



Commercial

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# The Science of Silence

Since 1979, Halyard has developed an international name in exhaust systems for Military and Commercial craft up to 70m.

Reducing noise, whilst meeting the technical requirements of today's high speed diesel engines is technically challenging and demands extensive specialist knowledge.

## How do we work?

- We consult with care to understand project objectives
- We design against this brief with drawings covering every detail
- We manufacture within our own facilities
- We liaise closely during delivery and installation
- We supervise and sign-off as agreed

We have a proven record for world-wide service and support. We value the creation of relationships with customers who will return to us again and again.

Generators, propulsion engines, water injected exhaust systems and silencing, dry exhaust systems and silencing, exhaust water separation, exhaust gas cleaning and after-treatment all feature among our specialist exhaust system skills.

We control the entire manufacturing process of our exhaust systems, producing components in our own facilities. We manufacture exhaust dry sections, dry silencers and carefully designed water injection spray heads from high nickel alloys and stainless steel. Specialist GRP silencers are constructed from filament wound composite tube and bespoke exhaust hoses are made of either nitrile rubber or silicone, depending on requirement and to Lloyds approved construction methodologies.

Halyard - A team creating harmony with valued customers.



## Process

### Consultation

The first meeting discussing a commercial exhaust system is crucially important. Re-fit or new build, our team will take care to understand:

- Back pressure limits
- Outlet positions and pipe runs
- Noise levels needed
- Design, delivery, installation and launch schedules

Our team will support you through this process and all have extensive experience of projects large and small, refit and new build.

We'll agree a timetable whether a complex refit or a new build. Your timetable becomes our priority.

We will discuss and understand the priorities of the Crew, the Designers, the engine and generator suppliers and their warranty needs, exhaust system running hours and lifetime needs, the Shipyard involved, and the Classification Society. We understand the need for balancing all these requirements at this early stage, to ensure that everyone's views are reflected as the specification and design emerges.

From this consultation we will develop a project plan, a design brief, and the beginnings of an exhaust system.

## Design

Design is when the exhaust system takes shape. Our team will work with you to the agreed brief, initially completing system layout and key components drawings – working around existing drawings or creating our own. These will include:

- Pipe runs and main water injection components
- Silencers and outlets

We will liaise with you as questions emerge during this phase, be they engine requirements or vessel layout points. Agreement of the initial system layout is a key gateway in the process – a plan to which we all commit, and one which enables development of a specification against which a system can be agreed.



- Pipe runs, back pressures and safety against water-line risk
- Water injection spray head design and positioning
- Bypasses where below water outlets are involved
- Water separation on generator systems
- Silencer attenuation, and the way this fits to the overall objective
- Silencer design, wet or dry, inlet and outlet positioning and dynamics
- Vibration control and the need for heat resilient mountings, stabilizers, bellows and insulation
- Exhaust gas cleaning for generators

Design sign-off – the detail of every component – releases the entire system to Halyard facilities for production.

## Implementation

Implementation commences as Design completes. Our team work includes:

- Completing manufacture of the entire system
- Liaising on delivery, understanding and agreeing the fitting process
- Supporting the installation team solving questions as they emerge
- Inspecting the completed work as agreed
- Attending sea trials to assess function and fulfilment of warranty criteria as agreed

Manufactured components feed into our central despatch and packed as an entire exhaust system. Each item is checked finally for dimensional accuracy and quality before being palletised for shipping by road, sea or air to the timetable agreed with the vessel or yard.

Our project management team then work with the Shipyard or Crew to an agreed level of involvement through the installation. Frequently we're asked to visit during the installation process to oversee and check in a more detailed manner- you choose. We agree the level of involvement at the outset, giving support which will vary with the complexity of the project but is designed to ensure success from the moment the engines are first started.

On sea trials we work alongside Shipyard, Crew, engine and generator suppliers and any classification society surveyors to check through the function of the exhaust, monitoring back pressures, temperatures and assessing noise levels.

Our aim is to ensure the installation is fully functional and to specification; and will be the foundation of service and support into the future.

## Service

We aim to support you worldwide in key areas:

- Email and phone support over the first few months as the installation beds in
- Advice and help with any problems should they emerge
- Support with rapid replacements of service components
- Drawing archives giving us immediate access to every component on board

We started our business in 1979 and we have grown with our market and customers during this time. We have an extensive list of customers that we have built long lasting relationships with based on our ability to understand their requirements and our ability to deliver the solution on time and to budget. Not only are our customers supported by Halyard, but also an increasing number of distributors that are spread world-wide.

We recognise that service is everything and Halyard delivers this.





# Halyard

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# Global Support & Distribution

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