


Retrofit Solutions

Aftermarket Support & Services





Global Company • World Class

With representation in 66 countries worldwide, AAF is a major Global Company. The Power & Industrial Division markets the widest range of Air Filtration and Inlet Cooling Products utilising media manufactured on 3 continents.

The Company provides Single Source Supply of Air Filtration, Exhaust and Acoustic Packages as original equipment and as Refit solutions.

Low cost packaged solutions are sourced internationally using in-house specialist engineering centres on 4 continents.

Gas Turbines always ingest a constant volume of air for a given rotational speed. They require high quality air in abundance, but they are susceptible to airflow restrictions.

Air filtration and cooling devices restrict airflow and so their selection is an influential factor on the Gas Turbine performance.

Effective management of the Air Quality and temperature is a major benefit for power enhancement, reduced Heat Rate and Component life extension.





Inlet Cooling

The full range from



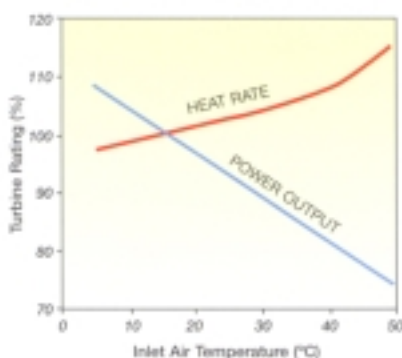
Significant power and thermal efficiency improvements can be achieved by maintaining a constant inlet air temperature at 5°C (41°F).

High ambient temperatures invariably reduce the Gas Turbine Power Output and increase its Heat Rate.

The addition of Inlet Cooling as a Refit Solution to reduced power output has become increasingly popular as operators have found they achieve instant results and rapid payback. Generally, air is cooled using evaporation of water or by refrigeration methods.

Evaporative Coolers and Fogging Systems increase the air density by changing the sensible heat into latent heat as the evaporating water absorbs energy in changing from a liquid to a gaseous state.

Typical Gas Turbine Performance

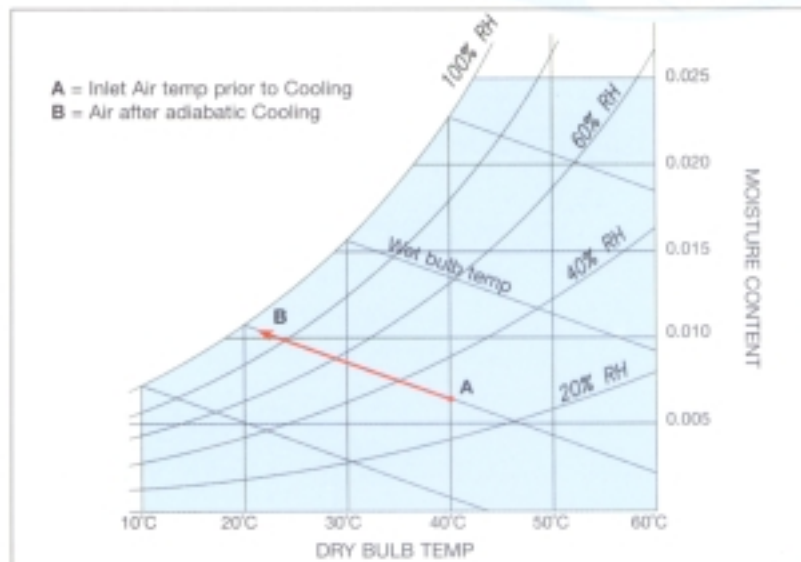


Evaporative Coolers

- 90% Adiabatic cooling
- Low pressure drop
- Low usage of site water
- Install downstream of filter system

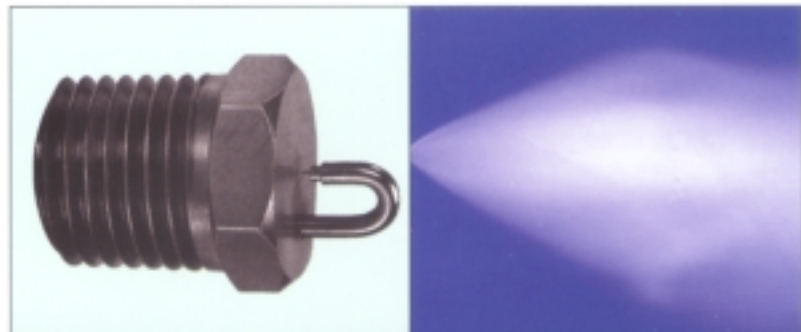
AAF McQuay Chillers

- Suitable for all climates
- Mechanical or Absorption type
- Ammonia or CFC refrigerants



Fogging System

- Lowest refit cost
- 100% Adiabatic cooling possible
- Virtually no pressure drop
- Completely automatic
- Fastest payback time





Air Filtration

As Gas Turbine performance is negatively affected by inlet and exhaust flow restrictions, the difference between what is seen to be good and bad Air Filtration can be quite small. In addition, Gas Turbines are installed in varying environmental locations and so it is necessary sometimes to modify an air inlet system to fine tune the machine performance or to overcome drastic deficiencies.

- Frequent shut-downs due to poor quality combustion air?
- Power loss?
- Short filter life?
- High filter replacement cost?
- High inlet resistance?
- Weather protection?
- Inlet icing prevention?

AAF have the solution



The ASC is a Single Stage Reverse Pulse Filter which is ideal as a Refit package for high dust burden environmental conditions. Its unique design provides a small compact unit which easily adapts to existing support structures and has reduced shipping costs and installation time. The features and benefits of this product can be found in the AAF ASC product brochure.



A specific guide to the selection of Air Filtration in various climatical conditions can be found in the AAF 'Air Filter Guide for Gas Turbines' brochure.

Air Filter products which are applied specifically to **Diesel** air intakes are also available as custom made to suit unique applications or in standard form for most engine sizes.

The Pulstar Single Stage Reverse Pulse Filter is available as an updraft or crossflow type system utilising long life circular Canister Filters. They are fully described in the AAF Pulstar & Crossflow brochures.

AAF for the widest range of products and best refit solution

Acoustic Silencers, Enclosures and Exhaust Systems

Acoustically the Gas Turbine is not environmentally friendly.

AAF provides 'tuned' Silencers and Enclosures to meet the Near Field and Far Field conditions

Thermal shock caused by Exhaust temperatures at up to 650 °C coupled with turbulent air flows, make the design and construction of Silencers critical to the long-term performance of Power Generation Train..



Degradation in acoustic attenuation is most prevalent in turbo machinery that has run through cyclic Start and Stop conditions.

Changing local conditions such as the addition of extra machinery or the building of new residential areas may mean that noise attenuation has to be increased.

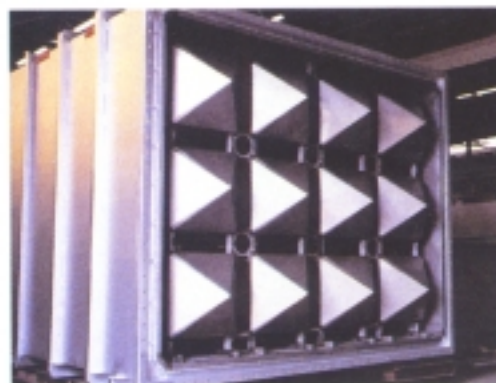
AAF can provide long life solutions targeted to suit the most arduous of environmental conditions.

Acoustic Enclosures can be supplied, which can retain hydrocarbon fires for up to 60 minutes.

Enclosure Ventilation Systems can maintain acceptable air temperatures, whilst preventing noise breakout.



The AAF MEX (Modular Exhaust Silencer) is a splitter type silencer which allows the air to pass over all four sides of the acoustic attenuators (see photo). This feature not only provides a smaller cross-sectional area and shorter length than conventional Exhaust Silencers, its construction exposes all structural surfaces to achieve uniform thermal expansion.





Retrofit Solutions

AAF Retrofit Solutions are available using the extensive product range and our experienced engineers. Our skills and resources are backed up by the Company's global engineering capability using low cost manufacturing bases strategically positioned to suit most applications.

As a leading supplier to Gas Turbine & Diesel Original Equipment Manufacturers, AAF also provide a complete service for the storage of replacement products plus full site service activities.



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AAF also represented in 66 countries globally.