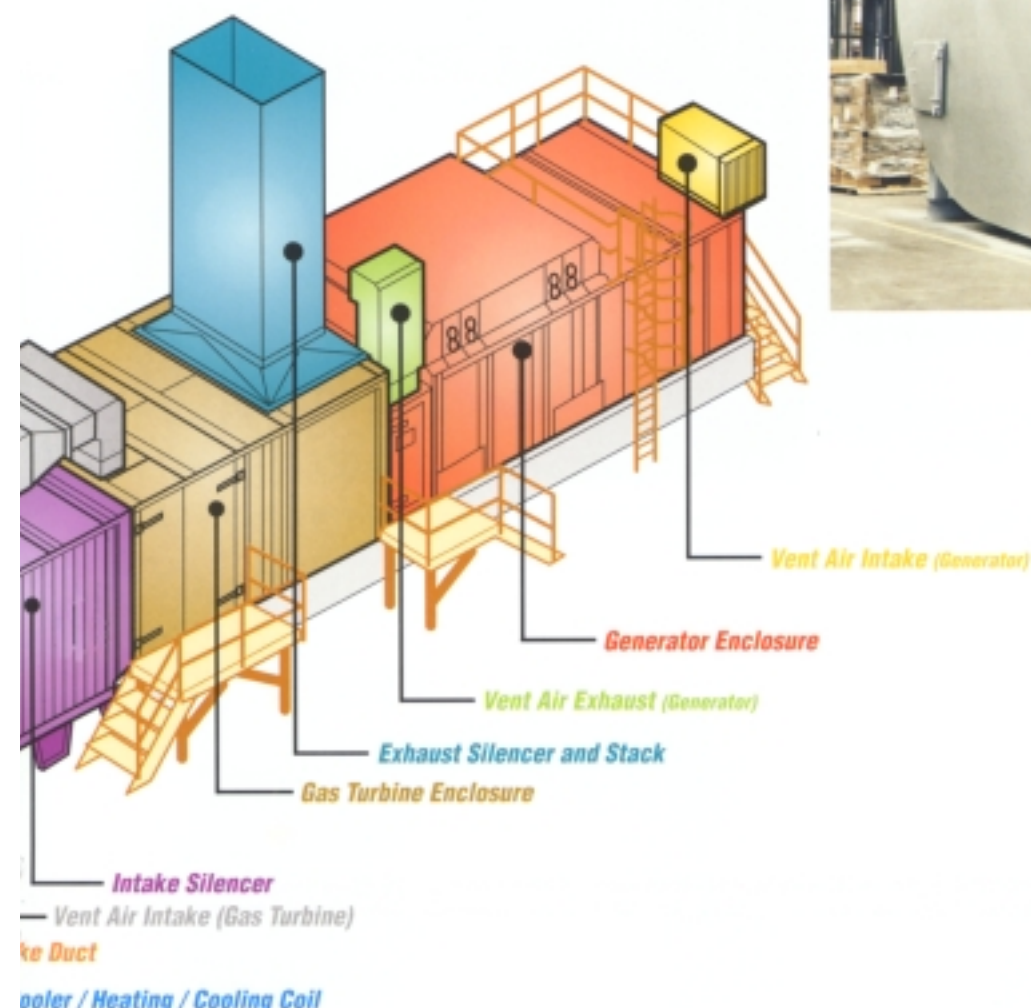
*AAF conduct final inspection on an air intake silencer with a special aerodynamically shaped outlet elbow.*



## QUALITY THAT MAKES A DIFFERENCE

Prior to delivery, we conduct comprehensive inspection and testing on all products and specifications are checked in detail. During the entire production process, from the first customer contact until the system or product is operational, our activities are governed by our quality assurance program in accordance with ISO 9001. This guarantees that the product complies with established quality standards and satisfies the requirements of our customers.

Our commitment is to build quality into our systems and products, not inspect defects out of finished products.



## OUR SPECIALITY - PERFORMANCE-ENHANCING RETROFITS

We specialise in retrofitting aging gas turbines and compressors to enhance performance. Our engineers are technically proficient in a variety of industries and understand the challenges of designing cost-effective retrofits. Using our worldwide resources, we can handle all requests for retrofits quickly and efficiently. Most importantly, our engineers and technical experts will ensure that every retrofit causes a minimum of downtime and equipment outage.

Here are a few systems and equipment modifications, typical of our retrofits that we have implemented to improve air delivery and enhance the performance of gas turbines and compressors. We have:

- *Replaced aging filter units which use disposable filter elements with state-of-the-art self clean systems, in most instances utilising existing support structures and inlet ducts.*
- *Redesigned filter banks to increase filtration efficiency, improve airflow, and minimise resistance.*
- *Placed evaporative coolers and chilled water coils in the intake air path to control temperature & humidity to boost turbine output.*
- *Modified existing ductwork and equipment to improve airflow and minimise resistance.*
- *Provided streamlined duct systems to facilitate efficient gas flow;*
- *Installed anti-icing systems to increase equipment availability.*

These modifications often result in increased total system output and an immediate positive impact on bottom line profit. In most instances, our customers realised very large percentage increases in production capacity. Clearly the payout on these retrofits is measured in days, not years.

If you are interested in discussing the retrofitting of an existing system, contact your local AAF Account Manager or Representative for more information. They will be happy to arrange a site visit and evaluation of your systems and equipment.

*AAF supplied a total air filtration and acoustic system for an EGT packaged LM6000 at Knapton, England.*



*AAF supplied a retrofit air intake package with evaporative cooling for a FCC compressor at a BP refinery at Belle Chasse, Louisiana*





## WE'LL PROVIDE TRAINING AND SUPPORT

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To ensure performance and maintain reliability, we offer specific training for operational and service personnel. This training enhances and supports our customers' knowledge as they operate and maintain installed equipment. We can

also provide supervision during startup, or at any time our expertise and advice are needed.

Our systems and products are designed for a long operating cycle. Excellent reliability in operation can be

guaranteed, if original AAF spare parts and filter elements are used. New filter elements and parts can be ordered from us, or any of our affiliated companies. We have representatives located throughout the world ready to serve you.



*AAF supplied a custom barrier inlet filter package for a Westinghouse W-501D5 in Orange County, Florida.*

## MACHINERY FILTRATION AND ACOUSTIC SYSTEMS

### WE'RE READY TO GO TO WORK

Engineering expertise, experience, product offering, worldwide manufacturing, and an uncompromised commitment to quality define AAF International. But what really places us ahead of the competition is our willingness to work with customers to meet their specific needs for machinery air filtration and acoustic systems. We are willing to meet the most stringent specifications and develop project specific systems and equipment that best meet our customers' requirements. We are the company that OEM's and end users have confidence in when problems arise.

With a commitment to customer service; the strength and resources to support your most stringent requirements; and the quality of existing customer installations to build on, we are well positioned to meet customers' needs worldwide, now and in the future.



*Total turbine systems, offshore North Sea.*

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



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