

Mobile Equipment Exhaust Systems

Data Sheet



making the world a quieter place



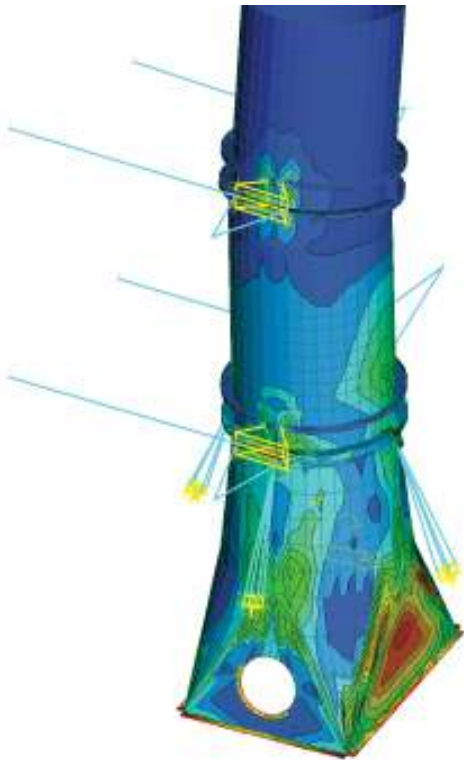
High Performance Exhaust Systems
Internally Thermally Insulated
Custom Design to suit Space Envelope
Low Cost Options
After Treatment Emission Control Available
Marine
Mining
Rail
On Road
Agriculture

Mobile Equipment Exhaust System

IAC Acoustics has many years of experience engineering high performance exhaust systems for mobile equipment. This includes large open cut mining machinery, large marine vessels, as well as agricultural equipment or on road applications.

Increasingly exhaust silencers and exhaust systems are being asked to provide higher performance while also fitting into smaller or unorthodox spaces. IAC Acoustics achieves this through the use of 3D CAD design software and experience in the design of specialised exhaust silencers and exhaust systems.

IAC Acoustics can acoustically tune the exhaust silencers. They look at the raw exhaust noise data spectrum, the self regenerated noise and the desired target spectrum and engineer the exhaust silencers to achieve the required outcome.



World Leader

IAC Acoustics is the largest acoustics company in the world. They offer a wide range of acoustic products from heavy duty plant equipment thru to architecturally finished doors. They service a wide range of industries:

Energy
Industrial Engineering & Transportation
Commercial Construction
Healthcare

Aerospace & Defence
Education & Media
Mining

IAC Acoustics are technology leaders employing 100+ engineers with over 1000 years of collective experience. They have lab and field data accumulated over a 60 year history.

Marine Exhaust Systems

IAC Acoustics marine projects and capabilities are focused on fabrication and supply of Dry & Wet Exhausts for shipboard diesel generators and propulsion diesel engines including:

- Wet & dry silencers
- Rainmaker water injectors
- Conventional water injectors
- Water separators
- Expansion bellows
- Wet & dry ducting from stainless steel or GRP
- Resilient mounting and supports
- After treatment soot filters and catalytic purifiers
- Thermowrap thermal insulation
- Air inlet silencers
- Total gas turbine exhaust and air intake systems
- Germanischer Lloyds approved workshop and bellows supplier



The Rainmaker model water injectors are specially designed to cool the exhaust gasses faster than conventional injectors. This allows the injector to be installed closer to temperature sensitive exhaust components, like silicone hump hoses or valves.

IAC Acoustics manufacture Germanischer Lloyd type approved, single and multiply, metallic compensators in sizes between 50NB and 800NB.

Our major customers range from Defence Forces, Defence Contractors, Fast Ferries, Luxurious Super Yachts, Cruise-liners, Commercial Shipping and Boating.





Mining Exhaust Systems

IAC Acoustics has designed and supplied acoustic treatment to almost all types and sizes of earth moving machinery. From the largest of Haul trucks, excavators, underground mining machinery etc.

IAC Acoustics have improved upon the double skin exhaust pipe work concept. Internally lined exhaust pipework offers a reliable long term solution to thermally insulating an exhaust pipe.

The exhaust systems can include venturi devices to extract dust from the air intake filters.

The silencer would typically be completely internally lined and can be supplied with an integrated heat-shield.

IAC Acoustics have experience with the mining applications and the high dynamic fatigue loads and harsh working conditions.





After Treatment Exhaust Purification

Diesel particulate emissions are major contributors to smog over modern cities. Particulates have also proven to be associated with a range of health effects from exacerbation of asthma, bronchitis and pneumonia symptoms to retarded lung development. IAC Acoustics Exhaust Purifiers will reduce or eliminate particulate emissions. Retrofit of IAC Acoustics solutions are a viable and cost effective solution. IAC Acoustics have retrofitted thousands of mobile machinery with after treatment.



Inhalation of Carbon Monoxide emissions from diesel engines can be fatally dangerous in tunnels, enclosed spaces or places with poor ventilation. Carbon Monoxide is odourless and colourless. This means that CO Concentration levels can increase to dangerous levels without detection.

IAC Acoustics Purifiers employ catalyst elements to provide the exhaust purification solution for your diesel or CNG engines. With increasing demand for environmental and OH&S regulations for the equipment used in industry, IAC Acoustics helps its customers with its unique catalytic converter based solutions not only to meet these strict requirements but also keep their vehicles in service, reliably and cost-effectively.

IAC Acoustics Exhaust Purifiers are typically constructed using a coated substrate and a stainless steel housing.

IAC Acoustics purchase substrates and fabricate the housings to suit the application. The substrates can be full soot filters or simple oxidising catalysts. They can be tuned to suit marine diesel or on road diesel.

All IAC Acoustics purifiers remove dangerous and offensive gasses from the exhaust. More specifically they all remove carbon dioxide and hydrocarbon emissions. However IAC Acoustics can offer a more tailored exhaust purifier for any application.



Thermowrap

IAC Acoustics Thermowrap Exhaust Insulation Blankets are custom manufactured using layered fibreglass materials to provide exceptional heat and noise control at temperatures to 1200°C. Thermowrap exhaust blankets will withstand intense vibration and is the solution for block type insulation requiring replacement.

Thermowrap patterns are created and plotted digitally. Digital patterns further increase accuracy and consistency of the final product. All digital patterns are saved and backed up electronically to allow us to recall previous jobs.

Special constructions are available on request for high temperature applications.

General Properties:

- Insulation medium-100% glass fibres
- Temperature Limit - 1200°C
- Weight (approximate) - 5 kg/m²
- Blankets of varying thickness
- Thermal conductivity
- 150°C - 0.039 Watts/mK
- 260°C - 0.059 Watts/mK
- 1370°C - 0.075 Watts/mK
- Excellent vibration resistance

Advantages:

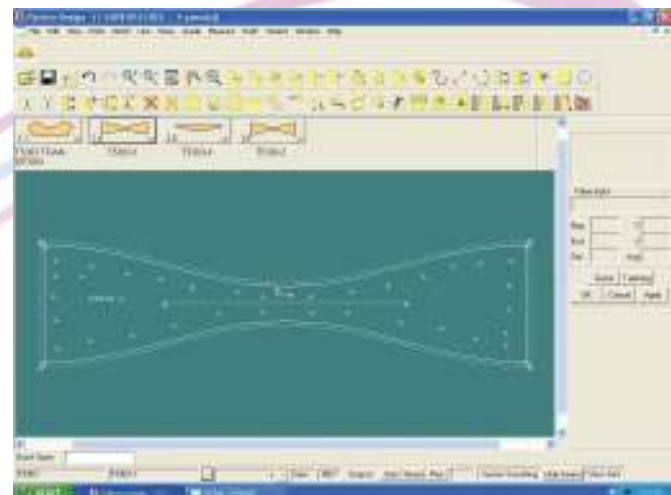
- Asbestos free
- Non-respirable materials
- Vibration resistant
- Personal protection
- Blankets can lower touch temperatures to 60°C and allow routine maintenance without shut down
- Removable-reusable

Applications:

- Power Generation
- Marine Transport
- Fishing Vessels
- Fire Pumps
- Forestry and Mining Equipment

On such Equipment as:

- Exhaust Manifolds
- Exhaust Pipes
- Expansion Joints
- Flexible Joints
- Flexible Connections
- Turbochargers
- Turbine Cases
- Exhaust Gas Boilers





Experience Pool

IAC Acoustics have been in the acoustics industry for 60 years and specifically in the mining acoustics industry for 20 years.

They have a wealth of experience to draw from and understand factors that are important in the industry.

1. Service
2. Performance
3. Quality
4. Cost effectiveness

They continuously and actively seek to improve in all 4 areas.

Quality is Everything

Across the board IAC Acoustics have ISO9001 quality assurance certification

Many sites are working towards ISO14001 and ISO 18001 certification. Therefore you can be assured that your product will be manufactured in a quality facility with consideration for safety and environmental impact.

IAC Acoustics is proud of the quality of its workmanship. Continual improvement for a large part of the way IAC Acoustics manages its business.



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