

Marine Exhaust

An Overview





High Performance Exhaust
Dry Exhaust Systems
Wet Exhaust Systems
Thermal Insulation Blankets
Internally Lined Pipework
Water Injectors
Dry Silencers
Wet Silencers
Exhaust After Treatment
Pleasure Craft
Commercial Vessels
Industrial Vessels
Defence Vessels

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 crucial element of any

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.



Rainmaker Water Injector

The Rainmaker model water injectors are specially designed to cool the exhaust gasses faster than conventional injectors, without compromising exhaust backpressure. Water is injected evenly throughout the cross section of the exhaust but also in the direction of the exhaust.

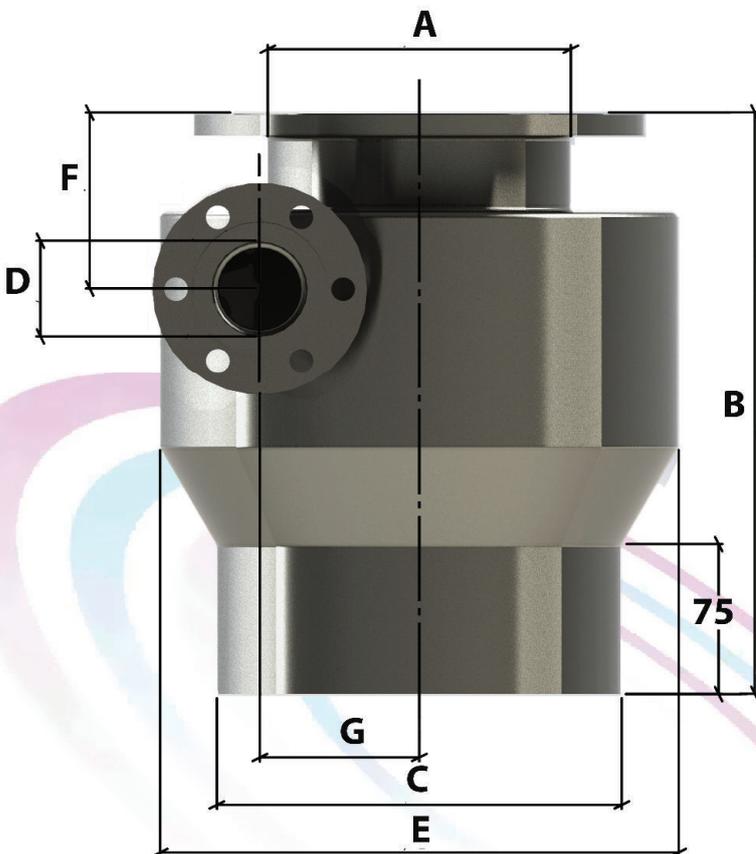
This allows the injector to be installed closer to temperature sensitive exhaust components, like silicone hump hoses or valves. Fast cooling is particularly important for flow conditions with limited raw water input. This can occur at low engine speeds.

IAC Acoustics Rainmaker water injectors are all fabricated using 904L or AL6xN super duplex stainless steel. This provides exceptional corrosion resistance in the salty acidic wet exhaust. It can also withstand the high temperatures close to the dry exhaust inlet flange.



IAC Acoustics can easily customise the water injector to suit the configuration you have. They can be supplied with:

- A variety of connection flanges or sockets
- Electro polished or as passivated finish
- Different inlet, outlet, raw water arrangements



A	B	C	D	E	F	G
50	180	75	20	90	50	30
75	190	100	25	125	50	40
100	230	125	25	150	50	50
125	270	150	40	205	60	70
150	280	200	50	250	70	80
200	350	250	75	350	80	110
250	410	300	100	450	90	140
300	410	350	100	500	90	170
350	480	400	125	600	100	200
400	480	450	125	650	100	220
450	550	500	150	750	120	250
500	550	550	150	800	120	280

All Dimensions in mm

Wet Exhaust Silencer

IAC Acoustics offer wet exhaust silencers. They are available in a range of sizes and configurations. The typically small external dimensions allow the silencers to be installed in tight or difficult to reach locations.

Given the small external dimensions the acoustic performance is exceptional. Suitable for generator exhaust applications.

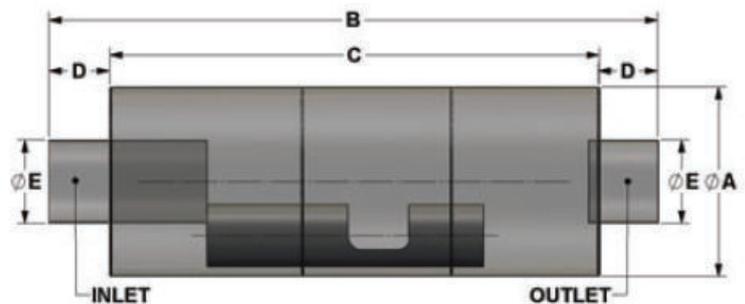
TR3 model silencers include a water trap feature that works to prevent backwash of seawater from reaching the engine while going astern or in high seas.

The silencers would be fabricated using super duplex stainless steel grades, 904L, SAF2205 or AL6xN. They would withstand high temperature excursions without failure, if for any reason raw water failure occurs.

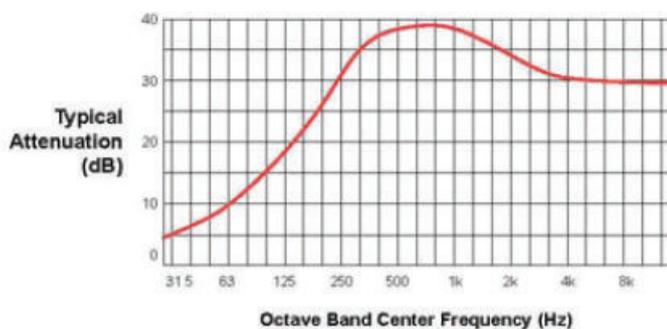
Glass reinforced plastic manufacture is available as an option.

Features

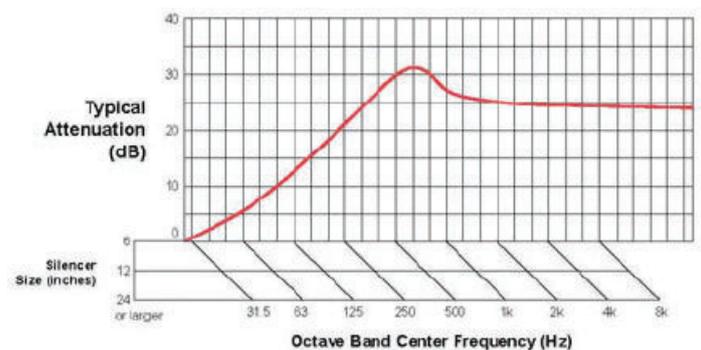
- Exotic grade stainless steel fabrication
- Advanced acoustical design
- Reduces noxious fumes and odours
- Fully welded construction
- Easy installation in any position



MP41 Silencers



MP31 Silencers



Size	A	B	C	D	E	Est Wt.
4"	10 3/4	54	48	3	4	83
4 1/2"	12 3/4	54	48	3	4 1/2	103
5"	12 3/4	54	48	3	5	103
6"	14 3/4	54	48	3	6	118
8"	18 3/4	60	48	6	8	167
10"	22 1/4	70	58	6	10	235
12"	26 1/4	82	70	6	12	334

Note: Dimensions are in inches, weights are in pounds.

Size	A	B	C	D	E	Est Wt.
4"	8 3/4	30	24	3	4	39
4 1/2"	10 3/4	36	30	3	4 1/2	61
5"	10 3/4	36	30	3	5	61
6"	12 3/4	42	36	3	6	94
8"	16 3/4	60	48	6	8	143
10"	20 1/4	70	58	6	10	230
12"	24 1/4	82	70	6	12	327

Note: Dimensions are in inches, weights are in pounds.

Thermowrap Thermal Insulation Blankets

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:

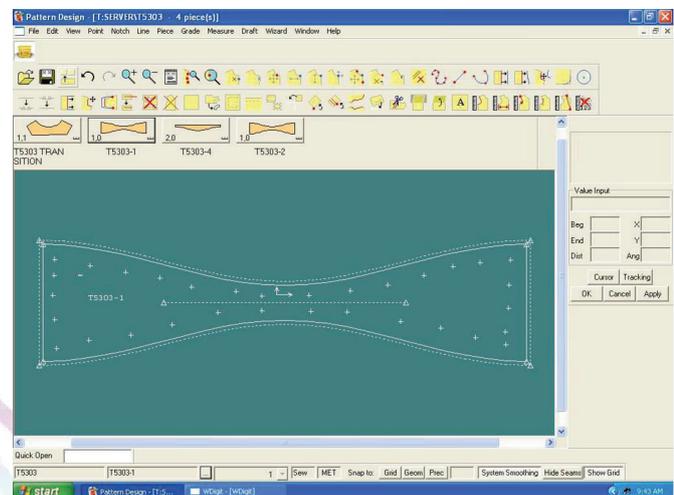
- Asbestos free
- Non-respirable materials
- Vibration resistant
- Personal protection
- Blankets can lower touch temperatures to 60°C and allow routine maintenance without shut down
- Removable-reusable

Applications:

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

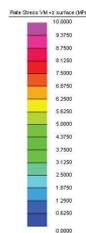
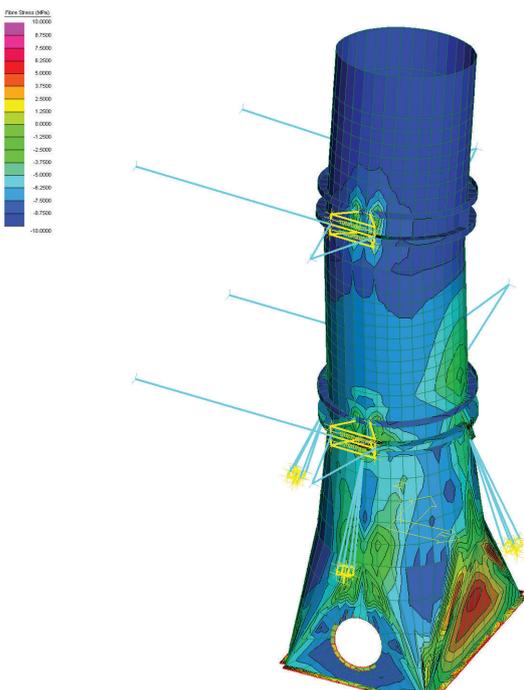
On such Equipment as:

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



Defence Applications

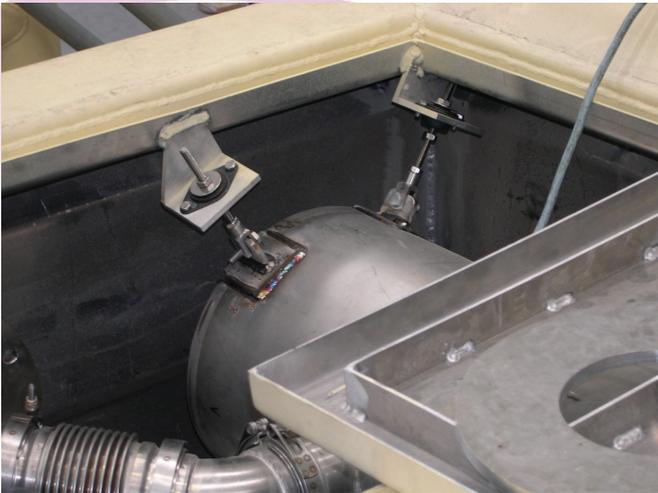
IAC Acoustics have the capability and experience to specifically design, fabricate and supply marine exhaust systems for defense applications. They have experience and capability to suit a wide range of projects from smaller bridge erecting boats through to ANZAC class frigates.



IAC Acoustics supply gas turbine intake and exhaust systems. Designed to achieve flow and acoustic performance in accordance with engine and vessel specifications.

They can design outlets that diffuse infrared signatures. They can design specialist insulated designs that do not require water cooling.

IAC Acoustics' exhaust systems are vital for a range of Australian and international Navies. Some examples of vessels utilizing IAC Acoustics' exhaust systems are: ANZAC class, Huon class, Armidale class, Cape class, Otago class and Rotoiti class vessels.



Experience Pool

IAC Acoustics have been in the acoustics industry for 60 years and specifically in the marine 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

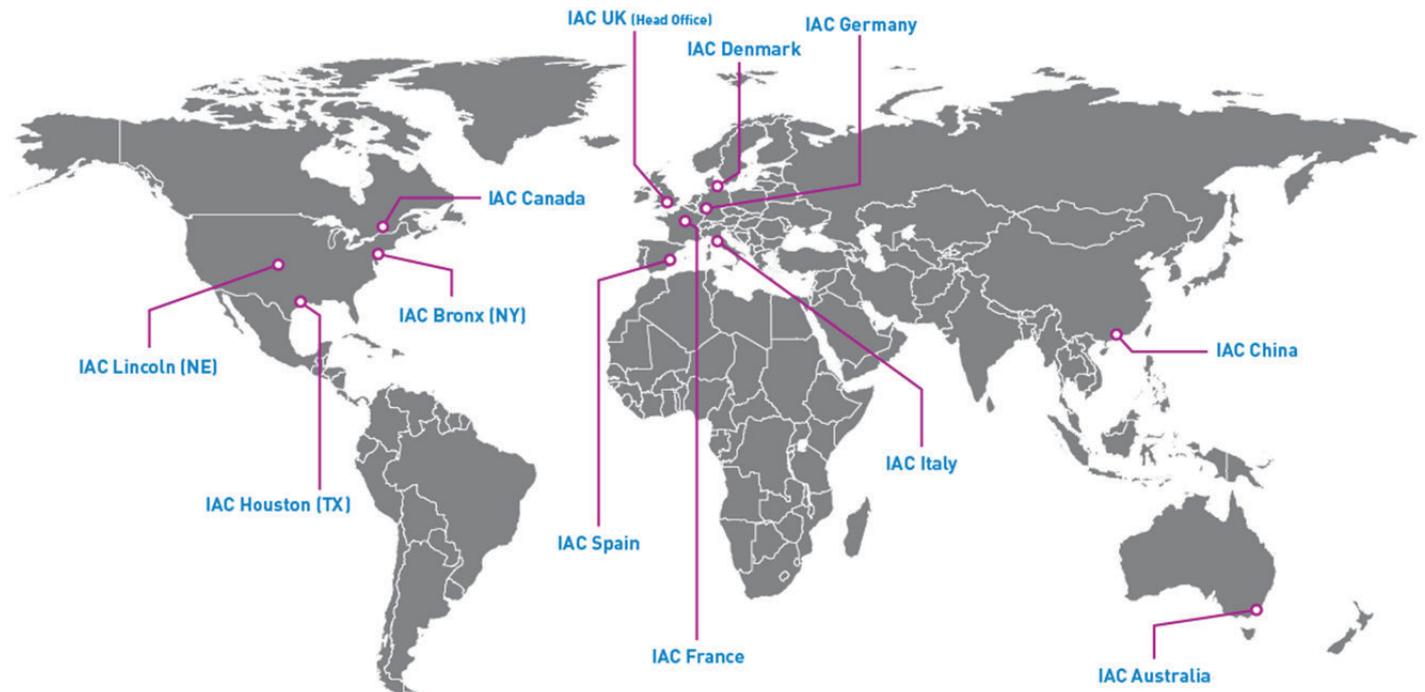
They continuously and actively seek to improve in all 4 areas.

Quality is Everything

Across the board IAC Acoustics have ISO9001 quality assurance certification

Many site 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 it's workmanship. Continual improvement for a large part of the way IAC Acoustics manages it's business.



Worldwide Manufacturing Options

IAC Acoustics have manufacturing facilities located all around the globe that can be utilised to produce mining product. Depending upon required parameters be it price, lead time, quantity etc a suitable facility is available.

IAC Acoustics have capacity and flexibility to meet your operational needs. Global manufacturing is a genuine option that we can offer.

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For a list of IAC locations worldwide please refer to our website.

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making the world a quieter place