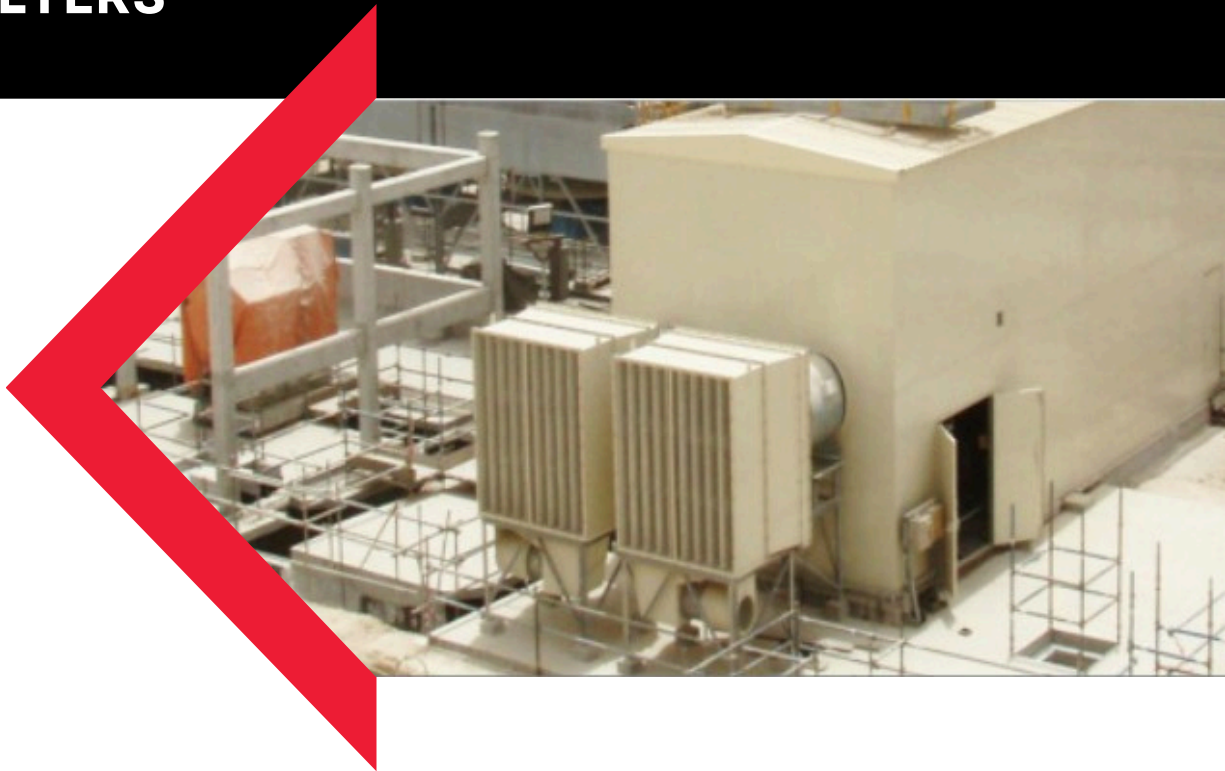


PRODUCT BROCHURE
INERTIAL FILTERS





DELIVERING SPECIALISED ENGINEERING SOLUTIONS

Barclay Engineering's unique inertial filtration system is designed to minimise the ingress of foreign particles into an enclosure or building. The module is designed to meet the airflow requirements of the housed equipment and is generally maintenance-free during its life cycle. Fine dust that can be encountered on mine sites and sand from dust storms can create a major maintenance problem for power station operators across the whole spectrum of operation.

Barclay Engineering has supplied this product design on many major power projects throughout Australia, South East Asia and the Middle East.

KEY APPLICATIONS



- ▶ **Power Projects** - Inertial Filters provide superior protection against foreign particles entering genset enclosures, generation halls, modular power stations and compressor enclosures in extreme environments.
- ▶ **Resource Projects** - Cost savings from self cleaning systems are a huge factor in remote mine sites. The self-cleaning feature of our filters means less maintenance and down time.
- ▶ **Globally Recognised** - Barclay Engineering has supplied this product design on many major projects globally and is preferred by customers who require a high performance, cost effective and low maintenance filtration system in harsh environments.

KEY BENEFITS

➤ Extended Maintenance Intervals

Inertial filters can significantly extend the time between required maintenance cycles compared to traditional filters. This is because they are designed to handle larger volumes of particulate matter before needing cleaning or replacement. This reduction in maintenance frequency directly translates to lower labor costs and less downtime for the equipment over the operational life.

➤ Reduced Filter Replacement Costs

Traditional filters often need frequent replacement due to clogging or saturation. Inertial filters, by virtue of their design, relying on inertial forces to separate particulates, and negative pressure removing particles from the airstream, there is generally no requirement for cleaning. This results in lower ongoing filter material costs and less frequent procurement of replacement filters.

➤ Enhanced Reliability and Durability

Inertial filters are more robust and permanent solution to remove dust particles from the airstream. They are less prone to mechanical failure compared to traditional filters, which can be sensitive to pressure differentials, temperature variations, and chemical exposure. This increased reliability contributes to reduced costs associated with unexpected filter failures, such as downtime for repairs and replacement parts

➤ Improved Energy Efficiency

In some cases, inertial filters can offer lower resistance to airflow compared to traditional filters. This reduces the energy consumption needed to push air or gas through the filtration system. Lower energy consumption means reduced operational costs over the long term, especially for large engines and compressors that require substantial amounts of energy to operate.

➤ Operational Flexibility

The design of inertial filters can often accommodate higher flow rates and larger volumes of air or gas compared to traditional filters. This scalability and flexibility allow for optimised operation of large engines and compressors without compromising filtration efficiency.



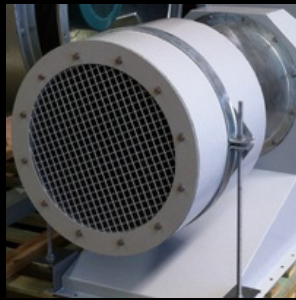


◀ HOW IT WORKS

The filter (vane pack assembly) consists of pressed steel blades, steel housing, collection sump and bleed air fan. The system comes complete with AV mounts and flexible connections for the main fan to the enclosure wall (Dependent on installation type).

Dusty air is drawn in through the vane pack assemblies and is made to turn sharply at high velocity. The air is drawn through the vanes, whilst the heavier dust or other type of particles travel past the blades and are collected into a dust chute. These particles then fall to the sump, where it is then ejected externally by the bleed air fan. Due to the vane pack design there is also very little moisture transmission from heavy rain. It is recommended that if the application is in an extremely high rainfall area, that consideration be given to fitting moisture eliminator cartridges into the assembly.

This method of filtration can achieve up to 95% efficiency @ 10um



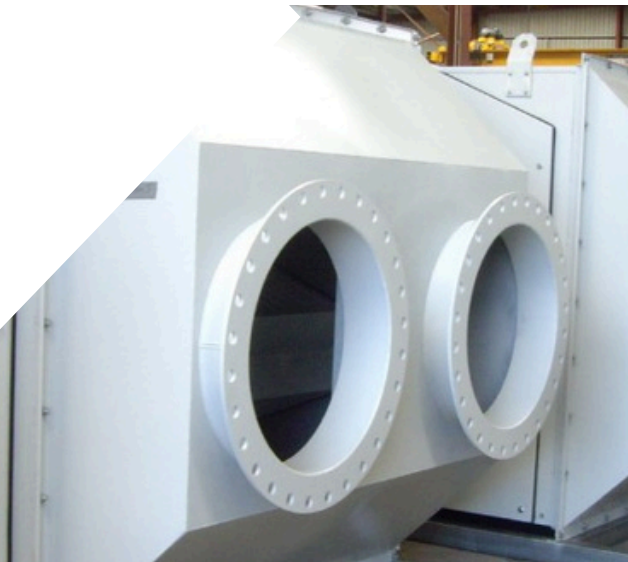
◀ BLEED AIR FAN

As the bleed air fan ejects the sump catchment, there is no requirement for regular maintenance.



◀ TRANSITION

The transition section can be customised to suit any requirement. From a straight single unit, to multiple ducts running from a single filter. Engineered to maximise the efficiency of the unit.



◀ MATERIALS

The system can be fabricated from galvanised sheet or stainless steel, depending on the severity of the operational environment. After manufacture the equipment can be powder coated or painted to customer specifications. The structural support is hot dip galvanised.



For further information and a quote to suit your application, please contact us.

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