

Since January 1st, 2020, the new IMO Sulphur regulation is in force and many scrubbers have to prove their reliability now. We have seen many scrubbers not performing in the way ship owners expected. Also, we noticed that in many applications the power consumption is higher than it has to be. All in all, the operation of a defective system requires a lot of attention and additional work for both the crew on board as well as for the team on land.

But how do you cope with this task in times like this tying up your resources? Are you looking for the option to outsource all the challenges around your scrubber system to a specialized supplier in order to enable you to allocate your precious resources to other tasks?



## PRACTICAL EXPERIENCE IN ALL AREAS

**We as PRIMARINE have - beside the new building of scrubber systems - as the only supplier so far gained valuable experiences with retrofitting and optimizing existing scrubber systems.**

Typical challenges we have been confronted with are:

- Error-induces shut down of the system due to swell
- Too high exhaust gas back pressure
- Insufficient wash water flow
- Exceeding emission values (SO<sub>2</sub>/CO<sub>2</sub> ratio)
- Washwater carry over

All these problems need to be identified in the first place in order to make a warranty claim at your supplier followed by the engineering and implementation of a sustainable solution.

Furthermore, we have successfully carried optimization of existing plants in order to lower energy consumption and operational cost significantly by adjusting the operation strategy. Our expertise in the field of problem solving and optimization of Scrubbers and SCR-Systems is at your disposal. Even in situations where our service engineers cannot embark your vessels, a thorough analysis of your documents and scrubber operation data may provide valuable leads for optimizing your Scrubber and SCR plants.



## COMPREHENSIVE SERVICE FOR YOU

**We would like to offer:**

- To identify existing problems
- To analyse scrubber documents and vessel drawings
- To validate the operational data in order to determine the optimization potential
- To compile optimization proposals
- To supply spare parts
- To develop an optimized operational strategy to reduce operation costs of the scrubber plant

In order to disburden you and your team we'd be more than happy to communicate directly with the vessel's crew. Our PRIMARINE team consists of marine engineers, naval architects and former captains speaking and understanding the language of your crew.



## REFERENCE PROJECTS SUCCESSFULLY ACCOMPLISHED:

\*Reference contact persons available upon request.

Ferry Boat A	Conversion of an I-Type scrubber to U-Type scrubber to reduce backpressure
Ferry Boat B	Conversion of an I-Type scrubber to U-Type scrubber in order to handle bigger engine with 30% higher exhaust gas mass flow
Container Vessel A	Analysis of backpressure problem, recalculation of design parameters, proposal for optimization
Container Vessel B	Analysis of backpressure problem, recalculation of design parameters, proposal for optimization
Container Vessel Series (7 vessels)	Recalculation and correction of design parameters, revision of drawings, correction of material selection
Multipurpose Vessel A	Optimization and delivery of SCR components